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Contents

This hand-colored lithograph from Jane Loudon's *The Ladies' Flower-Garden of Ornamental Perennials* relates to two of the articles in this month's issue. To read the fascinating story of Jane Loudon's life, turn to page 15 for "Jane Loudon: First Lady of Gardening." For an article on the history of botanical prints—complete with a useful sidebar on starting your own collection—turn to Margaret Parke's article on the subject, which begins on page 18. Print courtesy of the Hunt Institute for Botanical Documentation.

On the Cover: *Liatris* is a native American perennial wildflower that was, until recently, overlooked by gardeners. Not only do these plants provide showy summer color in gardens and undisturbed wild areas alike, they also—as this tiger swallowtail attests—attract pollinators that rival the beauty of the flowers. For more on *Liatris*, turn to page 25.

President's Page: Season of Growth by Everitt L. Miller 2

Plant Collections: S.U.N.Y. Greenhouse by Patricia Barnes-Svarney 5

The Design Page: The White Garden by Margaret Hensel 11

Jane Loudon: First Lady of Gardening by Elisabeth Sheldon 15

Botanical Prints by Margaret Parke 18

Liatris by Stanley M. Harmon 25

Longue Vue Text by Doris M. Stone Photography by Roger W. Stone 28

Pronunciation Guide 33

Sources 34

Classifieds 36

Book Reviews by Barbara W. Ellis 40

Public Gardens: Practical but Spectacular by Erin Monica Hynes 42

American Horticulturist
As spring takes hold here at River Farm, we gear up for our Summer Internship Program. Each year we select as many as five college students majoring in horticulture or a related field to work and learn on the 25 acres of our headquarters’ estate. Since many of these students attend colleges that offer little or no practical horticultural experience, the internships are vital. After all, academic study can only go so far in this profession. Hands-on experience is truly essential, as any gardener knows!

Looking back over the Internship Program’s history, I am pleased to see many former interns thriving today. Notable among them are Steve Bender, now Assistant Garden Editor at Southern Living magazine; Karl Stromayer, a Peace Corps Volunteer in Africa; and Brian Little, Associate Editor in the Society’s Publications Department and Horticulturist for our Gardener’s Information Service. These former interns have already repaid the Society’s investment in their futures by contributing much to their chosen field. And Brian Little, intern from the summer of 1983, tells us that our investment in his career has proven invaluable as he handles hundreds of questions from Society members each year.

“Without the internship, I would have the theoretical knowledge to answer the questions,” Brian said recently, “but I wouldn’t have the first-hand experience with the problems. There’s a big difference between saying ‘Oh yes, I read about that in college’ and ‘I know what you mean, I had to help solve that problem in our garden.’”

Society members depend on Brian’s education and practical knowledge when they have gardening questions. (If you have not taken advantage of Brian’s expertise through our free Gardener’s Information Service, available to members only, I invite you to do so by writing to Brian in care of the Society.) As members, we reap the benefits of Brian’s training, and we can be proud that we sponsored a program that gave Brian and other former interns precious practical experience. Their internships laid a foundation for superb careers in horticulture, and many people who love gardening will benefit from the talent and dedication of horticulturists who got their start at River Farm.

Of course, our interns would not have had the chance to gain this expertise without the support of Society members. The Summer Internship Program is funded entirely through contributions from our members, and this year I invite you to help once again by underwriting a portion of an intern’s salary. Whether you can help by supporting a single day of intern work-time or by sponsoring an entire summer, your generosity is much needed and greatly appreciated—not just by me and by the Society’s Board of Directors, but by the young horticulturists who jump at the opportunity to spend a summer being paid practically nothing, and working from dawn to dusk in the sweltering Virginia heat and humidity, just to learn first hand the beauty, excitement, and challenges of horticulture.

I hope summer finds you reveling in the glories of your garden. At River Farm, we are enjoying a multitude of perennials and early flowering trees. We owe much of River Farm’s recurring splendor to the efforts of all our American Horticultural Society interns. I hope I can depend on you to help ensure their return this year to another season of glory, and of growth.

—Everitt L. Miller
President
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Adjacent to the biology building on the campus of the State University of New York (S.U.N.Y) at Binghamton is a large glass building. Most people pass right by this structure; others stare in amazement, for on the other side of the glass are over 5,000 species of plants representing almost every continent, from New York's own native club mosses (Lycopodium spp.) to South African succulents. This is S.U.N.Y. Binghamton's Teaching Greenhouse, one of the best educational and research facilities in the state.

Plans for building a large greenhouse facility at S.U.N.Y. Binghamton were years in the making. The original greenhouse was a small glass house attached to the old biology building. Eventually, a larger greenhouse was built at the same location to accommodate the growing number of plants. For nearly 15 years, this structure was used by biology students and researchers. Then, the Biology Department moved to a new building, leaving the greenhouse facility behind. This arrangement made it very difficult to teach botany laboratories, since plants for study and dissection had to be carted from the greenhouse to the biology classrooms three buildings away. Winters took their toll on many fragile plants, while rainstorms added to the problem.

Finally, the state allocated money for the construction of the Teaching Greenhouse, which was finished in 1982. This structure, close to five times the size of the old greenhouse, is attached to the Biological Sciences Building. The facility also contains a headhouse, offices of the greenhouse staff, and a teaching section, where students use old soapstone laboratory tables for plant dissections and lectures. Since this new structure was built, the Biology Department has been able to expand its collection and enhance the reputation of the greenhouse as an educational facility by exchanging and purchasing groups of rare, exotic, and primitive plants from botanical gardens all over the world.

Two full-time staff members— Ike Heier, manager of the greenhouse, and Paul Campbell, assistant manager—have been instrumental in building up the greenhouse collection. Besides lecturing to students and tending and keeping track of the thousands of plants, they travel all over the world in search of additions for the greenhouse collection. "We are basically a teaching and research facility, with an emphasis on teaching," explained Heier. "We try to add plants to our collection that will allow the students to observe the actual growth and development of a great number of plant species. Not only will they gain an insight into the basic biology of plants, but they will also gain a greater understanding of the diversity of world environments."

In order to keep the plants healthy, the greenhouse environment is thermostatically controlled. There is evidence of technological ingenuity everywhere, from the automatic misters that create an oppressive humidity in the tropics room, to the huge silver air conditioner hanging overhead in the alpine room. When winter strikes the Binghamton area, side heaters take over for the sun. In the spring, summer, and fall, a delicately balanced climate-control system maintains correct temperatures.

Around September, the greenhouse becomes a center of activity as undergraduate and graduate students study plants from four separate botanical environments. A wall of glass separates the different plants from one another—the diverse specimens of the subtropical room; the colorful, cool plants of the alpine section; the strange shapes of the dry desert area; and the greenery of the hot, humid tropics center. Visitors need sweaters at one end of the greenhouse; by the time they reach the tropics room, however, they are sweating. Besides the 600 to 700 students that pass
PLANT COLLECTIONS

through the greenhouse during the year, students from area high schools and visitors and researchers from all over the world come to enjoy the beauty of the greenhouse. People with varying degrees of interest in plants, from the casual observer to the serious plant enthusiast, come to visit the facility. “We even have people with anthropology, art, physical geography, chemistry, or photography backgrounds visiting the greenhouse,” said Heier. “For instance, a chemist interested in extracts from various plants once visited the greenhouse. And we often have photographers taking pictures of some of the rarer plants in bloom.”

Both tiny seedlings and mature specimens are on display. Most of the potted plants throughout the greenhouse have been placed on waist-high benches made of metal mesh. These benches, arranged in rows against the greenhouse walls, allow air to circulate around the plants. In the desert and tropics rooms, several of the larger plants are grown in a deep raised bed that covers about one-fifth of the room.

Each plant has a white identification tag with the genus and species name, as well as information about the origin of the plant—a necessity for students studying botany. For special tours and certain courses, the greenhouse staff has placed larger, plastic-covered labels in various locations. These labels provide interesting bits of information, such as how a banana plant develops sucker shoots from a long-lived root system to replace its annual top growth; or how the banyan tree begins its life by climbing up other trees.

The temperature in the first room, labeled “subtropical,” never falls below 55° F, and the climate is similar to that of central Florida, where cool winters and warm summers dominate. Multicolored coleus, begonias, and tropical orchids dot the room, and in springtime, the smell of pink, blue, and white hyacinths fills the air. These familiar hardy flowers are used in introductory plant systematics courses for dissection and study.

There are also some rarities in the subtropical room, including many male and female cycads, primitive plants whose ancestors date back to the Upper Carboniferous period, approximately 310 million years ago. Only nine genera and over 100 species of cycads are known to exist throughout the world. The greenhouse has specimens representing all nine genera and around 40 species, including a species of Zamia native to Florida. “It takes years for the cycad plant to reach maturity,” said Heier, “and once a male cone starts to shed pollen, you have to find a compatible female plant. Unfortunately, cycads seem to have a mind of their own, because the male and female cones often mature at different times. That is one of the reasons why the population has decreased over the last few million years.”

Adjacent pools located at the far end of the room offer two different aquatic environments. One pool, kept at a warm temperature, is home to lilac- and white-flowered tropical water lilies (Nymphaea spp.). The other pool is kept at room temperature and is filled with papyrus and floating bunches of the tiny organism-trapping bladderwort (Utricularia). Also in this cooler pool are two turtles and several small fish, which help maintain the

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The next section in the greenhouse contains the alpine plants. The climate here is not that of the Himalayas, but of the high-mountain, tropical alpine areas—cool, but never freezing. Many of the plants here are crossovers from other climates where cool temperatures, especially in summer, help them to flourish. For instance, there are conifers from the warmer regions of California and the Mediterranean Sea, along with primroses, camellias, begonias, and other showy plants that provide splashes of bright red, yellow, and orange. As in the subtropical section, the more common plants are used for classroom study and dissections.

One of the more popular trees in the alpine room is the giant redwood (Sequoiadendron giganteum). Sequoias grow rapidly to great heights; many of the trees in California are 2,000 years old and over 300 feet tall. S.U.N.Y.'s redwood, with its tiny green needles, was started from seed eight years ago and is already over four feet tall.

