

BULLETIN
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CANADIAN DOGWOOD

SCOTT A. McCLANAHAN, *Seattle, Washington*

Patches of rich, brown earth that one can see, feel and smell lend strength and earthiness to the garden picture. However, if the major garden shrubs are standing like islands, surrounded only by clean soil, one's friends may say, "You have a lovely, clean garden", but they may not say, "Your garden is a beautiful picture."

Ground covers provide a large part of the elements necessary to tie these major plants or plantings together into a unified, satisfying oneness. They naturalize the over-all scene. The resulting competition among them benefits all by keeping the ground fragrant, shaded, weed-free and cool.

Our native creeping dogwood, *Cornus canadensis*, when used as a base planting, lends much to the proportional beauty of the larger shrubs. It may be used extensively throughout the garden in naturalistic patches, not only to enhance the total elegance but to unify or tie the garden together. In our garden it gives us the greatest pleasure. We are more fond of it than we are of the lovely low-growing gaultherias, vacciniums and others. In this environment it is sufficiently trouble-free to eliminate all need for sprays or special care. It desires only the same sprinkling that the nearby lawn receives—plus a few breaks from direct sunlight during the summer heat. Besides these, we give it only our admiration.

Of course a single specimen of Bunchberry would almost escape attention, and certainly would not arouse enthusiasm. However, in an established community, with hundreds in close association, the carpeting of the ground is beautiful and complete.

Several shows are staged throughout the year. The first occurs here in late May or early June, a little above sea level on Puget Sound. At this season the attractive white, typically dogwood, flower heads gradually appear and present a lovely array of green and white. During the second show, beginning in early August, the true Bunchberry effect is created. Bright red berries (drupes) in clusters glow like burning coals where the circle of tiny flowers previously went unnoticed in their encompassment of glistening white. However, the song birds devour the drupes like hungry children devour candy—so this latter "spectacular" is sometimes short-lived. The third show is the longest, if not the most pretentious display. As autumn approaches the foliage colors pleasantly to red and bronzy hues which remain for weeks. Later the leaves change to a dull brown.

This ground screening quilt remains until spring, if no crushing snow or trampling occurs to bend the erect herbaceous perennial stems. By April the old foliage is completely hidden by the fresh, light-green whorls of the new season. No clipping or "old-stalk" removal is necessary.

We are not surprised when a minor show comes forth in late August and September consisting of a second sparse blooming period, complementing the late summer bloom of the huge (by comparison) *Cornus nuttallii* nearby.

Due to the variable foliage arrangements, no feeling of monotony arises from viewing large expanses of this charming ground cover. The fruiting stems, usually with one or two pairs of unseen small leaves below, have a six-leaved whorl (or false whorl) at the top. This whorl is horizontal in feeling. It consists of (1) two larger opposite elliptical leaves which are somewhat less than twice as long as they are wide and (2) four obovate leaves whose lengths are about twice their widths. These latter leaves, two on each side, extend from the axils of (and at right angles to the axis of) the two major leaves. Rarely these obovate leaves have short petioles. Often they are not large, reminding one of small animal ears. At times their length approaches that of the two major elliptical leaves. All leaves are heavily veined, have smooth margins and are a darker green on top than below.

About an inch above this whorl and parallel to it is the flower head. This on first appearance may be thought of as a composite flower with four large, plump, white, pointed petals. Actually this glistening flower head consists of four white bracts (or modified leaves) with a number of minute, closely packed, dark flowers in the center. The cluster of brilliant red drupes follow in season—hence, "Bunchberry".

The non-fruiting stalks carry a whorl consisting of only four equally spaced elliptical leaves similar to the major leaves of the fruiting stalk. Both fruiting and non-fruiting whorls occur at about the same height above the ground.

Many interesting monotony-breaking variations occur. Rarely a typical fruiting stalk with a six-leaved whorl will arise from the center of a typical non-fruiting four-leaved type. Occasionally all leaves of a specimen will be crinkled. Sometimes when the amount of sunshine and condition of the soil is right, the pretty white bracts will be tipped with crimson. Also, rarely, bronzy leaves appear early in the summer, providing a spot of color. In dense shade, like that beneath a large rhododendron, no "blooming-type" stems will appear. Here there will be four-leaved whorls only, on long, rather limp, stems. The leaves will be considerably larger, more softly veined and of a lighter shade of green.

Under comparatively dry, poorer soil conditions, with insufficient shade, the maximum height of *C. canadensis* may be only two or three inches. There will be few small (three-quarter inch) flower heads and the leaves will be red tinged. A favorable situation will produce heights of seven to eight inches with nearly all stalks topped with two-inch flower heads—followed by large clusters of pea-sized drupes.

Blooming time here near sea level is normally in early June. In its natural habitat at higher elevations the flowers may not appear until July or early August. In the arctic climate of the higher mountains this attractive ground cover is still able to set fruit during the very short season available.

The fruit is edible, though insipid. It is relished by certain game birds, song birds, and wild animals. The "berries" were used by some native Indian peoples.

It is reported that *C. canadensis* occurs in the wild from Alaska to Northern California, in the Rocky Mountains, and other mountains west to the Pacific Ocean.

The plants spread by underground rootstocks. Stems arise at intervals along



Don Normark

Cornus canadensis

this runner. These "first-year" stems do not bloom. They look somewhat like seedling plants with small, paired leaves spaced an inch or two up the stem. Immature four-leaved whorls usually appear at the tops of those individuals which contemplate the production of fruit the following year.

C. canadensis thrives (in its wild state) at lower levels of high, wooded mountains. Its preference is for moist leaf-mold mixed with rotting logs overlaying a well drained situation. Along the banks of streams and lake borders where conifers furnish partial (not dense) shade is its favored location.

To see this ground cover in its native habitat extending over sizeable areas—covering ancient rotting logs—crowding the bases of huge conifers—on the level—and in the hollows, makes one certain that the "Landscape from upstairs" planned this picture for a splendid example of the value of repetition in the Arts.

Excellent success with the Canadian dogwood in our garden has resulted from procedures to be related shortly. It may be noted that, possibly, success would have resulted with greater ease and less tribulation had we transported to our garden the native leaf mold, rotting logs and soil. But our plan was to domesticate this charming plant so that arduous trips to the mountains would not be required.

Damp soil is heavy—hauling it "dirties" the family automobile—digging it desecrates the lovely woodland—and besides, the old body is becoming more creaky and unbending with new aches appearing each morning—it seems!

Our first tiny plants were collected ten or more years ago. These specimens were not procured from the lush, beautiful tangle, but were chosen from the outer edges of the ideal growing situation,—that is, where the underground root-stocks had pushed out beyond the shaded, moist, leaf mold into the poor, drier, rocky soil. This method, it was hoped, would furnish a more rugged strain. The collecting was accomplished on a very warm, dry day in July. The "collectees" were dug and potted in clay pots at the site. Later these pots were buried to the rim in a cool, semi-shaded corner of the garden. They were kept reasonably moist for the remainder of the summer and transferred to a permanent location in the autumn.

Our experimentation has indicated that a procedure for preparation of the planting bed, as follows, enhances success in the garden culture of *C. canadensis*.

First thought is given to drainage. To quote, "Success begins with, or ends without, perfect drainage". About a six-inch depth of soil is excavated at the planting area. This excavated plot is thoroughly tested for drainage. Drainage elements, if necessary, are installed before further steps are taken. Then *dead* tree limbs or branches, sized up to three inches in diameter, are packed tightly in the bottom of this shallow pit to a depth of about three inches. Over this is placed a mixture of one-half coarse peat moss and one-half sandy (gritty) soil to which has been added about a cupful of pure cottonseed meal to each two-gallon bucketful. Sufficient aluminum sulphate is added to bring the acidity of the mixture to 4.5 to 5.5 pH and always there is incorporated a tiny amount of fritted trace elements. This mixture is then watered-in so that all interstices between the pieces of wood are filled. Charcoal or charred rotting wood from the forest, if available, becomes part of the "mix"; however, this does not appear to be necessary.

After sufficient time has elapsed for settling, the plants may be placed. A "plant" in this case consists of a stem or ground-level bud (depending upon the season of the year), with attached roots and a portion of the runner. To secure solid cover in the shortest period, the plants are placed two or three inches apart. The "bed" is kept clear of *all* weeds and grasses until the dogwoods are firmly established. Depending upon the "know-how" and experience of the gardener,

successful transplants may be made at any time of year, if the ground is not frozen.

During a warm period last January a bed (as described above) was put together and the "starts" were moved in immediately. This bed lies in a north sloping pocket of a rockery. The freeze which came the following night thoroughly froze the wet soil. No apparent damage resulted and the little babies came through and flowered as expected this June.

Always, an additional cultural step is employed; to some this may appear to be a strange and superstitious idea. A few plants of False Lily-of-the-Valley, (*Maianthemum dilatatum*) are included in each new bed of *C. canadensis*. These plants belong to the lily family and their flowers and fruits have a charm of their own. They spread by underground root stocks which are quite dissimilar in appearance to those of the little dogwood, but they do "run" at similar depths beneath the soil. In a new planting the "lilies" may almost take over at first, but as the Bunchberries follow, they become almost completely dominant. Often these two plants are companions in the wild.

At times one could easily imagine that the dogwood waits for the "lily" roots to scout the territory in order that the dogwood runners (and future plants) will not meet hostile elements. Permitting the imagination to go farther, maybe the explorers deposit tasty food bits, or bring about conditions which cause the creation of health-stimulating hormones and disease-preventing antibiotics along the routes. True or false, these fascinating topics must await further study and research.

We do enjoy our little creeping dogwoods tremendously. We admire their capability to get along without care and to complement beautifully other forms, colors and textures in our garden. To us their seasonal shows are the garden high spots looked forward to with great anticipation. They have never let us down.

CYCLAMEN

ALYS SUTCLIFFE, *New York, N. Y.*

The species *Cyclamen* are some of my favorite plants, both for out of doors and in the cool greenhouse. As the corms of the various species have become more available in the East, gardeners here are able to enjoy these little plants.

Their lovely, often marbled, foliage and their gay, perky little flowers are an attractive sight in the autumn; this is the time the hardiest of them bloom. The strange thing is that it is *Cyclamen neapolitanum* that is the most advertised and is considered to be the easiest to grow. True, it is easy to grow and the leaves alone are lovely, but although it comes through a winter with 30 degrees below zero and looks flourishing, which it is, it does not always bloom in the summer or fall after such a winter.

