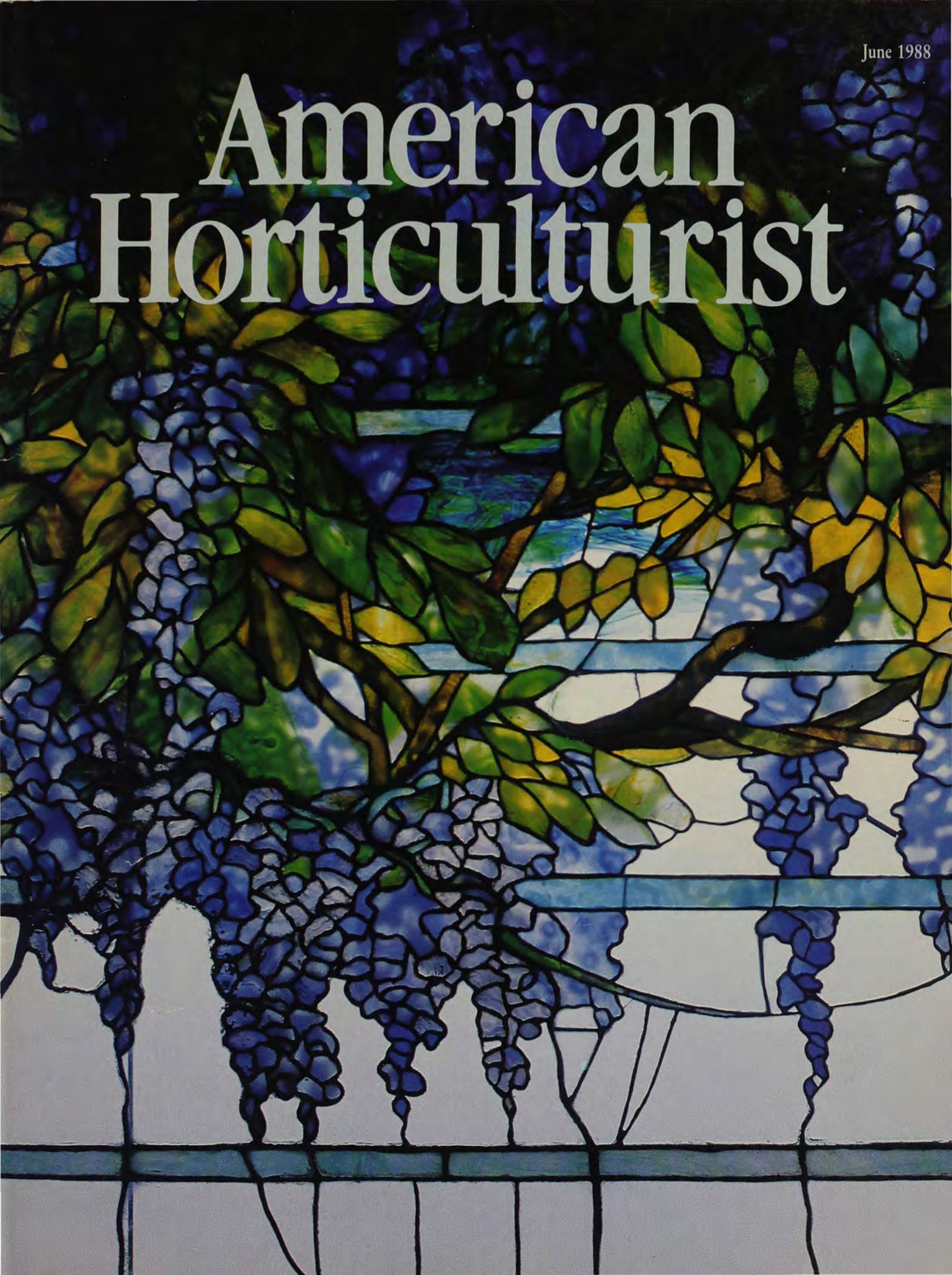
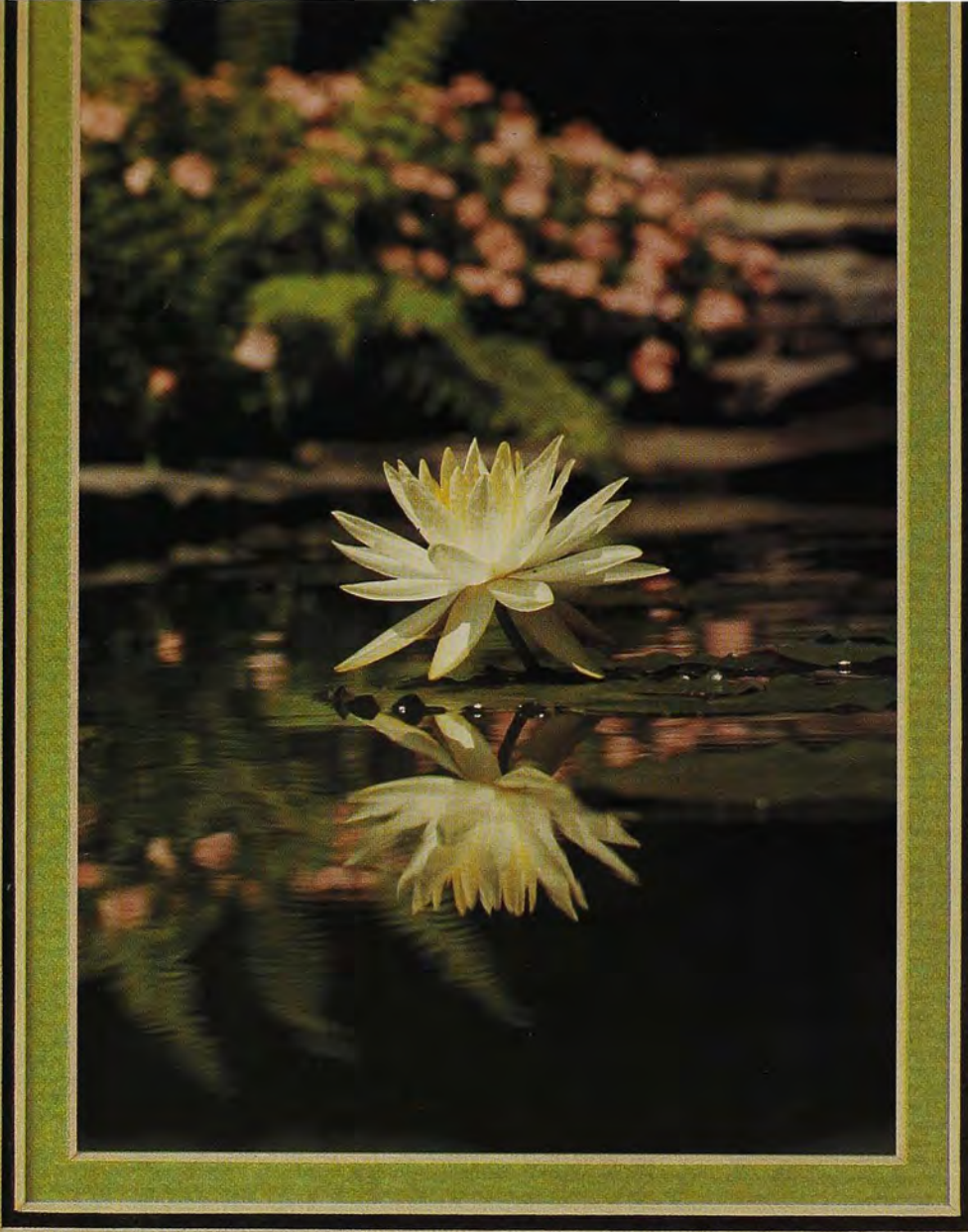


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On the Cover: Though he is best known for his beautiful works in glass, such as this piece from the collection of the Charles Hosmer Morse Museum of American Art in Winter Park, Florida, Louis Comfort Tiffany was a dedicated gardener as well. Turn to page 28 for a tour through his New York estate.

Left: This *Campanula elatines* var. *garganica* prefers a rocky site and reaches only four to six inches in height; other campanulas can be found in an astonishing variety of sizes and habitats. For an overview of this versatile genus, turn to page 22. Photo by Pamela Harper.

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PRESIDENT'S PAGE

Framework for the Future

As you may recall, in my April letter I announced that the Board of Directors has initiated a program to revitalize the traditions of River Farm, where the grounds offer a unique opportunity for us to collect, display, evaluate, and identify plants in a beautiful setting that has niches for all sorts of plant collections.

I am excited to announce that Board Member Roy Thomas, chairman of the Grounds Committee, is already focusing on three areas. In front of the gorgeous, curved brick wall is a sweeping new perennial garden, designed and donated by the members of the Perennial Plant Association. This garden will provide a bright welcome as you enter the grounds, and an opportunity to identify and evaluate plants that truly merit attention.

Niches have been chosen by the Ivy Society to feature more than 100 cultivars. Already you can see the more vigorous ones, the more compact growers, and a myriad of leaf sizes and patterns. You may find the ideal solution to one of your design problems!

The largest project is the Woodland Garden. A generous gift from Mr. and Mrs. Richard Angino of Harrisburg, Pennsylvania, has just enabled Phase I to begin. Eventually, extensive collections of rhododendrons, azaleas, companion shade perennials, native plants underplanted with carpets of bulbs, and hosta will be added.

In order to make these dreams a reality, we need active support from interested plant societies and volunteers eager to be a part of these new "mini-showcases" of gardening achievements. If you belong to a plant society, we urge you to approach its leadership to promote this idea.

Do plan to visit and bring some friends who might be interested in these new horticultural endeavors at River Farm, your Society's headquarters on the banks of the Potomac. We want you, and all of our members, to have a part in restoring the horticultural traditions of this historic site.

Carolyn Marsh Lindsay

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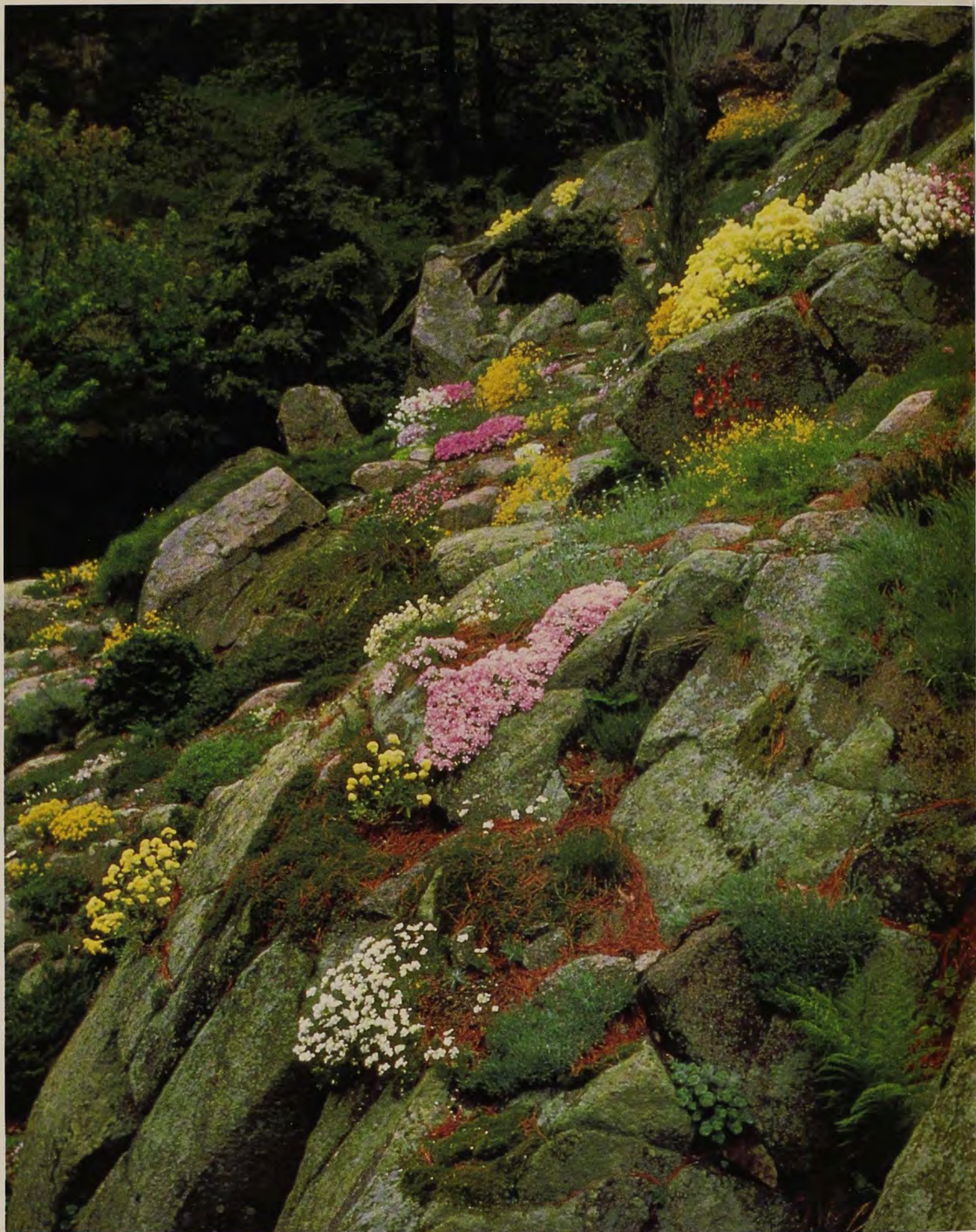
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Photos by Pamela Harper

A Cliff Garden



The beauty the Parrots created remains a permanent pleasure in the minds of their many visitors.

Awkward sites can produce more interesting gardens than level, regularly-shaped lots, but they demand more imaginative treatment and usually involve more work. Few gardeners could have faced a greater challenge than Don and Margot Parrot did when, in 1951, they bought a seventeenth-century Massachusetts house.