The environment of the greenhouse desert could pass for that of the deserts of the southwestern United States or South Africa: cool winters and dry, hot summers. The plants that fill this room are extremely diverse, and include euphorbias and living-stones (Lithops spp.) from South Africa, as well as Mammillaria species from the southwestern deserts of this country. In the center of the room is a large rock garden created by Mr. Campbell, where over 50 green, spiny, succulent plants poke out from a dark desert sand.

There is tremendous diversity among desert plants, including strange coloring and twisted shapes, cacti with leaves, and climbing euphorbias. Students learn about how each plant has adapted special defenses against predators and the hostile environment. For instance, Agave horrida has spikes on its leaves to ward off predators, while Pachypodium succulentum has a bulbous trunk to store much-needed water when rain is scarce.

The last and most spectacular room contains the tropical plants. Misters provide humidity, while the sun (or wall heaters, on cloudy winter days) supplies tropical heat. This room is the best place in the greenhouse for plant propagation; over 100 stems and leaves line the far wall. The cuttings of such plants as begonias and impatiens grow quickly and are excellent for demonstrating propagation principles in...
introductory botany classes.

The only difference between this tropical oasis and the real tropics is that the former is a controlled environment. Trees are pruned to provide sufficient sunlight to all plant species. In addition, no trees, leaves, or plants are allowed to lie and decay to create a mulch for further propagation. This control is necessary; along with decay come fungi and insects, creating a stress this jungle microcosm could not handle. As in the rest of the greenhouse, any traces of insects are eliminated by direct water spray, Malathion, Pyrethrum, or a new biodegradable, non-toxic soap.

The plants in this room display typical tropical characteristics. The larger plants try to maneuver for position in the sun, while others cling to the taller trees. Certain plants, such as members of the genus Xanthosoma, channel water to their base through trough-like stalks—an adaptation to speed rainwater to their roots in spite of their large leaves.

Some of these tropical plants have grown in the greenhouse for only a few short years. One particular specimen of Brachychiton, commonly called bottle tree, is a favorite of Heier, who carried the seed in his back pocket all the way from Australia. By the time the plant was five years old, it had been cut back twice (an average of 10 feet) and still reached the 38-foot peak of the greenhouse. That same year, in between the sassafras-like leaves, several bunches of bright red flowers appeared for the first time.

The greenhouse staff plans to expand the collection by planting about 350 rare and unusual annuals, biennials, and perennials on the sunny slopes surrounding the building. Labels will identify the plants to help those interested in growing these selections in their own gardens. (For information on visiting the S.U.N.Y. Greenhouse, see "Sources" on page 34.)

The S.U.N.Y. Teaching Greenhouse is a haven for many diverse plants that would not survive the winter cold and summer heat of Binghamton. It is not only a superb hands-on laboratory for students and researchers, but also a fascinating living museum that is bound to delight anyone curious enough to look inside.  

—Patricia Barnes-Svarney

Patricia Barnes-Svarney is a freelance writer and photographer living in Endwell, New York.

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For years, I thought the idea of an all-white garden was boring at best. And when some enthusiastic gardener raved about plans for a garden full of nothing but white flowers, I figured he or she had to be a bit mad. With all the wonderful colors and possible combinations of perennials—forget-me-nots and yellow lily-flowered tulips, deep scarlet roses and azure-blue delphiniums—why would anyone plan a garden solely around white flowers?

"But you must see the White Garden at Sissinghurst," argued a friend one day when I was being my most adamant. "Then you'll understand." And of course, he was right. I've been to Sissinghurst perhaps a dozen times since then, and each time, the White Garden has provided important lessons on design, plant combinations, placement, textures, and surprisingly enough, color.

On a sunny afternoon in spring or summer, the White Garden's narrow paths are invariably crammed full of people peering at plants, poking around for labels, or scribbling furiously in their garden notebooks. Laid out by Harold Nicolson and planted by Vita Sackville-West as her "grey and white garden," it is far more than a collection of white flowers. Here, the foliage of a variety of artemesias, Salvia argentea, Stachys byzantina, Macleaya cordata, and Hosta sieboldiana 'Elegans', all in various shades of gray and green, is just as important as the flowers.

Essentially a square surrounded on all sides by walls or hedges, the White Garden is divided by four main paths. These paths intersect in the middle beneath a metal arch covered with Rosa longicarpa, and are then divided into smaller parterres by more paths. As the visitor enters the garden from the Tower Lawn, the arrangement is highly informal. Plants are combined in bold groups, which are planned for a long succession of bloom and diversity of form. On the right are spires of lupine, clumps of violas, arching sprawls of iris, and an almost architectural mass of hostas—in all, a beautifully articulated contrast of foliage and plant forms, without a hint of stiffness.

The inner half of the garden is highly stylized. Individual plants such as Rosa 'Iceberg', underplanted with Pulmonaria 'Sissinghurst White' and Dictamnus albus, are planted within tight, low squares of clipped box hedge. Here, the white flowers are singular characters, isolated and highlighted by green hedges. The effect is simple but dramatic, in direct contrast to the informal foliage and flower combinations in the first half of the garden. The design is simple, but the interaction of design elements is reasonably complex, and it took several visits before I began to see why this little garden was such a success.

As I began to do a bit of research on how white works, I discovered that it wasn't a color at all, but the reflection of light rays; the purest white flowers reflect all the light that hits their surface. I also observed that the degree of reflection is in-
I shared these thoughts with a friend as we walked through his garden one sultry summer evening. Inspired, perhaps, by the thought of white roses and deep shadows, he observed that a line of mature hemlocks influenced by the texture of the flowers. For example, in the White Garden I noticed that some flowers, such as the iris, were translucent, so the reflective light seemed to sparkle. Earlier in the season, the high gloss of tulip 'White Triomphator' reflected an entirely different kind of light. Whites were hard, or soft, like the clouds of small white flowers on the six-foot Crambe cordifolia.

Few of the flowers I observed were pure white. Many had subtle stripes or dots, or were washed with lavender, blue, yellow, or green. Some that appeared white were actually various shades of cream. Often the foliage or surrounding plants influenced how white flowers were perceived. The shimmering quality of an iris bloom, for example, was exaggerated by the high gloss of nearby Hosta foliage.

At dusk, the garden was undoubtedly at its best, its silver foliage luminous and its white flowers glowing with an almost ethereal light. The scene would certainly be enough to convince most gardeners that a white garden is something worth having.

Of course, the inevitable question arose: What did this English garden, however lovely, have to do with gardening here in the United States? How could lessons in design or plant placement be relevant when a good percentage of the plants used were tender and only suitable where winter temperatures rarely dip below 20° to 25° F? One approach, of course, would be to stick to those White Garden plant combinations that are hardy from USDA Zones 4, 5, and 6. For a different approach, however, I began to wonder how the various effects might be translated as ideas rather than copied verbatim. How could we create the stylized drama of 'Icberg' roses against a yew hedge without sticking roses in box parterres and waiting a decade or two for a yew hedge to mature? What, in our existing landscapes, could be used to create that marvelous contrast of light and dark, of white flowers floating against a background of shadows? I wondered, too, how to create a contrast of styles as satisfying as that of the cottagey scramble of perennials and the very architectural box-edged paths of the inner garden.

I decided these thoughts with a friend as we walked through his garden one sultry summer evening. Inspired, perhaps, by the thought of white roses and deep shadows, he observed that a line of mature hemlocks looked very much like the yew hedge in the White Garden. But rather than roses,
we imagined broad sweeps of late-blooming astilbes—the 18-inch "White Gloria" and 36-inch "Diamond"—edging the path that leads to a simple white arbor in a clearing just inside the woods. And in our imagination, all was covered with Clematis paniculata in late August.

From the terrace, we looked out onto a lawn, then down into an area being established as a wildflower meadow filled with bright summer flowers like Asclepias tuberosa, Helianthus angustifolius, gold-encrusted, and late-blooming native asters. Beyond this meadow was to be a gazebo. But thinking of the White Garden again, we realized this was our opportunity to create that contrast of styles and provide a bit of evening drama at the same time.

We could, we decided, define the boundaries of the wildflower meadow, repeating the shape of the lawn above, and divide it in half by a mown path leading to a classical, rather boxy gazebo. The gazebo could then be surrounded by squared-off areas of white, blue, and yellow perennials. To ensure a long season of bloom, we could begin the season of the formal gazebo garden with white peonies, lupine, and various irises, along with the all-important foliage contrasts; the choices for June and early July would be too numerous to mention.

August was another matter. Except for Phlox paniculata, it is generally a slow month for perennials, let alone "white" flowers. But looking through some old gardening books, we added a dozen or so plants to our list of "white" possibilities, including Aconitum napellus "Album", Biotona asteroides, Campanula lactiflora 'Alba', Malva moschata 'Alba', and Verbascom 'Miss Willmott'.

In addition to the contrast of formal and informal, we had conceived a rather dramatic transition into evening. During the day, the meadow would be a seasonal progression of bright colors, and the edge of the mown path would be naturalized with fragrant, white-flowered bedstraws (Galium). At dusk, when our eyes are less responsive to color than to amount of illumination, we would see the bright meadow and green lawn as black, while the white-edged path and the white and blue flowers around the gazebo would seem luminous, floating beyond a lawn and meadow dancing with fireflies. —Margaret Hensel

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

First Lady of Gardening

BY ELISABETH SHELDON

Much has been said and written about women who have distinguished themselves in the field of horticulture—Gertrude Jekyll, Ellen Willmott, Vita Sackville-West, Beatrix Farrand, to name just a few. But one hears very little about Jane Webb Loudon. During her lifetime, Jane wrote magazine articles and, as a journalist, covered the first big horticultural shows in England. Besides a novel and several collections of stories, she wrote 16 excellent books on gardening, botany, and natural history. These books were very popular in her day and much admired by William Robinson, who re-edited and published her Amateur Gardener's Calendar in 1870. Most of the material in her Gardening for Ladies and Ladies' Companion to the Flower Garden is just as pertinent today as it was in the 19th century.

Jane Webb was born in 1807 in Birmingham, England, into a non-literary, non-gardening family. Her father, a businessman, provided a governess for her and allowed her to read the books in his library. Upon the death of her mother, 12-year-old Jane traveled with her father to the Continent, where she studied German, French, and Italian. When the two returned to England to live in the country, Jane took on the task of running the house for her father. In her spare time, she drove about in her pony chaise, studied languages, sketched, and wrote verses.

