

BULLETIN

of the

AMERICAN

ROCK GARDEN SOCIETY

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BULLETIN

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MARY BYMAN AND HER GARDEN

OLGA JOHNSON, *Grants Pass, Oregon*

No one had to preach the 'Do-it-yourself' philosophy to Mary I. Byman; ten-to-one she rocked her own cradle. At eighty-two it hurt her to have to engage a grandson to rebuild the cement pool for the goldfish, with the central fountain where thrive the native maidenhair fern (*Adiantum pedatum aleuticum*), *Darlingtonia californica*, various mimulus and saxifrage. She knew exactly how it should be constructed, and all about using waterglass for a sealer; she directed every detail of the operation, and of the replacement of the chubby fisherman with his dangling fishline.

In the surrounding garden are such 'Do-it-yourself' features as the arched bridge of mosaic blocks cast of cement with fragments of glass and crockery and other oddments, which she built long ago; and the rock walls, the cascading small stream, the lotus pool, and the mole-proof peat 'hill'. All these features she enjoyed creating, with some help from husband Julius, but they are the mere skeleton for the true life and love of the garden—the plants. These range from fig, magnolia and tulip trees, shrub fuchsias, rhododendrons up to twenty feet tall, tree peonies flaunting their magnificent blooms six to eight feet above the ground (some of them raised from seed), on down the scale to difficult and delicate alpiners. The Bymans raise lotus by covering the pool with boards in winter, and topping the boards with bags of leaves.

No more does Mary Byman go off by saddlehorse on pack trips into the trailless high places in search of rare plants. But only last summer she went out into the Siskiyou Mountains to collect seeds; only a year ago she rode in a pioneer day parade seated upon her mother's side-saddle. As a girl, on an eastern Oregon ranch, she spent many hours on horseback, but was always ready to dismount when she sighted a new wild flower. She didn't have time to ride as much as she liked, for she carried more than her share of the ranch work indoors and out, setting a furious work pace which she has kept up practically all her life.

In autumn, this mellow old garden on the lower slope of a wooded mountain near Canyonville, Oregon, is a festival of *Cyclamen neapolitanum*, which has seeded by the tens of thousands into its nooks and crannies. In mid-winter the pert little *Cyclamen coum* takes over; in late March and early April it is *Erythronium* that celebrates the season. Near the north fence is a tall clump

of a cream-colored erythronium which, according to Mrs. Byman, has been in the same spot since they took over the land in 1914. Today, with corms and seeds added from many localities, there are multitudes of adder's tongues, lamb's tongues, glacier lilies, fawn lilies and dogtooth violets (what name you will), that include yellows, whites, lavender, and a whole palette of pinks—some with strong zones of darker color at the base of the perianth segments.

Not quite as numerous but even more fascinating in early spring are the primrose species and varieties, their foliage varying from the crisp silvery leaves of the various forms of *Primula marginata* sitting in high rock pockets, to the lettuce-green of *P. rosea grandiflora* flowering vividly at the edge of the streamlet, along with the huskier stems and flower heads of *P. denticulata* in purples, pinks and whites. There were happy little colonies of *P. juliae*, ranks of its blue hybrids, and odd plants here and there of many other julianas; a lot of *P. sieboldii*, with its soft elegant leaves and dainty blooms, often much fringed; there were choice *P. auricula* under a plastic-roofed area near the back door. Later in the season come the colorful candelabra types, species, hybrids and named varieties.

Seeds wake up for Mary Byman. There are seed cans and seed beds all over the place. She regrets that since she broke an arm last year, many of the pots have been neglected, but hundreds of the treasures growing in the rockeries, slopes and peat bed, or beneath the trees and shrubs, are eloquent testimony of her success with seeds during the past half century. Many of the seeds she collected herself in the wilds of Washington, California and Oregon; other kinds came to her garden by purchase and exchange from many parts of the world.

Mrs. Byman's gardening friends enviously admit that where they are proud to grow well a single plant of a rare or difficult species, this intrepid and tireless Southern Oregon gardener is never quite satisfied until she has them by the dozen or the hundred of a kind! Of course she does not achieve quantity with every plant tried, but where she does, it is for her own satisfaction as none of her plants are for sale.

Penstemon rupicola spreads over many square yards in this garden; *Dianthus alpinus* in various color phases blooms in masses; a whole company of the scarlet *Delphinium nudicaule* riots down a lower slope of the garden. The precious small *Trillium rivale*, in both pink and white, has seeded delightful clumps in many a corner; *Gentiana acaulis* occupies a large, especially prepared bed where it blooms freely, grateful for an annual dressing of barnyard manure.

In a tray atop an old sewing machine stand are several husky plants of *Lewisia rediviva* of the white-flowering ones found in the Columbia Gorge; in this artificial home they burst into prodigal bloom in late May, and are easily protected from any unwelcome summer moisture. As for the taller lewisias, it was especially because of her work in hybridizing them that she received in 1959 a citation and cash award for horticultural achievement from the Oregon Federation of Garden Clubs. The chief species used in this work were *L. heckneri* and *L. howellii* and Marcel Le Piniec's *L. cotyledon* 'Apricot Queen'. The resulting colors range from palest pink and soft chrome-yellow to deep rose-apricot, and from selfs to stripes. These hybrids, formerly distributed by Carl Starker, near Portland, as the Mary I. Byman hybrids, grow heartily in her garden on rocky slopes under pine trees, or on heaps formed by rocks or on old stumps; the gardener is careful not to sprinkle them during summer. Many of the foliage rosettes are as large as dinner plates. The parent plants grew in the Siskiyou in southern Oregon and northern California. Other lewisias grown by Mrs. Byman include *L. columbiana* from Washington, both in plain purple and a striped form. According to Mrs. Byman these require much different soil



Lewisia sp. in a Woodland Setting

Olga W. Johnson

than the California and Oregon lewisias. Mrs. Byman has found *L. tweedyi* hard to keep around.

Other garden-worthy natives of the Pacific Northwest grown in this garden include: *Iris innominata* in many brilliant self hybrids; *Kalmiopsis leachiana* (a collected plant from Marcel Le Piniec), an ericaceous shrub of limited distribution from which the Kalmiopsis Wild Area of Southwestern Oregon has its name; *Campanula piperi* from seed collected in the Olympic Mountains (Mrs. Byman says that this is a hard one to grow); *Sedum spathulifolium purpureum* from the Pacific coast which is not difficult; *Romanzoffia sitchensis* from shaded stream courses, its attractive scalloped leaves as much an asset as the small white flowers which surprisingly enough are often very double. Of our American *Dryas octopetala* she has two forms, one smaller than the other; she also grows *D. sundermanii*, and *D. minima* from Switzerland.

⟨ The well-drained peat area, an artificial hillock against a high fence, is constructed with a concealed base of metal roofing to frustrate moles and pocket gophers. Some of the things at home here, besides those previously mentioned, include several species of *Ramonda*, one of them white-flowered; these have seeded themselves in other parts of the garden from their sheltered nooks among

the rocks. Species of *Haberlea*, dwarf rhododendrons including the Asiatics, *R. radicans* and *R. repens*, and *Lithospermum diffusum* 'Heavenly Blue' are happy here, too. Several low-growing astilbes, *Calceolaria* 'John Innes', *Hepatica triloba*, and the double white form of *Sanguinaria canadensis* inhabit the peat bed comfortably, while rosy-flowered *Thalictrum kinsianum* from Japan ramps about freely in its miniature way. The 'pink gentian', a Corsican named *Centaureum scilloides* or *Erythraea diffusa*, grown from seed, spreads its low mat in several parts of the garden. The visitor will also encounter many species of *Saxifraga*, *Campanula*, *Androsace* and *Oxalis*. *O.* 'Jessie Pearch' likes the rather shaded peat bed; sun is recommended for *O. adenophylla*, with its distinctively designed blue-green foliage and soft pink blooms.

Among low-growing shrubs which have been at home here for many years, and have a fine air of age and permanence are species and varieties of *Daphne*, *Erica*, *Calluna*, *Cassiope*, *Phyllodoce* and *Kalmia*. As for the bulbous plants suitable for rockeries, a separate paper would be required to describe them—and another would be necessary to do justice to the ferns.

Mrs. Byman insists she's not a botanist, and nowadays many plant names escape her memory—though that is not so much advancing age as it is the phenomenal number of plants she has grown; these include countless kinds that have 'winked out', as the experiment puts it, in addition to the many hundreds still thriving. Actually Mary I. Byman is acquainted with more varieties of plants than are known to many a professional. She has raised them partly because of her driving energy and quenchless curiosity, but mostly because she loves them.

Mrs. Byman, whose sense of humor has eased her through all the years of hard work, quips these days about her middle name. "'Isobel' is now 'Was-a-bel'", she laments; but both Mary Isobel and her garden are still fascinatingly very much alive.

LEWISIAS OF THE SISKIYOU

MARCEL LE PINIEC, *Medford, Oregon*

The genus *Lewisia* is well distributed throughout the West, from the Rockies to the Pacific Coast and from British Columbia to Southern California. The group described here consists of four species and one natural hybrid; *Lewisia cotyledon*, the hybrid *L. cotyledon* x *L. leana*, *Lewisia oppositifolia*, *L. leana* and *L. triphylla*. The first three are endemic, the others are adventitious.

They are found throughout the Klamath Mountains, an old geological formation covering an area of about 12,000 square miles; two thirds of it in the northwest corner of California, and the other third spilling over the border into the southwest corner of Oregon. The Siskiyou Mountains form the northernmost range running in an east to west direction.

Lewisia cotyledon (and all its leaf and color forms; *howellii*, *finchae*, *heckneri*, *eastwoodiana*, *longifolia*, *crenulata*, etc., etc., often erroneously listed as species) is widely distributed throughout the entire Klamath system, from the Yollo Bolly peaks at the southern end to the summits and slopes of the Rogue River watershed in Southern Oregon, growing at altitudes varying from 1200 to 8000 feet. It is found on schist, gneiss, basalt and serpentine rocks.

At low levels from 1200 to 2500 feet, plants are found growing vertically on the face of moss-covered rocks among mixed stands of oak, fir and madrona. The rosettes are generally of great size, often measuring from 12 to 15 inches in diameter. At higher elevations, the largest and most thriving colonies are found in the rubble of disintegrating ledges facing north or northwest. Many plants are to be seen growing out of crevices.

It is amongst these large populations that one may find an infinity of leaf and color forms. Gabrielson in *Western American Alpines* in his paragraph on *Lewisia cotyledon*, referring to forms listed as species states that "one can go into many colonies and pick out the types of each and also all sorts of inter-grades between them. If these are distinct species, they certainly hybridize most freely, both in the wild and in cultivation, and for all practical purposes they seem to be variations of one species."

In these high altitudes the rosettes are smaller, from four to five inches across, and the coloring is more intense, of a deeper tone and greater variation; overtones of salmon and orange appear, due, no doubt, to the intense and prolonged sunlight. The growing season is short, the snow covering often remaining until the later part of July and returning in October. It was amid one of these colonies that I found the pure white form. On another trip and in the company of Boyd Kline, a member of our society, we had the good fortune to discover a good yellow specimen.

The cross between *L. cotyledon* and *L. leana* is rather rare. So far I have only found it in two stations about twenty miles apart. It is easy to recognize the character of both species in the hybrid by the foliage which is evergreen like *L. cotyledon* and by the coloring and size of the flowers inherited from *L. leana*. Judging by the paucity of individuals always found in close proximity to the parents one may suspect sterility in the offspring.

