

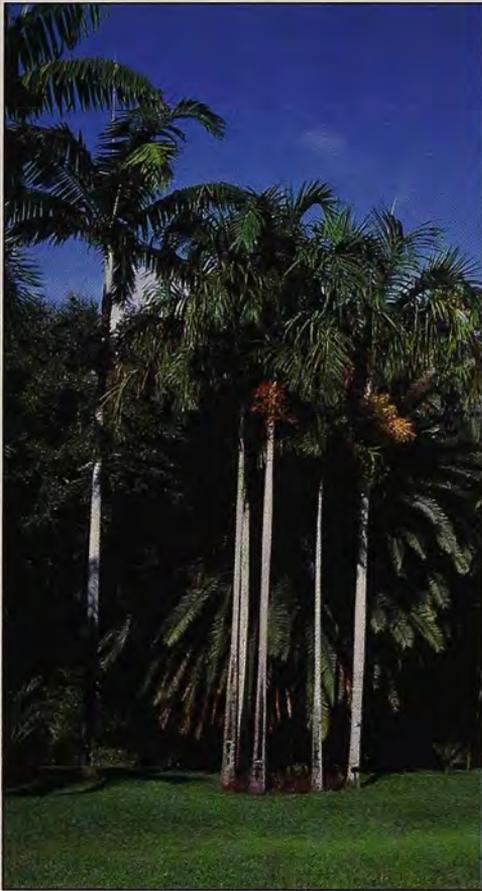
February 1984

American Horticulturist



Members of the American Horticultural Society Will Gather in Miami from March 14-17, 1984 For the AHS Spring Symposium.

We Would Like You To Join Us.



Leave winter woes behind and join us in Miami for our Spring Symposium. Tour Fairchild Tropical Garden, famous for its tropical flowering trees, palms and cycads, and stroll through Vizcaya, the Italian Renaissance palace of John Deering. Explore The Kampong, once the home of world-renowned plant explorer David Fairchild. Learn about tissue culture propagation at the Orchid Jungle, and visit wholesale and retail nurseries filled with exotic plants. Be sure to join us for a unique tropical experience—South Florida promises to be in the full bloom of spring.

For more information about the Spring Symposium, look in the January issue of *American Horticulturist* news or write to the Society's Education Department. You may also elect to extend your horticultural holiday by joining the Post Symposium Tour of gardens along Florida's west coast, the Everglades and EPCOT from March 18-26, 1984. Please join us!



ABOVE: Fairchild Tropical Garden is famous for its collection of palms as well as cycads, orchids, bromeliads and trees native to South Florida and the Bahamas. BELOW: Hibiscus 'Norma', growing in the hibiscus display garden at Fairchild.

Barbara W. Ellis

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Hemerocallis 'Song Sparrow', a new introduction from Klehm Nursery. For more new introductions to look for in 1984 turn to page 14. Photograph courtesy of Klehm Nursery.

On the Cover

The spectacular flowers of night-blooming cereus, *Hylocereus* sp., grace a tropical evening at The Kampong, former home of world-famous plant explorer David Fairchild. For more on this fascinating Florida garden turn to page 25. Photograph by Larry Schokman.

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Meet Our New Executive Director

It is a great pleasure and privilege for me to join the staff of the American Horticultural Society as its new Executive Director. As I assume my new responsibilities it seems appropriate to share some of my ideas about the Society so that you might, in turn, be encouraged to share with me and the staff your own expectations for the Society and enthusiasm for enjoying and promoting horticultural pursuits.

I'm disheartened by the fact that so few people either know or care about the joy and satisfaction of growing plants. After all, gardening is one of the healthiest (physically and mentally) and most economical activities in which one can engage. It should be the business of the Society to expand its efforts to provide more opportunities to learn about and work with plants in garden settings and in nature.

I'm also frustrated by the fact that so many people without first-hand experience with plants often view horticulture and its many manifestations as so much trifling luxury. Ironically, the fact that it *isn't* becomes apparent only when the pocketbook begins to suffer. Witness the turnaround in home vegetable gardening resulting from the recessionary climate of the past decade. With your support, we will find and develop ways to promote the pleasure and usefulness of green plants and glorious gardens.

I'm disappointed, too, that we haven't been more effective in promoting and maintaining in cultivation a wider variety of plants of service to man. In spite of history's teachings, we seem to forget that the monoculture of choice species or selected cultivars, while convenient and cost-effective in the short term, can have disastrous results in the long run. Witness the denuding of so many of our city streets with the loss of the American elm to Dutch elm disease.

On the other hand, I'm enthusiastic about the increasing opportunities afforded by the Society to work with hobbyists and



professionals alike. I would like to enlist your support in carrying the word about plants and gardens to every vacant lot, every unlandscaped development project and every empty windowsill in the land.

I'm also interested in helping more plant lovers and gardeners adopt a broader interpretation of the meaning of horticulture. Surely it means tending a plot of vegetables or a favorite flower bed in one's back yard, but it must also include a sense of stewardship of the land on any scale, up to and including the earth itself. We horticulturists should do more to instill a conservation ethic by encouraging land use planning and zoning policies consonant with the long-term welfare of the land about us, as well as by promoting the conservation of those species that are endangered in our own localities. Even though the conservation of vast stretches of the tropics is the most critical battleground affecting our long-term welfare on this planet today, we of this Society can probably be of greatest help in raising the national consciousness about worldwide problems by making our friends and neighbors aware of similar, albeit smaller, situations in local contexts.

Recently, we've become increasingly aware of a growing, and in my view, healthy resurgence toward decentralization in America. While such trends might tend to

be less cost-effective, they might also prove to be more rewarding in enhancing the character and revitalizing the quality of life in different parts of the country. How should a national society, with its headquarters on the Eastern Seaboard, attempt to serve the horticultural interests of this vast land of ours successfully? Intuition tells me that the answer lies in encouraging differences rather than by forcing similarities, in promoting the development of regional activities and facilities, and in relying upon local resources to enlighten and enliven local settings.

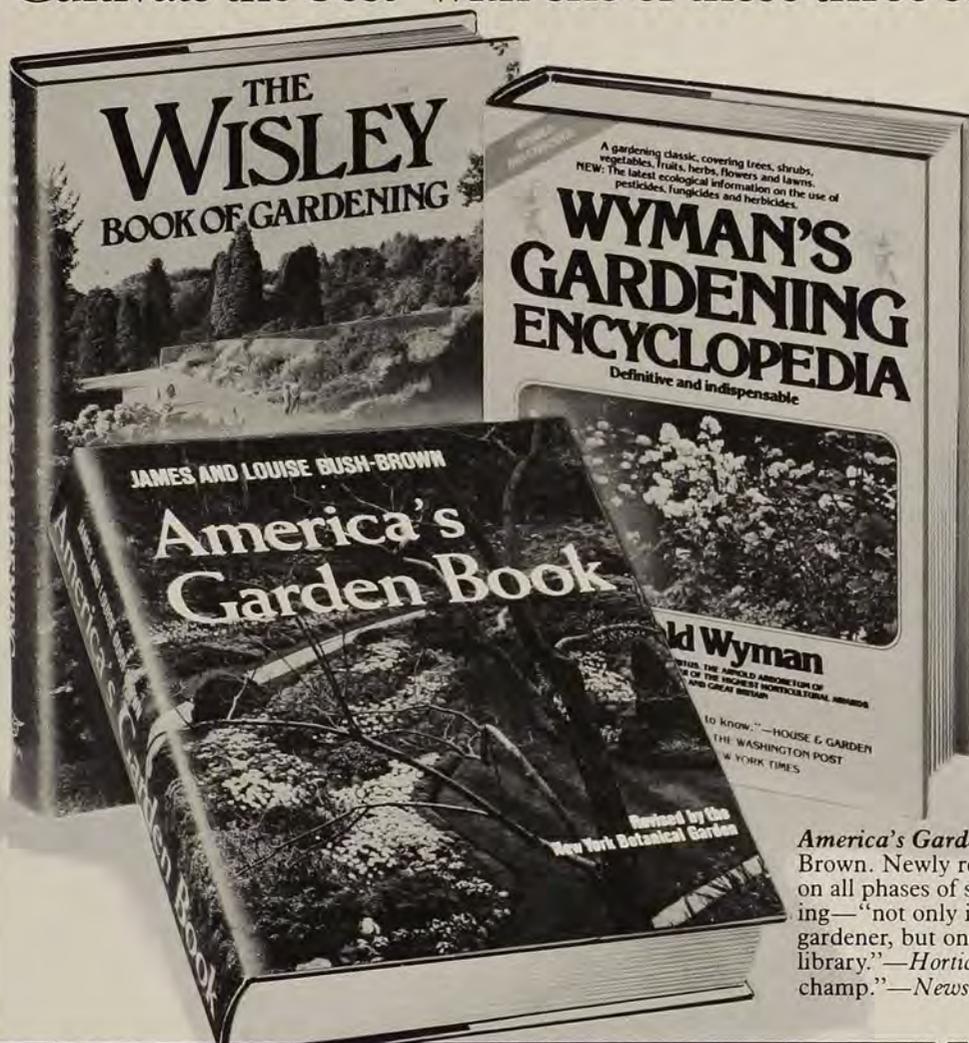
We understand this to be the Information Age. Your Society has been for many years an important source of horticultural information for its members and for the American public. *North American Horticulture: A Reference Guide*—and earlier versions of this important reference—epitomize the Society's great tradition of making information available. It is my belief that its increasing involvement in the dissemination, at the national level, of topical information on local and regional events will continue to render it a Society for all seasons of the year and for all sections of the country.

It is very exciting for me to be entering the Society's service at a point near the beginning of both the worldwide explosion of information and the national trend toward decentralization. It could prove to be one of the most productive and rewarding eras ever for the American people. With imagination and foresight, your Society will play an important part in enabling us to enjoy today's—and tomorrow's—technology without sacrificing yesterday's values. I look forward to working with all of you in achieving the goals of the Society and in making our world a better one in which to live.

Charles A. Huckins

—Charles A. Huckins

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The Caper Family

If you are a lover of herbs, spices and flavorings, you know the piquancy of capers. As a gourmet cook you may be using capers to add pungency to a dish you feature in your repertoire. Indeed, the caper is a Mediterranean staple that has been used as a condiment for several thousand years. It is of integral importance in the preparation of some "classic" recipes, and its special accent is the essence of Liptauer cheese.

But did you know that this chef's delight is a flower? The caper we eat is the small, immature, unopened

flower bud of *Capparis spinosa*, belonging to the caper family, Capparaceae.

In warm, dry climates where it is native, such as in the Mediterranean region, this spiny bush with its trailing branches is often seen growing wild, hanging over old walls, on building sites or along gravelly road banks. The attractive flowers are rather like lovely, large, wild roses. They are yellowish or white with tassels of purple-tipped stamens. The caper bush is not hardy in cool climates, but it can be grown as an annual in temperate zone gardens.

Where the plant is cultivated, its immature flower buds are gathered early each morning, necessitating much hand labor. In countries around the Mediterranean where capers are an everyday ingredient of flavorful dishes, the buds are sold in the market loose, by weight. For sale around the world the buds are pickled in strongly salted wine vinegar and bottled as a pungent condiment. Berries, if allowed to mature, are sometimes pickled in rural areas.

The generic name, *Capparis*, as used by Linnaeus, is believed to be derived from the Arabic word *kabar*, meaning caper. It



Pamela Harper

is a large genus whose members are of mostly tropical origin. The caper bush is the only one of economic importance. Some of the other *Capparis* species have admirable ornamental qualities and, occasionally, edible berries.

C. cynophallophora, Jamaica caper tree, is a shrub or small tree with long, leathery, simple leaves and beanlike, fleshy berries on long stalks. (The species name means bearing long, curved seed pods.) It is native to the Caribbean and south Florida, where it is a coastal tree. This is a handsome flowering plant. Its fragrant white blossoms, borne in few-flowered clusters, have numerous protruding stamens—yellow with purplish anthers—that are two or three times as long as the petals.

C. sandwichiana, a Hawaiian native named for the Sandwich Islands, is particularly adapted to rather dry, rocky locations near the sea. Its Hawaiian name, *pua-pilo* or *maiapilo*, refers to its highly perfumed flowers. These delicate blossoms have a mass of protruding, yellow-tipped, white stamens, and they bloom only at night, usually closing by eight o'clock in

the morning. The fruit is a green berry with orange, fetid, inedible pulp. In Hawaii the plant has long been used medicinally as a cure for broken bones. Curiously, the whole plant is pounded, then applied to body joints, never to the injured area. Unlike many of its confreres, this species is completely smooth, bearing no spines.

Other *Capparis* species are listed among the useful native plants of Australia; about 20 species are native to the continent. Hardy in all but very frosty areas, *C. arborea* is a small tree from the rain for-

ests of Queensland and New South Wales. Scattered spines on the stems and very fragile, white flowers characterize this species. *C. mitchellii*, a small, rounded tree, is referred to as "native orange." Its white flowers are followed by edible fruit. *C. lasiantha*, commonly called split jack, grows wild as a very spiny, heavily branched shrub or as a climber over trees. The pulp of its yellow fruit is pleasant to eat, and livestock find the foliage palatable. A variety of the common caper, *C. spinosa* var. *nummularia*, is recommended for Australian gardens. It is commonly called coastal caper or Flinders rose.

The family to which the capers have given their name is medium-sized, made up of about 40 genera and perhaps 700 species of trees, shrubs, herbs and some lianas (woody vines). They are found mainly in the tropics and subtropics around the world and in the Mediterranean region.

Diagnostic features of the caper family include leaves that are borne alternately on the stem and are simple, or palmately or digitately divided (as in the familiar *Cleome*). Many have glandular, leaflike



LEFT: *Cleome hasslerana* is commonly called spider flower. This is the cultivar 'Pink Queen'. ABOVE: *Crateva religiosa*, commonly called sacred garlic pear, is a small tree from the Old World tropics.



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STRANGE RELATIVES

stipules or spines at the base of the stem, as in the spider flower and caper. The flowers may be terminal (at the tip of a branch) and borne in clusters, as in *Cleome*, or solitary and axillary, as in *Capparis spinosa*. Usually there are four to eight sepals and four to eight petals. There may be only four stamens, but, in some species, stamens are numerous, conspicuous and ornamental. Seed is borne in a dry capsule in some species and in a round or cylindrical berry in others.