When Jane was 17, her father died, leaving her with little money. Unfortunately, few occupations were open to young gentlewomen at that time, and Jane's options for paid employment were limited. She could hire herself out as a governess, paint miniatures and card racks, or become a wealthy lady's "companion" (a fate sometimes even more grim than that of being a governess). She could open a school, if she knew enough wealthy people who would send their children to her. Or she could write, just as the Bronte sisters did some years later.

Young and alone, Jane set out to write books to augment her sparse income. Her first little volume consisted of one original story and translations from German, Spanish, and Italian verses. In 1827, when she was 20, she published her second book, The Mummy, a kind of science fiction novel. In it, a mummy of one of the Egyptian pharaohs, who has been revitalized by a scientist, stalks through England in the year 2126. The book is remarkable for its foresight. Jane describes a welfare state in which education is universal and leisure is available to all. Travel is by air (albeit by means of balloons), and communication is handled by letters and telegraphs that flash through the air to special receiving towers. Houses are air-conditioned, commodities are mass-produced, and the fields are worked by steam plows.

The Mummy was so well received that Jane proceeded to write Stories of a Bride, which appeared in 1829. In 1830, John Claudius Loudon included a glowing review of her work in his Gardener's Magazine. He wangled a personal introduction to the author, was impressed by her, and married her within several months.

John Loudon was an extremely handsome man. The son of a Scottish farmer, he had been educated in Edinburgh, where he assiduously studied Latin, French, and Italian, as well as arithmetic, botany, chemistry, and agriculture. So bent was he on self-improvement that he established what became a regular practice of sitting up all night twice a week, studying and keeping himself awake by drinking strong tea. Having decided that he wanted to go into landscape gardening, he apprenticed himself, as draftsman and assistant, to several nurserymen in succession.

In 1803 John went to London to seek his fortune as a landscape gardener. By the time he met Jane Webb 27 years later, he had made a name for himself in the horticultural world. Among his many accomplishments, he had already published numerous articles and at least 12 books, including encyclopedias on agriculture, gardening, and plants. His Hortus Britannicus came out in 1830, the year of his marriage. (He was dictating to his secretary as he was being dressed for the wedding ceremony.) At the time he and Jane met, he was also editing two magazines, one on gardening and the other on natural history. Besides his literary and design work, John had traveled widely in Europe, and had run a school at which he taught Scottish methods of agriculture. He also found time to build a duplex on Porchere Terrace, in semi-rural Bayswater, near London.

John was extremely productive, in spite of tremendous physical handicaps. He suffered attacks of what was thought to be rheumatism. The pain in his right arm was so intense that he submitted to treatment by some bungling masseurs who succeeded, over a period of months, in breaking the arm in two places. In 1824, when it had failed to mend, his right arm was amputated. His left arm also was affected.
It is difficult to imagine how Jane managed to work on publications of her own along with those of her husband. Despite her heavy workload, however, her books came thick and fast following her debut as a horticultural writer.

and he could use only two fingers of his remaining hand. In addition, one of his knees gave him trouble. Even with these disabilities, however, he forged ahead, never breaking his pace.

Life at Porchester Terrace must have been something of a shock to Jane, who was plunged into a world of horticulture and hard work immediately upon arriving in her new home. The Loudon house, complete with a domed conservatory, stood on about one-quarter of an acre of land, which was filled with nearly 3,000 species of plants—annuals, bulbs, perennials, vines, trees, and shrubs. There was also a border of mosaics as well as a saltwater tank containing a collection of seaweed. In addition, on a stone shelf in one of the garden sheds was a collection of 600 alpines in small pots. During the year of his marriage, John planted 58 new trees and shrubs, which he planned to keep under control by drastically pruning the roots in alternate years.

The plants in the garden, conservatory, and potting sheds required constant care, and there was only one part-time gardener available to help. Jane's meticulous husband hated untidiness or "tawdrieness"; everything indoors was kept clean and in its proper place, and plants were trimmed, staked, labeled, and kept free of weeds. The lawn had to be cut with hand shears to prevent the thousands of bulbs that inhabited it from being damaged. During periods of dry weather or other times of "crisis," all the women in the house had to pitch in to keep the plants alive, including the two servants, Jane's sisters-in-law, and Agnes, the Loudons' only child, once she was big enough to help.

Still, the worst of the routine at Porchester Terrace was not the feverish activity of the daylight hours but the demands of the night shift. Jane became her husband's writing hand, and every evening the two stayed up until midnight working on the next issue of The Gardener's Magazine, or on whatever book John had in hand. In 1832, the year Agnes was born, he began his Encyclopedia of Cottage, Farm and Villa Architecture, and the pace increased. Jane wrote, "The labour that attended this work was immense; and for several months he used to sit up the greater part of every night, never having more than four hours' sleep, and drinking strong coffee to keep ourselves awake."

John also continued to travel, taking in the sights—palatial residences and gardens, smaller country houses, inns, factories, public buildings, cemeteries, and schools—and recording his observations in the pages of his magazine. The accounts of his tours included information about the trees, wildflowers, agricultural practices, and even the condition of the laborers' cottages, and provide a wonderful picture of the English countryside in the 19th century.

John Loudon's greatest work was his Arboretum Britannicum, a book that lists and describes all of the trees in Great Britain, both native and introduced, in great detail. According to Miles Hadfield in his History of British Gardening, this book alone would have been enough to immortalize John. It was produced in monthly numbers, with no financial backing except what the author could obtain from subscriptions. He was resolved that all of the drawings of the trees should be made from nature and that the work should be "perfect," in spite of the immense labor and expense involved. During the same period, he also started two new periodicals: The Architectural Magazine and The Suburban Gardener.

In spite of all of John's efforts, the Arboretum Britannicum, far from making money, left him deeply in debt. To add to this misfortune, John could no longer work without assistance. Jane began to write books again, while her sisters-in-law took up wood engraving. The women hoped to be able to earn enough money so that John would not have to resume work as a landscape gardener. Notwithstanding Jane's pleas, John struggled on, visiting gardens and taking on more assignments.

During these unfortunate times, Jane found her horticultural knowledge to be invaluable. In order to help maintain the property and help her husband over the years, she had learned much about plants and how to grow them. In the introduction to her book Gardening for Ladies, she notes the extent of her ignorance in the earlier years of her marriage: "When I married Mr. Loudon, it is scarcely possible to imagine any person more completely ignorant than I was, of everything relating to plants and gardening; and, as may be easily imagined, I found every one about me so well acquainted with the subject, that I was soon heartily ashamed of my ignorance."

She had tried to increase her knowledge by reading gardening books, only to find that they didn't teach what an amateur needed to know. Learning from her husband had also proved difficult. "We both found unanticipated difficulties at every step," she wrote. "It is so difficult for a person, who has been acquainted with a subject all his life, to imagine the state of ignorance in those who know nothing of it, that a professional gardener has rarely patience to teach anything to an amateur."

However, after reading, working with plants, and attending botany lectures at the Horticultural Society, little by little Jane had become a horticultural authority in her own right.

By the time Jane resumed writing books, then, she had acquired enough knowledge about plants to write about them. Early in 1840 she started working on Gardening for Ladies and had it finished by May. When it appeared in that same year, it was an immediate success and soon found a place in the homes of all of the well-to-do women who were interested in creating beautiful gardens on their properties. A few ladies' gardening books had already appeared, but they were neither as helpful nor as well written as Jane's. Jane, herself a relative newcomer in the field, knew exactly what other amateur gardeners needed.
to know. Furthermore, instead of using the usual flowery and poetic language of her fellow Victorians, she wrote clearly and directly. The sun was the sun, not "that bright luminary"; a spade was a spade, and manure was manure. In her book, Jane tells her readers not only how to do things but why they should be done, from "stirring the soil" to grafting and budding, dividing, and pruning. (Gardening for Ladies is one of the few gardening books to have ever explained why it is best to move plants from a small pot into one that is only slightly larger, and why plants should be given shade after they are transplanted.)

Her chapter on sowing seeds is of value for all modern gardeners. Her book also provides instructions on how to dress practically for garden work, what kind of light-weight tools to use, and how to make the necessary motions efficiently in the garden. In one section, she notes that when a lady has successfully dug a small garden herself, she "will not only have the satisfaction of seeing the garden created . . . by the labour of her own hands, but she will find her health and spirits wonderfully improved by the exercise, and by the reviving smell of the fresh earth."

Also published in 1840 was the first volume of Jane Loudon's magnum opus, The Ladies' Flower Garden, a five-volume series dealing with annuals, biennials, bulbs, perennials, roses, shrubs, and hothouse plants. (It is still collected today, partly for its very fine color illustrations, which were drawn from nature on zinc.) John himself, a "perfectionist and ruthless critic of others," wrote, "Though the production of a member of our family, we think it but justice to state that this is an elegant work, and one which will be found no less beautiful than it is useful." He was proud, too, of his wife's Botany for Ladies, published in 1842. John called it the best introduction to botany for women or men that had ever been written.

It is difficult to imagine how Jane managed to work on publications of her own along with those of her husband. Despite her heavy workload, however, her books came thick and fast following her debut as a horticultural writer. Two more appeared in 1841: The Ladies' Companion to the Flower Garden and the second volume of The Ladies' Flower Garden series. In the latter book, which deals with bulbous plants, she speaks of small gladiolas, "the colours of whose petals at sunset take a curiously shifting hue like that of shot silk when held up to the light." She goes on to suggest that they be placed where the rays of the setting sun can illuminate them, and points out that they are "sweeter-smelling by far at dusk."

John continued to take on one assignment after another, working like one possessed. By 1843 his condition had markedly deteriorated. He was working for new clients, laying out cemeteries and grounds, which he had to inspect from a wheelchair. In a race to beat death, he began working all day and dictating to Jane most of every night. One of his creditors began to harass him, threatening him with debtor's prison. Jane wrote, "Nothing could be more awful than to watch him during the few weeks that yet remained of his life. His body was rapidly wasting away; but his mind remained in all its vigour, and he scarcely allowed himself any rest in his eagerness to complete the works that he had in hand."

Finally, one day he died on his feet, while dictating to his wife.