Cyclamen cilicium I have found to be just as easy to grow and to flower, even after a hard winter. The tiny flowers continue into November and sometimes show through the snow. Unfortunately, the corms of this *C. cilicium* are not often listed in the catalogs, and seed seems to be available only through the seed exchanges.

Cyclamen europaeum is another species which will flower here in the East out of doors; it comes into bloom in July or August, sometimes both, I have not found it as easy to grow as *C. neapolitanum*, but then, at that time in the summer, my plants get very little attention of any kind.

The corms should be planted in very well-drained soil which has a great deal of humus added to it. They should be in partial shade in the summer. If the ground begins to freeze before it snows, a six to eight inch cover of leaves

should be put over them. It does not seem to matter if a foot or more of snow falls on the top of that.

In the spring the leaves should be removed gradually to let in the sun and air, and to reveal the lovely mats of leaves of *Cyclamen neapolitanum*, with their silvery markings; they are well worth growing for the leaves alone.

All the species *Cyclamen* make good pot plants and will flower over a long period in the winter if they can be kept cool enough without freezing. The winter flowering ones such as *Cyclamen coum*, *C. ibericum* and *C. libanoticum* have to be grown inside in the Northeast, as they flower in winter and very early spring, long before the ground thaws or, in some winters, before the snow has gone.

Cyclamen neapolitanum has bloomed from October to January in a cool greenhouse and can be followed by the winter flowering species. After the leaves begin to fade on the cyclamen grown indoors, watering is gradually reduced, but they should not be kept altogether dry. The pot may be placed out of doors, for the summer and autumn months, in a shady place and with a light mulch of partly rotted leaves; the plants will need little water until new growth starts. These winter flowering cyclamen should not be taken indoors until after the first light frost.

Species *Cyclamen* are easily raised from seed and usually reach flowering stage the second year. During the growing period they do not have a rest period as do the maturer plants.

PENSTEMONS SUITABLE FOR A ROCK GARDEN

RALPH W. BENNETT, *Arlington, Virginia*

This article is supposed to be confined to penstemons suitable for a rock garden. But what does that mean? I suppose it means dwarf plants, but I visited the garden of one of our most respected members and found a three-foot yucca in it, along with numerous plants two feet high. So "suitable" isn't always the same as "dwarf". Also, if the rock garden in question is sixty feet long, I imagine that plants could be less dwarf and still be suitable than if the garden were ten feet long. Mrs. Wilder wrote: "Where the construction is bold and extensive, fairly large subjects may be used, but, generally speaking, the ends of beauty and relevancy are best served when the plants chosen do not exceed a height of one foot." And in the rock garden robin to which I once belonged it was the consensus that 12 inches was a good limit to set, though in practice I doubt if any one of the members of that robin lived up to it 100 per cent. So in writing about penstemons suitable to a rock garden I shall assume that for a tiny one the plants should not exceed 12 inches, but that for a medium-sized one, fifteen to thirty feet long, the plants can get up to 15 inches and still be suitable.

Also the degree of choosiness as to type of plant varies according to climate; or if it doesn't, it should. I don't blame a resident of Oregon, or British Columbia, where the most difficult rock plants seem to grow easily (at least, as reported in the *Bulletin*), for being very fussy about the subjects chosen; but if a person were that fussy in a region like mine, northern Virginia, where a large proportion of the most beloved plants in the list will not grow at all, I would consider him, well, I was going to say, "off his rocker", at least, not realistic. Where the difficulty of growing rock plants increases, I would think the gardener should be thankful to find subjects that would grow well and look fairly decent and not turn up his nose at them just because they are not among the "Four Hundred", the elite of rock plant society. Therefore I shall include in this article some kinds of penstemon which I am fond of because they do so well in my part of the country and at the same time I will not hold it against anyone in regions with

more favorable climates if they do not fully accept my evaluations.

When I say that a species is adaptable all over the country, I exclude the southern states east of Texas, not that I know that these penstemons will not grow there, but that I have not seen any reports from those states. I am thinking of the country north of the Carolinas and the Ohio River and west of the Mississippi.

Penstemons bloom just as the great rush of spring bloom is dying down and the iris and early summer plants have not yet begun. In Virginia this is May and early June. Thus they help to fill what is a gap in most gardens. Penstemons belong to the same family as *Mimulus*, *Gerardia* and *Pedicularis*—(the Scrophs), and have flowers that have bell-shaped corollas with five lobes divided into two lips. Most of them are not fussy about soil. A few require extreme porosity.

I will mention first the easiest and most adaptable of all dwarf penstemons—*P. hirsutus pygmaeus*. One who knows *P. hirsutus* would never recognize this variety as belonging to the same species. It makes a low mound of small oval leaves, and sends out many stems almost parallel with the ground, which in late spring bear little heads of pale violet flowers. The color is nothing to brag about, but the alpine habit of the plant is enough to cause the secretary of the Canadian Alpine Society to grow it; so it should be good enough for other rock gardeners. Seeds come more true than one would expect of a variety.

Typical *P. hirsutus* with stems up to 15 inches in the wild is a washed-out lavender that appeals to few people, but through the efforts of Mrs. Henry and Mr. LePiniec and, later, of myself, the dingy wild form has been replaced in the gardens of members of the American Penstemon Society by forms with flowers of bright pink or rich violet. Through ten years of selection in my garden, seeds now come true to rich colors—about 90% violet and 10% pink. Even when 15 inches high, these plants are low enough for most rock gardens; and the seeds produce every year an increasing proportion of plants with stems only 6 to 8 inches high. The stems are upright and the leaves attractive, forming rounded low clumps. Seeds can be obtained from the Seed Exchange Director of the Penstemon Society, Mrs. Wm. Hebert, Box 868, Elma, Washington.

Penstemon digitalis is the hardiest and most adaptable of all penstemons, but it usually gets up to three feet in height and has leaves too coarse for rock gardens. In late years something has happened in my garden and I am getting, from seeds taken from my own plants, without hand pollination, forms of *P. digitalis* which are almost unbelievable. Some of them have stems only 8 inches high or less, with dainty narrow leaves and an airy habit which would appeal to any rock gardener. Others have stems from 6 to 15 inches high and oval leaves smaller than usual. The colors vary from pure white to a good rose, and are not very showy, there not being enough to make much of a mass effect, but most rock gardeners do not insist upon showy plants. These new forms have not been developed to where they come true from seed, but I think they will appeal enough to rock gardeners to cause some nurseryman to propagate and sell them. They live indefinitely and will grow anywhere.

The dwarfiest penstemons of all belong to the Section *Ericopsis*, which grow in dry, almost desert-like soil in Colorado and the states to the south and southwest. Some of these are only an inch high, but no one to my knowledge has yet succeeded in keeping them in cultivation very long. I refer now to *PP. acaulis*, *abietinus* and *caespitosus*. They are impossible for ordinary mortals like me, and I don't think we should waste our time trying to grow them unless we live in a very dry region. Mr. Claude Barr, of Prairie Gem Ranch in South Dakota, says of *P. caespitosa* in his catalog; "Quite at home at Prairie Gem, dry half shade",

and maybe some of you readers will prove me to be wrong.

There are several species in this section, however, that are quite easy when handled with consideration for their needs. Even in the moist climate of Virginia they are perfectly happy in a mixture of sand and pea gravel, with just a touch of soil and practically no humus. I think those people who have reported failure with them tried to grow them in too dense soil. I failed with them for years until I tried them in this mixture, and then suddenly they were happy. They are long-lived and are very hardy.

I will mention the two species of this section that are doing well for me. All of the six subspecies of these two species make wide-spreading, ground-hugging clumps of intricately weaving slender stems, clothed with tiny needle-like leaves. The clumps are dense when young, but may get to look bare in the center in age. The flowers are little bells, facing upward. They have names that look unpronounceable at first glance, but they roll off the tongue quite easily when you take them one syllable at a time.

Penstemon linarioides ssp. *coloradoensis* has grayish-green leaves and its flowers are pale bluish-lavender—a soft pastel color which is not at all showy but is loved by many people. Even if it does not bloom every year, its low growth and alpine appearance are enough to make it worth while. *P. linarioides* ssp. *compactifolius* is quite similar to *coloradoensis*, but is more compact and is lower growing.

Penstemon crandallii looks to me in habit like *P. linarioides*, but the flowers are blue instead of violet, and the leaves are green instead of grayish. In typical *P. crandallii* the flowers nestle among the leaves, and this detracts somewhat from the effect. In *P. c.* ssp. *procumbens* they are borne on erect stems about 1½ inches high, in *P. c.* ssp. *glabrescens*, on stems 6 to 8 inches high. In my travels around the country the latter subspecies appealed to me more than the other two, seeming to keep its mat solid and to be free from any tendency to lose its leaves in the center of the mat, whereas the other two, in some gardens, had gotten a little bare in the center. The subspecies *procumbens* is usually more floriferous than typicus.

Another species which is adaptable to all regions is *Penstemon serrulatus*, sometimes listed as *P. diffusus*. This may get too tall for some people, but it has forms that stay low, and the others can be pruned to stay low. The leaves are sharply toothed, healthy-looking, and abundant; the flowers are either blue or bluish-violet, always a rich color. It is fairly long-lived and is easy from seed.

The so-called shrubby penstemons in subgenus *Dasanthera* are adaptable to gardens of the Northwest, including British Columbia, Idaho, the Great Lakes states, New York and New England; and in those areas are usually the most popular of all penstemons with rock gardeners. In the southern Atlantic states, including Virginia, and in the Midwest they can be coaxed to grow, but seldom bloom well and usually do not live long. They make spreading mats or clumps of twisting woody stems bearing little leathery, evergreen leaves, and have terminal clusters of bell-shaped flowers which look unbelievably large for the size of the plants. Where happy, they will cover themselves with bloom. Though the bloom does last long, the evergreen leaves make the plants handsome enough to be grown for the foliage effect alone. Some species are long-lived; others are naturally short-lived. Cold does not bother them, but they cannot stand heat.

These *Dasanthera* species hybridize so freely in nature that it is often extremely difficult to be sure what species is being looked at and for the same reason, it must be remembered, when comparing them, that the natural hybrids may behave differently than the true species. In gardens I have seen almost as many hybrids or extreme variants as typical species forms. The many named

varieties being offered by nurseries comprise some hybrids whose parentage is uncertain. But that doesn't matter; they are all good. If your climate permits you to grow these species well, you probably would find it worth the money to buy named varieties in preference to collecting plants in the wild. They were selected and named because of some superior garden quality and, since they live a long time, you might as well get a superior plant with which to start.