The frame and clapboard building was built in the late 1600s and originally stood on the other side of the street. It was moved to its present location in the early 1700s and a back wing was added some time in the 1800s. The extensive grounds include woodland areas, green lawns, and flowerbeds filled with such old-fashioned plants as Solomon's seal and bleeding-heart, but the dominant feature is the cliff garden.

Running along the house is a corridor through which you can walk with one outstretched arm touching the house and the other touching a granite ledge towering up to roof level. There are few cracks in this nearly vertical wall and the granite does not offer hospitable quarters for plants, but because the crevices are few, the plants

persuaded to grow there assume the prominence of paintings on a wall. Picture a rill of light green hen-and-chicks (*Sempervivum*) rosettes trickling down the ledge at a forty-five degree angle; behind, in a duff-filled crevice, lady fern looks even more graceful in contrast to the starkness of the granite. Wild bleeding heart (*Dicentra eximia*) is enshrined in a niche—picture-perfect, unblemished by wind, rain or excessive heat in its sheltered, shaded sanctuary. Meandering along a cleft, the wee cobwebbed balls of miniature hen-and-chicks (*Sempervivum arachnoideum*) are silvery against the dark gray rock, and a tracery of tiny-leaved, self-clinging *Euonymus fortunei* 'Kewensis' decorates a smooth, rounded portion of the outcrop.

It all looks so natural, but that is an

FAR LEFT: A variety of cliff-loving plants cascades down the hillside. ABOVE, LEFT: *Aurinia saxatilis* 'Citrina', *Schivereckia podolica*, and *Aquilegia canadensis* grow beneath a suspended boulder. ABOVE, RIGHT: *Lewisia tweedyi* makes its home between rocks at the top of the cliff.



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THE DESIGN PAGE

illusion. What nature had planted over the
Parrots' cliff, in sufficient abundance to
conceal the rock, was a tangle of grapevine
and honeysuckle. Getting rid of that was
the first task. Afterwards, it took many
tries before plants achieved a toehold.
Margot describes the process: "In the be-
ginning I pried out the old soil and sub-
stituted what I thought would be more
suitable. It never worked very well; it stayed
too light and fluffy and dried out too
quickly. So I learned to use what was al-
ready in the cracks—an antique humus,
very dense and black and moisture-retentive.
I slipped in the seedlings as early in
the season as possible with minimal dis-
turbance of the soil. More mature plants
never did very well. They couldn't seem
to get their roots down far enough into
the cracks to get through the summer heat
and often wouldn't fit into the narrow
cracks, which were seldom more than half
an inch wide. In vertical cracks, in order
to avoid washouts, I jammed in pieces of
fern root, cut a bit larger than the crack.
Eventually, after the plant above was well
established, this rotted and added humus."
Unpromising though growing conditions
seemed, some plants did better in cliff cracks
than in lush sites elsewhere in the garden,
among them low shrubby *Penstemon*,
Alyssum, pinks, and campanulas.

It is hard to imagine why earlier owners
chose to put the house so close to this
miniature mountain, especially when an
upward glance from one end of the can-
yonlike path lights apprehensively upon a
large slab of rock looming overhead, bal-
anced between upthrust parts of the ledge
like a booby trap over a door and looking
as if a strong wind might send it hurtling
down. The Parrots feared that their chil-
dren, in a moment of exuberance, might
topple it, but the children are grown, and
the rock has not budged. Its apparently
precarious balance imparts tension and ex-
citement, but it is firmly settled into place.
This strength is a foil for the delicacy of
scarlet columbines (*Aquilegia canadensis*)
growing under the overhang.

Below, the rock slopes sharply down,
weather-smoothed and encrusted with li-
chens. Here, at bedroom-window level, pale
yellow basket-of-gold (*Aurinia saxatilis*
'Citrina') has pride of place, an ordinary
plant made extraordinary by its setting.
Small grayish, felted leaves and a froth of
pale yellow flowers are displayed against
the gray and chartreuse of the lichens. A
few feet away a rarer plant, white-flowered

Schivereckia podolica, has been coaxed to grow in the granite.

Where the cliff drops away, a fault in the rock had created a gully. Margot spaced out three rocks to make pockets for planting and to slow erosion, and this dry stream is now dotted with colorful little plants: *Aquilegia bertolonii*, *Potentilla alba*, a yellow *Alyssum* species from the Pirin mountains of Bulgaria, and *Geranium sanguineum* 'Album'. One of the nice things about mature gardens is the way spontaneous seedlings crop up, provided no tyros are allowed to weed; as many good, new forms of plants have probably occurred this way as through deliberate hybridization. One such plant in the gully is a small, tight form of *Phlox subulata* in a particularly pleasing pink. There is also a mystery plant that tantalizes visiting experts. It resembles the *Schivereckia* but has glossy green leaves instead of gray ones, and its flowers are a pale straw color. It also bears some resemblance to the mats of *Draba sibirica* growing nearby. Margot hazarded a guess that it may be a hybrid between these two, but as only a bee attended the nuptials she cannot be sure.

Out beyond the house the ledge gives way to a rocky bank bounded by lawn and open to the sun. Here Margot, the gardener, and Don, her willing helper, created an extension to the cliff from what was originally a rockless bank with weeds, grasses, two large Norway maples, and a moribund apple tree. Daylilies at the bottom had run wild and were working their way up the bank. Working on one small area at a time—"I'm not good at large-scale planning"—rocks were moved in from the surrounding woods and only the most weathered and lichen-covered were chosen. The subsoil was improved with humus, and at first sand was added as the garden books directed. Margot soon realized that the soil was drying out too quickly and no extra drainage was needed on this steep slope.

In areas of heavy rainfall, erosion is a problem on steep banks. I asked about this. "At first," said Margot, "there was enough rank growth so that erosion was minimal until we started taking out weeds and disturbing the soil. We had to be quick about getting rocks, plants, and gravel mulch back in place. A deep gravel mulch is a big help and I use a mixture of three sizes—pea-stone, one-inch, and two-inch—to give a more natural look. The water now seeps in slowly except in the heaviest rains. Dur-

ing one of the hurricanes there were deep rivers running down the hillside, leaving eroded gullies ten inches deep, washing out all the recently placed plants, and leaving the old established ones upon little peaks of soil held together by their roots. Very discouraging, since all that soil had to be lugged up the hill again."

The bank faces west and southwest and after a baking August day the rocks are

often hot to the touch. A lot of time used to be spent holding a hose, but in due course a home-grown sprinkler system was installed, designed to give a very fine spray to avoid erosion. Books often advise that watering should be done early in the day because wet foliage at night encourages diseases. Margot did not find this to be so, and a cooling evening mist from the sprinklers rejuvenates drooping plants.



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THE DESIGN PAGE

There is no obvious track to the top of the cliff. At first you go mountain goat style from rock to rock, eyes down to admire the flowers and to watch that you don't step on them. On reaching the plateau atop the ledge, you walk single file on a pine needle path between tumbled boulders, among drifts of pink phlox, yellow alyssum, and other carpeting plants.

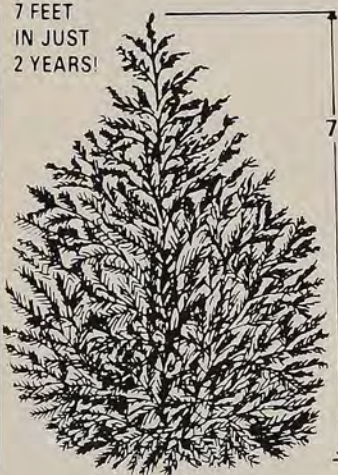
Awkward sites can produce more interesting gardens than level, regularly-shaped lots, but they demand more imaginative treatment.

Then, where the ledge falls away to woods below, you kneel in homage to a jewel in the crown of a rock—*Lewisia tweedyi*, growing as it likes best with thonglike roots deep in a rock fissure. "Without question (it is) the most beautiful of the lewisias and would rank near the top of any list of the best alpine of the world," said Linc Foster in his book, *Rock Gardening*. A native of west coast mountains, it is not so rare in the gardens of alpine plant enthusiasts, but it is tricky to grow and not often as fine as the superb display in this clifftop eyrie.

Gardens containing both alpine plants and woodland wildflowers are characteristic of New England where the terrain is commonly rocky woodland, unlike the Alps or the Rockies. The other end of the outcrop is shaded by tall trees. Here, in the craggy face of the cliff, is what seems to be a natural pool, fringed with ferns. Not quite. "We poked around with an iron rod to make sure there was enough depth for a pool and then dug it down to about two feet, where we encountered more ledge. We then built a concrete bottom to finish out where the ledge left off, and a concrete wall for the front." You would never know that the pool is not entirely nature's work.

Beyond the pool, in a tree-shaded corner, grow woodland plants from many lands. Trilliums, woodland phloxes (*Phlox stolonifera*, *P. divaricata*), crested iris, and maidenhair fern, all east coast natives, mingle with California and Canadian trout lilies (*Erythronium* spp.), primroses from England, and European ginger. The Japanese contingent includes many *Epime-*

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dium species plus the exquisite *Glaucidium palmatum* with bold maple-like leaves and large, satiny, four-petalled flowers of pale lavender or white. This was grown from seed. Margot, a member of the American Rock Garden Society, took full advantage of its seed list and plant exchanges.

Some rock garden plants would not grow in the granite, others needed an eastern exposure, so beyond the house and opposite the cliff, a tufa wall was built. Tufa is porous limestone of rather spongelike appearance formed by deposits from springs and streams. Plants can root into tufa and here flourish such uncommon things as *Kabschia saxifragas*, small *Draba*, *Androsace*, *Phyteuma comosum* from the limestone crevices of the Alps, fragrant *Daphne arbuscula*, small *Dianthus*, and primulas. Two small ferns, maidenhair spleenwort (*Asplenium trichomanes*) and rusty-back fern (*Ceterach officinarum*), took to the tufa wall after refusing to grow anywhere else in the garden.

Rocks are the perfect harmonizer for a collection of little plants, but some of the tiniest look rather lost in such an expansive setting. For these Margot made hypertufa troughs. Hypertufa is a man-made mix of peat, cement, and sand or perlite in varying proportions to give the look of natural stone. There are a number of formulas. For her first trough Margot used two parts peat, one part cement, and one part sand. To make the others less heavy, she replaced the sand with perlite. One, of irregular shape, was molded in a hollow shaped out of damp sand, one inside a plastic tub, and the smallest in a dishpan. To prevent the mixture sticking to the molds, they were lined with the lightweight plastic bags in which garments come back from the cleaners. The troughs house such collector's plants as *Draba dedeana*, *Primula frondosa*, *Dianthus pavonius*, *Douglasia vitaniana*, and *Erigeron compositus*.

Since my visit to Don and Margot's unique garden, they have left their cliffside and settled where a new garden will be easier to maintain. But the daunting project they took on years ago and the beauty they created will not soon be forgotten by their friends; such a garden remains a permanent pleasure in the memories of the Parrots' many visitors.

—Pamela Harper

Pamela Harper, Seaford, Virginia, is owner of the Harper Horticultural Slide Library and is a frequent contributor to *American Horticulturist*.

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Plants Perfect for Cutting

I am addicted to flower arranging.

It all began with a simple flower garden and a love of having a basket of flowers on the kitchen table; now it has grown into a garden where everything is planted with future flower arrangements in mind. Trees, shrubs, edging plants, even my herb and vegetable plots, are subject to my flower arranger's eye. The blossoms of chive, for instance, dry beautifully and work well in small bouquets; a few leaves of red lettuce can be tucked into a bowl of green 'Envy' zinnias for a striking effect.

The same principles of design that govern landscaping also govern arranging. Each composition should have balance, a proper proportional relationship of all elements to each other and to the composition as a whole, and contrast for the sake of rhythm and interest. To take it a step further, con-



Ellen Vincent

It all began with a love of having some flowers on the table; now everything is planted with future flower arrangements in mind.





Joanne Pavia

sider when planting outdoors how a plant will look indoors.

Even the smallest garden can be made practical for cutting purposes. When you choose plants, bear in mind these characteristics: Does it flower? What is its lasting quality when cut? Is it fragrant? Is it available during the barren seasons? Does it have good form or color when viewed up close? Does it have interesting foliage?

If you think of these characteristics, you will choose plants that more than likely will work well together when placed in the same container. Don't be afraid to experiment and to move things after they have been planted; my garden is always changing. The yellow evening primrose that I inherited when I moved in does give lovely early summer color, but its habits are annoying. It spreads where I don't want it and it is of little value for cutting. I've dug up most of it and given it to friends who are just starting gardens and who may decide that its sterling qualities outweigh its drawbacks.

Incorporating a flower arranger's strategy into your gardening practices can be fun. You can begin in a small way, by choosing annuals that are good for cutting and are in colors that will work with your living room decoration. From there, move to perennials and choose different plants for their variety of bloom and even their foliage. Shrubs follow; every flower arranger likes to have euonymus in the garden for its long-lasting foliage.

Trees may be an afterthought to most arrangers, but they are considered first when planning a landscape. There are many excellent specimen trees that do well in arrangements. Flowering cherries, crabapples, dogwoods, and magnolias, holly with its sharp green leaves, and the pale bark of birch are all dramatic accents in a garden as well as in a mixed arrangement. The miniature red-leafed Japanese maple's foliage is also worthwhile and small enough to be easily placed into various garden landscapes.

Zinnias' bright colors, combined with stout stems, are a mainstay for arrangers.

There is a wide selection in the choice of shrubs for a mixed garden border. Some that go almost unnoticed in my garden but are later handsome additions in a flower arrangement, include cotoneaster, spirea, *Potentilla*, and dwarf hollies. Ground covers such as pachysandra, vinca, and ivy are essential; a bowl filled with pachysandra can be a long-lasting base for many arrangements.