After spending some months recuperating, both physically and emotionally, Jane slowly began to work again. However, the garden proved to be a tremendous burden to her. She felt obliged to keep it up for her husband's sake, but couldn't afford even a part-time gardener. Eventually, after heroic efforts, she had to get rid of all but the essentials. Continued on page 32
Several years ago I attended a garden club meeting in New Jersey to hear a talk on botanical prints by Oriel Kriz, a dealer in the New York City area.

Ms. Kriz was surrounded by sample prints from her collection, from charming drawings of herbs and flowers in delicate colors, to striking illustrations of fruits and vegetables featuring strong architectural lines. I was especially intrigued by a magnificent 17th-century engraving of *Pomaria amoros fructo luteo*, a tomato plant with orange-red fruit from Basilius Besler's *Hortus Eystettensis*, published in 1613. The engraving was made about the time the "love apple," which was thought to be poisonous, was introduced from the New World. According to Ms. Kriz, Besler's engravings are distinguished by their beauty, size, accurate botanical detail, and dramatic graphic quality, and are among the most highly prized of all antique botanical prints collected today.

I left the meeting carrying my first botanical print—an enchanting color engraving of a group of roses from Dr. Robert John Thornton's *Temple of Flora*, perhaps the most famous florilegium of the 19th century. (The plate shows a bird and five fledglings in a nest amid a bouquet of roses; in the background is a storybook castle, with smoke curling from a tower.) Since then, I have spent many happy hours rummaging for prints at garage sales and old print shops, and admiring botanical art at posh galleries and museum exhibits.

Botanical prints are plant illustrations from early printed works—mechanical reproductions of one kind or another of an artist's original drawings. As "collectibles," they are riding the crest of popularity today. Sought for their historical or botanical associations, or simply for their enormous visual appeal, they are valued as works of art and can be quite costly.

Botanical illustrations began when cavemen first drew pictures of plants with sticks or stones, perhaps to describe tasty edibles to other members of their tribe. We know that the ancient Greeks and Romans studied plants for their curative powers, and wrote herbal manuscripts that were accompanied by drawings. None of these manuscripts survived, except for copies of *De Materia Medica*, written in the first century A.D. The original herbal was written by Dioscorides, a Greek doctor who traveled widely and wrote about 500 plants and their healing properties. His work served as the basis for future botanical studies and was the chief source for pharmaceutical information.

For the next 1,000 years, scribes copied and re-copied Dioscorides' work by hand until the drawings became so inaccurate that they scarcely resembled their classical models, much less the actual plants. Although such illustrations are botanically inaccurate, many are graphically appealing and highly individualistic.

The new spirit of scientific inquiry that characterized the early Renaissance changed the course of botanical art. Artists such as Leonardo da Vinci and Albrecht Dürer began again to look to nature for inspiration, and worked from living plants or dried specimens.

The invention of the printing press made it possible for multiple copies of drawings to be widely disseminated for the first time. The earliest printed botanical pictures appeared in the mid-1480's, and were produced from woodcuts. (In this technique, the image is drawn in ink on a smooth block of wood, and the entire surface is cut away, except for the drawn lines, which are then inked and transferred to paper.) Although this crude process limits the rendering of fine details, many of these early woodcuts are remarkably charming, and are desirable collector's works because of their great age and rarity.

Most old prints were published as part of elaborate books on botany. To offset the heavy expense of producing these illustrated works, publishers often issued and sold sets of plates, sometimes a chapter at a time, instead of waiting for the entire work to be completed.

There were many worthy illustrated herbals printed in the 16th century, but none eclipse Otto Brunfels' *Herbarum Vi-
How does one begin a collection of botanical prints? "Try to decide what direction you want your collection to take, and then begin to form it," suggests James White, Curator of Art at the Hunt Institute for Botanical Documentation in Pittsburgh. Does the work of one artist appeal to you? Are you wild about roses? Clematis? Leeks? Is tropical flora your thing? Evergreens? If you find that it is difficult to narrow the choices down, there is no harm in flitting, for example, from a fruit print by George Brookshaw to a Christmas rose from Elizabeth Blackwell's studies from the Chelsea Physick Garden. Your perspective and tastes usually change with time and exposure, and it's not uncommon to want to exchange or sell a quality print you've acquired early on.

Knowledge about which prints to buy comes from research and experience as you go along. As a collector, you will be rewarded for your efforts with continual stimulation and occasional delightful surprises.

Train your eye to recognize the best works by visiting museums and galleries that exhibit prints. If you're serious about collecting, it's also a good idea to get to know the dealers and to become familiar with what's available. One way to do this would be to visit the Hunt Institute, which houses a collection of rare books containing botanical plates, antique prints, and original botanical art. The Hunt Institute also stages international exhibits of botanical prints every five years. The catalogues from these shows give a good overall picture of what's happening in the field of 20th-century botanical art and illustration. There are many contemporary botanical illustrators doing fine work that is worthy of collecting, and if aesthetics—age or rarity—is your prime consideration, you should investigate this market.

If your appetite is whetted but you feel that owning fine prints is beyond the reach of your pocketbook, you might consider the prints from The Botanical Magazine. This spectacularly successful periodical was first published by William Curtis in London in 1787 for the new breed of passionate gardeners, and is still going strong. When it first appeared, it carried excellent hand-colored engravings. For economic reasons, these were gradually replaced by hand-colored lithographs, and finally in 1948, by modern color prints. The magazine is still used as a reference tool in the plant sciences, and includes fine illustrations by such artists as Walter Hood Fitch, Matilda Smith, Otto Stapf, A. Kellett, B. M. Baggs, Stella Ross-Craig, and Lilian Snelling.

Prints can sometimes be found at reasonable prices in antique print shops and bookstores. Such prints offer a collector with a limited budget all the qualities associated with great botanical engravings. "The only thing lacking is size," according to New York dealer Oriel Kriz. Prices range from about $25 for a recent print to slightly higher prices for older hand-colored prints.

Unfortunately, some dealers buy rare books and then take them apart in order to sell individual plates. Reputable dealers deplore this practice (called "book breaking") but concede that there is little anyone can do to stop it.

The chances are good that the current popularity of prints will continue unabated, so if you should decide to sell your collection, your initial investment, at least, can be recovered. However, you should look for rips, repairs, and foxing (discolored spots from aging or from acidic materials used in framing) when considering a print, since such imperfections could diminish the ultimate resale value.

If you acquire a fine print, make sure it is properly framed, maintained, and displayed. "After all," Ms. Kriz says, "when you own a fine print, what you are holding is a record of human progress, and a responsibility goes along with that privilege."
vae Icones (Images of Living Plants), printed in Strasbourg in 1530. The appearance of this work marks the true beginning of botanical illustration in Europe. Hans Weiditz, an associate of Dürer, made the woodcuts using live plants as models. His images, described as showing "refreshing accuracy and vigor," set a standard that is unsurpassed.

Leonhard Fuchs seems to have been even more scrupulous in De Historia Stirpium, published in 1542 in Basel. Fuchs was a doctor whose services during the plague epidemic in 1529 earned him widespread respect and affection. (The American genus Fuchsia, which he never saw, was named after him.) He wrote in his preface: "As far as concerns the pictures themselves, each of which is positively delineated according to the features and likeness of the living plants, we have taken peculiar care that they should be most perfect; and we have devoted the greatest diligence to secure that every plant should be depicted with its own roots, stalks, leaves, flowers, seeds and fruits. Furthermore, we have purposely and deliberately avoided the obliteration of the natural form of the plants by shadows, and other less necessary things, by which the delineators sometimes try to win artistic glory: and we have not allowed the craftsmen so to indulge their whims as to cause the drawing not to correspond accurately to the truth."

The work of Fuchs' contemporary, Pietro Andrea Mattioli (1501-77), was not nearly as reliable. Mattioli's famous Commentarii in Sex Libros Pedacii Dioscoridis (1544) was illustrated with 562 woodcuts, which showed more use of shading than did the works of Fuchs and Brunfels. Moreover, in one of his letters, Mattioli says that an artist whom he had employed lost the specimens to be illustrated, so the plants were drawn from memory!

During the 16th century, the voyages of discovery brought an influx of exotic plants to Europe from all over the world. Botanists and illustrators often accompanied explorers to study exotic plants, and botanical institutions and wealthy patrons subsidized many new plant introductions, including chocolate, pineapple, coffee, tobacco, and bananas. Tulips were seen by Europeans for the first time, and crown-imperials, horse chestnuts, mock oranges, hyacinths, and lilacs became popular subjects for artists. Plant breeders produced new colors and double forms of native European plants, such as Convallaria, Anemone, Viola, Primula, Dianthus, and Centaurea. Wealthy flower enthusiasts proudly displayed these new ornamentals in splendid pleasure gardens. Many hired artists to record their favorite blooms, then had the drawings bound in volumes or reproduced in printed folios.

Early in the 17th century, another sort of botanical publication made its debut: the florilegium, or picture book of flowers. The most famous, Dr. Robert John...
Thomson's *Temple of Flora*, features flowers against backgrounds that were thought to be suitable to the origin of the plants. In fact, the settings are more romantic than representative of the plants' native habitats.

Other notable works in this genre include those by the French artist Nicolas Robert (1614-85). Not only did Robert create beautiful floral illustrations, he also made major contributions to books on plant histories. These books constitute a valuable record of plants that were in cultivation in the artist's day.

At approximately the same time the florilegium appeared on the scene, artists began to use two new techniques: engraving and etching. These methods aided scientific study because features of plants could be delineated more accurately than was possible with woodcuts. (In engraving, grooved lines are incised in a metal plate using a hand-pushed tool called a burin. In etching, a needle is used to scratch lines through a wax-like ground covering a plate, which is then subjected to an acid bath; the acid "bites" into the plate along the lines where the metal has been exposed. In both processes, ink is rubbed into the recessed lines and then transferred to paper under pressure.) Etchings and engravings can be refined by using closely spaced, hatched lines, or dots (stipple), for shading and tonal gradations.

By 1800, printing in color had been widely adopted, and finishing washes of color were done by hand. Color increased the aesthetic appeal of prints, which now had much of the character of the original watercolor paintings that were copied. J. W. Weinman's *Phytanthoza Iconographia* (1737-45) was among the first botanical works to include color printing. (Weinman's prints of aloe in decorative pots often turn up at exhibits and print sales.)