Many temperate zone gardens are embellished with a well-known member of the caper family, *Cleome*, commonly called spider flower. There are about 200 species of *Cleome*, the most widely grown of which is *C. hasslerana*. Highly visible from mid-summer until frost, its height provides accent and background in the flower garden. This native South American annual self-sows readily, sometimes running wild in the eastern United States. Like all cleomes, it is strong-smelling (garlicky), hairy, and viscid or sticky. Its compound leaves of five to seven leaflets have pairs of short spines at the base. Terminal clusters of small flowers with long-clawed petals and prominent stamens are followed by narrow seed pods on long stalks. It is hard to say whether it is the arresting display of stamens or the pendulous arrangement of seed pods that accounts for the spidery name. *C. hasslerana* bears dark, rosy pink blossoms that become white with age. Breeding has produced improved flower quality, and various cultivars offer choices of color emphasis: 'Great Pink', 'Pink Queen', and 'Rosea', in shades of pink; 'Alba' and 'Snow Crown' in white.

Other *Cleome* species are native to the western United States, from Washington south to California and on to Baja and Mexico. *C. serrulata*, formerly *C. integrifolia*, is widespread in the Rocky Mountains. Commonly called Rocky Mountain bee plant, stinking clover, and sometimes skunkweed because of the unpleasant odor of its crushed herbage, it occurs in western Canada and migrates through the western United States down to Mexico. This acrid, pungent plant is said to be distasteful to animals, but it is a good honey plant and has been cultivated for that use. Large, showy, pink or purple flowers bloom from June to October on plains and hillsides. In times of severe food shortage, the Navajos made a ground meal out of the seeds.

Another bee plant in the family is the yellow spider flower or golden cleome, *C.*



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lutea, which blooms from late summer to killing frosts. It is a vigorous annual, six or seven feet tall, occurring naturally from Washington south to California and eastward into Colorado and western Nebraska.

C. speciosa, formerly *Gynandropsis speciosa*, is a robust, succulent annual similar to *C. hasslerana* but without spines. It is grown as an ornamental in warm countries and is widely distributed from its Central American homeland. It produces beautiful, glossy leaves and long clusters of bright pink salver-form flowers bursting from intensely red buds. In Indonesia it is reported as a woody and often treelike plant rather than as an herb.

Crateva religiosa (formerly *C. adansonii*), sacred garlic pear, is a commonly cultivated tree of the Old World tropics, where it is known in some places as temple plant. This small tree bears large, creamy flowers with an odor of garlic. Each flower has many prominent, curving, purple stamens that appear in feathery contrast to the petals. The fruit is a spotted berry with fleshy yellow pulp. Dr. Edwin A. Menninger, the tropical tree specialist, speaks of *Crateva* as the "rich uncle of caper," and says that in the "beauty [that] it can produce on the landscape *Crateva* excels."

Another tropical tree of the caper family is *Steriphoma paradoxum*. As described by Dr. Menninger, *Steriphoma* "is characterized by gorgeous orange, bell-like flowers in clusters at branch tips. All four known species are South American. Curtis' Botanical Magazine reported that it had been grown under glass in Vienna as far back as 1797 and at Kew Gardens in England since 1825. Petals are pale yellow with yellow stamens."

Published lists of native plants of several of our western states include six species of *Polanisia*. These members of the caper family are coarse, weedy, annual herbs much like *Cleome* species. Commonly referred to as clammy weed, *Polanisia* is a heavily scented, viscid plant. Flowers may be white to yellow, with numerous stamens that are purple in some species. Two species of this western native are cultivated under the name *Cleome gigantea* or *Cleome grandis*.

An early southwestern botanical collector, Friedrich Adolph Wislizenus, was honored in the naming of another western native, *Wislizenia*. In late summer, the yellow flowers of *W. refracta* are conspicuous along roadsides and in streambeds of Ar-

izona, Texas and parts of California.

Flowering in spring and summer, and reminiscent of Rocky Mountain bee plant, is another wild native, *Cleomella*. Its fragrant yellow flowers lure bees, although its foliage earns it the name stinkweed. Doves are said to relish the seeds of Mojave stinkweed, *C. obtusifolia*.

From the little flower bud that we eat to the tree that excels in the landscape—

in between, the abundance of colorful, sometimes fragrant, flowers, with here and there a juicy fruit—the horticultural harvest in the caper family is impressive. ♣

—Jane Steffey

Jane Steffey recently retired as the Society's Horticultural Advisor. She is now an active AHS volunteer and serves as Editorial Advisor to *American Horticulturist*.

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A Catalogue Review



Barbara Gibson

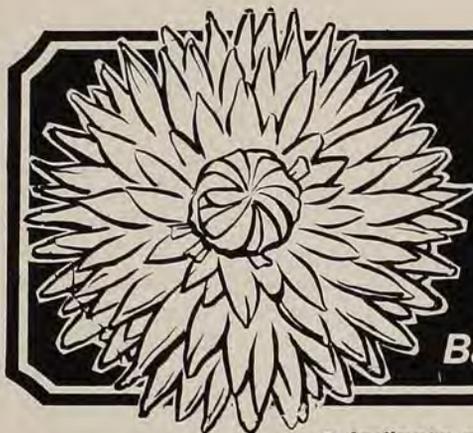
Years from now when they all talk about grey days, this particular Thursday in early November will be listed among the "Top 40." What little light is left after filtering through various thicknesses of fog is cut once again by the curtain of rain gently falling on an already soaked ground. Luckily, I planted the last of the bulbs that will brighten up the next spring season before this particular weather system descended upon us. While planting, I thought of doing this most pleasant of jobs: a new catalogue review for 1984.

This year there are 13 firms listed. They range from importers of bulbs, to purveyors of gardening equipment, to providers of specialized seeds for the vegetable garden. I can no longer make the claim that

all of these firms have eschewed the computer, as I did in last year's review, as that particular machine has become an electronic Trojan Horse and cannot be ignored. But I can still say that the following nurseries and merchandisers wrap their cargoes with care; that you need not fear ordering for delivery even across thousands of miles; and that their catalogues are still written with a modicum of restraint.

Altman Specialty Plants deals with the world of succulent plants and cacti for those growers of house plants who are constantly in search of the new and the unusual. Kenneth and Deena Altman are now entering their tenth year of business, and each year their collection is expanded. For

a change of pace try one of their *Mesembryanthemum* species, the South African mimicry plants that blend into their habitats by aping the rocks about them, yet produce daisy-like flowers often as large as the plants themselves. The catalogue is well illustrated, and complete cultural instructions are included with every order. **Coenosium Gardens** is an acre of land right in the center of Lehighton, Pennsylvania, nestled in the Wyoming River Valley. On that acre is one of the largest collections of rare and unusual dwarf conifers in the United States. The Finchams have instituted a graft-on-request system of producing plants, with specimens usually ready for shipment by late May. Familiar with the white pine, *Pinus strobus*? Coenosium



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SEASONABLE REMINDERS

lists over 35 cultivars alone. Or you may be astounded by their variations on the European beech, *Fagus sylvatica*, and a particular beauty, the variegated sweet gum, *Liquidambar styraciflua*, with creamy-colored areas on a lush green that turn red and pink for fall. The Finchams are also the founders of the newest in specialized plant groups—the American Conifer Society.

Epicure Seeds specializes in unique and choice varieties of gourmet vegetable seeds, coupled with a growing list of gardening equipment. Their catalogue includes fine descriptions of the vegetables cited, complete growing instructions and an occasional recipe. The following suggestion for leeks is an example of the latter: braise in bouillon, then marinate in vinaigrette for a succulent salad; or combine leeks with sausage, freshly grated horseradish and cream, wrapping all in a pie crust for a main dish that will have the troops running across the hills for more. Or sample one of their twelve varieties of lettuce, including the French butterhead, 'Hilde'. You'll discover a new world of epicurean dining.

Faire Harbour Ltd. of Scituate, Massachusetts has nothing to do with plants or seeds. But they do stock all the replacement parts for the Aladdin Greenhouse Heater, including wicks, flame spreaders and those hard-to-find metal wings that attach to either side and distribute heat over a wide area. They also stock a fantastic number of parts for kerosene lamps, including a complete line of chimneys and shades.

Russell and Yvonne Graham produce an attractive catalogue from Oregon that includes a fine selection of specialty bulbs, lilies, native plants, ornamental grasses and hardy cyclamen. For an attractive addition to the perennial border down at the shady end, try the Japanese sedge, *Hime-kan-suge* (*Carex conica*), which originally dotted the open woods and low hillsides of Hokkaido, Japan, with its curved green and white blades up to 12 inches long. And don't miss the outstanding collection of *Trillium*; they list 14 species. Also included on the Grahams' list are 20 species and cultivars of cyclamen, in my opinion one of the most beautiful flowers in nature.

High Country Rosarium, located in Denver, Colorado, began with a collection that specialized in old garden roses, hardy shrub roses, and species roses that originated in colder climates. Don't look here for that dainty hybrid tea rose. Instead, check out the selection of hedge roses that add pri-

vacy to your home, coupled with all-summer bloom; the old-garden rose collection that includes memorable classics from the 1800's; or the bird lover's collection, with colorful rose hips to attract your favorites. The Campbell family is to be congratulated for keeping a good thing going.

Le Marché is a marketplace for gourmet vegetable seeds created by Georgeanne Brennan and Charlotte Glen. Together they publish a handsome catalogue devoted to these *éclatant* plants of the kitchen garden. For just a hint of their listings, the following are the kinds of chicory available for 1984: the reds, 'Palla Rossa', 'Rouge de Verone', and 'Treviso'; the greens, 'Pain de Sucre' and 'Ceriolo'; all sharing the bill with a variegated type, 'Chioggia', which doesn't hold a candle to the three Mâche: 'Grote Noordhollandse', 'Vert de Cambri', and 'Coquille de Louviers'. (Mâche is also known as corn salad or lamb's lettuce.) New Yorkers please note: they also stock *arugula*.

John D. Lyon is a bulb importer from Massachusetts with a list notable for its many flowers. Chief among these are the autumn-blooming crocuses, with five species listed. *Crocus ochroleucus* has small, white flowers brushed with ocher-yellow at the base and is very appealing, but it is *C. speciosus* 'Oxonion', with its deep violet-blue petals surrounding orange pistils, that

really makes a statement in the fall garden. Be the first on the block with a fritillaria of a pale, coral-orange, *Fritillaria carduchorum*, recently discovered at Lake Van in Turkey. Lyons also carries a complete line of Felco shears and all replacement parts.

McClure & Zimmerman are bulb brokers from Chicago. I first made their acquaintance when I ordered *Cardiocrinum giganteum*, the beautiful Himalayan lily, early last year. Since then I've seen their handsome catalogue, which gives complete cultural instructions for planting out all the bulbs and many fine illustrations of the flowers themselves. Especially interesting is their explanation of the classification of daffodils and the number of species and cultivars they stock. Don't miss the long list of species tulips for the rock garden; *Tulipa marjolettii*, with pale, creamy white petals just edged with cerise, makes an excellent bloom for cutting in the spring.

Walter F. Nicke is the grand old man of the garden equipment world and carries a fascinating variety of equipment in his catalogue known as *Garden Talk*. Highlights are the many products from England that bear the Design Centre of London symbol of best British quality and design. The Trigger-Release Lance for watering in the greenhouse, the Gardener's Belt (with its pockets for seeds, tools, and all the rest)

Mail-Order Addresses

Send for the catalogues mentioned in Peter Loewer's article at the following addresses.

- **Altman Specialty Plants**, 553 Buena Creek Road, San Marcos, CA 92069. The catalogue is \$1.00.
- **Coenosium Gardens**, 425 N. Fifth Street, Lehighton, PA 18235. The catalogue is \$1.00.
- **Epicure Seeds, Ltd.**, P.O. Box 450, Brewster, NY 10509. The catalogue is free.
- **Faire Harbour Ltd.**, 44 Captain Peirce Road, Scituate, MA 02066. The catalogue is \$2.00 and is refundable with a \$15.00 order.
- **Russell Graham**, 4030 Eagle Crest Road, N.W., Salem, OR 97304. The catalogue is \$1.00.
- **High Country Rosarium**, 1717 Downing Street, Denver, CO 80218. The catalogue is \$1.00.
- **Le Marché**, 7118 Batavia Road, P.O. Box 566, Dixon, CA 95620. The catalogue is \$1.00.
- **John D. Lyon, Inc.**, 143 Alewife Brook Parkway, Cambridge, MA 02140. The list is free.
- **McClure & Zimmerman**, 1422 W. Thorndale, Chicago, IL 60660. The catalogue is free.
- **Walter F. Nicke**, Box 667G, Hudson, NY 12534. The catalogue is free.
- **Joshua Roth, Ltd.**, P.O. Box 496, Santa Rosa, CA 95402. The catalogue is \$1.00.
- **Smith & Hawken**, Dept. H20, 68 Homer, Palo Alto, CA 94301. The catalogue is free.
- **Sunrise Enterprises**, P.O. Box 10058, Elmwood, CT 06110-0058. The catalogue is free.

or the Thatched Bird Houses from England's past are all notable items to wish for when Christmas 1984 rolls around, if not sooner. His line of black English flower pots, available in sizes ranging from 1½ to six inches in diameter, are tough, pliable and almost unbreakable.

Joshua Roth carries a complete line of flower, garden and Bonsai tools and cutlery, both wholesale and retail. His retail catalogue includes attractive pictures of many tools that are either hand-forged or turned from laminated steel using the Japanese process that is similar to the one used to make the famous samurai swords. Although all the Japanese imports are strictly utilitarian, many would be equally at home against a velvet backing in illuminated glass cases. The brush and grass sickles are especially useful around the field and yard, and no flower arranger should be without a pair of Ikenobo Ikebana shears.

Smith & Hawken is another first-rate supplier of equipment for the garden, and their large and colorful catalogue describes many shovels, forks, spades and cultivating tools made by Bulldog of England. They almost make one want to go outside and dig for the sheer joy of holding the handles. The vine and orchard shears are extremely well made and belong hanging close to every grape arbor or fruit orchard in the country. The classic machete is a handsome tool of roll-forged, carbon steel with a copper-wrapped, beechwood handle ready to tame the Green Hell or the back yard.

Sunrise Enterprises was suggested to me by a reader as a good source for roots of the Chinese chives, *Allium tuberosum*, since the germination record of the seeds is often not the best. I've since found their catalogue to be an interesting slice of the Orient. For example, it lists dozens of Chinese vegetables in English, accompanied by Chinese characters. Included are 21 varieties of Chinese cabbage (*Brassica* sp.), five kinds of calabash gourds (useful, when dried, as water dippers, birdhouses, and general decorations), and six types of Chinese radishes. Also featured are a large number of seeds for sprouting. If you try nothing else in the line of Oriental vegetables, make sure you grow the chives; they are superb as flowers and as food. ♣

—Peter Loewer

Peter Loewer is a botanical artist and scientific illustrator who writes and illustrates his own books. His latest book, *Peter Loewer's Month-By-Month Garden Almanac*, is reviewed on page 12.



