

AMERICAN HORTICULTURIST

DECEMBER 1979/JANUARY 1980





COMING IN THE NEXT ISSUE

Author Ronald Meyer will tell you everything you need to know about growing bonsai chrysanthemums—from nurturing the plants from seed to choosing an appropriate bonsai container once the plant has been trained. Dr. James E. Klett will write about cutting blooming shrubbery to force indoors; Martha Prince will write about ferns; and Jane Pepper will take you on a guided tour of the Winterthur Gardens in anticipation of the Society's Spring Seminar in the Brandywine Valley. Finally, Alvin W. Mosher and Dr. Dan Milbocker will discuss the Chinese gooseberry, or kiwi, an exotic fruit you may soon be able to grow in your own garden.

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ON THE COVER: Nancy Wilson, a floral designer from Alexandria, Virginia, works best when she's given a free rein. Our only instructions to her were to use her imagination to create a holiday arrangement for our cover. The result includes many unusual items: birch branches, bittersweet, heather, Nerine lilies, an ornamental pineapple, mushrooms, a bird's nest, dogwood berries, an autumn orchid (*Cattleya labiata*), Freesia, mid-century lilies, a polypore fungus, pomegranates and *Euphorbia*. Cover photograph by Susan Bennett-Hattan.

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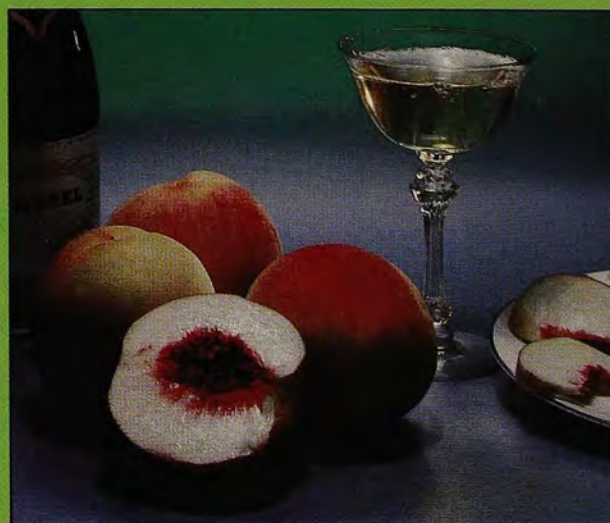
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Thomas W. Richards

David Starry submitted the article which follows several months ago. It is so similar to my own feelings that I wanted to run it as this issue's *President's Page* with my blessing and concurrence. Mr. Starry, thank you. I'm delighted to know you feel this way about gardens and gardening, and I hope other members of the Society will agree.

Country Gardens— An Endangered Tradition

By David E. Starry

What has happened to the days when the term "country gardens" was the very epitome of nature's yearly fulfillment? Where are those sultry, star-studded nights when you could relax in the coolness of your dooryard and savor all the scents and sounds of summer? When the atmosphere was heady with the aroma of thriving flowers and vegetables, and fireflies lifted in flight from patches of greensward to flicker through the shrubbery like airborne miniatures of Diogenes looking for an honest man? In such idyllic settings, the silent rhythm of growing things was punctuated only by the plop-plop of a toad foraging for insects, or the soft scuttle of a box turtle enroute to grandmother's strawberry bed. And occasionally the distant rumble of thunderheads, or the flicker of heat lightning along the horizon gave promise of a refreshing shower before morning.

But alas! In today's gardens most of the stands of flowers and shrubs have been pushed to the background by stretches of

concrete and tarmac, while indiscriminate applications of insecticide have unwittingly reduced the sounds of nature to a minimum. And as for grandmother's kitchen garden, it survives only on the shelves of the nearest supermarket. Gone indeed are the days when country gardens not only gave sustenance to both body and soul, but also offered a wealth of herbal abracadabra reputed to effectively combat the witchcraft still lurking in the dark corners of our folklore.

Ah yes, these are the days of standardization when we are cajoled into thinking that expensive artificial settings and arty contrivances can improve on the unregimented beauty of nature. But can they? Are we not trading the natural harmony of creation for the boredom of cement blocks, a yardstick and a draftsman's compass?

Sadly, village or suburban gardens no longer have the romantic persuasion of the days when songs of the "Come Into the Garden, Maude" vintage were popular. In fact, they are now more commonly known as "yards," and certainly "Come Into the Yard, Maude" does not lend itself to poetry. An acceptable garden now consists of a neatly mowed expanse of lawn, with all the charm of a putting green, primly edged with petunias or geraniums, while the foundations of the house are obscured by a well-disciplined parade of evergreens. One gets the impression that the gardener is at war with nature rather than trying to complement or cooperate with it. Can we not take a lesson from the peculiar beauty of the temple gardens of Japan, or the studied informality of certain famous European gardens? Perhaps it might be wise to recall the words describing the garden of England's Hon. Sackville-West at South Cottage, in Kent: "planting arranged with great artifice in a 'natural' way."

Should you speak with many householders about the naturalness of a garden, they would probably regard you with suspicion. I have heard comments that a truly informal garden indicated that the owner was too lazy to pull the weeds or keep his borders straight. This is a thought process that reaches a ludicrous climax when we are treated to the sight of a host of pathetic pansies imprisoned within the circle of a discarded rubber tire, or a defunct bathtub brimming with marigolds and forget-me-nots. I know of one woman who planted

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PRESIDENT'S PAGE CONT'D

her sweet peas in an old porcelain com-mode and was always slightly offended at the mirth which this spectacle sometimes provoked. And heaven help the natural grace of a shrub when it is attacked by an over-zealous gardener with the new pair of pruning shears Aunt Minnie gave him for Christmas.

And to carry this craze for neatness to the limit, how often we hear people refer to certain trees as being "dirty" simply because they shed catkins or seed pods on immaculate lawns in the spring, or because their leaves litter the sidewalks in autumn? Are we no longer aware of the beauty of a red brick pathway strewn with October's crimson and gold? Perhaps trees that engage in sexual activity or shed their leaves should be abolished from the premises of puritanical gardeners! Yes, modern yards and gardens are well manicured and need only a few tombstones to make them look like cemeteries. Perhaps this mania to subjugate nature is a subconscious hang-over from pioneer days when the great objective was to tame the wilderness.

But let us leave Maude to muse among the mignonettes while we meander down the flagstone path for a look at the more utilitarian aspects of old-fashioned gardening and how it has fared in modern times. Before the days of packaged foods each household had its vegetable plot, and in the late summer and autumn there was much preserving of home-grown fruits and vegetables, while the herb garden supplied most of the seasoning now bought off the shelves of supermarkets. Some garden plants, along with those gathered from fields and woodlands, furnished the ingredients of home remedies based on the actual medicinal properties of the plants themselves, combined with healing powers derived from witchcraft lore dating back to medieval Europe.

In this latter category, enchanter's nightshade, angelica, hellebore and mandragora roll off the tongue like a witch's incantation. And not all of the plants were cherished for their healing powers alone; some were the spawn of the devil and their uses diabolical. From olden times plants such as mandragora have been associated with the powers of darkness and one of the most effective mediums of a witch's wrath. As Spenser said in *The Faerie Queen*, "the hidden power of herbs, and might of magic spell."

As a gesture toward fighting inflation,

my own recent efforts at gardening have been disastrous simply because I didn't pay heed to a bit of local gardening lore. They told me not to plant anything in the shade of a walnut tree, but I did and the plants

An acceptable garden today now consists of a neatly mowed expanse of lawn, with all the charm of a putting green, primly edged with petunias or geraniums, while the foundations of the house are obscured by a well-disciplined parade of evergreens.

didn't like it at all. The bean stalks sprawled over the ground with nary a sign of a bean, and my tomatoes looked like a bevy of frustrated spinsters. In contrast, my neighbor Reuben, who meticulously bows to all the folklore signs and taboos, accompanied by liberal applications of rabbit manure, has had thriving results. Reuben's only trouble with the powers of evil has been with the village kleptomaniac. In the dark of the moon this unfortunate individual has dipped his hand into Reuben's string bean crop, all the while quoting scripture and muttering "God have mercy on my soul."

Today, the old herbal lore, as well as home gardening, is fast disappearing. Supermarkets have replaced kitchen gardens, and herbal lore has gone to "pot" with the younger generation and their dangerous journeys into the realms of marijuana and hashish. And most department stores now stock showy plastic flower arrangements that never need water and are guaranteed not to fade. No longer can we invite Maude to go for a stroll amid the seductive aromas of an old-fashioned garden. Instead, we take her for a spin in the family car, and romance blossoms in the reek of exhaust fumes and artificial leather. ☐

Gilbert S. Daniels

—Gilbert S. Daniels
President

LETTERS

A friend of mine showed me the last copy of your magazine and I was most interested in it! Not only is it a beautiful magazine, but the article on "Grandmother's Garden" by Martha Prince spoke of roses, one of which was named for a neighbor of mine, Miss Annie Camak and another named for my father, Billips Phinizy.

I am most anxious to find out Ms. Prince's connection with Athens, Georgia and any other information about her and her grandmother. I wonder if you would mind telling me how I could contact her. I would so appreciate it.

Louise P. Tillman
Athens, Georgia

Editors note: Mrs. Tillman's letter was forwarded to Ms. Prince and together they hope to discover the relationship between the two families.

All of us who worked on the *Pinguicula* article would like to congratulate the staff of *American Horticulturist* on a very fine job of rendering it into print.

We were "all smiles" upon seeing the cover and were also pleased with the quality of the reproduction and layout within.

Best wishes for your future plans with the magazine.

Richard M. Adams, II
Ithaca, New York

Martha Prince's articles have given me great pleasure. They are a rare blend of practical and technical information, engaging literary style and empathy with her subject, all this enhanced by her lovely drawings. I have long believed that this love for plants and words is always, and only, absorbed in early childhood. "Grandmother's Garden" strengthened this belief and drew from me the most sincere compliment one writer can pay another. . . . I wish I had written that.

Pamela Harper
Seaford, Virginia

The new format for presenting the Features and Columns in the August-September issue was both informative and helpful. I read each article with a feeling that the changes in style and presentation will further add to each member's enthusiasm not only for reading the magazine but also for trying new plants, or for learning about new areas of the country and activities

which are of interest to gardeners and professional horticulturists. The artwork accompanying the articles on "Orchid-Flowered Butterworts" by R.S. Bennett and "Grandmother's Garden" by Ms. Prince was so beautifully drawn, colored and reproduced. The drawings added a special imaginative dimension to the flowers and plants they illustrated.

I gained a new appreciation for many new plants and activities by reading this issue of *American Horticulturist* and I'm certain I will continue to learn from and enjoy future issues.

Gail Gibson
Berwyn, Pennsylvania

I certainly enjoyed the new layout of *American Horticulturist* this month. In the past I have always recommended your magazine as the best in the field and it is growing more beautiful all of the time!

Tovah Martin
Danielson, Connecticut

This is in regard to the article, "Cryptomeria japonica," by Gail Gibson in the June/July edition.

In drawing the plans for landscaping the grounds around St. Andrew's Episcopal Church, Mentor, Ohio, seven *Cryptomeria japonica* 'Lobbii' were included. The trees were six to eight feet tall when planted in April, 1961. They have not had fertilizer nor artificial watering since they were planted but mulched heavily by whatever foliage has fallen. They are exposed to the north by northwest and temperatures ranging around 10° F and below in winter, up to 90° to 95° F in summer.

Currently they are 18 feet in height, no losses have occurred and they are quite uniform. They were purchased from Hubert C. Horton, President of Horton Nurseries, Inc., Madison, Ohio. At the time of Mr. Horton's death about 15 years ago he had a goodly number of these beautiful *Cryptomeria japonica* 'Lobbii' in the nursery.

My initial idea for using them in this plan comes from the plantings in Japan where they are used to enshroud temples, shrines and sacred places. Many of the avenues of the islands are made magnificent by their use, and the beauty of their gardens are enhanced by them also.

Raymond E. Siegel
Mentor, Ohio

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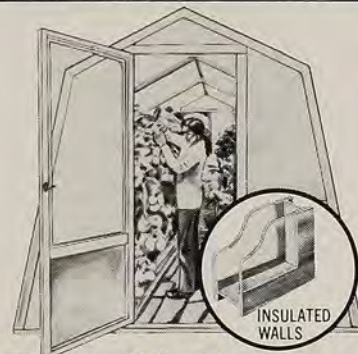
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Way back on May 25 you sent me a copy of the *American Horticulturist* for June/July because of the very beautiful announcement of the American Horticultural Society Meeting at Portland in October, in which you noted, "Celebrate the Year of the Rose in the City of Roses."

I would tell you that the announcement of the meeting, in my opinion, is one of the best and most attention-getting announcements of that sort that I have ever seen. I don't believe anybody could open up the magazine and go by that page without stopping to read the contents and admire the picture of Mount Hood, framed with the city and roses.

We appreciate your giving the "Year of the Rose" a plug, and I expect the Portland meeting will be a very successful one.

George E. Rose
All-America Rose Selections
Shenandoah, Iowa

After reading the article on daylilies in your last issue of the *American Horticulturist* I thought that anyone interested in growing hemerocallis from seed should read the article published in the spring issue of *The American Horticultural Magazine*, 1968, pages 121-151. This research was carried out by Voth, Griesbach and Yeager. Their directions for the germination of daylily seed is found in detail on page 147 of that article.

They state, "Freshly harvested seed of the deciduous type daylilies sown in the autumn remain dormant until the following spring. Seed of evergreen varieties are generally capable of immediate germination."

I am interested in hybridizing tetraploid hemerocallis and for germination of the seed I follow the Voth-Griesbach article. In the Chicago area, I generally plant my seed in flats on March 20th; water them in well and then place the flats in polyethylene bags and tie them to prevent evaporation. I place the bags on the patio outside for the soil media and seed to get a couple of hard freezes or frost to break the dormancy of the seed. At this late date of planting there will be no sub-freezing in this area. By March 30 the flats containing the seed have thawed. I leave the flats in the bags until I see the start of germination, which took place this year the last week in April. I remove the flats from the bags and keep the seedlings watered well and growing until August. I transplant the seedlings in Au-

gust in order to get them growth-orientated before winter. I get about 90 percent germination from my tetraploid seed.