As printing techniques became more sophisticated, they were used in combination with each other. By the end of the 18th century, many artists combined several different techniques to create individual prints.

The widespread interest throughout Eu-

rope in new plants paved the way for the publication, in 1753, of the most renowned botanical publication of the 18th century, Carolus Linnaeus's *Species Plantarum*. The binomial system of classifying plants and animals introduced by Linnaeus was readily adopted, and publishers quickly re-issued earlier works to reflect the new names. As a result, many illustrations had two versions of the same title. (Almost 200 years later, Otto Stapf helped put an end to the confusion with his *Index Lindenensis*, first published in 1929.) This reference, available at botanical libraries, lists sources for most plant illustrations published after Linnaeus's book appeared.

The "Golden Age" of plant illustration lasted from about 1700 through the third or fourth decade of the 19th century. Among the important figures of this era were the German-born George Dionysius Ehret, who worked in England. Ehret provided as many as 500 illustrations for J. W. Weinman's eight-volume *Phytanthoza Iconographia* (Illustrated Record of Flowering Plants), begun in 1737. His *Plantae Selectae* was fashioned for the carriage trade, and the first letter of the title of each print was printed in gold leaf (now a way of verifying authenticity).

Another artist known for his "artistic vision, botanical accuracy and sheer quantity of output" was Pierre Joseph Redouté, whose exquisite flower paintings for *Les Roses* (1817-24), *Les Liliacées* (1802-16), and two splendid volumes on the flowers of Malmaison, are legendary. (The original 468 watercolors for *Les Liliacées* were sold at an auction in New York last year for a record $5.5 million.) Redouté came from a long line of Belgian painters and arrived in France at the age of 23 to pursue his art. No doubt royal patronage, especially that of the Empress Josephine, helped him to become the most popular flower painter in the history of botanical art. He was also fortunate to have a brilliant team of stipple engravers and printers to translate his drawings into prints.

The death of both Redouté and Turpin in 1840 marks the end of the great age of botanical illustration. Works of considerable value to botany continued to be produced into the 20th century, but the state of the art in general was stifled by Victorian sentimentality, as well as novel color-printing processes and the advent of photography.

A few years before the two great botanical artists died, a new process, lithography, had begun to make its mark on botanical art. (Lithography, based on the antipathy between oil and water, allows an image to be drawn with a greasy crayon on a stone plate, and then wetted and inked.) Using this method, large editions of illustrations could be reproduced faster, easier, and cheaper than ever before. Fine gradations of tone could be achieved, and the prints were usually hand-colored.

From about 1830 onward, most botanical works—especially monographs (illustrated works devoted to a single group of plants, often a family or genus)—were printed as lithographs. (The prints of James Bateman's orchids in *Orchidaceae of Mexico and Guatemala* (1837-43) are examples of magnificent lithographs.) Today, botanical illustrations are usually reproduced using any one of a number of photomechanical processes that are now available.
Liatris
BY STANLEY M. HARMON

It has been said that familiarity breeds contempt. Evidently, this is the reason Americans were slow to add such common native plants as black-eyed Susans, goldenrod, and spiderwort—which thrive all around us without effort on our part—to their perennial or wildflower gardens. Ironically, many of the cultivated varieties of the native plants that we grow today were hybridized in Europe and then exported back into this country before they became popular here. Liatris, one of the most attractive of all plants native to North America, also falls into this category. In fact, many Americans who are familiar with Liatris were introduced to the plant through the cut flower trade, because *L. spicata* is grown in Europe on a large scale and imported into the United States as cut flowers. Many of the popular garden cultivars of this species also were developed abroad.

Members of the genus *Liatris* are all erect perennial herbs that belong to the sunflower family, Compositae. Most species have closely spaced, alternate, grass-like leaves, and all have a simple or few-branched stem. The flower heads are borne along a spike or raceme. Although some white-flowered cultivars have been developed for the garden, *Liatris* most often bear showy, rose-purple flowers. These striking blossoms appear over a three- or four-week period, from midsummer to early fall, depending upon the species and the geographical location. Surprisingly, the top of the spike can be removed (this characteristic makes *Liatris* an excellent cut flower, because the top of the spike can be removed as the older flowers fade.)

The basal foliage of all but a few species of *Liatris* is grass-like during the early stages of growth and is easily overlooked in the wild. As the plant develops, it becomes increasingly more attractive. Blooms appear unexpectedly in abandoned fields or along roadsides, to the surprise and delight of the unsuspecting wildflower lover.

All *Liatris* species are hardy and extremely drought-tolerant. Most prefer well-drained soil and do best in an open, sunny location. Generally, species grow from corms or have shallow, bulbous rootstocks that help the plant resist drought. Although a few species thrive in wet meadows, over-watering during the flowering period can be fatal for most *Liatris*, since the flower stalk and basal leaves are very susceptible to fungus attack. (One exception is *L. graminetifolia*, a slender, highly variable species that occurs throughout much of the Atlantic coastal plain. It tolerates frequent watering during the flowering stage and is thus a good candidate for culture where summers are often wet.) This problem can be avoided by planting *Liatris* in raised beds containing well-drained soil, or by planting at the crown of widely spaced rows that allow watering from the furrow without wetting the base of the plants.

While photographing *Liatris* in public gardens in the Washington, D.C., area, I have been gratified to learn that my own appreciation of these plants is shared by others, many of whom I suspect are unfamiliar with *Liatris* in the wild. These showy plants are indeed eye-catching, and fully deserve the common name blazing star. Gay-feather, another familiar name often applied to these striking plants, also refers to the showy, feather-like flower spikes.

About 40 species of *Liatris* are found in scattered locations throughout the United States and Canada. (Eight species are found in West Virginia alone.) *Liatris* species have three somewhat overlapping natural ranges. Some species, such as *L. noveae-angliae* (commonly called New England blazing-star, and sometimes listed as *L. borealis*), are found mostly in the Northeast and in other northern states east of the Mississippi River. Others, such as *L. microcephala* and *L. squarrosa*, are primarily found in the southern states. *L. ligulistylis* and *L. punctata* are western species that are usually found in states west of the Mississippi River. A few species of *Liatris* have very restricted ranges and have been included on the federal list of endangered species. These include *L. helleri*, an inhabitant of acid soils and granite ledges in the Blue Ridge Mountains of North Carolina; and *L. oblingerae* and *L. provincialis*, which have very restricted ranges in Florida.

According to *The New York Botanical Garden*...
There are a number of white-flowered subjects. Pictured is cultivars of England blazing-star *Liatris*. As its common name suggests, New *Liatris* is native to the eastern states east of the Mississippi River. It is also found in northern Maine and is hardy to USDA Zone 4. It is hardy to Zone 4, and usually grows from Long Island, New York, west to Michigan, south to Louisiana, and east to Florida. Hardy to USDA Zone 4, it usually grows to a height of four or five feet, and has a spiked inflorescence of small, rose-purple, star-shaped flowers. A pair of twisted styles protrudes about one-half inch from the corolla, giving the flower spike a feathery appearance—hence the common name gay-feather. Cultivated forms of *L. spicata* include a white-flowered cultivar called ‘White Spire’ and a very popular dwarf cultivar called ‘Kobold’.

My personal favorite, *L. scariosa*, occurs in dry fields and on shale barrens of the Appalachian Mountains, from southern Pennsylvania to Georgia and South Carolina. It is hardy to Zone 4, and bears large, hemispheric flower heads on one- to two-inch stems. The blooms appear from late July to late September. The leaves are broader and less grass-like than those of most other *Liatris*. Besides the typical rose-purple form, a white cultivar named ‘Snow White’ is available.

*L. aspera* is a tall, sturdy, drought-resistant species that is found growing in dry soil from Ontario to North Dakota and south to Florida and Texas. It is hardy to Zone 3, and has been grown in gardens to a limited extent in this country and is especially recommended for cultivation in untended wildflower meadows. Likewise, *L. squarrosa*, commonly called colic-root blazing-star, thrives in poor soil and is an ideal candidate for untended plots. Found in dry, open woodlands from Delaware to South Dakota and south to Florida and Texas, it is hardy to Zone 4.

*Liatris pycnostachya*, commonly called Kansas gay-feather, is a popular garden plant. Native to moist prairies and woodlands from Indiana to South Dakota and south to Texas, Louisiana, and Florida, it reaches a height of five feet. The species is drought-resistant, but it is best grown in moist, well-drained soil. Although listed as hardy to Zone 3, north of Zone 5 a thick winter mulch is beneficial. The flower spikes are densely covered and very showy.

*Liatris* are often ignored here in their native land for a number of reasons. Probably the most important is that colonies of all but a few species occur in widely scattered locations throughout their natural range. *Liatris* cannot tolerate repeated disturbance such as mowing or grazing, and are rarely found in urban or suburban settings unless cultivated. They are uncommon even in rural areas. Another reason is that most *Liatris* bloom during the dog days of summer, when few of us visit the hot, open waste places where they seem to thrive. In the Mid-Atlantic states, they are perhaps most often viewed from the window of an air-conditioned car or from the shade of a nearby tree.

Growing these beauties in our gardens allows us to appreciate them (and the many interesting and attractive pollinators hired to their showy flowers) without undue discomfort during hot summers. Gardeners can find rootstocks and seeds of several species of *Liatris*—most notably *L. spicata*, *L. pycnostachya*, and *L. scariosa*—from both local and mail-order sources. (See “Sources” on page 34 for a list of mail-order companies that offer *Liatris*.)

*Liatris* can be propagated from seed or by division. In *Growing and Propagating Wild Flowers*, author Harry Phillips suggests the following easy sowing method: “When the nutlets are ripe, merely cut the flowering stalk and lay it down in an outdoor seedbed or in the cold frame and cover with a half inch or so of soil; look for seedlings the following spring.” Seeds can also be sown in flats in late winter. Fill flats with a mixture of sandy loam and compost, and leave them in a sunny location. A medium temperature of approximately 70°F hastens germination, which should take two or three weeks. Thin the seedlings (which look like tufts of grass and are very slow-growing) as needed, and allow them to remain in the flat undisturbed until they are well rooted. Transplant to pots, if necessary, when the plants...
To propagate by division, lift the plants in very early spring, before the first leaf buds break, and divide with a sharp knife or pruning shears.