Unlike *L. cotyledon*, *L. oppositifolia* confines itself to a narrow territory straddling the Oregon-California state line, barely twenty miles from the Pacific Ocean. It is a rare deciduous species found in screes, wet stony meadows, edges of rills and ditches, where, after the run off of snow and rain, they soon become desiccated during the torrid heat of summer. Its flowers are white, often subtly tinted a faint pink toward the tips of the petals, giving them the appearance of a small waterlily blossom.

Lewisia leana wanders from the southern end of the Sierra Nevada to the Siskiyou. It is a deciduous species preferring dry, barren flats of decomposed granite, gneiss or basalt at higher altitudes. Dwarf sedges, sedums, annual eriogonums and a few other desert weeds are its sole companions. The flowers are predominantly a brilliant magenta. A white form was found by Boyd Kline last year.

Lewisia triphylla follows *L. leana* from the Sierras to the Siskiyou but travels further north along the ridges of the Cascades to the Canadian border. It is a diminutive white-flowering species, about two inches high, found in alpine bogs and wet meadows. It is mentioned here merely to keep the record straight, being too insignificant to merit a place anywhere except in a botanic garden or a herbarium although it makes quite a show when seen en masse bordering the runlets in alpine meadows.

Under cultivation all these species should do well if the gardener will take care to follow a few rules: they demand very good drainage, a lean, gritty soil, subacid to neutral (pH 6 to 7), no manure, although they respond to a feeding of diluted fish emulsion in early spring when the leaves lose their flabbiness.

In the case of *Lewisia cotyledon*, plants should be set out away from the drip of trees or overhead structures, and protected from burning sunshine. It thrives best when planted on sharp slopes or dry walls facing north or northwest. Whether the plants are collected or purchased from nurseries, be certain that the collar, where root meets leaves, is free of chaff formed by the dried up sheath of old leaves. If necessary, peel it off and scrape away any spot or patch of orange-colored fungus you may find. Trim all bruised, crushed or broken roots, then dust all scraped and cut areas with a fungicide powder.

The other species may be grown on flat areas, taking the precaution to set the crown from one half to one inch above the surrounding level to prevent crown rot. Coarse gravel or crushed rock should be spread under the rosettes to prevent slugs and other pests from lodging beneath them.

THREE ACQUISITIONS FROM NORTH CAROLINA PINE BARRENS

LEONARD J. UTTAL, *Madison Heights, Virginia*

The inland pine barrens of the Atlantic coastal plain, marking ancient seas, now high and dry, appear in spurts between Cape Cod and Florida. The soil is a fine dune sand, rapidly leached, so that in a region of moderate to abundant rainfall, quasi-desert conditions prevail. In summer, the sun's rays are reflected off the white sands so that the air can be furnace hot. Small wonder a special pine barren flora, with several endemics, has evolved.

Vast open groves of pine constitute the overstory, while broken patches of scrub oak, hollies, wax myrtles and various ericaceous shrubs provide the principal understory. But the botanic beauty of the pine barrens is in its herbaceous plants, for these follow the rule that rigorous environments often yield the showiest plants. Unfortunately some pine barren endemics of the greatest rock garden appeal, because of their intensely long taproots, though frequently tried, are not often so done with success. I am mindful at the moment of that most charming spreader, *Pyxidantha barbulata*, the starry white *Arenaria caroliniana*, or the deep indigo *Gentiana autumnalis*, with flower more lily-shaped than gentian. Other sand plants have more compact roots and remarkable regenerative powers so that they adapt to gardens quite well. *Leiophyllum buxifolium* is a very desirable dwarf shrub of not difficult handling, while the showy aster, *Aster spectabilis*, with its flat-topped corymb of long lavender-violet rays, is very easy, and perhaps the handsomest native aster of the east.

Certain sectors of the pine barrens have become famous because they are especially rich botanically. The New Jersey barrens may still be successfully searched for rare native orchids which have all but disappeared from elsewhere in their range. The barrens of central Florida offer many exotic endemics new to most of us because of that state's proximity to the tropics. But I think that in the Bladen Lakes section of eastern North Carolina the pine barrens belt reaches its finest development. Here many plants of the south are at their northernmost limit, meeting the southern limit of many northern plants to provide a most rich aggregate of species.

The Bladen Lakes region is hauntingly beautiful and wild, the sugar-fine white sands rolling, sprinkled with sparkling lakes. Along watercourses are rich hardwood swamps, but they are quite another biotic community. The air is deliciously pungent with the fragrance of loblolly pine and wax myrtle. Altogether this island of unspoiled nature is a refreshing change from the flat monotony of tobacco, corn, and cotton fields.

It was my good fortune that when I last visited Bladen Lakes it had been raining heavily for several days. I was caught in a couple of downpours myself. Consequently the sand was deeply soaked to a point below root tips. Thus it was relatively easy to extricate plants from the sand, whereas in dry weather they are next to impossible to remove. The plants were turgid with water and this also contributed to their potential survival on transplanting. There are three species I want to comment on at this time because they are especially handsome, of rock garden potentiality in their zone and perhaps outside, easily transplanted and quick to recover, and apparently quite adaptable.

1. *Hypericum aspalathoides*—There are many species of shrubby St. John's-wort in the southeastern sands. Of this species, Small, in his *Manual of the Southeastern Flora*, describes the flowers as such a "bright yellow it seems to irritate the eye". They are brilliant gold, with brown stamen filaments, the effect not really irritating, but dazzling and pleasing. This species is a normal high shrub in the southern part of its range, but in North Carolina it is a dwarf, less than a foot high and wide, heath-like, with tiny needle-like leaves. The brilliant flowers occur in dense racemes. Evergreen in the deep south, the stems die back in winter in frosty areas, this tending to preserve the dwarf character. It is well worth a trial further north. A fairly easy plant to transplant, *H. aspalathoides* is especially easy to extricate as it grows along railroad and highway embankments where the roots can be approached from the side as well as the top. In effect, the plants resemble the hudsonias of similar ecology, but promise to be much easier to handle. In my experience this is definitely a superior rock garden hypericum for gritty or porous soil.

2. *Cuthbertia graminea*—The northernmost of a group of diminutive spiderworts (*Tradescantia*) relatives with pink tri-petaled flowers, this species ranges from North Carolina to Florida. The plants form dense tufts about 10 inches high, with narrow, channeled leaves. They are much more compatible to rock garden concepts than their coarse and rampant spiderwort cousins. Happily named 'roselings', these plants are occasionally used in gardens in their native range. Their demure attractiveness warrants testing further north. The plants are quite pretty in pots. With fleshy roots which are highly regenerative, roselings transplant readily out of their natural sandy soil and adapt readily to heavier soil. Like spiderworts, roselings will bloom best in some shade.

3. *Pterocaulon undulatum*—"A unique and picturesque plant with its white-woolly underside of leaves and winged stems with the decurrent, wavy leaf bases", *Flowers of the South*, Greene & Blomquist. The everlasting-type heads of this composite relative of pussytoes are crowded into dense, nodding creamy-white woolly spikes, which sometimes have satellite basal branches. The plants are narrow in girth and grow to two feet in height. This suggests the plant is not for general use in the rock garden but is to be reserved as a most unusual and dramatic accent point. The common name for this plant is black root, referring to the color of the tissue of the dahlia-like tubers of the plant. I do not know if black root has ever been tested for hardiness to the north. The nature of the root suggests that they could be stored over winter like those of dahlias where hardiness is questioned. The plants have been quick to recover from transplanting from the sand into the heavy soil of my garden.

FLOWERS ON BARE-FACED ROCKS

LEONARD WILEY, *Portland, Oregon*

Wild plants are often found growing in cracks in solid rock and thriving there even though these cracks are incredibly small. In removing some of these plants with a cold chisel and single jack I have often noted that the root system would be living off less than a teaspoonful of soil and with moisture content that was scarcely detectable. In some cases there would be less than a quarter of a teaspoonful, and yet these plants often bloom abundantly and are healthy, compact and robust—qualities we admire in rock plants.

Attempts to transplant mature wildlings into such cracks in rocks in our gardens almost always fail. The reason is quite simple. Those in nature started from seeds and as they slowly pushed their roots into the tiny cracks and sent their leaves out into the light and air, they were able to adapt to these astonishing con-

ditions. But to attempt to repeat this phenomenon with mature plants is asking too much. Nature just won't stand for it and it is nearly always a waste of time and effort to try.

I have seen and collected *Douglasia laevigata* on the shady cliffs of the Columbia Gorge under these conditions. And I have seen *Penstemon rupicola* in all its magnificent beauty, lifting its pink flowers in full blazing sunshine above the burning basaltic rock in the same gorge. These very same species are now growing and doing well in my rock gardens under conditions which give the appearance of being the same that are so notable in the wild. The method is easy if you have the right kind of rock and are not averse to hard work.

A soft but very porous rock is best. I use a very porous lava. One of my rocks is about 30 inches tall and 34 by 27 inches in width and thickness. I drilled a hole from the top clear through the bottom, using carbide-tipped drills graduated from $\frac{1}{2}$ inch through $\frac{3}{4}$, 1, $1\frac{1}{4}$ and $1\frac{1}{2}$ inch. It is necessary to use these various drills to get holes drilled comparatively fast and with a minimum of hard work. Unless you have quite a number of holes to drill it will not pay as these drills are costly. For power I use a half inch electric drill and it must be held very firmly with both hands. Sometimes a hard spot is encountered which will cause the drill to jam and result in an injured wrist if a tight grip is not maintained. I drilled interconnecting holes into the main hole—about two dozen of them. This means that both food and moisture can be interchanged throughout the entire interlinking system. I used a mix of one half crushed lava rock and one half leaf mold in these holes which insures moisture retention, drainage and sufficient food for good growth, but not too much room to result in sprawling foliage.

In larger rocks an interconnecting system may be more difficult, if not impossible. In this event I drill holes about a foot deep. The porous nature of the rock takes care of drainage in these blind holes. If the rock is non-porous or comparatively so it will be necessary to continue on with the half inch drill to the bottom or far side to take care of drainage. For plants that are fussy about drainage around the crowns, as with the lewisias, I use a spot under an overhang for a hole. The holes are preferably drilled at a sharp down angle so the plant can be inserted and to prevent washing out of the soil.

Most plants need holes fully $1\frac{1}{2}$ inches in diameter to give enough root room. A $1\frac{1}{2}$ inch drill in soft lava usually results in a two inch hole which is an excellent size. I try to space the holes in such a way that the plantings will be completely informal. There is no such thing as rows of holes drilled in straight lines. I can imagine little that would be more artificial or ugly. I try to choose indentations for holes that will make the finished effect appear as though the plants simply had to grow there. No other place would do.

