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# American Horticulturist







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Iris, especially variegated ones, make a striking addition to any bog garden. To learn more about bog plants, join Steven Davis on page 18 for "Plants of the Water's Edge." Photograph by Pamela Harper.

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**On the Cover:** Snow blankets a clump of *Mahonia* growing near Flathead Lake in Montana. Although February's snows still cover gardens in many parts of the country, gardeners everywhere are preparing for spring. Before firming up your spring gardening plans, consider trying one or more of the new introductions available this spring. (To enjoy our selection of what's new, turn to "New Plants for 1986" on page 23.) Or, consider buying a garden statue or bench to enjoy next season. See "Garden Ornament" on page 10 for Peter Loewer's review of mail-order catalogues to send for. Photograph by Pat O'Hara.

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Replacement issues of AMERICAN HORTICULTURIST are available at a cost of \$2.50 per copy. The opinions expressed in the articles that appear in AMERICAN HORTICULTURIST are those of the authors and are not necessarily those of the Society. Manuscripts, art work and photographs sent for possible publication will be returned if they are accompanied by a self-addressed, stamped envelope. We cannot guarantee the safe return of unsolicited material.

AMERICAN HORTICULTURIST, ISSN 0096-4417, is the official publication of the American Horticultural Society, 7931 East Boulevard Drive, Alexandria, Virginia 22308, (703) 768-5700, and is issued monthly. Membership in the Society includes a subscription to AMERICAN HORTICULTURIST. Membership dues start at \$20.00 a year, \$12.00 of which is designated for AMERICAN HORTICULTURIST. Copyright © 1986 by the American Horticultural Society. Second-class postage paid at Alexandria, Virginia and at additional mailing offices.

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# Plants & People



## 40th Annual Williamsburg Garden Symposium

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If we ever stop to think about it, most of us who are members of the American Horticultural Society appreciate gardening for a variety of reasons. Otherwise, why would we look forward to gardening whenever we can't, and enjoy working in our gardens so much whenever we can? If asked, we never have a hard time explaining some of the reasons it is so pleasurable for us: beginners and advanced gardeners alike will readily point to some impressive examples of gardening's benefits, including colorful flowers in their vases and garden-fresh vegetables on their tables. These tangible benefits speak for themselves.

But there are other reasons for our interest—an interest that becomes a passion for so many of us. The more we garden, the more we understand that it is the process and not just the product that brings us back to our gardens year after year. The fulfillment and personal satisfaction gardening provides have formed the basis for a movement in American gardening aimed at exploring and developing, as fully as possible, all the pleasures gardening can bring to people.

Although it has recently gained momentum, this movement is not new. Several decades ago, Charles Lewis, now Horticulturist and Administrator of the Collections Program at The Morton Arboretum, began to think about the importance of gardening in our lives. As he learned more about this subject, he realized more and more that the importance of plants, gardens and gardening to human well-being was not well understood, or even generally appreciated. With the assistance of a grant from Mrs. Enid Haupt in 1973, which was administered by the American Horticultural Society, Mr. Lewis and colleagues in the behavioral sciences set out to study the nature of human response to plants. Reports on this work were published in the Summer 1973 and June/July 1979 issues of *American Horticulturist*. These articles are still as instructive today as the day they were written. The results of this work, as well as other observations on people-plant interactions, were summarized by Mr. Lewis in his superb key-

note address to the Society at its Annual Meeting last fall in Chicago, Illinois. A condensed version of his presentation, entitled "People-Plant Interaction: Blessings and Curses," will be published in an upcoming issue of *American Horticulturist*. (Members are invited to request a free copy of Mr. Lewis's address in its entirety by writing to the Publications Department, AHS, P.O. Box 0105, Mount Vernon, VA 22121.) Mr. Lewis's presentation is well worth reading, not only because it is an inspirational discussion of the important role plants and gardens play in our lives, but also because it is a convincing argument for the increased use of living plants in human environments, particularly those environments that have been sterilized by "advancements" in our technology.

Charles Lewis's extraordinary ability to articulate his humanistic and horticultural perceptions has given us many important and inspirational statements about people-plant interactions. He leads us to appreciate that the thoughtful application of living plants and gardening activities in our technologically advanced environments and fast-paced lifestyles is not just a luxury but, quite simply, a necessity. I believe it is up to us to follow his lead by concentrating on the process of gardening and what it does for us as people, rather than simply focusing on the products of our gardens. By doing so we may accomplish a far greater good for ourselves, for others and for the world we live in.

On this page in future issues of *American Horticulturist*, we will occasionally highlight some of the ways we as humanists might become more aware of the problems facing those without the benefit of gardening, and how we as gardeners might become more helpful to those who are not yet able to garden. In the meantime, send for and read Charles Lewis's paper, be inspired by learning about a greater potential for plants and gardens and particularly gardening, and be encouraged to do something about unleashing that potential for the benefit of others.

Charles A. Huckins  
Executive Director





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# Seasonal Highlights



Margaret Hensel

Any gardener who has tried to design a garden, or even a border of shrubs and perennials, for continuous bloom knows it is a challenge. This grail-like goal of having a well-planned garden frequently involves the selection and placement of dozens (if not hundreds) of species and cultivars of perennials and woody plants, each with its own individual cultural requirements.

Frequently, it takes years of growing increasing numbers of new plants and moving things around before a gardener knows what he or she likes, what will grow on the site, and what looks good where and with what. After this apprenticeship, it takes a courageous gardener to look at the resulting creation with a critical eye and begin eliminating all the excess baggage.

One gardener I knew decided about 10 years ago to put aside everything she had read—and had put into practice—on planning a garden for successive bloom, and then stood back from her work for an objective look.

"I had created a beautiful monster," she remembered. "The whole thing was so consuming, there was no time to sit and enjoy it all. So, I decided to begin simplifying and eliminating things, some of which had taken years to get right. It was a major breakthrough when I could finally look at a gap in a border without being consumed by an insane urge to immediately fill it. Then I really began to enjoy gardening again."

After she spent five years pruning and refining, her garden was no longer a complex orchestration of bloom. Instead, she relied on what she called "seasonal themes" to give her landscape nuance and character. In winter, several stands of canoe birch (*Betula papyrifera*) were focal points on the gentle, rocky hillside, while stretches of *Cornus alba* (commonly called Tartarian dogwood) ran along sections of the garden's boundary line. Seen through the birch trunks and against a blue sky, the dogwood's naked, scarlet branches became starkly beautiful. The whole com-

position characterized the brilliant contrasts of a winter garden in New England.

In April, the birch trees continued to serve as focal points. They were underplanted with *Phlox divaricata*, which bloomed in May, as well as *Anemone sylvestris* and clumps of the yellow cottage tulip 'Mrs. J. T. Scheepwysers'. *A. sylvestris* bloomed into June and, after several years, had spread by underground runners into substantial drifts. Biennial foxgloves, which had self-seeded from a few plants, added additional spring color.

In summer, the garden's emphasis shifted from the meadow's stylized naturalness to the lushness of borders surrounding a fieldstone terrace outside the French doors of the living room. These irregularly shaped borders partially enclosed the terrace while emphasizing vistas of the surrounding meadow. Only about four feet wide for easy maintenance, they were dominated by

Lavender and 'American Pillar' roses highlight a summer garden.



groups of four, sometimes five plants that were placed and planted with distinct periods of bloom in mind. In May, one border was predominantly *Iris sibirica*, including turquoise-blue 'Cambridge', blue-turquoise 'Sea Shadows' and lavender-blue 'Placid Waters'. The iris were underplanted with white *Viola cornuta* and silver-leaved *Veronica incana*. The iris tapered off in June, but the iris foliage as well as the blue flower spikes of *Viola cornuta* and *Veronica incana* provided a background for the warm-colored borders of late June and July. In the summer borders, *Veronica incana* was used again with soft yellow *Hemerocallis* and *Monarda* 'Croftway Pink', along with *Oenothera missouriensis*, *Phlox paniculata* (in various shades of pink), *Hemerocallis* 'Classic Symplicity' and the fragrant H. 'Hyperion'.

Although some of the perennials continued into August, fragrance became the garden's dominant seasonal theme toward the end of summer. Behind an open-sided clapboard summerhouse (once a tool shed) was a small forest of *Clethra alnifolia* and *C. alnifolia* 'Rosea', both of which have that spicy, woody scent so evocative of late summer. Between the gaps of the shed's fieldstone floor sprawled *Viola cornuta*, whose pansy-like blooms in several shades of blue poked out between clumps of the fern *Athyrium filix-femina*.

Over part of the summerhouse roof poured *Clematis paniculata*, which bore masses of tiny, white, vanilla-scented flowers in August and September. Pink and white *Anemone*  $\times$  *hybrida* (often listed as *A. japonica*) and various wild asters surrounded the shed, blooming just about the same time as the clematis.

"My idea was to have that corner weedy and wild, all part of the gentle disintegration of the garden as summer ends. In late August and September, we spent much of our time in the summerhouse, so the borders fading near the house were just a backdrop, a sort of lingering, last look at summer."

To the casual visitor, the seasonal shifts of emphasis may not have made this small garden seem larger. But for the gardener who created this garden and observed it week to week, there was a rich and varied momentum, as well as scenes of quiet resolution, in the changing seasons. ☼

—Margaret Hensel

Margaret Hensel is a landscape designer and writer living in western Massachusetts.

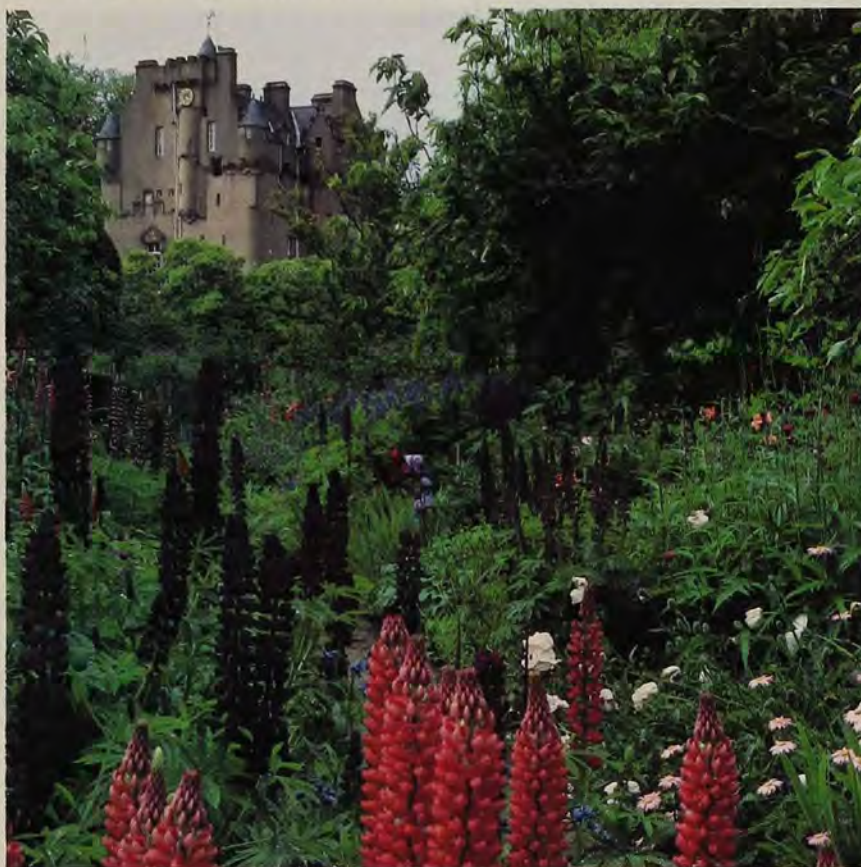


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# Plant Shipment

At some time in your gardening career, you have undoubtedly entrusted plants to the vicissitudes of the daily mail. Devout collectors may have personally dispatched cuttings of prized specimens to fellow fanatics, hoping that their botanical rarities would survive the journey intact. If so, they have probably learned that plant shipment is something of an art, despite advances in transportation.

Long before either the airplane or the automobile was invented, botanists managed to transport plants over incredibly long distances. Sending a botanical specimen on a journey that necessarily entailed months at sea unquestionably tested the laws of nature. However, upon observing the lush and bountiful flora of far-off lands, botanists yearned to reveal the exotic aspects of nature's splendor to their countrymen and monarchs. Not only did these early botanists perceive the physical beauty of the world's flora, but they rapidly became aware of the potential economic value of the leaves, roots, fruits and flowers of many plants, especially tropical species.

Plant collecting boasts a prodigious history. Ancient Egyptian pharaohs practiced a mode of plant importation when they sent ships sailing down the Red Sea to retrieve cinnamon and cassia, which were used as spices for embalming purposes. The crusaders also distributed much botanical material during their treks across Europe, as did the early missionaries. Thus, many economically valuable plants such as sweet bay, citrus, lavender and walnut had been introduced into Europe before or during the mid-1500's.

Plant introduction continued at a sluggish pace until the eighteenth century, when it suddenly burgeoned. Armed with a keener understanding of plant identification, which was made possible by Carl Linnaeus's new system for classifying plants, collectors set off to explore the globe with renewed enthusiasm. What they brought back for identification and classification were not, in most instances, live plants but herbarium specimens, which could be neither revived nor propagated. However, these dried



Ornamental Wardian cases, modeled after the ones used for plant shipment, were once used to grow exotic plants.

specimens effectively whetted the appetite of Europeans for the botanical wonders of foreign lands.

Collecting herbarium specimens was undoubtedly the least troublesome method of retrieving some evidence of the botanical abundance across the sea. Yet even dried specimens required a great deal of attention. Plant hunters spent many dry, sunny days—which might have been better employed looking for new plants—airing herbarium sheets, that is, turning the pages of huge presses and ensuring that mold had not settled on the specimens. While at sea, the mass of thick paper was stored in heavy chests. Since the contents of these chests were of no immediate interest to the captain or crew, they were frequently the first cargo to be thrown overboard at any hint of danger to the ship.