Shrubs that are more dramatic and that tend not to recede into the background include the azaleas, *Enkianthus campanulatus* with its autumn foliage, the many species of euonymus, firethorn (*Pyracantha*) with its orange-red berries, and many of the dark green yews and silvery-gray junipers.

Hedges are the place to grow such delights as forsythia, bush honeysuckle, old-fashioned mock-orange, rugosa roses with their large hips in late summer and fall, and my favorite, lilacs. I have a long hedge of white lilacs that not only shields my yard from the road but fills the late May air with delicious scent. White flowers with a few dark green leaves set in a white or colored pitcher always look striking, anywhere in the house. In the fall or winter, a few branches of dark-green yew or a lighter juniper combined with one or two purchased flowers will easily lift your spirits.

If I consider my shrubs and trees to be the structural parts of my arrangements, then what are the flowers? They are the joy, the color, and the source of my creativity. One of the most important parts of a plan is to ensure continued bloom throughout the season, beginning as early as you can with spring tulips and daffodils and continuing through fall with chrysanthemums and such late bloomers as *Helium autumnale*.

Though my garden is large, encircling my yard and continuing in raised beds around a stone terrace, a garden does not have to be big to provide lots of bloom. For small yards, one interrelated plan can be effective. A border five feet wide and ten feet long can work just fine for starters. Be sure to plant in groupings, using at least

SEASONABLE REMINDERS

three to five plants to make a distinctive showing of color and to give you enough to cut.

Repeat masses of color at intervals the whole length of the border. In between, use flowers that are complementary, or use darker and lighter shades of the same color. Think of the forms of the flowers; you need a mix of textures and shapes to provide

interest in the garden and in your arrangements.

Seed catalogs are good places to start in planning a cutting garden. Look for plants that are labeled "good for cutting." This usually means that the flower will hold up well after it has been picked. Flowers with long, firm stems are good, though stems can be strengthened by the addition of a

thin florist's wire. Avoid flowers that fade quickly or fall apart soon after cutting.

Annuals, with their long blooming period and the fact that the more they are cut the more they bloom, are the mainstay of a good cutting garden. They are also easy to grow, fairly free of disease, and come in a wonderful variety of shapes and colors. Annuals can be tucked in between

Making Cut Flowers Last

Would you be willing to dip a columbine stem in oil of peppermint? Or stuff a daffodil stem with cotton? Would you apply egg white to tulips or give them a teaspoon of gin?

Some people will go to great lengths to make cut flowers last a little bit longer. Many unusual treatments have been passed on through the years. Perhaps a few will add a day or two of life to a fading arrangement, but many have no validity at all.

Joseph Seals, owner of The Country Garden, a nursery specializing in the best flowers for cutting, has tested a variety of methods for making flowers last. Seals offers practical advice and straightforward solutions. "The object is not to make it a chore," he says, "but pure enjoyment instead." With just a bit of effort, some simple procedures, and a few scientifically sound tricks, you can admire your flowers even longer.

Gathering

Placing blooms in baskets or garden trugs may seem romantic, but it is the worst way to treat your flowers. Seals emphasizes the single most important trick for getting the most from cut flowers—put stems immediately after cutting into a clean bucket of warm water. This means carrying a bucket with you into the garden.

There are a few other pointers that don't take additional time but make a difference.

Time of Day: Morning or evening is the preferred time for cutting. At midday flowers have low turgidity and few stored starches.

Cutting: Always slice stems cleanly with a sharp knife or a pair of pruners. Don't break, pull or twist stems.

Flower Choice: Mature garden flowers quickly fade. Choose newly opened flowers or those still partially in bud.

Arranging

Good hygiene can make a difference. Containers and vases should be sparkling clean. A ten percent bleach and water solution works well for sterilizing vases as well as buckets, knives, and pruners.

Recutting the stems underwater, although sometimes awkward, does seem to help. This practice, if the stems are quickly moved to the arranging container with a clinging drop of water, is said to prevent air from entering the stems and obstructing the absorption of water. Is it worth the trouble? Experiment and see.

It is tempting to follow some of the old-time advice that includes mashing, splitting, or stuffing flower stems. Seals claims "it's great therapy for tension, but it doesn't do a thing for the flowers."

Remove all foliage (cut cleanly, don't tear) that will be below the surface of the water. Submerged foliage will decay.

Special Considerations

Some garden flowers with sap that bleeds after cutting need to be treated specially. Searing with a flame is often recommended, but this can be dangerous. The best method is to quickly dip, for about 30 seconds, the cut end of the stem in a pot of boiling water. Be sure to shield the blooms from the steam.

Plants in the Papaveraceae (Poppy family), Euphorbiaceae (Spurge family), and the Asclepiadaceae (Milkweed family) need this treatment. This includes poppies of all kinds and other flowers such as *Asclepias tuberosa* (butterfly flower) and *Macleaya cordata*.

Conditioning

Florists and commercial growers often use a process called conditioning to maximize the life of cut flowers. Conditioning

creates the maximum turgidity, filling the plant tissues to capacity with water. In most cases this process is not worth the effort for the typical gardener who wishes simply to enjoy bouquets, but those with the time may wish to experiment.

After gathering, stems are recut under water and quickly transferred to a deep, clean container of warm water. Cut stems are immersed almost up to their blooms and placed in a cool, dark, humid place for six to eight hours or overnight. Stems are recut again prior to arranging.

Filling Your Vase

Plain tap water will still work in a pinch, but research shows that certain additions can make a big difference in lasting power. Most of these, like the small packets supplied by florists, work by providing energy-producing sugars and a pH which inhibits the growth of bacteria.

Researchers at the University of California-Davis discovered that an equal mix of non-diet lemon-lime soda and warm water will prolong vase life. The soda provides clean water, acidity, oxygen, and sugar—the ideal cocktail for cut flowers! Generic soda can be purchased inexpensively and mixed with water for longer enjoyment of your arrangement.

Gardeners who have hard water or commercially softened water should use bottled or distilled water in place of tap water.

Aftercare

As water evaporates, keep the vase filled to the top. Place arrangements away from direct sunlight and drafts. After the flowers fade, grab a bucket and pick some more. The joy of a garden planned for cutting is never being without the charm and exuberance of flowers in your home.

—Laura E. Coit

Assistant Editor, Horticulture

the perennials or shrubs or even among the vegetables.

I have learned to rely on certain annuals for color and shape, indoors and outdoors. For instance, zinnias are a mainstay for an arranger's garden, with a wide range of colors available. I like the single color offerings rather than the mixed groups as I have a bit more control on what is chosen. The apple-green 'Envy' zinnia mentioned earlier is distinctive in a bouquet. Cut-and-come-again zinnias are also good because they do just as their name implies.

Cosmos are easy to grow and will thrive almost anywhere. The old-fashioned singles in white, pink, and purple are colorful and long lasting once cut. The double types, such as 'Diablo', are smaller and add a perky touch to a small arrangement. Try to avoid the mixed packages but look instead for seed packets of one color and sow them yourself directly in the garden in the early spring.

The small flowers of calliopsis, or annual coreopsis, come in shades of yellow, orange, deep mahogany, and crimson. Even after all the petals have fallen off, their brown stigmas and feathery foliage are delightful.

These are only three, and the list of annuals is long. Try anything that appeals to you. One I always start from seed is *Salpiglossis* or velvet flower. Its trumpet-shaped blossom gives an elegant touch to an otherwise simple arrangement. Others I always sow are asters, nasturtiums for their sunny leaves and bright blooms, petunias, snapdragons, spiderflower (*Cleome*), gloriosa daisies, and *Helianthus*. Others, not quite annuals but grown as such, include gladioli in unusual colors and dahlias with their showy blooms.

There are so many perennials, it is difficult to know where to begin. I add at least two each spring to my already crowded garden, but how can one resist? If I had to make choices I would insist on having yarrow, astilbe, and the all-summer flowering *Heliopsis helianthoides* for their constant bloom. Coralbells, with their small pink or white flowers, lighten any arrangement. The leaves of lady's mantle and its feathery bloom of later summer are a good choice. Peonies are excellent for lush, exotic flowers and have foliage that can be used as a base for arrangements all summer long. The back of a peony leaf, with its silvery-gray cast, can be used as often as the darker green side.

Other musts include iris, delphinium for

its grandeur, and all the veronicas and salvias. Optionals are perennial asters, *Helium* for the early fall, feverfew, *Allium*, monkshood, baby's breath, and the whole range of lilies. Biennials would include foxglove and sweet William.

There are so many perennials, it is difficult to know where to begin. I add at least two each spring to my already crowded garden, but how can one resist?

A row of lavender makes a good edging plant and its silvery leaves and purple-spiked flowers are excellent in a small arrangement. The silvery artemisias are good additions too; their foliage holds up well and provides a good mix with many flowers. Hosta foliage is very handsome and a good choice for a shady spot in your yard.

If you plan accordingly, flower arranging will not stop in the winter. Many flowers dry well, but even easier to dry are the handsome ornamental grasses. Not only do they add a distinctive touch to a border, but they also look graceful in a natural setting. Try to include zebra grass (*Miscanthus sinensis* 'Zebrinus'), maiden grass (*Miscanthus sinensis* 'Gracillimus'), purple moor grass (*Molinia*), and fountain grass (*Pennisetum*).

If I lived in a house on a small lot instead of in the country, I would still have my cutting garden. In it I would plant a euonymus, a small juniper, a peony, three heliopsis, three veronica, a dozen daffodils, and as many zinnias and cosmos as I could squeeze in between the plants. But since I am blessed with space, my problem is not deciding what to plant but knowing when to stop. There is always something new to try—a new lily, a bicolor cosmos, or some new cultivar seen in a catalog.

My year-long delight is that the beauty of my garden can be brought indoors, and I have the fun of creating new ways of enjoying each shape and color.

—Patricia Barrett

Patricia Barrett, Great Barrington, Massachusetts, is a garden writer and a feature writer for a daily newspaper.

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Timothy Boland

MAGNOLIAS

Past and Future

Winter is one of the great seasons for horticulture. It gives one time to pause, to imagine next year's plantings and propagations, to sift through the catalogs, to rummage in the library and research the plants that caught the imagination during the planting season.

This past winter I turned my attention to the origins of the Chinese magnolias, especially the ones once favored by the emperors, seeking to find out how they had come to grace the backyards, parks, and avenues of the Western world.

The ornamental plants that were cultivated for millennia in China are still among our most gardenworthy species, particularly some of the plants long associated with temple gardens and imperial parks: the peony, the cherry, the chrysanthemum, the ginkgo, the lacebark pine, and the magnolia. It is with magnolias that the legends of the ancients, the jottings from botanists' journals, and the field notes of the unsailable plant explorers all intertwine into a rich history.

Magnolia, to the majority of us, means the rosy purple- and white-flowered saucer magnolia (*Magnolia X soulangiana*). This common plant is actually a hybrid of two dissimilar Chinese species, blended 150 years ago by Etienne Soulange-Bodin, a former officer in Napoleon's cavalry. Indeed, one of the highlights of the New England horticultural season is the bloom-

ing of hundreds of saucer magnolias en masse during late April in Boston's Back Bay. Most magnoliaphiles, however, lean in another direction, favoring instead the rare and unadulterated species or tending to dabble in the gene pool themselves.

It usually surprises people to find that there are over seventy-five naturally-occurring species of magnolia worldwide. They are concentrated in Asia and North America but range from southern tropical islands, such as Cuba and Sumatra, through the warm and humid slopes of the Himalayan foothills to colder areas such as Cape Ann, Massachusetts, and Hokkaido, the snowy northern island of Japan. They are arguably the prime ornamental tree species, and it is surprising how many species and cultivars are available once one does a little prospecting in the catalogs.

Chinese magnolias in particular hold a special interest for me. Some, such as *Magnolia campbellii* or *M. sargentiana*, have outsized flowers over ten inches across in extraordinary lush colors of rose or soft pink. They are native to the balmy regions of China and have so far been successfully grown only in the mild climates of Great Britain and the Pacific Northwest.

Incredibly, Chinese magnolias are still being introduced; three new species, *Magnolia biondii*, *M. zenii*, and *M. amoena*, did not reach Western horticulture until 1977. Their tolerances are now being established as cuttings slowly filter into eager propagators' hands across the country.

LEFT: *Magnolia X soulangiana*.

BY ROB NICHOLSON



Photos by R.B. Figlar

The Yulan, *Magnolia denudata* (syn. *M. heptapeta*), has the longest history of cultivation of any magnolia, having been grown in China since at least the Tang Dynasty (A.D. 618-907). It was often planted in courtyards or temple grounds and was considered an expression of springtime and a symbol of purity. The lavish, expansive gardens of the Chinese emperors included plants brought from all corners of the kingdom, some of the more tender species being grown under glass. William Chambers, an English visitor to China in the mid-seventeenth century, reported, "... they plant among them, in regular forms, divided by walks, all the rare shrubs, flowers and trees of the torrid zone; which they cover, during the winter, with frames of glass, disposed in the form of temples, or other elegant buildings. These they call conservatories: they are warmed by subterraneous fires, and afford a comfortable and agreeable retreat, when the weather is too cold to walk in the open air."

The Yulan is one of the hardiest Chinese magnolias, although the limits of its natural range have been confused due to its spread by man over the centuries. Western plant collectors at the turn of this century wrote of seeing specimens in China eighty feet tall but remarked that they seldom found a good stand of large trees.