Mrs. Ralph Cannon
Chicago, Illinois

Editor's Note: Unfortunately, the Society no longer has copies of the 1968 daylily issue it can sell. What few issues remain we must keep for our archives.

I don't mean to be unkind, but modern daylilies are no more like those pictured in your article (August/September 1979) than silk is like burlap. When you print an article on a particular flower, aren't your readers entitled to know about the more recent ones?

Then, I believe there are at least two errors in the article: "To keep hybrids true to color, don't let them go to seed." How preposterous! Letting them go to seed, even deliberately crossing them one with another as detailed in the article, in no way changes the plants. Of course, the seedlings will be different, but that's the whole point in hybridizing.

Then, I'll stick my neck out and say I believe the information regarding rooting clipped off roots in moist sand and peat is another piece of misinformation. If this is true, please publish details and illustrations in a future issue.

Mrs. Lola S. Branham
Richmond, Virginia

Author Lorraine Burgess replies: We prefer to photograph established examples and to respond emotionally to a particular flower. Granted, the daylilies are not 1979 vintage, but they are robust and beautiful, and well enough established to assure their durability. Mrs. Branham labels as preposterous the statement "To keep hybrids true to color, don't let them go to seed." I consider it valid. Her own letter says, "Of course, the seedlings will be different, but that's the whole point in hybridizing." I say it may be the whole point in hybridizing, but it is not recommended if you wish to keep an existing hybrid clump true to color. Ms. Branham also counts as misinformation propagation techniques using clipped off roots. I suggest she try this practice before condemning it. It can provide quick multiplication with robust root stock, although I doubt it would make anyone rich with a new introduction. ☺

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THE RUE FAMILY

A love of plants and the study of horticulture are uniting elements that bring us together as members of the American Horticultural Society. The many aspects of horticulture lead us as individuals on diverse paths.

A path which can become an avocation or a vocation is the study of plant families and how plants are related. It can be an armchair, fireside occupation or an exploratory peregrination to distant lands—or to the nearby outdoors. Either way, we sometimes encounter some strange relatives among plants; as individual plants they are familiar to us but we would not have guessed their kinship.

This column will, from time to time, introduce some of these members of plant families whose relationship can only evoke the query: "What do they have in common? How are they related?" You might almost say that they need to be introduced to each other. For example, the grapefruit and the gas plant; both are members of the Rutaceae, or Rue family. What family characteristics make their relationship apparent?

The Rutaceae family is composed of more than 100 genera and 1,000 species. Cultivated for their aromatic oils or edible fruits, they range from the unimportant herbaceous plants to a group of perhaps the most important fruit trees in cultivation. Botanical details—the structure of flower and fruit parts—bring this large group together into a family. Small translucent black dots on the leaves which are oil glands are the most distinctive feature of Rutaceae. Aromatic oils from these glands account for the fragrance of crushed foliage. The leaves on different species may be simple or compound, arranged opposite or alternately on the stem. The flowers are not particularly showy but are noted for a pervasive aroma; they may have 3 to 5 petals, 3 to 5 sepals, and stamens numbering 5 to 10. The fruit of some genera is a berry, such as the grapefruit.

It is easy enough to recognize a kinship among the *Citrus* species—oranges, lemons, grapefruit, tangerines—about 16 species in all and countless hybrids. Many *Citrus* species have been in cultivation for



Robyn Johnson-Ross

centuries, originally in the Orient and later carried by overland trade routes to Europe.

In commerce *Citrus* species represent vast economic investment. The fruits constitute an important element of Western diet in modern times. Lemons are popular for cooling drinks and cookery; oranges and grapefruit for fresh fruit and juice. As ornamentals they enter our homes and conservatories to offer their exotic fragrance, waxy green foliage and fruits of bright orange or lemon hues for our pleasure. A dwarf variety of Seville orange produces the valuable "bergamot oil" for perfumes from its fruit, and from its blossoms, "oil of neroli" for use in eau de cologne.

The gas plant, *Dictamnus albus*, although at the opposite pole of economic importance, also has been cultivated for a

long time and is still known by its classical name, derived from Mt. Dicte in Crete. It is a popular perennial border plant with fragrant flowers, white or in some varieties rosy-pink, borne on showy racemes, followed by fascinating winged pods. Once established, the gas plant may persist for generations. Characteristically for a member of the Rue family, the crushed leaves are slightly lemony. Its common name refers to the fact that the pungent oil from the leaves is flammable and can sometimes be ignited when a match is lighted near the stem of a flower cluster. Fire worshippers in India considered this a sacred plant because of this phenomenon.

Another family member, *Skimmia*, accommodates itself to our landscaping schemes as an evergreen border shrub. *Skimmias* are grown outdoors in warm-

temperate areas as ornamentals admired for their fragrant flowers and attractive fruits. The plants may be grown in pots and where not hardy are sometimes grown under glass. The popular *Skimmia japonica* is somewhat tender. It produces male and female flowers on separate plants, so it is necessary to have plants of both sexes in a planting in order to have its shiny red berries; birds will not take the berries so the decorative effect is lasting. The dotted foliage exudes the characteristic lemony aroma when crushed.

Also of this family and widely recommended for ornamental use is rue, *Ruta graveolens*, a compact shrub about two feet high with glaucous green leaves and greenish-yellow flowers. Its blue-foliaged variant, 'Jackman's Variety', is considered especially effective as a foil for bright flowers in the garden border. The moist foliage may be an irritant to persons with especially sensitive skin.

Rue has interesting associations in addition to being a valuable evergreen under-shrub. It is one of only a few plants to figure in heraldry; it is represented in the Collar of the British Order of the Thistle. As an herb it has been considered a cure for countless ills, its leaves having been used for medicinal and culinary purposes from ancient times. As "Herb of Grace" it is associated with repentance. In times of plague in the Middle Ages sprigs of rue were carried to ward off infection.

Possibly less widely known outside the South is another family member, the Chinese orange, *Poncirus trifoliata*. Its kinship to *Citrus* species is apparent in its white flowers followed by small orange fruits whose fragrance is unmistakably citric—but they are inedible. Its spiny green structure is frequently seen as a vigorous hedge in warm climates. At River Farm plants of the Chinese orange have been trained over one of the brick arches of the ballroom promenade. This member of the family has its commercial uses too, as a rootstock for some orange varieties. Fruit borne on trees on trifoliate rootstocks is thought to be smoother and of better quality.

Members of the rue family enrich our lives through their contributions to food fragrance, ornamentation and medicine. And knowledge of the botany, history and legends associated with them enhances our appreciation of the plant kingdom. ☐

— Jane Steffey

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Williamsburg
WILLIAMSBURG, VIRGINIA

CONTRIBUTORS

Lorraine and Guy Burgess are avid gardeners who have worked for national home and garden magazines for more than 20 years, combining ideas and illustrations into garden art. Their articles have appeared in *Better Homes and Gardens*, *Woman's Day*, *House and Garden*, *Flower and Garden*, *Horticulture* and *Plants Alive*, as well as *American Horticulturist*. Their last article for this magazine was "Daylilies," published in the August/September, 1979 issue. "Chelsea," in this issue, is the result of their trip to the famous flower show last year while on a tour of England sponsored by the American Horticultural Society.

Gilbert S. Daniels is the current President of the American Horticultural Society. He holds a doctorate in botany from UCLA and is the Principal Research Scientist at the Hunt Institute for Botanical Documentation, Carnegie-Mellon University. He also trained at Harvard as a physical anthropologist. He is a nationally respected botanist and plant explorer.

Anthony J. De Blasi is a freelance writer with a life-long interest in growing and collecting plants. He has written for many garden magazines. As a self-taught plantsman, he has observed and studied gardens in areas as diverse as England and Korea. Mr. De Blasi has, at one time or another, grown just about everything, using just about every growing method. While he considers geraniums special, some other favorite plants are camellias, jasmines and peonies.

Pam Harper received her horticultural training in England. While in England she owned a specialist nursery and wrote *The Story of a Garden*, published in 1974. She also has written articles for *Flower and Garden*, *Horticulture*, *Organic Gardening*, *Plants and Gardens*, *Pacific Horticulture* and *American Horticulturist*. She is the owner of the Harper Horticultural Slide Library, which contains over 17,000 slides covering a wide variety of horticultural subjects.

Betty Ann Laws' interest in herbs began as

an offshoot of gardening. She now grows and sells them. In addition, she frequently writes articles about them for gardening magazines. Her credits include articles in *Flower and Garden*, *Family Food Garden*, *Plants Alive*, *Countryside*, *Christian Science Monitor*, *The Mother Earth News* and several newspapers and Sunday supplements. She also has experimented with the use of herbs in landscape design.

David E. Starry writes frequently about natural history subjects. In college he was a nature study and biology major and had the good fortune to work with Dr. Liberty Hyde Bailey. His post-college work, while unrelated to gardening, allowed him to travel all over the world. As a result, he has visited gardens in Europe, Australia, South Africa and the Far East.

Jane Steffey is a graduate of Hood College with a major in botany. She is the current horticultural advisor to the American Horticultural Society, handling member inquiries. A long-time gardener herself, she has recently specialized in indoor plants and for a number of years wrote the Indoor Gardener column for the *Washington Post*.

Dorothea W. Thomas is a graduate of Concord Academy and Smith College. She is an active gardener and maintains three gardens at her home, one of which is devoted to growing plants to be used in dried arrangements. She is a member of the Weston Garden Club and the Noanett Garden Club in Massachusetts. Her last article, "How to Dry Flowers," appeared in the October/November, 1979 issue.

Helen Van Pelt Wilson has written some 20 authoritative gardening books. She is a fellow of the Royal Horticultural Society and a recipient of a medal from the African Violet Society of America. *House Beautiful* has called her "America's foremost editor of gardening books." Her most recent books include *Houseplants Are for Pleasure* and *Color for Your Winter Yard and Garden*. She is listed in *Who's Who of American Women* and *Foremost Women in Communications*. ☐



The American Horticultural Society

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Itinerary

- 1st Day**—Depart West Coast via Japan Airlines 747.
- 2nd Day**—Late afternoon arrival in Tokyo. Transfer to the Tokyo Hilton Hotel.
- 3rd Day**—Sightseeing Tokyo.
- 4th Day**—By rail Tokyo to Kyoto. Transfer to the Miyako Hotel.
- 5th Day**—Sightseeing Kyoto.
- 6th Day**—Transfer to Kobe to board the Aquamarine. Sail at Noon. Afternoon cruise the Inland Sea.
- 7th Day**—At sea.
- 8th Day**—At sea.
- 9th Day**—Arrive Hsinking (Peking).
- 10th Day**—Tientsin.
- 11th Day**—Peking.
- 12th Day**—At sea.
- 13th Day**—At sea.
- 14th Day**—Arrive Shanghai.
- 15th Day**—Soochow and Wuxi.
- 16th Day**—Sail from Shanghai.
- 17th Day**—At sea.
- 18th Day**—At sea.
- 19th Day**—Canton.
- 20th Day**—Arrive Hong Kong. Disembark and transfer to the Mandarin Hotel.
- 21st Day**—Sightseeing Hong Kong.
- 22nd Day**—Return flight to West Coast. Arrive on the evening of the same day.

Due to the popularity of this tour reservations are invited immediately. Early reservations will ensure the best choice of ship accommodations. Call or write Florence Bayliss, Tour Coordinator, the American Horticultural Society, Mount Vernon, Virginia 22121 (703) 768-5700 for complete details.

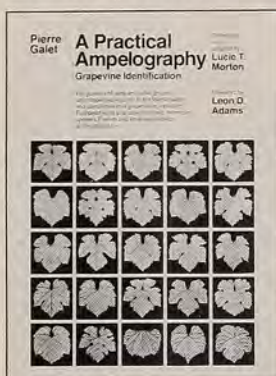


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A PRACTICAL AMPELOGRAPHY.
Pierre Galet. Cornell University Press, Ithaca, New York. 1979. 248 pages, hardcover, \$28.50.



This rather specialized book is concerned with the identification and description of wine and table grapevines of the United States and France. In addition to the many cultivated varieties of *Vitis vinifera*, descriptions also include the many native American species which were introduced into France during the last century and which were hybridized with the European cultivars. Fascinating reading for the intellectually curious, but useful only to the commercial grower.

WESTCOTT'S PLANT DISEASE HANDBOOK (4th Edition). Revised by R. Kenneth Horst. Van Nostrand Reinhold, New York, New York. 1979. 832 pages; hardbound, \$32.50. Available to members of the Society at a 20 percent discount plus \$1.25 for postage and handling (\$27.25 total).

INSECT PESTS OF FARM, GARDEN AND ORCHARD (7th Edition). Ralph H. Davidson and William F. Lyon. John Wiley and Sons, New York, New York. 1979. 596 pages; hardbound, \$22.95. With rapid changes taking place in the development of chemical controls, legislation controlling the application of such chemicals and an increasing interest in non-chemical control of plant diseases and insect pests, new guidelines are constantly needed by the farmer, nurseryman and serious home gardener. These two books provide the means of identifying the attacking organism and suggest the applicable means of control. *Insect Pests* is intended primarily as a college text but will serve equally well as a general reference work for the advanced gardener. It is arranged roughly by the type of plant host,

and the accent is on proper identification of the attacking insect. Details of the life history of each insect aid in effective application of control. Recommendations for actual control are given in only general terms, but the educated reader should be able to extend those suggestions to the choice of an approved insecticide or other control method without difficulty. *Westcott's Plant Disease Handbook* covers all the other organisms that attack plants except insects. They include, among others, viruses, bacteria and fungi. In addition to a rather detailed discussion of each pathogenic organism and recommended means of control, the second half of the book is devoted to lists of such organisms arranged by host plants. As a further aid to proper identification, the states wherein the plant diseases are known to occur are given for each organism.