The failure to successfully import live plants into Europe before the nineteenth century was not due to any lack of interest in the endeavor. What scientists lacked was practical experience with methods of plant shipment. The perishability of botanical material was a problem that foiled the ef-

forts of the most ardent plant enthusiasts for the next three centuries. In the 1700's, some hardy woody plants were shipped successfully, but most plants were introduced in the form of seed.

In the eighteenth century, the factor most likely to present a problem in seed shipment was the carrier boat. Because of the inaccuracy of early maps, not to mention the prevalence of wars and pirates, and the variable temperament of the seas themselves, ships were frequently lost. Tournefort, who explored the eastern Mediterranean for Louis XIV, wrote from Greece, "We have collected seeds of 121 plants which I have the honor to send you. I am taking this risk even though many vessels are being lost at the moment. I have held on to as many again in order to still have specimens if anything should go wrong."

Even if the ship survived the journey intact, the seed stowed aboard often failed to arrive in viable condition. The letters of John Evelyn provide insight into the problems involved with the earliest methods of seed shipment. For example, he wrote to Samuel Pepys suggesting that, as Secretary of the Admiralty Board, he ask a New England-bound sea captain to collect seeds. He then delineated specific instructions for shipment: "The seeds are best preserved in papers; their names written on them and put in a box. The nuts in barrils of dry sand; each kind wrapped in paper written on." If Evelyn's methods worked, it was only due to sheer luck. In most cases, such primitive measures of protection from the perils of sea travel were insufficient.

In addition to being subjected to the harsh conditions of the high seas, seeds were frequently the victims of infestations by rats and other vermin. Botanical specimens were also exposed to sudden extremes in temperature. For example, in tropical regions, the cabins were always hot and steamy. Not only was this atmosphere too warm for effective seed preservation, but it caused the seeds to sweat and thus ferment. Mold grew everywhere on board the ship, causing further problems for the botanist.

Carl Linnaeus can be credited with developing the most elaborate method of seed

Courtesy of the Office of Horticulture, Smithsonian Institution



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## GARDENING IN HISTORY

preservation known in his time. Many collectors sent seeds to him to study, and, understandably, he was extremely concerned that the seeds arrive intact. His advice to collectors was both scientific and concise. In correspondence to a British contemporary, John Ellis, he suggested that the seeds be stored in a cylindrical, corked bottle filled with sand. According to Linnaeus's method, this container was then placed in a larger glass vessel with two inches of space on all sides. The air space between the inner and outer containers was then filled with niter, salt and sal ammoniac. This moist saline mass would remain cold due to the change in enthalpy.

Ellis himself made numerous attempts to perfect shipment of the acorn, a seed that eluded the efforts of even the most careful plant exchangers. He sent several shipments of acorns, each rolled in paper and treated in a different manner. For example, some were soaked with gum arabic, beeswax, mutton fat, brewer's loam cake, or mummy (a mixture of pitch, rosin and beeswax). Each shipment made a five-month journey from England to America. At the conclusion of the experiment, Ellis

made recommendations based on his findings to the Fellows of the Royal Society: For best protection while at sea, each seed should be rolled in beeswax to make a ball that is 1 1/2 inches in diameter. These wax-coated seeds should then be layered in a box with a false bottom of beeswax. After filling the box and sealing any air spaces with beeswax, the container should be stored in a cool location on board the ship. Ellis concluded his report by boasting that "if properly followed," his method "may in a few years put us in possession of the most rare and valuable seeds in a vegetating state from the remotest parts of the world." His predictions were correct.

However, the difficulties of transit were not the only obstacles to the successful shipment of seeds across the seas. There were collection problems, too. Generally, an explorer took note of a plant while it was in bloom. Therefore, the expedition had to pay two visits to each collecting site: one when the target specimen was first discovered, then another at the approximate time when the seed might be ripe. Unfortunately, illness, treacherous weather conditions and many other perils often

## A Plant Mailer's "How-To"

**T**he pleasures of receiving a shipment of plants and opening the box to find them all in fine condition are boundless. Although the early plant hunters established the basic rules of plant shipment, we now also benefit from modern technology. Our task is greatly facilitated, and the results are generally much more successful.

If sent via the U.S. Post Office by Air Mail, a package will usually arrive within a week at almost any point in the nation. Most plants can easily survive this period of travel without the benefit of light. Under normal conditions, the plant travels unharmed and arrives at its destination in good condition. However, care must be taken to avoid excessive heat and cold at both the point of departure and the destination. The package should be clearly marked "Perishable." One can only hope that the postal authorities will heed the plea.

When preparing a plant for shipment, be sure it receives water the night before travel. Give it a good drink, and allow the water to penetrate the soil. Transfer the specimen into a plastic pot. (Try to avoid

disturbing the roots.) Then, lay some damp (not soaking) sphagnum moss over the soil to retain the moisture, and secure the moss in place with a sheet of plastic that is either taped in place or fastened with a rubber band.

Use a box with ample room for the specimen. The container should be sturdy enough for travel; a shoe box is bound for tragedy. The easiest method of packing a plant is to lay it on its side and use wadded newspaper to secure the pot in place. Lighter paper or tissue paper packed in around the leaves and stem can help prevent breakage.

At the receiving end, unpack the plant carefully and remove the moss and plastic cover. Water the plant sparingly, if necessary, and place it in moderate light, not direct sun. Wait two or three weeks before repotting or fertilizing the specimen.

Seeds can also be shipped easily now that rapid transportation is available. Seeds should be sent in mild weather, for they can suffer from freezing. When packaging seed, use a padded envelope and mark it "Hand Cancel Only," because postage meter machines can damage seed.



prevented the explorer from retracing his steps back to the exact spot where he first sighted an interesting specimen. Furthermore, explorers who managed to revisit the site sometimes found that their plant(s) had succumbed to the torments of weather or predators. To further complicate matters, not all plants—especially woody vines and trees—set seed readily. It is not surprising that early plant collectors were anxious to perfect a way to collect and ship living plants.

Means of transporting live plants developed gradually. The plants that Sir Hans Sloane sent in the mid-1600's from Jamaica via James Harlow were described as "trees and herbs planted and growing in earth." However, these were undoubtedly seeds sown in dirt that had simply germinated en route.

Evidence indicates that the transportation of plants was probably a practice that evolved accidentally. Inkings of a method were revealed in a letter from Peter Collinson in Britain to John Bartram, who was exploring in the New World in the mid-1700's. In his note, the ever-optimistic Collinson spent but few words bemoaning the fact that rats had consumed most of the seeds Bartram had shipped to him. Instead, he turned his pen to the positive aspects of the demolished shipment: the sod surrounding the decapitated specimens contained seed that germinated upon arrival in Britain. The wily Collinson proposed that Bartram lift sods from wild, boggy locations and forward them intact for later germination in Europe.

In 1781, Dr. Fothergill, an English botanist, provided instructions for sowing seed en route to its destination. Fothergill's system of seed preservation, which was primitive in comparison to the more scientific procedures suggested by Linnaeus and Ellis, was geared for shorter journeys. Fothergill suggested that the seeds be stored in canisters, earthen jars, snuffboxes or glass bottles, and that they be surrounded by well-dried, whole-grain rice, millet, wheat bran or Indian corn. To prevent the mischief of marauding insects, he proposed the addition of camphor, sulfur or tobacco. Furthermore, he recommended that the seeds be sown after the ship passed the Tropic of Cancer, so they would travel the remainder of the voyage as seedlings.

During the eighteenth century, mature plants as well as seedlings were being collected and shipped to botanists in Europe. Peter Collinson developed imaginative

*Continued on page 32*



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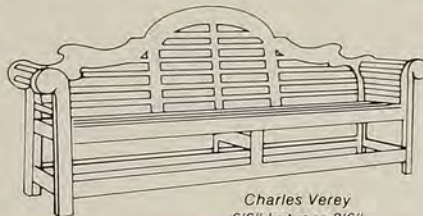
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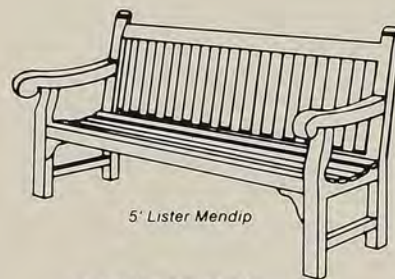
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# Garden Ornament

**We've got t' love each brick an' stone from cellar up t' dome:  
It takes a heap o' livin' in a house t' make it home.**

If Edgar A. Guest had ever written a poem about a garden, I'm sure his sentiments would have been the same as those above. He would have said that when it comes to the enjoyment of a garden, plants are not enough. Has anyone ever enjoyed viewing flowers while sitting on a pile of wet leaves or a damp, moss-covered bucket turned upside-down?

Obviously, the American entrepreneur has found a market for creature comforts—both aesthetic and bodily. Suddenly, many mail-order houses are offering chairs, gazebos, statues, sundials and other items that were once limited to the carriage trade and found only on palatial estates.

According to Alice Morse Earle in her fascinating book *Old Time Gardens*, embellishment of the American garden is nothing new. Back in the early 1700's, the typical cultivated "back-40" included aviaries, dovecotes, beehives, bowling greens, orangeries, decorated parterres, pergolas, obelisks, statues, fountains and garden lyres, not to mention wrought-iron garden gates called *clairvoyees* (so named because they allowed an uninterrupted view). The latter were painted blue in England; in America, their colors were more somber, though portions were gilded. Chairs and benches are conspicuously absent from the list; Colonial America would allow time for the garden, but you had to keep moving along.

The following firms represent the gamut in garden statuary and seating. Their catalogues are loaded with things—both practical and whimsical—that bring comfort outside, to the back yard and beyond. None of these firms sells portable telephones to carry while you dig, or radios to take into the shower while you wash.

**American Sundials, Inc.**, brings the concept of time to the garden in the only way it should be admitted—by offering a number of attractive, solid, sand-cast bronze sundials of varying sizes (up to a foot in diameter), with trenchant homilies in-



American Sundials, Inc.

scribed around the edge in raised letters, including "Time and tide tarry for no man" and "A clock the time may wrongly tell, I never if the sun shine well." They note that their dials are accurate to within approximately 15 minutes of standard time in the continental United States.

**Clapper's** garden catalogue lists many elegant items for the garden, including solid teak dining tables and chairs that can be left outside in any kind of American climate, plus Roman garden parasols (made in Milan) that conjure up visions of sun-drenched quays and merchants selling sweet oranges and prawns. Clapper's also carries a line of Versailles-design planter boxes of mahogany that are coated with asphalt and lined with galvanized steel, as well as lead ornaments, including a 150-pound whippet and a 50-pound hare.

**Erkins Studios** has been in business since 1910, and for many years had a wonderful store and gallery opposite the Public Library in Manhattan. Life-size statues stood on lead fountains hidden from the rush of traffic; footsteps echoed from marbled floors. The gallery, now in Newport, Rhode Island, still offers contemporary and traditional fountains carved from Italian stone (many of which would hold far more than



Wind & Weather

three coins) and a 10-foot-high, 12-foot-wide cast stone garden temple. For the gardener who would prefer something smaller, they carry well-crafted articles of hand-wrought lead (the five-inch frog is a charmer), wonderful wall masks of Italian terra cotta and a *clairvoyee* of great beauty.

**Florentine Craftsmen** had been in Manhattan for over 50 years, but they, too, had to move. Their old galleries were lined with "three shell dolphin fountains," the "piper of the garden" and hand-carved stone figures of cupids and putti ready to gambol about the petunias and the pines. They still offer these favorites, as well as smaller items made of lead and stone for those gardeners with less to spend, plus a fine line of planters and urns, including a flower box with a shell motif that would grace any terrace.

**Garden Concepts Collection** is a potpourri of garden products. Their catalogue begins with a quotation by Frank Lloyd Wright: "Give me the luxuries of life and I'll gladly do without its necessities." In its pages you will find a Gothic bench with an ogee-pointed roof, a canvas tea tent, a life-size crane and a number of figures made of cast plaster, including a Caesar, which is covered with bronze-and-gold leaf patina; cheval, with a bronze patina; and Dionysos, also coated with bronze. A bust of Diane is also available with a faux bronze patina.



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*Iris*

*Shown actual size*

tion at intervals of approximately two months.

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## A CATALOGUE REVIEW



Vixen Hill Gazebo

Imagineering, Inc., has decorated the rock-bound shores of Maine with Weatherend Estate Furniture of handcrafted teak and mahogany. It's a new line of outdoor tables, chairs and settees that has evolved from one set of English-style lawn furniture originally designed some 80 years ago for a Rockport estate. All of the curves in the furniture are cut from lumber (rather than steam-bent), and each mahogany piece is primed, sanded and sprayed with three coats of high-gloss enamel.

Kenneth Lynch & Sons, Inc., publishes a catalogue called *The Book of Garden Ornament*, 400 pages of which are devoted to the largest collection of garden furnishings in the country. There are rain-trees of bronze that drip water into stone pools, copper cattail fountains and garden statuary, including a six-foot-high statue

of Justice. They also sell a recasting of a horse's head from the east pediment of the Parthenon. The horse is panting from the exertions involved in pulling the moon goddess, Selene, across the night skies in her celestial chariot. Reading this catalogue gives one a sense of the history of art and design in America over the past 80 years.

Robinson Iron's garden art calls to mind the glories of Central Park, the majestic statues of London, or the best homes of San Francisco. Many of their designs and patterns were in use before the Civil War and were cast for a number of southern estates and municipalities. But even in their impressive collection—including a serpentine vase that depicts a mother bird protecting her young from an attacking serpent—there are smaller items, including urns and vases, that are perfectly suited to a small city garden or a country terrace.