I was astonished to discover that *Penstemon richardsonii*, which does so well in rock slides and similar places, does exceedingly well in a one inch diameter hole in lava. It will grow a foot and a half to two feet tall with a similar spread—really too big for any but large rockeries. *Penstemon rupicola* is at its best in two inch holes, making a compact growth and throwing out a shower of rosy flowers. *Penstemon davidsonii* var. *menziesii* is delightfully dwarfed under similar conditions and so is *P. barrettiae*. I have tried *P. davidsonii* and its variety, *davidsonii*, in inch and a half holes drilled in pumice block walls. The large cavities inside these blocks is filled with the same mix I use with the lava boulders. Both these penstemons flower well in this type of wall.*

Campanula rotundifolia is delightfully dwarfed in my hole-in-the-lava-rock garden and sedums seem to like this way of life, too. *Lewisia rediviva* is throwing

*Editor's note—For nomenclature of these penstemon see Hitchcock, Cronquist, Ownbey and Thompson, *Vascular Plants of the Pacific Northwest*, Part 4, 375, 379 (Seattle, 1959).

out a few blossoms in one inch holes, but would do ever so much better in 1½ inch holes. *L. cotyledon* and *L. tweedyi* are thriving nicely, both in the rock wall and the lava garden. But these species, as well as the other lewisias, need quite a bit of root room for fast results, and you need to allow a year or two longer for blossoms than you would under ordinary circumstances. But the wait is worth while and crown rot is minimized. Weeding? None at all!

Talinum okanoganense likes these holes and I have some color shots to prove it. The delicate fronds of *Cheilanthes gracillima* adapt well, too, although growth is somewhat slower.

The exceedingly porous nature of the lava I use holds a large quantity of water without flooding, so that moisture is no particular problem. My wall garden of pumice blocks is capped with 1½ inch stones which are not mortared in position so that they can be removed for inserting new plants and watering during very dry spells.

Undoubtedly many, many other species of plants will grow and beautify your gardens besides the ones I have mentioned. The possibilities seem almost as limitless as the rewards.

BOOK REVIEW

The Oxford Book of Garden Flowers, by B. E. Nicholson, M. Wallis, E. B. Anderson, A. P. Balfour, M. Fish, and V. Finnis, published by the Oxford University Press, 417 Fifth Ave., New York 16, N. Y., 1963, price \$8.00.

At first glance this slim, 207-page, pretty book—(half the pages are colored plates of the flowers discussed on the facing page)—will appeal to one as a good gift for a friend who may not be a gardener but would be entertained by looking at pretty pictures of garden flowers.

At second glance you will discover that it would be an invaluable book for someone just starting to garden, for the flowers are grouped not only to make an attractive picture, but to show which ones bloom at the same time and require essentially the same treatment and locale. Therefore, a great deal of expert planning has been done for the novice. Furthermore, the arrangement of the illustrations is seasonal, so that one can quickly thumb through the book to find flowers which will bloom at a given time to fill a specific need.

A third glance will convince you that this book will be valuable not only to the person wishing to be entertained and to the beginner, but to the more advanced gardener as well, for the authors have taken pains to include not only the usual plants, but many which are less well known. The text, which describes the flowers on the plate, explains their culture, and includes notes on other related plants, with information which will be of interest to even the most knowledgeable gardener. Then, too, this is a good reference book for someone who has trouble translating a botanical description of an unknown plant into a mental image, for in the 500-odd subjects illustrated he will probably find a picture of the plant he is investigating.

For the rock gardener the following groups of plants are discussed and illustrated: cushion plants, trailers for sunny rock gardens, wall and rock crevice plants, rock plants for light shade, dwarf shrubs for rock gardens, sun-loving plants for rock gardens, carpeting rock plants, dry wall-top plants, and late-blooming plants. There is information on how to make miniature and trough gardens and a list of suitable plants to use. There are also lists of plants for other purposes and the book is well indexed.

A possible criticism is that the book is an English publication and so describes varieties that may not be available in this country. However, one is reminded that what is locally available will do equally well. Personally, I find it entrancing

to read about the English varieties, and like me, you may find yourself sending to England for seed when you cannot get what you want locally.

So finally, you realize that this book, like a good teacher, has made learning a simple and pleasant process, that its treatment of the subject has depth as well as breadth, and that like a good teacher it will lead you, in the end, further into the field than you ever dreamed of going.

FLORENCE FREE

HYPOXIS HIRSUTA

ELIZABETH L. FREEMAN, *Haddam, Connecticut*

It would seem that *Hypoxis hirsuta*, yellow star grass, had done almost everything it could think of to endear itself to rock gardeners, including possessing what may be for many gardeners the crowning virtue—that of being little known or seldom seen, either in gardens or in the wild. A pity!

“Yellow Star Grass” (happily one of the more truly descriptive popular names) is a hardy native amaryllis, its existence a surprise to many amaryllis fanciers; widely distributed throughout most of the country, it has probably been overlooked thousands of times by normally observant plant lovers when its flowers are not open, and though it is found most commonly in open situations from Maine to Florida to Texas, it seldom grows in large colonies in the wild.

The narrow grass-like leaves and the wiry blooming stalks with their closed flower heads would rarely attract attention, but the discovery of a single clump in bloom with its perfect, star-like, bright yellow flowers is a rare and delightful experience.

Slender grass-like leaves, usually 6 to 12 inches long, rise from a small bulb or rhizome. The wiry flowering stalks, shorter than the leaves, are divided into 2 to 7 separate parts near the top, each bearing one of the bright six-parted flowers (actually composed of three petals, and three sepals which are greenish and hairy on the undersides). The distinct separateness of the perianth segments is responsible for the clear-cut, fresh effect of each flower, and recalls the same qualities in *Sisyrinchium angustifolium* (which makes a delightful background for the lower-growing *Hypoxis*, though it does not bloom nearly as long).

The whole effect is distinctly airy, fresh, and graceful. Each bloom starts as a crisp-looking incurved cup, then broadens and matures with definitely reflexed petals. The narrow elongated buds or the maturing seed capsules, looking like some sort of miniature candelabrum, help to identify *Hypoxis hirsuta* when not in bloom. The plant characteristically flowers from April or May through October, and apparently the tendency of plants growing in full sun to close their blooms early in the afternoon on the hottest days has led to their being overlooked as “just plain grass”.

Hypoxis hirsuta is found in sun or light shade in dry, sandy, slightly acid soil, or in moist but well-drained spots in full sun, from Ontario and Manitoba through Maine, New Hampshire and Vermont and south to Florida, and through the middle west, including Wisconsin and North Dakota, south to Texas. The standard horticultural texts describe it as being found chiefly in open woods and meadows, fields, thickets, or roadsides—surely a varied habitat! Mr. Totten has found it in New Jersey on dry hillsides in shade, and in moist situations along ditches in full sun. John D. Zech, of Wilmington, Delaware, has made a hobby of studying and photographing a colony near Wilmington, which numbers a dozen plants in an area of about 20 square feet. These plants are growing in light deciduous shade, in sandy soil, near the edge of a stream which briefly overflows the colony several times a year, and the plants have been thriving, to his knowl-

John D. Zech, Wilmington, Del.



Hypoxis hirsuta

edge, for at least five years. Mrs. Evelyn Stufflebeam, an ARGS member who received *Hypoxis* seed last year through the Seed Exchange, has found native plants growing in the woods near her home in Petersburg, Illinois, on a hillside with light shade, soil approximately pH 5.6, in the company of *Viola pedata*, *Dodecatheon meadia*, and *Liparis liliifolia*, all thriving in thick moss in the shade of a few large deciduous trees.

We found our first specimen a year ago last May, blooming on our own hillside in open sun, poor acid soil, and surrounded by *Comptonia*, several varieties of *Vaccinium*, *Antennaria plantaginifolia*, *Cypripedium acaule* and lichens, with young seedling birches and poplars nearby. A request in the *Gardeners Forum* for seed or bulb sources led to a wide and fascinating correspondence, but for nearly a year Mr. Totten (who writes that *Hypoxis* is one of his favorites) was the only person who could tell me anything about it, or where bulbs could be bought. (Everyone else wrote, "What is it?" or "Where can I get it?"). My only other lead, the superintendent of a famous public rock garden where I had heard that *Hypoxis* was growing, said that the records of the source of the plant had been lost.

Our own original specimen, moved, of course, when we moved (that's one of the ways *Hypoxis* affects a gardener), bloomed all summer in full sun in front of a large boulder. Late in October I quite literally stumbled upon another clump, cheerfully blooming in the orchard grass within inches of the edge of our country driveway. This spring, another clump was discovered growing and blooming in deep moss, between the prostrate branches of a huge spruce, in a spot which gets

only a brief spell of morning sun. A few days later, a fourth clump was found in an even shadier spot, in the center of an abandoned woods road. The dozen bulbs I bought from a North Carolina nursery were all planted this past spring in full sun (since I had not at that time seen or heard of any *Hypoxis* growing in shade), in poor gravelly acid soil on a rock ledge. With no fertilizer or watering, they have bloomed steadily all summer, and on this bright July morning, one plant has seven bright yellow star flowers.

Mr. Totten, in the July, 1957 ARGS *Bulletin*, writes that *Hypoxis* seems to produce more flowers and less foliage when it is grown in full sun under fairly dry conditions, and I agree with him, but have noted that on very hot dry days in midsummer, the flowers close soon after noon; they stay open till dark, however, in the cooler spring and fall temperatures. The plants growing here in shade definitely produce larger leaves and flowers (one bloom actually had seven petals instead of the standard six), and the flowers remain open all day; however, they stopped blooming, or at least embarked on an extended rest period, in early July, while those in full sun are still blooming generously.

Doretta Klaber, in *Rock Garden Plants*, says that part shade and adequate moisture will encourage blooms all summer long, and John Zech reports that his *Hypoxis* has improved under cultivation, with "a lot of sun and some shade", good garden soil and adequate water. The Mayfair Nurseries Handbook recommends shade, an acid woody soil of pH-6.0, and planting together in thick colonies for a "good show".

The flowers, reported to be visited by small bees and butterflies, produce tiny shining black seeds, but we have never found any seedlings around any of our 16 plants, including the four native ones. Mr. Totten reports that germination is almost 100%, and Mrs. Stufflebeam has had good results, using a mixture of 2 parts leafmold, 1 part sand, and 1 part woods soil.

Bailey's *Hortus Second* states that propagation is "by division", yet I have dug up half a dozen plants in July, and so far have found only a single bulb per clump. In addition to its obvious virtues; charming flowers, graceful form, hardiness, adaptability, and an extraordinarily long blooming season, *Hypoxis hirsuta* is obviously not invasive, nor on the other hand is it exasperatingly difficult to raise from seed.

To cap it all, what more could an adventurous plant lover want than the knowledge that a lovely, shy, and little-known plant may be underfoot in one's favorite meadow, or at the edge of a supposedly well-explored woods? Tomorrow you may find it. Look down!

FLOWERLESS SEPTEMBER IN THE HIGH SIERRA

SHIRLEY BACKMAN, *Reno, Nevada*

In late September, Margaret Williams phoned, saying that she was going to Mt. Rose to collect seeds for some of her friends in England, and would I like to go along and gather seeds of *Penstemon speciosus kennedyi* that were wanted by the American Penstemon Society. To be out in the Nevada mountains in fall is an exhilarating experience, especially with my husband, who marches enthusiastically up them like the ex-infantryman that he is; to go with Margaret, who *knows* the Nevada flora and sets a pace that includes time to look at and enjoy it, is the height of pleasure. When we stopped to rest, perhaps to drink from Galena Creek, we had a magnificent panorama of valleys below us and mountains on the horizon in every direction. The southwest slope of Mt. Rose, which we climbed, overlooks Lake Tahoe, Reno, Virginia City (or, at least, its mountains),

and even Lassen Peak can be seen from the summit.