Neither of these books is recommended for the beginning gardener, but for the serious advanced gardener, they are basic reference works that should be seriously considered for addition to the home library.

NARCOTIC PLANTS (2nd Edition). William Emboden. MacMillan Publishing Company, New York, New York, 1979. 209 pages; hardbound, \$15.95. Available to members of the Society at a 10 percent discount plus \$1.25 for postage and handling (\$15.60 total).

Written by an ethnobotanist, this survey of the drug plants used by man over the centuries is intended to provide perspective and knowledge for a subject which is often approached with emotion and ignorance. As Dr. Emboden points out, the history of civilization has been a history of drug culture and our own society today is no exception. One doesn't have to look to the excesses of hard drugs to define a drug culture, for our way of life, based on coffee, tea, tobacco and alcohol, fully meets his definition of a society dependent on behavioral modifying substances. The numbers of such substances used by man over the centuries are amazing. This scientific and historical survey of drug plants offers a perspective which is certainly needed and which may, in fact, go a long way in helping us to understand the problems of drug excesses. From the botanical point of view it is fascinating to see how many plant products man has discovered which can be

used as drugs. Aside from the sociological problems which may arise from their use, it is a rather different study of one way in which plants are used by man.

Save time and money—buy books by mail! Order books available at a discount through the Society.

ORCHID GENERA ILLUSTRATED. Tom and Marion Sheehan. Van Nostrand Reinhold Company, New York, New York. 1979. 207 pages; hardbound, \$29.95. Available to members of the Society at a 20 percent discount plus \$1.25 for postage and handling (\$25.20 total).

Orchids are generally considered to be among the most exotic and desirable plants grown. With more than 30,000 species distributed among nearly 800 genera, plus many thousands of hybrids, identification and understanding the classification of orchids can oftentimes be difficult. The Sheehans have attempted a first cut at understanding the orchids by providing us with analytical colored illustrations of 61 genera of orchids, together with a description of the features of the plant and flower that define each genus. Geographical distribution maps and cultural information round out the coverage of each genus. For the beginning orchid grower, this work opens a wide vista, and for the more advanced grower the comparative drawings and descriptions should provide a means of understanding the classification of orchids. A worthwhile addition to the literature and a definite "must" for the library of any serious orchid grower.

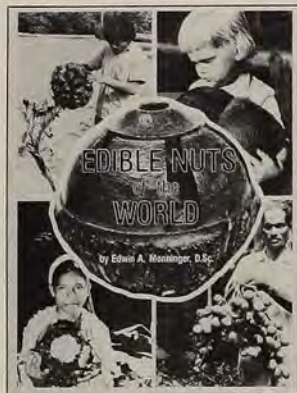
STOCKING STUFFERS

THE TREES OF CHRISTMAS. Edna Metcalfe. Abingdon, Nashville, Tennessee. 1979. 189 pages; paperback, \$6.95.

Designs and illustrations for 23 traditional contemporary Christmas trees from around the world, together with plans for individual Christmas tree ornaments. Good ideas with a different approach. Color illustrations of each tree and line drawings of individual ornaments.

EDIBLE NUTS OF THE WORLD.

Edwin A. Menninger. Horticultural Books, Inc., Stuart, Florida. 1977. 175 pages; hardcover, \$14.95. (AHS discount, \$11.95 total).



From almonds to zamias, a description of all the nuts of the world eaten or otherwise used by man.

THE GRAFTER'S HANDBOOK. R. J. Garner. Oxford University Press, New York, New York. 1979. 319 pages; hardbound, \$16.95. (AHS discount, \$16.50).

A thorough and well-written explanation of a technique that is a mystery to many gardeners. Illustrated with clear line drawings as well as photographs, this is a recommended reference book for the serious gardener.

THE COMPLETE GUIDE TO FLOWER AND FOLIAGE ARRANGEMENT. Iris Webb, editor. Doubleday and Company, Inc., Garden City, New York. 1979. 256 pages; hardbound, \$19.95 (AHS discount, \$17.20).

Another lavishly produced, large format book. Broad coverage from basic principles of floral arrangement to recommended plants for the arranger's garden and a guide on how to run a flower show.

ONWARD AND UPWARD IN THE GARDEN. Katherine S. White. Farrar, Strauss & Giroux, New York, New York. 1979. 362 pages; hardbound, \$12.95.

A collection of 14 essays on gardening which originally appeared in the *New Yorker*. Critical comments on all aspects of gardening, seed catalogues, garden books and much more. Delightful bedtime reading by a literate and understanding author.

THE AUDUBON SOCIETY FIELD GUIDE TO NORTH AMERICAN WILDFLOWERS. Eastern Region by William Hiering. Western Region by Charles R. Chesterman. Alfred A. Knopf, New York, New York. 1979. 864 pages each; softbound, \$9.95 each.

Two handy wildflower guides arranged for easy identification by flower color and shape. Colored photographs of all species described. Handy four-inch-by-7½-inch format for field use but a little too thick for most pockets. Eastern region covers area from the foothills of the Rocky Mountains to the East Coast. Western region includes the entire Rocky Mountain range and the West Coast.

GARDENER'S MAGIC AND OTHER OLD WIVES' LORE. Bridget Boland; **OLD WIVES LORE FOR GARDENERS.** Maureen and Bridget Boland. Farrar, Strauss & Giroux. New York, New York. 1977. 64 pages each; hardcover, \$5.95 each. (AHS discount, \$3.00 each total).

Two charming little books illustrated with old wood cuts. Their bindings, paper and type will delight the book collector.

MANUAL OF DWARF CONIFERS. Humphrey J. Welch. Theophrastus Publishers, New York, New York. 1979. 493 pages; hardcover, \$25.00.

Dwarf conifers are not only the subject of a specialized plant hobby but are also among the most useful of plants for landscaping the average home. This work is a completely new edition of the author's earlier book published in 1966. Although written by an Englishman, the subject coverage is worldwide. A few short chapters give excellent instruction for cultivation, care and use. The greatest part of the book, however, is devoted to descriptions and histories of the individual cultivars, many of which are included in the excellent illustrations.

NATIVE HARVESTS. Barrie Kavasch. Random House, New York, New York. 1979. 204 pages; paperback \$5.95; hardcover \$10.00. Available to members at a 20 percent discount plus \$1.25 in postage and handling (\$6.01 paperback or \$9.25 hardcover total).

Story and recipes of plants used by the American Indians. Also includes some animals.

THE HOME GARDENER'S BOOK OF FERNS. John Mickel. Holt, Rinehart and Winston, New York, New York. 1979. 256 pages; paperback \$7.95; hardcover \$12.95.

How you can grow ferns indoors and out and where they occur in nature. Individual species are described only in passing.

EMIGRANT EUCALYPTS. Robert Fyfe Zacharin. Melbourne University Press, Melbourne, Australia. 1978. 137 pages; hardcover \$20.00.

A fascinating history of the distribution and use throughout the world of this largely Australian genus of trees.

THE HISTORY OF GARDENS. Christopher Thacker. University of California Press, Berkeley, California. 1979. 288 pages; hardbound, \$35.00. (AHS discount, \$29.25).



THE QUEST FOR PARADISE. Ronald King. Mayflower Books. New York, New York. 1979. 288 pages; hardbound, \$19.95 (until January 1, 1980).

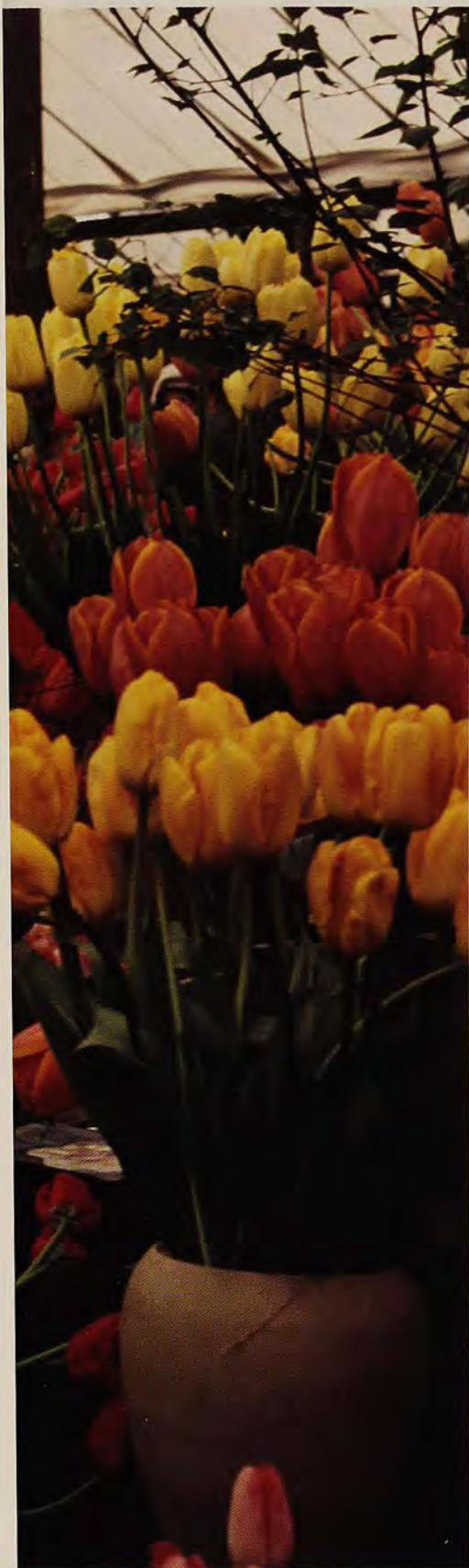
Two well produced and well illustrated large format books tracing the history of gardens primarily in Europe. Both works treat briefly the garden's origins in the Near and Far East, and Ronald King even comes to North America for one short chapter. Both make good reading for a winter evening, but not much of either can be applied to the average home garden.

Orders for books available at a discount to members of the Society should be sent to the attention of Dotty Sowerby, American Horticultural Society, Mount Vernon VA 22121. Make checks payable to the Society. Note: we cannot guarantee delivery of books by Christmas. ☛

—Gilbert S. Daniels

CHELSEA





Surely the Spring Flower Show at Chelsea in London is the greatest event of its kind in the world in terms of scope, showmanship, color and excitement. For the 200,000 or more persons who attend each year it is a rewarding experience, and it is almost as valuable for the millions of gardeners who never leave their home grounds.

The Royal Horticultural Society has sponsored this grand event for 58 years, with interruptions only during World War I and World War II. Visitors come from all corners of the United Kingdom and many foreign countries. They expect to see great things and they are seldom disappointed. It is a five-day event. The Queen and her court attend on Monday evening, Royal Hort members and fellows enjoy a private showing on Tuesday, and the grounds are open to the public on Wednesday, Thursday and Friday. Attendance now exceeds 215,000.

The exhibition covers six to seven acres of ground. Inside a huge tent that takes two weeks to erect and covers 3½ acres, exhibits more susceptible to the weather are displayed. The high quality of the exhibits is so consistent that it is difficult for the home gardener to discern improvements from year to year. Instead, regular visitors dwell on the differences. The only hitch with such large crowds is

in finding a place to stand or a way to move, particularly on a rainy day when everyone scurries into the tent for shelter.

There are more than 100 exhibitors at Chelsea, some with breathtaking displays of delphiniums, foxgloves, Iceland poppies, begonias, and roses; others with garden settings of wildflowers, shrubs and trees, orchids, carnivorous plants and annuals. Royal Horticultural Society experts stand ready at information booths to offer garden advice free of charge. The outdoor exhibits include a series of model gardens under the sponsorship of garden magazines, commercial houses and landscape architects.

Near the embankment entrance there are displays of rock plants on a hillside, wildflowers in a stoney place and great drifts of rhododendron in bold and dissonant colors. On the northern rim a wide range of garden equipment and horticultural sundries are shown, everything from grass "mowing machines" to ornamental fish ponds, garden tools, furniture and greenhouses. The temptations are endless, the demonstrators expert and accommodating.

On the west side of the big tent a host of scientific representatives are waiting to discuss developments in fields such as disease control, mushroom growing, woody ornamentals, organic gardening,



herbs, groundsmanship (turf culture), nitrogen fixation and worm composting.

Chelsea is truly a great, green show, with almost too much to see. Britishers who have gone this route many times before spend at least one full day on the grounds. They carry a large bag to hold all the pamphlets that are offered, and to store a hearty lunch for midday consumption. The show opens at 8:30 a.m.; the knowing visitor purchases his ticket in advance or queues up at 8:15 a.m. The crowds are smaller during the early hours and in the late afternoon and evening. Admission on Wednesday, the first public day, is £4. On Thursday the price goes down to £3 and on Friday to £2. Closings are at 8 p.m. except on Friday when the show is dismantled at 5 p.m. Most of the plant material is returned to the nurseries or transplanted into regional parks. I'm told there are handouts for the visitors who show up during the final hours. But the best things American visitors can bring home with them are armloads of ideas and hearts full of inspiration.

For centuries British explorers have been gathering plants from all parts of the world to enrich their English gardens. Chelsea has become the showcase of these horticultural treasures. New developments are reported, new plants are displayed, and new products are introduced by the trade. In a short time the word filters down to all of us.

For instance, we hear of the reintroduction of a very old rose by Meilland to celebrate the firm's centennial, together with the introduction of a very new rose to honor the first test-tube baby, 'Louise'. We buy a packet of Iceland poppy seeds for our own garden and are then able to speak to Dennis O'Brien Baker, the man from Martlesham who spent a lifetime developing poppy hybrids in an extraordinary range of brilliant color. We may soon learn from our nurseryman of the first offering of a new upright beech tree (*Fagus sylvatica* 'Dawyck Purple') from the famed Hilliers Nurseries near Winchester. It was first offered in a limited edition of fifty at £50 each at the Chelsea '79 Show. In time it is hoped it will be available to everyone.