Seahorse Trading Company represents the Haddonstone Collection, made in England of a special form of reconstructed limestone with a surface texture resembling that of Portland stone. If you really want the look of an English garden, try the Gothic urn and base in your back yard, planted with Martha Washington geraniums and trailing forget-me-nots. They also have a pool that comes in sections; you can buy four sections for a round pool, or only two if you would like to create a half-pool to set up against a wall. I'd love to set up a half-pool, complete with their lion's-head fountain, in the middle of my perennial border.

## Mail Order Addresses

Send for the catalogues of the companies mentioned in Peter Loewer's article at the addresses listed below.

American Sundials, Inc., Dept. AH, 300 Main Street, Point Arena, CA 95468, Catalogue free.

Clapper's, Dept. AH, 1125 Washington Street, West Newton, MA 02165, Catalogue free.

Erkins Studios, Dept. AH, 604 Thames Street, Newport, RI 02840, Catalogue \$4.00.

Florentine Craftsmen, Dept. AH, 46-24 28th Street, Long Island City, NY 11101, Catalogue \$3.00.

Garden Concepts Collection, Dept. AH, PO Box 241233, Memphis, TN 38124, Catalogue \$2.00.

Imagineering, Inc., Dept. AH, PO Box 648,

Rockland, ME 04841, Catalogue \$2.00.  
Kenneth Lynch & Sons, Inc., Dept. AH, PO Box 488, Wilton, CT 06897, Catalogue \$7.50.

Robinson Iron, Dept. AH, Robinson Road, Alexander City, AL 35010, Catalogue \$3.00.

Seahorse Trading Company, Inc., Dept. AH, PO Box 677, Berryville, VA 22611, Catalogue \$3.50.

Southern Statuary & Stone, Dept. AH, 3401 5th Avenue South, Birmingham, AL 35222, Catalogue \$4.00.

Vixen Hill Gazebo, Dept. AH, Route 2, Phoenixville, PA 19460, Catalogue free.

Wind & Weather, Dept. AH, PO Box 1012, Mendocino, CA 95460, Catalogue free.

Wood Classics, Inc., Dept. AH, Route 1, High Falls, NY 12440, Catalogue free.



Southern Statuary & Stone supplies a number of animals made of lead for the smaller garden, including a pair of 3½-inch-high birds, a duckling (piped for water) and a 22½-inch-high English hare, all of which are accurately detailed and are posed in a lifelike manner. They also manufacture a cast lead light in the shape of a leaf, which is perfect for lighting garden pathways. It directs all of the light down toward the paths to avoid any irritating glare, and is unobtrusive by day.

Vixen Hill Gazebos is a firm that offers octagonal Victorian summerhouses in two diameters: nine and 12 feet. It is easy to imagine wandering to one of these gazebos on a moonlit night to survey the fireflies that dance about the shrubbery while sphinx moths look for nectar in the blooming lilies. Everything you need is included in the kits. These fine houses are made of kiln-dried western red cedar and feature roofs with cedar shingles. The kits even include 110-volt electrical wiring for the cupola light fixture, a useful feature when moonlight is scarce.

Wind & Weather carries sundials, but their forte is a large collection of weather vanes to top garages and garden tool sheds or, if you have neither, a pole in the middle of the garden. There is a duck by Maine sculptor Barry Norling, who works in hammered copper; a kinetic sculpture of brass and copper with steel ball bearings by Joseph Beran, who was born in Czechoslovakia and now lives in California; and a wide variety of charming animals that perch upon satin-black arrows. They even have a set of miniatures for doll houses, train sets or birdhouses.

Wood Classics, Inc., is nestled in the foothills of the Catskill Mountains, and handcrafts the true Adirondack-style chairs in mahogany or teak. Chairs are available as kits, which can be assembled with a Phillips-head screwdriver, or hand-finished by the manufacturer. Exposure to the weather only brings out more of the natural grain of the wood, which eventually ages to a silvery-gray patina, but the original wood tones can be maintained with regular applications of a wood dressing. Wood Classics also makes a small garden bench that can be left outside all year. ☼

—Peter Loewer

Peter Loewer is a botanical artist and scientific illustrator who writes and illustrates his own books. He is the author of *Growing and Decorating with Grasses*, as well as *Gardens by Design*, which is scheduled for publication in June 1986.



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# Tryon Palace Restoration

TEXT & PHOTOGRAPHY BY PAMELA HARPER

Many travelers pass through New Bern, North Carolina on coastal highway US 17 unaware that they are within one block of “Old-World gardens in the New World.” If you leave your car in the parking lot, walk down Pollock Street and glance sideways between the Administration Building and the restored Stevenson town house (circa 1805), you will see an impressive avenue of Darlington oaks (a form of *Quercus laurifolia*) leading to Tryon Palace, where a costumed hostess will probably be waiting to greet you at the door. Information and tickets are obtained at the wisteria-clad reception center on the other side of Pollock Street.

The original Tryon Palace was built between 1767 and 1770 under the supervision of English architect John Hawks (commemorated in a part of the garden called Hawks’ Allée) to serve as the capitol of the Province of North Carolina, and as the residence of Royal Governor William Tryon. Resentful citizens dubbed it Tryon’s Palace; their resentment, echoed elsewhere, was to result in the Revolutionary War. After the war, Tryon continued to serve as the state capitol, until 1794, when Raleigh became the new capital city of North Carolina. The guidebook reports that when George Washington visited New Bern during April 1791, he noted the following in his diary: “Dined with the Citizens at a public dinner given by them; and went to a dancing assembly in the evening; both of which was at what they call the Pallace, formerly the Government House and a good brick building but now hastening to Ruins.” In 1798 the already-crumbling Palace was largely destroyed by fire, leaving only the west wing standing.

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Spectacular tulips are a feature of the spring display at the Maude Moore Latham Memorial Garden at Tryon Palace. The hedges outlining the parterres are of dwarf yaupon, *Ilex vomitoria* ‘Nana’.

And so it remained for over 150 years.

It was not until 1952 that the rebirth of Tryon Palace—made possible by the generosity of Mrs. Maude Moore Latham and her daughter, Mrs. John Kellenberger—finally began. Complete plans of the original buildings could not be found; Hawks’ sketch plans (now on file in the British Public Record Office) and original drawings (available at the New York Historical Society Library), combined with excavation and some guesswork based on the best available evidence, guided reconstruction of the red brick building—with the Royal Coat of Arms of King George III on the pediment—we see today. Restorers aimed for authenticity whenever possible. For example, the brownstone imported for the reconstruction of some of the steps and gateposts is believed to have been taken not only from the same English quarry, but also from the same vein as the original. Other materials used in the reconstruction—including many of the fittings for the Palace, the urns and stone baskets for the gardens, the iron fencing and the lamp-posts—also came from England. The Palace is furnished with mid-eighteenth-century antiques.

In the reconstruction of historic gardens, strict adherence to eighteenth-century plant lists imposes limitations. However, since no evidence exists that the gardens at Tryon were ever completed, restorers had a bit more leeway, and the gardens are the prettier for it. The design is speculative, modeled on gardens of similar estates in England but, save for “wilderness walks” flanking the rear lawn, clinging to a formality that was on the wane in English gardens of the period.

To enter Tryon’s grounds, the visitor must pass between red brick sentry boxes. The gardens are formal, but curves predominate in a design that is neat and strong, yet more welcoming than a rectilinear design. The Palace, which is Georgian in style,



RIGHT: The elaborate hedge patterns of the Green Garden at Tryon Palace are best appreciated from an upstairs window. FAR RIGHT: The Kellenberger Garden at Tryon features beds of colorful tulips in spring. During the summer months, the beds are filled with annuals.



is linked to its matching east and west wings by curved, colonnaded walkways, giving the complex an Italian Palladian look when viewed from the front. From the wings, iron railings encircle the forecourt, so that buildings, fencing and colonnades form an unbroken oval that has an oval lawn, around which runs a cobbled driveway, at its center.

Two privy gardens flank the Palace: the colorful Dutch-style Kellenberger Garden to the left, and the Green Garden to the right. At the rear of the Palace, a large oval lawn, partly encircled by the wilderness walks to the left and right, sweeps down to the River Trent. The Palace land originally ran to the water's edge, but now a road runs in between. A wire fence, embowered with the snowy-white Cherokee rose (*Rosa laevigata*), protects the grounds without obscuring the view.

While visitors to the rooms of the Palace must take a guided tour, visitors to the gardens are given a map and left to wander at will—by far the best way to enjoy a garden, lingering where and for as long as you please. If you choose to take the suggested self-guided tour, you enter through the west colonnade doorway and pass first through the poultry yard with its antique pump and trough. There you will find English game chickens of the Silver Duckwing strain. (At one time, there were peacocks, but they became too numerous and troublesome.) A picturesque circular dovecote located in the yard contains over 150 nests.

The work garden comes next—a necessary corollary to the eighteenth-century English estate garden on which Tryon was modeled, but with a decidedly American feature: a shade house. Many of the plants used in the Tryon gardens, as well as some

for sale to visitors, are raised here.

Next comes the Green Garden. Privy gardens were intended for the pleasure of the resident family, and were supposed to be viewed from an upstairs window. This pleasure must, unfortunately, be denied visitors touring the house, because windows must be kept shaded to protect valuable antiques from the hot sun. But through the gate of the Green Garden one may glimpse the scrollwork of clipped yaupon (*Ilex vomitoria*) set against golden gravel.

The most spectacular of Tryon's gardens is the walled Maude Moore Latham Memorial Garden, which honors Tryon's benefactor. This is surely one of the world's most impressive parterre gardens, not to mention the most immaculate. Beautiful reverse-“S” curves (Hogarth's “line of beauty”) are intrinsic to the design; some beds are diamond-shaped or octagonal, but their edges are curved, as are those of the octagonal center pool with its simple fountain jet. Sinuous paths of rosy brick wind between the beds. The effect is a softened formality that is both colorful and romantic. In spring Tryon rivals that showpiece of the Dutch bulb growers, the Keukenhof; 30,000 tulips are bedded out, underplanted with pansies. Annuals are used in summer, and in the sunny southern autumn, chrysanthemums bloom on into early winter.

Visitors usually suppose the parterre hedging to be boxwood, but it is not. The design would fail if the hedges were not kept neatly trimmed, but boxwood, after being trimmed, produces soft new growth that scorches in the heat that inevitably occurs here from late spring into autumn. The hedges actually are dwarf yaupon (*Ilex*

*vomitoria* ‘Nana’), a miniature cultivar of a holly that is native to the Southeast and adapted to the climate. The typical tall yaupon is also used, notably for the pleached allée. There is boxwood in the Maude Moore Latham Garden, of an unusual kind; billowy bushes of *Buxus harlandii*, which has willowy leaves with notched tips, edge an outer path. Behind them, backed by ivy-covered walls, are four Italian marble statues representing the four seasons. On the other side of this walled garden, a sweep of white curved steps takes you up to the colonnaded memorial pavilion of classical design, with a Portland stone bench on which to relax.

The path continues through the pleached allée and the wilderness walk to twin flagpoles on the lawn down near the water. From one pole flies the Red Ensign, from the other, the flag carried by the North Carolina Militia during the American Revolution. An 18-pounder sea cannon displayed here was found locally and presented to Tryon Palace by the City of New Bern.

If you follow the wilderness path, you come to the other privy garden, the Kellenberger Garden. Unlike the Green Garden, this one relies as much on color as on design, so it can be appreciated equally from the upper windows and from within the garden. A path divides it into two halves. On one side, an antique font stands between four oblong beds filled with tulips or bedding plants, each with a slender column of yew in its center. Behind the font, a wrought-iron grille provides a glimpse through a curved section of the ivy-covered wall. On the other side of the path, a limestone statue of a boy holding a birdbath stands among beds of flowers, and there's a seat on which to sit and soak up the sun and the color.

From here, you can stroll on to the large kitchen garden, which is at its best in summer. There are cordoned and espaliered fruit trees, a dipping well, an herb garden and beds of such sun-loving annuals for cutting as zinnias, snapdragons, strawflowers and globe amaranth (*Gomphrena globosa*). Here I ate my first fresh, ripe fig, plucked for me by horticulturist Mr. Rea. With the help of five full-time gardeners (one of whom is permanently employed clipping hedges) and some part-time employees, Rea maintains Tryon's 12 acres to praiseworthy standards.

Plants grown at Tryon demonstrate the way an English-influenced eighteenth-century garden of the region might have evolved to the present time. Most of the plants are those known in America prior to 1770, but immigrants then (and later ones such as myself!) soon learned that some plants



from the old country were not adapted to the climate of the new, but that a wealth of beautiful native plants could take their place. Many of these can be seen at Tryon, although it is clear that gardeners had yet to “discover” some of them in Governor Tryon’s time. Native trees and shrubs include *Magnolia grandiflora*; the smaller-flowered *Magnolia virginiana*; loblolly bay (*Gordonia lasianthus*), with waxy-white flowers resembling single camellias; Florida anise (*Illicium floridanum*), with maroon, cartwheel-shaped flowers and star-shaped fruits; and fringe tree (*Chionanthus virginicus*), with strap-petaled, creamy flowers likened by writer Elizabeth Lawrence to coleslaw. Plants from other lands, long grown in the South and represented here, include poet’s laurel (*Danae racemosa*), strung in autumn with lucent orange berries; chaste tree (*Vitex agnus-castus*), which really is a tree, not a shrub, in the South; and headily fragrant gardenias. The golden-rain tree (*Koelreuteria paniculata*) flowers and fruits so abundantly that its seedlings are among the most troublesome of Tryon’s weeds.

An hour would suffice to stroll through Tryon’s gardens, but you’ll probably want to linger longer. Another half-hour should be allotted to the gardens of three town houses forming part of the Tryon complex. The largest, and the prettiest, is the garden at Stanley House. This colonial house, erected in New Bern in the late eighteenth century, was originally owned by Revolutionary War leader John Wright Stanley. In 1965 the Tryon Palace Commission voted to move it to its present site alongside the reception center, restore it and construct gardens appropriate for a town house of the period. In this and the adjoining parterre garden, there are neat, low hedges, elegant, white-painted seats and gazebos, and a picturesque Italian wellhead. The garden is kept bright with flowers; on the spring day of my last visit, pink tulips were color-matched to the ‘Kwanzan’ cherries, and a Lady Banks rose with yellow pom-pom flowers (*Rosa banksiae* ‘Lutea’) rambled over the wall alongside a white picket gate.