The term 'flowerless' is not to be taken literally. Actually, on September 29th, at an elevation of between 9,000 and 10,800 feet, we found approximately twenty-five species in bloom, the reason for the approximation being my inability to distinguish between different asters, dandelions, etc., and a lack of true concern since most of them could hardly be described as at their peak. The primary point was to demonstrate to the two visitors from San Francisco, who accompanied us, that we did have flowers. Not only asters and *Erigeron pygmaeus*, but *Mimulus*, *Sidalcea*, *Angelica*, *Epilobium obcordatum*, and especially *Eriogonum ovalifolium nivale* did their best for us. And one good *Hulsea algida* sat up perkily to have its picture taken.

We enjoyed the climb through the Hudsonian zone (9,000 to 10,000 feet), through the mountain hemlock (*Tsuga mertensiana*) and the whitebark pine (*Pinus albicaulis*). We dug out half buried elongate pods of *Oenothera xylocarpa*, which have a lively red color and quite a bit of green even after the seeds are ripe. We found one boll of cotton on *Epilobium obcordatum*. It had just about finished blooming and there should have been quantities. We filled a sack with achenes of *Eriogonum lobbiai*, whose rosy heads were lightly resting on the ground near the woolly leaves. We gathered my penstemon seeds from a stand which was not quite ready to give up the ghost of summer yet; most of the pods were still green and tightly closed, except where some mountain dweller had nipped off the top. As we progressed up the slope, some of the pines played at being bonsai and looked out appealingly from crevices in the rock, but the mountain hemlock seemed to come out only full grown. (One did fall across the path, and I found Margaret gathering cones as a rest excuse on the return trip; they are dainty miniature cones, but usually grow at the very top of the tree).

Nevertheless, Mt. Rose is at its best above timberline, where there exists a true scree garden. *Pinus albicaulis* diminishes abruptly. Margaret has a photograph showing this transition; one pine is over her head, the one in front of her comes below her chin and then the pine forms a windswept hedge two or three feet high. Beyond this is the scree. Not until I had seen this did I listen with any degree of sympathy to the alpine purists who argue that no plant over a few inches high should be admitted to the rock garden; now I can summon whole-hearted empathy. In midsummer this area is spectacular with colors set off by rocks. Now the foliage comes into its own. Mats, buns, prickles, tiny green leaves, sprays of dissected foliage hold the stage, with only the endless stems carrying brown heads to suggest a vivid past. Only *Eriogonum ovalifolium nivale* bears wine red flowers over its harmonizing mats of pinky-silver, whose every leaf is undulated at the edges.

There are "pinifoliae". *Draba densifolia*'s tiny tufts seem a cross between pine needles and a wheat fruit. Longer, more gentle and even leaves clothe *Phlox covillei dejecta* (dejecta?) that plant so handsomely caespitose on the scree. *Leptodactylon* probably *pungens pulchriflorum* has much more emphatic prickles, both to the sight and the would-be caressing touch.

Any proper scree garden must have rosettes. Those of *Ipomopsis congesta montana* hint of an androsace (actually it is very closely related to *Gilia*) and lie along the path in profusion that tries to belie their charm.

More conventional leaves occur in variety. *Polemonium pulcherrimum parvifolium*'s pairs of oval-round leaflets march proudly down the little stems, each pair overlapping but not touching the pair below. The stems point in any direction fancy suggests, a touch of disorder in an otherwise well-organized plant. The shiny reddish-green ovals of *Eriogonum marifolium* form a loose spray, not the norm for this garden. Some of the leaves lie so that they reveal the silverish

underside. *Erigeron compositus pinnatisectus* pushes its much dissected leaflets up through the stones, while the less fragile but equally charming *Chaenactis douglasii* (an alpine form) displays becoming leaves, divided more or less after the fashion of a yarrow. The solid, small gray felt leaves of *Senecio canus* retain their individuality, as if to reject such a label as 'mat'.

The plants mingle in rather startling fashion. I recall the shock when my hand closed on a draba pod as I was set to pry another phlox seed from its guarding tuffet. This 'plant' also contained *Eriogonum ovalifolium nivale*.

Penstemon davidsonii is almost the only inhabitant of the rocky summit. Its woody base and sprawling stems are in marked contrast to the plants below. It seems quite self-sufficient and at home as it comes to grips with the shifting stones; I cannot put my finger on the reason why it seems to blend so well with the terrain. Perhaps memories of the flowering season are most acute at this point, especially to me, since my first ascent to the summit did not follow the route through the scree, and the mass of flowers, ranging in color from deep purple to a clear pink, made the laborious climb from the northeast seem more than worthwhile. At any rate, the penstemon is a fitting climax, and besides, who could select from those little scree darlings the one that should reign alone on the summit?

INTERCHANGE OVERFLOW SEEDLINGS UP—NOW WHAT?

LEONARD J. UTTAL, *Madison Heights Virginia*

Since I attempt rock gardening in Virginia and published an article some time ago on handling young plants (*Horticulture*, Oct., 1961, p. 513), it appears to behoove me to try to answer Mr. Barto's Interchange inquiry (*Bulletin*, July, 1963) on how to handle seedlings after germination.

First Mr. Barto and anyone else attempting to raise plants in climates and soils radically different from native conditions must expect some loss. Half the fun is trying and learning. With experience and resultant accumulated insight, losses will materially decline. Rock gardening will probably always be primarily oriented to the alpine flora with its short growing season, and our Seed Exchange will reflect this orientation. As long as it does, some species sown in lower altitudes must fail.

By no means do I mean to discourage continually trying the northern plants. It is surprising how many will accept our conditions. I have *Linnaea borealis*, *Cornus canadensis*, *Dryas octopetala* and *Potentilla tridentata* here on the Piedmont, less than 300 miles from where the palms grow.

A greater interest and admissibility in rock plants suited to lower latitudes seems emergent today. As more and more gardeners move south, this is bound to grow. It is the job, even duty, of rock gardeners in warmer climates to learn the rock plants best suited to their situations. This is about as virgin a field of inquiry as exists in horticulture.

Enough of digression—now, how to salvage seedlings? A primary principle: any plant will more likely survive, the stockier its root system before transplanting to the garden. This applies to baby plants received from distant suppliers as well as our own raised seedlings. It is a hostile act, especially in a hot climate, to plunge such tender things into the raw earth.

Such plants should have a special place where they can be shielded from bare sun and wind, and be kept properly moist until they grow vigorous and hardy. I suggest a small home nursery (mine is 4 × 12 feet) in which the soil is a well-drained foot-thick bed of sand, loam, and humus in equal mixture. The sides and roof of the nursery can be made of old door and window screens, which

are removable to promote hardening off of the plants. It can be made of lathed, removable sections, or even pine boughs. Here I sprout my seeds and here I transplant my seedlings, never in a hurry, to old tin cans with holes punched in the bottoms, or into the soil itself. Plants developing taproots are best left in the cans even when set out in the garden (but first open up the bottom well). Plants in the nursery soil benefit from root pruning occasionally. Do this by plunging a trowel around the plant in a circle a safe distance out (a leaf or branch distance out is a good rule). By so doing, the plant is trained to develop a tight ball of roots which lifts out handily at transplanting time without shock. Plants in containers, showing signs of crowding (roots coming through) should be transplanted to larger containers.

In general, it is much better to raise young plants under such protection for their first season, to be set out early the next spring, than to set them promptly in the open garden while still weak.

Young plants set out in the garden which show signs of faltering in spite of the above care, frequently revive by shielding with scraps of screening, light fertilizing and copious water.

HANDLING SEEDLINGS AFTER GERMINATION (EXCERPTS FROM LETTERS)

In answer to Mr. Barto's inquiry in the July Interchange; we both live in suburbs of Washington, D. C., he in Arlington, Virginia, and I in Takoma Park, Maryland, just across the Potomac.

Transplanting should not be done when the plants are too small. I prefer to plant seeds more thickly than most and thin with tweezers to $\frac{1}{2}$ inch apart. When they begin to crowd, I transplant. The two main dangers here are drying out or rotting from too much water. Larger seedlings have larger root systems, which go deeper and need less frequent watering, reducing the danger from rot.

I transplant at the start of a rainy spell. In this area, two or three days of cool rainy weather usually occur in May and June—at times, even July and August—almost always in September. I always transplant in boots and raincoat, though this is likely a bit eccentric. Reduce the tops of the seedlings, if necessary, to reduce transpiration. Cut off the largest leaves of such plants as *Potentilla*, *Viola*, and others with large leaves, cut back *Hypericum*, *Penstemon*, *Veronica*, some *Dianthus*, and others with upright stems. Shorten the leaves of primroses and others with large individual leaves. This seems cruel, but with plenty of roots the plants catch hold, and soon are far larger than those not so treated which may either die, or wilt day after day for weeks in our hot sunshine. Shade, if necessary, with anything available which offers ventilation. I use strawberry boxes. Harden off seedlings thoroughly before transplanting. I grow mine in flats in an area which gets afternoon shade. If the seedlings are going into full sun in the garden, I move the flats to full sun at least a week before transplanting.

SHIRLEE HUTMIRE, *Takoma Park, Maryland*

Mr. Wellington F. Barto's inquiry in the July *Bulletin* intrigued us particularly. Though we have never been in Virginia and have no notion of the cultural requirements there, we hope our experience with seedlings may be of some help. Seeds have a way of germinating profusely, only to have the resultant seedlings give up the ghost when they are transplanted. We have come to believe that the protection given the germinating seedlings is not always continued for transplants, and the tiny plants wither away when set out by themselves in flats or pots.

We are not successful pot-gardeners and use nothing but flats for our first transplanting. Each flat is then equipped with a covering of thin plastic, held

above the plants on half-hoops of wire (coat-hangers with the twisted hook-section removed do very well). After a few days we poke holes in the plastic—enlarging them gradually and, after a couple of weeks (ten days if the weather is not too hot and dry), the cover may be removed. Our percentage of healthy seedlings has increased greatly with this method.

PAT AND PAGE BALLARD, *Issaquah, Washington*

SOME SHADE-LOVING NATIVE ROCK GARDEN PLANTS — PART II

ROBERT H. GAEDE, *Saddle River, New Jersey*

One of the best loved and most rewarding of all wild flowers is *Epigaea repens*, trailing arbutus. This leathery-leaved ground cover is very difficult for some gardeners to grow and comparatively easy for others. One of our well-known members, who has grown many hundreds of species with success, has tried to grow this plant many times, using utmost care, but without success. This species is probably most successfully transplanted early in spring or late fall and only if enough soil remains attached to keep the fine rootlets intact. *Epigaea repens* requires acid soil, good drainage and at least partial shade. It is most often found growing in a somewhat northerly exposure, but can be grown in a southerly exposure under the conditions noted above.

Another low-growing plant, *Gaultheria procumbens*, checkerberry or wintergreen, is often found growing as a companion plant with arbutus. It grows in thick mats, often in crevices or rock ledges. It has small, white, nodding flowers which bloom in early summer. They produce red berries in fall.

Mitchella repens, partridgeberry, is another evergreen plant which produces red berries in fall. It creeps low over the ground, forming close mats of roundish leaves. The small white, or pink, fragrant flowers, which are borne in pairs, form into a single berry.

Although both wintergreen and partridgeberry are very common, only a small percentage of these plants produce flowers and fruit. It appears that most of them are sterile. It will be found that where some plants have berries, many other plants in the same area will also have berries. Both species require an acid humus soil.

Polygala paucifolia, gay-wings, is quite common in the New York area. It has small orchid-like flowers which bloom in May or early June. Looking down on the leaves, they often resemble wintergreen, with which it often grows. This plant has purple stems and the leaves are the same color underneath. *Coptis groenlandica*, goldthread, is found growing in a somewhat swampy area. It makes a nice, dark, glossy ground cover, which is green the year around. The five to seven-petaled white flowers are about a half inch across.