Several species of *Liatris* have been found to contain potentially useful medicinal substances ranging from anti-tumor agents to a substance that promotes healing of peptic ulcers. One such species is *L. squarrosa*, colicroot blazing-star. Like other *Liatris* species, it is a virtual magnet for pollinators. This lovely plant occurs abundantly to the west and south of Washington, D.C., on the Civil War battlefields of Bull Run, where it blooms on the anniversary dates of the battles. During the spring of 1986, a group of volunteers from the Virginia Wildflower Preservation Society rescued more than 40 of these plants from construction sites near Manassas, Virginia, and transferred them to the Wildflower Meadow at the American Horticultural Society's River Farm headquarters near Mount Vernon. The fact that most of them survived the driest spring and summer on record is a testament to the drought resistance of this species.

Hardiness and genetic diversity, not to mention many other fine attributes, make *Liatris* ideal for cultivation. Not only do the many species delight and charm us with their beauty, they seem to be a balm for our bodies as well as for our souls. Indeed, our horticultural friends in Europe have served us well by bringing to our attention these striking natives of our shores.

Stanley M. Harmon, a microbiologist for the Food and Drug Administration in Washington, D.C., has been an admirer of *Liatris* for many years. In addition to growing these showy plants in his own garden, he has been helping establish *Liatris* plantings in the Wildflower Meadow at River Farm.
In the heart of the South lies a grand city estate that remains the “Great Showplace of New Orleans.”

TEXT BY DORIS M. STONE
PHOTOGRAPHY BY ROGER W. STONE
Forty-three blocks from the French Quarter in New Orleans lies a magnificent garden reminiscent of the lavish country estate gardens of England. Known for its picturesque gardens, unique fountains, meticulously mown lawns, and pristine displays of carefully manicured plants, Longue Vue is a formal, eight-acre city estate garden that was once the home of Edith and Edgar Stern.

Mr. Stern was a wealthy businessman from a prominent New Orleans family; Mrs. Stern, from Chicago, was the heiress to the Sears, Roebuck fortune. The Sterns were both noted philanthropists and active patrons of the arts. Among Mrs. Stern’s many accomplishments was the founding (with other parents) of two private schools—one, among the South’s finest nursery schools, and the other, Louisiana’s first college preparatory country day school.

The Stern family first built a house on the property in 1923, but by 1936 they had outgrown it and decided to replace it with a larger building. Completed in 1942, the Neo-Palladian mansion we see today was large enough for lavish indoor-outdoor social events and was better integrated with the gardens than was the former house.

Horticulture was a special interest of Mrs. Stern. For many years she was a member of the Garden Study Club of New Orleans and frequently served as chairman of its various committees. When the new house was built, she was determined to have the gardens extend the living quarters outdoors. For a long time, she had also wanted to display some of the more interesting wildflowers of her adopted state. To this end, she employed the landscape architect Ellen Biddle Shipman, who had successfully designed the Sarah P. Duke Gardens in Durham, North Carolina.

Essentially, the estate as designed by Shipman consisted of a large main garden, which served as the south vista to the house; a walled kitchen garden containing vegetables and herbs; and a wildflower garden featuring some of Louisiana’s native plants. Interconnecting these was a series of small garden “rooms” and patios, hidden away behind shrubbery. The main axis of Shipman’s south garden ended in an Italian tempietto and a reflecting pool.

Since the design of the new residence incorporated many local historic details, Mrs. Stern eventually decided to remodel parts of the gardens to emphasize Louisiana’s Spanish heritage. In 1966, William Platt, who had been the architect for the mansion and had learned much about landscape design from Ellen Shipman, ac-
accompanied Mrs. Stern to the Iberian Peninsula to see the Spanish gardens firsthand. Inspired by the Generalife Gardens of the Alhambra in Granada, on their return they set about transforming the main garden at Longue Vue into what is now known as the Spanish Garden.

Today, Longue Vue's most distinctive feature is its Spanish-Moorish water garden. From the former reflecting pool, 10 pairs of tall water jets—visible from the house—now spout upwards in graceful arcs. Behind is a round pool, which was decorated at the time of my visit with Easter lilies and geraniums in pots, in the style of the Alhambra. The tempietto has been replaced by a curved Spanish loggia, which is laterally extended by two brick walls. This area, known as the Spanish Court, has permanent plantings of leadwort (Plumbago auriculata), Clevera japonica, and lilies-of-the-Nile (Agapanthus africana) against its south-facing walls. The more cold-tolerant sweet olive (Osmanthus fragrans) and false holly (Osmanthus heterophyllus) are in raised beds against the east and west walls. Decorative tender and seasonal perennials in containers include calaminon (<Xiptorrhutella mitis), ixoras (Ixora spp.), various bulbs, geraniums, and chrysanthemums. Behind the walls of the Spanish Court are magnolias, southern pines, and oleanders.

The Spanish-Moorish motif continues as the visitor approaches the house. Flanking the lawn on both the east and west sides are small fountains, three on either side. Each is of a different design—some contemporary and some antique—and set as the visitor approaches the house. Flanking the area are hot. The fountain of contemporary design. All of the fountains have either yellow flowers or yellow variegated foliage; hence its name, the Yellow Garden. A banksia rose (Cistus banksiae) climbs over the French door of the Whim House. One column of the loggia is usually covered with butterfly vine (Stigmaphyllon sp.) and another with Carolina jessamine (Gelsemium sempervirens). One year, apricot bougainvillea was used as a substitute. In summer, the blooms of allamanda (Allamanda cathartica) continue the yellow theme. In the marginal beds, yellow lantana, gold-dust aecuba (Aecuba japonica 'Variegata'), and Gelsemium (formerly Thryallis) are predominant. In season, tubs of yellow tulips and daffodils are brought out from the nursery. Further away is a group of southern women devoted to gardening and the preservation and propagation of Louisiana native plants. Caroline Dorman, author and illustrator of Flowers Native to the Deep South, was a member of this group. In 1940 Dorman helped Mrs. Stern design this small wildflower garden, using as many native plants as possible. The most cherished of all Louisiana's wildflowers, the swamp irises—Iris fulva, I. gigantea, and I. brevicaulis—were prominently displayed along the central walk of the Wildflower Garden. Now the area is too shady for them, so the collection has been moved to the Cutting Garden. Many other native flowers flourish in the shade of magnolias, southern pines, cypresses, native hollies, dogwoods, and red and live oaks. Shrub here include the star or purple anise (Illicium floridanum), red buckeye (Aesculus pavia), oak leaf hydrangea (Hydrangea quercifolia), sweet shrub (Calycanthus floridus), and several species of wild azaleas, including Rhododendron austrinum, commonly called Florida flame azalea. Near the entrance is a small pool, and close by is a pigeon—formerly a duplicate of the one that once stood at Uncle Sam Plantation near Convent, Louisiana, and was eventually demolished to make way for a flood control levee.

East of the Wildflower Garden is the Walled Garden. This enclosure once featured vegetables and herbs. However, the area was eventually converted to a formal garden featuring flowers and shrubs, such as roses and azaleas. Surrounding the central fountain, constructed from an old sugar kettle, are summer-blooming Japanese iris and displays of seasonal annuals such as pansies, petunias, begonias, lantana, and Evolvulus. Beyond the Walled Garden is the elongated Canal Garden. The long, narrow pool, edged with brick and decorated with large
plants grown in tubs, features a fountain at each end. Although its design was inspired by gardens in Portugal, it is reminiscent of the Alhambra and looks Moorish. This charming and exotic garden serves as a fitting vestibule to the Spanish Court, which lies immediately to the north and is entered through louvered doors.

In the days when Longue Vue was occupied by the Stern family, the visitor's first glimpse of the house was from the Entrance Court just off Bamboo Road. Visitors can still admire the tree-lined avenue of live oaks leading from the entrance to the front door of the house along the west facade. The branches of the oaks have been pruned and trained by cables to form a perfect cathedral-like archway. Immediately in front of the entrance to the house is a small shady courtyard planted with sweet olives and magnolias. An imposing Victorian "Three Graces" fountain, made in New York around 1840 and discovered by Mr. Stern in an antique shop near his office, serves as the focal point.

Today, garden tours begin in the Entrance Court, which is surrounded by citrus, azaleas, holly fern, and loquat trees. The tour also provides a look at the Nursery and Cutting garden (which is a production rather than a display area) that supplies cut flowers for the house, as well as annuals, perennials, and flowering and foliage plants for use throughout the garden. This area also contains azaleas and orchids as well as a small herb garden.

Visitors can gain a better appreciation for the gardens if they first tour the house and get a feel for the people who once lived there. The house has been left the way it was in the 1940's and '50's, the heyday of family life at Longue Vue. Mrs. Stern felt that it should serve as a museum to reflect a way of life that has almost completely disappeared from the American scene. Upon her death in 1980, Longue Vue was transferred to a private foundation of the Stern family. Today, the well-endowed Longue Vue Foundation, aided by a group of enthusiastic volunteers, is responsible for the administration of the house and gardens.

Thanks to the dedication and interest of Edith Stern and of all those who have worked so hard to maintain the estate, garden lovers can still enjoy the horticultural splendor of days gone by.

Doris M. Stone is a garden writer living in New York City.
Jane continued to work actively with publications. She saw her husband’s last book through the press, and finished a book of her own, *The Lady’s Country Companion: or How to Enjoy a Country Life Rationally*. Several years later, she wrote *British Wild Flowers*. *The Amateur Gardener’s Calendar* appeared in 1847. (William Robinson so admired the book that he later re-edited it.) In 1848 Jane finished the last volume of *The Ladies’ Flower Garden* series. The volume, which deals with ornamental greenhouse plants, appeared when the passion for greenhouses and plant exploration in England was at its peak.

Jane spent the remainder of her life living off a small government pension, supplemented by earnings from her books and subsequent editions of her husband’s work (which she re-edited and re-issued). When money was scarce, she and her daughter Agnes would rent the house and go to the Continent, where the cost of living was cheaper.

For awhile Jane was editor of a new weekly magazine launched by *Punch*—*The Ladies’ Companion: At Home and Abroad*. Once again the house served as headquarters for a publication, and Jane was immersed in the work she loved. She was responsible for the entire layout, and contributed many general articles herself. She served as garden columnist, drama critic, and book reviewer, and attended opera and theater performances, concerts, and flower shows. However, even though the journal was well received, her editorship was terminated after less than a year. It was a terrible blow. She rented the house again and headed for Europe with Agnes, financially and emotionally drained.