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Book Reviews

INTERIOR LANDSCAPING.

Tok Furuta. Reston Publishing Co. Reston, Virginia. 1983. 188 pages; hardcover, \$19.95. AHS discount price, \$18.25 including postage and handling.

This introductory book for students of interior landscaping is equally suitable for the beginning landscape architect or the serious home gardener. The usual chapters on how plants grow under artificial conditions and on recommended plants for interior use are supplemented by excellent discussions of the relationships between plants and people, and the effects of plants on the quality of life. This is a useful reference work for anyone who grows plants indoors, whether it is in a shopping mall or your own living room.

THE BAMBOO BOOK.

Roger Stover. Endangered Species Press. Tustin, California. 1983. 64 pages; softcover, \$16.00. AHS discount price, \$14.25 including postage and handling.

There are so few books about bamboo for the gardener that this one would be welcome under any circumstances. Fortunately, this is also a worthwhile addition to the literature. Not only does it offer good descriptions of the many cultivated species of bamboo, but it also groups all of the plants according to their hardiness. For the northern gardener, the large number of hardy bamboo species may come as quite a surprise. Chapters on garden culture and propagation are helpful, and discussions of the use of bamboo in construction and cooking will undoubtedly inspire many readers to consider growing these giant grass relatives.

PETER LOEWER'S MONTH-BY-MONTH GARDEN ALMANAC.

Peter Loewer. Perigree Books, Putnam Publishing Group. New York, New York. 1983. 175 pages; softcover, \$7.95. AHS discount price, \$7.50 including postage and handling.

Most garden almanacs focus on the garden month by month, both indoors and out. This one is different, however. Lots of garden gadgets and an excellent list of sources will give you ideas for your own garden, and all of the plants and hardware are readily available. Well-written and beautifully illustrated by the author, this is a

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book you will want to read at one sitting and then keep by your side throughout the year.

BIBLICAL PLANTS

GARDENING WITH BIBLICAL PLANTS.

Wilma James. Nelson-Hall. Chicago, Illinois. 1983. 252 pages; hardcover, \$24.95. AHS discount price, \$23.95 including postage and handling.

PLANTS OF THE BIBLE.

Michael Zohary. Cambridge University Press. Cambridge, Massachusetts. 1982. 223 pages; hardcover, \$16.95. AHS discount price, \$13.10 including postage and handling.

Gardening with Biblical Plants treats well over 100 species that can be grown in gardens of the United States. Bible references are given for each plant, together with a discussion of the plant's uses in biblical times. Cultural information is also provided, along with restrictions as to where the plant may be grown. Each plant is illustrated with a line drawing of the leaves and the flowers or fruit.

Plants of the Bible is not a gardening book but a popularly presented botanical work identifying the plants of the Old Testament. The descriptions include a list of areas where the plants occur in nature, and identification is discussed in terms of the plant names in Hebrew, ancient Aramaic, Greek and modern Arabic. Each plant is illustrated with a colored photograph. An excellent introductory section discusses the geography and climate of Israel as well as the place of plants in biblical life.

The first book is recommended for the gardener who would like to grow some of the plants referred to in the Bible. However, for anyone seriously interested in biblical plants in general, the second book is an outstanding reference work.

GUERRILLA GARDENING.

John F. Adams. Coward-McCann Inc. New York, New York. 1983. 224 pages; hardcover, \$14.95. AHS discount price, \$13.00 including postage and handling.

The title of this book is an unfortunate choice, for it may turn away some readers who would not only agree with the author, but would profit from what he has to say. *Genetic Conservation for the Home Gardener* would be a much more descriptive title, although it would certainly not attract as much attention. This is a book that explains how to preserve older varieties of plants and where to find them. Although

the author reveals a strong anti-commercial bias and ignores much of the commercial plant breeding directed specifically at the home garden, he nevertheless presents a good explanation of the shrinking gene pool and the dangers of losing genetic variability in any plant species. Even if you don't want to save your own tomato seeds, this is a well-written account of how and why old cultivars should be preserved. ♣

—Gilbert S. Daniels

Gilbert S. Daniels is the Immediate Past President of the American Horticultural Society.

Guest Reviewer

EARTH PONDS: THE COUNTRY POND MAKER'S GUIDE.

Tim Matson. The Countryman Press. Woodstock, Vermont. 1982. 111 pages; softcover, \$10.95. AHS discount price, \$10.25 including postage and handling.

This outstanding and attractive "how to" manual provides comprehensive instructions for siting, digging, sculpturing, maintaining and living with a country pond—or even an urban backyard pool. It would serve as a valuable reference for any pond builder, whether interested in fishing or aquaculture, supplemental irrigation or simply aesthetic enhancement of a property by an enterprising horticulturist. The advice offered is based on years of practical experience.

Clearly, as any real estate agent or dedicated gardener knows, ponds have great appeal and obvious charm. An admitted proselytizer, Matson envisions a patchwork sea of pond sculptures across the country. The text is supplemented by a wide-ranging appendix that covers pond culture resources that will guide readers who wish to explore further.

COMMON PLANTS OF THE MID-ATLANTIC COAST: A FIELD GUIDE.

Gene M. Silberhorn. The Johns Hopkins University Press. Baltimore, Maryland. 1982. 256 pages; hardcover, \$20.00; softcover, \$7.95. AHS discount price, \$20.00 hardcover, \$9.15 softcover including postage and handling.

Gene Silberhorn, a senior member of the Virginia Institute of Marine Science staff,

has crafted a first-rate guide with the able assistance of Mary Warinner, the book's illustrator. This guide covers plants in the coastal zone from Long Island to Cape Fear, North Carolina, a particularly interesting region where the range limits of northern and southern species converge and overlap.

Although many species are, of necessity, omitted, the author briefly discusses the more common and endemic plants. An introduction provides an illuminating overview of a typical coastal zone ecosystem, and the author has also included a useful key to the plants covered in the text and technical glossary.

The book is divided into sections that correspond with natural landform divisions: Plants of the Beach, Dunes, and Maritime Forest; Plants of Salt and Brackish Marshes; and Plants of Freshwater Wetlands, Tidal and Nontidal. Well-conceived black and white drawings illustrate over 100 species. A short descriptive text highlights the taxonomic features with distribution and wildlife food value.

A thorough index and bibliography, coupled with an appendix listing of National Seashores, Wildlife Refuges and Coastal State Parks, add to the value for the reader. This is a superb guidebook for amateur naturalists, students in a variety of ecology-oriented courses and gardeners who wish to assess new species for use in their backyard "wetlands."

—Jack DeForest

Jack DeForest, Ph.D., is a free-lance economist living in Alexandria, Virginia.

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Dumbarton Oaks Stanley Smith Garden Internship

Applications are invited for a Garden Internship, funded by the Stanley Smith Horticultural Trust and open to men and women, of any nationality, not over 25 years of age who have demonstrated an interest in gardening, horticulture, or botany and who plan to become professional gardeners, preferably in private gardens. The intern will work for one year in the gardens at Dumbarton Oaks, gaining experience in various aspects of gardening and in the problems of managing a large garden. They will also have access to the Garden Library.

Applications should be addressed to the Director, Dumbarton Oaks, Washington, D.C. 20007, and be accompanied by a curriculum vitae, a copy of the high school and/or college record, and two letters of recommendation addressed specifically to the advantages to the applicant of working at Dumbarton Oaks. The appointment will be made by the Director of Dumbarton Oaks acting in consultation with Advisor for the Gardens and the Superintendent of Gardens and Grounds. If necessary, interviews will be scheduled. The appointment will be for one year from September 1, 1984. The stipend will be \$11,000. *Deadline for Applications: March 15, 1984*

New Plants for 1984

BY THE STAFF OF AMERICAN HORTICULTURIST

Our annual search for the best new trees, shrubs, perennials, annuals and house plants has brought to light many new species and cultivars we would like to consider for our own gardens and the gardens here at River Farm. Hybridizers and plantmen have certainly been busy this year. We have uncovered two outstanding new magnolia cultivars, several exciting plants for the house plant enthusiast and three cultivars for the *Rhododendron* lover, just to name a few. We hope you enjoy this brief look at what the new year has in store for gardeners. Sources for these new plants are listed on page 42.



Rhododendron 'Wild Affair'. This beautiful new release from Greer Gardens is a cross

between the red-flowered 'Jean Marie de Montague' and black-red 'Moser's Maroon'. 'Wild

Affair' is a compact, attractive plant that grows to about six feet in 10 years. Its flowers

appear in late May, and it is hardy to -5° F (the southern portions of U.S.D.A. Zone 6).



Hibiscus 'Disco Belle White'. This new rose mallow cultivar produces an abundance of nine-inch flowers on compact plants that reach a height of only 20 inches. It is the first dwarf hibiscus available from seed as a separate color. An early-

flowering selection, it makes an excellent short-season bedding plant in northern areas. 'Disco Belle White' is a perennial and with mulching, will survive in U.S.D.A. Zone 5. It is available from Geo. W. Park Seed Company.



Rhododendron 'Chetco'. This gorgeous new deciduous azalea bears brilliant, clear, butter-yellow flowers that range from three to four inches in size. Best of all, it is remarkably hardy—to -25° F (U.S.D.A. Zone 5).

Young plants will flower heavily and grow to six feet in 10 years. The blooms appear in mid-May, and 'Chetco' can be counted on for good fall color. 'Chetco' is available from Greer Gardens.



Rhododendron 'Cannon's Double'. A new deciduous azalea, "Cannon's Double" is notable for its exceptional hardiness—to -25° F (U.S.D.A. Zone 5). It bears three-inch, fully double flowers whose interesting combination of pink, cream and white

constantly changes throughout the blooming season. The plants grow to six feet in 10 years, bloom in mid- to late May and have attractive, four-inch foliage throughout the summer season. 'Cannon's Double' is available from Greer Gardens.



Lilium 'Butterscotch'. This new introduction from Borbeleta Gardens is a

beautiful, soft orange color with a very faint pattern of lines and spots on its petals.



Streptocarpus F-1 Hybrids. This is a new group of cultivars to look for in florist shops and greenhouses around the country. All have exceptionally large flowers, and their small, pliant leaves make them easy to accommodate in windowsills



and in light gardens. 'Delta', (left), is a mid-range blue with narrow veining. Other cultivars to look for include 'Baby Blue', 'Mirage' (also blue-flowered) and the 'Royal' series (above), which are available in purple, white, red, pink and blue.



Sansevieria trifasciata 'Gold Hahnii Favorite'. A sport of 'Gold Hahnii', this low-growing, bird-nest-type *Sansevieria* never grows more than six inches tall. When the plant is grown in a clump, the pattern of its richly striped leaves gives the impression of a Scotch plaid. It is available from Endangered Species.



Begonia 'Super Curl'. The leaves of this new introduction have a pronounced curl and are banded in brown, coral, silvery white and red. An excellent,

rapidly growing pot plant, 'Super Curl' often produces pink flowers in winter. It is available from Logee's Greenhouses.



Nelumbo nucifera 'Shirokunshi'. A Japanese introduction available for the first time in America, this miniature lotus bears white blossoms shaped like cottage tulips. Its leaves, which measure six to eight inches in diameter, are held about 18 inches above the water. The five-inch blooms are held about 20 inches above the water. 'Shirokunshi' can be grown in a tub or half barrel and is happy with three or four inches of water over the soil. It is available from Lilypons Water Gardens.



Saintpaulia 'Razzberry Frost'. This is a new African violet cultivar with variegated foliage and double pink flowers. Each

petal sports a band of fuchsia around its edge. 'Razzberry Frost' is available from Lyndon Lyon Greenhouses.



Zinnia 'Border Beauty Rose'. An All-America Selections award winner, 'Border Beauty Rose' bears 3- to 3½-inch, semi- to fully double flowers.

The plants are approximately 20 inches tall and make excellent cut flowers. The dahlia-type blooms are rose-pink, highlighted by salmon.



Delphinium elatum 'Snow White'. This sturdy, semi-dwarf delphinium does not require staking, yet at 27 inches in height it is tall enough to provide stunning, white, vertical accents in the perennial border. The blooming portion of the main spike averages 15 inches in length, and each plant produces from six to eight shorter side branches that are also covered with white florets. 'Snow White' has excellent floret retention, so it is attractive in the garden as well as in cut bouquets. Seed for this new cultivar is available from Burpee. U.S.D.A. Zone 3.



Pleione bulbocodioides 'Blush of Dawn'. This is a lovely cultivar of hardy orchid that bears three- to four-inch, pale pink and white flowers. The flowers appear in March or April before the foliage emerges. 'Blush of Dawn' is hardy to U.S.D.A. Zone 7 if covered by a thick layer of dry peat, or the pseudobulbs can be lifted in fall, stored dry during the winter and replanted in spring. It is available from Siskiyou Rare Plant Nursery.



***Hemerocallis* 'Song Sparrow'**. This new miniature daylily is a Klehm Nursery introduction. Its golden orange flowers are $2\frac{3}{4}$

inches across. 'Song Sparrow' is a mid-season bloomer that is approximately 14 inches tall. It is hardy to U.S.D.A. Zone 3.



***Magnolia X soulangiana* 'Darrell Dean' and 'Todd Gresham'**. These are two exciting new cultivars hybridized by Drury Todd Gresham of Santa Cruz, California in the early sixties. Louisiana Nursery is introducing them for the John James Audubon Foundation at Gloster Arboretum in Mississippi, where they have undergone several years of testing. 'Darrell Dean' (right)



bears 12-inch flowers, each with from 9 to 12 broad tepals that are wine-red on the underside. It is a late-blooming plant that escapes most spring freeze damage. 'Todd Gresham' (left) bears 10- to 12-inch, broad-tepaled flowers that are violet-rose on the undersides. A blush of pink shows through on the white inner surface. This fast-growing cultivar is a showy bloomer and has attractive red seed cones each fall.



***Paeonia* 'Coral and Gold'**. A new peony from Klehm Nursery, 'Coral and Gold' is a 30-inch, early-season bloomer

with dark green foliage that enhances the lovely single flowers. It is hardy to U.S.D.A. Zone 3.