Cornus canadensis, bunchberry, has a more northerly range in the wild. The flowers and leaves are very similar to the dogwood tree, however, bunchberry grows only three to nine inches tall. It also produces bright red berries in fall. This species will not do much more than struggle along in the New York area unless it is planted in a cool moist location. *Dalibarda repens*, dewdrop, also requires a cool moist spot. The leaves are somewhat heart-shaped and coarse-toothed. The flowers are white and about a third of an inch across.

Linnaea borealis, twinflower, is another creeping ground cover that belongs to this group. It has small, pink, bell-like flowers which grow on stems a few inches tall. Give it a shady, somewhat moist but well-drained location and it will produce a nice mat.

Two southern shady plants have become quite popular in northern wild

gardens. *Shortia galacifolia*, Oconee bells, has very glossy leaves which remain green or bronzy all year long until replaced by new ones immediately after flowering. The waxy white flowers appear in early spring. *Shortia*, as it is generally called, is native in very small areas in North and South Carolina. When planted in shady, humus soil locations, it will increase in size and then can be divided to produce new plants. *Galax aphylla*, commonly called galax, is very prolific in mountainous areas of Virginia and southward. It is similar to *Shortia galacifolia* in growing habits. Its leaves are much larger and the small white flowers are formed on spike-like racemes, a foot or more in height.

Arctostaphylos uva-ursi, bearberry, is another very prolific grower but under different conditions from the foregoing. It covers broad sandy areas of Cape Cod, Long Island and the Pine Barrens of New Jersey. It is not easy to establish but when it once takes hold, it forms graceful creeping runners on well-drained slopes. It will tolerate shade but does much better in partially sunny situations. The red berries, when produced, are an extra dividend.

Chimaphila umbellata, pipsissewa or prince's pine, is a shiny-leaf evergreen plant which increases very slowly by underground roots. It has small pinkish-white flowers in summer borne on stems three to four inches high. *Chimaphila maculata*, striped wintergreen, grows in more solitary clumps, formed of several leaf stems. The leaves are one and a half to two and a half inches long and less than an inch wide. They have cream-colored leaf veins on the green leaves which give them an interesting variegated character. The flowers are similar to *C. umbellata*.

Asarum canadense, wild ginger, is recommended, in some books, as a ground cover for shady places. It grows where it is moist and can spread quite rapidly. It is deciduous. There are other gingers which are more desirable. *Asarum virginicum*, southern ginger, is evergreen and has smaller leaves. *A. shuttleworthii* is similar with mottled leaves. These gingers all have mahogany-colored flowers which are stemless and attached at ground level.

Goodyera pubescens, rattlesnake plantain, has bluish-green leaves with many white veins giving them pretty net-like patterns. The small greenish-white flowers are formed on a dense spike four to eight inches in height. It has perennial and slightly creeping roots, but it can never become a nuisance. It belongs to the *Orchidaceae*.

Most of the wild flowers mentioned so far, have creeping roots or underground runners. Rock gardeners are prone to avoid species which spread too rapidly by roots or seed. Hardly any of the plants mentioned here will give trouble in this respect. Besides, the wild garden is a little different in that the intermingling of wild plants is so natural that some of it should be encouraged.

Hepatica americana should be in every wild garden. The plants form small fibrous root clumps which increase very slowly in size and can be divided after some years growth. The flowers are one half to an inch across. They are either white or lavender in color usually, but there are pink or purple hepaticas which are more attractive though much less common. The three-lobed leaves remain through the winter and are replaced by new ones after flowering, which occurs in early spring.

Saxifraga virginiana, early saxifrage, is another must for the rock gardener's wild garden or any rock garden, if not too dry. The very small, white, fragrant flowers are formed in a flat top or branched inflorescence, one or two inches wide and a few inches high. The leaves form a rosette, are roundish and usually about an inch in diameter. They are fleshy and evergreen and will grow in sun or shade. It is found on rocks or in crevices where there is some moisture seepage.

Houstonia caerulea, bluet, is another sun or light shade plant, which grows wild in this area. Formerly there were broad areas of this plant. They are now hard to find. The small individual light blue, lavender or whitish flowers are about a third of an inch across. The leaves are also tiny and formed in a minute rosette. A small mass of these plants will spread under favorable conditions, but they can be easily controlled. Many other desirable wild flowers could be included in this list, such as trilliums, ladyslippers and bloodroot. These plants brought here in pots, still in foliage in November, are in some ways better as illustrations than are kodachromes showing them in bloom. Anyone wishing to collect plants in the wild must be able to recognize them by their foliage because of their short blooming period.

I presented much of the material contained in this article before members of the American Rock Garden Society in a meeting at the Field Station of the Brooklyn Botanic Garden at Kitchawan, New York on November 3rd, 1962 at which time many questions of soil, moisture and other growing conditions were discussed. Some of the plants under discussion are quite exacting in their requirements, however, they will sometimes be found growing successfully under widely varying conditions.

Some gardeners have luck, so to speak, and others have trouble in growing the plants, even with the best of care. There seems to be a certain natural balance of moisture, drainage, light or shade and soil conditions which is difficult to understand or evaluate. The trial and error method is one of the products of gardening that make it so interesting.

ERIGERON AUREUS

A. M. S.

Erigeron aureus is a small composite that gives me a lot of pleasure when I meet it in the mountains, as I do every year. It is only an alpine daisy, but it is neat, petite and smiles up at its beholders with great cheerfulness. I have seen it on Mt. Rainier and in the Arctic-alpine zone of the Cascade Mountains in Washington State. It wanders far afield, for it is known to occur in the southern parts of British Columbia and Alberta, although I do not find it recorded as having been found south of the Columbia River.

My first acquaintance with this charming composite was on Mt. Rainier, many years ago, and because at that time my botanical bible was G. N. Jones' *The Flowering Plants and Ferns of Mt. Rainier* (1938), I identified it as *Haplopappus brandegei* Gray, and for a long time I knew it by that grandiose name which I liked for it had a nice lilt to it when once its pronunciation had been mastered.

Later with the publication of Part V, Compositae, by Arthur Cronquist (this is the first of five parts to be published of *Vascular Plants of the Pacific Northwest*, Hitchcock, Cronquist, Ownbey and Thompson, 1955), I found my plant listed as *Erigeron aureus* Greene. Still later in Abrams' *Illustrated Flora of the Pacific States*, Vol. IV (1960), *Erigeron aureus* Greene was given top billing again. So the next time I met this golden daisy I greeted it by this new name and could notice no change in the plant's reaction. Now I was convinced and gave up any lingering affection for the name '*Haplopappus brandegei*'.

Just for the fun of it I checked out the genera *Erigeron* and *Haplopappus*. Keeping entirely to Abrams, I counted 62 species of the genus *Erigeron* described and 43 of *Haplopappus*. Together there were 105 species listed as found in the Pacific states. Under *Erigeron*, Abrams listed 12 generic synonyms, as follows: *Aster*, *Stenactis*, *Tessenia*, *Woodvillea*, *Cineraria*, *Stenotus*, *Aplopappus*, *Chrysopsis*, *Diplopappus*, *Wyomingia*, *Doronicum* and *Diplemium*. The overall species

synonyms numbered 95, too many to list here. Besides, there were 26 varieties and four subspecies, with five additional varieties. As far as common names are concerned, Abrams called erigerons different kinds of daisies, for examples: alpine daisy, yellow alpine daisy and Olympic daisy.

Of the 43 *Haplopappus* species there were 27 generic synonyms: *Dieteria*, *Aster*, *Eriocarpum*, *Sideranthus*, *Machaeranthera*, *Pyrrocoma*, *Hoorebekia*, *Donia*, *Homopappus*, *Stenotus*, *Tonestus*, *Hazardia*, *Isocoma*, *Chrysopsis*, *Macronema*, *Bigelovia*, *Ericameria*, *Chrysothamnus*, *Chrysoma*, *Linosyris*, *Hesperodoria*, *Stenotopsis*, *Diplostephium*, *Corethrogyne*, *Diplopappus*, *Acampptopappus* and *Tumionella*. Unlike *Erigeron*, with many varieties and a few subspecies, *Haplopappus* has only two varieties and 21 subspecies. As for common names, listen to this: rushlike bristleweed, Brickellia goldenweed, Columbia pyrrocoma, Lyall's tonestus, woolly stenotus, serpentine macronema, rubber weed, desert isocoma, island hazardia, pine-bush, mock heather, boundary ericameria, turpentine-bush and golden fleece. There are many more but this gives you an idea.

Think of the vast amount of botanical brain-power that has been expended in the interests of a few composites growing in a very small part of the earth's surface. Imagine the confusion that must reign when another botanist is ambitious to present the public with a new authoritative work which is to include the two genera that have been under discussion. He reviews all available previous works applicable to his subject and how he must shudder when he contemplates the synonymic jungle that he must fight his way through before he can commit himself to print.

He may meekly agree with what has most recently been written and repeat it. He may research to his heart's content, or its sudden rebellion, and rearrange genera, species, variety, etc., of course, believing himself entirely justified, though he may be only adding to the confusion. He may weave his puzzled way in and out of that synonymic jungle, struggle through the varietal morass, painstakingly explore the mountains of earlier writings on the subject, finger his way over the dusty desert of musty herbarium specimens and, weary and discouraged, give up the idea of writing the book.

But what of the poor amateur gardener, which a great many of us are, who has a taste for botany? He is interested in the plants themselves and because there is much that he wishes to know about them, he reads what has been written by others. To get any sense out of these writings he must first know the botanical names of the plants that interest him. Not being a taxonomist, he is not particularly interested in who named what, nor when he named it, nor why, but he does want to know a plant's proper name; a name that he can follow through the many books that he can use for reference. But he is stymied at every turn, for the authors of these books do not always agree among themselves as to the proper name, hence the synonymic jungle.

An example: our gardener owns a valued book written by Thomas Howell, entitled *A Flora of Northwest America* (1903), and from it he has learned that the small golden daisy that he found on Mt. Rainier is *Stenotus brandegei* Howell. Later he buys a book devoted entirely to the flora of Mt. Rainier, by G. N. Jones, and he tries to find mention of his little *Stenotus brandegei*. Lo! It is not listed there as growing on Mt. Rainier. So our gardener, fancying himself somewhat of an amateur botanist, resorts to the key in the new book and decides that his plant is *Haplopappus brandegei* Gray (*Erigeron aureus* Greene) Goldenaster. He is troubled now about the name but he is sure that the plant is the same. Then out comes Vol. IV of Abrams' *Illustrated Flora of the Pacific States*. He looks for *Haplopappus brandegei* Gray, but although there are many plants of *Haplopappus* listed, such a species is not. Remembering Jones' parenthetical

name, our gardener turns to the erigerous in the book and finds *Erigeron aureus* Greene listed as growing in the Cascades of Washington.

Author Abrams had been considerate enough to list several synonyms for this plant. First, there was *Aplopappus brandegei* Gray. Our gardener wonders why Abrams knocked the 'H' out of the 'Haplopappus' used by Jones when both authors attribute the name to Gray. He shrugs off this cockneyism and reads on. He finds *Aster brandegei* Kuntze, and then he meets an old friend, *Stenotus brandegei* Howell. He is now relieved for he is sure of his plant though it has masqueraded under various names. Henceforth he will be content to think of this choice little daisy as *Erigeron aureus*, that is, until such time as some other botanist unearths a new name for it, or reverts to one of the present synonyms.