Two of these species are prostrate creepers in their most typical form. These are *P. rupicola*, with gray, matte-surfaced leaves and bright rosy-red flowers; and *P. davidsonii*, with its subspecies *menziesii*, with glossy, dark green leaves and blue flowers. The other six species make loose clumps 6 to 12 inches high, wide-spreading, with flowers on short stems rising above the foliage clump. *P. fruticosus* and *P. cardwellii* both have purple flowers and dull green leaves, and are easy and long-lived. *P. newberryi* has red flowers and bright green leaves and is short-lived. *P. barrettiae* has gray leaves and purple flowers. It is temperamental and often short-lived. *P. montanus* and its subspecies *idahoensis* are almost impossible and not worth trying. *P. ellipticus* is similar to *P. fruticosus* and probably will behave similarly. It is just getting into cultivation.

Penstemon richardsonii has stems which are partly woody, and leaves either dissected or deeply lobed. Its pink, violet or blue flowers are in good clear colors, and come late after nearly all other penstemons have finished blooming. It does well wherever the members of the subgenus *Dasanthera* do well, and is long-lived. It may get up to 15 inches but can be kept shorter by pruning.

Penstemon albertinus, common in Glacier Park, is lovely in the wild, but temperamental in gardens and not dependably adaptable. Its glossy dark green leaf rosette sends up many 8 inch stiff stems of bright blue flowers. In the garden it may have only a few stems. It likes sun and a gravelly soil. Its close relative, *P. virens*, is quite similar and one species is probably as good as the other. They come quite easily from seed. These have not lasted long or behaved well in my climate or in the Midwest, but in the Northwest and Northeast they have done fairly well.

The Great Plains give us two species, *PP. nitidus* and *angustifolius*, which are so much alike that they can be considered together. They have small rosettes of gray leaves, 6 to 8 inch stiff, erect stems and flat-faced flowers in dense spikes. In *P. nitidus* these flowers are usually a lovely sky blue, which never fails to bring forth Farrer-like rhapsodies from feminine beholders. However, it usually is short-lived—a year or two at the most in gardens. *P. angustifolius* is more likely to be purple in gardens, and is longer-lived—two to six years. These species are tricky in moist climates, but come fairly easily from seed. They are easy for Mr. Barr and for anyone with similar garden conditions.

The great group of species that we call Proceri contain a few that are low enough for rock gardens. They are adaptable in the same regions where the *Dasanthera* do well. They are not very satisfactory in the states south of New York or in the Midwest. *Penstemon procerus* itself was happy in my garden and had 12 inch stems of tiny bright blue flowers. It was a cute little plant, even if not showy, and I liked it. *P. cinicola* has needle-like leaves and 8 inch stems of little blue flowers. *P. tolmiei*, the lowest growing of all the Proceri, has violet or reddish-violet flowers. Some of its forms get tall. *PP. confertus* and *flavescens* make handsome mats of foliage, and are the only yellow-flowered penstemons that are suitable for rock gardens. *P. confertus* has flowers varying from cream to yellow, but they are apt to look "dirty" because of old flowers turning brown and hanging on among the new ones. Its variety 'Kittitas' has flowers of a good yellow. *P. flavescens* has yellow flowers also, which vary to cream. All the Proceri are long-lived and can take considerable moisture and shade. They are very

difficult to raise from seed. In all my years with penstemons I have not succeeded in getting any seedlings of species in this section except from *P. procerus*. It is better to buy them as plants from nurseries.

Our deserts and dry mountains of the Great Basin and Colorado Plateau have a number of species in the Autator group which have always appealed so strongly to Dr. Worth on his collecting trips that he has suffered untold hardships to gather them for us. Unfortunately, however, I have yet to read of anyone, except Mr. Barr, who has succeeded with any of these desert species. I refer to *PP. dolius*, *miser*, *pumilus*, *auriberbis*, *cleburnei*, *concinus*, *guadalupensis*, *nanus* and *whitedii*. They require desert conditions to grow at all. There are three species which grow in dry parities, not quite deserts, which are somewhat adaptable. *Penstemon jamesii*, with gray leaves in a flat rosette and light lavender flowers, was happy in my garden for years. I recommend it for trial anywhere. *P. albidus* has white flowers on 12 inch stems and is short-lived. *P. eriantherus* is only 6 inches high and has large purple bells. It is lovely when happy, but difficult and only a few people have reported success with it. It is almost always short-lived.

Penstemon pinifolius had a great run of popularity a few years ago, but its popularity seems to be declining because of its annoying habit of not blooming for years at a time. It is a cute-looking little plant, with a tuft or clump of grass-like leaves and small scarlet flowers on 6 inch stems. People either like it very much or not at all; there are no intermediates. It is no good in Virginia. Try it; you may be one of the lucky ones and in that case you will be glad you did. It is long-lived where happy, but what it needs in the way of garden conditions no one knows.

In a fairly large rock garden *Penstemon brevisepalus* would be suitable. It makes a clump of dull green crinkly leaves and sends out 15 inch stems of purple bells profusely borne. The stems are usually at a 45-degree angle with the ground, or less; so it should be planted where it will look good if the stems should hang down. It is long-lived, long in bloom, easy anywhere, and comes readily from seed. *Penstemon canescens* is much like the foregoing, with stems that are more nearly erect, 12 to 15 inches high, each carrying a dense spike of rich crimson bells. I have had this bloom solidly for two months, new stems coming up while the old ones were fading. The plant is short-lived, but will self-sow readily. These two species are good for people who don't like to work with temperamental plants or who want to have at least a few plants that will take care of themselves. They have no special requirements.

Glenn Viehmeyer, at the North Platte Experiment Station, has developed a fascinating array of hybrids, using *Penstemon johnsoniae* as the female parent and one of the *Habroanthus* species as the male parent. Some of these "North Platte Hybrids" are low enough for a rock garden, but I have not seen any listed in any nursery catalog yet. The ones listed grow 18 to 24 inches tall or higher. I saw some at North Platte in 1958 that were only 12 inches high. No doubt some low forms could be grown from seed by roguing out the taller ones. Seeds are plentiful and available to anyone who wants to try them. They have flowers in a wide range of color, from pink through all kinds of purple to bright blue. They bloom a long time and are usually quite long-lived. This series of hybrids is just in its infancy and we do not know yet what may be forthcoming.

Some of the species that I have described are not available from nurseries or seedsmen. The only way that I know of to get those is from a friend who has them or by joining the American Penstemon Society and getting in on the free annual seed exchange. Dues \$2.00; Membership Secretary, Mrs. E. A. Boyrie, 614 NW Macleay, Portland 10, Oregon.

CAMPANULA PLANIFLORA, CONFUSION CONFOUNDED

H. LINCOLN FOSTER, *Falls Village, Conn.*

Off and on for a number of years I have grown a neat little campanula which I have always called *Campanula planiflora*. The first time I saw this plant was many years ago in the wonderful garden of Mrs. Florens DeBevoise at Cronamere, in Green Farms, Conn. She called it, as I remember, *C. nitida*. Either *planiflora* or *nitida* are apt names, the former describing the flatness of the large round blossoms close-held to the six to eight inch stem, the latter describing the shining polished luster of the small dentate basal leaves.

It is a curious plant in many ways. When grown from seed, not all the plants in the batch will be typical. In fact, most of them are not, but the difference can be quickly detected even before the plants are old enough to send up flowering stems. Those that will be true to the description of *planiflora* (*nitida*) will have very firm glossy leaves, regularly, but not deeply, serrate. All the others will have thinner, paler leaves quite definitely long and tapering. The ones with the long leaves will eventually flower in a manner which makes them indistinguishable from *C. persicifolia*.

Because I do grow *C. persicifolia* in other parts of my garden, for a long time I thought perhaps miscegenation had taken place and that the taller ones were from hybrid seed which had self-sowed at the base of and among the dwarf *C. planiflora*. So I began to investigate the literature.

What I found is bewildering. H. Clifford Crook in *Campanulas* lists *C. planiflora* among synonyms in the back of the book thus: "planiflora, Engelm.—parryi; planiflora, Lam.—pyramidalis (or nitida); planiflora, Willd.—versicolor; planiflora (see p. 148)". Page 148 is under Crook's consideration of *C. persicifolia*. He says in part, "A form occurred recently, and was named 'Telham Beauty', which due to a doubling of chromosome content, is larger in all its parts and a stronger grower, while a pygmy form (technically a Mendelian recessive) is often referred to as *C. planiflora* or *C. nitida*". We shall return to Mr. Crook later.

In *Hortus Secund*, Bailey says, "*C. planiflora*: probably *C. versicolor* is meant; the American *C. planiflora* is *C. parryi*". So I looked at his *C. versicolor*. Here is the description: "To 4ft-glabrous: lvs. ovate to ovate-lanceolate, toothed, the lower long-stalked: fls. pale blue with violet throat, in long spike-like racemes. Greece". This is obviously not our dwarf with flat blossoms. Bailey's description of *C. parryi* is this: "Erect, 3-10 in., glabrous: lvs. narrow-lanceolate or spatulate, upper ones linear, entire or slightly denticulate: fls. usually single, erect, broad, about 1 in. across, violet. Rocky Mts., subalpine.—This is the *C. planiflora* of American botanists". Again this is obviously not our plant. *C. parryi* is entirely different, as you know, if you have seen its open habit of growth with long trailing stems.

But let us see what T. C. Mansfield says in *Alpines in Colour and Cultivation*. He says, "*C. planiflora* (Bearing flat flowers). N. America. Rosettes of foliage of deep shining green with 'deckled edges' giving a short, stout spire of flat, bland, open flowers of cool powder-blue. Succeeds best in rich soil in position where plenty of sunlight is incident". Ah! This is clearly our plant, but no mention of its peculiar habits, of either dying out or suddenly changing its identity. And note that he asserts without question, "N. America". He is not confusing the plant with *C. parryi* in his description, but because of the synonym he has assigned it to the wrong niche.



L. L. Foster

Campanula planiflora

Or, what is more likely, he is repeating the original confusion of our *C. planiflora* with the *C. parryi* synonym which Farrer included in *The English Rock Garden*, where he says, "*C. planiflora*, an interesting and valuable thing from North America, rather obscure in its history and confused in catalogues, which sometimes call it *C. nitida*, and have at other times even placed it doubtfully as a dwarf form of *C. pyramidalis*. But this last is not an American plant at all; nor has *C. planiflora* any resemblance to it, being much more approximate to a stunted development of *C. latiloba*. It has a marked personality, being stiff and stocky, about 9 inches or a foot in height, with smooth hard and leathery foliage, narrow-oblong and scalloped; while on the stem sit tight the big fat flowers, round and flat and rather stolid-looking, of cool powder-blue (or white). It is quite easy of culture in any ordinary place, suggesting most of all, perhaps, a much condensed and blank-faced form of *C. persicifolia*. It has a look of Spartan sturdiness and character, and might justly be described in the words of an eminent authority as 'a very dressy little alpine'".