The Stevenson House Garden is a small, cool retreat, with brick paving and green-and-white plantings. The Jones House, on the corner of Pollock and Eden Streets, features a brick patio and raised brick beds that are bright with azaleas in spring. All three houses are furnished with appropriate antiques and are open to the public.🌷

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A close-up photograph of a lush, green field of plants. The foreground is dominated by numerous bright yellow buttercup flowers with five petals, interspersed with green foliage. In the background, tall, feathery green ferns rise above the buttercups. The overall scene is vibrant and natural.

# *Plants of the Water's Edge*



I have always been fascinated by the plants that grow along the water's edge. The marshy, boggy or shallow-water areas along a pond or stream are intriguing and often floristically diverse places. The plants that inhabit this special environment are unique, but, unfortunately, most of us are not very familiar with them, despite the fact that they can add much to our home gardens.

One of the wonderful things about these plants is that not only can they provide beauty in their native habitats, but they can also be extremely useful and ornamental in our own back yards. Bog plants can be used in many ways—for example, to soften the lines of a formal rectangular pool, provide a natural touch to a free-form water garden, fill a portion of the garden where the soil remains soggy throughout the year, or provide attractive flowers and greenery in a water garden that is too shaded to produce blooming water lilies. Despite their suitability for use in the home setting, however, few bog plants have yet to be used extensively in American gardens; most are just waiting to be “discovered.”

Among the main reasons for adding bog plants to an existing water garden—or for planning for them in a water garden that is about to be installed—are the valuable accents of color, texture and form that these plants can add to a garden's composition. An excellent plant for this purpose is *Typha angustifolia*, commonly called narrow-leaved cattail or soft flag. The six-foot-tall foliage of this species provides a vertical accent and is especially effective if near the back edge of a pond. *T. angustifolia* also bears the familiar, dark brown inflorescences, or cattails, in late summer and early fall. This species' exceptionally graceful foliage rustles and sways with the wind, and forms a natural backdrop that can set off the water lilies that usually occupy center stage in a water garden. *T. angustifolia* can become invasive in a small pond setting if not restricted, so use container-grown plants only. *T. angustifolia* is hardy in USDA Zones 2 through 10.

Broadleaf arrowhead, *Sagittaria latifolia*, is another attractive species and is effective when used with cattails. The foliage of this native American species, which is also called wapato and duck potato, reaches approximately 20 inches, and the flower stalks add another eight to 10 inches to the overall height. When planted with cattails, this moderately tall species helps create the illusion of depth in a water garden; the eye moves from the floating fo-

liage of water lilies to the somewhat taller lines of the arrowhead, to the even taller backdrop of the cattail.

Hardy in Zones 5 through 10, *S. latifolia* bears arrow-shaped leaves that grow to about 12 inches in length and six to eight inches in width. Each leaf juts upward from straight and strong petioles, which are taller toward the center of the plant, where the foliage is more mature. Younger foliage and petioles radiate outward, reaching toward the sunshine. *S. latifolia* is more than just a foliage plant, however. Each summer, the plants produce tall, very rigid flower spikes that bear several successive whorls of delicate, three-petaled, white flowers.

Yellow snowflake, *Nymphaoides geminata*, is an attractive floating companion for larger-leaved water lilies. This species, hardy in Zones 6 through 10, offers foliage that is distinctively colored—chocolate-brown with veins of vivid green. Its bright yellow flowers, which are borne in spring and summer, rise slightly above the surface of the water and add to the plant's special charm.

When combined in a water garden, narrow-leaved cattail, broadleaf arrowhead and yellow snowflake provide a variety of leaf colors and shapes, heights and textures. Accent plants such as these can transform a plain, somewhat sterile water garden into one with enchanting lines, textures and colors.

A more formal water garden—for ex-

ample, a raised rectangular pool that is ornately lined with colored tile and has several water lilies at its center—would require more elegant bog plants. Here, the surrounding setting is usually quite precise, with manicured lawns and shrubs that are neatly trimmed. Bog plants can be used to soften the harsh lines of a rectangular garden, and can also add a touch of color and interesting textures. It is important to select plants that do not shift too drastically from the overall formality of the garden, however.

Elegant dwarf bamboo, *Dulichium arundinaceum*, has elegant, willowy foliage that is borne on 18- to 24-inch stems. This feathery-textured plant, which is actually a sedge, is well suited for the formal garden, perhaps placed at the rear or in one corner. It is a relatively non-invasive species, and provides a subtle vertical accent that is attractive in an otherwise horizontal design. It is hardy in Zones 6 to 10.

Iris have been called the “royalty of the bog,” and blue iris, *Iris versicolor*, would certainly make a royal addition to a formal pool. The erect, narrow, sword-like leaves of this species flutter in the slightest breeze, and the spikes of pale, purple-blue blooms that appear in early to mid-spring are hard to surpass in beauty. This is a marvelous plant for almost any water or bog garden.

Spike rush, *Eleocharis montevidensis*, is a unique plant with extremely narrow, quill-shaped leaves that arise from beneath the



LEFT: Buttercups and horsetail (*Equisetum* sp.) are excellent choices for wet, boggy soils.

ABOVE: *Orontium aquaticum*, commonly called golden-club, is an attractive native American species.

Pamela Harper



water's surface in dense clumps. Since it only reaches 12 inches in height, this species is short enough to plant in front of water lilies. Its coarse, grassy texture is attractive in any location. Spike rush's tiny, light brown, club-like inflorescences, borne in summer and fall, provide an additional bit of color and texture. This species is hardy in Zones 6 through 9.

Another plant that would be suitable for a formal garden is four-leaf water clover, *Marsilea mutica*. It is a superb floating "water cover," since several plants can be used to carpet a selected portion of a water garden. As the common name of this species suggests, the extremely delicate foliage resembles that of the terrestrial four-leaf clover, although *Marsilea* is actually a fern. The four-parted leaves, which are as large as three inches in diameter, are an attractive blue-green color, and are marked with a yellowish-brown pattern. *M. mutica* is hardy in Zones 6 through 10.

Bog plants can add depth, color, contrast and excitement to a formal water garden without changing the refined and delicate theme delineated by the formal setting. (They also will enhance the blooms of water lilies without detracting from the overall feeling of the landscape.)

There are even bog plants for gardeners with an established pond that has become somewhat shaded through the years, or for those who would like to have a water garden but do not have enough sun for water

lilies. White arum (*Xanthosoma sagittifolium*, usually sold as *Peltandra sagittae-folia*) is an excellent background plant for a somewhat shady water garden. It reaches 18 inches in height and is hardy in Zones 7 through 10. This lovely plant bears glossy, dark green, arrow-shaped leaves on long petioles. Its glorious, radiantly white flowers are borne in summer and look like the blooms of a calla lily. White arum provides color even in the fall, since bright red berries follow the flowers.

Any of the arrowheads, *Sagittaria* spp., also would make an interesting addition to a somewhat shady water garden. The arrow-shaped foliage of these species would complement that of white arum, and the three-petaled flowers would offer some variation. An interesting tie-in to complete this grouping would be a carpet of four-leaf water clover, which is also shade-tolerant.

For the somewhat less shady area, there are many bog plants from which to choose. These plants require at least three hours of direct sunlight per day.

Golden-club, *Orontium aquaticum*, is a stunning American native that tolerates partial shade. It produces a semi-floating, 10- to 12-inch mound of lance-shaped leaves that point upward and outward. The upper surface of each leaf has a satiny sheen. During spring and early summer, the plants bear white flower spikes tipped in deep yellow. The total effect is striking.

Floating-heart, *Nymphoides peltata*, is another attractive species for the not-so-sunny water garden. It is perhaps best described as a miniature water lily. This species' leaves, which are no more than three inches across, are roundish and usually variegated with a rippling band of dark maroon along the leaf margin. From spring through fall, *N. peltata* features bright yellow, five-petaled flowers that are held slightly above the water's surface. It is hardy in Zones 6 through 10.

Pickereel rushes also tolerate partial shade. Blue-flowered *Pontederia cordata* and *P. cordata* forma *albiflora*, which has white flowers, are both effective. The pickereel rushes, hardy in Zones 3 through 9, are among the finest of the bog plants. Their arrow-shaped, upward-facing leaves are borne on long petioles. The plants have a marvelous clumping habit, and long, dense spikes of flowers are borne from spring through early fall.

The heart-shaped foliage of water snowflake (*Nymphoides cristatum*), another small-leaved floating plant, lends added texture to the water's surface. The species' tiny white blooms, which are produced in abundance throughout the summer, sparkle on the surface of the water. *N. Cristatum* is hardy in Zones 6 to 10.

Surprisingly, yellow water iris, *Iris pseudacorus*, also tolerates a site with some shade, although it should be placed in the brightest part of the garden available. This species, hardy in Zones 4 through 9, has pale green, sword-shaped foliage. In spring, it bears masses of pure yellow blooms atop 30-inch stems. *I. pseudacorus* is one of the most effective plants for the edge of a water garden or for a bog planting.

By combining some of these plants, gardeners can add life to a shaded pond, creating within it a complete tapestry of colors and textures. Even though a pond that receives only three hours of direct sun cannot support blooming water lilies, it can be filled with attractive yellow, white and blue flowers, as well as a variety of foliage types.

It is easy to create an area in your garden that is especially designed for bog plants, or to add a boggy area alongside an existing water garden. First, choose the site, then outline your garden. (A hose laid out in irregular fashion to mark the desired lines works quite well.) If this particular location does not stay wet all year, excavate the site to a depth of eight to 12 inches and install a PVC pool liner. (The companies listed in "Sources" on page 36 offer liners in a variety of sizes.) Line the hole with the plastic, and replace most of the excavated soil, but be sure the surface of the bog garden is slightly below that of the



ABOVE LEFT: Broadleaf cattail, *Typha latifolia*, is a familiar species for ponds or bog gardens.

ABOVE RIGHT: *Iris pseudacorus* is one of the showier plants for the bog garden.

RIGHT: *Iris pseudacorus* 'Variegata' and *I. laevigata* 'Variegata' grace the edge of a pool.







adjacent ground, so that water run-off will accumulate in the garden. Next, saturate the soil with water, and you are ready to plant. Many of the plants we have already discussed are suitable for this type of garden. (See the accompanying chart for information on light and water depth requirements.)

A potted specimen or two of broadleaf cattail, *Typha latifolia*, is an excellent choice for a bog garden, as this species will provide an attractive, six-foot backdrop. *T. latifolia*, hardy in Zones 2 through 10, offers exceptional foliage and the familiar,

summer-borne inflorescences.

Lizard's-tail, *Saururus cernuus*, is another interesting plant for the bog garden, and combines nicely with *Typha latifolia*. *S. cernuus*, which is also commonly called water-dragon, reaches approximately 18 inches in height and produces delightful, heart-shaped leaves. Its long, slender, drooping spikes of fragrant white flowers are borne throughout much of the summer. *S. cernuus* is hardy in Zones 4 through 9.

Siberian iris, *Iris sibirica*, also is a superb bog plant. This species features dense

clumps of linear foliage that reach some three feet in height, and outstanding royal-purple, late-spring blooms. It is hardy in Zones 4 to 9.

Blue- or white-flowered pickerel rush will also thrive in the damp soil of a bog garden. Pickerel rushes provide not only compatible flower colors, but also sharply contrasting foliage shapes and colors.

You may also want to include flowering rush, *Butomus umbellatus*, in your garden. This species, hardy in Zones 6 through 10, sends up clumps of slender, slightly drooping foliage that eventually reach a height of some three feet. *B. umbellatus*, which is also commonly called water gladiolus, bears flowers in midsummer that are held just above the foliage.

Horsetail, *Equisetum fluviatile* (or a similar species), is a fine plant that will also reach three feet in height. Horsetails are distinct from all of the species mentioned thus far in that they have erect, hollow stems that are jointed, and they lack true leaves. The stems have whorls of slender branches that radiate out from each joint. This fascinating accent plant is hardy in Zones 3 through 9.

Water or arrow arum, *Peltandra virginica*, is another excellent choice for a bog garden. It reaches two feet in height and sends up vertical stems topped by large, glossy, arrowhead-shaped leaves. These distinctive leaves provide a horizontal accent that can be quite effective when contrasted with the tall, primarily vertical features of background plants such as cattails. *P. virginica* is hardy in Zones 5 through 9.

The leaf structure of broadleaf arrowhead, *Sagittaria latifolia*, is similar to that of water arum. This fine bog plant also is attractive when placed with cattails.

In considering the rich possibilities of gardening with bog plants, I recall a quote from Gertrude Jekyll's *Wall, Water and Woodland Gardens*. Even though she was writing about her native England, her words have meaning for all of us: "It is probably in the smaller ponds and pools, or in river banks and back-waters, that most pleasure in true water gardening may be had. Everyone who has known the Thames from the intimate point of view of the leisured nature-lover in boat or canoe, must have been struck by the eminent beauty of the native water-side plants; indeed our water-gardens would be much impoverished if we were debarred from using some of these."