Through Chelsea we also can benefit



from the work of an esteemed amateur, Mrs. Iris Monro of Inverness. Her *Pelargonium* introductions have won the Banksian Medal. Her newest zonal geranium, 'Virginia Wade', should be a champion, too.

The works of British landscape designers, as demonstrated in the outdoor model garden exhibits, are generally conservative while presenting new products and new comforts that may eventually add to our own daily pleasures. Last year, one garden followed a geometrical theme, using mass-produced, hexagon paving slabs and bubble fountains in a creative way. Another concentrated on trellises and tent cotton as backdrops and shade devices. Two other designers did a beehive design inspired by a Mogul miniature painting. They circled the hives with plants and flowers loved by bees.

Other artists shaped gardens with plants having low water requirements and low growth habits, or evergreen gardens with dwarf conifers for year-round color on the small plot. Striking a whimsical note, a husband and wife team offered ideas on how to use old furniture and such wrought iron relics as headboards and sewing machine bases

in economical and imaginative ways.

In time, from Chelsea, we are alerted to British gardening techniques seldom practiced on our side of the Atlantic. For example, a miniature row greenhouse, known in England as a tunnel cloche, is widely used to protect early and tender vegetables from spring rain and cold. Soon we also should have access to new plant stakes designed to be practically invisible. They are now advertised as "a joy not to be able to see."

It is no wonder that Chelsea attracts world-wide enthusiasm. It aims to be instructive as well as spectacular. It offers guidance on the treatment and nourishment of soils and lawns, and on the control of pests and diseases. Last year one garden products company, offering a new line of sturdy, bright plastic containers, wisely showed the pots planted, which of course gained immediate attention. Another display site showed the use of grow-bags filled with a compost mix as vegetable containers. The bags were split open and planted in situ with a hearty stand of patio tomatoes.

A new product called blocking compost, which can be mixed with just

(Continued on page 41)

The Art of Dyeing Wool

Some Modern Colonial Dames Rediscover an Old Skill

BY DOROTHEA THOMAS



Dorothea Thomas

The colonial dames of New England found it was no easy task to dye their wool using nature's produce, but along with a group of energetic modern colonial women in New England who attempted to emulate the skill of our forebears in modern kitchens, I decided to try. The impetus was a flower show in Weston, Massachusetts. I am proud to report that our efforts produced excellent results.

Our group of 20 women decided to try

dyeing wool using natural dyes which the pioneers might have found in their New England area, as well as ones they imported for that purpose. After the wool was dyed we planned to use it in stitching a three-by-five-foot crewel wall-hanging design of 20 native wildflowers found in the Massachusetts woods and fields. Our group needed a wide range of colors—from the delicate pink of the lady's-slipper (*Cypripedium acaule*) and the porcelain

blue of bluets (*Hedyotis caerulea*) to the brilliant orange of the butterfly milkweed (*Asclepias tuberosa*) and the vibrant purple of the swamp thistle (*Cirsium muticum*). We had our work cut out for us.

LEFT: The "modern" colonial dames' finished wall-hanging is now displayed at the Garden-in-the-Woods in Framingham, Massachusetts. BELOW: Different plants produce different dye colors, as this chart illustrates.



Courtesy of Brooklyn Botanic Garden

Colonial women probably used staples from their supply shelf such as salt, vinegar, cream of tartar or lye to serve as mordants in the dyeing process.

We gathered for dyeing sessions in members' kitchens where we stirred our brews and experimented with nine different dyes. After many sessions and countless pots of coffee, we finally obtained all the colors we needed.

Our stitchers stitched all summer, sometimes together at a member's house while our children played; other times in spare moments of a busy day. By fall everything was properly assembled for the show. Each member of our group had some part in the project. How delighted we all were to receive the Educational Award in our division! Upon request we displayed our exhibit at the Annual Meeting of the National Council of State Garden Clubs, Inc. in Pittsburgh and at the Garden Club Federation of Massachusetts, Inc. meeting in Framingham. Since we received other requests for this display, we decided to present our wall hanging with our various charts to the New England Wildflower Society. It is now on permanent display at the Garden-in-the-Woods in Framingham.

In detail, this is how we proceeded: after much research, planning and experimenting, we discovered that there were really only two important steps in the process—mordanting and dyeing. The word mordant is derived from the Latin *mordere*, meaning to bite, and it refers to any chemical substance that, when combined with a dye, serves to produce a fixed color in a textile fiber. Mordanting also helps to enrich the color. Colonial women probably used staples from their supply shelf such as salt, vinegar, cream of tartar or lye to serve as mordants. But metallic salts of alum, chrome, iron and tin also work. Early pioneers also knew that the vessel itself could be used as a mordant—an old iron pot or even rusty nails were frequently used. We ex-



Dorothea Thomas

The wall-hanging depicts 20 native wildflowers found in Massachusetts woods and fields.

perimented with the metallic salts and discovered that different mordants produced different colors using the same plant.

Just as the early colonial dames did, we went to our backyards to look for potential plant dye material. The pioneers were quick to recognize plants which resembled those from their native land such as sumac (*Rhus typhina*), which is similar to the "European Dyer's Sumac" (*Rhus coriaria*). We tried our local sumac berries and they gave us beige and brown hues. Skins of onion (*Allium cepa*) gave us a variety of yellows, browns and even oranges. Rhododendron (*Rhododendron maximum*) leaves were another source which gave us yellow to brown colors. As we scheduled our dyeing program for the fall, our supply of available plant material was somewhat limited since the time for flower blossoms and fresh green shoots had passed. But some other native colonial dyes which could be used should you decide to experiment with this project yourself are: alder, bayberry, black oak, bracken, goldenrod, hemlock, various lichens, pokeweed or tansy.

Our group also tried some imported dyes, a practice not uncommon among early American settlers. We needed to obtain a variety of reds, purples and blues and hoped this would be the solution. First we tried indigo, which comes from *Indigofera tinctoria*, a tropical shrub of the Orient, which also was grown as a crop on colonial plantations in the South. We obtained some lovely blues. Because several of these substances used in the process were dangerous, such as a caustic-soda solution, we fled to the local junior high school to work in their chemistry lab. The teacher became so interested in our project that she asked one of our members to lecture to a chemistry class on the dyeing process!

Madder, a dye produced from the ground roots of *Rubia tinctorum*, which is an herb native to Southern Europe and Asia, gave us a variety of rose hues. We obtained more brilliant reds and purple from cochineal, a famous red dye which comes from an insect (*Dactylopius coccus*) that produces carminic acid. Years ago the Indians of Mexico first discovered its beneficial properties when they dried the female insect and ground it to a powder.


The last imported dye we used was from the logwood tree (*Haematoxylum campechianum*), which comes from Central America and the West Indies. In colonial

days these trees were cut in logs several feet long, and the outer parts were chipped away leaving the valuable red core.

By experimenting with different strengths of dyes and mordants, and by varying temperatures and timing, we produced a beautiful spectrum of varying colors—an ideal selection of wool colors to match the correct hue of the 20 selected wildflowers in our hand-stitched hanging.

One of our more talented members was asked to design our wall-hanging using the 20 varieties of wildflowers we had selected. She submitted six designs and one was approved by the group. Individual flowers were drawn in colored ink on 20 separate

patches of rough white linen. We held weekly sewing sessions in the summer. Non-sewers worked on labeling and un-matting any dyed wool. Our centerpiece was a combination of all the individual flower patches arranged in an artistic design. We were elated and proud of our final piece, having enjoyed the work and fun as we relived the experiences of colonial settlers 200 years before us.

If I have whetted your appetite, try plant materials from your own backyard and experiment with different mordants. You, too, can become a modern colonial dame (or gentleman) and enjoy using your environment to enrich your life with color. 

Step-by-Step Guide to Dyeing Wool

If you would like to try dyeing wool in your own kitchen, follow this simple procedure:

Preparing the wool. Start off with 100 percent wool, white in color, and divide it into one-ounce skeins. Tie each skein loosely with cotton string in about four different places. This prevents the skeins from tangling in the dye bath. If they are too tight, uneven dyeing may result. Wash all the wool in soap suds, carefully rinsing it, and hang it up to dry.

The mordanting process. An easy way to mordant four ounces of washed wool is as follows: heat about one gallon of water in a stainless steel kettle to a warm temperature, but one not so warm that the water cannot still be touched with your hand. Dissolve one ounce of alum and one-quarter ounce of cream of tartar in the water. Wet the wool thoroughly in warm water and immerse it in the water bath, spreading and stirring it with a glass rod. Then simmer (do not boil) for one hour, turning the wool occasionally. Cool, gently squeeze out the excess water and hang the wool loosely to dry, or keep it damp for immediate use. The wool is now ready for dyeing.

Dyeing. Onion skins are easy to obtain and make an excellent dye material for the beginner. Place about two handfuls of the outer skins of common yellow onions in a gallon of water and heat. Simmer them for one hour, then strain off the skins. When the dye bath has cooled, put about one ounce of wetted, mordanted wool divided into four skeins in the liquid. Slowly bring the bath to a gentle simmer for 15 minutes. Stir the wool from time to time with a glass rod. Remove one skein and let it drip over the bath for a moment. Rinse in cooler water, squeeze gently and hang the wool up to dry in the shade. Continue this procedure, removing a skein every 15 minutes, and compare the difference in color. The longer the wool is left in the dye, the darker the color becomes. It is helpful to keep a record book and use tie-on labels for each skein indicating what mordant and dye material was used and the time period the wool remained in the bath.

An excellent and informative book, which explains the dyeing process in detail, is *Natural Dyes and Home Dyeing* by Rita J. Adrosko, published by Dover Publications, Inc. of New York. It is available through bookstores for \$2.00.

Should you wish to try imported dyes, two mail-order sources for these materials are Nature's Herb Company, 281 Ellis Street, San Francisco, CA 94012 and Batik and Weaving Suppliers, 102 Massachusetts Avenue, Arlington, MA 02174.

In Praise Of Geraniums

BY ANTHONY J. DeBLASI



Anthony J. DeBlasi

Everybody knows what a geranium is, right? Well, maybe. We're all familiar with the window-box variety. And some of us, particularly Californians, know the vining, ivy-leaf geranium that spreads everywhere and blooms profusely. But there is an exciting surprise for those who love to grow things if their knowledge of geraniums is confined only to common types.

The surprise is that geraniums exhibit an astounding diversity of forms, textures and odors, often mimicking the properties of other plants. When the geranium was due to appear on the scene, it apparently couldn't make up its mind what it wanted to be!

As a boy haunting green-

houses, I privately concluded that Mother Nature had indulged a capricious streak when she created this plant. Not satisfied to invent fern-like, wax-like or felt-like leaves; square stems or prickly stems; giant flowers, minute flowers, double, single or solid ones; streaked blossoms or fringed blossoms, she became whimsical and decided to give many geraniums different scents. Here we refer to the scent of the geranium's leaves; its blossoms are notably lacking in fragrance (though even here Nature made exceptions, as we shall see).

The variety of fragrances among geraniums is only matched by the variety of its leaf shapes and plant habits (dwarf, tall, bushy, spreading). The aroma of some even varies depending upon the pressure exerted when rubbing the leaves. A scented geranium may smell like lemon, peppermint, apple, rose, strawberry, pine, rue, filbert, ginger or coconut, among others. The range of scents spans the spectrum: sweet, rosy smells; citrus and fruity odors; herbal fragrances; nut-like odors; spicy and pungent odors. Some scents are perfumy, some refreshing, others bracing, and all astonishing.

Scented geraniums are not new. They came to this country with the early American settlers and are native to South Africa. The English first grew them in the early 17th century. They cer-

tainly don't cover every known fragrance, but the variety is sufficient to mystify and gratify everyone who enjoys smelling things. More than 200 different scents have been recorded. Champagne, anyone? Yes! There is even a geranium that smells like champagne.

Generally flowering in the spring, the scented-leaf geraniums do not compete with their cousins for showiness, though most are charming dressed in bloom, with many clusters of wispy little flowers hovering over the foliage. The leaves of these plants may be tiny, huge, crinkled, smooth, coarse, lacy, "greasy," papery and like soft, plush velvet begging you to feel and rub. The southernwood geranium (*Pelargonium abrotanifolium*) not only smells like southernwood (*Artemisia abrotanum*), but it also resembles it. It is tall-growing and non-branching with scented foliage on woody stems. Then there's *P. X rutaceum*, which has carrot-like leaves that smell like soup greens when rubbed and like rue when crushed. This plant climbs and bears yellow-rimmed, maroon flowers that are enticingly fragrant at night but emit not the slightest odor during the day.



Anthony J. DeBlasi

LEFT: A scented geranium, 'Filbert'. ABOVE: *Pelargonium rutaceum*. RIGHT: *Pelargonium* flower detail.



John W. Mitchell



Guy Burgess



Anthony J. DeBlasi

ABOVE: *Pelargonium hortorum* 'Mrs. Henry Cox', a fancy-leaf geranium. ABOVE RIGHT: A new *Pelargonium* introduced last year at the Chelsea Flower Show. OPPOSITE: *Pelargonium domesticum* 'Vera N. Watt'.

The fernleaf geranium (*P. denticulatum* 'Filicifolium') is an exceptional plant in many ways. First, it refuses to resemble any other geranium—it has feathery, filigree foliage. Second, it emits its scent freely without being touched. Third, it refuses to deliver the same odor when rubbed as when not: leave it alone and it rewards you with the scent of sweet-fern, an incense-like fragrance that is heady in the heat of the sun, but rub it and it punishes you with a strong, unpleasant smell and a greasy feel on the fingers.

What does it all mean? Those who object to anthropomorphic interpretations are likely to end up painting their guesses with their palette of "objective" grays. I prefer color, since we're all guessing anyway, admit it or not. To my mind, all this means that Nature is, at heart, enormously playful.