For further mental exercise, not to say anguish, and to illustrate what does happen when too many botanists throughout the years are interested in the same plant, look at *Erigeron peregrinus* (Pursh) Greene. Look at its subspecies, its varieties and its labyrinth of synonymous names. First read Abrams' account of it and then check with other authorities. You will be astounded. Of course, there are definite rules that govern the naming of plants, but they have been established by botanists. An article on these rules and their application to the naming of plants would be of great interest but it probably would not simplify the gardener's problem in the matter. The gardener resents the time spent in the detective work necessary to allow him to follow the trail of some loved plant through the vale of synonymy.

And so it goes. But back to our *Erigeron aureus*. If that is what our botanist friends want it called, that is what we will call it, for without botanists we would be in a far worse state of confusion than we now are. Our alpine golden daisy, be it listed as *Erigeron aureus* Greene, *Aplopappus brandegei* Gray, *Haplopappus brandegei* Gray, *Aster brandegei* Kuntze or *Stenotus brandegei* Howell (remember I have only consulted some authorities, there may be others who will add other names) can be grown in a rock garden. I have seen it there many times and though in captivity it lacks some of the endearing qualities that make it beloved in its alpine habitat, it is still a charming and tidy plant that more than pays its way in the garden. Its seeds have been listed in our Seed Exchange and may be listed again. Look for it.

NOTES FROM THE NORTHWEST

SALLIE D. ALLEN, *Seattle, Washington*

FOR PLEASURE AND PROFIT:—Everyone loves a plant sale, especially one where the plants are contributed by ARGGS members. This is where we can find rare species *Rhododendron*, *Scoldanella*, Le Pinic form of *Kalmiopsis*, species *Primula*, dwarf conifers, *Erythronium*, dwarf iris, *Phyllodoce* and unusual ferns, to name but a few, for prices we all can afford. Our annual spring sale is always a joy and an education; in the past a riotous auction, but this year, a priced plant sale was held both spring and fall. Each member and guest drew a number, and as the number was called that person had one choice of all the wonderful treasures arranged on tables around the room. With approximately 70 numbers being drawn, it would seem that the writer's number 58 would be too high to obtain one of the choicer selections, however the one tiny *Gaultheria* that she had long entertained the hope of acquiring, was still available.

Within an hour everyone had three opportunities to make a selection, and enough plants were left for one free plant each! All of our expenses are covered by the sales, including outside speakers, year book printing, monthly notices, clubhouse rental, etc. The total proceeds from this year's spring and fall sales were

about \$50.00 less than were realized by the auction method, however we felt that the plants were more evenly distributed and everyone could find something he wanted and could afford, which is not always the case with an auction. Many of us are not financially able to get 'carried away' which so often happens in enthusiastic bidding. Nevertheless, opinions vary and methods change from year to year, which is always a healthy situation.

OFFICERS FOR 1964:—

Chairman—Mr. S. A. McClanahan
 Vice-Chairman in Charge of Program—Mrs. Alton H. DuFlon
 Hostess Chairman—Mrs. Horace Raphael
 Secretary-Treasurer—Mrs. Jeff Stearman
 Corresponding Secretary—Mrs. Rodney B. Allen

WELCOME VISITORS:—It is a great pleasure to meet ARGs members from near and far, to include them in our activities and arrange to have them visit some of the interesting gardens in our area, thus it is hoped that when any of you are planning a trip to the Pacific Northwest, you will contact us so that we may extend the hospitality of the Northwest Unit. In May, Mrs. Dorothy Marshall and her sister, Mrs. Joyce Neilan from Portland, Oregon, accompanied us on a garden tour of the LeBlanc Gardens in Kent, Washington. In July, Mrs. Margaret Williams and Mrs. Joan Elder of Reno, Nevada, arrived in Seattle in time for our annual pot luck picnic, one of the strictly social activities of our group.

LOOKING NORTHWARD:—With the advent of the Alaska ferry system, facilitating travel to our most northerly state, it seems indeed timely to see slides of some of the desirable plant material native to Alaska. The Northwest Unit purchased a collection of slides some years ago from Maxcine Williams, who spent years exploring and photographing the flora of much of Alaska in the company of Ada White Sharples, author of *Alaska Wild Flowers*. The slides served to whet the appetite for the opportunity to either explore and collect for ourselves, or attempt to obtain plants or seed which have been so difficult in the past to secure.

Of the six or so species of *Primula* native to Alaska, *P. cuneifolia*, a kin to the Auricula Section, appears to be the most desirable one for garden culture, forming small, neat evergreen rosettes, with large crimson-purple flowers on three-inch scapes. It seems to share the reputation of other North American primulas of being impossible, or at best, extremely difficult in cultivation. Why is this? Is it because we lack the nearly twenty hours of daylight during the summer and the long, snow-covered, winter dormancy? Or is it that we have not had the opportunity to work with it, to discover its needs, try out different exposures, soil, moisture or lack of it? Seldom is seed available, but when it is it will not germinate; must it be sticky fresh?

Gentiana platypetala is described as the most beautiful of Alaskan gentians, upright to 12 inches, a glorious blue flower opening only in the sunlight. It grows in Southeastern Alaska, but is it grown in our gardens? The delightful alpine creeping azalea, *Loiseleuria procumbens* has the reputation of thriving in cultivation, but refusing to bloom to any extent, while the European form does very well with us. Again is this because we have not had the chance to tame the wild one?

The American form of *Cassiope lycopodioides*, found from Juneau northward, should be a desirable subject since the Japanese form is one of the easiest of the genus to cultivate. It differs from the Japanese one by having green pedicels

and calyx and less of a mounding habit, and again is not easy in cultivation. Is this another case, perhaps, of a plant that could be suitable, but needs understanding, work and time? It is hoped that these and many other questions will be answered in the very near future.

FIELD TRIPS:—With the incredibly wet, uncertain summer of 1963, it seems miraculous that our two field day trip dates, picked at random nearly a year in advance, should turn out to be two of the most beautiful days of the entire season. Field trips here are treasured experiences where congenial friends meet to share a common interest, the joy of tramping the trails and hillsides in our beloved mountains, exploring, photographing, and collecting, exhilarated by the rarified air, beauty of scene and stimulating companionship. These trips are like informal botany classes for those who wish to further their scientific knowledge, and horticultural information flows freely as all participate in interesting discussion, spiced by a prevailing current of good humor. These are family affairs where children, too, are very welcome; the youngest this summer was Dr. and Mrs. Kruckeberg's three-month-old baby daughter (we start them young in the ARGS here!).

Saturday, July 27th found a caravan of cars winding up a steep Forest Service road toward Corral Pass, elevation 6700 feet, situated in the Cascade Mountains northeast of Mt. Rainier, where we planned to park the cars and hike to Castle Mountain about a mile and a half distant. Our destination was temporarily forgotten, however, when we reached the 4500 foot level, where we saw hillsides of *Rhododendron albiflorum* at the peak of blooming perfection. Thus the photographers alighted, some cars drove on after due appreciation, and the rest of us attempted to find plants of this difficult but desirable species small enough to collect. Our efforts were rewarded when we found a rotted stump in which a dozen or so seedlings, several inches in height, were growing, and our enthusiasm was not dampened by accounts of how it will grow but not bloom in cultivation.

The trail from Corral Pass to Castle Mountain was good though steep in places, but always interesting. In many meadows *Erythronium grandiflorum* grew with only an occasional late-blooming flower, where just a week before they had formed drifts of yellow, nodding loveliness. Upon reaching the high ridge, we looked southwest to our glorious Mt. Rainier, which never ceases to thrill us. Glancing down at our feet we were delighted to see old friends of previous trips, charming little *Erigeron compositus*, *Saxifraga bronchialis austromontana* and the minute *S. tolmiei*, with its sedum-like fleshy leaves. As we walked along the ridge we marveled at the elfin bells of *Vaccinium scoparium*, the small-leaved huckleberry, on one side, and *Penstemon rupicola* in impossible rock crevices on the other. An exciting discovery was a fine pink form of *Penstemon procerus* var. *tolmiei*, a single plant among its deep blue-purple companions. It was recorded by the photographers but left, in order, hopefully, to produce progeny of equal merit.

We passed drifts of *Phyllodoce empetriformis* and *Cassiope mertensiana* on our way to an intriguing, apparently bare, rocky mound which was the only place we saw such downy-leaved plants as *Potentilla villosa*, *Eriogonum ovatifolium* and *Phacelia sericea*. To relate all interesting alpinism cannot be done here, so many things were to be seen in their finest display of flower. It seemed almost that a special show had been put on for our benefit. It was agreed that it had been a perfect day in every way.

Our second field trip, September 7th, took us on a two-mile hike from Chinook Pass into Sheep Lake, elevation 6000 feet, for the express purpose of seed collecting for the Society. After seeing the gay profusion of summer flowers

on our previous outing, it was interesting to become aware of plants in fruit, and the subtle foliage coloring indicated that fall was near at hand. Along the trail, seed of *Erythronium montanum*, our exquisite white glacier lily, was collected. Sheep Lake, small, lovely and inviting on an exceptionally warm day, is tucked into a basin surrounded on three sides by rocky high ridges which invite the more energetic to further hiking and exploration.

One side of the lakeshore produced *Kalmia polifolia* var. *microphylla*, so satisfactory in our gardens, and the usually frustrating *Gaultheria humifusa* was in fruit. Rather than catalog the twenty species of seed collected, suffice to say that many of them have been forwarded to Mr. Harkness for inclusion in our Society's 1964 Seed Exchange list.

WELCOME! NEW MEMBERS

- Mr. Noel Bedford, 229 St. Heliers Bay Road, Auckland, New Zealand.
 Mrs. Elna H. Bjornsholm, 2431 North 88th St., Omaha, Neb., 68134.
 Mrs. Joseph Capponi, Country Club Estates, Fontana, Wisconsin.
 Mr. Ayres Compton, 3425 Southwestern, Dallas 25, Texas.
 Mrs. Marilyn E. Davis, 8457 N. E. 7th, Bellevue, Washington.
 Mrs. J. T. DeFriel, 2617 Evergreen Point Road, Bellevue, Washington.
 Mrs. Irene E. Englund, 76 Ridgeview Drive, Pleasantville, N. Y.
 Mrs. Joseph D. Fitts, 80 La Salle Street, New York 27, N. Y.
 Mr. Willard D. Hartman, 1441 Tuttle Ave., Wallingford, Conn., 06494.
 Mrs. Henry A. Henrikson, 8244 Latona Ave. N. E. Seattle, Wash., 98115.
 Mr. Russell Hokanson, 4 Willow Street, Worcester, Mass.
 Mrs. Kenneth W. Hume, 11 Willow Road, Carmel, N. Y.
 Mrs. Dolores Jaycox, 4053 Arthur Street, Seaford, N. Y., 11783.
 Mr. and Mrs. Arthur Carey Kemble, 23 Willow Drive, Port Washington, N. Y., 11050.
 Mr. Dick Littlejohn, Box 1967, Spartanburg, S. C.
 Mrs. Robert Raitz, 802 Judd Terrace, Dalton, Georgia, 30720.
 Mrs. Helen Ricketts, 4809 Fisher Road, Howell, Mich., 48843.
 Mrs. Martin W. Seabolt, 3703 Greenway, Baltimore, Md., 21218.
 Mrs. Annabelle R. Smith, 208 South Vance St., Lombard, Illinois.
 Mrs. S. E. Stinchcomb, 1427 8th Ave., Anchorage, Alaska, 99501.