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## Plants of the Water's Edge

Botanical Name (Common Name)	Growth Habit	Water Depth	Exposure Requirements	Blooming Season
<i>Butomus umbellatus</i> (Flowering Rush)	Upright to 3'	0-6"	Full sun	Mid-Summer
<i>Dulichium arundinaceum</i> (Dwarf Bamboo)	Upright to 18"	0-4"	Full to partial sun (at least 3 hours)	Summer
<i>Eleocharis montevidensis</i> (Spike Rush)	Upright to 12"	0-2"	Full to partial sun	Summer to Fall
<i>Equisetum fluviatile</i> (Horsetail)	Upright to 3'	0-6"	Full to partial sun	Summer to Fall
<i>Iris pseudacorus</i> (Yellow Water Iris)	Upright to 30"	0-10"	Full sun	Early Spring
<i>Iris sibirica</i> (Siberian Iris)	Upright to 36"	0-4"	Full to partial sun	Mid- to Late Spring
<i>Iris versicolor</i> (Blue Iris)	Upright to 24"	0-6"	Full to partial sun	Early to Mid-Spring
<i>Marsilea mutica</i> (Four-Leaf Water Clover)	Floating (roots in soil)	4-12"	Full to partial sun, filtered light	—
<i>Nymphaeodes cristatum</i> (Water Snowflake)	Floating (roots in soil)	4-12"	Full to partial sun	Summer
<i>Nymphaeodes geminata</i> (Yellow Snowflake)	Floating (roots in soil)	4-12"	Full to partial sun	Spring to Summer
<i>Nymphaeodes peltata</i> (Floating-Heart)	Floating (roots in soil)	4-12"	Full to partial sun	Spring to Fall
<i>Orontium aquaticum</i> (Golden-Club)	Upright to 12"	0-6"	Partial sun (at least 3 hours)	Spring to Early Summer
<i>Peltandra sagittaeifolia</i> (White Arum)	Upright to 18"	0-6"	Full to partial sun, filtered light	Summer
<i>Peltandra virginica</i> (Water or Arrow Arum)	Upright to 24"	0-6"	Full to partial sun	Summer
<i>Pontederia cordata</i> (Pickerel Rush)	Upright to 30"	0-12"	Full to partial sun	Spring to Early Fall
<i>Sagittaria latifolia</i> (Broadleaf Arrowhead)	Upright to 24"	0-6"	Full to partial sun	Summer
<i>Sagittaria</i> sp. (Sagittaria)	Upright to 24"	0-12"	Full to partial sun, filtered light	Early Spring to Fall
<i>Saururus cernuus</i> (Lizard's-Tail)	Upright to 18"	0-6"	Full to partial sun	Summer
<i>Typha angustifolia</i> (Narrow-Leaved Cattail)	Upright to 7'	0-12"	Full to partial sun	Summer
<i>Typha latifolia</i> (Broadleaf Cattail)	Upright to 7'	0-12"	Full to partial sun	Summer



# New Plants For 1986

Winter brings a flurry of new catalogues and plant lists to gardeners across the country. Every list, it seems, includes a new plant—or two or three—that we simply cannot live without. The following list represents the new introductions that we, the staff of AHS, cannot live without.

Northern gardeners will delight in two new cultivars of *Rhododendron*, one of which is hardy to  $-15^{\circ}\text{F}$ . The other can survive a bone-chilling  $-45^{\circ}\text{F}$ . Individuals with water gardens will be tantalized by the two beautiful tropical lilies that are new to the market this year.



*Hemerocallis* 'Peach Fairy' (Turn to page 24)



Broccoli 'Early Emerald' (Turn to page 28)

For those gardeners working with shady areas, introductions such as 'Elf', a new, dwarf mountain laurel, and "Parade Of Stars," a new mixture of outstanding impatiens cultivars that have stood the test of time, will fit the bill. Tree-lovers with a minimum of space may want to try 'Whitehouse', a new cultivar that is closely related to the popular 'Bradford' pear. And

for those who prefer to taste the fruits of their labor, there is a succulent new strawberry, an outstanding new raspberry, a super-sweet corn and a variety of vegetables.

We hope you enjoy this brief view of "what's new" in the world of plants this year. For information on sources for these new plants, see the sidebar on page 29.



● **Strawberry 'Jewel'**. Selected in 1971 from the progeny of a cross made in 1969, 'Jewel' has been tested for many years, first by the scientists who developed it at the New York State Agricultural Experiment Station in Geneva, then by growers, nurserymen and state experiment stations in the eastern United States. 'Jewel' is an excellent strawberry for gardeners in the Northeastern, Great Lakes and Midwestern regions.

The very large, glossy, red fruit of this new cultivar is suitable for both fresh and frozen uses. The plants consistently produce good yields of fruit, which mature in mid- to late season. The fruit is wedge- to conic-shaped, and has firm skin, uniform color, pleasant flavor and mild aroma. Foliage and runner production are moderate, so the plant is relatively compact. Another valuable characteristic of this cultivar is its resistance to post-harvest fruit rot. However, it is not resistant to red stele root-rot or verticillium wilt: therefore, it should not be planted in soils infested with these diseases.

Cornell University has applied for a patent on 'Jewel', which is available from the

New York State Fruit Testing Cooperative Association, Inc., as well as from commercial nurseries in the Northeast.

● ***Pyrus calleryana* 'Whitehouse'**. An introduction from the U. S. National Arboretum (as was its close relative, the widely planted 'Bradford' pear), 'Whitehouse' is a seedling selection of the wild Chinese pear, *Pyrus calleryana*. Unlike 'Bradford', which can become too big for many landscape or street plantings (it attains a height of 50 feet and a spread of 40 feet at maturity), 'Whitehouse' is an excellent choice for those gardeners who are working with a minimum of space. This new cultivar has a narrow, more columnar growth habit (it spreads to only about 20 feet at maturity) and attains a mature height of about 40 feet. Like 'Bradford', 'Whitehouse' has a pyramid-shaped crown and glossy-green leaves. It also retains its leaves, which turn red-purple in fall, long after most other shade trees have lost their leaves. 'Whitehouse' produces white, five-petaled flowers in April, approximately one week after 'Bradford'

blooms. It is available from Wayside Gardens.

● ***Hemerocallis* 'Glowing Apricot'**. Developed by well-known daylily hybridizer Brother Charles Redkamp, this new cultivar radiates warmth from its coral- to apricot-colored blooms. 'Glowing Apricot' reaches a height of two feet and bears five-inch blooms with very ruffled, rounded petals at mid-season. Available from Klehm Nursery, 'Glowing Apricot' would make a stunning addition to any garden.

● ***Iris* 'Eagles Flight'**.

Schreiner's Gardens introduced this eye-catching tall-bearded iris. Deep purple markings on the falls contrast with a lighter shade of lilac on the standards. 'Eagles Flight' blooms early and produces good-sized flowers on stiff stems bearing seven to eight buds each.

● ***Hemerocallis* 'Peach Fairy'**.

This beautiful miniature daylily, which has peach- to melon-colored flowers, was awarded the American Hemerocallis Society's 1984 Don Fischer Memorial Cup. To be eligible for this coveted award, 'Peach Fairy' had to be

registered, introduced for at least three calendar years and have flowers that are less than three inches in diameter. Although 'Peach Fairy' has been registered since 1974, it will be readily available to the gardening public this year for the first time. Developed and introduced by André Viette, this outstanding cultivar will be available from André Viette Farm and Nursery.

● ***Viburnum plicatum* var. *tomentosum* 'Shasta'**. The large, white flowers of this new cultivar of double-file viburnum completely cover the branches, which are arranged in horizontal tiers. In fact, the flowers are 1½ times larger than those borne by other cultivars. Attractive green foliage contrasts with the bright red, upright fruit clusters that form in July. 'Shasta' grows up to six feet tall and 12 feet across, and is eye-catching when planted either as a specimen or in a group, especially when viewed from above. Available from Wayside and Carrol Gardens, *Viburnum* 'Shasta' comes from the breeding program of the U. S. Department of Agriculture.

● ***Cosmos sulphureus* 'Sunny'**



Strawberry 'Jewel'



*Pyrus calleryana*  
'Whitehouse'



*Hemerocallis* 'Glowing Apricot'





*Iris 'Eagle's Flight'*



*Viburnum plicatum* var. *tomentosum*  
'Shasta'



*Aster 'Contraster'*



*Cosmos sulphureus* 'Sunny Red'

Red'. The outstanding summer performance of this new annual won it a 1986 All-America Selections award. Gardeners will be pleased to know that 'Sunny Red' does not require pinching, pruning, staking or other garden maintenance. Its dwarf habit (under two feet) and bright red, semi-double blooms make it an excellent plant for any sunny spot in a garden. This cultivar prefers full sun and thrives on heat and humidity. 'Sunny Red', which blooms freely all summer, will be available from Burpee, Park and other major seed companies, and from seed racks in garden centers across the country.

- ***Aster 'Contraster'***. The individuals petals of this striking new aster are striped with white, a characteristic that highlights the pink, lilac, mauve and rose blooms. 'Contraster' is a dwarf plant, reaching nine to 12 inches in height. The blooms are fully double and reach approximately three inches in diameter. The plants are very uniform and are prolific bloomers. Seeds sown in late March or early April

will produce flowering plants toward the end of July. An excellent tub plant for patios, 'Contraster' is available from Thompson and Morgan Seed Company.

- ***Paeonia suffruticosa* 'Adriadne'**. The enormous, semi-double flowers of this tree peony are creamy yellow in color and highlighted with rich raspberry flares. 'Adriadne' was bred by Mr. Nassos Daphnis, who combined the traits of the Japanese tree peony cultivars with the characteristics of the plants in Dr. A. P. Saunders' line, to produce cultivars with large, airy, well-positioned blooms. In addition to these traits, this plant boasts increased vigor, and like other tree peonies, is hardy to USDA Zone 5. 'Adriadne' is available from Klehm Nursery.

- ***Kalmia latifolia* 'Elf'**. Although our native mountain laurel is generally a large plant at maturity, this new cultivar is quite compact. The foliage of

'Elf' is also deeper green and heavier than that of our native species. 'Elf' produces a profusion of button-like, clear pink flowers, even on young plants, and is hardy to -25° F.

Selected by Dr. Richard Jaynes (previously of the Connecticut Agricultural Experiment Station), *Kalmia* 'Elf' is being propagated through tissue culture at the Briggs Nursery, and has been introduced commercially by Greer Gardens.

- ***Rhododendron* 'Orchid Lights'**. 'Orchid Lights' is the newest and hardiest introduction of the "Northern Lights" series of azaleas recently developed by the University of Minnesota. Hardy to -45° F, this deciduous azalea can be grown in virtually every state in the U.S. (It does require acid soil, however, so gardeners with alkaline soil would have to correct the pH before planting.) 'Orchid Lights' is lower growing than most deciduous azaleas and will reach four to five feet in 10

years, depending on the area of the country in which it grows.

This cultivar has a rounded growth habit and finely textured leaves and branches. A hybrid between *R. canadense* and *R. × kosteranum*, it produces soft, lilac-colored flowers that are medium sized (one to 1¼ inches across). The flowers are sterile, so there are no seed pods to strip. 'Orchid Lights' is available from both Greer and Carroll Gardens.

- ***Petunia* 'Pink Madness'**. Petunia fanciers will want to look for this new cultivar at their local garden center or nursery. 'Pink Madness' is one of a series of seven new floribunda petunias introduced by Ball Seed Company of West Chicago, Illinois, a wholesale seed producer. These cultivars have good weather tolerance, bloom profusely, and are generally exceptional garden performers. They recover quickly after rain or storms, and their high flower production makes them an excellent choice for mass plantings. The first cultivar in the series, 'Summer Madness' was introduced two years ago and has been named Flower of the Year for 1987 in Australia.





*Paeonia suffruticosa* 'Adriadne'



*Kalmia latifolia* 'Elf'



*Rhododendron* 'Orchid Lights'



*Petunia* 'Pink Madness'

Its popularity led the Ball Company to introduce 'Sheer Madness', a pink-flowered cultivar with deeper colored veins, as well as 'Pink Madness', 'Coral Madness', 'Plum Madness', 'Rose Madness', 'White Madness' and 'Red Madness'. All of the cultivars are resistant to botrytis, which makes them good performers in areas with high humidity.

● ***Nymphaea* 'Charles Thomas'**. The striking, star-shaped flowers and dramatically mottled leaves of this beautiful tropical water lily can provide a colorful accent in any water garden. Gardeners will appreciate the fact that 'Charles Thomas' reproduces viviparously; miniature plantlets emerge from the center of its leaves. New plants produced throughout the summer can then be cultivated into mature plants for next year's pond. This new cultivar is hardy in the southern regions of California, Florida and Texas (USDA Zone 10). The plant can withstand occasional frost, and would therefore survive mild winters in areas farther north. 'Charles Thomas' is a new introduction from Lilypons.

● ***Paeonia* 'Shima-Nishiki'**.

This gorgeous, double-flowered tree peony is a cross between 'Taiyo', a bright, red-flowered cultivar with double blooms, and 'Godaishu', a large, white-flowered plant that has semi-double blooms with yellow centers. 'Shima-Nishiki' (Island Brocade) combines attractive characteristics from both parents. Its bright red-and-white petals are set off by a bright yellow center. The plants are a bit less leggy than some tree peonies, and the flowers appear in the middle of the tree peony blooming season, which is approximately the third or fourth week in May on Long Island. 'Shima-Nishiki' is available from Smirnow's Son.

● ***Rhododendron calendulaceum* 'Carlson's Coral Flamboyant'**. This cultivar of our native flame azalea blooms very early in the season. In fact, the blooms open several weeks

earlier than those of some later-blooming cultivars of the species. Large two- to three-inch flowers in bright shades of coral highlight this cultivar, which can reach six to 10 feet in 10 years. 'Carlson's Coral Flamboyant' is hardy to at least -15° F, and is available from Carlson's Gardens.

● ***Impatiens* Parade of Stars Mix**. After years of testing in fields and greenhouses, Burpee Seed Company has produced Parade of Stars, a mixture of what the Burpee staff considers to be the best cultivars of the various strains of impatiens. Shady gardens across the country will be brightened with the scarlet, red, pink, salmon, orange, white and rose-and-white-bicolor blossoms of the plants in this mixture. These cultivars are fairly uniform and reach from six to 12 inches in

height, depending on culture, climate and amount of light provided.