Ready for a few more "games"?

The zonal geranium *P. X hortorum*), also known as the "common" geranium, with its typical "zone" of dark color encircling the middle of each leaf, comes in many uncommon forms: exquisite colorings, artistic markings, delicate shadings,

fringes, rosebud florets and other lovely attributes to woo the collector. There are also dwarfs seldom exceeding six inches in height, with diminutive features that assume a Lilliputian charm.

Dashing chips off the zonal block are the fancy-leaf geraniums. These sport leaves that flirt with color to produce endless variations. The foliage colors embrace green, white, cream, yellow, orange, pink, red, purple, maroon, brown, black and silver. These plants also bloom, which almost seems unnecessary.

Make way for the regals (*P. X domesticum*), the flowers of glamour. Here are the showoffs of the family, with individual florets sometimes spreading to five inches and richly clad in hues of every flower color except blue and yellow, typically with contrasting dark blotches and featherings in designs to tease the eye. Their majestic trusses have been mistaken for rhododendrons. Some resemble pansies. They are a fit decoration for a palace, but you need not be a monarch to enjoy or afford their beauty.

The final category is that of botanical geraniums. This group is a maze of bizarre types that doesn't answer any easy label—a



Anthony J. DeBlasi

den of curiosities. For example, there is one variety that is almost all stem (*P. tetragonum*), and the stalk is square, to boot. There is another type that goes dormant in the summer and sheds its leaves to resemble a cactus plant, complete with "thorns" on its fleshy stems (*P. echinatum*). There are also climbers with swollen stem joints and yellow-green, night-scented flowers (*P. gibbosum*).

How many different geraniums are there? No one knows. One authority believes there are some 8,000! Botanists recognize about 280 species.

Though geraniums are primarily decorative plants, they have their practical side. Planted among vegetables, their strong odors are said to repel and confuse insects. The rose geranium (*P. graveolens*) has been grown in France as a substitute for attar of roses. The fragrance of some,

such as rose and lemon, is a pleasant addition to potpourris and sachets. Years ago, after a dinner of chicken or other food that got fingers sticky, a finger bowl was passed around along with a sprig of lemon geranium, the "finger bowl geranium" (*P. crispum*), to sweeten and freshen the hands. The rose geranium has a long tradition of use as a flavoring in jelly. An infusion of this geranium is difficult to distinguish from rose water in flavor. The rose, lemon, lime, peppermint, strawberry and other scented-leaf types make delicious teas. Steep a small handful of leaves in a cup of boiling water in a ceramic teapot for five to 10 minutes. Sweeten if desired. The pleasant, herbal flavors will linger on the tongue.

The culture of geraniums poses no difficulty to anyone with any experience with plants. They like good soil, sunshine, cool night

temperatures and ample water when they are not resting. For those of you with pale-green thumbs, stay with the zonal and scented-leaf types before venturing into the somewhat fussier categories of ivy-leaf, regal and botanical geraniums. Do not be afraid to cut back leggy plants. Unless you live where winters are frost-free, take cuttings before the onset of killing frosts in the fall and keep your plants in a south or west window during the winter. Give them a vacation outdoors during the summer, planting them either directly in the ground or burying their clay pots to the rims. Don't expect any one plant to look spectacular 12 months of the year—geraniums have their ups and downs, just as people do. Keep the yellowing older leaves and dying flowers picked off for appearance's sake.

Geraniums can create pleasant effects in the garden—as accents,

fill-ins, edging, borders, beds, wall and slope covers, post decoration, and, of course, as attractive container and hanging plants. Such is the versatility of this plant that it can satisfy every taste and answer every mood. Who knows, you may find uses for geraniums that haven't even been invented yet.

The variety of uses one can devise for scented-leaf geraniums is limited only by one's imagination. For more ideas, turn to page 40.

Sources of Pelargoniums: Carol-bil Farm, Church Road, RD 1, Brunswick, ME 04011; Cook's Geranium Nursery, 712 North Grand, Lyons, KA 67554; Logee's Greenhouse, 55 North Street, Danielson, CT 06239; Sunset Greenhouses (no mail order), Ridge Road, Fairfield, ME 04937; Wilson Brothers, Roachdale, IN 46172.



A Townhouse Garden

TEXT AND PHOTOGRAPHY BY PAMELA HARPER

Mere yards away from the hustle-bustle of a city street lies a microcosm of calm and charm. Difficult sites can often lead to more creative gardens. Such is the case with the townhouse garden created by Mrs. Edward L. Alexander in Newport News, Virginia.

Curving roadways, old-fashioned lamplights and neatly maintained grounds enhance the attractive old-brick townhouses of the apartment complex where she lives. Park your car outside the end house in the block and you face a brick wall striped with English ivy. Algerian ivy (*Hedera canariensis*) spills over the edge of the raised bed at the foot of the wall, and amidst the ivy stands a handsome terracotta pot holding a flat-topped Tanyosho pine, *Pinus densiflora* 'Umbraclifera'. This miniature tree, with its dense umbrella-like head of branches, grows extremely slowly, a connoisseur's plant well suited to outdoor pot culture.

Behind the house is a courtyard garden minute in size but exquisite in design and detail. Sitting in this 15' x 20' patio, it is hard to believe that a busy street lies just outside the fence and a shopping mall within walking distance.

Initial assets were the six-foot cedar fence and attractive brick paving. Weeds were the only vegetation. Now not a weed can be found, and the fence gives the effect of Regency striped wallpaper in a drawing room. Ivy was planted at the base of the fence, then disciplined into slender vertical strands at nine-inch intervals. Picture-like on the fence, encircled by an ivy frame which took three years to train, hangs a lotus plaque bought in Japan. Originally it was covered with gold leaf and was purchased for interior use. Before hanging it in the garden Mrs. Alexander refinished it in verde green, a term used to cover the application of a wash of different pigments to obtain a natural weathered or verdigris effect. There is a Japanese influence in the plantings—few flowers, but variations of pattern and texture in the basically green



OPPOSITE: A cherry potted geranium rests on a pedestal of stacked bricks. Above it, a Japanese lotus plaque hangs in an ivy frame which took three years to train. ABOVE: Trained ivy and an espaliered sasanqua camellia make attractive backdrops for the statuary. LEFT: A stone pixie grins a welcome by the house. *Hedera helix* 'Glacier' runs up the wall behind him.

theme which forms the setting for pieces of statuary. Splashes of color come from tubbed geraniums.

The first step in the creation of the garden was the building of raised beds, two bricks high and two feet wide, along both sides of the courtyard, to house boxwoods, *Buxus sempervirens* 'Suffruticosa'. "The secrets of success with boxwood," says Mrs. Alexander, "are good drainage, well prepared soil, watering and feeding."

Preparation was thorough. The original soil—a heavy clay, baked hard when dry, waterlogged when wet—was dug out to a depth of three feet. An auger was then used to pierce drainage holes through the blue marl to a further three-foot depth. The 12 holes, one for each boxwood, were half filled with small rocks, then topped up with sand. The beds were then filled in with a mix comprising one-third each of topsoil, peat and rotted cow manure. I have never

seen healthier boxwoods. A watering and misting system was then installed, inconspicuously housed in a fenced corner adjoining the house, which also conceals the air conditioning unit. The 12 two-foot boxwood globes have never been sheared (which would damage and brown the leaves and make surface growth too dense), but they are thinned each August by "plucking"—removing branches from the perimeter and the center to let in light



and air. They are fed with cottonseed meal in February and May. A mulch of bark nuggets is used for neatness, moisture retention, weed suppressal and to prevent mud splash.

Under a ship's lantern on the bottom fence a sasanqua camellia has been patiently trained into an espaliered tracery of branches. Side growth is pinched out as needed throughout the growing season, two leaves always being left on each shoot

so that blossom buds may form. A neat square of *Pachysandra* (firethorn) grows at the base of the camellia. In 1976/7, a winter of record-breaking cold, the camellia was badly damaged, but it has been nursed back to health until the polished leaves and pink October flowers are once again reflected in a looking glass on the back wall of the living room, through which Mrs. Alexander—like the Lady of Shalott—can view her world in mirror image, a view left unimpeded by the sliding glass doors which front the living room.

Ivy plays a key role in this courtyard. A small-leaved, self-branching form of *Hedera helix* (probably the one now named 'Cascade') edges the boxwood beds and overhangs the retaining walls. Silver and green 'Glacier', green and cream 'Chicago Variegated', and the speckled 'Gold Dust' swathe the plinths of an armillary sundial and other ornaments. 'Telecurl' is trained up to form a bouquet in the arms of a stone figurine. Fence posts are capped with ivy finials.

You would expect such a tiny garden to be taken in at a glance, but after an hour I was still delighting in the discovery of fresh detail. An ornamental frog stands on a support of unique design. A glazed clay drain pipe standing on end forms the base. Into the bowl-shaped top was fitted a wrought-iron flower arrangement tripod turned upside down, and on top sits an old metal plate. Contemporary art need not be expensive when imagination abounds. Turn to face the house and a stone pixie grins a welcome from his seat atop a stone toadstool in a corner niche. Variegated ivy is trained on the wall behind.

One problem hard to overcome in a small garden is the housing of gardening paraphernalia in an unobtrusive way. Though the eye runs without pause along the bottom of this courtyard it is, in fact, a staggered line. A section of fence to the right is set forward to conceal a small garden shed behind it. Here, too, is the gate opening onto a service entrance.

Garden furniture was chosen as thoughtfully as were the plants. One redwood chaise longue would have dwarfed this diminutive garden. Instead, the drawing room theme is maintained, with elegant Salterini furniture of weatherproofed wrought iron, the backs, seats and table tops formed of expanded metal mesh. This,

You would expect such a tiny garden to be taken in at a glance, but after an hour I was still delighting in the discovery of fresh detail.

also, has been given the verde green treatment. Though heavy in weight, it has such an airy look that a loveseat, three chairs, a tea cart and a set of stacked tables are in no way distracting or overbearing arranged beneath the canvas canopy which shades two thirds of the courtyard.

Many gardens, most perhaps, are planned for spring and summer color and are largely ignored through the winter months. This one, depending for effect on line, detail and evergreen plants, is no less attractive in January than it is in May. December snow turns the garden into a fairyland, settling in fluffy cotton handfuls on the topiary, ivy strands and statuary, and outlining the paving bricks with a white tracery seemingly squeezed from an icing bag.

Alongside the garden lies a communal courtyard, giving passage from the service entrance at the rear to the parking lot at the front. This, also, is being beautified. In an angle of wall and fence stands a circular bench on a crushed marble base, inviting you to rest awhile. Behind it an evergreen *Euonymus fortunei* is espaliered, green and structurally interesting through summer, scarlet with berries in fall when the birds permit, and when they don't, well, a cardinal perched on a branch is more colorful than a berry! Mrs. Alexander has noticed that *Euonymus* grown this way, with much of the wood exposed to light and air, does not suffer from that curse of the genus, scale. On the corner piers of the wall, stone pineapples symbolize southern hospitality, solid against the sky by contrast with the delicate tracery of branches from a honey locust (*Gleditsia triacanthos*) in front of the wall. A smiling cherub pours water from an urn over the ivy surrounding his feet. The base of another ivy-draped statue conceals floodlighting. In a corner a Japanese black pine (*Pinus thunbergii*) is being not so much pruned as sculpted into shape.

Personality and environmental experiences both play a part in shaping our lives,



The gate to the service alley lies behind the section of fence on which hangs the Japanese lotus plaque. Into this corner is tucked the toolshed.

and thus in shaping our gardens. This one combines the practical with the creative. The practical solution to a small living room was to extend it into the garden. In coastal Virginia the weather gets really cold for only about two months each year. Even in January and February there are often days warm enough to sit outside in comfort. Virginia tradition is apparent in the choice of boxwood as the major planting in the garden, but Mrs. Alexander has

traveled in Japan, and the Oriental influence is seen in the restrained use of color and the shaping and controlling of the plants. Other aspects of the garden owe their being only to the owner's imagination and creative talent.

It all looks so effortlessly well-groomed. Not so, nor was this intended. During the growing season some 12 hours a week is spent training and restraining the ivies and topiary, minimal time when compared

with the maintenance of several large formal gardens at Mrs. Alexander's previous home, but it is an outdoor relaxation which plays an important part in her active life. When diminishing energy signals the end of large scale gardening, there is comfort in the thought that a garden's beauty and interest need not be limited by its modest dimensions. "That is best which lieth nearest; shape from that thy work of art," wrote the poet Longfellow. He must have



had gardens in mind, and in taking his advice Mrs. Alexander has created a garden worthy of the poet's praise.

Editor's Note: Mrs. Edward L. Alexander is one of America's best known flower arrangers. A Nationally Accredited Flower Show Judge and Instructor, she has twice represented Virginia at the International Flower Show in New York City, each time

receiving a gold award. Many of her flower arrangements have been reproduced in gardening publications. In 1959 she gave a lecture on color for a symposium sponsored by the Federated Garden Club of New York State, which was presented at the Metropolitan Museum of Art in New York City. In 1960 she was one of 10 women chosen by the American Horticultural Society to demonstrate flower arrangement at the Floriade in Rotterdam,

Holland. In 1965 she was awarded by the Garden Club of Virginia the coveted Masie Medal, which was inscribed, "For distinguished service to the community and inspiration in the pursuit and creation of Beauty." Locally, Mrs. Alexander is Founder and Honorary President of the Peninsula Council of Garden Clubs, and, after many years of active membership, she is an Honorary member of the Hampton Roads Garden Club. ❧



OPPOSITE: An ivy border provides interesting detail beneath one of the canopy supports outside the living room. ABOVE: *Hedera helix* trained into vertical strands on the fence. LEFT: A glazed clay drainpipe forms the base of this pedestal support, one of several "found" items used by Mrs. Alexander to create her own contemporary sculpture.