Once again this is obviously our plant, more vividly and precisely described than we can do, but that expression 'blank-faced' has a touch of the patronizing tone Farrer generally employed for American plants, and he clearly thought of it as an American species, probably because of the *C. parryi* synonym. He does, to be sure, note its similarity to a much condensed *C. persicifolia*.

What prompted further search, however, was Farrer's phrase, "more approximate to a stunted development of *C. latiloba*". That is an entirely new suggestion. So back to Mr. Crook. *C. latiloba* is for him a synonym of *C. grandis*, which he describes thusly: "This species is a useful, if rather coarse and stiff, border plant whose home is in Siberia. It forms a mat of rosettes of long, glabrous, undulate, strap-shaped, widely and coarsely dentate leaves, narrowed at both ends. The leaves are longer and coarser than those of *C. persicifolia* to which the present species is closely akin and from each rosette springs a stiff flower spike, up to three feet in height. The lower third of this stem is furnished with leaves similar to those of the rosette, diminishing gradually in size as they ascend, the upper part with large, flat, saucer-shaped flowers about two inches across in blue or white and either singly or in threes, which, being carried on very short pedicels, produce a solid and formal effect".

The excellent picture of *C. grandis* in Crook's book and the description are very like a tall growing version of our *C. planiflora*. Wheels within wheels!

Is it possible that we have in the inconstant *C. planiflora* a Mendelian recessive form of *C. persicifolia*, further complicated by some unrecorded crossing with *C. grandis*? If any of the few plants I have left send up short stems with 'blank-faced' blossoms, I shall scrutinize them from radix to calyx for any clues of their possible parentage or puzzling behavior.

A SURPRISE PACKAGE

EDITH R. JACKSON, *Katonah, New York*

It was May and our first spring in a new home in northern Westchester County, New York. Already we knew that the previous owner's gardening was the conventional type: the only wild flowers were the "summer weeds". A cool, slow-to-warm-up, north-facing slope seemed just made for spring flowers, especially since it had the blessing, beauty and shade of white birches, wild cherry, chestnut oak, hickory and high bush blueberry. Oaks, hickories and ash cast shade from the west to keep this slope cooled from the sun in summer. Quite clearly (to us) we had to have wild flowers. The very first were seedlings of the native *Aquilegia canadensis*, brought from a wooded roadside the previous fall.

A trip to the Adirondack Mountains for trout fishing during the second week in May seemed to offer excellent opportunities for acquiring plants known not to grow in our local area. Accordingly, our fishing gear was supplemented with trowels, plastic boxes and bags in our happy anticipation of the woodland treasures we would bring back and hope to encourage to live in this lower altitude and warmer climate. Dismay and consternation were our first reactions to the rebuff by nature, for winter still held on in the lower Adirondacks. In a few spots, where the snow had melted, in deciduous wooded areas, there were *Linnaea borealis* and *Cornus canadensis*. We were able to dig a small mat of the *Linnaea borealis*, but only one plant of the *Cornus canadensis*. From a warmer spot we scraped off the top layers of woods earth, (finding ice just three inches below the surface); this meager amount of earth, only a gallon, was for enriching the planting bed of the collected plants.

Once home, we lost no time in preparing a place for, and planting, the mat of *Linnaea borealis*, high on the cool slope in the shade of tall blueberry and white birches, using a rotting, mossy log to bank earth on the lower part of the planting. The *Cornus canadensis* was planted nearby. Part of the woods earth was placed in each planting bed to provide suitable texture and condition of soil for the thread-like roots; the remainder of the earth was scattered along the cool, shaded, moist east side of the garage. These separate areas received no further care except watering.

Rewards and surprises appeared a year later, however, for there came along *Maianthemum canadense* (commonly called false lily of the valley), *Trientalis borealis*, *Dalibarda repens*, a delicate fern not identified by us, several *Cornus canadensis* and masses of *Lobelia cardinalis*, which at first we did not recognize. Two years later there came seedlings of *Abies balsamea*. All of the plants have flowered and, with the exception of *Cornus canadensis*, are spreading and multiplying.

The wealth of woodland flowers obtained from this one bagful of earth has prompted us always henceforth to bring home from our wanderings similar earth scrapings, but none has provided as many surprises as did this first small amount.

KEEP COOL

H. LINCOLN FOSTER, *Falls Village, Conn.*

The lot of the rock gardener is never an easy one. Every single year has had its Job's trials since I began accepting and rejoicing in this hard lot. There was the year of the slug; the year of the chipmunks; the year of Hurricane Diane; the year of the mice, and those in-between years when the weather was just generally terrible: too wet, too dry or too hot.

To be sure, this past summer has been, well, not exactly ideal; it has been too droughty. There were no good soaking rains in spring; in fact, it hardly rained at all. And all summer the thunder clouds in the west rumbled and passed away with only a few heavy spatters. Happily that meant that never once were the seed flats sitting in the shade of the wall utterly splashed out. One can carry water, and our water supply did not completely fail; as my wife keeps reminding me it did once. There were only two really hot humid days all summer. One of those was the day of the annual meeting of the American Rock Garden Society, when plants, newly set in the gardens for the visitors, limped more miserably than the visitors; and the potted plants were overcooked in the trunks of the cars, where they waited in the sun for the plant sale.

But really all the choicer species of high alpine, except the juvenile seedlings too optimistically set out in the hope of a day of gentle rain when clouds and

the weather man both gave promise, all the finicky tribe flourished this past summer. Not an androsace turned to brown mush overnight. Not a saxifrage became a moldy mass. Even *Eritrichium elongatum* from seed came all the way through the summer untouched.

It was a cool summer. Though it was droughty so far as actual precipitation was concerned, there were many cloudy days. And this summer has given me some notions. I begin to think I have some answers for some of the problems in my particular garden. These suggestions might even fit other gardens in the Northeast, where, according to meteorologists, the weather is about as varied and about as unpredictable as anywhere in the world.

Prepare for the mugs—that awful combination of heat and humidity that drains the human spirit and devastates the cushion plants of mountain elevation and pure air. But how to prepare for the worst, short of outdoor air-conditioning?

Number one is perfect drainage right under the cushion of foliage. When you set out a new plant send the roots down into a good pocket of moisture retentive soil; this means a lot of humusy material; then add a real topping of stone chips. If you have put on an inch of chips, put on another.

This is really a simple process, if every time you go to set out a plant, you conscientiously carry along with you a pail of pure leaf mold and a pail of chips, 3/8 inch size or a bit larger. Make a really good hole, twice as big around and twice as deep as the ball of earth around the plant you are setting out. Maybe the soil that comes out of the hole looks fine, but it can still stand improvement. At this point you need a third pail, an empty one into which you put the soil from the excavation. Mix with it a generous amount of the pure leaf mold, yes, be really generous, up to an amount equal to the soil. Mix thoroughly.

Hold your plant over the empty hole and with your other hand work your soil mix around the roots, pressing it firmly down with each handful. When you have covered the feeding roots, not the heavy spindle on which most alpine cushion plants sit, fill the hole with water, even if it is raining. You may need a partner to assist in all this, what with three different pails and a watering can to shuffle about with one hand while you hold up the crown of the plant with the other, to say nothing of the need to wipe the sweat from the end of your nose, ease the crick in your back and watch where you place your feet to avoid damaging other plants.

Now with that free hand reach for the pail of stone chips and fill the hole and mound up the chips under and around the foliage. Then place the tips of your toes as close to the plant as you can and let your whole weight relax on the stone chips. This is known as firm planting.

If you have not always been going through this ritual, and you are really concerned about why your choicest plants are mugging off in the summer, you can begin any time on a piece-meal renovation job. Instead, however, of three pails you will need three wheel barrows: one of leaf mold, one of chips and one empty. However, three pails will do, if you do only a few plants at a time. That is probably the way to do it. You'll have the satisfaction of getting to know intimately, all over again, those plants which so delighted you when you first put them in the garden.

For this renovation job choose any cool day in early spring, or perhaps you have more time in the fall; most gardeners do. Gather up the foliage of the plant you are operating on in one hand, and with a hand fork gently loosen the soil around the crown. Then with your fingers excavate around the spindle and down along the heavy upper roots. *Do not dig the plant out.* Make a wide hole, at least as big as the spread of the foliage. Toss this soil into your empty container

and work into the hole as much leaf mold as you can and still have a good depth for the stone chips. Alpine plants have deep feeding rootlets and if you are careful not to break any heavy branching main roots, you can get in at least an inch of leaf mold and two inches of chips.

You will be pleased, I think, by the healthy vigor of your plants the next summer. If it is muggy and wet, they will sit dry and cool. If it is dry you can water without worry. Water deep and infrequently.

There are other important factors, too; ample air movement, which means no narrow enclosed areas; a slope away from the hottest midday sun, which in the north-east in July can really parboil the sap in a plant. But I am beginning to think that most important of all is a good moisture holding soil deep about the feeding rootlets and a really thick mattress of stone chips on which the foliage may keep cool.

THE FLOWERING OF A MINIMANIAC

LAWRENCE HOCHHEIMER, *Norwalk, Conn.*

One August day some six years ago I was glorying in the beauty of a flower that was new to me—a miniature glad named 'Atom', rich watermelon in color with a delicate edging of pure white. It was much more charming than the ostentatious blooms and it occurred to me that it would be great fun to have a garden of just the tiniest flowers instead of the showiest.

I put the idea in the back of my mind and there it stayed until, in 1959, I decided to give reality to my dream project. By that time I knew that the idea was anything but new with me, and I had kept an eye out for small plants with interesting form, foliage or flowers wherever I happened to be.

We had a stone dry-wall about thirty feet long that ran from a great pin oak to the croquet arena, and I took this wall down clear to the ground. Then I rebuilt it at an angle of about 75 degrees, putting good screened topsoil under and around each rock and packing it down hard with a broom handle to avoid air pockets. (I now think I made a mistake to use good topsoil. If I were doing it today I would use lots of sand and scree, and perhaps one-third topsoil). Rebuilding the wall did not entail strenuous labor, as I did not try to remove glacial boulders. The largest stones weighed a hundred pounds or so, and with Archimede's help, moving them into a position was quite easy. The wall is wide at the top and slants at a comfortable angle for reaching. The big pin oak at one end gives me part shade so that I can grow a larger variety of plants.