***Viburnum* 'Eskimo'**. An excellent new release from the U.S. National Arboretum, 'Eskimo' combines snowball-like, *V. carlesii*-type flowers with a dwarf habit and semi-evergreen foliage. It is a compact, slow-growing cultivar that is excellent for the home garden. It is hardy to U.S.D.A. Zone 6 and has survived in Zone 5 with only moderate top injury.



'Princess of Monaco' Hybrid Tea Rose. This new rouge and cream bicolor tea rose, named for Princess Grace of Monaco, is from the House of Meiland in France. Its classically shaped buds open into ivory white blooms that have a hint of pinkish blue around the edges of the petals. A descendent of the ever-popular 'Peace' rose, 'Princess of Monaco' has weather-resistant blooms that are produced profusely in the late summer and fall. It is available from Wayside Gardens.



***Gazania* 'Sundance Striped'**. A new, tetraploid, F-1 hybrid, 'Sundance Striped' bears $\frac{3}{4}$ - to 4-inch blooms with striped red and yellow petals. This heat-tolerant annual is approximately 10 to 12 inches tall. It is available from Geo. W. Park Seed Company.



Snap Pea 'SugarAnn'. A 1984 All-America Selections winner, this new pea bears pods that are very similar to its parent 'Sugar Snap' in quality, size

and shape. 'SugarAnn', however, matures a full two weeks earlier than 'Sugar Snap' and bears its pods on compact, 18-inch bushes.



'Sunbright' Hybrid Tea Rose. A free-blooming, brilliant yellow rose from Jackson & Perkins, 'Sunbright' provides a

season-long supply of 4½- to 5½-inch blooms. The flowers hold their color beautifully once open.



Iris 'Perfect Interlude'. This is one of the first fluted and ruffled iris cultivars with white standards and yellow falls. Available from Schreiner's Gardens, it is a mid-season bloomer that bears eight to nine flowers on each 42-inch stalk.



X Aporophyllum 'Oakleigh Conquest'. This cultivar, a cross between *Aporocactus* (commonly called rat-tail cactus) and an *Epiphyllum* hybrid, has been available in Europe for some time. It is a day-blooming plant whose cactus-type, glowing orange flowers appear in spring. 'Oakleigh Conquest' is an exceptionally heavy bloomer and makes an excellent hanging basket plant. It is being introduced in the United States for the first time this year by Rainbow Gardens.



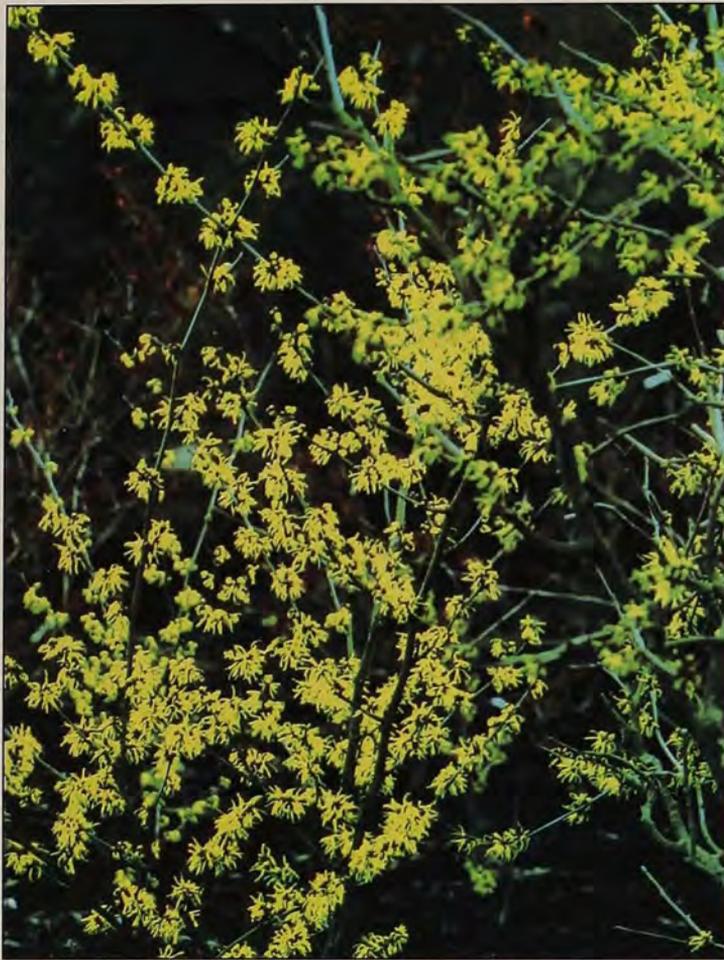
Hosta 'Blue Mammoth'. An impressive, specimen-size plant, this new hosta from Klehm Nursery is both slug resistant and sun tolerant. It is very floriferous and has attractive, intensely blue foliage. It is hardy to U.S.D.A. Zone 3.



Kalmia latifolia 'Ostbo Red'. This new mountain laurel cultivar from Wayside Gardens bears deep red flower buds that open to light pink. The flowers contrast beautifully with the dark green evergreen foliage. An excellent shrub for partial shade and a cool, well-drained acid soil, 'Ostbo Red' is hardy to U.S.D.A. Zone 4.



Sansevieria trifasciata 'Bantel's Sensational Sport'. This lovely—and unique—new *Sansevieria* has 24- to 36-inch curved, sword-shaped leaves patterned with dark green margins and pure white centers. It is available in commercial quantities for the first time this year from Endangered Species.



***Hamamelis mollis* 'Pallida'**. An excellent new cultivar of Chinese witch hazel, 'Pallida' bears intensely fragrant, soft, sulfur-yellow flowers in February and March. This large

shrub, which is a Wayside Gardens introduction, will reach 15 to 20 feet in height. It has glossy-green foliage, which turns yellow in the fall. It is hardy to U.S.D.A. Zone 5.



Muskmelon 'Limelight'. This new honeydew-type muskmelon from Burpee will produce ripe, 7- to 7½-pound melons 96 days after sowing. It ripens approximately two weeks earlier than other large

honeydew melons. The fruit slips off the stems easily when ripe, and each plant will produce from six to seven fruits. 'Limelight' has 1¼-inch-thick fruit that has a sweet, delectable honeydew flavor.



***Boltonia asteroides* 'Snowbank'**. A late-blooming, very hardy member of the daisy family, 'Snowbank' is an excellent choice for the wild garden. The grey-green foliage

shows little or no insect or disease problems. Available from Daystar, this 18- to 30-inch cultivar is more compact than the species, which can reach a height of six feet.



Phlomis lanata. A showy, yellow-flowered member of the Labiatae, or mint family, *Phlomis* is an excellent choice for the herb garden. The one-foot-tall plants are capped with whorls of yellow blossoms throughout the summer months. It is available from Logee's Greenhouses.



'Olympiad' Hybrid Tea Rose. This is the first red hybrid tea to win an All-America Rose Selections award in 19 years, and it has been chosen the Official Rose of the 1984 Olympic Games. The brilliant red color of the flowers is remarkably long-

lasting, with no off-color fading or bluing for two weeks or more after the buds open. The urn-shaped buds open into four- to five-inch blooms, each with 30 to 35 petals. This new release from Armstrong Nurseries has disease-resistant, medium green foliage.



Eustoma grandiflorum. Commonly called tulip gentian, this stunning plant bears large, deep purple, tulip-like flowers. It is seldom cultivated, although it makes an excellent cut flower. A native of the southwestern United States, this annual or biennial is available from Plants of the Southwest. ☼

Container Plants for Wintry Terraces

BY LINDA YANG

In the frantic rush called spring, it's rather easy for the gardener to forget the grey scene called winter. This is particularly true for those whose garden is a terrace, balcony, patio, rooftop or tiny yard in town. Not that there's anything wrong with savoring thoughts of home-grown tomatoes or petunias overflowing a window box. It's just that by the time the planning and planting for summer is done, memories of the dreary days past have quite disappeared, along with any dreams of improving the view. Since there's no planting possible now, this is the time to spend a few thoughtful—and critical—moments at the window, studying the area and jotting down ideas that may enhance next year's scene. This is also the time to study the hardy plants growing in your locale, because whatever you find surviving outside, in the ground, can generally be counted on to survive outside, above

the ground, in a container or tub.

Winter's special pleasures are not found among the annuals; they are attained by taking advantage of the year-round, three-dimensional patterns, textures and tonal effects of the hardy species of trees, shrubs and vines. By growing these plants in containers, the terrace, too, will acquire year-round interest, and the bleak winter setting will be no more.

When considering terrace plantings, it is imperative to keep in mind the importance of using containers that are large enough to sustain life through the cold. The tubs can be of wood, plastic, ceramic or any other material that withstands the elements. In any case, here is a situation where bigger is distinctly better. This is because the larger the container, the more soil it will hold, and the more soil, the better chance outdoor plants have of surviving the winter. Soil is a natural insulator

that protects the roots from severe cold and tempers the alternate freezing and thawing that may rip and destroy them. Also, even in their dormant state, plants require small quantities of both nutrients and water, so the more soil present, the greater the area in which these essentials may be stored.

Where I garden—in New York City—the winter air temperatures rarely dip below 0°F, and I've found that containers at least 18 inches wide and 18 inches high are practical for most hardy woody plants, although 20 inches (or more if there is room) is even better. In areas subject to temperatures that are more severe, the container must be correspondingly larger.

The importance of the availability of winter water for container plants, by the way, cannot be stressed enough. While I have no statistics on the subject, I have no doubt that hardy plants planted outside in large tubs die during the winter primarily from lack of water, not from cold. If there has been no rain or snow for about a month, and if there is an extended thaw, you must be prepared to ignore the puzzled looks of neighbors and add water to your container plants on the morning of a mild winter's day. Foliage warms up quickly in the winter sun, and the plant is liable to transpire all of the available water in its container in a matter of hours. Gardeners with balconies covered by an overhang that prevents rain or snow from reaching the plants must be especially attentive to water deficiency.

Also of primary importance for the winter container garden is the selection of trees, shrubs and vines that are truly hardy in your locale. This means that springtime purchases must be made from a local nurs-



Linda Yang

LEFT: Hollies, such as this *Ilex crenata*, are indispensable to the winter garden. RIGHT: This snow-dusted terrace provides a welcome sight in winter. Ivy, evergreens, espaliers and a variety of plants grown in containers provide a wealth of winter interest.





eryman who is established and knowledgeable. Or, if purchases are made by mail, it is up to you to check the hardiness zone map to see if the species that intrigue you are tolerant of your coldest days. The hardiness zone map, which was developed at the Arnold Arboretum and subsequently modified by others, including the U.S.D.A., is based on Weather Bureau figures for the entire country and parts of Canada. It depicts broad areas within which certain species will survive and north of which they very likely will not.

If in doubt, it is best to select a variety considered hardy for a region colder than your own. I have noticed, for example, that owners of particularly windy rooftops in New York City often have success with species listed as hardy for New England.

The use of locally hardy plants also means that your winter garden will not be cluttered with burlap, Styrofoam cones or other eyesores required for protection of tender species. Possibly these devices are tolerable to country gardeners with space to spare, but they are hardly an aesthetic experience for those whose vista is limited to a balcony, terrace, rooftop or small yard.

With no lush foliage or splashy summer color for disguise, the true sculptural form of many plants is revealed during the winter months. Those species with especially interesting forms are the ones to look for now. I admit to being partial to the small weeping trees, which are so well suited to tub culture since their height rarely exceeds 10 or 15 feet. Attractive species include the gracefully cascading Siberian pea tree, *Caragana arborescens* 'Pendula'; the weeping Camperdown elm, *Ulmus glabra* 'Camperdownii', which is often a very broadly spreading tree in outline; and the weeping mulberry, *Morus alba* 'Pendula'. Weeping outlines are also found among the crabapples and ornamental cherries.

Other sculptural forms appropriate for winter gardens include the curled stems of the corkscrew willow, *Salix matsudana* 'Tortuosa'; the irregular corky growths on the limbs of the winged euonymus, *Euonymus alata*; and the twisted twigs of contorted European hazel, *Corylus avellana* 'Contorta'.

If it's green you require for winter consolation, there is nothing quite like a combination of the broad-leaved evergreen members of the Ericaceae, or heath family, which includes countless species of large-

and small-leaved rhododendrons. All of these plants can be relied upon to curl their leaves tightly as the temperatures plummet, a phenomenon which helps some gardeners to decide their daily dress, but which others do not find so appealing. Glossy green leaves, prominent seed pods and a less violent reaction to freezing temperatures are attributes of mountain laurel, *Kalmia latifolia*, as well as *Pieris japonica*, both of which are well suited to containers.

Extensive hybridizing has resulted in many exquisite hollies from species that include *Ilex crenata*, the Japanese holly distinguished by its small, smooth, winter foliage; the English holly, *I. aquifolium*; and the Chinese holly, *I. cornuta*. Chinese holly tends to have larger, more spiny-edged leaves than other species, and its cultivars bear brilliantly colored winter fruit. Be sure to plant a male plant for every three or four females to ensure berry production.

Red or golden berries that linger until the spring (if they are not eaten by birds) decorate the evergreen female plants of *Skimma japonica*, as well as the semi-evergreen fire thorns (*Pyracantha* sp.), the hawthorns and many crabapples.

A hint of color other than green is most appealing on a grey day, and besides, gardeners should not live by winter greens alone. For this reason, it's wise to include at least one plant with bronze or reddish foliage tones, such as the low-growing, graceful *Leucothoe*, whose oval leaves will turn auburn if touched by the winter sun. The same is true for many evergreen aza-

leas and evergreen cotoneasters.

Red is also the color of the bare branches of the shrubby, red-twigged dogwood, *Cornus alba* (its cultivar 'Sibirica' is especially recommended), and of the jagged, young branches of the highbush blueberry, *Vaccinium corymbosum*. Subtle tones are added by trees with exfoliating bark, such as the paperbark maple, *Acer griseum*, whose large, peeling flakes of bark reveal an orange or cinnamon color beneath, or the Japanese stewartia, *Stewartia pseudocamellia*, with golden, grey-green bark tones much like those of the sycamore. The birches reveal white, grey or yellow bark tones.

Keep the winter blues in the garden, too, by searching out the silvery needle evergreens such as the slow-growing globe-shaped white pine, *Pinus strobus* 'Nana', or one of the blue spruces, such as *Picea pungens* 'Compacta'. One of my favorites is the blue Atlas cedar, *Cedrus atlantica* 'Pendula', with its spare architectural outline and drooping limbs.