It is a precocious magnolia; that is, its flowers appear before it leafs out. These flowers are of a singular grace and beauty, with texture and form that is classical in line and elegant in effect. Their color is reminiscent of aged ivory, with nine obovate tepals (not clearly petals or sepals) forming at its fullest expansion a bloom six to seven inches across. The plant derives its *nom de jardin*, "The Ivory Nude," from its blossoms' distinguished color and the tree's lack of foliage when they appear. The original Western description of the plant is perhaps still the best. The Frenchman, Cibot, wrote in 1778, "It is said to resemble a naked walnut-tree with a lily at the end of every branch."

Specimens in this country apparently have not matched the size of some of those reported from China. The finest plant I know is in Boston's Back Bay, located on Commonwealth Avenue across from the Ritz Hotel. About a hundred years old, it is planted alongside a brownstone and grows to the middle of the third story, showing a dome-shaped crown some thirty feet

across. Its flowers bloom a full two weeks before the neighboring saucer magnolias, and this may be the plant's worst failing. Its blooms, as anxious to declare spring as any New Englander, are sometimes punished by late cold snaps for their premature forecast and turn a dingy brown.

More often than not, the display is spectacular. Thousands of blooms cover the tree, slowing traffic even in rush hour. My favorite vantage point is closer, underneath and looking up through the canopy of creamy white flowers contrasting with the gun-gray branches.

Due to its hardiness and fine flowers, the Ivory Nude has been used for generations by hybridizers. Its matings with weaker-blooded magnolias have imparted some resilience to the resulting progeny, often yielding new color forms. *Magnolia* X *soulangiana* was such a breakthrough, hybridizing *M. denudata* with *M. liliiflora* (syn. *M. quinquepeta*), a shrubby, less hardy species with burgundy blooms.

Contemporary hybridizers such as the Brooklyn Botanic Garden's Eva Maria Sperber have valued the Yulan's pale flower color, using it as a neutral palette on which to blend color. She paired it with *M. acuminata*, an American native that has a small, inconspicuous, yellow-green flower. Her successor, Doris Stone, nurtured and compared the offspring for ten years, and in 1978 the Garden selected and named a true champion. 'Elizabeth' is a vigorous arborescent cultivar and like *M. denudata* has precocious flowers. But this cultivar distinguishes itself with its large, clear, pale-yellow flowers; a remarkably delicate color that captures the essence of spring.

Although *Magnolia* 'Elizabeth' is a patented cultivar, nurserymen willingly pay

Continued on page 36



LEFT: *Magnolia* 'Elizabeth' displays a delicate color that keeps it much in demand. RIGHT: 'Galaxy' is an outstanding new hybrid, one of the products of a well-designed breeding program.

Beautiful Garden

Text and illustrations by Peter Loewer



Little Wood Satyr

Conjure up the thought of a garden in full bloom and I'm sure your imagination will add the iridescent wings of butterflies flitting from flower to flower, like bits of colorful confetti bobbing in the brilliance of the afternoon sun. No other family of insects that visits the backyard is met with such warm hearts and happy thoughts.

The first butterfly to visit our garden in the Catskills flies in on the breath of frost. It's called the Spring Azure (*Lycaenopsis argiolus*) and is a little over one inch wide when its wings are spread. It often abandons its chrysalis when snow is still on the ground. Few flowers are blooming when these light blue sprites fly about the hemlocks and pines waiting for the first trailing arbutus or bluets to open. Our scree bed is not far from the edge of the woods, and the Spring Azures quickly find the yellow flowers of the *Draba lasiocarpa*. Once the garden is in full bloom, they will occasionally visit early in the morning or late in the afternoon but seem to prefer the cool shadows of the woods.

A Spring Azure caterpillar prefers flowering dogwood (*Cornus florida*), which it finds in our neighboring woods; sumac (*Rhus typhina*), represented by a thicket next to our bulb bed; black snakeroot (*Cimicifuga racemosa*), which grows in our garden next to a Japanese maple tree; and meadowsweet (*Spiraea salicifolia*), a plant that grows in our adjoining meadow and in the wild garden.

Around the beginning of May, the Cabbage White (*Pieris rapae*) floats over the edge of the hill behind the garden and flutters from one end of the border to the other in search of the vegetable garden. Its wingspread varies between one and a half to nearly two inches and there is a darkened spot at the tip of each forewing. It was introduced into Quebec about 1860, and with the unerring judgment of a world traveler, quickly made a home for itself over the entire continent from southern Canada to northern Mexico. The caterpillar, as most gardeners know, is partial

Visitors

to all cultivated members of the Cruciferae family.

Our next garden visitor is the Mourning Cloak (*Nymphalis antiopa*), a three-and-a-quarter-inch beauty with deep purplish-brown, velvety wings edged with yellow and a black band with blue spots. Though science is unsure whether the Mourning Cloak overwinters in a chrysalis, it is known to sleep through the snow hidden in a sheltered spot, often leaving its winter sleep while snow is still lingering. It then spends most of April deep in the woods waiting for the first violets. The flowers of its choice in our garden are the various spring-flowering lungworts (*Pulmonaria*), which start to bloom in mid-April. A particularly lovely sight is the vision of this butterfly flying in and around a planting of bright yellow tulips. The caterpillars choose willow, poplar, and sometimes roses as their favored food.

But it is not until the end of May, when the nights are warmer and many garden plants are in full bloom, that the majority



Skipper

of our visiting butterflies make their appearance.

The Little Sulphurs (*Eurema lisa*) are about one and a half inches wide with sulphur-yellow wings edged with dark brown to black. They have suffered condemnation by association with the Cabbage Whites, but in the north their caterpillars prefer clover (*Trifolium*) instead of other vegetable greens. Peripatetic by nature, Little Sulphurs have been seen flying far out into the Atlantic, their numbers making a yellow fog on the horizon, often going over six hundred miles from shore and sometimes landing in Bermuda.

When the various pinks bloom in the rock garden and scree bed, their sweet cin-

namon scent calls the Tiger Swallowtail (*Papilio glaucus*) from the wildflowers of the field into the cultured garden, and it will wander from flower to flower until late afternoon. Few wings are perfect; as the summer approaches you will spot various rips and tears in the edges of the wing and often broken tails. But as long as they can remain aloft, they will fly. They are so involved with the nectar they find—almost drunken in their manner—that you can slowly approach and watch their busy tongues at work, taking care not to allow your shadow to fall over their eyes. Often as much as six and a half inches wide, these lovely yellow and black gliders live east of the Rocky Mountains. Their caterpillars are solitary folk, living within a nest made of one leaf, folded over at the edges, tied with silk, and usually found high up in a tree, preferably wild cherry or poplar.

The Red Admiral (*Vanessa atalanta*) appears when the thistles are in bloom. Lovely things with wings banded in bright orange on brown with the forewing mostly black with white spots, these two-inch beauties seem to like our garden's yellow knapweed (*Centaurea macrocephala*), then they move to the field where the burdocks and the pasture thistles (*Cirsium pumilum*) bloom. The larvae prefer nettles and hops, and we allow free reign to the nettles in an area near an old barn foundation. There the solitary caterpillars live in silk-lined leafen homes, their edges folded over with more silk fastenings, exiting by day to dine on their food of choice.

When the heat of July begins to build and we start to water the garden, the Skippers appear. These insects are a combination of butterfly and moth and earned their common name because their flight is swift and darting. When at rest, their wings are not held high but slightly folded over.

The Silver Spotted Skipper (*Epargyreus clarus*) is the species most likely to visit our garden. About two inches across, the wings are a chocolate brown with the forewings touched with irregular yellow-gold and silvery-white spots that appear when they are at rest. They seem to enjoy feeding



Red Admiral

"And what's a butterfly? At best, He's but a caterpillar, dressed."

—Frank E. Lutz

The butterfly's cycle of life is not a simple thing, as it depends a great deal on the complex relationship between the butterfly and the flower. Butterflies begin life as caterpillars and caterpillars are voracious eaters, born to chew, and the leaf is their chosen food. While many species are indiscriminate and will happily eat whatever leaf appears in their path, others can survive only on a few, sometimes only one, plant species.

The Purplish Copper (*Lycaena helioides*) caterpillar, for example, feeds only on docks (*Rumex*), knotweed (*Polygonum*), and false baby's breath (*Galium*); the American Painted Lady (*Vanessa virginiensis*) enjoys all the everlastings including pussy-toes (*Antennaria*) and the pearly everlastings (*Anaphalis*); the familiar Monarch (*Danaus plexippus*) caterpillar can only exist on milkweed (*Asclepias*)—though when pressed, the larva can eat members of the Nightshade family (*Solanaceae*); and the Great Spangled Fritillary (*Speyeria cybele*) will only feed on violets.

Many times this preference for a specific food is so intense that female butterflies lay their eggs either on or nearby a preferred larval food (lepidopterists or butterfly specialists use these clues as aids to identification), and every year millions of caterpillars will starve to death if the food of choice is not available.



Hummingbird Moth

enclose themselves in a loose, somewhat shabby-looking cocoon.

Safe in its house, the larva begins one of the most remarkable changes in the natural world—from a lowly caterpillar to a soaring butterfly. In some species maturation will only take ten days; others may require a year or more to complete the process. But when the time is ripe, the chrysalis splits and the insect slowly unfolds its wings.

For drinking, the butterfly uses a tongue called a *proboscis*. When extended, the proboscis becomes a straw and the flower a flavored soda ready to be imbibed.

Not only is the bee responsible for cross-pollination, the butterfly is too. When visiting blossom after blossom in search of food, it carries pollen from plant to plant.

If you examine butterfly wings under a hand lens you will see that they are transparent membranes stretched on veins or struts and are covered by a myriad of tiny flattened scales, much like shingles on a house. When you inadvertently touch a butterfly wing, the powder left upon your finger is in reality these tiny scales. The color on the wing is not from a pigment, but is visible because the individual shingles are grooved like the surface of a phonograph record and break up the light that falls upon them into component colors. Each pattern of grooves is unique to each species. Iridescence is the result of a thin transparent film and works like the surface of a soap bubble. Because the color on a wing is a result of structure and not pigment, it never fades. The butterfly wings used in various forms of collage—an art-form quite popular in Victorian times—are as bright today as when the collages were first created.

Once the caterpillar stage is over and the larva has stored up enough energy on its diet of leaves, it turns itself into a *pupa*, or to use a more romantic term reserved for butterflies, a *chrysalis*. This is in fact a living mummy case, often intricate in design, covered with spikes, fins, and knobs, and varying in color from a dull brown to a brilliant green with gold or silver dots. At the tip of the spot where the abdomen would be is a spiny projection called the *cremaster*. Before the pupation begins, the caterpillar spins a small button of silk on a branch, stem, or other protected place and hooks this silk to the cremaster. Sometimes it will also weave a silken belt. Although most butterflies do not dress the entire chrysalis in silk, the Skippers, who have features of both butterflies and moths,



Mourning Cloak

on all kinds of flowers. Although many Skippers have been observed to be slightly belligerent, they obviously enjoy meeting in tight little groups called Mud Puddle Clubs (a habit that many butterflies practice). There they will cluster, coiled tongues darting back and forth into the cooling waters, and almost seem to be gossiping, so intense is the mood of the gathering. Their caterpillars live in a nest of leaves, usually around their preferred food—wisteria, honey locust or a number of members of the Legume family.

In mid-August when the garden phlox (*Phlox paniculata*) and the four-o'clocks (*Mirabilis jalapa*) are at their best, one of the few day-flying moths visits the garden. Aptly named the Hummingbird Moth (*Hemaris thysbe*), it comes on whirring wings that glisten in the light of the noon-day sun, darting from flower to flower with great agility and effortlessly hovering in place while searching for nectar deep within tubular flowers. Its tongue is so long that the maturing pupa has a handle on the side to give needed room for the developing proboscis.

The larvae feed on snowberries (*Symphoricarpos*) and various species of *Viburnum*, and once they have found a comfortable pile of leaves they will form a pupa (the word "chrysalis" is reserved only for butterflies) and do a haphazard job of spinning a covering cocoon.

When the garden is glowing under an August sun and the air is hot and still, a walk in the wild garden at the edge of the woods is a delightful change. Often, while you are stepping along the trail beneath the pines and shagbark hickory, with violet leaves and shady grasses sweeping over your feet, the Little Wood Satyr (*Euptychia cymela*) comes flying by. The color is brown with prominent eyespots on the wings. Only an inch and a quarter wide, this species delights in fluttering between the ferns and grasses, sometimes coming out into the open for a sweep of a dewy meadow but soon returning to the woody shade. Satyrs eschew flowers, preferring the pollen of grasses, and the caterpillars feed entirely on grass.

When summer is high and the milkweeds bloom in the fields, the last of the Monarchs (*Danaus plexippus*) return from their northward migration, a trip so tailored to the individual preference of each butterfly that it is often missed by the gar-



Monarch

dener. It is only when the crispness of fall approaches and the Monarchs gather to return south for overwintering, this time forsaking individuality for the group, that the journey is noted.

Monarchs are tied to the milkweed throughout their life cycle. As they fly north, the year-old butterflies stop along the way to lay eggs in the milkweed plants, then usually die. The caterpillars eat the leaves with abandon, completely immune to the poisonous and acrid sap, and they become so repellent in taste that most birds let them alone. Soon they mature and form a chrysalis, emerging in time to feed on milk-

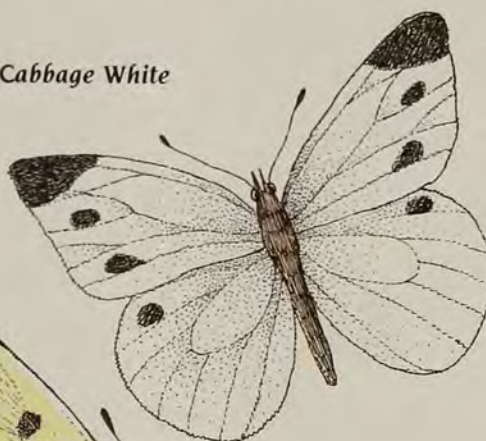
weed flowers and then join in the migration back south. Sometimes a chrysalis will overwinter in the north and hatch unnoticed in the spring.