At about this time I became a member of the American Rock Garden Society, attended its meetings when I could, read its magazine and visited the gardens its members so kindly placed on exhibition from time to time. I knew next to nothing about the botanical habits of many of the plants I saw, and until I heard them referred to at the meetings, mispronounced the names of such elementary classifications as cotoneaster, campanula and potentilla. However, learning was fun, and it wasn't long before I could plunge a trowel with the best of them.

I decided that I would not specialize in any limited classification, but would put in whatever plants I thought suitable. I began by putting three beautiful *Juniperus squamata* var. *prostrata* along the far edge for demarcation and a *Rhododendron myrtifolia* as a finial at the left end. At the right, under the oak, I set in such ferns as *Asplenium platyneuron* and *Polystichum acrostichoides* and also *Viola odorata* and *Clematis alpina*.

Here the fun began. I played it by ear, visited such delightful nurseries as Nebel's, Holly Hill and Stonecrop, and really studied a considerable number of

catalogs. I tried to wait until I found a specimen that would fit into the rock formation I had, but many of the plants were simply irresistible. I soon found that I was developing into a callunatic. Callunas, with the cotoneasters, are so hardy and undemanding and bear such dainty flowers in such profusion, over such a long period, that there was a danger of over-emphasizing them. It required an iron will to resist, and I don't have it, and when I counted the various species, last week, I was astonished to find that I had eighty-two. Among the most dainty are various veronicas, potentillas, roses and the charming *Anacyclus suspens* (?) (Mt. Atlas daisy), *Thymophylla teneloiba* (Dahlberg daisy) and *Campanula rotundifolia*. There are blooms almost the year around, beginning with ericas that reach through the snow.

Of course, a garden of this kind is never a finished work. Not only do perfectly healthy plants mysteriously fade away, like old soldiers, but one finds new and irresistible beauties one must possess. Fortunately, there are always patches of *Sedum album* or *S. gracile* or *S. glaucum* or mazus or sempervivum overflowing their banks, and willing to make room for the newcomer.

The work has been fun and the rewards great and varied, and the continuing wonder and mystery of one's successes—and failures—have unflinching fascination.

ROCK GARDEN POLEMONIUMS

EDGAR T. WHERRY, Philadelphia, Pa.

Whenever I glance at a rock gardening article or catalog, or attend an illustrated travel-talk in which a *Polemonium* is referred to, more often than not it is misnamed. One reason, of course, is that the genus is a "difficult" one, in that many of its members can only be told apart by especially close observation; another is that taxonomists have treated it only superficially. Of more direct concern here is the recognition that the fascinating though erratic writer, Reginald Farrer, misinterpreted many of its members; and who are we to question his pronouncements?

Having for more than 30 years studied polemoniums in the library, herbarium and field, the writer feels qualified to express some views about them. A technical article, in which about 40 species were recognized was published in the *American Midland Naturalist* in 1942, and an appreciation of ten of these, with illustrations of four, appeared in volume 2 of our *Bulletin* in 1944. These writings have received little attention. For example, although it was pointed out that *Polemonium "humile"* has been applied to several different species, all invalidly, that epithet is still in use, as in Mrs. Gosling's fine article in a recent *Bulletin*, where it seems to represent *Polemonium reptans*. A synopsis of the species has accordingly been prepared. (The writer will be glad to identify any pressed specimens submitted).

The Polemoniums of interest here are conveniently treated in three groups: (1) Erect-stemmed. (2) Spreading-stemmed with usually whorled leaflets and crowded funnel-form flowers. And (3) Spreading-stemmed with mostly paired leaflets and spaced saucer-shaped flowers.

Group 1. In this there are two main species-complexes. First, that of *Polemonium caeruleum* (Linnaeus, 1753), a circumboreal plant with many geographical variants which may be classed as species or subspecies as preferred. These are chiefly occupants of wet soils, but cultivars developed in Europe and sent here are adapted to ordinary loamy soil or even fairly dry rock gardens; they are usually offered as *P. "richardsoni"*, but judging from the original description (Graham, 1827) and illustration, this epithet belongs to an unrelated dwarf arctic taxon not in cultivation. The plants may be 50 cm. tall with large basal

leaves diminishing rapidly up the stem, having numerous separated long-tapering leaflets. The flowers, borne in a long slender inflorescence, are around 2 cm. across and deep violet-blue, with occasional albinos.

The second species-complex, occupying gravelly slopes in the Rocky Mountains, centers around *Polemonium foliosissimum* (Gray 1878). This differs from the preceding in having long leaves extending well up the 50 cm., or so, tall stem, their terminal leaflets being confluent; and in the around 12 cm. across flowers in broad flattish-topped groupings. The representatives of this Group are neither especially desirable nor much used in rock gardens.

Group 2. Four members of this should certainly be brought into rock garden culture. The nomenclature is complicated, but has been unravelled by close study of the type specimens.

Polemonium viscosum (Nuttall, 1848) is the most typical alpine, growing high in western mountains in the barest, bleakest situations. It is a tiny plant, with the leaflets at most 6, and often only 2 or 3 mm. long. Its deep violet-blue or rarely white trumpets, averaging 20 mm. long, are borne in a dense globose cluster. (Asa Gray confused this and the next taxon, and because of his eminence, is often followed; here the type method is preferred). *P. elegans* (Greene, 1898), listed in the 1944 article, differs in the leaves being paired; it seems not to be in rock garden use.

Polemonium confertum (Gray, corrected by Rydberg, 1897) also grows above tree line, though reaches its best development on subalpine rock slides. It is larger than the preceding in all its parts, reaching a height of 20 or 30 cm.; the leaflets are 8 to 15, and the flowers, borne in somewhat cylindrical clusters, up to 30mm. long.

Polemonium brandegei (Greene, 1887), which Gray mistakenly thought was a *Gilia*, is not typically an alpine, growing in the southern Rocky Mountains at only moderate elevations, on bare, bleak cliffs of hard igneous rocks. In stature and foliage it is like *P. confertum*, but its inflorescence and flowers are even longer, and the clear yellow trumpets exhale a lemon-like fragrance. There is a colony of it at Wagon Wheel Gap, Mineral Co., Colorado, alt. 8450 feet, across a railroad from a highway; when I saw it there in full bloom early in June, 1940, it seemed about the loveliest member of the genus.

Polemonium mellitum (Nelson, 1899) occurs further north and at higher elevations. In habit it is like the preceding, but the flowers are somewhat smaller and cream-colored with a honey scent which suggested the epithet to Asa Gray. He classed it as a variety of *P. confertum*, although it seems closer to *P. brandegei*. Fortunately Dr. Worth has collected and distributed seeds of members of this group, so that it may be possible to grow them side by side, establish their correct names according to the above descriptions, and gain some idea of their real interrelationships.

Group 3. Comprising more than half the known species of *Polemonium*, many of which seem to intergrade with one another. This group presents the greatest nomenclatorial difficulties to taxonomist and rock gardener alike. Five of its members,—really species-complexes—will be treated here.

Polemonium reptans (Linnaeus, 1759) is a widespread native of eastern and midland North America, with races differing in pubescence, leaf size, and adaptability to sun vs. shade and dry vs. moist soils. Its 15 mm. broad lavender-blue flowers are attractive, but its foliage is rather coarse and it tends to spread rapidly by seed. The main reason for including it in a rock garden consists in its being happy in almost any lowland environment.

Polemonium carneum (Gray, 1878) occurs in Pacific-Coast-range country, and has long been in cultivation. It reaches a height of 50 cm., or so, and thus

is a bit large for a rock garden; but the beautiful 20 mm. across flowers of salmon, apricot, rose and related hues of the type subspecies lead to its occasional use. In the East it tends to be short-lived, but can be kept going by saving and planting seeds.

Polemonium delicatum (Rydberg, 1901) constitutes a baffling complex. The plants and their leaves are moderate-sized, the leaflets being 10 to 20 mm. long and decurrent toward the leaf-tip. The lavender-blue flowers are rather small, averaging 1 cm. across. *P. californicum* (Eastwood, 1904) differs in having a stouter rootstock, more confluent upper leaflets and stalked lower ones, and longer styles; there is so much variation in these features, however, as to make distinction of these taxa difficult. One of the plants offered in the trade as "californicum" is a coarser-leaved northwestern mountain relative, *P. columbianum* (Rydberg, 1913). A cultivar known as *Polemonium* 'The Pearl' or 'Blue Pearl' seems to be a form of *P. delicatum*.

Polemonium pulcherrimum (Hooker, 1835), another species-complex, constitutes the remainder of this group. It is a tiny plant, ranging from northern California to Alaska, and from sea level to moderate altitudes. The original taxon can be readily distinguished from all those above mentioned by having leaves under 10 cm. and wholly discrete leaflets under 7 mm. long; but many larger taxa are mistakenly grown under this name. Every effort should be made to bring the authentic species into the rock garden realm, for it is a most charming member of the genus *Polemonium*.

MARTIN'S PARK

BRIAN O. MULLIGAN, *Seattle, Washington*

Up in the heart of the Olympic National Park in northwestern Washington is the ridge known as Low Divide, separating the Elwha River, flowing north to the Straits of Juan de Fuca, from the Quinault River, heading southwest to the Pacific Ocean at Taholah. A well-used and maintained trail extends 28 miles to Low Divide from the road end at Whiskey Bend, 18 miles inland from Port Angeles on the Straits; from about eight miles onward it generally stays close to the Elwha River and is often in magnificent old Douglas fir or western hemlock forest. Shelters are available for riders or hikers every 4-5 miles, but in summer they are by no means always needed for protection from the weather, though their bunks provide welcome support for weary bodies. The final three miles up from Chicago shelter to Low Divide (alt. 3,600 ft.) are much steeper than all the rest of the trail, leaving the river and climbing up the mountain side in a long series of zig-zags to Lakes Mary and Margaret on the Divide. Looking back towards the top the hiker is rewarded by long views northward down the curved, luxuriously timbered Elwha Valley; here also appear some of the typical sub-alpine flowers of the area—the vivid flame-red *Aquilegia formosa*, blue *Mertensia paniculata*, purple *Penstemon serrulatus*, yellow *Arnica*, and in rock crevices solid old cushions of the evergreen *Gaultheria ovatifolia*.