THE TRAIL OF THE WHITE IRIS

MRS. RALEIGH HAROLD, *Stayton, Oregon*

About 25 years ago, when I was chairman of a garden club committee, I invited and entertained in my home, Mrs. Drew Sherrod, who for many years wrote of Oregon's wild flowers for the Sunday newspaper, *The Portland Oregonian*.

She came by train and bus as those were gas rationing days. She brought from her own garden a hybrid iris (*I. tenax* x *innominata*) and several others of soft yellows and lavenders, truly as beautiful as any orchids I have ever seen. She explained to our group that while Oregon boasted of nine species of wild iris, none were pure white. Her ambition was to discover, on her own, a pure white hybrid.

The following day we took her to a field of *Iris tenax*, where we had once found a white one. We had found it among hundreds of blues and purples and all blends of these colors. But our careful planning this time was upset by a late spring and very few iris were out enough to see color.

Mrs. Sherrod told me that she used to accompany her father, a timber cruiser, over much of Oregon's wild area; that the pale yellow species, *Iris chrysophylla*, grew on the hills around Idanha, a lumbering town about forty miles east of us and that where this species met the lavender *Iris tenax* was the place to look for the white hybrid. A few years later we went through this area, going to the mountains for huckleberries, but there were no iris blooming in August or September.

Years passed. The Detroit dam was built and a modern highway constructed between Salem and eastern Oregon, open all winter. Idanha became only an hour away and since my husband was ready any time to go fishing there, we became acquainted with *Iris chrysophylla*, a beauty.

Like Mrs. Sherrod, we searched, but only today, with our daughter, who was a small girl when this story started (now she has her own flower garden of Oregon natives and four little flower lovers ranging from four to ten years) were we successful.

We drove along the back roads, many of them dead ends, with a house or two. We found that many of the fields had been plowed and sown to fescue grass, a commercial seed crop hereabouts and zealously weeded of everything but fescue. Along the roadsides were beautiful blends of blue iris.

Nearing the end of a road, we passed a nice, homey house with a pool, weeping willows and a newly made planting of *Azalea mollis*, which would do credit to any city home. Then in a field of about forty acres, among iris of every shade of blue and lavender, we counted eight clumps of pure white ones. We drove back to the house and my daughter asked the lady there if we might dig some of the iris. She said "Those blue flowers?", looking us over to see if we were 'all there', then said, "help yourself."

We took two clumps each and left the others there, hoping some will be there should someone search for white iris again twenty-five years from now. If seeds mature, some will be sent to the Seed Exchange.



Iris chrysophylla

Brian O. Mulligan

A FLORAL EMBLEM

A ghost, long laid, has risen to haunt us again! Members of long standing with long memories will shake their heads in resignation and newer ones will shudder in anticipation. Way back in Volumes 1 and 2 of our *Bulletin* (1943-44) there was an abortive attempt made to select a floral emblem for the American Rock Garden Society. (Didn't the Alpine Garden Society of England have a formalized likeness of *Gentiana acaulis* for use on their publications and letter-heads?) The campaign, carried on through 1945 and 1946, was not forcefully pressed and stirred up so little interest that in 1946, when ballots were sent out in the *Bulletin*, only 17% of the members availed themselves of the privilege of voting. There the matter was allowed to drop, except that certain requirements had already been set up to govern the selection. To most easily bring these requirements before you, the following is quoted from the *Bulletin* of July-August 1946:

"The genus selected for our emblem should grow wholly or largely in North America. It should have native representation in all or nearly all the states of the Union. And some of its members should be capable of being grown without special difficulty in rock gardens throughout the country. The following four genera agree more or less with these requirements: *Dodecatheon*, *Lewisia*, *Penstemon* and *Phlox*."

Now comes Mr. Epstein, at whose behest the ghost has arisen, saying that the matter of selecting a floral emblem for our Society should again be brought before our members as it is undoubtedly our oldest unfinished matter of business, and that he feels that we should arrive at a definite conclusion. More to the point, our energetic president says, "I personally have come to the conclusion that the ideal insignia would be one of the more common species of *Dodecatheon*, for it overcomes nearly all of the objections that were enumerated in the past. It is almost purely a North American genus, is unquestionably distinctive, and could hardly be confused with any other genus."

An emblem for use on stationary, etc., will have to be the stylized representation of the plant selected and it follows that the genus is more important than any particular species. However, if it seems desirable to select a *Dodecatheon* species, let it be *D. meadia*, which is the type. In support of this plant read what Mr. Arthur Osmon had to say as recorded in an early 1944 *Bulletin*, "The question has been raised as to the dodecatheon's adaptability to various conditions and situations. There can be of course, no question as to *D. meadia*; it has proven itself in every section of the country. The weight of testimony that has come to me is that the western dodecatheons take kindly to conditions in the East. I am no great shakes as a gardener but in my garden, growing under practically identical conditions and treatment, are eleven species of dodecatheons, two from the East, one from the South, one from the Middle West and seven from the Far West. You may question *D. meadia*, but a few years ago in a rock garden exhibit at the New York Flower Show, this species was featured in a rock and pool setting and received much favorable comment. Clean, well-behaved, tractable, beautiful and of sufficient variety to make them interesting, they seem to possess all the requisities for a typical emblem."

In view of the Society's experience in those early years it seems unrealistic to conduct this second attempt to select an emblem by following the same procedure; more years could pass while an occasional member aired his views in the *Bulletin* and after an agonizing time the project would again go by default. When a large body of widely scattered members cannot come to a definite conclusion, then someone must make up their minds for them. So it is our intention herewith to presume to dispense with further nominations; to declare a membership vote

unnecessary and to announce that *Dodecatheon meadia* is to be the plant whose stylized representation will be the floral emblem of the American Rock Garden Society.

If the membership or any convincing portion thereof resent these rather high-handed tactics, perhaps enough of them will evince sufficient interest to force further consideration. At least, there will be, either an emblem tacitly accepted by the members, or a flare-up that will bring a goodly number of them into the fray for the purpose of presenting their views.

The *Bulletins* of April and July, 1964 will be held open to record membership reaction. Comments must reach the editor by February 1st for the April issue and by May 1st for July's. Unless violent opposition develops from a representative number of our members, and at that time Mr. Epstein approves, the October 1964 *Bulletin* will declare *Dodecatheon meadia* to be the official floral emblem or insignia of the ARGs by proclamation of the President. High-handed? Yes, but guaranteed to provoke action!

A. M. S.

NOTES ON COLD FRAME SASHES

RICHARD LANGFELDER, *Chappaqua, New York*

Many gardeners are not too enthusiastic about using standard 3×6 foot coldframes because the sashes are quite heavy. When removed, there is generally no safe place to put them. In the following, you will see how I use them, without the necessity of lugging them around, or falling over them, or leaning them on some object where they usually fall down and a lot of glass is broken.

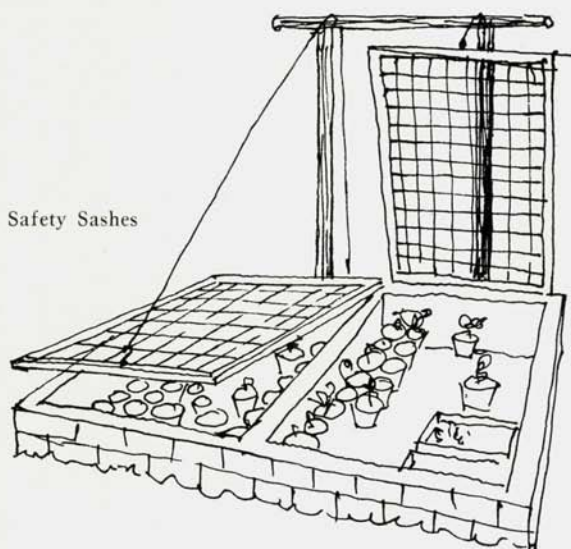
Single coldframe:

I hinge the sash to the three-foot side of the frame, put a post to the middle outside the frame where the hinges are, fasten a 6-10 inch movable hook to the post, lift the sash, mark the place where the hook hits the sash and at that spot screw in an eye. I raise the sash again and hook it. To make sure that an accident or a storm cannot slip the hook out of the eye, I either put in another hook, or I fasten a $\frac{1}{4}$ inch cable to the eye and fasten it tightly with a cable clamp. Then I slip the cable through a pulley which I fasten to the top of the post and take the cable down to the lower part of the post, where I put in either another screwhook or a heavy nail. This end of the cable I loop at the right place and slip the loop over the hook or nail. When closing the sash, I hold the cable tightly, unfasten the cable from the hook or nail and let the sash down slowly.

Two or more frames:

I use the same principle. I put the posts in the middle of the three-foot side of each frame, if there are two frames. (If there are three frames, two posts are enough if they are placed behind the two outer frames). I then connect the two posts with a crosspiece of a 2×4 and nail it good across the tops of the posts. This crosspiece is about six feet from the frame. Where the middle of each sash touches the crosspiece when the sash is lifted up, I put a 10-12 inch movable hook in the crosspiece and an eye in the corresponding spot on the sash. A second eye is put in each sash a couple of inches from the first one. The sash is then lifted to the crosspiece and hooked there. Opposite the second eye, I put a pulley in the crosspiece, then rig the cable as was done in the single frame. In this case there will be a cable for each sash. For the upright standing sash about 9 to 10 feet of cable is needed. Where the sashes meet, I cut in the frames so that one 2×4 can be laid across. When the sashes are slowly lowered they will rest on the 2×4 making the whole setup of frames good and tight.

I hope this explanation is understandable. A little sketch will help, I hope. I have used this system for over six years and have had no accidents. A friend of mine, who thought the second hook was unnecessary, lost all of his glass when the hook slipped out of the eye and the sash came crashing down. Luckily he was standing aside or he would have been injured. Instead of cable, I first used $\frac{3}{8}$ inch chains, but they are harder on the hands than cable.



INTERCHANGE

Rock Garden Rhododendrons—Mrs. Ralsey S. Peterson, 16414 12th Ave. S. W., Seattle, Wash., 98166, is a busy lady who not only asks questions but answers Interchange inquiries, as well. She has understood that rock garden rhododendrons like the sun, but her experience has been that such rhododendrons as *R. pemakoense* and *R. 'Blue Bird'* do not. Who will comment?

Scleranthus biflorus—Mrs. Peterson wishes to know the availability of this plant which she finds mentioned in English books.

Eremurus—To help Mr. Robert Stuart of Stratham, N. H., Mrs. Peterson states, "Geo. W. Park Seed Co., Greenwood, S C. lists seeds of *Eremurus* hybrids, mixed, *E. himalaicus*, *E. robustus* and 'Shelford hybrids'. I planted mixed hybrids a year ago but haven't anything up yet."

Thyme, and Madrona leaves—Referring to Ruth E. Hunkin's Persian carpet of thyme, as mentioned in October's Interchange, Mrs. Peterson writes that along her driveway, under a row of *Pinus nigra*, she uses thyme (both *Thymus serpyllum* and *T. lanuginosus*) to achieve a beautiful blanket of green and gray in winter. Of madrona leaves, she says that she finds they 'crumble into obscurity when dry' but does not know their mulch value.