The Viceroy (*Limenitis archippus*) is common in the eastern area of the country, and through the process of protective mimicry so resembles the distasteful Monarch that enemies leave it alone. Unlike the Monarch, the Viceroy will be a frequent garden visitor; it is fond of all sorts of cultivated flowers and gives milkweed a wide berth.

When the killing frosts of autumn arrive, some of the butterflies of summer have died; others, like the Monarch, have flown to warmer climates. A few have found a safe spot sheltered from the storm, and millions of caterpillars have turned inward to a chrysalis, ready for the coming spring and another season of flowers.

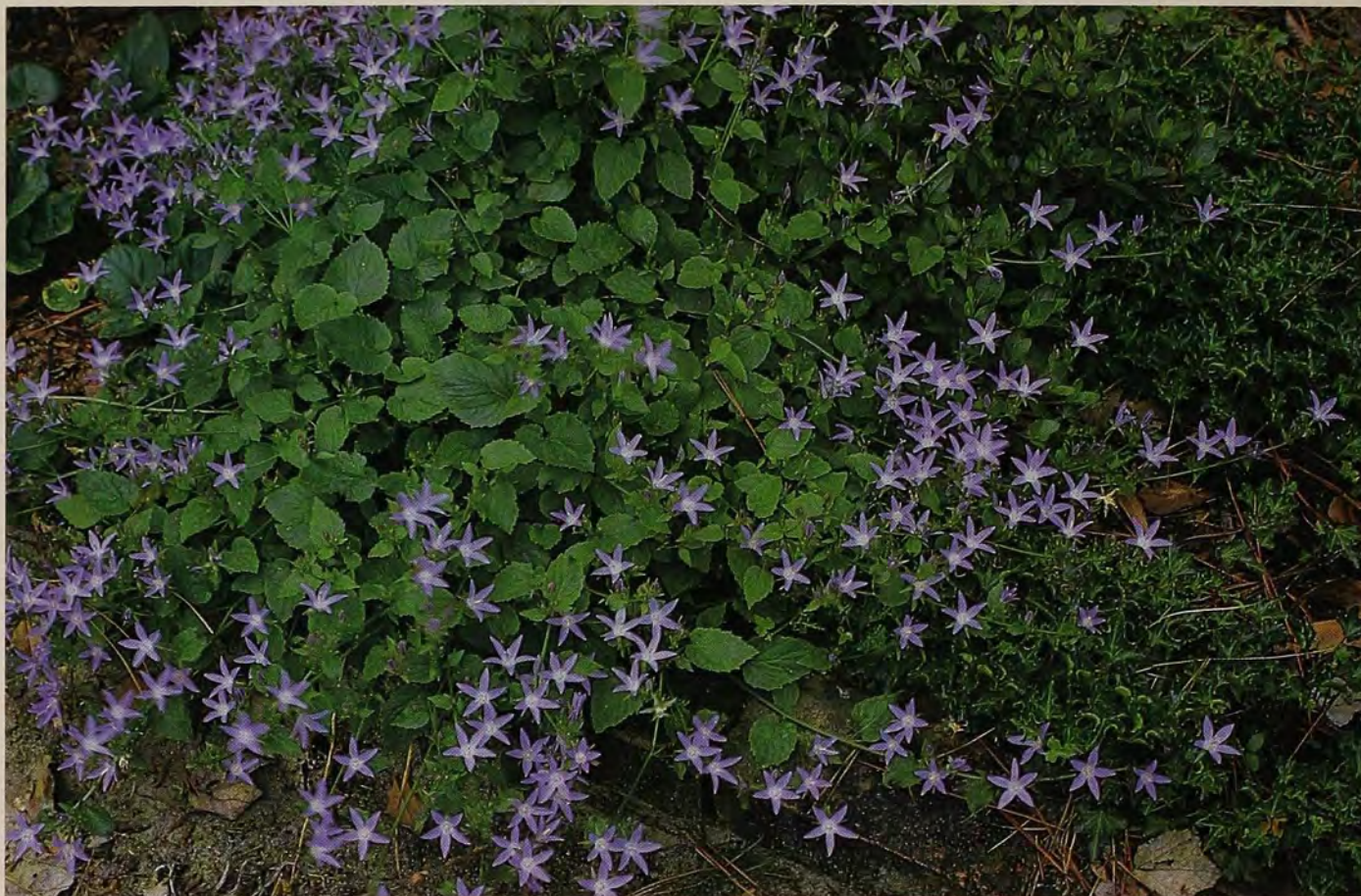
Peter Loewer, Cohecton Center, New York, has written and illustrated a new book, *The Annual Garden*.

Cabbage White



Little Sulphur





Try Campanulas for Diversity

BY ELISABETH SHELDON

Having long felt out of step with a culture in which "wild," "crazy," and "outrageous" are terms of praise, where discipline and restraint are qualities to be divested rather than cultivated, where even in the gardening world a jarring impact is preferred to subtle harmonies and a flower might be advertised as being clearly visible a hundred yards away, imagine the solace I experienced in reading the following in Liberty Hyde Bailey's introduction to his book, *The Garden of Bellflowers*: "The bellflowers appeal . . . to the quieter and restrained emotions. Most of the species are not impertinent and gaudy, nor do they lend themselves to display. . . .

They are eminently plants for the garden-lover, for those persons who . . . respond to the milder sensations and derive sustaining satisfactions from gentle experiences."

It is true that, with the possible exception of the newer Canterbury bells, most campanulas are charming rather than imposing, modest rather than flashy. They come in white, pale pink, and shades of lavender and purple (invariably referred to as "blue" in the catalogs), and in order to appreciate their color and form, close ob-

ABOVE: Starry flowers of *Campanula poscharskyana* tumble over a rock wall. RIGHT: The cup-shaped blooms of *C. persicifolia* may be lilac-blue or white.







Laura E. Coit

ervation is required. Not everyone admires baseball-size double blossoms and glow-in-the-dark colors; plenty of gardeners are interested in growing less strident plants.

The word “campanula” comes from the Latin word for bell—*campana*. Of the Campanulaceae, or Bellflower family, *Campanula* is the largest genus, with over 300 species. After making a list, I find that I have grown twenty of them myself, succeeding with some, failing with others. The tricky ones are mostly those from the high mountains that hate hot humid weather and clay soil.

Most campanulas for the standard flower border are not at all demanding, after you have given them decent soil and good drainage. In general, they also have the great virtue of being almost immune to disease and damage from insects.

You can buy the seed of many of the good campanulas or get them through seed exchanges. Once you have them growing,

many kinds seed themselves or the seed can be gathered and sown in flats, with best results if it is sowed immediately. If you plant your flats late, they can be wintered over for spring germination. Campanula seeds are usually as fine as dust and should be simply pressed into a moist, but not soggy, sowing mixture. They need light to germinate so they should not be covered with soil or put in a dark place. The species should come true to type—only rarely do campanulas intermarry in the garden.

You can divide many of the plants rather than gathering seed, and in the case of hybrids or special forms, you may want to take cuttings. If so, take soft cuttings in the spring from unripe, non-flowering or budding shoots, for if the stems are hard they will not root. Plunge them into sandy soil out of the sun and cover them with cloches or peanut butter jars—anything that will increase humidity and temperature and also let in the light.

My list of twenty includes the following:

- *Campanula persicifolia*, the so-called peach-leaved bellflower, is probably the most widely grown. It has rosettes of long smooth narrow leaves, spread by thin underground stolons to form a mat. From

Give them decent soil and good drainage and most campanulas are not demanding.

LEFT: *Campanula elatines* var. *garganica* prefers a raised bed or a stone retaining wall.
ABOVE: Yellow spires of *ligularia* and rosy-purple *thalictrum* provide a backdrop for a large clump of *C. latifolia* ‘Alba’.



Anita Sabarese

Small to stately in size, never strident in color, bellflowers are companionable in most gardens.

this growth tall, almost leafless stems rise to two or three feet, carrying clusters of lilac, blue, or lavender bells close to the stem, standing straight out or pointing up. They are lovely when first open, especially the white ones, but as the individual flowers close their appearance detracts from the new blossoms that are opening. Dead-head if you have time, but busier or lazier people can wait until most blossoms are shrivelled, then can bravely cut back all stems to several inches above the basal mat. They will flower again cleanly. While I am mentioning faults, I must add that this plant also tips over during a storm so it should be loosely staked. It also seeds itself in the midst of its neighbors, a regrettable characteristic. Still, I wouldn't be without this species. There are 'New Giant Hybrids' available, and there are several older cultivars around, among which 'Telham Beauty' stands out. A few nurseries offer double versions of both white and "blue," but they seem not to be as tough as singles.

ABOVE: Selected forms of *Campanula glomerata*, like 'Joan Elliott' pictured here, are superior to the species. RIGHT: *C. carpatica* 'China Doll'.

- Another common border campanula is *C. glomerata*, which comes in a deep rich purple and in white. In *C. glomerata*, tight clusters of bells with pointed petals make little bouquets on top of nearly two-foot stems, emerging all down the stems from the leaf axils as well. The basal leaves are long, rough, and somewhat hairy, but the flowers, especially in the cultivars such as 'Joan Elliott', are of a hue that is stunning with the pure blue *Delphinium* 'Bellamosum'. *C. glomerata* var. *dahurica* is also particularly good. Although these campanulas do not seed themselves, they spread fairly fast, running freely at the root, as one writer put it. They should be staked with pea sticks (short shrubby branches) to keep them more or less erect. The white form, 'Crown of Snow', is about eight inches shorter than the purple one and blooms later and longer. *C. glomerata* var. *acaulis* is available, both as seed and as plants. It has the same upfacing clusters of bells, though a paler purple or white, and grows only a few inches high.

- The English grow *C. lactiflora* (with milk-white flowers) extensively and consider it the best border campanula. This

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THE GARDENS OF LOUIS COMFORT

TIFFANY

BY MARTHA WREN BRIGGS

Louis Comfort Tiffany was the son of the founder of Tiffany and Company, New York, and master of the stained-glass medium. He lived in Laurelton Hall, on Long Island, from 1905 until his death in 1933. Even though he left his property to the Tiffany Foundation to be a place where young art students could work in a rural environment, it suffered a fate similar to other Long Island estates. Finding maintenance almost impossible during and after World War II, the Foundation, with the Court's permission, subdivided and sold the property. Only traces of Tiffany's vast floral planting at Laurelton Hall can still be found. For this article, information was obtained from written accounts of his time, old photographs, and interviews with persons who were visitors to the estate.

Louis Comfort Tiffany's avocation—and delight—was the landscaping of his vast Long Island estate. Yellow daylilies bordered an entrance drive, lavender and blue wisteria blossoms framed an arched doorway, and autumn flowers in many hues created patterns on terraces and in colorful gardens. The area was described at the time as being “one of the wildest sections of Long Island,” even though it was not too distant from Tiffany's glass factory in Corona, Queens, New York. His friends and family understood Tiffany's unusual infatuation with his garden and that “watching a flower grow from a bud to full bloom was one of his greatest pleasures.”

Tiffany, who began his career as an interior decorator and acted as his own landscape architect, took great delight in planning every detail of his estate's grounds. He used a scale model of the property that showed the location of all its hills, meadows, and valleys. As much as possible he retained the irregular features of Long Island's glacial topography and designed his

garden on a series of terraces without drastically altering the natural landscape. He built only those terraces and steps that were necessary to prevent erosion, protect the flowers, and provide easy access to the different levels of his garden. Under his direct supervision thirty-five full-time gardeners maintained a professional standard of horticulture and produced the dramatic floral effects of color that Tiffany desired: yellow “daffodils grow(ing) in a field . . . gravel paths hedged by (dark green) boxwood . . . red peonies in one section, blue iris in another, fragrant roses in restricted places . . . blooms, blooms, everywhere.”

Tiffany designed his main house, Laurelton Hall, as part of the landscape. The 280-foot-long, three-storied building contained servants' quarters, two conservatories, a chapel, a bowling alley, porches, a stable, and two greenhouses. It was built on eight levels along the hilly terrain parallel to Cold Spring Harbor. Fountains dominated the elaborate and colorful gardens on both sides of the house, and water for the three interior fountains and four garden fountains came from a hillside spring southeast of Laurelton Hall.

A fountain-vase resembling the pistil of a flower with a bulbous base and a long slender neck dominated the Fountain Court, Tiffany's interior reception hall. Water from the spring was forced upward through the large vase and then spilled quietly, almost imperceptibly, down its exterior to an octagonal pool at the center of the indoor garden. In the Fountain Court there was a display area for container plants that were grown in the two estate greenhouses and brought to the house when they were

Masses of wisteria, interpreted by Tiffany in the lush style of Art Nouveau, decorated the dining room of Laurelton Hall. (Photo from the collection of the Charles Hosmer Morse Museum of American Art, Winter Park, Florida, through the courtesy of the Charles Hosmer Morse Foundation.)





THE GARDENS OF LOUIS COMFORT TIFFANY

in their prime. A contemporary photograph shows calla lilies from South Africa thriving in the pool, and hydrangeas are seen banked at poolside with other blossoms that appear to be chrysanthemums or a type of viburnum, and a monstera.

Formal planting on the estate was restricted by Tiffany to the area surrounding the main house and was accented by waterfalls, pools, and fountains, all supplied by the hillside spring. Pictures published in the December 1908 issue of *Country Life in America* show a sunken garden at the front of the house in springtime, banked with bright poppies and golden creeper. Two terraced gardens with large plumed fountains dominated the Cold Spring Harbor side (or rear) of Tiffany's house. The higher of the two was paved and enclosed by walls that terminated in three octagonally-shaped tiers, planted with petunias which perfumed the air on a summer evening. On top of the tiers were large round vases holding dwarf cypress trees. They were similar to the fountain-vases at the end of the water trough in the Fountain Court.