Of the two lakes, Lake Margaret is the larger and provides an excellent swimming pool, much warmer than the salt waters of Puget Sound; there are some trout in Lake Mary, but few if any in Lake Margaret.

Low Divide is so named in comparison with and to distinguish it from High Divide, some 13 miles to the northwest at about 5000 ft. altitude, at the headwaters of the Soleduck and Bogachiel rivers; Mt. Olympus (7,954 ft.), the highest peak of the range lies between the two ridges.

Once arrived and encamped in the delightful meadow at Low Divide, where the infant Quinault river provides the finest of water for all purposes, there is



Brian O. Mulligan

Fig. 1
Vaccinium deliciosum

ample grazing for horses, and now two shelters at opposite ends of the meadow for small groups, one can make further excursions to other areas at higher altitudes. Two of these have the benefit of a trail; one, about 2-1/2 miles long, heads south around a spur of Mt. Seattle and then west towards Mt. Noyes, over high and open country where elk can sometimes be found in summer. The other, much shorter but at first steeper, rougher and wetter, with streams running down the trail and a bog on either side of it, extending about a mile or so up to Martin's Park and a further half mile up to the twin Martin's Lakes on a higher bench of the mountain.

The Park is a nearly level, meadow-like area, several acres in extent, intersected by numerous swiftly flowing creeks, derived from a large snow bank on the north side of Mt. Christie (6,177 ft.). These creeks, at first wide, shallow and rolling over stony beds, in the lower part of their courses have dug deep but narrow channels in the dark peaty soil, sometimes jumping over small waterfalls or making sharp bends when diverted by a rock. This is water in its purest form, free and untamed, unadulterated, flowing from the snow bank over the north rim of the Park, down the mountain side into Delabarre Creek, thence to merge with the larger Elwha on its way to the Straits of Juan de Fuca some 45 miles distant.

Some of the creek banks are thickly covered with moss, others with a coarse grass, amongst which grows *Pedicularis*, *Mimulus* and other moisture-loving plants in the wetter places, *Phyllodoce empetriformis*, *Vaccinium deliciosum* (fig. 1) and *Potentilla flabellifolia* in the drier sites. Scattered over most of the Park are enormous, angular chunks of rock, evidently sloughed off the sides of Mt. Christie during the course of ages past. Occasionally one finds a crevice in one of these giant boulders filled with the creeping Alaska spirea, *Luetkea pectinata*, in July decorated with its short, erect spikes of white flowers, but for

the most part they are lacking any floral decoration. They do, however, add much to the scenery here and frequently suggest to the rock garden minded onlooker how greatly one or two would improve his own puny efforts in this department.

Between the streams, in their upper reaches, gravel beds have been formed, raised a few inches above the level of the water. On these grows a somewhat different flora, consisting principally of the brilliant yellow *Mimulus tilingii* or its dwarfer variety *caespitosus* (fig. 2), two to three inches high when in full bloom, the equally small rose-pink *Epilobium alpinum*, and a taller, white-flowered saxifrage, perhaps *S. arguta*. In its season (late July) the conspicuous patches and spots of yellow produced by the *Mimulus* are the brightest feature in the landscape.

The attractions of this small area, whether the streams, the rocks, the flowers, or the combination of all those with the surrounding mountain scenery, are such that one can easily spend several hours in exploring and photographing it and the flora in detail.

On the southeast side is a rocky ridge, one of the outermost bastions of Mt. Christie, of which the peak is invisible from this enclosed position. Here *Cassiope mertensiana* is well established and flowering freely, but the sight of a large old plant of *Phyllodoce empetriiformis* spread out over the rocks and heavily decorated with its glowing, ruddy purple bells was quite astonishing. No doubt its roots were well embedded in crevices between the rocks, and there must be sufficient moisture to supply its needs during the short period of flowering, growth and seed production, but it seemed an unusually warm and sunny location for this normally gregarious ground-covering species.

Another rock garden plant of high quality seen on the drier gravel ridges was *Elmera (Heuchera) racemosa*, a prostrate, compact little charmer bearing



Fig. 2

Brian O. Mulligan

Mimulus tilingii var. *caespitosus*

6-inch spikes of white flowers above the heuchera-like leaves. Botanically it is, according to Dr. C. L. Hitchcock's *Vascular Plants of the Pacific Northwest**, even more closely related to *Tellima*, the fringe cup, than to *Heuchera*; in habitat it is confined to Washington, from Hart's Pass in the northern Cascade Mountains, to Mt. Adams in the south, as well as in the Olympic Mountains, where it can be seen in some profusion on the steep slope of Hurricane Ridge (5,757 ft.), overlooking Port Angeles and the Straits far below, and in the distance the hills of Vancouver Island, B. C.

In cultivation, given a situation and conditions approximating as closely as may be to its native home, it can be grown, and indeed flowered, though usually only sparingly, but to maintain it over a period of years is another matter, and probably few have been able to do so, judging by its rarity in gardens of the Puget Sound region or elsewhere.

Perhaps this is just as well, for in my estimation it is one of those plants best left by most of us in its native mountains, to be seen, appreciated and duly photographed during its brief season of beauty,—if one happens to be there at the right moment when wind and weather are favorable for this undertaking.

BOOK REVIEW

Rock Garden Plants of the Southern Alps. By W. R. Philipson and D. Hearn. 250 pages, illustrated. Christchurch, New Zealand: The Caxton Press, 1962. \$6.65.

Rock Garden Plants of the Southern Alps is the first book exclusively devoted to New Zealand alpine and their cultivation. It is delightfully written by W. R. Philipson, Professor of Botany, University of Canterbury, New Zealand and beautifully illustrated by Mr. D. Hearn, Associate of the Royal Photographic Society. The authors combine their talents with their knowledge and enthusiasm for alpine gardening to create a book of great value to rock gardeners everywhere.

The vivid descriptions of the southern alps not only give us an appreciation for the beauty of the mountain areas but an understanding of the natural conditions under which these most fascinating New Zealand plants grow. Professor Philipson draws from his own experience as a successful alpine gardener for the cultural notes on many of the more difficult alpine. Although the reader is often confronted by genera unfamiliar to him, most of these may be found among the 105 superb illustrations, 11 of which are in color.

One chapter is devoted to scree plants, discussing their peculiarities and relationship to their environment. Included among other chapters are those entitled: *Gentians and Ourisias*, *The Hebe Complex*, *The Southern Heaths*, *From Maori Onions to Orchids*, *Sheep, Carpets and Coral* and *The Mountain Daisies*. *Fruits and Foliage* is the title of another intensely interesting chapter. Although the flowers of New Zealand are predominantly white, it would seem that nature had more than compensated by providing an abundance of evergreen plants, many of which produce colorful fruit while others display curious growth habits or unusual and interesting leaf structures.

The final chapter, written by Mr. Hearn, deals with plant photography, its techniques and problems. This chapter gives excellent advice to those interested in photographing plants in the wild, as well as a realization of the time and effort involved in taking outstanding pictures such as those that appear in this publication.

SALLIE D. ALLEN

*Part 3, pp. 7-8; (Univ. of Washington Press, Seattle, 1961)

WELCOME! NEW MEMBERS

- Mrs. M. O. Beck, R.D. 3 Box 418, Paulsbo, Washington.
 Mr. Hector Black, Lakeside Gardens, Lake Hill, N. Y.
 Mr. A. J. Brown, Plantation House, Littlefort, Nr. Ely, Cambs, England.
 Mrs. John V. Byrne, 92 Dundas Street East, Trenton, Ontario, Canada.
 Dr. R. B. Cain, Dept. of Microbiology, Oklahoma State University, Stillwater, Oklahoma.
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 Mrs. Carl A. Valentine, 392 Spruce Brook Road, Berlin, Connecticut.
 Mrs. Leonard J. Wiese, Dodge, Nebraska.
 Mrs. C. R. Wilking, R.D. 2, Marietta, Ohio.
 Mr. and Mrs. James Yodice, Box 121, West Islip, N. Y.

THE CHRISTMAS ROSE

RICHARD LANGFELDER, *Chappaqua, N. Y.*

The "Schneerose" translated "Snowrose" was one of my earliest loves in Austria, where I was born, and my affection for it has continued through the years. The "Snowrose" was so-called because it appeared in snow-covered patches in the Vienna woods and in the mountain valleys of the eastern chain of the Alps. The end of October is usually the start of the blooming season which will last until the following May. It can be found under high trees, under bushes among the rocks and most abundantly in the open valleys. In the open, it grows mostly in the higher regions, where there is a lot of moisture available.

This lovely plant, better known in England and in America as the Christmas Rose (*Helleborus niger*) can also be found, in Austria, along the sides of the numerous paths that lead up into the mountains. In the autumn the flowers are clear white and of perfect beauty. After the snow has covered them completely, you do not see them except in spots where the sun has melted away the snow. In spring, when the snow starts to disappear, there are the blossoms of the Christmas Rose again. That is the time when they are fertilized by the bees and soon one can see the seed pods hanging.

I am sure that everybody should want this lovely flower in his garden, as it gives a lot of bloom at a time when no other flower is to be seen. It is not difficult to establish in the garden, but its needs must be understood. The best location is one facing either east or west, next to a shrub or a tree. They should be protected from the midday sun. Before planting, it is best to dig a hole to a depth of about 18 inches, put in some good drainage, then fill with a mixture of good garden soil, enriched with old cow manure or dry manure and leafmold, and as the plant likes some lime in the soil, I mix in some bonemeal. The plant has to be set in the ground so that the buds are about one half inch below the soil level. The soil should be firmed, pressing from the sides in order not to break the brittle roots. This is the procedure whether you buy the plant or get it from a friend. If you buy, try to get a potted plant, as it is much easier to transplant. If you get a plant newly dug out of the ground you have to be cautious as the roots are very brittle. It is necessary to water such a plant more often and it must never be allowed to dry out. When you see leaves growing out again, you will know that you have done a good job.

There are two ways to propagate the Christmas Rose, either by division or by seed. Division should be done only when the plant is rather large and has already bloomed two or three years. I always wait with the division until I can collect the seed, which in my latitude is about May 10th to 15th. I take the whole plant out of the ground, having watered it a couple of hours before, and take it to a table where I shake out all the soil. After that is done, I gently pry apart the roots (it is easy) but some care has to be exercised not to break them in the process. Then I plant the roots, one, two or more, in the prepared holes, fill in the above mentioned soil mix, firm it from the sides, and water freely. Remember, the buds should be about half an inch below the soil level. It is best to shade the new planting from the sun. I use newspaper. When the sun is gone, I remove the shading. As soon as the leaves get firm again I do not shade any longer. For the next few months the plants must not be allowed to get dry. When a new leaf starts to grow, you can relax, the planting has been successful. Correctly done, some of the plants will start to bloom that fall. There will not be many blooms the first year, but the number will increase rapidly. I have older plants with as many as a hundred flowers. To make transplanting easy for my many friends who come here and always want Christmas Roses, I pot up a number of roots in 5 or 6 inch pots, where they perform as well as in the ground.