You'll know that spring is not far off when the brilliant yellow flowers of the Chinese witch hazel, *Hamamelis mollis*, appear despite the late February or early March snow. And what better time than just such a snowy day to conjure up some fanciful schemes for improving next year's winter garden? ❁

Linda Yang is a regular contributor to the Home Section of the *New York Times*. She is the author of *The Terrace Gardener's Handbook*, reissued recently by Timber Press. (See Sources on page 42.)



LEFT: Only the large containers in this wintry scene give away the fact that these snow-covered trees and shrubs are growing on a city rooftop. RIGHT: A dusting of snow creates new patterns in a city terrace garden.



Larry Schokman

ABOVE: The Kampong, former home of world-famous plant explorer David Fairchild, has a spectacular view overlooking Biscayne Bay. ABOVE RIGHT: The Kampong's current owner, Mrs. Edward C. Sweeney, has marked the entrance to her garden with a small ceramic plaque. BELOW FAR RIGHT: Jackfruit, *Artocarpus heterophyllus*, bears the largest tree fruits in the world. BELOW RIGHT: An unnamed cycad growing at The Kampong.



Larry Schokman



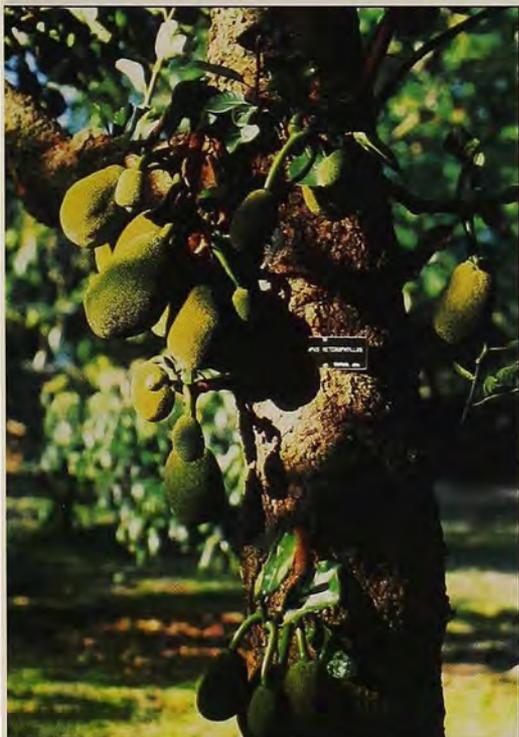
Ray Fisher



BY LARRY SCHOKMAN & KAREN RONNE TUPEK

There are few places on the earth more favored than this, where a man may surround his house with palms from all over the tropical world and spend his old age wandering about among them, admiring them as he might a collection of beautiful statues, all out under the open sky.

—David Fairchild,
The World Grows Round My Door



David Fairchild spent a lifetime admiring tropical plants. As a world-famous horticulturist and plant explorer, he saw countless species during his travels, and he surrounded his home on the shores of Florida's Biscayne Bay—The Kampong—with treasured specimens from around the world. Today, years after his death, rare and unusual specimens still fill The Kampong—mangoes, avocados, baobab, loquat, lychee, allspice, sapodilla and hibiscus, to name just a few. These plants create a spectacular living testament to Fairchild's love of tropical plants and his contributions to the world of horticulture.

Fairchild and The Kampong

David Fairchild's expeditions in search of new plant species during the early part of this century took him as far away as Ceylon, the East and West Indies, India, Egypt, Czechoslovakia and Russia, not to mention the Orient and Latin America. His first introduction to the tropics was in 1894, on a trip to Java, where he studied at the

famous botanical garden of Buitenzorg, now Bogor.

Fairchild seemed to have an uncanny ability to spot potentially useful plants and fruits. He was instrumental in the development of not only the cultivars of dates, figs, avocados, mangoes and many other once little-known fruits that we grow today, but also of crop and forage plants such as alfalfa, cotton and soybeans. While working at the U.S.D.A., where he established the Division of Seed and Plant Introduction in 1898, he introduced several thousand new and useful vegetables, fruits, grains, vines, flowering trees and shrubs. His lifelong enthusiasm for introducing new fruits and condiments and his many accomplishments as a hybridizer have gradually changed the American diet.

It was at The Kampong, his Florida home, that Fairchild hybridized, tasted and experimented with his many prized plants. The south Florida property held a certain fascination for him, and he later devoted an entire book, *The World Grows Round My Door*, to its life and development.

Not only were the plants spectacular, but the site itself had a long and colorful history. The first settler to live there was Jolly Jack Peacock, who sold his claim for \$50 to Mr. J. W. Ewan. Known as the "Duke of Dade," Ewan received the homestead grant in 1883. In 1892 Captain and Dr. A. R. Simmons acquired the land. They resided in a two-story pine cottage and also constructed a barn of oolitic limestone (a rock similar to coral found throughout south Florida). Captain Simmons built and operated a guava jelly factory on the property. Dr. Simmons, his wife, was the only medical doctor between Key West and Miami. According to Fairchild, "In [the] barn she kept her little pony, and on it she rode about the countryside doctoring the settlers, and the Seminole as well, far up the coast of Biscayne Bay. Her fame as a surgeon made her well known in places too far away for the pony to carry her, and there she had to go by sailboat."

David Fairchild and his wife, Marian, became the owners of The Kampong in 1916. So delighted were they with their new home that they gave it its distinctive name: "By the time we had finished putting up houses and moving shacks about there were so many buildings on the place that it suggested a little village—a Javanese Kampong. And 'The Kampong' it became." *Kampong* is the Malay or Javanese word for a cluster of houses, a settlement or a village.

The barn in which Dr. Simmons had kept her pony was transformed into a study, where Fairchild wrote all of his books after 1916. Today, it is one of the oldest buildings in south Florida.

Among the Fairchilds' most famous guests at The Kampong was Fairchild's father-in-law, Alexander Graham Bell. Bell had invented a simple method of extracting distilled water from saltwater using solar energy, and while at The Kampong he tried his method with water from the tropics. The concrete frame from his experiment remains in its original location.

Fairchild died in 1954. His wife continued to look after The Kampong until her death in 1962.

The Kampong Today—A Horticultural Treasure

In a chapter of *The World Grows Round My Door* entitled "What Will Become of The Kampong?," Fairchild wrote, "I would like to think that some of my trees would be kept long enough so that plant breeders might wander about in the early mornings getting pollen for their studies, perhaps making hybrids with new flavors after I

am gone." With the purchase of The Kampong by the Sweeneys in 1963, his hope became reality.

Edward Cleaveland Sweeney, a prominent attorney in Washington, D. C., and his wife, a devoted horticulturist, took on the task of preserving The Kampong with enthusiasm. Mr. Sweeney died in 1967, just four years after moving into their new home. Since then, Mrs. Sweeney has remained committed as ever to The Kampong and to research in tropical horticulture. "Ninety percent of living plant and animal species live in the tropics," Mrs. Sweeney notes, "but only ten percent of the total botanical and biological research has been done on them. On the other hand, only about ten percent of the total number of species live in the temperate climate, while ninety percent of the study covers them. This is why I have made donations to finance studies in tropical botany and agriculture. We need the plant research, we need to stabilize our population, and we need more food for those people already living on this earth."

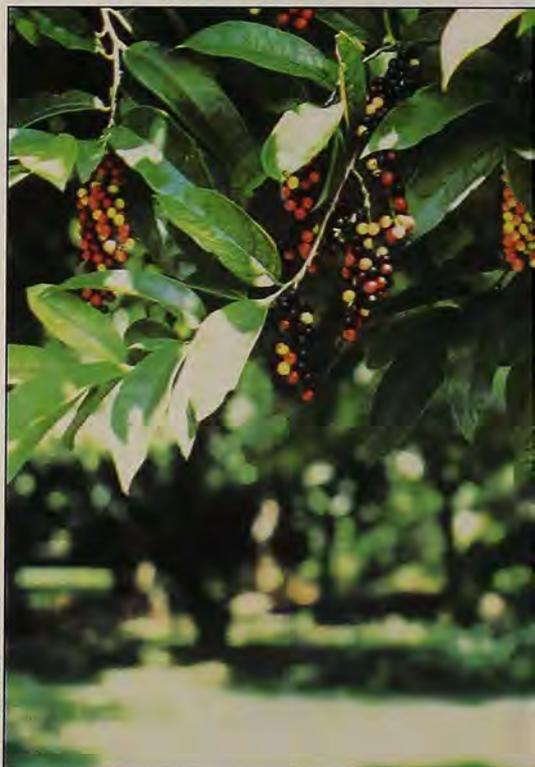
Mrs. Sweeney maintains The Kampong much as the Fairchilds did: as a private fruit orchard; as a center for horticultural research; as a valuable germ plasm resource; and as a testament to Fairchild's work. Mrs. Sweeney continues to expand and diversify the plant collection at The Kampong, which for the most part resembles an orchard of tropical fruit trees.

Today, as in Fairchild's time, plants at The Kampong do not merely duplicate specimens found elsewhere; they often have a distinctive history and identity. Near the main house, for instance, in the northeast corner of the patio overlooking Biscayne Bay, is a fig that is 34 feet in circumference. Planted in 1928 by Fairchild, it was first called *Ficus fairchildii*, then renamed *Ficus subcordata*. This majestic specimen is called the "Wedding Tree," since nine marriages have taken place under its canopy, the most recent, in June 1981. An Indonesian stone statue is now partially engulfed in the adventitious roots of this tree, which is probably the tallest *Ficus* in south Florida. Two rocking chairs of oolitic limestone, made especially for the Fairchilds, sit beneath its branches.

Another interesting specimen is a giant baobab tree, *Adansonia digitata*, now 20 feet in circumference. This magnificently trunked tree, which was grown from seed sent from Tanzania in 1927, is probably the only baobab in history ever to have been transplanted either in America or Africa. It had been uprooted and severely damaged by a hurricane at the U.S.D.A.'s



Ray Fisher



Larry Stokman



Larry Schokman



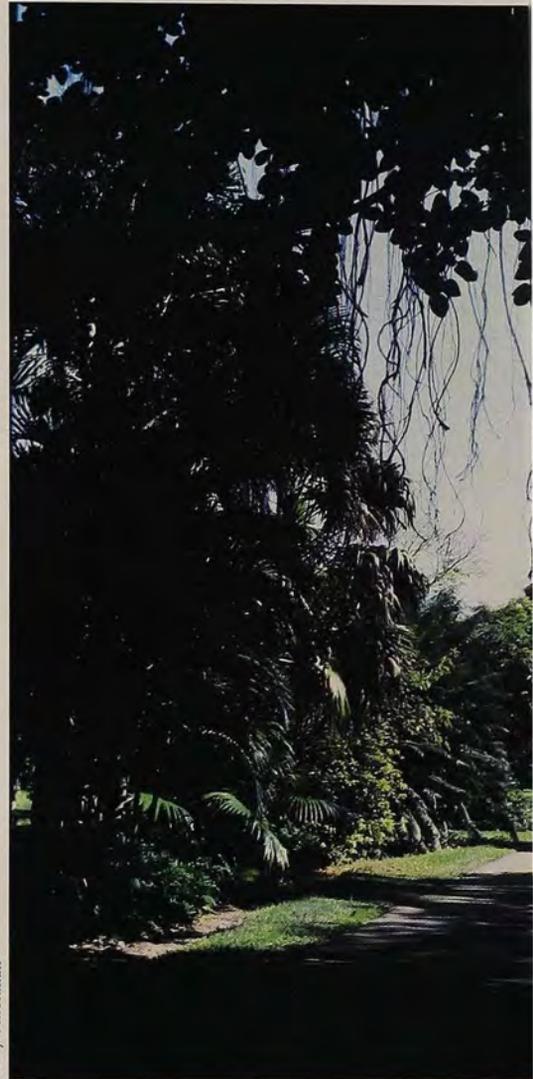
What has made The Kampong worth while, aside from the hours of pleasure it has given us, might be said to be the thousands of little foreign plants that we have given away, and the knowledge about them that has come with growing them ourselves—the confidence that sometime in our travels we may meet these plants in other peoples' gardens, grown tall, flowered perhaps, or fruited there.

I like to think that The Kampong has had a part in encouraging others to find enjoyment in playing with plants rather than in pastimes of a different character.

—David Fairchild,
The World Grows Round My Door



ABOVE LEFT: A specimen of *Ficus hookerana* (formerly *F. hookeri*) growing at The Kampong displays the magnificent roots of a jungle-dweller. BELOW LEFT: *Antidesma bunius*, commonly called bignay or Chinese laurel, is sometimes grown as an ornamental in warm regions. Its fruit can be made into preserves. ABOVE: Mrs. Sweeney on the terrace of her home, which overlooks Biscayne Bay and the Atlantic Ocean.



Larry Schokman

ABOVE: Night-blooming cereus, *Hylocereus* sp.
ABOVE RIGHT: Much of The Kampong is a tropical fruit orchard, where David Fairchild experimented with the many plants he introduced and developed. BELOW FAR RIGHT: *Colvillea racemosa*, a member of the pea family, is a showy, flowering tree that is native to Madagascar. RIGHT: Herons and other water birds abound in the mangrove swamp along the Bay.





Ray Fisher



Larry Schokman

Chapman Field Plant Introduction Station south of The Kampong. Fifty-four inches in diameter at the time, it was moved by a large flat-bed truck to The Kampong in 1964 and was planted in a hole 14 feet wide and four feet deep.

A specimen of the miracle fruit, *Synsepalum dulcificum*, grows in a pot on the front patio. The “miraculous” properties of this fruit from West Africa have a unique effect on one’s taste buds; after nibbling it, everything sour tastes sweet. Recent pronouncements about the possible carcinogenic effects of artificial sweeteners, such as cyclamates and saccharin, give this fruit tremendous potential for diabetics and people on low-calorie diets.

A specimen of the largest tree fruit in the world, the jackfruit (*Artocarpus heterophyllus*), also resides here. A native of southeast Asia and a member of the Moraceae, or mulberry family, its large, albuminous white seeds have a low protein content and can be curried; when sauteed, they have a chestnutty flavor. The timber, which has an attractive grain, is used extensively in cabinet work.

In *The World Grows Round My Door*, Fairchild gives a clue to the size and scope of the collection at The Kampong, which still applies today: “I had thought that I could include stories about all my precious plants in this book on The Kampong, but I find I cannot—there are too many. . . . Were I merely to give a list of my fruits it would make a page like one from a nursery catalogue. Sometimes on restless nights I have tried to count them to put myself to sleep but never seemed to get them all.