Water from the indoor vase-fountains ran underground to supply a geyser on the high terrace. It splashed into another of Tiffany's octagonally-shaped pools, disappeared, and surfaced again in another fountain on the roof of the hanging garden, perhaps the most innovative landscaping idea on Tiffany's large estate. The wooden roof of the hanging garden was not the ideal place for growing plants since it received almost constant sunlight and containers were the only source of soil. Tiffany experimented with these adverse growing conditions until he discovered that cordyline plants or New Zealand cabbage trees and oleanders would flourish in this hostile location. The spike-shaped foliage of the cordyline plants complemented a large, decorative, bronze-mosaic dragon sitting beside a fountain pool on the roof of the hanging garden. According to Chinese mythology, a dragon typifies the life-giving qualities and the destructiveness of water; appropriately, the hanging garden's Chinese dragon was a fountain head.

Projecting beneath the overhang of the garden was a trellis which, in photographs, seems to support a clematis vine. The trellis framed a sculptured figure of *The Spring*, personified by a young girl looking down into a large scallop shell. The shell was a water basin and was the last in the six-fountain chain. Falling water from the



Photos courtesy of Dr. Robert Koch

ABOVE: Looking towards Cold Spring Harbor, large vases with dwarf cypress flanked a terrace fountain. BELOW: Open on three sides, the Daffodil Terrace was a delightful outdoor retreat.

dragon's pool above filled the shell and supplied two lower ponds near the beach before flowing into Cold Spring Harbor.

Terraces and fountains were not the only settings for flowers at Laurelton Hall. Window boxes held ice plants, sometimes called the midday flower of the Greeks. Wisteria climbed over the beams of an open porch on the second floor. Tiffany's enthusiasm for wisteria is visible in his art. The twists and turns of the vine and its hanging clusters of lavender or blue flowers gave it immeasurable design possibilities. Stained-glass transom panels of blooming wisteria once decorated three walls of the dining room at Laurelton Hall.

Except for acreage reserved for a dairy and model farm, the remaining area of the

Tiffany estate was kept wild in what Tiffany called "Grandmother's garden," for wildflowers were as much a delight to him as the cultivated species. Shrubs, perennials, and various types of indigenous trees predominated in his woods. One entrance to Laurelton Hall was an extension of the road to The Briars, Tiffany's first home in the area, and was bordered by lush maple trees which still stand. In early summer, daylilies "in varying shades of yellow" edged the serpentine drive, according to Samuel Howe in a *House Beautiful* article in 1914. The other drive to Tiffany's house was even more innovative—it was a drive of bluestone gravel that wound for more than a mile to the house through woods dotted with laurel and rhododendrons. It passed

a field where thousands of daffodils bloomed, ran under a hundred-yard arch of espaliered apple trees, and turned to the beach where an old sailing ship was moored to act as a bathhouse. It wandered from the beach between two ponds and a stream "lined in (spring and summer) with day-lilies, Joe-Pye weed, Japanese iris, marsh mallow, boneset, wild rice, (and in the autumn) with goldenrod." The road then traveled under the hanging garden, up through a porte-cochère, and around the house to the front entrance.

Some of Tiffany's friends shared his enthusiasm for flowers. Mrs. Rudyard Kipling sent him an English "sweet pea, single and rare, of an exquisite shade," wrote Samuel Howe in *House and Garden* in 1906. One hundred of his friends traveled to Laurelton Hall on a special railroad train in May 1914 to enjoy the beauty he had created. His children and grandchildren, however, were forbidden to pick any of the flowers. Tiffany's youngest daughter, Dorothy Burlingham, remembers that if a child "broke a flower it wasn't considered an accident (by her father) it was considered a crime" and "... woe (befell) the child who stepped on a plant." Grandchildren were permitted to pick two nasturtiums each time they visited their grandfather, but daffodils were the exception. They could pick daffodils free of rules and regulations because thousands of them grew wild in a field on the estate. Comfort Tiffany Gilder, one of Tiffany's twin daughters, revealed in her 1962 poem *Daffodils* that "in the spring the children (her brother and sisters) would run to the daffodils. Stop first to gaze with rapture, then darting here and there ... slowly picking daffodils one by one." Some of the children in nearby Oyster Bay would ride bicycles to the daffodil field and surreptitiously "pick bunches of the largest yellow daffodils (they) have ever seen, before or since." One of the bike riders, now in his seventies, identifies the field daffodils as 'King Alfred', a variety created by John Kendall six years before Tiffany bought Laurelton Hall.

Sometime after 1914, Tiffany added the Daffodil Terrace to Laurelton Hall. It was an open, three-sided rectangular porch. Contemporary photographs show at least six marble columns supporting the terrace's wooden roof. The capitals, now privately owned, are encircled with two rows of three-dimensional daffodils made of rich opalescent glass and set in cement. Their long green stems and overlapping leaves

were bound twice with textured-looking cord in brown glass, repeating a decorative tradition begun in Egypt. The opalescent glass which Tiffany had perfected at his studio gave the capital daffodils a long-lasting brilliance.

On March 8, 1957, the main section of Laurelton Hall, no longer in the Tiffany family, burned. Hugh F. McKean, who had been a Tiffany Fellow in 1930, returned to Laurelton Hall after the fire and found that, although the house had been destroyed, the Daffodil Terrace was "still intact," but that exposure to the elements had caused the daffodils that "originally sparkled with a high (opalescent) sheen to acquire a soft matte finish." The Daffodil Terrace was saved from destruction by Mr. McKean and is in storage in Winter Park, Florida, the property of the Charles Hosmer Morse Foundation. Mr. McKean also salvaged many of the architectural adornments Tiffany had created for Laurelton Hall. He donated the loggia entrance that had column capitals decorated with oriental poppies, East Indian lotuses, saucer magnolias, and peonies to the Metropolitan Museum of Art in New York City. In 1980, his book, *The 'Lost' Treasures of Louis Comfort Tiffany*, was published.

When Tiffany started his decorative glass business the Art Nouveau movement had just begun in England. Swirling lines of trees, vines, and flower forms were the decorative elements used by artists of this group. Tiffany's love of color and his preference for abundant flowers made him the chief advocate of Art Nouveau in the United States. As many as forty-four of Tiffany's beloved plants or tree blossoms at Laurelton Hall served as models for the flowers in his stained-glass windows, leaded glass lampshades, and blown glass vases.

Despite long neglect, some of the floral models for Tiffany's glass objects continue to grow on the site of Laurelton Hall. Daffodils, laurel, rhododendrons, and day-lilies line the former driveway. Old-fashioned rose bushes bloom in the upper terrace area and masses of sweet rocket cover the spaces near the old stable. Their annual appearance, so many years later, is only a vestige of what was, in its time, one of America's most beautiful and admired garden estates.

Martha Wren Briggs, former art librarian at C. W. Post College of Long Island University, has written articles on the stained glass of Louis Comfort Tiffany.

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TRY CAMPANULAS FOR DIVERSITY

Continued from page 26

species and several cultivars seem to be little known in America. One year I raised about two dozen from seed. They flowered the following year and died during their second winter. Since *C. lactiflora* is from the Caucasus and is listed for USDA Zone 4, I could not understand its behavior unless the drainage was at fault.

The explanation for its limited use in

America may lie in its cultivation requirements, as it doesn't transplant easily due to its thick fleshy root. H. C. Crook, who knows everything there is to know about bellflowers, says the best method of growing it is to sow the seed *in situ*, thinning out the plants rather than transplanting them. Then there will be self-sown seedlings. Transplanting is possible, but the plants will take several years to recuperate

and may never attain the glory of their unmoved siblings, which produce great panicles of bluish-white bells on strong straight stems. (I noted that Wyman says it is "easily grown and easily propagated by division." There you are—when do two authorities agree? You will just have to experiment yourself.) There is a pale pink *C. lactiflora* called 'Loddon Anna'; a violet-blue one, 'Prichard's Variety'; and eighteen-inch 'Pouffe', which has been impressing American visitors to English gardens. This species will tolerate a certain amount of shade.

- I must admit to defeat with another tall campanula—*C. latifolia*, which is considered a good garden choice by most authorities. One is warned to take care lest it spread unduly, and one is told that, since it is rather coarse, it might be naturalized in the wild garden. The authorities have not mentioned its behavior in *my* garden, which is simply to disappear after it finishes flowering, although I have tried home-grown seedlings and imports named 'Brantwood' (violet-purple), 'Alba', and 'Macrantha'. If you can grow it, you will enjoy its racemes of elongated, upfacing bells that terminate the four-foot stems that need not be staked. Stems rise from a clump of toothed, cordate-ovate leaves five to six inches long. It is native all the way from northern Britain east to Siberia.

- One campanula that is a good candidate for the wild garden is *C. alliariifolia*. I thought it would be splendid when I planted the seeds and coddled the growing babies. During the second year, three-foot stems surged up from the tufts of large, hairy, serrate leaves to produce a number of long, tubular, whitish, and quite nondescript one-inch bells on a one-sided raceme. In spite of my own disappointment, I have a friend who likes it in his garden.

- *C. punctata* is another species that I grew but was not enthusiastic about; it had long pointed-toothed leaves and sent its flower stems up eighteen inches. From these drooped two-inch-long, sad-looking bells of off-white to greyish-purple, looking too big for the plant. Inside there were interesting spots—of purplish maroon, as I recall—but without lying flat on my back in the border I couldn't see them! It is, I understand, a great favorite with the Chinese and was introduced into the West in 1844. It has been used as one parent of several first-class border plants.

- Out in the nursery there is a group of young *C. primulifolia* plants that are due

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to flower for the first time next spring. The rosettes of long, crimped leaves are similar to those of a primrose, and this bellflower shares the primrose's fondness for damp, shady places. It is a native of Spain and Portugal and may or may not prove to be hardy here. It grows to three feet and carries a generous number of lavender-blue cups with a white center. These stems branch at the base only, thus producing a pyramidal effect.

With the exception of the newer Canterbury bells, most campanulas are charming rather than imposing, modest rather than flashy.

- *C. carpatica* is a rock plant that can be successfully used in the front of the border. Both the species and its many cultivars are easily available and widely planted. If *C. carpatica* is divided every year it maintains its dome of crinkled heart-shaped leaves, usually no more than eight to ten inches high. It produces half-open bells of lavender or white, starting early in July and continuing for two more months if deadheaded. The form *C. carpatica* 'Turbinata' is especially fine, as are the ones called 'Wedgwood Blue', 'Wedgwood White', and 'China Doll', all of which have very flat, starry flowers. 'China Doll' is of an especially lovely color—palest lilac-gray. There is a new mixed color strain of *C. carpatica*, 'Jingle Bells', that is excellent; the plants are tight, tough, and floriferous.

- Several other rock campanulas are both pretty and easy to please. *C. elatines* var. *garganica* is the best of these obliging ones and should be grown in a raised bed or on a retaining wall where it will flatten its tiny, ivy-shaped leaves against the rocks and send out long trailing stems in the crevices. When it blooms in May, you won't be able to see the foliage for the hundreds of little blue-gray, white-centered stars.

- *C. portenschlagiana* is almost as lovely and certainly as easy-going. Its rounded, heart-shaped leaves are similar to those of *C. elatines* var. *garganica* but are not quite so deeply incised. It has the same growth habits and requirements, but its flowers are erect, one-inch-long, lavender bells.

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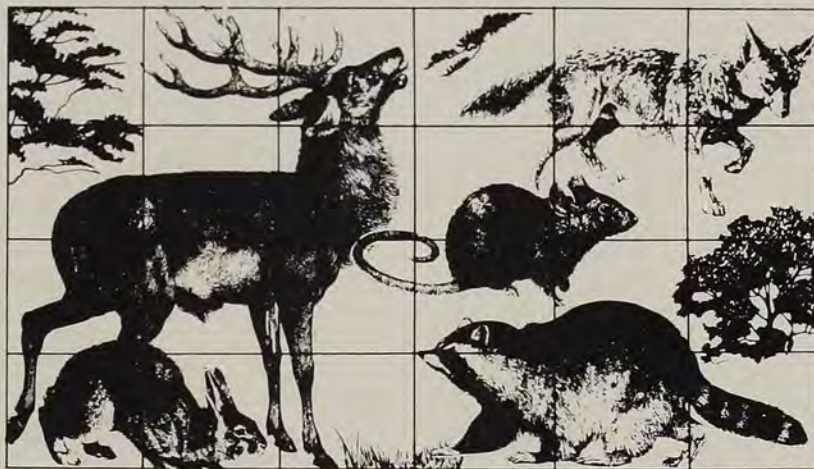
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TRY CAMPANULAS FOR DIVERSITY



Campanula portenschlagiana, usually seen on a rock wall, can also be pot-grown.

Pamela Harper

Masses of them bloom in early summer.

• *C. poscharskyana* is not quite so refined as the last two trailers mentioned, but it is lusty enough to survive in the border as well as on a rock wall, where it really prefers to be. It has been known to run underground and come up in the territory of its less aggressive neighbors, so be forewarned. It has the same rotund-cordate leaves with deeply serrate margins, but they are on long footstalks and are much larger than the leaves of the other two. The flowers are slim, lavender-blue, one-half to one-inch bells that appear in June and July. I should think this could be grown next to a small shrub—*Potentilla* 'Abbotswood', for example. It will grow well in full sun, but it likes light shade better.

• *C. cochleariifolia* is so tiny and dainty that one would think it is difficult to raise; on the contrary, it is difficult to suppress. I have had a white one in the front of my border for years and it remained in one spot, but as soon as I put some of it on a raised stone bed, it began to travel—fast. Now it's cheekily popping up in all the stonecress, rock roses, and thrift that surround it. The miniature white bells look most beguiling; they are usually as wide as they are long and are known in England as "Fairies' Thimbles." I know of two named cultivars of the blue *C. cochleariifolia*—'Miranda' and 'Miss Willmott'; they are charming, but I love 'Alba' best.