A Maintenance Guide For Perennial Herbs

BY BETTY ANN LAWS

A bed of herbs with their quiet foliage contracts is a visual delight—a potpourri of fragrances and subtle savors. Given their soil requirements and good drainage, herbs thrive with little care. Insects and plant diseases are rarely a problem.

Planning the Herb Bed

A southern exposure with winter protection on the north is the ideal location for perennial herbs: a gentle slope is fine. Otherwise, herbs can be intermingled with flowers, given a corner in the vegetable garden or a “yarb” bed handy near the kitchen door for quick snippings—as early housewives did. Just make certain that all the plants will be accessible for weeding and harvesting. A plot more than three feet wide should have a path through the center.

For a year's supply of seasonings, one plant each of sage, lovage and lemon balm, and three or four each of the smaller herb plants are usually sufficient for a family.

Starting the Plants

Perennial herbs are slow growers. If grown from seed, they should be started indoors in early March. Or, plants can be purchased.

Seeds of French tarragon are not normally available so a plant must be purchased. Tarragon seed listed in catalogs is Russian tarragon, which has an inferior flavor.

Purchasing a chives clump is preferable since it takes a year to grow a usable plant from seed.

Some mints can be grown from seed, but if you are particular about the variety wanted, it is better to buy plants since mints have a tendency to cross.

Follow the general rules of spading and cultivating the ground to a fine tilth in preparing the herb bed. If needed, lime can be broadcast over the area and worked in as the soil is raked smooth. Plants are set out after all danger of frost is past.

Harvesting

When the plants begin to bush out, sprigs



can be clipped for immediate use.

Harvesting a main crop for drying is best done when the plants are in full bud—just before blossoming. Flavor is then at its peak. Choose a clear, dry morning—early, as soon as the dew has dried. Later, the flavor dissipates in the heat of the sun.

It takes two years for perennial herbs to reach full growth so the first year, harvest sparingly. By the second year, two-thirds of the plants can be harvested two or three times during the summer. Where winters are severe, try to make the last main harvest by the end of August so the plants have time for regrowth before going dormant for the winter.

Seasonal Routine

Some maintenance is needed. In time, perennials such as sage, thyme and winter savory become woody; others, like oregano and mint, may lose their vigor. Flavor and fragrance diminish, and the plants need to be reestablished.

Setting up a schedule is a helpful reminder of the maintenance procedures which keep the herbs looking like the picture in

the gardener's mind when the bed was started, and it insures peak flavor.

Spring: Loosen soil around plants with a spading fork, working it back and forth deep in the ground, being careful not to damage the root systems.

Scratch a layer of compost or rotted manure, a sprinkling of bone meal and lime (or wood ashes) lightly into the soil. Some herbs, such as tarragon, have a shallow root system which can be damaged by deep cultivation.

If a commercial fertilizer is used, a 5-10-5 formula is best suited for herbs.

Summer: A mulch of hay, grass clippings or cocoa hulls controls weeds, keeps the soil moist and friable and the foliage clean.

Trimming the plants as one gathers snippings for the kitchen promotes bushy, shapely growth.

Fall: Work a generous layer of compost or rotted manure, a sprinkling of bone meal and lime (or wood ashes) into the soil around the plants.

After the ground is frozen, mulch plants

with a thick layer of leaves, hay or straw to keep the soil frozen around the roots. Alternate thawing and freezing can damage root systems.

Herb beds should be rotated, but if this is not practical, then fertilize the beds well before resetting old or placing new plants. Stem cuttings should be rooted in wet sand or vermiculite. Suggestions for harvesting are made where I have found variations from customary procedure to be better. Herbs listed require sun and average garden soil except as noted.

SAGE

Spring: Cut out woody growth.

Fertilization: Add calcium with bone meal and lime.

Propagation: Divide root clumps or take stem cuttings in early spring; make new plants by layering.

Start new beds every four or five years. In early spring, divide root clumps, reset in new location, use compost or rotted manure in potting holes.

OREGANO

Spring: Cut out dead stems.

Propagation: Divide root clumps or take stem cuttings in spring or fall; layering.

Start new beds every two or three years.

Harvesting: Cut stems an inch above growing center to promote bushy growth.

THYME

Spring: Cut out woody growth.

Propagation: Root divisions in early spring; stem cuttings any time; layering.

Start new beds every three or four years.

ROSEMARY

Spring: In areas where the winter temperature goes below zero, set out plants when soil has warmed.

Propagation: Stem cuttings or layering in late summer.

Fall: Where the winter temperature falls below zero, pot for house plants, or cut back and keep potted plants dormant in semi-dark area where temperature remains above freezing.

WINTER SAVORY

Spring: Cut out woody growth.

Propagation: Root divisions or stem cuttings in spring; layering in fall.

Start new bed every two or three years.

LEMON BALM

Set plants in dry, light soil; will take partial shade.

Spring: cut out dead stems.

Propagation: Root divisions in early spring

when new growth appears; stem cuttings in spring or summer.

Clip flower stalks to prevent spreading.

LOVAGE

Set plants in rich, moist soil with added humus; light shade is preferable.

Spring: Pull back mulch.

Propagation: Root divisions in spring when new roots appear.

Harvesting a main crop for drying is best done when the plants are in full bud—just before blossoming. Flavor is then at its peak.

Lovage requires heavy fertilization of compost, humus or rotted manure.

Summer: mulch well to conserve moisture.

Harvesting: Clip outer stems at ground level. For leaf harvest, cut out flower stalks.

Fall: Cut plant at ground level.

Divide plant every four years.

MINT

Set plants in rich, moist soil; will take light shade.

Spring: Pull back mulch. Before new growth appears, jab spade into ground, criss-crossing the bed, slicing roots to promote thick growth.

Propagation: Root divisions in spring or fall; stem cuttings (runners).

Clip flower stalks and trim frequently for bushy growth.

Harvesting: Cut stems to first pair of leaves.

Fall: Cut plants at ground level.

Start new bed every three years.

TARRAGON

Set plants in rich, well-drained soil.

Spring: Pull back mulch.

Propagation: Root divisions or stem cuttings in spring when new growth appears.

Harvesting: Cut stems three inches above ground.

Fall: After ground freezes, mulch with pine branches, salt hay or straw.

Every three or four years, divide roots and reset small clumps.

CHIVES

Set plants in rich soil.

Spring: Pull back mulch.

Propagation: Root divisions in spring.

Fall: Cut spears at ground level.

Every two or three years, divide and replant root clumps.

SALAD BURNET

Spring: Pull back mulch.

Propagation: Allow to self-seed or divide roots in early spring.

Harvesting: Keep older outside stems pruned to promote tender new growth.

Fall: Cut back plant to stimulate new growth in spring.

Culinary Suggestions

While sage, oregano, thyme, rosemary, mint and chives are well-known to most herb users, winter savory, lemon balm, lovage, tarragon and salad burnet are less familiar. Yet they add a flavorful zest to food that other herbs cannot supply.

Winter savory gives a spicy piquancy to a pot of soup beans, or to stuffings, ground meats and gravies. Use the fresh leaves in tossed salads; add them to the cooking water for bland vegetables, like summer squash or eggplant.

Sprinkle lemon balm leaves over roast lamb, fish and pork or add them to sauces, soups and salads.

Tarragon has a mild anise flavor for seasoning seafoods, poultry, steaks, egg dishes, salads and the gourmet's favorite—tarragon vinegar. (Mince one cup of fresh leaves, put them in a glass jar, pour two cups of vinegar over them, cap and let steep for about 10 days. Strain out the leaves through cheese cloth and bottle.)

Over the years, lovage will grow to a graceful ornamental six feet in height. The leaves, stems and seed have the taste of celery and are used, fresh or dried, in stews, soups, stuffings, casseroles and salads.

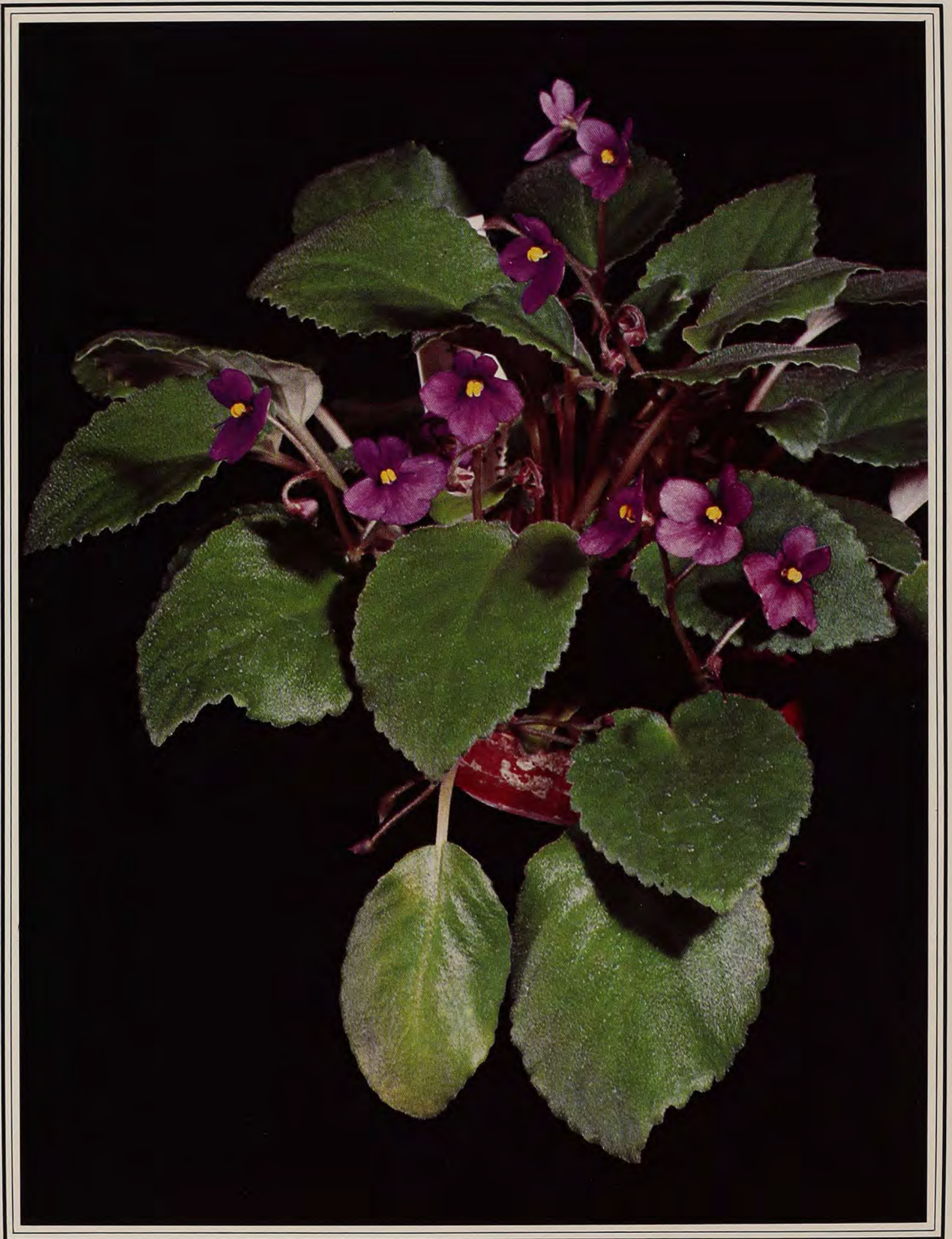
Young tender salad burnet leaves provide the cool flavor of cucumbers for salads. Mince fresh leaves and stir into salad dressing, or into cream cheese for a snack dip. Return the dressing or dip to the refrigerator for several hours for the flavor to age. Fresh burnet leaves also make a mild-tasting vinegar.

Herb seed and plant nurseries:

Nichols Garden Nursery, 1190 North Pacific Highway, Albany, OR 97321

Taylor's Herb Gardens Inc., 1535 Lone Oak Road, Vista, CA 92083

Well-Sweep Herb Farm, 317 Mt. Bethel Road, Port Murray, NJ 07865 (catalog 35¢) ☐



Saintpaulia Species

A New Interest

TEXT BY HELEN VAN PELT WILSON
PHOTOGRAPHY BY MARGARET H. STONE

Today many *Saintpaulia* enthusiasts are caught up in the modern trend of "ancestor hunting," as the *New York Times* terms it. Collectors look to the past to the species, instead of to the future to the hybrids, just as people are beginning to look to their own roots. So it has been that a number of *Saintpaulia* ancestors have been added to the originals of 1891 and 1892, *S. ionantha* and *S. confusa*. At least 20 species, perhaps more (depending on which you include), are known though not all are readily available. Undoubtedly there will be more discovered as plant hunters and plant society publications stimulate the *Saintpaulia* enthusiast.

Although their popularity is almost worldwide, most saintpaulias originally grew only in a portion of Tanzania, East Africa, an area not quite as large as the state of Missouri. Two species come from Kenya. Some of the species growing at high elevations where temperatures range from 45°F to 90°F thrive on very cold nights and very warm days.

Most *Saintpaulia* species like full sun, at least four or five hours of it a day, even though it is true that the native habitat of many was in the light open shade of trees. Other favorable factors influenced their bloom there. In our window gardens, sun promotes bloom as light alone or shade rarely does; under fluorescent light African violets really take off.

Collecting the species seems to me to be an intellectual concern. True, the blooms are delicately attractive like those of other wildflowers such as the field daisy or the wild rose, but a window garden of species alone, except to the species lover, hardly has the appeal of a window garden of hybrids in rich bloom. However, growing the species does have a certain appeal and some, as indicated in the individual descriptions that follow, are fairly floriferous.