“I believe that more than seventy-five species of fruits, large and small, are now growing on The Kampong, many of them still too young to fruit. I mean species, not varieties, for to count the varieties would run the list well over a hundred. Of citrus fruits there are a score; the Kumquats and Calamondines, Tangerines and Grapefruits, Pomelos, Limes and Lemons, bitersweet and various other sorts of Oranges. And I must not forget the Alamoen from Surinam, the ugliest but one of the most delicious of the tribe.”

Not every plant at the Kampong flowers and fruits every year. Determining the identity of many of these has to await their fortuitous flowering. So it was with a mysterious vine that finally flowered in 1974, *Banisteriopsis caapi*. A member of the Malpighiaceae, or malpighia family, from the upper Amazon jungle, it is the only known flowering specimen in the United States. It is interesting to note that the caapi vine yields a hallucinogen. Natives steep

the bark of this vine in water, then drink it for its mind-altering effects.

A few edible members of the Euphorbiaceae, or poinsettia family, which is noted for its poisonous species, are also found at The Kampong: *Manihot*, harvested for cassava or tapioca; *Phyllanthus acidus*, the Otaheite gooseberry; and *Antidesma bunius*, called *bigney* in the Philippines and *booni* or *wooni* in Java. Surprisingly, approximately five to ten percent of those who eat *Antidesma* consider it bitter, an inherited quirk.

Several plants mark spots of historical interest at The Kampong. For example, a giant *Ficus benghalensis*, or banyan tree—172 feet in circumference at waist level—stands on the site of the old guava jelly factory, which was destroyed by a hurricane in 1926.

Part of The Kampong’s waterfront is a mangrove swamp, where at least four native mangrove species still thrive: red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), white mangrove (*Laguncularia racemosa*), and buttonwood or button mangrove (*Conocarpus erectus*). The Pacific mangrove (*Bruguiera gymnorhiza*), a red-flowered bruguiera, was brought by Fairchild in 1940 from the Sangihe Islands, south of the Philippines. The swamp area is also a haven for birds and fish. In 1974 a sea cow gave birth to her calf in the boat channel.

The future of The Kampong is rich in possibilities. This historical and horticulturally important site will no doubt continue to provide scientists and students with a never-ending array of specimens to study and observe, while horticultural groups and garden clubs will still come to learn more about the fascinating plants growing on its grounds. Most importantly, The Kampong will continue to provide pleasure not only to those who are fortunate enough to visit it, but also to gardeners the world over who appreciate plants in their own gardens that have their origins on The Kampong—the fulfillment of David Fairchild’s dream.

The American Horticultural Society will visit The Kampong during the Spring Symposium in Miami, March 14-17. For more information see the inside front cover of this issue. ☉

Larry Schokman, a former tea-planter from Ceylon, has been Superintendent of The Kampong for 10 years.

Karen Ronne Tupek is an architect with the Historic Preservation Office of the Veterans Administration. A frequent visitor to The Kampong, she has proposed it for nomination for the National Register of Historic Places.

Reflections on

Muck & Mysticism

TEXT BY FREDERICK MCGOURTY

ILLUSTRATION BY BARBARA GIBSON

Some 10 or 12 years ago at an annual meeting of the American Horticultural Society in New Orleans, I had a chance meeting with L. C. Chadwick, who had long served as head of the Department of Horticulture at The Ohio State University. There was a tour of plantation gardens that day and, having lingered longer than I should have over a dozen properly iced oysters at the Sazerac Bar, I was a bit tardy getting on the bus at the Fairmont-Roosevelt Hotel. Only one seat was left and, without noticing my new traveling companion, I sat down, out of breath but quite happy with the world, as anyone is who has just partaken of that number of God's finest bivalves.

I should have recognized my companion at once, for the evening before he had been awarded the Liberty Hyde Bailey Medal, the highest honor conferred by the American Horticultural Society. We introduced ourselves and had a delightful conversation. Professor Chadwick had been an institution within an institution at OSU, a Mr. Chips of horticulture revered by two generations of students. I came to understand why. He was in an expansive mood that day, and we discussed everything from house plants to well-known gardens to his particular specialty, the genus *Taxus*. But mostly the talk was reflective, on changes that had taken place in gardening over the years. His prime interest was, quite naturally, in horticulture as a science, as opposed to an art.

Professor Chadwick was proud of these

changes, some of which he had helped to bring about, but he was quick to admit that a great deal still had to be learned about plants and gardening. So much horticulture is plain supposition, he remarked. One of his thoughts has stayed with me to this day. It was, essentially: "All my life I have heard and read that if you remove the spent flowers of a lilac or some other shrub, there will be better bloom the next year. I *think* this is true, but in all of the literature issued by the various universities and botanic gardens, you will not find an instance of a *controlled* study where someone has actually proved it." In my own years as an editor I have learned to be cautious, too.

A good friend of mine, photographer-author Pamela Harper, reads garden books and articles more carefully than I do and becomes amused, annoyed or exasperated (depending on the offense) at conflicting claims about gardening techniques, cultural recommendations or even plant descriptions. She summed it up succinctly for me once when we became involved in a discussion about one of the more obscure points of "organic" gardening: "Gardening is muck and mysticism."

Divide and Conquer

The first 20 years that I gardened I never divided a clump of monkshood (*Aconitum napellus*), a lovely blue-flowered perennial with glossy leaves divided like those of the common buttercup, to which it has a botanical family tie (Ranunculaceae) despite

its helmet-shaped flowers. Somewhere along the path of my horticultural education I had read in several books that monkshood could not be divided, and my friends stoutly confirmed this, though none had ever tried to do it.

Eventually, a fungal disorder laid to rest our nice little thicket of monkshood, and we went without for a few years. Then a kindly soul down the road called one late summer day and offered her solitary large clump; she had young children and feared they might sample the leaves or roots, which are deadly poisonous. You see, another species, wolfsbane (*A. vulparia*), was used to poison the bait for wolves in Europe during the Middle Ages, and its roots were fed to criminals, knaves, wives or husbands, depending on the occasion. But, in general, wolfsbane was not regarded as a poison for the upper classes, though a competitor or two of the influential Borgia family—presumably high class—may have been done in this way. In any case, *Aconitum* has made its way into lore. Warlocks love it.

Mary Ann, my much better half, ventured to our friend's garden and carefully dug the clump, treating it as a shrub and getting a good amount of soil around the roots, for I had stressed to her the difficulty of transplanting monkshood. Upon her return home, she dropped the clump while unloading it from the car, and it shattered into a hundred little pieces, each with a bulbous root attached. Undaunted by my dire warnings about the uselessness of this



...DIVIDED
WE
FALL!

REFLECTIONS

effort, Mary Ann planted and cut back the foliage of each one, and they all happened to live. We have divided monkshood happily ever since. Indeed, several species of it.

How does such a story begin, about a plant being hard to divide? True, some perennials do not convalesce well after division or do not divide very easily. (I once spent half a morning with a pickax, getting a dozen divisions from a clump of *Miscanthus* grass.) In the case of monkshood, I suspect the story started this way: Garden Writer A wrote that it was a shame to divide an established clump of monkshood, because it took awhile for it to assume a stately grace. A few years later Garden Writer B came along and, finding Garden Writer A's prose turgid, said in the interest of brevity, "You should not divide monkshood." A few years later still, Garden Writer C, a careless copier, came along and said, "You can't divide monkshood." Alas, the ring of authority that comes with a simple, quick statement! Editors—and readers—love it.

Now let us alter the story a bit. If the clump of monkshood had been given to Mary Ann for division in early July—just as the hottest and driest part of summer descended upon us—the result might have been quite different, especially if we had been lax about watering and mulching. We once, in fact, lost a few divisions this way, because our New England summers are seldom as cool as they are pictured to be, even by New Englanders. If we lived in North Carolina, the July division would likely have meant death for the plants.

Why Plants Fail

The corollary point, of course, is that we gardeners are very apt to promulgate horticultural laws based on a single instance. How often have you heard, "Astilbes just won't grow in my garden"? Or, "Shasta daisies aren't hardy for me"? In the case of the astilbe, one wonders if the sole attempt was made in a sunny, parched spot of the garden—hardly the ideal place for these woodland plants from the Orient that require a moisture-retentive soil in summer. As for the Shasta daisies, poor drainage in winter might have caused their demise, and the plants could have prospered nicely in another, more elevated, location in the same garden.

However, there are many times when we don't really know why a plant has died, and if it happens not to come up in spring,

the almost automatic assumption is that it was not winter hardy. Yes, sometimes cold is the prime factor. But, apart from improperly drained soil in winter (which is perhaps the most frequent cause of death for either herbaceous or woody plants), fungal or insect problems, drought, too-late planting, rodents or some particular cultural condition all could have weakened the plant in the previous growing season, and winter merely provided the coup de grâce.

One spring day when I was lamenting the over-winter loss of an unusually attractive anemone, a fellow gardening zealot consoled me by saying, "Fred, you can't really say you have failed with a plant until you have killed it three times." Later in the year I reminded him of his sagacious words. He paused for a few seconds, then remarked, "I think I should have said 'five times'!" Of course, if you are trying to grow a banana in New Jersey and it doesn't make it through the winter, there is a time for automatic assumptions.

Telling It Like It Is

By the same token, one winter's success does not spell hardiness. Nor two. Nor three. One of my good friends, Erica, hates to have me visit her in gardening season, because she considers me a harbinger of doom. I am welcome for tea, or dinner, or even travelogues on long winter evenings, but not on a golden summer afternoon. You see, Erica is a fairly new gardener and is still in the flush of great enthusiasm, some of which I hope she will always keep. She tries everything, including ornamental plantains and hawkweeds.

Several years ago after a visit to Scotland and to gardens in England, Erica decided to plant an extensive number of heaths and heathers. Two mild winters have intervened, and these plants, laden with a thick cover of evergreen boughs in the cool months (when many of the heaths are most ornamental), seem to be in thriving condition. The longer-term performance record for heaths and heathers in noncoastal parts of America is not very auspicious, though, and I have on occasion pointed this out to Erica. Next summer when the heathers are in full bloom, she plans to have a garden party and not invite me. I will come another time to admire her hawkweeds.

Telling it like it is does not always endear one to gardeners, who live more by dreams and catalogue descriptions than normal

people do. Gardeners *want* to believe, and that is fine—even beautiful—unless it pushes reality too far off into a dark corner, to be tripped over when it is time to put on the light. Every few years, for example, some gardening magazine in the country, with new editor and new writer, carries a piece on the Himalayan blue poppy, *Meconopsis betonicifolia*. This is a hauntingly beautiful flower but is not a very good garden plant in the United States, except in a few areas with cool summers, and then uncommonly.

The author of the article may have seen the blue poppy in a garden in England, where it performs tolerably well, or even in Alberta (which also has cool summers). Perhaps he may even have grown it for a year or two on the coast of Maine or in the Pacific Northwest before it croaked. The article is apt to end on a plaintive and familiar note: "This fine plant should be more widely available." It once was. In fact, one of America's large perennial nurseries promoted it with pretty catalogue pictures for years before the outcry about the blue poppy's short life span made the firm realize it was engaging in horticultural genocide.

Difficult Plants

For many people the joy is in the growing, not in the end result of a garden. Some enjoy a challenge—taming the untamable plant, taking pride in raising difficult sorts to fine specimen stage. They regard "easy" plants as a bit vulgar, the sort grown by a neighbor with whom one doesn't get along. There is usually no harm in this, provided the grower doesn't kill too many lady's-slippers, trailing arbutus and shortia in the process. These are not really garden plants.

True, the vast number of endangered plant species in this country are endangered because of habitat destruction. But some responsibility must be borne by the horticultural community, since the above natives—and quite a few others—are usually dug from the wild, either by the home gardener or by wildflower dealers who then sell directly to the public or to nurseries. Fortunately, there has been an upswing in nurseries that actually propagate their own wildflowers, partly as a result of efforts by the University of North Carolina Botanical Garden and New England Wildflower Society in recent years. Many of them are easy to grow, but if a wildflower is difficult in cultivation, it may help keep the species

going in the wild if we ask ourselves why we really want to grow it. Ego may play a larger part than we care to admit.

"Difficult" plants fail for a variety of reasons. For example, they may be fussy about location, there may be soil mycorrhiza associations, or their soil pH requirements may be exacting. I recall a story told me some time ago by a conservation-minded nurseryman, Andre Viette, who feels that the best way to conserve a plant is to grow it. He obtained *Shortia galacifolia*, a delightful and increasingly rare-in-the-wild southern wildflower sometimes called Oconee-bells. The plants, which he obtained from North Carolina, arrived in soil with a quite low pH, 4.2 to 4.7. They had to be potted on, and to increase the acidity of the moderately acid soil he customarily used, Mr. Viette added a large amount of leaf mold, mostly red oak. Don't many garden books report that oak leaf mold has an acidic reaction? The shortias languished and, on a hunch, he took a pH test and discovered that the new medium was close to neutral. The pH was adjusted downward, and the shortias began to thrive again, along with partridgeberry (*Mitchella repens*), coltsfoot (*Galax urceolata*) and wintergreen (*Gaultheria procumbens*)—other distinctly acid-loving plants potted in the same mix. As an addendum, Mr. Viette pointed out that he had tested peat, too. Canadian peat was usually in the 5 to 6 range (German peat, usually lower), so the addition of this common material would not have solved the problem.

Limelight

Luckily, not many of our garden plants are as demanding about soil pH as shortia, or else we would be driving our land-grant universities wild with requests for pH tests of garden soil. (Many perform this function for a nominal fee.) In general, garden plants are tolerant of a fairly wide range of soil pH levels, although there are optimums known for certain ones, especially vegetables. In high-rainfall areas soils are as a rule distinctly acidic, and the majority of plants perform satisfactorily with small or no additions of dolomitic limestone. The matter of soil pH is usually overemphasized, unless one happens to live on a bog or on top of a lime pit. I do know from quite personal experience that generous use of limestone on moderately acid soil can do more harm than good to a lot of herbaceous perennials, especially the shade-

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tolerant sorts such as *Hosta*, *Epimedium* and *Astilbe*, as well as summer phlox (*P. paniculata*) and Japanese iris (*I. kaempferi*). (The wet-soil requirement for this iris is an old wives' tale.) *Dianthus*, *Gypsophila* and *Scabiosa* are among the few that lime distinctly helps if soil acidity is low.

For years there was an unchallenged assumption that the optimum pH range for mineral soils was 6.5 to 6.8. This may be true for many of the traditional sun lovers, including vegetables, but the shade plants or woodlanders so common in today's gardens are usually from parts of the world with substantial rainfall and benefit from a lower pH. But what about the popular soilless mixes? Some recent experiments by Professor John C. Peterson of The Ohio State University show that 5.2 to 5.5 on the pH scale is best for such a medium. He observed that the availability of phosphorus, an element important for root growth and flowering, *increased* more than 10 times as the pH was lowered from 6.5 to 5.2. For his studies, Professor Peterson used a commercial mix containing sphagnum peat, perlite, vermiculite, granite sand

and composted pine bark, adding major nutrients and trace elements.