• *C. raddeana* is another underground spreader, but its showers of gleaming, deep

violet bells have convinced me that it is a plant to be treasured in spite of its pushy ways. On my wall it is beginning to tangle with *C. cochleariifolia*. It comes from the trans-Caucasian Alps, so it appreciates a high, well-drained, stony spot. Obviously it can be propagated by division, but the seeds germinate readily.

• *C. medium*, the real Canterbury bells, are sometimes listed as perennials, but they are biennials and must be planted every year. The newer ones are impressive but take up a four-foot pyramidal space in the border, although there are some dwarf ones that are fifteen to twenty inches tall and come in white and shades of "blue" and pink. Canterbury bells are single and double, but the singles are my preference.

• There are three other common bell-flowers. The first is *C. rapunculus*, or rampion, which has tuberous roots that have been used as food in Britain and Europe where it grows wild. *C. rapunculoides* grows wild everywhere, including the United States. It looks like *Adenophora*, growing to two feet with long, slender, lavender, funnel-shaped flowers along the stems. It is so pretty that some people make the grave mistake of putting it in their gardens where it takes over all available space by spreading its roots and its viable seed.

• *C. rotundifolia* is almost as persistent, but it does its colonizing by means of seed alone. You will be pulling it out by handfuls if you put it in your rock garden. This one is called Scottish harebells or bluebells, but it grows on cliffs everywhere in the

temperate zone. Peculiarly, it has two kinds of leaves—round ones at its base and linear ones over the rest of the plant. It produces masses of slender, one-half-inch-long bells, lavender as a rule, but there is also a white form.

There is a whole nation of small alpine campanulas. One wants to grow them all after seeing their photographs, but their native habitat high in the Alps calls for out-of-the-ordinary care in cultivation. Oh, well, one can't have everything. If I could just grow *C. rainieri*, with "ash-grey foliage and erect, large, lilac bells," I might be content, but since it wants a limestone crevice in a scree, I believe I will pass.

The experts, as we have seen, do not always agree. Walter Kolaga says *C. pilosa*, from Alaska, is beautiful and easy in well-drained soil in sun or light shade; Foster says it is *not* easy and may sit for years without blooming. It needs a fairly rich neutral soil and a site that is not too hot. L. H. Bailey says *C. alpina* has thrived in Ithaca, New York, blooming in late May and early June; Crook says it generally dies after flowering but can be grown as a biennial because it sets a lot of seed. Foster says that it seems less willing to bloom than most and that if you put it in a sunny, gritty spot it will probably shrivel away. If you put it in richer soil, in shade, it will make a lush rosette but will not bloom. "When finally persuaded to flower it is apt to die of exhaustion." If you want to be sure of success, try one that everybody agrees is easy!

I'm ordering seeds of *C. collina* because it's from the Caucasus, because it has "semi-pendant bells of rich purple blue," and because Farrer thought it gorgeous. (Nobody has said it has to have ice water running under its roots in August.) I'm also going to try *C. elatines* var. *fenestrellata* because it's closely allied to *C. elatines* var. *garganica* and so might not be too temperamental. *C. barbata* also sounds possible.

The astonishing variety of bellflowers carries them far beyond their honored place in the traditional cottage garden. Those who love to experiment might want to take a second look at campanulas; their diversity is an open invitation to try this gentlemanly but evocative plant in a wide variety of settings.

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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OF MAGNOLIAS PAST AND FUTURE

Continued from page 17

the tariff, making this one of the most eagerly sought stock plants in the trade. The time lag between development and commercial availability of woody cultivars is often measured in decades, but one can now get on waiting lists at selected nurseries.

Other yellow magnolia cultivars, 'Sundance' and 'Yellowbird', have also entered the market recently, almost guaranteeing a new vogue.

Magnolia species introduced from China invariably have convoluted histories. One reason for this is that many were first collected in fruit, so that no taxonomic placements could be made until the resulting seedlings flowered—often fifteen or twenty years later.

Many of the Chinese species were introduced by the prolific plant explorer, E. H. Wilson. One specimen of Wilson's has received more accolades than any other and has, like *Magnolia denudata*, become a preferred partner in plant parenthood. *Magnolia sprengeri* var. *diva* has an equally operatic common name, the "Goddess Magnolia." Wilson collected seed of this species in western Hupeh Province near the village of Changyang Hsien, but unfortunately, he mixed this batch of seed with those of another variety that had identical fruit. It wasn't until years later, after the resulting plants flowered, that Wilson's innocent blunder was sorted out.

The majority of the plants were a white-flowered variety subsequently designated *Magnolia sprengeri* var. *elongata*. Only one plant developed the stunning rose-pink flowers Wilson remembered from China, and this plant had found its way to the estate of J. C. Williams, a plant collector who bought it as a small plant at a connoisseur's auction. The rose-pink variant is now known as *Magnolia sprengeri* var. *diva*. However, as in opera, not all divas are equally gifted. It seems that the flowers of the Williams purchase surpassed those of its seedlings, so a further distinction was demanded. The unwieldy *Magnolia sprengeri* var. *diva* 'Diva' became the correct name for this splendid clone, although in the trade it is generally listed as *Magnolia* 'Diva'. 'Diva' forms a medium-sized tree with a single leader and, in the Northeast, blooms in late April. Its hardiness is still a matter of speculation, since it was assumed the tree would not survive the numbing Northeast winter. But one collector on Boston's South Shore has grown

the plant for a dozen years, flowering it for the first time last season. Its initial ten blossoms were a highly saturated rose-pink on the outer petals and a silvery pink within. Its tepals number twelve, as compared to *Magnolia denudata* which has nine, and when fully open the bloom measures eight inches across.

They were held high on a sixteen-foot tree and I scrambled up a stepladder to photograph them. In the finest operatic tradition I assumed the role of buffoon and tumbled head first off the stepladder while focusing my camera. I anxiously await next year's blooms on lower branches.

Magnolia sprengeri, like *M. denudata*, was appreciated by the Chinese for its choice flowers. Flowering boughs of the Goddess magnolia were set into vases or, like tree peonies, were forced in greenhouses to produce flowers in January.

'Diva' has been used in the creation of one of the hottest and most glamorous new magnolia cultivars. 'Galaxy' is the brainchild of the late respected breeder William F. Kosar and was the result of crossing 'Diva' with *Magnolia liliiflora* 'Nigra'. He first made the cross at the National Arboretum in 1963, and it was not until 1980 that analysis and selection were completed and the new cultivar released. The tree is characterized by strong, upright, vigorous growth, and prolific flowering of striking, ten-inch blossoms. These are beet-purple on the outer surface of the tepals with a pale red-purple inner surface. As with many magnolias, I find these flowers are at their best when the flower buds are just beginning to elongate and open. Their color at this stage is so dark that it appears as a violet-black. Perhaps its strongest attribute is that it flowers late and is rarely nipped and discolored by frost. The ultimate height of this new cultivar is not yet known, but a twelve-year-old plant at the Arnold Arboretum now measures twenty feet.

Hybrids like 'Galaxy' are genetic design of the highest caliber, the product of a well-conceived and executed breeding plan which has produced one of the outstanding magnolias of the future.

The gardeners of the Chinese emperors had to be content to plant with native species alone. More fortunate than they, we not only embellish our gardens with these wild beauties but with their bold and brilliant offspring as well.

Rob Nicholson is a propagation specialist at The Arnold Arboretum of Harvard University.

Pronunciation Guide

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Androsace an-DROSS-as-ee
Antennaria an-ten-AY-ree-ah
Aquilegia bertolonii
 ak-wil-EE-ji-ah ber-toe-LO-nee-eye
A. canadensis A. can-ah-DEN-sis
Asclepias ass-KLEE-pee-as
Asplenium trichomanes
 as-PLÉE-nee-um tri-koh-MAH-nee-z
Aurinia saxatilis
 aw-RIN-ee-ah sacks-ah-TILL-iss
Campanula alliariifolia
 kam-PAN-yew-la al-lee-ah-ree-ih-FO-lee-ah
C. alpina C. al-PINE-ah
C. barbata C. bar-BAY-ta
C. carpatia C. car-PAT-ih-ka
C. cochlearifolia
 C. kock-lee-ah-ree-ih-FOH-lee-ah
C. collina C. ko-LEEN-ah
C. elatines C. ee-lay-TIE-nees
C. glomerata C. glo-mer-AY-tah
C. latifolia C. lar-ih-FOH-lee-ah
C. medium C. ME-dee-um
C. persicifolia C. per-sis-ih-FOE-lee-ah
C. pilosa C. pill-OH-sa
C. portenschlagiana
 C. por-ten-schlag-ee-AY-na
C. poscharskyana C. po-shar-sky-AY-na
C. primulifolia C. prim-yew-lih-FOE-lee-ah
C. punctata C. punk-TAY-ta
C. raddeana C. rad-dee-AH-na
C. raineri C. RAIN-er-eye
C. rapunculoides C. ra-PUNK-yew-LOID-eez
C. rapunculus C. ra-PUNK-kew-luss
C. rotundifolia C. row-ton-dih-FOH-lee-ah
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 ser-at-oh-STIG-ma plum-bah-jih-NOID-eez
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 SET-er-rack oh-fiss-ih-NAR-um
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P. paniculata P. pan-nick-you-LAY-ta
P. stonolifera P. stow-low-NIH-fer-ah
P. subulata P. sub-yew-LAY-ta
Phyteuma comosum fy-TEW-ma ko-MO-sum
Polygonum po-LIG-on-um
Potentilla alba po-ten-TILL-ah AL-bah
Primula frondosa PRIM-yew-la fron-DOE-sah
Prunus cerasifera
 PROO-nus ser-ah-SIFF-er-ah
Pulmonaria pul-mo-NAY-ree-ah
Pyracantha py-ra-KAN-tha
Rhododendron mucronulatum
 ro-do-DEN-dron mew-kron-yew-LAY-tum
Rhus typhina ROOS ty-FY-nah
Rumex ROO-mex
Salpiglossis sal-pih-GLOSS-us
Schivereckia podolica
 shiv-er-RECK-ee-ah po-DOL-ih-ka
Sempervivum arachnoideum
 sem-per-VY-vum air-ack-NOI-dee-um
Spiraea salicifolia
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Unusual Combinations

Don't let people tell you that older people are "set in their ways," that you "can't teach an old dog new tricks," and other platitudes circulated by anyone under the age of thirty.

I have been doing a lot of thinking about plants and plant combinations lately. It is certainly true that after twenty-seven years in the field of garden design a lot of my original concepts have changed. Looking back at some of my past prejudices against certain plants, I am surprised at how stuffy I must have been in my youth. Older people set in their ways? Not necessarily so!

Take the matter of color, for instance. I used to consider purple a difficult color and rarely used it, but one spring I began to appreciate the bright rosy-purple of Korean azaleas. I saw that nature in her wisdom scheduled these blooms when few others would conflict. I began to think of the flowers as quite lovely and almost ethereal when glimpsed on a typical, showery April day. Perhaps one of the prettiest effects can be obtained by combining *Rhododendron mucronulatum* with *Magnolia stellata* and then anchoring the planting with blue flowering vinca.

There was also the matter of variegated foliage. Plants with this characteristic were a definite "no" in my past. However, as I began to work more and more with modern architecture, I found that judicious use of variegated material seemed to fit nicely. An early success was using the golden-tipped 'Sunburst' honey locust as a terrace shade tree for a tall, gray-sided modern house. 'Hohman's Gold' dogwood would perform equally well. I grew adventurous and discovered that green and white foliage does wonders in lighting up dark corners and brightening northern exposures. *Cornus alba* 'Elegantissima' (syn. 'Argenteo-marginata'), the silver-edged dogwood, and euonymus 'Silver Queen' are two such plants that I use over and over again on dimly lit sites.

Purple-leaved foliage was another taboo—too hard to work into a landscape scheme, said the experts. Cautiously I began to experiment and obtained some lovely results. I tried a handsome ribbon of *Ber-*



beris 'Crimson Pygmy' in front of blue-green, feathery-needled *Juniperus conferta*, the shore juniper. The result was enchanting. Several years ago I designed a planting using the purple plum, *Prunus cerasifera* 'Newport', underplanted with pale yellow flowering *Potentilla fruticosa* 'Moonlight', a combination that receives compliments all summer long. Purple-leaved smokebush, *Cotinus coggygia* 'Royal Purple', underplanted with cobalt flowers

of plumbago, *Ceratostigma plumbaginoides*, was spectacular.

Encouraged by the plumbago triumph, I began to challenge the notion that perennials should be restricted to typically English flower borders. I started to use perennials in my shrub borders. The ones that had particularly attractive and long-lasting foliage were the best candidates. Astilbe worked especially well, as did peonies. Gently waving spires of snake-



Photos by Susan W. Plimpton

root, *Cimicifuga racemosa*, looked cool and airy in the July woodland. *Epimedium* became a favored edging in a bed of azaleas and rhododendron.

I went another step and took the herbs out of the herb garden. Lady's mantle made a nice ground cover or unusual edging plant.

ABOVE: Under the trees, blue wood hyacinths set off drifts of pink azaleas at the Plimptons' Rhode Island home.

Catnip, if not discovered by my cats, made an ever-blooming cloud of blue in front of roses. Hyssop could be trimmed to make a neat hedge and so could winter savory—both at a fraction of the cost of boxwood.