Luina hypoleuca and *Linaria aequitiloba*—Mr. H. T. Webster, 13008 108th Avenue, North Surrey, British Columbia, writes, "I would like to get a color slide of *Luina hypoleuca* if some member could oblige. I could perhaps

trade another slide to anyone who can fill the request. I would like to know if *Linaria aequitribloba* pushes its seed down into the soil as some cyclamen do, or do they just rest on the surface."

Androsace sarmentosa and drabas, too.—Mrs. D. S. Croxton of California's very warm Central Valley has written to the editor at length on these two subjects and since there is much in her letter that may be of value to many gardeners, especially those just starting, her letter will be rewritten as an article for use in a later *Bulletin*.

Pyxidantha brevifolia—Mr. Henry Fuller, 41 Sherwood Avenue, Easton, Conn., (a new address) desires information. This plant, supposedly found only in one county within the North Carolina Pine Barrens area has excited Mr. Fuller's interest. In this *Bulletin*, Mr. Uttal, of Virginia, has written of this Pine Barrens area and he mentioned *Pyxidantha barbulate* but not *P. brevifolia*. Will Mr. Uttal or Mr. Totten or someone else living near this area please investigate this plant and write about it for the benefit of Mr. Fuller and other interested members?

Shortia galacifolia—Mr. Fuller also wishes to know if anyone has propagated this plant from seed. He writes, "I have not done so deliberately, but I have been delighted to find three husky seedlings in my garden. They are growing in thick moss on a rotting log near my established shortias under pine and fir trees." (Editor's note—Seeds of *Shortia galacifolia* were offered in the 1963 Seed Exchange list by Mr. Harry Logan, of Westport, Conn.).

From Scotland—Maj. Gen. D. M. Murray-Lyon comments on items and articles appearing in recent *Bulletins*. He recommends *Erica mediterranea* 'Brightness' and describes it as follows, "Here is one of the hardiest and best of that section, compact, neat and upright (up to three feet) with rosy flowers for months starting in February." The general quotes from Mr. Ralph W. Bennett's article on *Penstemon* (ARGS *Bulletin*, April, 1963), "*Penstemon pinifolius* has the annoying habit of not blooming for years at a time." and comments, "I have two old plants of *Penstemon pinifolius*, both growing in walls in full sun, which bloom profusely every year. The best one is in a wall supporting a path, and its roots are in practically 100% cinders. I prescribe a starvation diet." Concerning another article in the same *Bulletin*, he says, "I endorse what Edgar T. Wherry says about *Polemonium brandegei*. I flowered it for the first time this year (Worth's seed) and it is very nice. It is growing in cool north and northwest facing walls."

Members Write—Mr. Ray Williams, Chairman of our Western Unit, who lives in Watsonville, California, writes, "My work in landscape gardening as well as growing plants, leaves me little time or energy for the many things I would like to do. My main effort is to grow and introduce into gardens the silva and flora of the South African veldt, the Eastern Mediterranean maquis, the Australian bushland and, of course, the California chaparral, all compatible and often thriving in this area with little help from man. The traditional English rock garden plants are only for a few clients with an understanding of what they want and what to do once they have them. There are not many such, and most of the rock gardens here have a decidedly California angle to them."

Mr. Robert M. Senior, Cincinnati, Ohio, Chairman of the Lakes Unit of the ARGS writes in part, "The first Rock Garden Society in this country, and probably the first in the world, was started here in the summer of

1929, and was called the "Rock Garden Society of Ohio". This was about six months before the Alpine Garden Society of England was formed. The Ohio Society is still in existence, but with sadly depleted membership. Many of the members joined the American Rock Garden Society when it was started at a later date. Now in all southern Ohio I know of only two rock gardens that contain plants that might be considered rarities. I, in the course of a lifetime, although holding many plants for a year or two, have, in the long run, lost hundreds of them. However, I have a small Alpine house, and in summer with the aid of an air conditioner, raise many uncommon rock plants." Mr. Senior described the climate as one of hot summers, variable winters with alternating snow, ice, cold rains and occasional warm days; enough to discourage most gardeners.

Mrs. A. Myrick Freeman, Jr., of Haddam, Conn., whose new home is on a promontory high above the Connecticut River tells us, "I am still holding back on starting any real garden here, and am enjoying my temporary abstinence. I have spent so many years having the time of my life planting, propagating, weeding, spraying etc., but always too busy to stop and really enjoy lots of little things. I am now taking an enormous pleasure in being free to study and enjoy what is already here; a completely different terrain and vegetation and so varied and interesting that in many senses the garden is already here all around us, and I am in no hurry to become so involved with introduced plants that I miss seeing and enjoying the native ones. I still feel faint when I think how "normal" it would have been to do some planting outside the kitchen window, but I didn't, and 55 pink ladyslippers and a colony of *Viola pedata* came up there all by themselves—how could I have done better?"

Mr. H. Lincoln Foster of Connecticut, in writing of visiting interesting gardens, including those of Harold Epstein, Richard Langfelder and John Osborne, made this observation, "It is heart-warming to see the enthusiasm and love spent on the design of the gardens and the growing of plants. There is a glow, not just of pride, but of real inner delight that sparks the owner's eye and infects his voice as he shows you a prized plant or a pleasing arrangement, and this glow lights a long way."

OMNIUM-GATHERUM

News of our President is always of interest. Mr. Harold Epstein was prepared to lead a group of orchid fanciers on a long journey to Singapore to attend a conference or convention of orchid growers. On Labor Day, shortly before he was to leave, he became ill and for a month thereafter was confined to a New York hospital. For a very busy man who loves to temper lusty bouts with business with extensive trips abroad, this illness, to say the least, was ill-timed. It is gratifying to be able to report that after nearly a month of rest and recuperation in his home at Larchmont, New York, Mr. Epstein is well on the way to complete recovery. That his return to full vigor may already have been achieved by the time this is read is the hope of every A. R. G. S. member and Harold's host of friends who have not yet the distinction of belonging to our society.

Can the genus *Castilleja* be grown and flowered without benefit of a host? The July *Bulletin* reported certain experiments being made to determine the answer to this question. As a result of this report, Maj. Gen. D. M. Murray-Lyon of Scotland writes, "Regarding *Castilleja* I gather you find them difficult on your side, so it is not surprising that we do here. It is interesting to hear of the experiments to find out if a 'host' or stable companion is or is not a necessity,

or at least a help. I have grown a number of seedlings from Dr. Worth's seed. Some have lasted up to three years in pots, but none has flowered. Last winter finished off those I had planted out and this left only two alive in the frame. By far the healthier looking of the two is sharing a pot with *Salix herbacea*: Dr. Worth suggested a salix partner. Those planted out were in a scree or limestone crevices, but did not survive despite twelve inches of snow cover during the worst of the winter."

Our members should be glad to know that once in a while material that appears in their *Bulletin* is quoted in other publications. Not all of these occasions become known to the editor but when one does it seems proper to pass it along to *Bulletin* readers. In the June, 1963 Gardeners Forum of the American Horticultural Society there appeared a half column quotation from Omnium-Gatherum taken from the April, 1963 *Bulletin*.

The editor has seen the following in print in a news letter under the heading of Fallacy or Fact: "Fact—Plants do not have human qualities." and, "Fact—People have given human mannerisms to plants many times. If they would remember that plants do not have a mind of their own, nor a nervous system, and cannot voluntarily regulate their activities, many of these misconceptions would not arise."

Undoubtedly, these statements are factual, but above facts, above the mundane, the materialistic, even the scientific aspects of plant life there soars the bright spirit of man's fellowship with plants. Fallacy? No! Fantasy? Yes, if you insist, but nevertheless a very real factor in man's association with them and the part they play in his search for happiness.

If a man wishes, in his own thoughts, or in his spoken or written words, though they may be termed 'flights of fancy', to give the gentler human qualities, and even more, ethereal qualities to the trees he loves; to the flowering plants of field, forest and mountain that he meets in his wanderings; to the delightful inhabitants of his own garden that provide him with so much pleasure and comfort, let him not be criticized by those whose minds are concerned with facts alone and whose hearts are hardened against fantasy.

Facts are but conditions as they are alleged to be, supposedly provable beyond all doubt, inflexible, untouched by imagination, bound by the chains of logic and reason and imprisoned within the unyielding walls of actuality. Fantasy, on the contrary, knows no bounds, cannot be imprisoned, can fly where it will; to the outermost star; to the limits of imagination; to the Elysian fields and back. Fantasy can magnify the smallest bit of beauty until it fills the universe, and the heart, as well; it can make celestial music from the whispering leaves and the breaking waves. Its potentialities for human happiness are limitless, so why should man not give fantasy an honored place in his life? Many do.

Give me a man who can approach a great tree with respect and in his heart endow that tree with dignity, patience and the ability to appreciate its surroundings and the essential reasons for its existence. Give me a man who knows sorrow and a sense of personal loss when some untoward event lays this tree low or he finds that it has been sacrificed to the great god 'economic necessity'.

The plants that brighten the landscape with their precious blossoms in spring and summer; what of them? Woodland and high ridge, meadow and rillside, all flower-decorated with color splashes; flowers everywhere, their fragrance in the warm air; flowers, hosts to the bustling bee, the darting hummingbird and the carefree butterfly; flowers, the free gift of nature to all who will observe. Then autumn brings whole mountainsides so vividly painted with flaming color that wildfire seems to be sweeping upward to the bare peaks and

to the snow-capped summits. Who enjoys all this beauty?

Not the careless man who tramples flower and leaf underfoot and knows not the depredation of his passing. Not the 'man of facts', for to him these plants cannot think, nor feel, nor in any way express themselves, being only photosynthetic automations that gather from the dark earth, the atmosphere and the sunlight the physical elements necessary for continuous growth in conformity with changing weather conditions and the flow of the seasons. These physically beautiful flowers, without intelligence, without soul, through which he moves, are economically unimportant and so he ignores them. Who then enjoys them?

It is the 'man of fantasy'. It is the man who so loves plants that he gladly steps outside the restrictions of proven facts and bestows upon them some of the finer attributes of human nature, attributes that they, in fact, do not possess. In so doing he gives these plants personalities comparable with his own and treats them in his own consciousness as fellow members of God's great realm; thus he compliments the plants and himself, as well.

Such a man, should he be made to believe that heaven was a place where trees, shrubs and flowers, with their color and fragrance, were unknown, would feel such a sense of loss that heaven as an ultimate goal would lose some of its desirableness.

Surely man must be cognizant of facts as they relate to his floral friends in order to know them and appreciate them in the wild and to bring some of them into his garden and there keep them in happiness and health; but he need not be limited to or by facts. So, if anyone, any gardener, any plant lover speaks or writes about plants with the freedom that fantasy gives him, if he gives them human mannerisms, if he shares life with them on a plane higher than 'facts' will tolerate, let not the unbelieving scoff! For who can put a price tag on beauty, or measure, with facts, the power and the extent of love?

Should you have been unfortunate enough to have read past the first paragraph of this issue's article on *Erigeron aureus*, please listen to the editor's earnest plea. Do not be discouraged! Undoubtedly our professionals will have bristled and one cannot blame them overmuch. But you gardeners, just beginning to take a lively interest in botany, may have felt like foreswearing further ambitions along this line. The bristling will not be minded for it seems a natural reaction, but, please, ye of incipient botanical aspirations, do not falter. Keep at your studying, your reading, your pursuit of botanical knowledge, for you will find that there is a surprising accord where nomenclature is concerned, and that many genera are, in comparison with those of the family Compositae, quite free from excessive synonymy. However, synonymy is something that you will have to learn to live with and, oddly enough, sometimes there are compensations.

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