Christmas Roses can also be grown from seed. If you have your own plants, the seeds should be taken as soon as the seed pods get brown, otherwise the plant will scatter the seed from one day to the next. The seed should be planted at once, and if you do so, you may be sure to get seedlings the next April. Delay in planting the seed will delay the arrival of seedlings until the next year, if they come at all. Several times I got seeds in the Spring and when planted there was no germination. Another thing: I cover the pots with screening or with a $\frac{1}{4}$ inch hardware cloth, so they are protected from mice and birds. As a seed mixture, I use half soil, a quarter each of sand and leafmold and over the top I sprinkle a little bonemeal.

When people come to my garden and see hundreds of Christmas blossoms, I sometimes hear "I cannot grow them" or "I tried and failed", but I think everybody should be able to grow them as I do, if the few rules are understood. I wrote this article so that my garden friends could try again to grow this wonderful beauty. I am sure they will not fail and will have this delightful flower in their gardens for their lasting enjoyment.

There are more hellebores, but for the average gardener, the most desirable

one is *Helleborus niger altifolius*. Another very beautiful one is *H. orientalis*, which is known as the Lenten Rose. It starts to bloom in April or May. The blossoms are pink, fading to white in contrast to *H. niger*, which starts out a glistening white and fades to pink. The Lenten Rose can be treated like the Christmas Rose. Both are very good for flower arrangements and will keep up to two weeks after cutting.

Two more hellebores that could be grown in the garden are *H. foetidus* and *H. corsicus*. Both have greenish flowers and are about 18 inches high. They are a little easier to grow and can be grown from seed and will give a good account of themselves, but they cannot compare with the serene beauty of the Christmas Rose and the blushing pink of the Lenten Rose.

SEED EXCHANGE NOTES

Arnica montana: the only species *Arnica* growing in the Alps and Pyrenees; very different from the American species and, to my mind, better, with big deep yellow flowers; but more difficult to grow; cannot stand any amount of lime; not stoloniferous. Another species *Arnica*, *A. alpina*, grows in Europe, but is restricted to Scandinavia; this species is much more akin to the American ones.

Dianthus alpinus: one of the best species; but, contrarily to most, does not like lime, and wants some moisture, at least in summer.

Dianthus carthusianorum var. *nanus*: a dwarf variant, only found in Central and Eastern Alps; remains dwarf, 6 to 8 inches (the type one to two feet).

Iris filifolia (blue) and *lusitanica* (yellow): bulbous irises of the Xiphion section; well drained, sunny position; as most irises, can take a full year before germinating; Summer dormant.

Primula luteola: an easy, moisture-loving *Primula*; stems reach one to two feet; as most primulas, germinates better if seed is exposed to light, i.e. not, or very shallowly, covered.

Pulsatilla alpina: this is subspecies *eu-alpina*, the showiest form (white); very slow from seed and not too easy, though to my mind, less difficult than the American counterpart, *Pulsatilla occidentalis*; indifferent to lime; good deep earth.

Pulsatilla halleri: of the *Pulsatilla slavica* and *hirtutissima* kindred; with big violet flowers; easy, does not mind lime; full sun, good drainage.

Saxifraga delphinensis: an endemic from Dauphiny, akin to the Pyrenean *S. pubescens*; dense mats, white flowers; in nature grows in fissures of calcareous rocks; not too easy, as most saxatile plants.

Senecio integrifolius ssp. *capitatus* and *S. aurantiacus*: two forms of the *Senecio campestris* aggregate; the flowers of ssp. *capitatus* have orange tubes and no ligules; those of *S. aurantiacus* have orange tubes and orange or yellow ligules; both have silvery, densely villous leaves, and stems of about one foot; both prefer full sun, but not too dry a soil.

Senecio adonidifolius: a species found only in Pyrenees and Massif Central; finely dissected leaves, deep green; very numerous small yellow flowers, in summer; stems to one and a half feet; does not like lime, nor too dry a soil; can stand some shade.

Sideritis hyssopifolia ssp. *alpina*: a shrublet to 6-10 inches, with small pale yellow flowers; known in Dauphiny as "Crapaudine", from which a very good flavored infusion is made; part of the "Chartreuse" liquor ingredients.

Viola calcarata: a pansy with big lilac-violet flowers, generally, but sometimes yellow, white or bi-colored. Forms vast carpets in the alpine meadows, in spring, but sometimes gives a few flowers in autumn.

Campanula longistyla: a monocarpic species from Caucasus, with many reddish-violet, large flowers, 15-20 inches.

Campanula barbata: lovely, but hates lime, asks for sun and good drainage.

—R. RUFFIER-LANCHE, *Grenoble, France*

Seed of *Habranthus texensis*, offered in the current seed list under number 600 and contributed by Mrs. T. M. Laurenson of Christchurch, New Zealand, is evidently from seed I submitted to the exchange or sent to her direct a number of years ago. Bulbs were given me by a member in San Antonio, Texas. They produced an abundance of seed and were placed in our exchange a number of times. Unfortunately, I failed to bring either bulbs or seed with me when I moved from New Jersey. Now I am asking Mr. Harkness to send me a new supply. Thank you, Mrs. Laurenson, for making it possible for me to have a new start of this good plant. That was a long journey.

—EDGAR L. TOTTEN

How fares the Seed Exchange? On October 31st, 1962 Mr. Bernard Harkness, our Exchange Director wrote, "Only 50 contributors in at this point with only 15 days to go until I begin compiling the list, but there may be enough along late to bring the list up to par." What is par? Later, on December 6th, 1962 he wrote in part, "The list is good, running 60 items over last years." How many items were there then?

A brief survey of the past few years gives us the answers. The tabulation appearing below reveals that the 1963 seed exchange operation is well above the average for the past five years (including 1963) in both number of contributors and number of different kinds of seeds offered. When this five year average is compared with an earlier year (1954) it shows that the number of contributors increased some 62% and number of items, 82% over the earlier year. This is excellent.

For the purpose of this tabulation contributors have been divided into three groups; those from the United States into East and West with the Mississippi River dividing them, and all others in the third group.

YEAR	EAST	WEST	FOREIGN	TOTAL CONTRIBUTORS	TOTAL No. of ITEMS
1959	61	36	16	113	1237
1960	35	30	10	75	1003
1961	54	33	13	100	1253
1962	49	25	9	83	1183
1963	59	27	13	99	1243
Total	258	151	61	470	5919
Yearly Ave.	51.6	30.2	12.2	94.0	1184
% of Total	54.9	32.1	13.0	100	
1954	31	13	14	58	660

These statistics further reveal that not only is the eastern part of the United States furnishing more than half of the contributors, but that their 1963 contributors exceeded in number their five year average. This is a healthy condition

and the East is to be congratulated. Not so, the West! Their five year average of 30.2 contributors was not reached either in 1962 or 1963. This is unhealthy in that it may betoken a waning interest in the exchange. It is hoped that western members who read this will resolve that when seed saving time comes around again that they will take steps to reverse this downward trend.

And what of the foreign contributors? In 1954 there were 14 of them from 10 countries and in 1963 only 13 contributors from 8 countries and this decrease in the face of a very large increase during the same period in the United States is indeed bad news. The number of foreign members in 1954 is not available as this is written, but a decline in the number of contributors since that year could well indicate a decline in membership. If there has been a decline, what are the reasons for it? Is it possible that the *Bulletin*, our first line of communication with our foreign fellow rock gardeners, in the intervening years since 1954, has failed to inspire them, if members, to continue in that membership? Has it failed to act effectively as a recruiting agency for membership in our society among those who are not members?

By the time this reaches you, your seed packets will have reached you, too, and who knows what joy is in store for you? Good luck with your seeds!

A.M.S.

MORE ABOUT WARM CLIMATE ROCK GARDENS

LEONARD J. UTTAL, *Madison Heights, Va.*

It is always a pleasure if an article we author stimulates discussion; thus is knowledge widened. I was pleased to have Mr. Ginns' (January 1963 *Bulletin*) sympathetic comments on my article on southern rock gardens (April 1961 *Bulletin*).

Mr. Ginns notes that I recommended stapelias after mentioning hard freezes. It seems that I failed to distinguish that province of the south which seldom experiences freezes from the greater expanse which does so regularly. Only for the former do I recommend stapelias or any other winter-tender plant for permanent planting, but for the other province these are highly useful summer fillins.

Mr. Ginns and I agree that there are many plants native to warmer climates which make good rock plants, but, perhaps, because they are more widely adaptable, they are the backbone of the warm climate rock garden, and as such, should receive more sympathetic treatment and wider trial.

South Africa, as Mr. Ginns tells us, already has offered us many beautiful plants, and for centuries to come will be the chief repository of those which yet need to be discovered and tried. But any warm climate, even right at home, harbors good potential rock plants. What we need is more interest in the rock garden resources of the lower latitudes as more and more people move there. Too many newcomers in all branches of gardening now bring their old familiar plant friends with them when they go subtropical, only to watch them languish and die, thereby wasting valuable time in which they could have become acquainted with the plants that belong in the new climate.

OMNIUM-GATHERUM

We wonder if the members of the American Rock Garden Society, especially those who have joined during the past ten years, realize the extent and diversity of fascinating reading to be found between the pages of the early *Year Books* of the society and the twenty volumes of the *Bulletin*. Do they realize the wealth of

practical knowledge these pages contain, the particular garden skills recorded, the aggregate of detailed plant information cloistered there—information that encompasses all phases of rock gardening?

There may be members who have the complete file, or a major portion thereof, which they use assiduously to the betterment of their gardening. They are the fortunate few. But what of the many who have no access to such files? Should not this great storehouse of recorded garden lore be made available to them? One member, in a letter to the editor, put it this way:

"I have been reading back through my file of *Bulletins* and *Saxiflora* which extends into the early 1940s. This is a pleasure I have somehow never found time to indulge in before. To re-read some of the back numbers is as good as getting a new issue, because this sort of material never grows stale, and as a reader, I am a different person from the one I was when I read the articles before. Problems discussed, plants described, explorations recorded take on quite fresh meaning in the light of my own experiences since I first read these issues in the past. There is a wealth of wonderful material between those green covers."