Roses belong in a bed by themselves, said my old textbooks. Boldly I defied the rules. I started out using groups of miniatures, adding the brilliant crimson 'Starina' and peach-colored 'Minnie Pearl' to my flower borders. Hybrid teas and flo-



Roses belong in a bed by themselves, said my old textbooks. Boldly I defied the rules.

ribundas, like the favored 'Betty Prior', began to appear in the shrub border along with the more traditional shrub roses such as *Rosa rugosa* 'Sir Thomas Lipton'.

The nearby village of Wickford, Rhode Island, is important in my life. It is in Wickford that we pay our taxes, attend town meetings, and register our dogs. This lovely old New England village is filled with reminders of the past. Handsome colonial houses line the streets, venerable observers of the town's daily life. Driving through last spring, I laughed out loud when I spotted a wonderfully bright dooryard planting filled with a lime-loving purple lilac and ericaceous pink azaleas. Mismatched in color and in growing requirements, they seemed to say that oil and water *do* mix.

—Susan W. Plimpton

Susan W. Plimpton, horticulturist and landscape architect, lectures frequently and has published numerous articles.

Book Reviews

Flowers For All Seasons

Pamela Carroll. Rodale Press, Emmaus, Pennsylvania. 1987. 312 pages, illustrated, \$24.95. AHS member price, \$19.95.

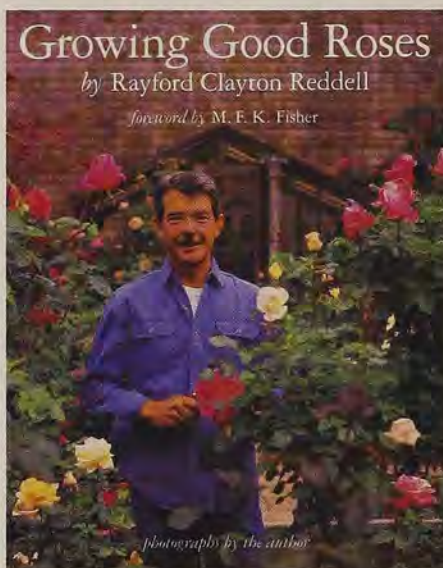
The authors of *The Perennial Garden* (Rodale Press, 1985), which covered the use of perennials in beds and borders, turn now to woody perennials: the trees, shrubs, and vines—evergreen and deciduous—that are the foundation of every garden. The text is informative, generous with encapsulated knowledge and expertise; the format is appealing, with double columns on each page; and the photographs and material are beautifully presented.

The Coxes present practical tips as they discuss the five basic principles of design: form, color, mass, line, and texture in their proper balance and harmony. They speak to the general scope of garden practice in relation to one's life habits and the range of each person's gardening energy; they encourage the reader to pursue individual preferences in planning or redesigning a landscape.

In the first chapter, "Creating Combinations of Flowering Plants," they express their own preference for the casual rather than the "suffocatingly overly formal." They suggest that the reader observe the way plants themselves can "balance masses, intertwine forms," and allow them to do so in a true "functioning plant-person partnership." The master plan should be simple: identify what you already own before making sweeping changes. The trees and shrubs thriving in the sun, shade, or soil of your property will help you determine future choices.

The authors also discuss pathways which take you to the garden and back, without retracing steps and with interesting vantage points along the way, perhaps for a bench. They give common-sense, practical, and poetic considerations, advising the reader to "use your heart as well as your head," and they suggest aesthetically pleasing spacings of groups of trees and shrubs of varying heights and sizes, allowing for mature growth and seasonal interest. The chapter concludes with the uses of vines, mixed plantings, and non-living elements such as water gardens, stone, sand, and rock.

Ensuing chapters cover "Flowers Month



by Month," a gorgeously photographed "Color Tour of Flowers Throughout the Seasons" (which, annoyingly, does not give the location of the plants, possibly because Mr. and Mrs. Cox have unfortunately not brought us much closer to solving the eternal problem of flowers for all seasons in one geography); and the "Guide to Flowering Trees, Shrubs, and Vines," which contains a chart of garden "stars" culled from the tens of thousands of plants available in nurseries.

The last chapter, "Maintaining the Garden's Beauty," touches on guidelines for artistry and growth. Mail order sources and the hardiness zone map complete this edition which is, on the whole, a good addition to their earlier volume.

Growing Good Roses

Rayford Clayton Reddell; foreword by M. F. K. Fisher; photographs by the author. Harper and Row, New York, New York. 1988. 172 pages; hardcover, \$27.50. AHS member price, \$22.00.

"Why don't we grow these flowers?" the boy asked the first time he saw bushes covered with yellow roses. "Because they're too much trouble," his mother answered shortly. It proved not to be too much trouble to the boy, who took up the challenge and became one of the country's leading rosarians and a commercial grower at his Garden Valley Ranch in Petaluma, California, just north of San Francisco. He is erudite, a walking fund of knowledge, par-

ticularly about "modern" roses. He writes simply and well, his photographs are luscious, and his book is a rare delight from first page to last.

Anyone can grow a rose—briefly. People buy the wax-coated plants at the supermarket every spring, dig a hole, and plop them in. Roses, being stronger than their beauty would lead you to believe, may give you a lovely bloom or two before they spindle off, are munched by Japanese beetles, or succumb to mildew, rust, or black spot. *Good* roses, on the other hand, require time, skill, and dedication, for which read: fertilizer, water, and spraying, not to mention the right soil, pruning, and finally (for the grower's delight), hybridizing. Reddell's own experience is a case in point. He began with a few roses in his new, sandy backyard, which grew into a real rose garden of two hundred roses in the same twenty-five by forty feet, until he ran out of room and went commercial.

He made *all* the mistakes that he cautions his readers to avoid. If you do only a part of what he teaches you, he says, you'll be able to grow roses successfully; if you follow it all, "you'll have exhibition-quality blooms." Follow him through eleven chapters of Preliminaries, Buying, Planting, Maintenance, Spraying (for those who will not use chemicals there are alternative prescriptions), Cutting ("If you commit only one fact of this chapter to memory, make it this one: Where you cut a bloom is vital to the bush it is leaving."), Exhibiting, Great Modern Roses ("modern" dates from the introduction of *La France* by Guillot Fils in 1867), Pruning, Some Other Notable Roses, and Special Culturing. Each chapter is filled with facts and anecdotes.

Having tracked M. F. K. Fisher for years as an almost worshipful fan of her cookbooks—which were about so much more than food—and her sublimely written account of life in France, it dismays me to find her preface, in the form of a letter to the author who admires her so much, astonishingly graceless, almost grudging.

Reddell includes photographs of the two dozen "best bets" in modern roses at what he considers their best stages of bloom. You have a stony heart, indeed, if you are not captivated by their history, romance, and peerless beauty.

Rayford Reddell has written for *Amer-*

ican Horticulturist (October 1987), *Horticulture* magazine, and *The American Rose*, inviting us into his magical world and promising to show us the way. His purpose in writing this book, he tells us, was simple: "If you already grow roses well, I want you to grow them better. If you don't grow them well, I want to improve your chances for success. If you don't grow them at all, I want to encourage you to start." Who could refuse?

—Faith Jackson

Faith Jackson is a writer and gardener who resides in Washington, D.C.

The Reference Manual of Woody Plant Propagation

Michael A. Dirr and Charles W. Heuser Jr. Varsity Press, Athens, Georgia. 1987. 239 pages, hardcover, \$29.95. AHS member price, \$26.95.

This new reference manual, while clearly aimed at the nurseryman, should nevertheless be of great value to the gardener who is seeking specific information on woody plant propagation. Through their relationship with the International Plant Propagators Society, as well as their own research activities, the authors have established a practical working guide for the propagation of over 1,100 species, varieties, and cultivars.

Outlined in the first four chapters are introductions and overviews of sexual and asexual methods of propagation. The authors emphasize that this information is by no means an attempt to exhaustively

illustrate the theories and principles of woody plant propagation, but is, instead, an effort to provide working guidelines for reference.

In the beginning chapter on raising plants from seed, the reader will find useful information on seed collection and storage. The complex aspects of germination are discussed, with a look into seed viability and dormancy treatments. The chapter that follows is on leaf, stem, and root cuttings. Included is a review of the factors that affect rooting, such as juvenility, timing, wounding, and commercial hormones. The chapter on grafting and budding includes illustrations on the various methods available and where they are most appropriately used. An entire chapter devoted to tissue culture will have little relevance to the amateur propagator, although it is an interesting introduction and review of a very technical method. The rest of the book is in an encyclopedia format. Specific instructions are given for the successful propagation of individual plant species by seed, cuttings, and, when appropriate, by grafting.

There are few propagation books out today that so comprehensively detail the propagation of woody plants as this book does. It will undoubtedly be an asset to the amateurs and professionals who seek new formulas for raising their own plants.

—Timothy Boland

Timothy Boland is a horticulturist in Fairfax County, Virginia.

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Mileager's Gardens, 4838 Douglas Avenue, Racine, WI 53402-2498, catalog \$1.00.

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Siskiyoun Rare Plant Nursery, 2825 Cummings Road, Medford, OR 97501, catalog \$1.00.

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Lamb Nurseries, E. 101 Sharp Ave., Spokane, WA 99202, catalog \$1.00.

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Gardeners interested in alpine plants and rock gardening should consider membership in the American Rock Garden Society. The annual seed exchange offers members the chance to obtain rare and unusual alpine plants. For information on membership contact Ms. Buffy Parker, Secretary, American Rock Garden Society, 15 Fairmead Road, Darien, CT 06820.

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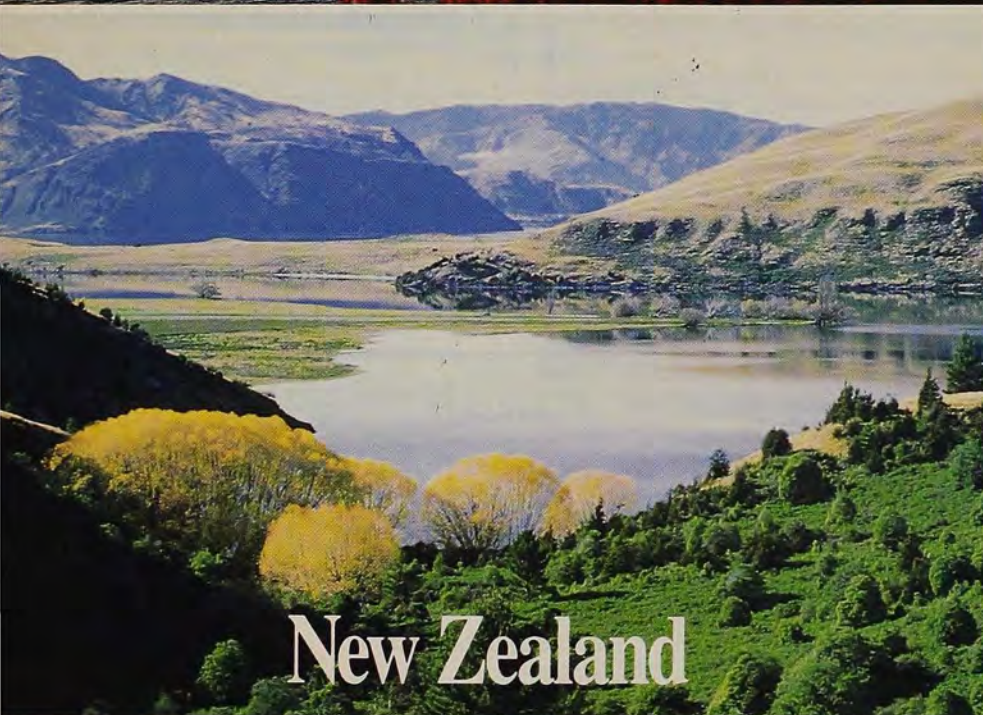
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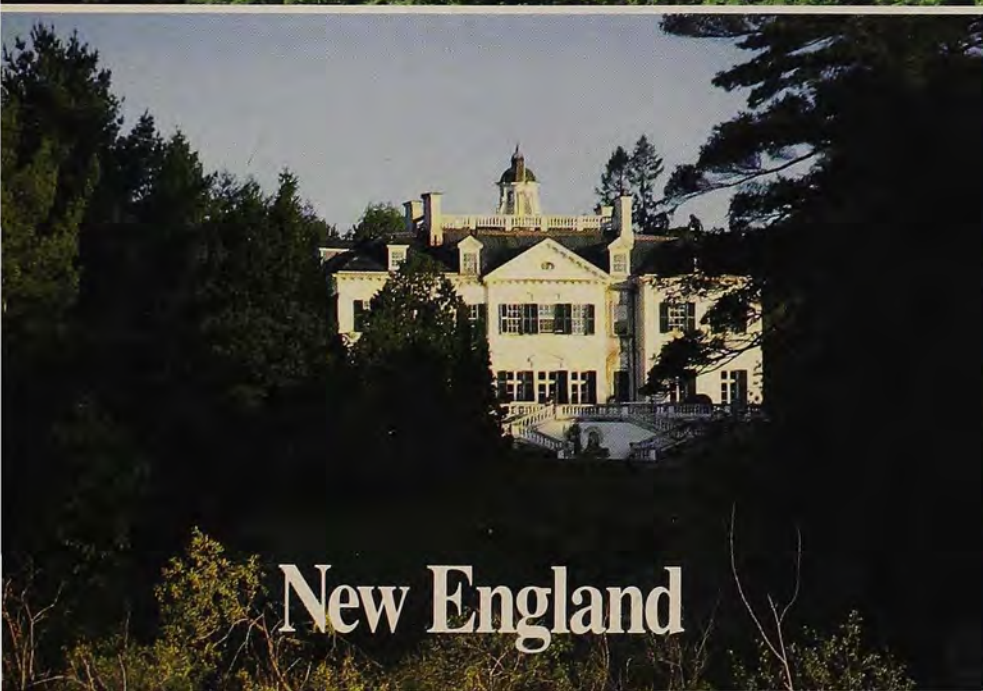
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