In general the species are of three kinds: the large rosette (or rosulate) type, such as *S. ionantha*; the small to tiny plants such as *S. shumensis*; and the trailing or pendant



ABOVE: *Saintpaulia velutina* makes an attractive rosette specimen. Its upper leaf surfaces have a velvety appearance, contrasting with reddish reverses and petioles. LEFT: *Saintpaulia rupicola* is originally found in Kenya and has pale-lavender blooms.

plants such as *S. grotei* and *S. pendula*. Knowledge of the species enables one to derive more pleasure from the hybrids, as the species' indirect influence can be seen in these new plants.

Fascination with the species has led to perhaps too fine distinctions and the proclaiming of unlikely species and varietal names. Mr. B. L. Burtt of the Royal Botanic Garden at Edinburgh, the international authority on saintpaulias, takes a conservative view. In a letter to Dr. Margaret K. Stone, Senior Curator of the Bailey Hortorium, he writes, "Of the so-called 'House of Amani' plant, I would certainly refer it to *S. ionantha*." Of "Sigi Falls," now in the saintpaulia news, he says, "I do not know that 'Sigi Falls' actually came from Sigi: I do not know if it is a wild form or has arisen in cultivation or is even the result of hybridization. [Burtt uses the double quotes simply to indicate a name, neither species nor variety.] If the plant has been in cultivation for any length of time anything is possible! The one specimen I have of wild origin labeled Sigi Falls (as distinct from Sigi Caves, though whether the localities are distinct I don't know), has much rounder leaves and I have simply passed it as *S. ionantha*."

When asked for a definitive statement about a plant being either species or cultivar, Burtt makes the point that "the terms are not mutually exclusive. Most species are variable in nature and it is possible to select two or three different forms, which in horticulture merit cultivar names, although to the botanist they are simply part of the normal range of variation of the species. Equally, many cultivars have arisen in cultivation which, even if they do not actually match wild specimens, are so essentially similar that the botanist will pass them as the wild species although the horticulturist wishes to give them horticultural recognition."

Saintpaulia species are identified by the shape of their seed capsule and by having long or short, sparse or plentiful hairs, a condition most clearly seen if the leaf is cut through and the pieces are viewed from the side. All this detective work is a matter for the taxonomist to figure out, however. The problems he encounters are reflected in such species names as *S. confusa* and *S. difficilis*. My resurrected Latin reveals that *brevipilosa* means short hairs; *diplotricha* means having two kinds of hairs; *grandifolia* means large leaved; *nitida* means



ABOVE: *Saintpaulia diplotricha* has quilted, deep-green leaves which are sometimes spooned and have crinkled edges. LEFT: *Saintpaulia difficilis* has pointed, chartreuse leaves which are distinctly veined and often crinkled.

bright or shining; *rupicola* means growing among rocks; *pendula* means hanging; *orbicularis* means spherical or disc-like; *pusilla* means very small; *grotei* honors Mr. Grote, and *goetzeana*, Mr. Goetz; *ionantha*, from the Greek, means purple-flowered; *velutina* means velvety; *intermedia* and *inconspicua* offer no problems to the translator, nor do *shumensis* (from Shume), *magungensis* (from Magunga) and *tongwensis* (from Mount Tongwe).

Species and Their Culture

S. brevipilosa. This small grower from the Nguru Mountains has thin, velvety, light-green and rounded leaves which may

twist clockwise and counterclockwise with age. Its dark-centered flowers are short-lived though fairly abundant. Like other high-altitude plants, this species seems to thrive in average-to-cool temperatures with moderate light rather than sunshine.

S. confusa. This species, one of the first to be classified and named, was discovered at altitudes of 1,000 to 3,000 feet on gneiss (banded) rock in the region of Mt. Mlinga. The locale is 15 miles north of Mt. Tongwe, the home of *S. tongwensis*, in the eastern Usambara Mountains. The habitat of *S. confusa* is moister than that of *S. tongwensis*, and in cultivation *S. confusa* has shown a need for more water with high

humidity and good drainage. It blooms fairly well, though not as frequently as some species, producing clusters of two to five deep-violet flowers, an inch across, and held well above the foliage. The leaf is medium- to light-green, with slightly serrate margins. It is very smooth, slightly quilted, flat and measures up to two inches. The petiole is thin, about two inches long. The first plants of this species recorded by the African Violet Society were almost miniature, flat and of light rosette growth. 'Tiny Blue Bells' is typical. However, *S. confusa* is more effective if grown as a large multiple-crowned plant. It responds well to 1,000 to 1,200 foot-candles of fluorescent light.

S. difficilis. Collected along the common border of Kenya and Tanzania, this species produces an upright, single crown. Long, bent leaf-stalks will grow overlong without sufficient light. These plants have been found in three places in the same general area; on rocks by a stream, in the evergreen Parinari dry forest valley and on damp rocks in an evergreen rain forest. The pointed, chartreuse leaves are distinctly veined, often crinkled, especially when young, and they have a tendency to spoon. The flowers are of average size, medium- to deep-blue, are profusely borne, and usually grow five to seven on a peduncle. It is interesting to note that a single-flowered species like this one can still be an ancestor of some handsome double hybrids like 'Blue Nocturne', 'Neptune' or Tinari's 'White Heritage' of 1978.

S. diplotricha. This handsome species from the eastern Usambara Mountains has quilted, deep-green leaves which are sometimes spooned and have crinkled edges and paler reverses. The flowers are pale-lilac. It is very like *S. confusa*. The plant is small, growing in a flat, shapely rosette with a single crown. The bloom is periodic but fairly good. *Diplotricha* 6, 7, and 0 may be of interest to some enthusiasts, but actually the differences are slight. It is important not to overwater this one since *S. diplotricha* prefers a dryer atmosphere than most species, understandable in view of its habitat. It is fast-growing from seed and is an attractive green plant. Kay Dye of Crystal, Illinois reports that "plants from seed and barely six months old were loaded with buds." However, bloom is likely to be periodic.

S. goetzeana. Rare today, this species is a small, slow-growing plant—truly minia-

ture. It forms many rosettes of dark, ovate leaves that rise from a creeping stem. It looks like a pincushion. The flowers are pale-lilac, nearly white, and usually come in clusters of three; there is but one record of it blooming in this country. The plants have very shallow roots. Its habitat indicates temperature requirements of 40°F to 90°F and fairly high humidity. It is very likely a plant suited to growth in a terrarium.

S. grandifolia. An excellent species from the western Usambara Mountains, this plant was found growing in a steep valley on clay (which indicates the need for a heavier soil than that preferred by most African violets). These plants form a large single crown of medium ovate leaves which are thin textured, almost satiny, and of a clear green color. The dark-violet flowers appear in large clusters, making this a showy, shapely species which is quite floriferous. Living up to its name, *S. grandifolia* makes a fine, large, single-crown plant. A favorite from seed, it does not resent a dry atmosphere. It blooms with four to five buds on a petiole, the clear-blue flowers of which are held well above the foliage. *S. grandifolia* is one of the most effective of the species.

S. grotei. Growing at an altitude of some 3,000 feet in the vicinity of Amani in Tanzania, this species thrives "in dense shade, near running water . . . roots not submerged but located where drainage is perfect," according to Burt. *S. grotei* vines even to three feet and has proved invaluable in hybridizing. Frank Tinari produced the lovely and popular 'Sky Trailer', and from this hybrid 'Royal Blue Trailer'. Lyndon Lyon has used it in developing his delightful procumbent growers, such as the variegated 'Lucky Lou' and 'Trail Blazer'. The flowers of the species, in clusters of two or three, are bright blue-violet near the tips of the petals, shading darker toward the center. Apparently bloom is more frequent in warm weather or when plants are grown at temperature of 78° to 80°F. Seed pods measure more than an inch across. The rounded, dentate, slightly spooned leaf is medium-green, measuring one to 3½ inches. Sometimes small pockets or depressions appear between the veins. The long brown leaf stems are the most obvious characteristic of the species. These produce aerial roots at the nodes, those small swellings you see on the stems. Long stems growing three feet or more make it possible

for anyone to develop a cascade or hanging plant with *S. grotei*, or a climber if support is provided. Apparently this species grows better in natural light than under fluorescent. Lyndon Lyon has used *S. grotei* extensively in developing his trailers.

S. inconspicua. This species was first recorded in December, 1932. It was found only occasionally in the moist soil of a forest in the Uluguru Mountains. It has white flowers with a blue spot, quite small, and not typical of other African violets. It would doubtless be valuable in breeding because of its unique blossom. *S. inconspicua* may be extinct. It is not in cultivation in this country and the area in which it grew was bombed in World War II.

S. intermedia. An interesting species discovered growing on rock in the eastern Usambara Mountains, this plant was given its name because its growth characteristics are intermediate between rosette-forming *saintpaulias* and those that trail like *S. grotei*. It often grows upright, as either a single- or multiple-crowned plant. The leaves are almost round with finely serrated edges and a pleasing olive-green color. They have a tendency to spoon. The blue flowers appear in clusters of five to seven, in moderate numbers with no special coaxing needed.

S. ionantha. One of the original two species, this and *S. confusa* appear to be the ancestors of the thousands of present-day hybrids. *S. ionantha*, a lovely plant, produces numerous light to dark blue-violet clusters of 3 to 10 flowers, each about 1½ inches in diameter on plants 15 to 20 inches across. The slightly pointed leaves are dark-green, usually reddish beneath, glossy, quilted, with slightly serrated margins and heart-shaped bases. Leaves cup slightly upward and measure 2½ inches wide by 3½ inches long. The plant grows large and upright with somewhat drooping lower leaves. The heat tolerance of today's *Saintpaulia* varieties is doubtless due to *S. ionantha* inheritance, since the average temperature of its native home is 80° F. It is interesting to compare this species plant with a modern hybrid like 'Purple Gold'.

S. magungensis. (*S. amaniensis* is no longer given separate status but is considered a form of *S. magungensis*.) This species was collected at Magunga in the foothills of the Usambara Mountains, but it is apparently extinct in Africa because a planting of sisal now covers the area. However, it does exist in this country, a

scarce and valuable addition to a collection. A trailer, it thrives on high humidity and has creeping, branching stems that root where they come in contact with soil. Beautiful leaves that cup downward cover the sides of a pot. The flowers, in clusters of two to four, are medium violet-blue shading to a darker center, and the plant is a fairly good bloomer. The rounded leaves with crenate margins, cupped under a little, are medium-green above and pale greenish-white below. The midribs are prominent. The petioles are 1¼ inches to 2¾ inches long.

S. magungensis var. *minima* is a small trailer which can be made bushy by pinching out the center leaves. It needs high humidity, plenty of water and good drainage. Its few flowers are tiny, blue-violet, and two to a petiole. Leaves also are tiny, thin, round and slightly serrated. This is a vigorous grower and quickly fills a four-inch pot. It differs from *S. magungensis* in that the unusually small, light-green leaves are serrated and pointed, not rounded, and they do not cup under in the manner of *S. magungensis*. Even so the short-lived flowers are quite hidden, so the interest here is in the miniature plant form rather than in the flowers. Lyndon Lyon used var. *minima* in the development of his small trailing hybrids.

S. magungensis var. *occidentalis* is also a shy bloomer, producing few of its medium blue-violet, dark-eyed flowers, but it is a pretty, bushy, robust trailer with round shiny leaves that are less hairy than the other varieties.

S. nitida. This round-leaved species was found near Twiani and, like many other saintpaulias, it was growing on rocks in shade by a forest stream. It is at its best with multiple crowns and makes a beautiful specimen with large, dark-purple blossoms freely borne in clusters of eight to 10. The one-inch-wide leaves are shiny and spooned with a red reverse. *S. nitida* likes 60° to 70°F temperatures—it droops in heat—and requires modest light and high humidity. It is a favorite among growers of species saintpaulias. The glossy leaves of 'Coon Valley' suggest a relationship to this plant.

S. orbicularis. Growing in shade in the western Usambara Mountains at 4,000 feet with daytime shade temperatures up to 90°F and night temperatures of 45°F; this species thrives in cultivation under varied conditions of temperature and humidity. It



Saintpaulia tongwensis may be grown single-crowned and makes a good subject for the moss totem or strawberry jar.

is an attractive upright grower and is single- or double-crowned. The thin, light-green leaves are small, almost round-to heart-shaped. The tiny, pale-lilac (almost white) flowers with dark centers are in evidence most of the time and are held well above the foliage.

S. orbicularis var. *purpurea* has darker green, rather shiny leaves and dark-purple flowers. It is best grown multiple-crowned, and has perhaps a better growth habit than *S. orbicularis*, but the two are certainly much alike.

S. pendula. Useful to hybridizers for its trailing habit and medium size, this is a very hairy, multi-crowned species. These plants have almost round, gray-green leaves that are heavy textured and slightly serrated or notched. Stems are noticeably thick. *S. pendula* has proved to be temperamental; it is necessary to take particular care in watering. Too much or too little water results in immediate leaf drop. Furthermore, if you care for bloom, this species is a poor choice. The pale, lavender-blue flowers, solitary or in two's, are scarce despite regular, fairly heavy feeding, which is another requirement.

S. pendula var. *kizarae*, a miniature, is like the species. It is perhaps more compact and though still a trailer, the variety has thinner, darker leaves and two to four flowers per peduncle. High humidity and careful watering are essential.

S. pusilla. This species is a true miniature, measuring only five inches across. It is therefore useful to breeders interested in developing small types. It is also valued for its bicolored flowers—light-blue and white—which have nearly triangular pet-

als. The tiny leaves are purple-backed and the fruit capsule is elongated at the base. Short-lived in cultivation, it is in danger of extinction as it was bombed out in World War II and is no longer to be found in the wild on large boulders among moss. There is confusion between *S. pusilla* and *S. goetzeana*, both of which were discovered by Mr. W. Goetz in the same habitat and both of which possess bicolor flowers. Apparently *S. goetzeana* is a stouter plant that has thicker leaves and shorter, thicker fruit, but differences seem to be academic.

S. rupicola. One of the few species from Kenya, this one can be grown as an attractive rosette or multiple-crowned plant. The fairly large blooms and pale-lavender, three to four to a peduncle, and the leaves are light-green and shiny. This species is not hard to grow as long as temperatures are not too high.