Another introduction available exclusively from Burpee, *Tagetes patula* Cheerful Mix, combines four colors of French marigolds: a clear yellow with a touch of red at the base of the petals; a vivid mahogany-red, each petal traced in orange; a bright crested gold; and a crested orange splashed in red. The 10-inch-tall plants are perfect for edgings, borders, beds and containers of all kinds.

● ***Saintpaulia* 'Sheer Heaven'**. African violet enthusiasts will love this new introduction from Lyndon Lyon Greenhouses, Inc. It displays mounds of delicate pink, double flowers, and wavy, dark green foliage that is variegated with pink.



● **Red Raspberry 'Titan'.**

Compared to most red raspberries that are grown in the Northeast—which have fruit weights of two to three grams—'Titan' is exceptional. This new cultivar from the New York State Fruit Testing Cooperative Association produces fruit that weigh almost twice as much as other commonly grown cultivars. The fruit is equal to or larger in size and weight than 'Hilton', the seed parent of 'Titan'. Yields can be so large that the canes sometimes require support.

First selected in 1966, this raspberry was field-tested for many years in the Northeast; it has not yet been tested extensively in the Northwest. 'Titan' produces juicy fruit with a mild, pleasant flavor, a large cavity and a firm texture.

Root suckering of this plant is light, and plant vigor is average. Although reduced suckering slows commercial propagation, it can aid the fruit grower by reducing the need for cane thinning, since there is less inter-cane competition.

Cornell University has obtained a patent on 'Titan', which is expected to be grown primarily in the Northeast. It is currently being propagated by tissue culture. Certified virus-free plants are available from the New York State Fruit Testing Cooperative Association, Inc. The plant may also be obtained from various commercial growers in the Northeast.

● ***Nymphaea* 'Mrs. Charlie Wench'.** Asymmetrical lemon-yellow blooms and olive-green, slightly variegated foliage characterize this new introduction from Van Ness Water Gardens. A tropical, day-blooming water lily, 'Mrs. Charlie Wench' has old-fashioned-looking, delicately fragrant blooms that have four large outside petals and a cluster of smaller inside petals. This new cultivar was hybridized in Sydney, New South Wales, Australia.

● ***Monarda didyma* 'Blue Stocking'.** Gardeners will find this new perennial from Logee's

Greenhouses to be a delightful addition to their gardens, especially because, unlike other bee balms, 'Blue Stocking' is not invasive. Its bright purplish-pink flowers—usually in solitary, terminal, false whorls—appear early in the season, and last for a good part of the summer.

● **Rose 'Broadway'.** The four- to 4½-inch, bi-color blooms of this All-America Rose Selections winner are light reddish-pink and heavily suffused with yellow. 'Broadway' has dark green, leathery foliage, and will easily attain a height of five to six feet during the growing season. It has proven hardy even under severe winter conditions, if given the usual protection required for the area in which it is grown. The 25- to 30-petaled flowers of this new hybrid tea appear almost continuously throughout the growing season.

All-America Rose Selections presented awards to two other hybrid tea roses: 'Touch of Class' bears warm pink blossoms shaded with coral and cream, is winter-hardy and is highly disease resistant; 'Voodoo' bears very large, sweetly sented blossoms whose color is a blend of yellow, peach and orange blushing to scarlet. All of these cultivars will be available from garden centers, nurseries and major mail order firms this year.

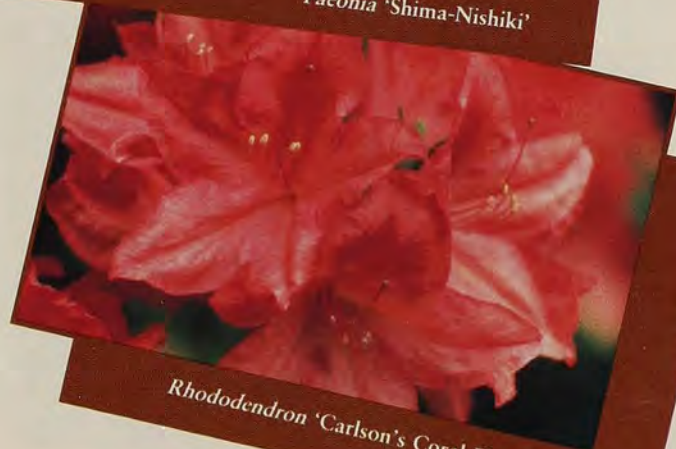
Gardeners may also want to try growing one of the three new thornless rose cultivars (not pictured) introduced by Gurney Seed Company. 'Smooth Velvet' produces large, blood-red blooms on a very large bush that will grow to six feet in height if left untrimmed. The blooms are of classic hybrid tea form (urn-shaped with high centers) and their fragrance is the longest-lasting of the three cultivars. Coupled with this fragrance, the long,



*Nymphaea* 'Charles Thomas'



*Paeonia* 'Shima-Nishiki'



*Rhododendron* 'Carlson's Coral Flamboyant'



smooth stems make this cultivar particularly attractive for cut flower arrangements. The foliage of 'Smooth Velvet' is shiny, smooth and abundant, as well as resistant to disease.

The glossy, dark green foliage of 'Soft Lady' is similar to that of 'Smooth Velvet', but the plant is four to five feet high, and the blooms are pale pink. This cultivar has the sweetest fragrance of the three. Its dark pink buds, which contrast with the pale pink flowers, make it especially pretty in arrangements.

'Smooth Angel' reaches just three feet in height, so it is suitable for smaller gardens. Its blooms are as large as those of 'Smooth Lady', but have a slightly sweeter, more delicate scent. The rich ivory outer petals shade to apricot-yellow centers.

● **Dianthus 'Princess Salmon'**. Introduced by Goldsmith Seeds, Inc., this addition to the Princess series of cultivars

produces a continuous display of large, salmon-pink flowers. Well-suited for use in tubs, combination pots, baskets and in the garden, this showy annual is generally easy to cultivate. Gardeners will find this new cultivar through mail-order seed companies as well as retail garden centers and nurseries.

## Vegetables

Seed Companies have introduced many new vegetables for the 1986 season. Here is our pick of some of the more outstanding new cultivars.

● **Broccoli 'Early Emerald'**. This new, very early broccoli produces dense heads that mature just 50 days after plants are set out in the garden. The heads of this new hybrid are borne on stocky stalks, and their floret quality and attractive blue-green color hold

well even in full sun. Gardeners will be pleased with this cultivar's steady production; not only do the heads mature over a somewhat longer period than those of other cultivars, but secondary heads are produced after the main harvest. The florets and stems of this cultivar have an excellent flavor either when steamed or eaten raw.

● **Chinese Cabbage 'Dynasty'**. Gardeners who have not grown or tasted Chinese cabbage will be delighted with the sweet, pleasant flavor and crisp, succulent texture of 'Dynasty'. Those who have grown this type of cabbage will appreciate its large, broad head, which averages seven pounds, and measures eight inches across and 13 inches tall at harvest. These extremely uniform plants are tolerant to soft rot and are slow to bolt. Their tight interiors have small cores and are well balanced.

'Dynasty' is available from the Burpee Seed Company, which recommends it for a fall harvest.

● **Okra 'Blondy'**. 'Blondy' produces ribbed, creamy-lime-colored pods beginning just 48 days after sowing. It is a widely adapted cultivar, and has performed so well in trials throughout the country that it was chosen as a 1986 All-America Selections Award Winner. This compact, prolific plant is only three feet tall and three feet across at maturity. Its pods are spineless and are best harvested while they are young and tender—when they are three inches in length.

Seed for this new introduction will be available from Park, Twilley, Burpee and Gurney seed companies as well as nurseries and garden centers across the country.

● **Sweet Corn 'How Sweet It Is'**. This 1986 All-America Selections winner is the first white sweet corn to receive an AAS award. 'How Sweet It Is' is sweeter than 'Silver Queen', and also holds its flavor longer than standard hybrids, both on the plant and after harvest. According to breeders, the



*Impatiens Parade of Stars Mix*



*Saintpaulia 'Sheer Heaven'*



*Red Raspberry 'Titan'*





*Nymphaea* 'Mrs. Charlie Wench'



*Monarda didyma* 'Blue Stocking'



Rose 'Broadway'



*Dianthus* 'Princess Salmon'

secret to this corn's sweet flavor is its "homozygous shrunken 2", or SH<sub>2</sub> gene. Corn hybrids that possess this gene are said to be twice as sweet as other hybrids.

Plants usually produce two eight-inch ears per stalk, with 16 to 18 rows of tender kernels per ear. Required days to maturity range from 74 days in the South to 85 days in the North.

To ensure this corn's sweet flavor, growers must either plant it at least 250 to 300 feet from other corn cultivars, or stagger maturation dates. Wind direction should also be considered, and border rows or barriers may be helpful in preventing cross-pollination with different cultivars.

Seed for 'How Sweet It Is' may be obtained from Park, Twilley, Burpee and Gurney seed companies, and from major garden centers and nurseries throughout the country.

## Sources

Most of the plants we have chosen this year are available only from the sources listed in the descriptions. For more information or to obtain a catalogue, write to these

companies at the addresses below.

*Petunia* 'Pink Madness' and *Dianthus* 'Princess Salmon' will be available from local garden centers and nurseries, and from major mail-order seed companies, some of which are listed below.

- **W. Atlee Burpee Company**, Dept. AH, 300 Park Avenue, Warminster, PA 18974, Catalogue free.

- **Carlson's Gardens**, Dept. AH, Box 305, South Salem, NY 10590, Catalogue \$2.00.

- **Carroll Gardens**, Dept. AH, Box 310, 444 East Main Street, Westminster, MD 21157, Catalogue \$2.00.

- **Greer Gardens**, Dept. AH, 1280 Goodpasture Island Road, Eugene, OR 97401, Catalogue \$2.00.

- **Gurney Seed and Nursery Company**, Dept. AH, 2nd and Capitol, Yankton, SD 57079, Catalogue free.

- **Jackson & Perkins**, Dept.

AH, 1 Rose Lane, Medford, OR 97501, Catalogue free.

- **Klehm Nursery**, Dept. AH, Route 5, Box 197, Penny Road, South Barrington, IL 60010, Catalogue \$2.00.

- **Lilypons Water Gardens**, 1500 Amhort Road, PO Box 10, Lilypons, MD 21717, or 1500 Lilypons Road, PO Box 188, Brookshire, TX 77423, Catalogue \$4.00.

- **Logee's Greenhouses**, Dept. AH, 55 North Street, Danielson, CT 06239, Catalogue \$3.00.

- **Lyndon Lyon Greenhouses, Inc.**, Dept. AH, 14 Mutchler Street, Dolgeville, NY 13329, Catalogue 50¢.

- **New York State Fruit Testing Cooperative Association, Inc.**, Dept. AH, Geneva, NY 14456, Catalogue free.

- **Geo. W. Park Seed Company, Inc.**, Dept. AH, PO Box 31, Greenwood, SC

29647, Catalogue free.

- **Schreiner's Gardens**, Dept. AH, 3625 Quinaby Road, NE, Salem, OR 97303, Catalogue \$2.50.

- **Smirnow's Son**, Dept. AH, 11 Oakwood Drive West, Route 1, Huntington, NY 11743, Catalogue \$2.00.

- **Thompson and Morgan**, Dept. AH, PO Box 1308-AM, Jackson, NJ 08527, Catalogue free.

- **Otis Twilley Seed Company, Inc.**, Dept. AH, PO Box 65, Trevoise, PA 19047, Catalogue free.

- **Van Ness Water Gardens**, Dept. AH, 2460 North Euclid, Upland, CA 91786, Catalogue \$3.00.

- **André Viette Farm and Nursery**, Dept. AH, Route 1, Box 16, Fishersville, VA 22939, Catalogue \$1.00.

- **Wayside Gardens Company**, Dept. AH, Hodges, SC 19695, Catalogue \$1.00. ☐



# Kitchen Garden

Why is it, do you suppose, that stove tops aren't made large enough to support more than two flats of plants at a time? Or refrigerators, more than one? If someone ever builds a six-flat stove I would certainly buy one, but in the meantime, I must make do with only the two-flat option. Of course, I can arrange one additional flat in the oven, but this is never quite as satisfactory as it might appear (as, for example, when one absent-mindedly preheats the oven). The dishwasher is completely out of the question, as it is normally full of Bruno's food, and he would become quite rude if I were to move his cans of tuna and mackerel to some other place. If builders only made kitchens large enough to hold an extra half-dozen or so flats, we wouldn't need to put the cat's food in the dishwasher. There would be enough space for everything.

Perhaps I should explain why the situation in the kitchen has become so critical. It isn't that my kitchen is so terribly small; there is room for a pot, a plate and a fork, which is about all the equipment one needs in a kitchen. And there is a sink, refrigerator, stove and dishwasher, all of which serve their primary purpose of supporting flats remarkably well. And Bruno even has room to turn around if he balances just right on his hind legs. No, the kitchen is not the actual problem. Rather, the problem seems to lie somewhere between the basement and the last day of frost.

The basement is the root of my problems, you might say, for it is here, sometime during the time that January has us in its miserable clutches, that the urge to garden begins to break its winter dormancy. It has usually been weeks since the last outdoor work was finished; months, at least, since the last green shoots were charred black by the frost. And it will be years (or so it seems) before the garden will be starting up again. Yet somehow the gardener's nervous system knows it is just about the right time to muster seed packets to the fore. It might be some magnetic pull on the brain cells or some innate response to an infinitesimal increase in day length. Then again, it may just be seed-sellers' hype.



Barbara Gibson

Whatever it is, seeds attain a grip on our psyche, and their call must be heeded.

So out they come—from the freezer, from the used margarine tubs, from the sandwich bags where they have been stored. They must then be ranked and filed according to the gardener's litany: heights and spreads must be noted, times of bloom calculated, colors synchronized, sun or shade requirements plotted, and seed and soil treatments ascertained. And on it goes, until each packet is organized into a pile according to the seeds' proper lot in life and the time they are to be officially started. The packets are then marked with a date and stacked in readiness, awaiting their participation in the rites of spring.