When Jane was only 50, she became seriously ill. One day she sat alone by the fire and burned all her personal papers. For this reason, much of what we know about Jane Loudon’s life comes from her daughter Agnes’s diary. Not long afterwards, Jane died quietly.

One can only guess how Jane Loudon viewed her life as she lay on her sofa in her last days. In many ways, she had been more fortunate in her marriage than most women of her time, because she and her husband had been companions. Furthermore, Jane had the good fortune to marry one of the few men around who believed in encouraging women to develop all of their intellectual and artistic capacities. He had not only encouraged her to branch out on her own, but he had also taken great pride in her accomplishments.

Perhaps looking back, she had no desire to take on such an arduous role again. But undoubtedly, she knew that she had helped a great man and that she herself had contributed much to the horticultural world. She was the authority on gardening for women all over Britain and America, and would be a source of inspiration for women gardeners to come. As Geoffrey Taylor said, she died “throwing the trowel” to Gertrude Jekyll, who was, in that year, furnishing her first garden at age eleven.

Elisabeth Sheldon manages a small perennial nursery in Lansing, New York. A former painter and teacher, she currently writes and lectures on horticultural topics.

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Aconitum naphelis
ak-o-h-NY-tum nah-PELL-us

Aesculus pavia
AY-see-KUH-luss PAY-vay-ah

Agapanthus africanus
ag-ah-PAN-tuss ah-RIH-kahn-us

Agave horrida
ah-GAV-ee H ORE-id-a h

Ailanthus cathartica
all-ah-MAND-a h cat h-AR-tih-ka h

Anemone
ah-N EM-o h-n ee

Asclepias tuberosa
ass-KLEE-pe e-u s roo-bur-ah

Aucuba japonica
aw-KOO-bah jah-PON-ih-ka h

Boltonia asteroides
bowl-TON E-ee a h ass-ter-oh-EY-deez

Brachychiton
br a-h-k ee-KIE-ron

Buxus microphylla
BUCK-sus my-crow-FLIL-ah

Calycanthus floridus
ka-MIHK-an-thuss FLOOR-ih-dus

Campagallia lactiflora
kah-PAN-yew-lah lack-tih-FLOR-ah

Centauraea
sen-TAW-ree-ah

Circaevtonella mites
sih-row-faw-teen-EE-lah MY-tis

Clematis paniculata
KLEM-ah h-tras/idem-AT-iss

Clarkia univurna
klark-ee-ee un-yew-ner-ah

Cleversia japonica
CLAY-ee-ah

Convolvulaceae
kah-voh-VOOL-vul-ah-seh-ee-ah

Crambe cordifolia
CRAHM-be hore-dik FOE-lee-ah

Diosma cineana
dee-o-MAH-cin-EE-nah

Dictamnus albus
dee-tak-MOHN-nus al-BUS

Dichostemma
DAK-oh-stem-uh

Eucalyptus
YUHK-uh-lip-tus

Euphorbia
you-FOR-pee-bah

Euminium
AY-you-nee-um

Gallium
GAL-ee-iem

Gaillardia
GA-yler-DY-uh

Gaouia
GOH-ee-uh

Gelsemium sempervirens
jal-SEE-um sem-per-VY-renz

Hosta sieboldiana
hoss-tah see-hold-ee-AY-nah

Hydrangea serratifolia
high-DRAH-gee-ee-ah quer-sih FOE-lee-ah

Illcutium floridana
ill-YUS-ee-um flor-ih-DAN-um

Iris brevicaulis
AY-rih brayv-ee-COOL-iss

I. fulva
I. FULL-vah

I. giganticaerulea
I. gye-gan-tee-ah-ee-uh

Ixora
ik-soh

Liriope
ler-oh-PEE-ee-uh

L. novae-angliae
L. NOV-ee ANG-lee

L. principis
L. pro-niss-ee-AL-iss

L. punctata
L. punk-TAH-tah

L. pyrrophylla
L. py-rf-oh-PLAH-yah

L. scabiosa
L. sky-BEAH-sah

L. spectabilis
L.スペクトァビリス

L. squarrosa
L. sqware-ROW-sah

L. thunbergii
L. TUN-berr-ee-ee

Liriope simbaenerys
L. sy-mbe-AM-er-ee-uh

Madia pratensis
MAD-ee-ee-prah-TEEN-siss

Malvaceae
MAL-veh-cay-ee-uh

Maianthemum
mee-AY-ih-THEE-uhm

Mangium floribundum
mahn-kee-yew-BUN-duh

Mammospermum
mam-mo-ser-PER-uhm

Marchantia
MARK-uhn-ee-ah

Marchantia polymorpha
MARK-uhn-ee-ah pol-MOHR-foh

Macropia
MAY-kroh-pee-ah

Mareva
MA-ray-uh

Marlattia
MAYL-uh-tee-ah

Mentha
MENT-thuh

Miconia
MIH-koe-ee-uh

Monarda
MOH-nahr-dah

Moschus
MOSS-uhhs

Myrtus communis
MIHRT-uhss KOO-muhn-ee-iss

Narcissus
NAHR-siss

Nepeta
NEH-pay-uh

Ophioglossum
OH-pee-o-GLOSS-uhm

Oxalis
OUH-liss

Paeonia
PAY-ee-oh-nee-uh

Paeonopsis
PAY-ee-oh-POH-siss

Peperomia
PEP-puh-ROH-mee-ah

Peziza
PEEZ-ee-zah

Phyllostachys
fil-low-Stah-KEE-iss

Phytolacca
fih-TOE-luh-kah

Polygala
POH-lee-GAH-luh

Prunus
PROO-nus

Pulmonaria
pul-mon-AIR-ee-a h

Pulsatilla
poo-zay-TEE-uh

Prunus
PROO-nus

Psoralea
POR-su-lay-uh

Psoralea corylifolia
POR-su-lay-ee koh-RIH-lee-foh-lee-ah

Pyrethrum
puh-RET-uhm

Quercus
KUEHR-kuhs

Rhododendron
roid-oh-DEN-drohn

Rosa
ROH-sah

Saccharum
SAHK-uh-ruh

Salvia
sal-VY-uh

Sambucus
SAM-bee-kus

Santalum
SAN-tal-uhm

Scutellaria
SKOO-tel-uh-ree-ah

Selaginella
SEL-uh-jen-uh-LEE-uh

Sempervivum
seh-MAY-per-vee-uhm

Sphenophyllum
SPEHN-oh-fuh-LEE-uhm

Spartium
SPAHR-ee-uhm

Stachys
STACK-iss

Stachys byzantina
STACK-iss bi-zan-TEE-nah

Stachys lanata
STACK-iss LAN-uh-tah

Stachys lanata
STACK-iss LAN-uh-tah

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Stachys lanata
STACK-iss LAN-uh-tah

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American Horticulturist 39


Gardeners will welcome the publication of the next four volumes of the Taylor's Guide series (see American Horticulturist October 1986 for a review of the first four volumes in the series). Like the first volumes, these books contain beautiful photographs of hundreds of species and cultivars of plants. Brief cultural notes accompany each photograph, and the photographs are linked to text descriptions in the back of the book that contain more extensive information on each plant. The text in three of the books—Ground Covers, Vines & Grasses; Shrubs; and Houseplants—contains descriptions of each genus, brief “how-to-grow” notes, and descriptions of two or three commonly grown species. Vegetables & Herbs includes descriptions, cultural information, and harvesting directions.

Unfortunately, Houseplants fails to provide the reader with a true picture of the vast array of plants available to the indoor gardener. Also, the plants are divided into groups that are not very helpful, such as “Small Foliage Plants,” “Bromeliads and Flowers,” “Lacy Leaves,” “Showy Foliage Plants,” and “Succulents and Others.”

The Vegetables & Herbs volume contains the excellent, color-coded plant charts featured in the first four volumes, but the other three books contain only black-and-white versions. Although these black-and-white charts still contain the same useful information on size, bloom, soil requirements, and use, they are not as easy to use as the color-coded versions. (Also, in two of the volumes these charts appear in the back of the book. It would have been helpful if all the volumes in the series were organized in exactly the same manner.)

All four of these new Taylor's Guides contain information on pests and diseases, a list of sources, and essays on getting started, basic botany, and garden design. Despite their limitations, they contain a great deal of useful information, and would make good additions to any garden library.

Carnivorous Plants of the World.

This is a book no carnivorous plant enthusiast can afford to be without. James and Patricia Pietropaolo are the proprietors of Peter Pauls Nursery in Canandaigua, New York, and have a wealth of experience with carnivorous plants. For 25 years they have grown and propagated these unusual gems of the botanical world at their nursery, and their precise and detailed cultural instructions and propagation information are the highlights of this fact-filled book.

The first half of the book is divided into chapters on the various types of carnivorous plants, including pitcher plants, sundews, butterworts, and bladderworts. Each chapter is then divided into sections on the individual genera in the group. The authors have included detailed information on each genus, including history, natural habitat, plant description, insect trapping mechanism, prey digestion, and descriptions of individual species. The cultural information for each genus includes specific recommendations for planting media, temperatures, dormancy, water, humidity, light, pests, and feeding. Propagation information includes directions for both sexual and asexual reproduction.

The second section of the book contains lengthy discussions of cultural practices for carnivorous plants as well as propagation and hybridization instructions. Source lists, a bibliography and an index complete the
text. Carnivorous Plants of the World is illustrated throughout with black-and-white drawings and also contains 16 pages of color plates.


This handy travel guide is just the thing for any gardener planning to vacation in the eastern half of the United States or Canada's eastern provinces this summer. Written by AHS President Everett L. Miller and amateur garden enthusiast Jay S. Cohen, The American Garden Guidebook contains information about 339 gardens in 28 states and four Canadian provinces.

The entries are arranged by state, and each section begins with entries for one or two outstanding gardens (which the authors have termed "don't miss") gardens in the state. The remainder of the gardens are organized in alphabetical order according to the city in which they occur. The authors also have provided handy maps locating the gardens in each state, to aid the traveler in making plans. Each entry includes a description of the garden, as well as information on special collections, location, hours, fees, tours, restaurants, shops, special activities, and accessibility for the handicapped. The entries for "don't miss" gardens include special tips on spectacular displays to plan to visit, or special services provided by the gardens.