S. shumensis. This delightful miniature species, which is well worth growing, produces many crowns set with small, nearly round leaves on short petioles. It comes from Shume, where it grows in dry forest on cliff faces. Obviously in cultivation, care must be taken not to overwater. The clustered flowers are quite small and are nearly white with a deep-violet spot in the center. *S. shumensis* can be grown as a single-crown plant, but it is a shy bloomer. Hybrids of other species crossed with *S. shumensis* turn out to be standard size rather than miniatures. This species has been invaluable in hybridizing; Lyndon Lyon offers many descendants, notably 'Tiny Pink', a new hybrid that sported from the original 'Tiny Rose'.

S. teitensis. Also from Kenya, this species

grows in a forest near water as an upright, single-crowned plant. The glossy, dark-green and somewhat pointed leaves may or may not have reddish-purple reverses. They occur on long, unbranched stalks, and mature ones tend to be spoon-shaped. *S. teitensis* is said to be the northernmost species known. Flowers are medium violet-blue with a darker center. No special culture is required, just medium light and moisture.

S. tonguensis. Discovered at an altitude of 2,300 feet, B. L. Burt found it "growing in humus on gneiss rock beneath a light shade of undergrowth." This species seems to bloom more fully in 80° F temperatures than in the usual temperature range of 65° to 75° F. But under the latter conditions it still blooms satisfactorily and so is suited to the average window garden. Light-blue flowers are 1½ inches across, in clusters of 10 to 12. This species may be grown single-crowned. It does well in a semivertical position and makes a good subject for the moss totem or strawberry jar. The leaf is rather transparent, heart-shaped and dentate and measures 2-by-3¼ inches, with a broad, pale band along the center running parallel to the midrib. This characteristic is particularly noticeable under artificial light. Petioles grow to 3½ inches. Seed pods are cylindrical and are one-half inch to three-quarters of an inch long. The pale-blue tint of the flowers and the banded leaf make this species interesting to the breeder.

S. velutina. In this species the upper leaf surfaces have a velvety appearance, contrasting with reddish reverses and petioles. Leaves are scalloped and heart-shaped, with interesting veining. The pale-blue flowers with darker centers appear in abundance except in very hot weather. It is characteristic for the lobes of the flowers to be white-tipped. This species prefers slightly dry and somewhat cool growing conditions. A northeast rather than a southern exposure is best. Too much fertilizer is to be avoided. *S. velutina* makes an attractive rosette specimen.

Sources of Species Saintpaulias: Fischer Greenhouses, Linwood, NJ 08221 (no species list); Albert G. Krieger, 1063 Cranbrook Drive, Jackson, MI 49201 (15 species at last count); Lyndon Lyon, Dolgeville, NY 13329 (24 species); Tinari Greenhouses, Huntingdon Valley, PA 19006. ☐

How to Grow Species from Seed

When it comes to the culture of the *Saintpaulia* species, no one set of growing instructions works for every type in every situation, but the same is also true of the hybrids. One grower often claims success by methods quite different from those of another whose plants also win prizes. Few enthusiasts have been able to obtain many species seeds or plants, nor have they experimented with them over a long enough period, so what growing techniques do seem to work haven't become universally known. In general, place of origin offers the best guide to culture.

Starting from seeds is starting from the beginning; with African violets one enters a brand new area of *Saintpaulia* pleasure. Besides, the whole business is satisfyingly quick: germination in 12 to 14 days or less and bloom on some species plants in five months. Although the sowing of seeds and handling of seedlings is about the same as for other plants, continuing culture depends considerably on the habitat of each species. Consequently, in the discussion that follows, the need for sun or shade, temperature variations, humidity and moisture requirements are indicated according to the origin of each species.

But first things first, the handling of seeds: here is a schedule that has produced good crops with fresh seed, sown as soon as pods were ripe.

Sowing

1. Prepare a light, moisture-holding mixture of soil, sand and milled sphagnum moss or half-and-half perlite and sphagnum. If you include soil, it is wise to sterilize it by baking.
2. Use a flowerpot or bulb pan and cover it with a sheet of glass or a polyethylene bag; or sow the seeds in a casserole dish that has a clear glass cover.
3. Sow on a moist soil surface. Press the seeds down very lightly.
4. Put on a cover.
5. Strive for a 75° to 85° F temperature until germination, then 70° to 72° is advisable.
6. Water just enough to maintain a *barely* moist condition, perhaps only once a week.
7. When the first green appears in 12 to 14 days, remove the cover and start watering once a week, *sparingly*, with a weak fertilizer dissolved in tepid water.
8. In four to six weeks, before they are crowded, transplant seedlings to 2¼-inch pots, or to flats (space them two inches apart) filled with a planting medium suitable for mature African violets. Try to take a tiny earth ball with each seedling. Ready-made packaged mixes suitable for use with African violets are available at many garden centers. Or you can make your own soil mix. Use three parts Canadian sphagnum peat moss, two parts vermiculite and one part perlite in the mixture. To every quart of soil, add two to four level tablespoons of lime.
9. Keep the seedlings in a bright area out of direct sunlight until two months after transplanting, or when new leaves indicate plants are well established. Then move them to filtered sunshine. Seedlings of all ages thrive under fluorescent light culture. Set them three to four inches away from the light source.
10. Start monthly preventive spraying two weeks after transplanting.
11. Expect the first flowers in five to 12 months under natural light; under a fluorescent light you may get bloom earlier. Heredity, good culture and adequate humidity will influence each plant's successful growth.

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GERANIUMS CONT'D

(Continued from page 25)

Geranium Leaves—A Variety of Uses



- Slip a scented leaf in letters to friends
- Dry scented leaves, mix with orrisroot,¹ tie in squares of filmy material with a pretty ribbon, and you have a charming sachet to use or give away.
- When making apple jelly place a leaf of rose-scented geranium in the bottom of the glass to give the jelly a piquant flavor.
- Rose geranium leaves placed under baking apples or pears impart a new flavor to the fruit.
- Leaves of *P. crispum* are often used in finger bowls—the plant is commonly called the finger-bowl geranium.

• Place a few leaves of lemon- or rose-scented geraniums in the bottom of a lightly greased cake pan, pour the cake mixture over the leaves and bake. The mixture may come prepared, but it will have a gourmet flavor when it is baked.

• Crush leaves of rose-, lemon-, and peppermint-scented geraniums. Cover with boiling water and steep for thirty minutes. Drain the liquid and use it as part of the water for making iced tea.

From the book *All About Geraniums* by Peggy Schulz, Copyright© 1965 by Kathryn M. Schulz, Published by Doubleday & Company, Inc.

Lime Geranium Pudding

2 cups lime geranium leaves (*P. nervosum*)

2½ cups milk

½ cup honey

3 tablespoons cornstarch

1 egg yolk

Place the leaves in milk and bring them to a boil. Remove from the heat and allow the leaves to steep in the hot milk for half an hour with the lid on. Remove the leaves and strain the milk if necessary. Add honey and cornstarch to the milk and cook the mixture over low heat, stirring until it thickens to the desired consistency. Remove from the heat and blend in one egg yolk. Allow to cool. This pudding may be used as a cake filling. Try other scented geraniums for variations.

Rose Geranium Gelatin Dessert

3½ cups water

2 cups cut-up rose geranium leaves (*P. graveolens*)

½ ounce unflavored gelatin

½ cup honey

Pour boiling water over the leaves in an enameled pot or ceramic container. Allow the leaves to steep for half an hour with a lid on. Strain out the leaves. Allow the liquid to cool thoroughly. Sprinkle gelatin over one cup of the liquid in a saucepan. Place the saucepan over low heat, stirring constantly until the gelatin dissolves (about 3 minutes). Remove from the heat. Stir in honey and the remaining liquid. Pour into a bowl and chill until partially firm. Whip until foamy, pour into individual dishes or leave in the bowl, whip and rechill until firm. ❧

Illustration by Maryellen Lynott

(Continued from page 17)

enough water to make it a rich, sticky gumbo, also was introduced. This, in the hands of an attractive young demonstrator with a special blocking tool, was transformed into many planting cubes having core indentations for seeds, the theory being that as the seedlings develop, the blocks can be transferred directly into garden beds without disturbing the tender roots.

Americans already addicted to flower arranging might find assurance in reports of the success of the National Association of Flower Arrangement Societies of Great Britain. In 20 years the organization has acquired 100,000 members in 1,250 local groups throughout England. Their display area is in a separate tent. While membership is predominantly female, more men of all ages are joining their ranks as the art of design becomes more appreciated and the demand for teachers, demonstrators and judges in this art form increases.

But at Chelsea interest in flowers is always paramount. Growers of flowering bulbs have learned through the years how to bring six months of color and scent together in one glorious week in May. A single exhibit may show snowdrops, hyacinths, irises, hippeastrums, lilies and crocuses in bloom at one time. Tulips are displayed by the bucketful in modern hues, or in one beautiful antique Delft-blue vase in Rembrandt colors reminiscent of the era of tulipomania.

One seed company proudly offered a new dwarf dahlia last year named 'Dandy' as the first true breeding strain of collarette dahlias that can be grown from seed just like other bedding varieties. Rhododendrons were everywhere at Chelsea, too, in all their awesome variations.

Foreign exhibits come mainly from Germany, Holland, Belgium, Colombia, the West Indies and New Zealand. There are orchids from Singapore, gladioli from Brazil and azaleas and begonias from Belgium. The Belgians also were offering new houseplants first developed in other countries: *Dieffenbachia* 'Marianne' with cream leaves and a green edge from Brazil; *Dracaena* 'Souvenir Robert Morobe' from Honolulu, able to be propagated from cuttings; and *Neoregelia* 'Meurouw Van Durme', a

bromeliad with a deep-red heart and white-yellow leaves.

Cottage garden displays suggest new annuals to be used for their vivid color. Included last year was a new calceolaria, 'Sunshine'; a salpiglossis, 'Painted Lady'; the marigold, 'Gold Plate'; and 'Primrose Jewel' and 'Orange Whirlybird' nasturtiums.

Delphiniums at the Blackmore & Langdon site stood six to seven feet tall in great high-rise bouquets. The company's tuberous begonias in solid and picotee colors served as a brilliant base. Other sites showed exquisite wildflowers used in a garden plan and 450 carnivorous plants in a tropical setting with all their fly-devouring entrapments.

For some, Chelsea offers too much at one time. But for others it is an educational and social event, a place to see and be seen. These visitors revel in the infectious excitement of the crowds and in the personal contacts.

With Chelsea it's all a matter of orchestration and timing. Forsythias are cut and stored cold, to bloom on cue. Flowering bulbs are held in abeyance to produce during that spectacular week. Mums are grown in pots for use in both indoor and outdoor displays. Last year visitors marveled at black pansies and circled round the new white begonia 'Fairlight' with its pink edges. A great display of Iceland poppies, developed by a 75-year-old hybridizer, was an extraordinary delight in white, yellow, orange and red. Old and new garden books, offered for sale in a separate stall, attracted old and new gardeners. Greenhouses in great array were displayed in sizes small to ample, in plastic or in glass and with or without solar engineering.

When the day is fair, visitors dress to the hilt, but they all carry raincoats to ward off spring showers. Still, fashion stops at the ankle. Rubbers or boots are a necessity against the moist and puddled earth that seems to go with so grand a showing of plant material.

Editor's Note: Should you wish to visit Chelsea yourself, the 1980 show will be open to the public May 21-23. The American Horticultural Society will be scheduling an exploration of England and Wales at this time, which will include a visit to this celebrated event. Write the Society for details. ☐

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Autumn in the Northwest. Aug/Sep 27.
Bonsai Basics. Frances H. Quint. Late Winter 3.
Botanical Pronunciation. Everett Conklin. Aug/Sep 8.
Bright Berries for Fall. Martha Prince. Oct/Nov 34.
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Chelsea, The . . . Flower Show. Lorraine & Guy Burgess. Dec/Jan 14.
Collecting Wild Seed. David R. Longland. Early Spring 22.
Country Gardens—An Endangered Tradition. David E. Starry. Dec/Jan 3.
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Delany's, Mrs. . . . Curious Flora. Elizabeth Pullar. Late Winter 10.
Essence of the Garden. Jon Ortnier. Late Winter 18.
Flora's Fauna. Elizabeth Pullar. Jun/Jul 3.
Flower Bud Cold-hardiness. Norman Pellett & Bertie Boyce. Oct/Nov 11.
Foliar Finery. Mrs. Ralph Cannon. Late Winter 14.
Forbidding Beauty: Orchid-flowered Butterworts. Richard M. Adams & Katsuhiko Kondo. Aug/Sep 28.
Forgotten, The . . . 'Kwanso'. Beryl & Vivian Munday. Jun/Jul 16.
Fruits, Small . . . for American Gardens. Jun/Jul 30.
Garden's, The . . . Foundation. R. Milton Carleton. Late Winter 26.
Gardens. British Gardens—American Plants. Late Winter 22; Country Gardens—An Endangered Tradition. Dec/Jan 3; The Gardens of Sissinghurst Castle. Early Spring 26; Grandmother's Garden. Aug/Sep 14; "Hillside"—A Perennial Garden. Jun/Jul 18; Kirstenbosch Botanic Garden. Jun/Jul 24; Plantation Gardens. Late Winter 4; A Townhouse Garden. Dec/Jan 26.

Gardens, The . . . of Sissinghurst Castle. Thomas A. Fretz. Early Spring 26.
Geraniums, In Praise of. Dec/Jan 22.
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Will Tell Us. Jane Price McKinnon. Oct/Nov 38.
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'Kwanso', The Forgotten . . . Jun/Jul 16.

A Subject/Author/Title Guide to articles which have appeared in issues of American Horticulturist during the past year.

Grafting Techniques: A How-to Guide. Robert F. Carlson. Early Spring 38.
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