Beetlemania

But we shouldn't be too quick to take our bags of limestone to the dump, particularly if there are Japanese beetles around. At the Ohio Agricultural Research and Development Center in Wooster, some recent experiments have shown that beetle larvae decrease in number after ground limestone is spread on a lawn. In one test on a lawn whose soil had a very low pH, 100 pounds of dolomitic limestone were applied to 1,000 square feet of land. As a result, there was little grub damage, whereas a surrounding area that was untreated was badly infested. The report also mentioned that if a lawn needs dethatching, this aeration procedure should be done before lime is applied, lest the lime "barrier" be broken. Since we had been greatly bothered by Japanese beetles in recent years, we decided to lime the lawn last autumn. (The most recent application had been five years earlier.) The happy result—probably not a coincidence—was a sharp decline in bee-

ties this year.

The nadir of muck and mysticism was reached in our garden several years ago, and it had to do with Japanese beetles. One of the gardening magazines carried a piece on beetle control, which sounded very promising to Mary Ann. The author said that the beetles in her garden were not a problem anymore and, what's more, her remedy was "organic." The recipe involved grinding up Japanese beetles, with a little soap and water, and spraying this mixture on roses, hollyhocks, lythrum and other plants they favor. Mary Ann dutifully did this, and after a few days, there were still no results. If anything, the beetles proliferated. I asked her how she ground up the beetles. In the kitchen blender, she replied. It cured me of milk shakes for six months, and I lost five pounds. So muck and mysticism aren't all bad. ♠

Frederick McGourty is a nurseryman, designer of perennial gardens and lecturer. He served as editor of the Brooklyn Botanic Garden Handbook series for 14 years and is now owner of Hillside Gardens in Norfolk, Connecticut.

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Pronunciation Guide

The accent, or emphasis, falls on the syllable that appears in capital letters. The vowels that you see standing alone are pronounced as follows:

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

Acer griseum AY-ser GRI-see-um
Aconitum napellus
ak-o-NY-tum na-PELL-us
A. vulparia a. vul-PARE-ee-ah
Adansonia digitata
ad-an-SONE-ee-ah dij-i-TAY-ta
Allium tuberosum
AL-ee-um too-bur-O-sum
Antidesma bunius
an-ti-DES-ma boo-NEE-us
Aporocactus ah-poor-oh-CAC-tus
Aporophyllum ah-poor-o-PHYLL-um
Artocarpus heterophyllum
ar-toe-CARP-us het-er-o-FILL-us
Astilbe ah-STILL-be
Avicennia germinans
av-i-CENN-ee-ah JERM-i-nans
Banisteriopsis caapi
BAN-iss-ter-ee-OP-sis ca-AH-pi
Begonia be-GOAN-ee-ah/be-GOAN-yah
Boltonia asteroides
bol-TONE-ee-ah ass-ter-oh-EYE-deez
Brassica BRASS-i-ka
Bruguiera gymnorhiza
brew-gee-ER-ah gym-more-RHI-za
Capparis arborea cap-PAR-iss ar-BOR-ee-ah
C. cynophallophora
c. CY-no-phall-oh-FOR-ah
C. lasiantha c. las-ee-AN-tha
C. mitchellii c. MITCH-ell-ee-eye
C. sandwichiana c. SAND-wich-ee-ay-na
C. spinosa var. *nummularia*
c. spin-OSS-ah numm-u-LAIR-ee-ah
Caragana arborescens
kar-a-JAN-ah ar-bor-ESS-us
Cardiocrinum giganteum
car-dee-oh-CRY-num ji-GAN-tee-um
Carex conica CARE-ex CON-i-ka
Cedrus atlantica SEE-drus at-LAN-ti-ka
Cleome gigantea clay-O-me ji-GAN-tee-ah
C. grandis c. GRAND-iss
C. hasslerana c. hass-ler-AY-na
C. integrifolia c. in-teg-ri-FO-lee-ah
C. lutea c. LOO-tee-ah
C. serrulata c. ser-rew-LAY-ta
C. speciosa c. spee-see-O-sa
Cleomella obtusifolia
cleo-MEL-ah ob-toose-i-FOL-ee-ah
Conocarpus erectus
cono-CARP-us er-ECK-tuss
Cornus alba KOR-nus AL-ba
Corylus avellana COR-ee-lus av-el-LAY-nah
Colvillea racemosa
col-VILL-ee-ah race-si-MO-sah

Crateva adansonii
CRAY-tev-ah ad-an-SONE-ee-eye
C. religiosa c. ree-lidge-ee-O-sa
Crocus ochroleucus
CROW-cuss oak-row-LEU-cus
C. speciosus c. spee-see-OH-sus
Delphinium elatum
del-FIN-ee-um ee-LAY-tum
Epimedium ep-i-MEAD-ee-um
Epiphyllum ep-i-FILL-um
Euonymus alata yew-ON-i-mus al-AY-ta
Eustoma grandiflorum
you-STOW-mah grand-i-FLOOR-um
Fagus sylvatica FAY-gus sil-VAT-i-ka
Ficus benghalensis FY-kus ben-gal-EN-sis
F. fairchildii f. FAIR-child-ee-eye
F. hookerana f. hook-er-AY-na
F. hookeri f. HOOK-er-eye
F. subcordata f. sub-cor-DAY-ta
Fritillaria carduchorum
frit-ill-AY-ree-ah car-duh-CORE-um
Galax urceolata
GAY-lax your-see-oh-LAY-ta
Gaultheria procumbens
gaul-THEER-ee-ah pro-KUM-benz
Gazania ga-ZANE-ee-ah
Gunnera manicata
GUN-er-ah man-i-CAY-ta
Gynandropsis speciosa
guy-nan-DROP-sis spee-see-O-sa
Gypsophila jyp-SOF-i-la
Hamamelis mollis
ham-ah-MEE-lis MOLL-iss
Hemerocallis hcm-er-o-KAL-iss
Hibiscus hy-BISS-kuss
Hosta HOSS-ta
Hylocereus hi-low-SEAR-ee-us
Ilex aquifolium EYE-lex ak-qui-FOL-ee-um
I. cornuta i. kor-NEW-ta
I. crenata i. kren-AY-ta
Iris kaempferi EYE-riss KEMP-fare-eye
Kalmia latifolia CALM-ee-ah lat-i-FOL-ee-ah
Laguncularia racemosa
la-gun-CUE-lair-ee-ah ray-si-MOS-ah
Leucothoe lew-KO-tho-ee
Lilium LIL-ee-um
Liquidambar styraciflua
lick-liquid-AM-ber sty-rass-i-FLEW-ah
Magnolia X soulangiana
mag-NOL-ya sue-lan-gee-AY-na
Manihot MAN-i-hot
Meconopsis betonicifolia
mek-i-NOP-sis bet-on-iss-i-FO-lee-ah
Mesembryanthemum
mess-em-bry-AN-three-mum
Miscanthus mis-CAN-thus
Mitchellia repens
MITCH-el-ee-ah REE-penz
Morus alba MOR-us AL-ba
Nelumbo nucifera
nel-UM-bo new-SIFF-er-ah

Paeonia pee-OWN-ee-ah
Phlomis lanata FLOW-miss la-NAY-ta
Phlox paniculata
FLOCKS pan-ick-yew-LAY-ta
Phyllanthus acidus
phy-LAN-thuss ah-CID-uss
Picea pungens PY-see-ah PUN-jinz
Pieris japonica pee-AIR-iss ja-PON-i-ka
Pinus strobus PY-nus STRO-bus
Pleione bulbocodioides
PLEE-o-nee bul-bo-co-dee-oh-EYE-deez
Polansia po-lan-ISS-ee-ah
Pyracantha py-ra-KAN-tha
Rhizophora mangle rhizo-FOR-ah MANG-lee
Rhododendron ro-do-DEN-dron
Saintpaulia saint-PAUL-ee-ah
Salix matsudana SAY-licks mat-sue-DAN-ah
Salvia pratensis SAL-vee-ah pray-TEN-sis
Sansevieria trifasciata
san-see-VEER-ee-ah tri-fas-ee-AY-ta
Scabiosa scab-ee-O-sa
Shortia galacifolia
SHORT-ee-ah ga-lace-e-FOL-ee-ah
Skimmia japonica SKIM-ee-ah ja-PON-i-ka
Steriphoma paradoxum
stair-i-PHO-ma para-DOX-um
Stewartia pseudocamellia
stew-ART-ee-ah SUE-do-ka-MEAL-ya
Streptocarpus strep-toe-CARP-us
Synsepalum dulcificum
syn-SEP-ah-lum dul-CIFF-eh-cum
Taxus TAX-us
Trillium TRILL-ee-um
Tulipa marjolettii
TOO-lip-ah mar-jo-LET-tee-eye
Ulmus glabra ULL-mus GLAY-bra
Vaccinium corymbosum
vack-SIN-ee-um cor-im-BO-sum
Verbascum ver-BASS-kum
Viburnum carlesii
vy-BUR-num KARLS-ee-eye
Wislizenia refracta
wis-liz-EN-ee-ah re-FRACK-ta
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UNITED STATES DEPARTMENT OF AGRICULTURE POMOLOGICAL WATERCOLORS



INTRODUCTION

A great number of artists were utilized by the United States Department of Agriculture in the beginning of the twentieth century to produce watercolors of new fruit introductions.

7177 paintings for 38 plant families have survived and are housed in the herbarium of the U.S. National Arboretum. Many of the paintings, about 40%, are designated types. It is fairly certain that some of the paintings may be the only illustrations of cultivars they represent (*Huntia*, 4(2), 1982, p. 103).

Some of the artists in the pomological collection include Mary Daisy Arnold, J. S. Bruce, Arthur M. Fitzpatrick, Bertha Heiges, Louis C. C. Krieger, Elsie F. Lower, Amanda A. Newton, Deborah G. Passmore, William Henry Prestele, Ellen I. Schutt, James M. Shull, Royal G. Steadman, and Harriet L. Thompson.

INDEXING

The color microfiche collection is accompanied by a printed index. It lists each painting and keys it to the relevant fiche number and grid references (frame and row numbers).

MICROFICHE FACTS

The color microfiche are of standard size (105mm x 148.75mm — about 4" x 6") archival-quality silver halide film. They contain approximately 60 paintings per fiche.

AVAILABILITY AND PRICING

The Collection will be available June, 1984. The 7177 paintings, and two copies of index are available for \$ 2595.00. Families and genera can be purchased separately. Please write for a quotation(s).



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Autumn in the Orient (November) Visit private homes and gardens in Japan as well as selected nurseries, public botanical and temple gardens, Mount Fuji, Nikko National Park and also travel on the famed Bullet Train. We will also travel to the garden city of Singapore, which is famous for orchids, and see the cultural attractions of Kyoto, Tokyo and Hong Kong.

Morocco, Canary and Madeira Islands (May 21-June 4) Tour Morocco, "nearest of far-off places," to visit gardens of the sultans, palaces of the Moors and animated souks in the casbahs of Casablanca, Rabat, Fez, Marrakech and Taroudant on the far side of the Atlas Mountains. Then board the yacht Argonaut for a cruise to Madeira and three of the Canary Islands, where gardens are always in the full flower of spring. There will be a stop in London for opening day of the Chelsea Flower Show.

For any of these programs, please write for your free brochure to the Education Department, American Horticultural Society, Mt. Vernon, VA 22121. Or telephone (703) 768-5700.

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Florist Azaleas: Tips for Re-forcing

You can do it! You can make your azalea—that one that is gracing your February windowsill—bloom again, winter after winter after winter.

Potted azaleas, which generally cost between \$15 and \$20, are frequently left to freeze upon the back doorstep when their last petals fade. This is because many of us have believed that only the florist working in his greenhouse can turn potted azaleas into the frilly, flower-smothered plants with which we are familiar. Nonsense! With proper care, you can turn your plant into a long-term investment.

My azalea arrived the Christmas of 1967, bundled securely to protect it from inclement weather. The beauty of its three-inch, single blossoms of deep peach was enhanced by black-tipped stamens. Overjoyed with its beauty yet fearful of giving it the wrong care, I did some research on the plant. One thing I learned was that the azaleas we receive as gifts are generally three to four years old. The florist-grown cultivars of these round-topped, miniature trees are grouped according to recommended forcing times. The early cultivars are groomed for Christmas and midwinter, while the late-blooming plants are forced for Easter and early spring. I also learned that newly arrived azalea plants must have bright light (but not direct sun), moderate daytime temperatures from 65° to 70°F (cooler at night) and generous watering to thrive. The life expectancy of the flowers is about one month.

Azaleas require faithful daily watering, as their root mass must be constantly and moderately moist. When surface soil appears or feels dry to the touch, the plant needs water. One method of watering is to immerse the container just below its rim and leave it soaking until moisture darkens the peat. Another, perhaps less troublesome, way is to simply pour water directly in at the trunk of the plant, permitting it to seep through thoroughly to the roots. Water must be applied slowly; otherwise, it may flow quickly to the pot's bottom



Bruce Steakley

and out the drainage hole, giving the illusion of a well-watered plant without adequately moistened roots. Azaleas do not tolerate alternately wet and dry conditions as do most other plants. A soggy soil will result in blackened and limp foliage that cannot recover. Drought encourages leaves to drop and blossoms to wilt; wilting for even half a day can be fatal to the flowers.

When your azalea stops blooming, it is time to move it away from the warm temperatures of the living room, where it has resided while you have enjoyed its blooms. Find a cool, bright room where your azalea can stay until the warmth of springtime arrives.

This is also the time to start a regular feeding program that will build up the plant as the new growth appears and will continue on through the entire growing season. Fertilize every four weeks, continuing until October when the plant's rest period approaches. I use a balanced, all-purpose, water-soluble plant food. In addition, since I do not use an acid-reaction fertilizer specifically recommended for azaleas or gar-

denias (such as Miracid), I apply one teaspoon of aluminum sulphate to a six-inch pot on the first day of April and again on the first of October. Aluminum sulphate will lower the pH of the soil, creating the soil conditions azaleas require. Sprinkle it over the surface of the soil when the peat is moist, then water it in. Magnesium sulphate and Epsom salts will also serve to lower soil pH.