While the member quoted above was reading his back numbers, the editor was doing the same, although the file at his disposal, through the thoughtfulness of Mr. Totten, extended back to 1937 when the first of the *Year Books* was published. Receipt of those *Year Books* started a reading marathon which kept right on going through the early *Bulletins* and right up to Vol. 21, No. 1. Now, one who holds down a regular job and in his spare time does the editing chores for the *Bulletin* could not possibly have time to do more than skim through such a mass of material. During this skimming process it was noted that in those early days of the society it was quite usual for contributors to include in their writings evidences of the great joy they experienced as a result of their gardening activities. They were not reluctant, then, to admit to being happy while gardening or to express their love of small plants. It is difficult to find this same exultation in present day contributions to the *Bulletin*. Examples from the 1940 *Year Book* will illustrate:

"We meet on common ground, made of rocky ledges, alpines and running streams. Here our emotion arises from the love of little things—not of the stately and formal—it has the melting tenderness of the love for a little child, when we glow inwardly and the world and its cares fade away as we seem to flow outward from ourselves and envelop the cherished object. Of like quality is the love for *Linaria aquitriloba*, *Mentha requieni*, primulas and the hosts of God's diminutive flowers with which He adorns his gigantic works, the mountains."

"To make this garden a haven for rare plants has meant many hours of hard work, but work that has brought many hours of happiness. The garden is not finished—it would be a sad thing if it were. To lose the opportunity to plan additional developments and meet new challenges to tame difficult plants would be to miss everything that brings joy to a rock gardener's heart."

And if you can, turn to page 14 of Vol. 3, No. 1, the first issue of the 1945 *Bulletin* and read *A Message from Overseas* by Ernest Ballard, of Colwall, Malvern, England, which ended with these words, "Long may these 'little people of the hills' flower there in their mountain home and may they flourish and delight us here, and you in another land, that we may remain brothers united in the joy of a common pastime, even if great waters divide us."

Mostly our contributions of late are serious, full of advice, helpful and fully appreciated but seldom is there evidence of hearts overflowing with the joy that gardening should bring, and will bring to the gardener if his mood is receptive and his love of plants is sincere.

Perhaps this suppression of evidence of great pleasure in gardening is but a manifestation of the times in which we live. The joy may be there in the gardener's heart, where he keeps it hidden away, a treasured thing, lest any outward expression of such personal pleasure might be considered as undue sentimentality. In this regimented world in which we live today, where the pressures are many and conflicting, it seems almost indecent to admit that one is really happy, or even transiently happy, or that there is pleasure and, beyond that, healing to be found in the manual labor of gardening and in the contemplation of the lovely miracles that the gardener, with nature's help, has achieved.

The editor asks that the members comment on their ideas as to the best methods to be employed to make available to all members the priceless knowledge and inspiration locked up in the back numbers of the society's publications and that those who write for the *Bulletin* be not fearful of expressing their emotions when it comes to relating their gardening experiences and their successes and failures with the plants, the love of which binds us all together.

Our diligent secretary, Mr. Totten, gives us interesting news and an admonition or two:

I have already had an airmail request to ship small plants of the red-flowered *Kalmia latifolia* (seed of which I contributed to this year's exchange) to a member in Japan. Since it is impossible to determine from small plants what the color of the flowers will be, I fear this may be a rather expensive undertaking. These red-flowered plants appear in the wild along with the ordinary colored ones and are outnumbered 100 to 1. Flowers are not produced until the plants reach 2½ to 3 feet.

The camera was all set to get a picture of *Rhododendron maximum* in flower on Christmas day. We had hoped to have a few sprays in the house for Christmas decoration. Our dreams were shattered by that Arctic blast that hit us on December 13th. Temperature -6, a record for us. Many of the borderline rhododendrons, azaleas and camellias have evidently been badly damaged.

During the holiday excitement it seems that many of you have destroyed your January dues notices along with the Christmas cards. Fifty *second notices*, at a cost of around seven cents each, does not help our dwindling bank account. Please do not fail to notify me of your change of address. Each quarter a number of *Bulletins* are returned by the Post Office. This costs your society around twenty cents each. Your postmaster will gladly give you a supply of change of address cards. Our treasurer's report in April will probably show that we did not meet our expenses this year. This may lead eventually to an increase in dues which we are trying hard to avoid. Your co-operation in these matters will be appreciated.

When I assumed the duties of secretary we had a paid membership of less than 500. It was my hope that the membership could be built up to at least a thousand. We are still short of that mark by about two hundred. Both of the overseas rock garden societies have a membership of around 3000 each. Certainly in a country as large as ours, we should be able to reach this goal.

BRING IN A NEW MEMBER. We have an abundance of application forms in storage here. Many Americans are members of one or both of the overseas societies but not of ours.

E. L. T.

In the last *Bulletin*, that of January 1963, new members were listed under "Welcome! New Members" and there has been favorable comment on this new feature. Another list of the newest new members appears elsewhere in this issue. The editor joins with all other members in a hearty welcome to these rock garden

enthusiasts. It is his hope that there may be those in these imposing lists who will prove to be contributors to the *Bulletin*. He would like to point out to these new members that undoubtedly they are bringing into the society a wealth of garden experience, knowledge of rock gardens and alpine plants and their culture, their desirability and availability, and that it is one of the privileges of membership to share these with the older members through the pages of the *Bulletin*. New members—again welcome!

INTERCHANGE

There has not been much reaction to "Interchange" yet, but it has not been ignored completely as you can see from the following:

Edgings for Rock Gardens—Mr. R. S. Peterson, 16414 12th Ave., S. W.

Seattle 66, Wash. This new member and new rock gardener says in effect: We are now using thyme as an edging between our rock garden and the path. It is satisfactory, so far, but gives promise of becoming a river on a rampage. He suggests an article in the *Bulletin* on this subject. In the meantime, while such an article is being prepared, does anyone have advice for this new member?

Trillium Rhizomes Wanted—Mr. John C. Lambert, 1907 Charmes Road, Wixom, Michigan. Mr. Lambert, who wrote about the mutant trilliums in the last *Bulletin*, wants rhizomes of the following trilliums: *TT. hugeri album*, *discolor*, *pusillum*, *procumbens* and *erectum fl.pl.*

Asarum howellii—Mr. Gus F. Krossa, 9390 Cardwell, Vivonia, Michigan. This member read about this ginger in the reprint of Mrs. Frye's article "Woodland" in the last *Bulletin* and would like to obtain a plant of it. Research does not indicate such a species. Does anyone have knowledge of it?

A book—Not one of the new ones. *Garden Facts and Fancies*, by Alfred Carl Hottes is a book that may not be known to all members, but should be. It is profusely illustrated with drawings by the author and was published in 1949 by Dodd, Mead & Company, New York. It is a book that should not be hidden among other volumes in a bookcase, but one that should be left in a handy place where it may be picked up and read at odd moments for relaxation or when a bit of inspiration is needed.

Shortia uniflora and *Schizocodon* species—Wanted by Mr. H. Lincoln Foster, Falls Village, Conn. Mr. Foster, two of whose articles appear in this issue, also wishes to know the names of nurseries, if any, who do for the Cascadian plants of Oregon and Washington what Mr. Barr's Prairie Gem does for those of the Great Plains. Besides the two plants listed above he is interested in *Phlox douglasii* and other far-western *Phlox* species.

Campanula planiflora—Mr. Foster again. He writes, "I have an offer from a geneticist at the state university to work on *Campanula planiflora*, if I supply him with seed. If anyone has plants of this species would they please save seed for this experimental work and send them to me?"

Polyethylene Covers for Your Flats—Mr. Foster yet again. He has a suggestion for those seed growers who have no frames. Here it is: "Use regular wooden flats with polyethylene covers, but don't fasten the plastic to the flat. It's a nuisance to get in for it sits too close to the soil surface and labels won't hold it up. Rain mashes it down. With one by two strips make a bottomless flat and tack the plastic on that. Rest it bottom side up over the seed flat. It is easily lifted for watering or inspection. This rig is good for cuttings too, with slightly higher sides to the lid."

Lewisia brachycalyx—Mr. Leonard Wiley, 2927 Southeast 75th Avenue, Portland, Oregon. Mr. Wiley will trade other lewisias or other western plants for *Lewisia brachycalyx* or he will buy if no trade can be made. Contact him directly or through Interchange, or both. See Editor's note at end of Interchange.

Dwarf Bearded Iris—Mrs. Willard E. Robbins, R. #2, Nauvoo Road, Port Byron, N. Y. Mrs. Robbins is another new member. She read about these iris in Mr. Welch's article in the last *Bulletin* and wishes to know where they can be obtained. She has been given Mr. Welch's address. Perhaps there are members who can help her, too. She is particularly interested in the ones named 'Cherry Red' and 'Gay Lassie'.

Seed Germination—Miss Merna E. Spring, 130 Lamott Road, Hot Springs, Ark. Miss Spring asks directions for planting seed that need to be frozen to start germination. She asks, too, how she can be sure which seeds need this care. She wonders if a freezer can be used for this purpose, and if so, the length of time the seeds should be subjected to this treatment. Miss Spring is a new member and one of three living in Arkansas.

A Book on Rock Gardening—Miss Spring would like something else. She writes: "I would like a recommended book dealing with rock gardens and plants. Most of the ones in our public library are old except for *Rock Garden Plants* by Doretta Klaber which I have thoroughly enjoyed."

Cassiope mertensiana—Mrs. Rodney B. Allen, 17845 47th Place N.E. Seattle 55, Wash. Here is her request: "I would like to hear from anyone who has seen or collected *Cassiope mertensiana* from the areas of Mt. Shasta, Mr. Eddy or the Salmon-Trinity Alps in California."

Drabas and Lewisias—Requests were made in the January Interchange, the first, for only two items, that is, articles on the genus *Lewisia* and cultural directions for drabas. How did they fare? Just received has been an article on the northwestern lewisias, in the wild and in a western garden. This article will appear in the July *Bulletin*. One member said that he would like to write about growing drabas but feared that he had had too little experience with them to be advising others.

Editor's Note—There are at least two ways to answer questions asked in Interchange. You may answer through the pages of the *Bulletin* using the Interchange column or by writing an article for longer answers, or you can communicate directly with the questioner. However, such personal communication, if not reported through the *Bulletin*, may deprive many readers of information that might have been of interest to them.

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