The book concludes with lists of gardens with attractions for children, gardens with no entry fees, gardens with facilities for weddings and other events, and gardens that are particularly attractive in the winter.

Creating a Chinese Garden.

The Chinese garden is a fascinating combination of philosophy, horticulture, botany, art, architecture, and history. It is a complex art form that influenced the development of Japanese gardens centuries ago, and has recently had an increasing influence on Western gardens.

Creating a Chinese Garden combines discussions of the history and development of the traditional Chinese garden with a practical "how-to" look at the individual elements that make up a Chinese-style garden. The book begins with a discussion of the origins of the classical Chinese garden, followed by a discussion of the similarities and differences between the Japanese and Chinese styles. (The earliest Chinese gardens date back 2,000 years, although most of the gardens that remain today in the care of Chinese cultural authorities date to the Ming and Qing dynasties.)

The chapter entitled "Planning and Practice" examines the major design elements that must be considered when planning a Chinese garden, including form and composition, vistas and "borrowed" landscape, and blending nature with art. "Garden Features and Materials" is an idea-filled chapter that includes discussions on the use of water, mountains, hills, rockery, architecture, and plants. The book concludes with an annotated plant list that includes botanical names, common names, and Chinese names of plants that would be appropriate for use in Europe and North America.

David Engel is an American landscape architect and a recognized authority on Oriental gardening. A graduate of the University of Michigan and Columbia University, David Engel also studied landscape gardening in Japan for several years. He is the author of Japanese Gardens for Today and A Japanese Touch for Your Garden.

Whether you want to visit Chinese gardens, create one of your own, or merely incorporate a few Chinese elements into your existing garden, this is an excellent book to select for guidance.


This is yet another sumptuous book celebrating outstanding private gardens in England. As with all books of this sort, it is lavishly illustrated with breathtaking color photographs of outstanding plant combinations, lovely perennial borders, striking vistas, and interesting architectural details. Also included are a great many black-and-white photographs that serve to give the reader a more complete "feel" for the garden.

Peneleope Hobhouse's thoughtful text provides the reader with more than just another pretty picture book, however. The text on each garden contains information on the history and development of each of the 33 gardens featured. Since all but a few of the gardens are still private (the remainder are preserved by the British National Trust), Hobhouse has placed an emphasis on how each garden celebrates the personality and tastes of its owner. Hobhouse provides a "tour" of each garden, and discusses how the current owners have developed the design and plantings. Occasional cultural notes are also included.

Peneleope Hobhouse is the author of "Color in Your Garden and The National Trust: A Book of Gardening.

Barbara W. Ellis

Barbara W. Ellis is Publications Director for the American Horticultural Society, and Editor of American Horticulturist.
Wisconsin—famous for its cheese, beer, and rolling hills—conjures up visions of practical, hard-working midwestern farmers intent on turning virgin prairie into productive cropland. It does not, for all its other virtues, bring to mind pictures of lavish public gardens full of color and fragrance. That image belongs to the East and South, where the aristocracy had the leisure time to make gardening an American art form.

Wisconsin, then, is not the place to see gardens. Or, at least that’s what some people might think—until they see Boerner Botanical Gardens.

Part of the Milwaukee County Park system, Boerner is a botanical showplace that rivals its more famous eastern and southern counterparts. Yet Boerner is in keeping with Wisconsin’s earthy essence, for throughout the gardens is the same no-nonsense practicality that characterizes the entire dairy state. It is a resource for gardeners looking for landscaping ideas, information on plants suited to northern climates, or living examples of cultivars that they might otherwise only see in catalogues. Located in 660-acre Whitnall Park, the gardens are also a relaxing place where urban dwellers can escape the city.

Boerner’s emphasis on the practical is no accident. In the 1920’s, Alfred L. Boerner and Charles B. Whitmull envisioned public gardens and a surrounding arboretum that would be educational as well as beautiful. Whitmull, a park commissioner, decided to locate the gardens and arboretum on an old farm southwest of Milwaukee. In this way, he hoped to preserve the sense of openness that was missing in the city’s tiny parks. During the following decade, Boerner, the county landscape architect, designed the gardens with the intent of combining aesthetics with usefulness.

The first collection, established in the 1930’s, was the flowering crab apple collection, now one of the country’s largest. The lilac collection followed, and has since been combined with a planting of tulips to provide a bright and fragrant spring display. A shady rock and wildflower garden, complete with natural stone walls and a delicate waterfall flowing into quiet pools, was constructed shortly before World War II stalled the gardens’ progress. Other collections were added, one by one, in the three decades after the war—the herb garden, the daylily collection, the perennial garden, the juniper collection, the All-America Selections trial gardens, and others. Boerner now boasts over 30 collections and ornamental gardens, all of which have been designed to provide an attractive “living catalogue” of plants.

Boerner’s current director, William Radler, continues the tradition of keeping the gardens practical. “The nice thing about the gardens,” he explains, “is that the average person can come here and make use of them.” He credits his staff of six for preserving that philosophy: “The gardeners here are really old-time gardeners at heart. A person of that nature can understand the problems the average person has with growing plants.”

Radler, too, is an old-time gardener. Despite his all-encompassing responsibilities as director, he observes minute details in the evolving garden, from the quirks of the sprinkling system to an uneven spot under new sod. And, like all true gardeners, he knows when to worry, when to accept the whims of fate, and when to humbly admit he has erred. He recalls the time someone on a tour of the street tree collection, which is planted in islands in the parking lot, asked why it included trees not adapted to street use. “I fumbled with an answer and lost a little sleep over that one,” he says wryly. “Now we call it the shade tree collection.”

According to Radler, Boerner’s rose collection is the best in the area. The roses
luxuriate in the sun on the gardens' western border, where visitors can also enjoy a vista of native Wisconsin woodlands. As an official display garden for All-America Rose Selections winners, this colorful collection contains approximately 350 cultivars. In addition to the commonly grown hybrid tea roses, it includes grandifloras, floribundas, polyanthas, miniatures, hybrid perpetuals, and shrub roses. The garden also holds a ballot box, where visitors are invited to cast a vote for their favorite rose in each category. The top 10 are printed in the annual "List of Outstanding Bedding Roses," along with Boerner's recommended cultivars.

The list of recommended roses is evidence that Radler, like Boerner and Whitnall, believes strongly in education. "We try to show not just what people are buying, but what they should be interested in,"
PUBLIC GARDENS

he explains. An avid amateur rose hybridizer, he strives to breed roses that can withstand both the brutally cold winters and muggy, disease-promoting summers typical of Wisconsin. Stirred by his love for roses, he has written a pamphlet on shrub roses, based on Boerner's collection.

Boerner's peony collection is also splendid. Snaked along a grassy path near the entrance to the gardens, it contains over 170 cultivars, both new introductions and old classics. The range of colors and their combinations is breathtaking—double whites, salmons and corals with apricot centers, and every hue of red and pink. And the fragrance of the peonies is wonderfully overwhelming, even from the nearby parking lot. At first sniff, gardeners who have dismissed peonies as little more than vehicles for transporting tiny ants into the house are likely to vow to include them in their landscape. And they are also likely to use Boerner's collection as a reference when selecting cultivars.

Radler takes care to extend the peony season with early- and late-blooming cultivars, and avoids having similar colors in bloom at the same time. He evaluates the collection each year, selecting reliable and rain-tolerant cultivars to include in the gardens' publication, Growing Peonies. Eventually, he hopes to train volunteers to collect more extensive data.

In the late summer, the trial garden is the most brilliant area of the park. There, All-America Selections entries are evaluated for their performance. Visitors can wander through rows of petunias, roses, dahlias, marigolds, and other common and exotic annuals and perennials. A key to the numbered identification tags in each plot helps visitors sort through the maze of cultivars.

If the trial garden is the brightest in late summer, then the herb garden is the most fragrant. A combination of both formal and informal planting arrangements, the garden invites visitors to gently rub the tip of a leaf, then enjoy its aroma. Detailed signs give information on the history and uses of the herbs. Special sections are reserved for plants used to dye fabrics and for medicinal herbs.

In addition to the gardens, Boerner offers educational programs and events. The Plant Doctor Clinic, offered twice each week, brings in plant experts from throughout southeastern Wisconsin to answer gardeners' questions. During the year, Boerner presents workshops and classes, such as "Floral Arts Through the Centuries," "Working Wonders with Weeds and Wildflowers," and "Basic Home Landscaping." Periodic plant sales provide gardeners with the opportunity to discover cultivars they may not find readily at commercial retailers.

In keeping with the gardens' educational goals, Radler has re-written a series of pamphlets developed by John Voight, a previous director, including "Growing Tulips," "Growing Tuberous Begonias," "Growing Iris," and "Growing Shrubs." These pamphlets give cultural information and varietal recommendations geared to the short growing season and cold winters of southeastern Wisconsin.

Radler's dedication to Boerner as an educational garden extends beyond displaying an array of plants and providing programs and publications. Boerner's director also crusades for little-known plants and cultivars that do well in the area. One of his pets is the intermediate bearded iris, which he favors because it fills a gap in the bloom sequence.

"When I saw them out in the trial garden the first year, they looked like misfits," he recalls. "But after evaluating these 'misfits' for a few years, I realized that the intermediate beardeds were blooming at a time when little else was. They bloomed with the crab apples, right after the tulips, and before the tall bearded, when we badly needed something in flower."

Radler faces a problem common to many educators—getting his ideas accepted. "I wish people would re-assess their values and not always go for the biggest and the brightest, but plan for a full season of interest. Since people buy the bigger, flashier things, the intermediates have taken a back seat in popularity." He continues, "It's a shame. For the intermediate iris, I'm probably the only big spokesman I know of."

The intermediate bearded iris is just one of many plants that have made it from the trial gardens into a permanent collection at Boerner. The introduction of new plants and the regular updating of the collections allow visitors to evaluate the new plants or simply to enjoy the changing displays. In this way, Radler and his "old-time gardeners" still carry on Boerner and Whitnall's dream of creating a botanical showplace that emphasizes education as well as beauty. —Erin Monica Hynes

Erin Monica Hynes, a native midwesterner, is a writer currently living in Louisiana.
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