The first step in preparing your azalea to bloom again next season is to give it a complete manicure, snipping off each faded, short-stemmed flower separately at its base and shaking free the dried and discolored leaves. Grooming gives the plant a neat, clean appearance. Behind the dried petals you will discover green shoots, harbingers of continued growth.

As new growth appears you must decide whether your azalea is to be compact and bushy or of a more loose, free-form style. To maintain a dense look, nip out the terminal growing point of each shoot. For a looser look, trim away only twigs or branches that have grown beyond the de-

sired boundaries you have set. Do not prune after May when small, cone-shaped growths have appeared at the center of each branch tip; these are the starting points of flower buds for next season.

Azaleas can be taken outdoors from their winter barracks when spring temperatures have stabilized.

As the plant grows, repot to a successively wider container. Because azaleas are shallow rooted and slow growing, they need only a few inches' increase in pot diameter with the passing of several years and little, if any, increase in depth. Shallow, wide-mouthed "azalea pots" are made especially for this purpose.

Grow azaleas in peaty soil—a mix of one-half commercial potting medium and one-half sphagnum peat. The peaty nature of the growing medium may determine the type of container you will choose. The soil tends to dry out quite quickly, causing it to shrink away from the walls of the pot. This, in turn, allows water to follow paths of least resistance, leaving the root mass unmoistened as water rushes down between the soil and the pot walls. This problem is most severe in clay pots due to the drying out of the clay. It is less of a problem with plastic pots. A glazed container, it seems to me, is better suited to the azalea's sculptured form and adds decorative value.

My plant resides in a large, glazed, ceramic jardiniere whose dark green color blends with the azalea foliage and does not detract from colorful, summer blooming plants with which it shares the patio. A hole was drilled in the bottom for proper drainage. Should you leave your azalea in its plastic or porous clay pot, it may be buried rim-high in the garden border. Wood ash sprinkled where the drainage hole comes into contact with the earth will apparently prevent worms from entering. I have found that a swatch of nylon stocking, stretched across the base of the pot and tied securely, does the job well.

According to some experts, florist azaleas taken outdoors in summer should receive morning or late afternoon sun but should be protected from the burning rays at midday. This is probably good advice for those gardening in southern parts of the country. However, following a summer shaded from noonday sun, my plant failed to form buds as usual and flowered sparsely that winter. Here in Minnesota my azalea thrives during the hottest spells of summer in a spot that has day-long sun.

While baking in the sun is, in my opin-

ion, good for azaleas' growth, growing a plant under these conditions will require a commitment from you. Watering must be constantly monitored, even more strictly than during the winter indoors. The natural elements of sunshine and summer breezes have a particularly drying effect. Water your plant daily, twice a day during hot weather. Mist the foliage to aid in transpiration loss through the leaves and add moisture to surrounding air.

Azaleas do not tolerate alternately wet and dry

conditions . . . Drought encourages leaves to drop and blossoms to wilt.

Potted azaleas must not be left outdoors below 42°F. When autumn temperatures begin to drop, you must keep a watchful eye on the thermometer and be ready to move your plant into a shelter. This is the time of year my father groans loudest. Maneuvering a 15-year-old azalea with a measured breadth of 40 inches in diameter and a height of 28 inches, through porch doorways without losing branch or leaf, requires a certain amount of skill. The next morning, when temperatures rise again above the 42° mark, the plant must be carried back outdoors. This nightly vigil continues until fall days stay cool. The azalea must then be brought into its winter quarters. The exposure to cool temperatures, in addition to a sunny summer, is crucial to bud formation. Indoors again, keep the plant in a cool, brightly lighted location until the buds show color. Maintain watering and misting. As its buds swell, opening in a great mound of peachy-rose, my azalea is again on the move—this time to the living room window, where its beauty can be enjoyed by all. Now my dad does not groan, but with a broad sweep of his hand he proudly points the plant out to visitors.

And so another cycle begins. I did it! So can you! ☛ —Judith Hillstrom

Judith Hillstrom is a free-lance writer whose articles have appeared in *American Horticulturist*, *Garden*, *Better Homes and Gardens Houseplants*, *Family Food Garden* and *Minnesota Horticulturist*.

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W. Atlee Burpee Company, Warminster, PA 18991, catalogue free.

Daystar (formerly The Rock Garden), Litchfield-Hallowell Road, R.F.D. 2, Litchfield, ME 04350, catalogue \$1.00.
Endangered Species, 12571 Redhill, Tustin, CA 92680, catalogue free.

Greer Gardens, 1280 Goodpasture Island Road, Eugene, OR 97401, catalogue \$2.00.

Jackson & Perkins, 1 Rose Lane, Medford, OR 97501, catalogue free.

Klehm Nursery, 2 East Algonquin Road, Arlington Heights and Algonquin Roads, Arlington Heights, IL 60005, catalogue \$1.00.

Lilypons Water Gardens, Lilypons, Maryland 21717, catalogue \$3.00.

Logee's Greenhouses, 55 North Street, Danielson, CT 06239, catalogue \$3.00.
Louisiana Nursery, Route 7, Box 43, Opelousas, LA 70570, catalogue \$2.00.

Lyndon Lyon Greenhouses, Inc., 14 Mutchler Street, Dolgeville, NY 13329, catalogue \$.50.

Geo. W. Park Seed Company, Inc., PO Box 31, Greenwood, SC 29647, catalogue free.

Plants of the Southwest, 1570 Pacheco Street, Santa Fe, NM 87501, catalogue free.

Rainbow Gardens, PO Box 721, La Habra, CA 90631, catalogue free.

Schreiner's Gardens, 3625 Quinaby Road, Salem OR 97303, catalogue \$2.50.

Siskiyou Rare Plant Nursery, 2825 Cummings Road, Medford, OR 97501, catalogue \$1.50.

Wayside Gardens, Hodges, SC 29695, catalogue \$1.00.

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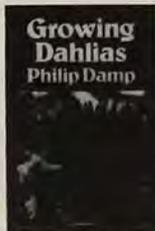


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Symmetry & Balance

One evening this past summer, I was walking through a perennial border in a friend's garden in England. In the deep, golden light that saturates everything at that time of day, the colors were particularly alive. As my eyes glanced from soft, grey-blue *Salvia pratensis* to a corresponding group opposite, then on to a clump of tawny *Hemerocallis* and its counterpart, I became aware of one reason why this form of garden art is so pleasing.

In a well thought out perennial border, the fundamental balance of height, color, shape, texture and mass stimulates both the senses and intellect; the mind appreciates (almost unconsciously, at times) the thought behind the various relationships.

Fundamental to any landscape, balance is difficult to define in the abstract—in part, because in practice it can be arrived at in so many ways. Described as contrasting or juxtaposing various parts to create aesthetic equilibrium, balance can result, for example, from the formal symmetry of clipped box hedges, the forms repeated in mirror images on either side of a path.

Or balance can result from exceedingly diverse plantings, where the weight and mass of one part of the landscape is answered in another, thus establishing equilibrium. This type of balance is beautifully executed at Stourhead in Wiltshire, England. Considered by many as the “classic” eighteenth-century naturalistic English landscape, this scale is certainly not something we all have access to but clearly illustrates the point.

Along a section of shoreline (see the photograph at right), the weight and mass of columnar evergreens and beech find their counterpoint in a single willow and the broad horizontal massing of *Gunnera manicata*. Offsetting this foreground planting and a stone bridge, a temple across the lake provides balance for the landscape as a whole.

Balance can also be the result of a complex series of symmetrical relationships, as at Bampton Manor, Gloucestershire, the former gardens of the late Countess Münster (above). There, a pair of garden urns marks the entrance to one garden; beyond, a path



on a cross axis leads to Linden Walks on either side. At the very edge of her famed borders, large clumps of lamb's ears echo the form of a church spire beyond the garden.

The lamb's ears capture the church spire, and the dramatic tension it creates, as part of the garden—certainly one of the most brilliant uses I've seen for this frequently mundane plant. The delicate balance of these strangely sympathetic, vertical forms—the paired urns, rows of Irish yews forming the background of the borders, and the double border—are all framed by the symmetry of the lime walks.

Balance can result from a variety of elements set in equilibrium. Symmetry, on the other hand, implies a more formalized arrangement, where the correspondence of similar shapes or features is arranged on either side of a dividing line that can be anything from a lawn or walk to a driveway.

At Barnsley House, also in Gloucestershire, the idea of balance is explored in a garden with a highly symmetrical layout using informal, frequently eclectic plantings (above right).

In a mixed border leading to and surrounding a pair of gates, which opens into a pond area with a “temple,” low-growing

evergreens in varied shades of green and yellow-green are balanced and contrasted with perennials. The vertical forms of *Delphinium* balance the more horizontal forms of evergreen shrubs, and the sparseness of single mullein (*Verbascum*), while lacking the density of the *Delphinium* mass, is an effective balance.

In what might have remained a merely clever juxtaposition of color, texture and mass, the symmetry of a pair of columnar evergreens marking the entrance to the pool area helps focus the scene and reinforce the purpose and direction already indicated by the gate.

Interestingly, despite the sense of stability symmetry can contribute to a landscape, movement frequently results. In this case, the eye is drawn to and through the gates to the temple.

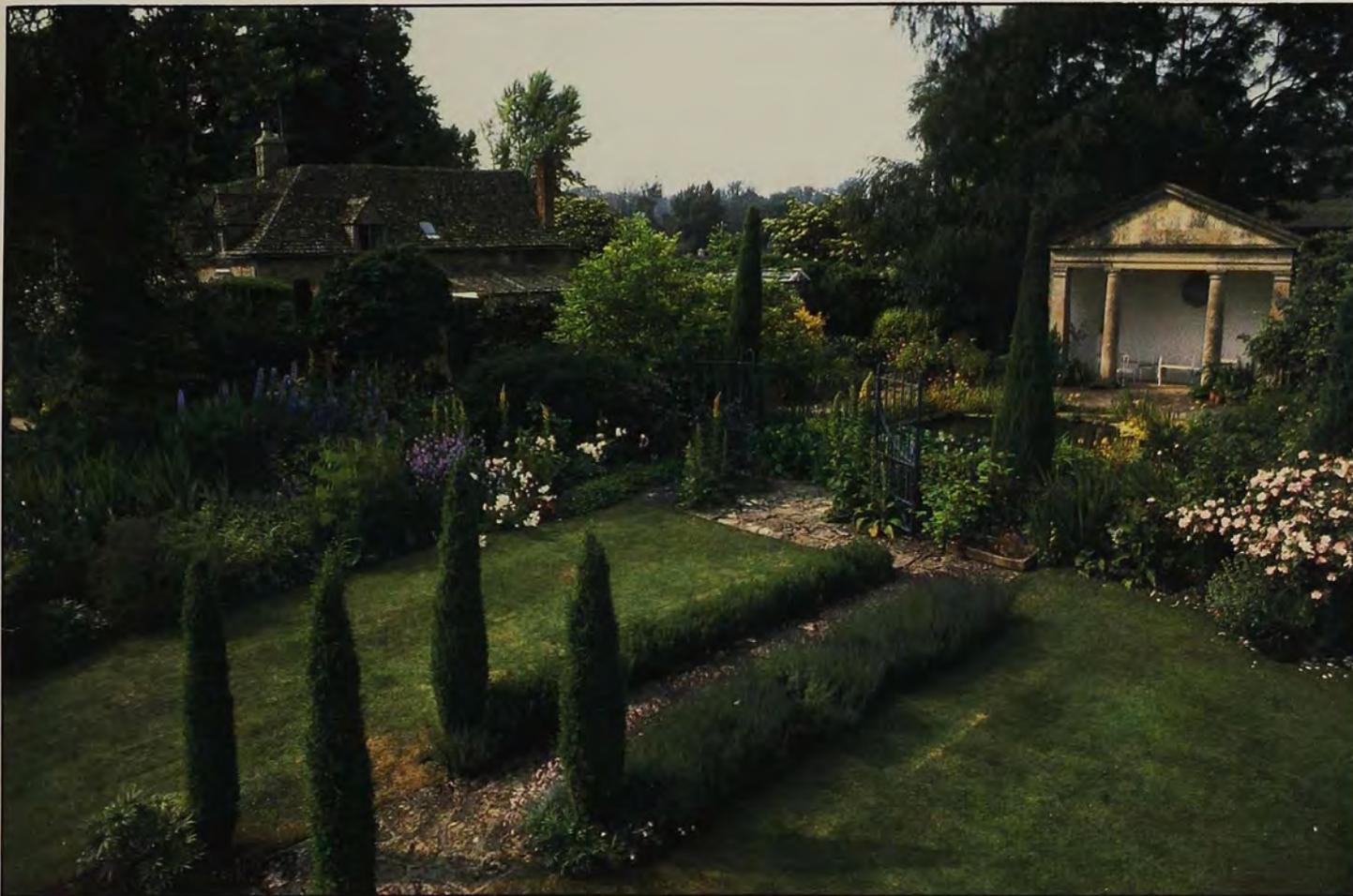
Because, in large part, the pool was so densely packed with water plants, full use was not made of the water's reflective qualities. While this decision may have been entirely appropriate at Barnsley, water—with its reflections of trees and architecture—can be a powerful yet subtle way of creating garden symmetry.

Symmetry and balance are both pleasing and important; without them, our gardens would be lopsided. While that sounds like a very blithe observation, I think it contains a clue to the essential importance of these design principles.

While symmetry and balance don't guarantee unity in a garden, awareness of their role in relation to the whole can be a large step forward. Any garden is the sum total of its parts. All of us have walked through gardens where the individual elements remain isolated, never adding up to a cohesive experience. Whether it is a perennial border stranded in a field or a stream that springs nonsensically from a grassy hillside, we experience this lack of unity and remain somehow dissatisfied. But when we come upon a garden that has succeeded in establishing a balance between its parts and the whole, we, too, feel complete. ☛

—Margaret Hensel

Margaret Hensel, a landscape designer and garden writer, is a regular contributor to *American Horticulturist*.



FAR LEFT: At Bampton Manor in Gloucestershire, balance is created by a series of symmetrical relationships; repeated vertical forms such as yews, paired urns and plants in the perennial border echo the shape of the church spire in the distance.

ABOVE: At Barnsley House, balance is achieved through a highly symmetrical design; an informal collection of perennials and low-growing evergreens leads to a pair of columnar evergreens that mark the entrance to a pool area with a temple.

LEFT: This waterside planting at Stourhead in Wiltshire, England, which features masses of *Gunnera manicata* and a single willow, is an example of balance achieved by exceedingly diverse plantings. The foreground planting and the stone bridge are offset by the temple and plantings across the lake.



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