At first, this starting business is easy: a few types of seeds—potted up, watered down and put in plastic bags just after New Year's—are placed outside to be harassed for weeks on end by a belligerent winter climate. Perhaps I should have said easy for the gardener; it doesn't seem to be easy for the seeds. But actually, many seeds are masochistic little devils, and love the rigors of all that freezing and thawing business. They are welcome to it, I say, as I work in my warm basement potting up a few of the more "intelligent" seeds, the ones that appreciate a warm, moist spot with lots of light.

For several weeks after I first put the barbarian sorts out to freeze their little

seed coats off, the number of seed pots in my basement is quite reasonable. In fact, the basement seems rather bare: a few pots under a light, and that is that. I am in total command of the situation. Then, without so much as a minute's warning, the trouble starts. The number of seed pots begins to double on a weekly basis, and the number of transplants begins to grow exponentially. On go all of the lights and timers, and pots of seeds that haven't sprouted are banished to some darkened corner until they prove their need for light. Excess seedlings that I might have tenderly potted up last week now start to hit the composting box with terrifying frequency.

And then it begins in earnest: the inexorable movement of green things up the stairs and into the kitchen, first appearing in six-packs on the counters, then in a flat or two on the stove. The refrigerator soon follows the fate of the counters and stove, and then comes the floor. Within a relatively short period of time, the kitchen surrenders all of its space, and then it's on to the dining room table. By now the situation has become both better and worse—better, because a few of the hardier plants can be banished to the screened porch; worse, because I am usually forced to put out all of the tender plants as well. By this time, I'm already eating dinner off the arm of the sofa. . . .

Here I am, then, in the midst of flats—



flats taking over the kitchen, flats floundering on the porch, flats flooding the basement—and I impatiently await the day that will cure all of my problems, that most mystical of all gardening days: *the last day of frost*. If there were ever a grand prize in the field of gardening, it would have to go to the person who could pinpoint the last day of frost to, say, within three days or even a week.

In my region, usually referred to as Zone 6, the weather can range anywhere from what one would expect in Zone 5 to Zone 7. As a result, our average “dates of last frost” fall somewhere between March 30 and April 30. This is only an average, of course, so another week or two might be added for absolute safety before seedlings are set out in the garden. Thus, we have our pick of about four to six weeks of “last day of frost” by which to reckon our planting dates. And, as we all know, some seed packets tell us to plant eight weeks or so *before* the last frost. It does not take a computer to figure out that one can be off by as much as six weeks if things go badly. In any case, it won’t matter a whit even if things *should* go superbly, because you won’t know it until the six weeks have passed anyway, by which time the entire matter is irrelevant: the plants have already taken over everything.

Last frost and all notwithstanding, I am still left with the problem of what to do with all those flats. And I am stuck with this problem until such time as the last frost should finally manage to strike. It is well to remember this fact, and I most certainly always do when, at 6:45 in the morning, I walk onto the porch to find death and destruction all about. With great pangs of grief, I rush around trying to revive the near-dead and dead alike. Sometimes a little warm water or a kind word or two help. If luck has its way, perhaps only half of the tender things are beyond hope. I try to think positive thoughts as I drive off to work. I realize that from now on, I shall have to bring the battle-scarred survivors in every evening, just to be certain. And so begins the juggling of flats: the tender plants go to the stove for the night, the “half-hardies” are covered with inverted flats, and the stronger plants just take what they can get. Sorry, there’s no more room in the kitchen.

—Eric Grissell

Eric Grissell is a taxonomic entomologist living in Silver Spring, Maryland.

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*Continued from page 9*

methods for preserving live specimens during the collecting excursion. For example, he suggested to John Bartram an ingenious method for storing seedlings in ox bladders hung from the saddle. Collected plants were slipped into the bladder, with the soil still clinging to the roots. Enough water was added to keep the plant moist, then the neck of the bladder was tied around the stem, leaving the top portion exposed to the light. With this technique, Bartram successfully introduced more than 320 species of North American plants into Europe.

After collecting the plants, plant hunters tackled the task of establishing them in seafaring containers. It took from three to six months before the specimens were deemed seaworthy. Despite these precautions, however, most plants failed to arrive safely in European ports, for shipping plants proved to be much more difficult than shipping seeds. Plant cases used to transport specimens over the high seas were huge and cumbersome, with metal bottoms, mesh sides and handles to help in maneuvering. When filled, a case could weigh over 300 pounds, a hefty load for any man. Ideally, the plant cases were brought up on deck only in fair weather and were stored in the hold under foul conditions. But more frequently, crew members left them on deck for the duration of the journey to avoid having to carry them up and down the narrow, steep ladders typical of old ships.

On the ship's deck, the plants could benefit from the sun's munificent rays. However, even a slightly boisterous sea with a few foaming whitecaps would send salt spray over the deck, soaking plant cases and plants. Although each cabinet was equipped with its own canvas tarpaulin that could be lifted or secured depending upon the mood of the ocean, frequently the ship's crew members proved delinquent in their botanical duties.

Horticulturists rarely accompanied the plant cases, and the crew's apathy toward the cargo continually nettled botanists. However, plant hunters were known for prescribing such impractical duties as sponging off salt accumulations on leaf surfaces weekly. Requesting that such petty tasks be performed merely lessened the likelihood that attention would be paid to more essential requirements. The boxes required periodic watering, but even this chore was often forgotten. When water supplies

## ***"Perhaps the most infamous and ill-fated of plant collecting enterprises was undertaken in 1787 on the Bounty."***

became scarce on board, few sailors would willingly share low rations with a plant. As a result, the specimens were occasionally allotted seawater, which, of course, proved fatal.

The ship's live botanical cargo suffered injury as well as insult. When provisions were scarce, the crew sometimes raided and devoured the plant life on board, especially those specimens bearing fruit or berries. Furthermore, a ship typically carried a menagerie of pets, and there was nothing to stop these fellow passengers from enjoying liberties with the plant life.

Despite all of the obstacles, some plants managed to arrive in European ports alive. However, those successes were due more to the botanists' careful preparation of the plants for travel than to the care given on board.

John Livingstone, the Chief Surgeon in Canton who shipped plants from China, estimated that for every plant that arrived in Europe alive, 1,000 of its botanical compatriots were lost at sea. Thus, collecting botanical material was a rather expensive undertaking. However, since royal promissory notes generally financed the ventures, the only people to actually lose money were the plant hunters themselves, who were notoriously underpaid. Traditionally, theirs was a labor driven by a devotion to science.

Plant collectors were known not only for their courage but for their resourcefulness as well. The history of plant importation is heavily seasoned with tales of collecting methods that could be considered dishonest.

John Evelyn thought nothing of suggesting devious methods for obtaining nutmeg, a spice that was much guarded by the Dutch in the East Indies. He proposed a maneuver similar to that used in the filching of saffron, which was smuggled from Greece "in the hollow head on top of a Pilgrim staff."

Perhaps the most infamous and ill-fated of plant collecting enterprises was under-

taken in 1787 on the *Bounty*. The *Bounty* was the first ship to sail with the sole objective of retrieving plants. The crew's mission was to import a shipload of breadfruit from Tahiti to the West Indies, where it was to be cultivated to sustain the slave population. The *Bounty*—its cabins, hold and decks fitted with pot-holding devices—was readied to receive 1,000 breadfruit trees when it set sail from England.

Upon their arrival in Tahiti, the crew members set out to enjoy the island and its pleasures while David Nelson, a gardener from Kew Gardens, labored to establish young seedlings in pots. When the plants were in satisfactory condition for the voyage, the men began the arduous task of loading the trees on board, one by one. The *Bounty* set sail for the West Indies with the precious cargo and a less-than-enthusiastic crew bridle at the strict regulations on board ship.

Unrest among the crew members finally erupted, resulting in the now-legendary mutiny. On April 28, 1789, Captain Bligh, Nelson and 17 others were sent off in a small open boat to fend for themselves. But before the men lost sight of the *Bounty*, they witnessed one further insult: the crew members joyfully heaving overboard every breadfruit tree on the ship. Miraculously, Bligh and many of the others lived to navigate the small boat back to Britain and to relate the fate of their mission firsthand. However, Nelson did not survive the journey home.

As more plants were introduced from exotic lands, their commercial potential became common knowledge throughout Europe. Collectors may have been intrigued by handsome flowers, but kings and their governments were more impressed by the economic value of the new imports from the tropics. However, before plant importation could become a feasible commercial venture, the mortality rate of the plants in transit had to be reduced.

It was not until Nathaniel Ward discovered and exploited the possibilities inherent in a simple sealed bottle that plant shipment enjoyed any real success. Ward, a doctor and naturalist, had observed a fern spore sprouting in a sealed bottle containing a moth chrysalis and some moss. He noted that in this sealed environment, the fern required no water and managed to thrive without any care whatsoever.

Dr. Ward immediately realized the ramifications of his observation. Not only could plants be grown in a simulated tropical



environment by means of sealed glass cases, but they could also travel throughout the world in the cases and never require the attention of bumbling cabin boys. Their water requirements would be met by the condensation in the cabinet, and the glass would effectively protect the foliage from the deleterious effects of salt spray.

In 1834, the Wardian case made its maiden voyage between Britain and Sydney, Australia. Two cases filled with violets, roses and ferns arrived on Australian shores in fine fettle. A more delicate cargo of rare Australian plants was packed in the cases for the return journey. The trip lasted eight months, and the specimens were subjected to temperatures ranging from 120° F at the equator to 40° F upon entering the English Channel. Although the Wardian cases were never watered or opened from the time they left port until the moment they were unpacked, the botanical immigrants arrived in thriving condition.

Ward's glass cases were immediately adopted by explorers, and their use rapidly revolutionized plant shipment. Wardian cases were responsible for a number of botanically and economically important shipments. Most notable among the consignments facilitated by the cases was the massive shipment of tea plants from China to India that launched the tea industry in the Himalayas. Although Europeans managed to introduce 7,000 stalwart exotics before the introduction of Wardian cases, plant collectors in the late nineteenth century began sending a steady stream of plants from foreign lands. Suddenly, everyone seemed to be involved in (or at least intrigued by) the new botanical wonders being shipped from all over the world. The frenzy also reached this country; American settlers moving westward were urged to establish sites on the West Coast from which new plants could be sent to scientists in the East.

Today, we can receive bulbs from Holland, cut flowers from Europe and pineapples from Hawaii within hours of packaging. The world's flora is now at our fingertips. However, we are deeply indebted to those who first discovered and retrieved botanical specimens; we are merely following the paths they so laboriously laid.

● —Tovah Martin

Tovah Martin is the begonia specialist at Logee's Greenhouses in Danielson, Connecticut. She is also a free-lance writer and photographer.

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# Book Reviews

## OF PLANTS AND PEOPLE.

Charles B. Heiser, Jr. *University of Oklahoma Press. Norman, Oklahoma. 1985. 237 pages; hardcover, \$24.95. AHS member price, \$22.45.*

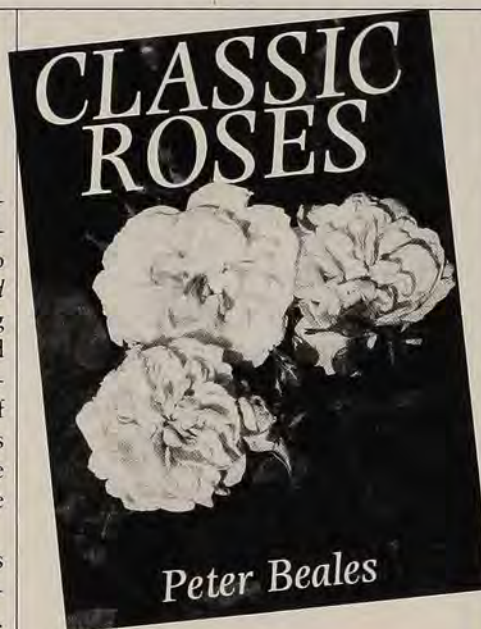
Readers who enjoyed Charles Heiser's article "Topiary in Tulcán" (*American Horticulturist*, April 1985) will be pleased to see this book of his essays. *Of Plants and People* is a collection of articles examining the interrelationships between plants and man. Heiser looks at the origins of agriculture, plant domestication and some of our important domestic plants as well as some less-well-known species whose potential as food resources has yet to be realized.

In one essay, Heiser examines the origins of our domestic cucurbits, including cucumbers, pumpkins, gourds and squashes. In addition to presenting information about the origins of the various cucurbits we grow, he provides a fascinating look at the ways these plants are used in South American countries. The author also presents evidence from archaeological digs in Central Illinois that traces the use of cucurbits back to 5,000 B.C., and relates a smattering of tales and traditions that surround these plants. Subjects of other essays in the book include naranjilla, an unusual Ecuadorian fruit; totora reeds and how they are used to construct boats, houses and even floating islands; and an examination of the connections between religion and agriculture.

## KEEP YOUR GIFT PLANTS THRIVING: A COMPLETE GUIDE TO PLANT SURVIVAL.

Karen Solit with Jim Solit. *Storey Communications. Pownal, Vermont. 1985. 169 pages; softcover, \$6.95. AHS member price, \$5.55.*

No gardener who has ever given or received a gift plant should be without this useful book. The authors have included detailed information about 28 plants that are commonly given as gifts, including gloxinias, cyclamen, hydrangeas, azaleas, gardenias, Easter lilies, kalanchoes, reiger begonias and poinsettias. Each plant description begins with the botanical name and a brief discussion of the plant, which includes history, symbolism, a botanical



description and general information about the cultivation of the species as a florist crop. The authors have also provided excellent tips on how to select a healthy specimen, including what insect and disease problems to look for, and how to detect evidence of cultural practices that do not produce long-lived plants (how to spot plants that were grown at too-high temperatures, for example). Finally, there is extensive information on the care each plant requires during and after the holiday season. Fortunately, the authors are not afraid to point out that some gift plants are not worth trying to save for another season, and are very frank about how difficult some of these lovely species are to care for successfully in home gardens.

If you give gift plants, this is an excellent book to help you match a plant to a prospective recipient. If you receive any of these plants as gifts, this is the cultural guide you need to keep them thriving.

## CLASSIC ROSES.

Peter Beales. *Holt, Rinehart & Winston. New York, New York. 1984. 432 pages; hardcover, \$45.00. AHS member price, \$40.50.*

This beautiful book is destined to become a classic reference work. In addition to hundreds of color photographs illustrating the many cultivars that are still grown, the book contains extensive cultural infor-

mation and descriptions of all the classic roses that "have withstood the test of time."

*Classic Roses* begins with a chapter on the history and evolution of the rose, including a discussion of the parentage of the modern rose. Other sections examine the various types of roses, including centifolia and moss roses, gallicas and damasks, alba roses, hybrid perpetuals, tea-scented roses and hybrid teas. There are also two chapters on the use of roses in the landscape and rose cultivation, both of which are extensively illustrated with photographs and drawings. The majority of the book, however, is devoted to descriptions of the various species and cultivars of classic roses. The descriptions are organized by section: the Section on Gallicanae, for example, contains gallica roses, cabbage roses or centifolias, damasks and Portland roses. Each description includes information on the origin of the plant and a description of the bloom and fruit characteristics, as well as comments on culture and any shortcomings the species or cultivar might have. The descriptions conclude with a series of symbols indicating special landscape uses that are appropriate for each plant. Rose fanciers will not want to be without this outstanding reference work.

## THE LIVING GARDEN.

George Ordish. *Houghton Mifflin Company. Boston, Massachusetts. 1985. 263 pages; hardcover, \$17.95. AHS member price, \$14.35.*

British gardens have one thing that American gardens lack: 400-year histories. In this entertaining book, George Ordish traces the history of Barton's End, a garden started in 1556 by Kentish farmers. Through the years, 20 owners have tended (or neglected) the garden, and the author recounts various phases the garden has undergone as a result. For example, the introduction and disappearance of plant collections, as well as major and minor design changes within the garden are explained. Ordish also includes a great deal of information on the natural history of Barton's End (and any garden, for that matter). A description of Mary Barton's ingenious method of stump-removal (which she developed in order to expand the garden in 1558) and



a discussion of the development of a long grass walk in 1610 (designed for archery practice) are included, along with accounts of the billions of microscopic organisms that live in the soil, the biology of earthworms and discussions of the many kinds of mammals that have lived at Barton's End.

This entertaining book not only gives us insight into the history of a particular garden, it also provides a wealth of interesting information about the history of gardens in general—information that will inevitably increase our enjoyment of our own gardens.

#### CONSERVATORIES, GREENHOUSES AND GARDEN ROOMS.

Alexander Bartholomew. Holt, Rinehart and Winston. New York, New York.  
1985. 192 pages; hardcover, \$22.95.  
AHS member price, \$20.65.

Gardeners who are considering adding a conservatory, greenhouse or plant room to their homes (or those who are just trying to find more room to house an ever-growing plant collection) will want to read through this idea-filled book and savor the many lovely photographs before they begin to prepare formal plans. In addition to providing a brief history of greenhouses, plant rooms and conservatories, the authors have included chapters on the basic principles, ideas and concepts that one must consider before beginning construction of such structures. Included are chapters on how to choose a design and a site, how to determine the style—both inside and out—of the addition, as well as on construction, maintenance, restoration, heating, ventilation and lighting. Finally, the authors provide a brief list of plants that are suitable for conservatory conditions.

Although this book is designed for the beginning gardener, the many photographs (both black-and-white and color) provide a range of ideas for more advanced gardeners might enjoy. This range includes elaborate conservatories, small, artificially-lighted plant nooks, converted entrance halls, greenhouses, skylights under which plants can be grown and even large-windowed rooms that have been decorated to give a conservatory "look." ❀

—Barbara W. Ellis

Barbara Ellis is Editor of *American Horticulturist* and Publications Director for the American Horticultural Society.



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## NEW PLANTS FOR 1986

We would like to thank all of the companies that have helped us prepare our New Plants feature. The photographs used in the article are courtesy of the following companies and organizations: André Viette Farm and Nursery, Geo. W. Park Seed Company, New York State Agricultural Experiment Station, Wayside Gardens Company, Klehm Nursery, Schreiner's Gardens, All-America Selections, Thompson & Morgan, Greer Gardens, Ball Seed Company, Lilypons Water Gardens, Smirnow's Son, Carlson's Gardens, W. Atlee Burpee Company, Lyndon Lyon Greenhouses, Inc., Van Ness Water Gardens, All-America Rose Selections, Logee's Greenhouses and Goldsmith Seeds, Inc.



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### *Dutch Treat, Holland at Tulip Time*

April 27-May 11, 1986

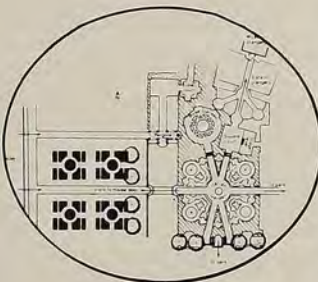
This year's trip is a variation on last year's highly acclaimed tour following paths to the country's thriving horticultural centers. We spend the first week in Amsterdam visiting the gardens of Mien Ruys, the Palais Het Loo, Haarlem and more. The second week we cruise Holland's canals aboard the luxurious hotel barge 'Juliana.' Our tour leader will be Mary Mattison van Schaik. Mrs. van Schaik, now a Vermonter, lived in Holland for 18 years and has owned a bulb importing business for 30 years. A member of the AHS, she is a popular lecturer and has been a Regional Director of the American Daffodil Society.



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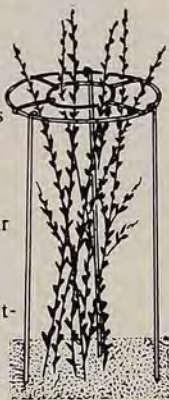


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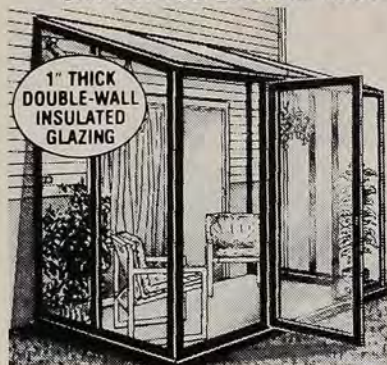
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# AHS

## Travel Program

The American Horticultural Society is sponsoring an exciting program of horticultural explorations for the 1986 season. Plan to join fellow AHS members on one or more of these exciting garden-related tours.

**Aegean & Adriatic Cruise** (April 19-May 5) Join our spring wildflower, garden and flower-arranging symposium. Cruise to Greece, Yugoslavia and Italy. Leaders: Dorothy Temple and Martin J. S. Sands.

**Spring England & Chelsea** (May 8-23) Visit public and private British gardens at the peak of spring bloom. Tours of Ny-mans, Wakehurst Place and the Chelsea Flower Show are planned. Leaders: Sue McDonald and Helen Clapp.

**Scotland** (May 25-June 8) Tour Scotland's finest gardens, nurseries, historic homes and castles. Leader: Everitt Miller.

**Island World of Britain & Ireland** (June 5-20) Sail to gardens, manor houses and castles in England, Wales, Ireland, Scotland, and the Isles of Scilly and the Hebrides. Leader: Pamela Harper.

**Gardens of Southeast Asia** (June 9-29) Travel to some of the world's most exotic botanical gardens on this trip to Singapore, Malaysia, Java, Bali and the Philippines. Leader: Ernie Chew.

**The Amazon** (June 24-July 17) Take an in-depth look at the plant and animal life in remote, undisturbed Amazon habitats. A wilderness experience for adventurous travelers. Leader: Mildred Mathias.

**YES! Please send me more information on the tours I have checked below.**

- ☐ Aegean & Adriatic Cruise  
☐ Spring England & Chelsea  
☐ Scotland  
☐ Island World of Britain & Ireland  
☐ Gardens of Southeast Asia  
☐ The Amazon

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MAIL TO: Robin Williams, American Horticultural Society, PO Box 0105, Mount Vernon, VA 22121.

# Pronunciation Guide

The accent, or emphasis, falls on the syllable that appears in capital letters.

The vowels that you see standing alone are pronounced as follows:

- i—short sound; sounds like i in "hit"  
 o—long sound; sounds like o in "snow"  
 a—long sound; sounds like a in "hay"

*Anemone × hybrida*  
 ah-NEM-oh-nee HIGH-brid-ah  
*A. japonica* a. jah-PON-i-kah  
*A. sylvestris* a. sill-VESS-triss  
*Aster* ASS-ter  
*Athyrium filix-femina*  
 ah-THIGH-ree-um FILL-icks-FEM-in-ah  
*Betula papyrifera*  
 BET-you-lah pap-pie-RIF-er-ah  
*Butomus umbellatus*  
 boo-TOE-muss um-bell-AY-tus  
*Buxus harlandii*  
 BUCK-sus har-LAND-ee-eye  
*Chionanthus virginicus*  
 kie-oh-NAN-thuss vir-JIN-i-kus  
*Clematis paniculata*  
 KLEM-ah-tiss/klem-AT-iss  
 pan-ick-yew-LAY-tah  
*Clethra alnifolia*  
 KLETH-rah all-nih-FOE-lee-ah  
*Cornus alba* CORE-nus AL-bah  
*Cosmos sulphureus*  
 KOZ-mose sul-FUR-ee-us  
*Danae racemosa* DAN-ee ray-sih-MOH-sah  
*Dianthus* die-AN-thuss  
*Dulichium arundinaceum*  
 dull-ICH-ee-um ah-run-din-AY-see-um  
*Eleocharis montevidensis*  
 ell-ee-oh-CAR-iss mon-teh-vih-DEN-siss  
*Equisetum fluviatile*  
 eh-quí-SEE-tum flu-vee-ah-TILL-ee  
*Gomphrena globosa*  
 gom-FREE-nah glow-BOW-sah  
*Gordonia lasianthus*  
 gore-DOE-nee-ah lay-zee-AN-thuss  
*Hemerocallis* hem-er-oh-KAL-iss  
*Ilex vomitoria* EYE-lecks vom-i-TORE-ee-ah  
*Illicium floridanum*  
 ill-ISS-ee-um flor-i-DAN-um  
*Impatiens* im-PAY-shunz  
*Iris pseudacorus*  
 EYE-riss sue-dah-CORE-us  
*I. sibirica* i. sigh-BEER-i-kah  
*I. versicolor* i. ver-sih-KOL-or  
*Kalmia latifolia*  
 KAL-mee-ah lat-i-FOE-lee-ah  
*Koeleruteria paniculata*  
 kel-rew-TERE-ee-ah pan-ick-you-LAY-tah  
*Magnolia grandiflora*

mag-NOL-ee-ah grand-i-FLOR-ah  
*M. virginiana*  
 m. ver-jin-ee-AY-nah  
*Marsilea mutica*  
 mar-SILL-ee-ah MEW-tih-kah  
*Monarda didyma* moh-NAR-dah DID-i-mah  
*Nymphaea* NIM-fee-ah  
*Nymphoides cristatum*  
 nim-FOY-deez kris-TAY-tum  
*N. geminata* n. jem-in-AY-tah  
*N. peltata* n. pel-TAY-tah  
*Oenothera missouriensis*  
 ee-no-THAIR-ah miss-or-EN-siss  
*Orontium aquaticum*  
 or-ON-tee-um ah-QUAT-i-kum  
*Paonia suffruticosa*  
 pee-OWN-ee-ah sah-fruit-i-KOSE-ah  
*Peltandra sagittaeifolia*  
 pel-TAN-drah saj-it-ee-FOE-lee-ah  
*P. virginica* p. vir-JIN-i-kah  
*Petunia* peh-TOO-nee-ah  
*Phlox divaricata*  
 FLOCKS die-vair-i-KAY-tah  
*P. paniculata* p. pan-ick-you-LAY-tah  
*Pontederia cordata*  
 pon-teh-DEER-ee-ah core-DAY-tah  
*P. cordata* forma *albiflora*  
 p. core-DAY-tah al-bih-FLOR-ah  
*Pyrus calleryana* PIE-russ kal-er-ee-AY-nah  
*Quercus laurifolia*  
 QUER-kus laur-i-FOE-lee-ah  
*Rhododendron calendulaceum*  
 row-doe-DEN-dron  
 kal-en-dew-LAY-see-um  
*R. canadense* r. can-ah-DEN-see  
*R. × kosteranum* r. koss-ter-AN-um  
*Rosa banksiae* ROW-sah BANKS-ee-ee  
*R. laevigata* r. lee-vih-GAY-tah  
*Sagittaria latifolia*  
 saj-i-TARE-ee-ah lat-i-FOE-lee-ah  
*Saintpaulia* saint-PAUL-ee-ah  
*Saururus cernuus* saw-REW-rus SIR-new-us  
*Tagetes patula* TAH-jah-teez PAT-you-lah  
*Typha angustifolia*  
 TIE-fah an-guss-tih-FOE-lee-ah  
*T. latifolia*  
 T. lat-i-FOE-lee-ah  
*Veronica incana*  
 ver-ON-i-kah in-CAN-ah  
*Viburnum plicatum* var. *tomentosum*  
 vie-BUR-num ply-KAY-tum  
 toe-men-TOE-sum  
*Viola cornuta*  
 vie-OH-lah/vee-OH-lah core-NEW-tah  
*Vitex agnus-castus*  
 VIE-teeks AG-nus-KAS-tus  
*Xanthosoma sagittifolium*  
 zan-thoe-SOW-mah saj-i-tih-FOE-lee-um





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