

American Rock Garden Society Bulletin



H. LINCOLN FOSTER — <i>John P. Osborne</i>	113
ALEXANDER BUTTE — <i>Claude A. Barr</i>	114
HOW WE BUILT OUR ROCK GARDEN <i>Samuel M. and Beverley H. Ryburn</i>	116
THE RARE TRILLIUM OF VANCOUVER ISLAND <i>Arthur G. Guppy</i>	119
ARE YOU MISSING SOMETHING? — <i>Mareen Kruckeberg</i>	121
“MILLGLEN” — A SCOTTISH GARDEN — <i>Margot Stuart</i>	122
ALASKA MOUNTAIN MALADY — <i>Kenneth Roberson</i>	129
THE SMALLER PLANTAIN-LILIES — <i>Gertrude S. Wister</i>	133
REQUESTS BY MEMBERS	134
BOOK REVIEW — <i>Lee Raden</i>	136
PLANT ASSOCIATIONS — <i>Maj. Gen. D. M. Murray-Lyon</i>	137
THE PRESIDENT'S PAGE — <i>Bernard E. Harkness</i>	138
A VACATION IN GLACIER AND YELLOWSTONE <i>Nickolas Nickou</i>	139
HARDY MEMBERS OF THE CAMPANULACEAE <i>Robert M. Senior</i>	144
OMNIUM - GATHERUM	147

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AMERICAN ROCK GARDEN SOCIETY BULLETIN

Albert M. Sutton, Editor

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H. LINCOLN FOSTER

Linc Foster accomplished much during his two terms as president of the American Rock Garden Society—two terms being all that the Society's constitution allows any person to serve. He brought to the office many new ideas and, possibly of more importance, he brought renewed vitality to many of the Society's existing activities.

The membership almost doubled in these four short years to its present 1500, and the treasury is at an all time high. There are more regions and most of them have become more active. The advisory committee was created and the *Bulletin Board*, a needed supplement to the *Bulletin*, was established. The *Handbook* was published and the emblem and pins were designed. Many more things were accomplished than if listed would be very impressive.

Above all, Linc and Timmy Foster (it is quite impossible to think of one without the other) brought with them a warmth and camaraderie that permeated the whole Society. Wherever they traveled, they made friends.

It was only after much urging that Linc consented to become president of the Society in 1964, and he took the honor very seriously. It troubled him when things did not seem to go as they should. As the Society grew, the demands on his time increased, and the correspondence grew to such an extent that several evenings a week had to be devoted to it. Few, however, heard him complain.

Linc is a fine plantsman and a great rock gardener and has lectured extensively. All of these talents he brought to the Society. He was a truly fine president, and the Society was fortunate that he was available when such a man was needed.

Linc will always be ready to lend a hand whenever he is needed, but now he will be able to relax at that lovely Millstream House of his on Canaan Mountain and enjoy his plants and his Alpine house.

We all wish for Linc and Timmy Foster good health and good gardening, and certainly we thank them for all they have done for our Society.

JOHN P. OSBORNE

ALEXANDER BUTTE

CLAUDE A. BARR, *Smithwick, South Dakota*

After many days of plant study across the glaciated regions of western Montana, a corner of Alberta, the width of Saskatchewan, a bit of Manitoba, and now south along the westernmost highway of North Dakota, I had become highly glaciation conscious. Most conspicuous had been the endless miles of fine wheatlands and other long, flat miles of till, so gravel and rubble filled as to be fit only for pasturage and preservation of the original plant life. But also there had been knobs that the ice had smoothed and not leveled, ancient water courses traversed and not completely filled, eskers, moraines, the omnipresent scattered boulders, and the very noticeable work of men; heaps, even "haystacks" as a local person termed them, of course gravel, cobbles, and larger pieces, hand picked from the fields and piled along the margins.

South from the Missouri River the good wheat ground became infrequent, the general contour rougher, hills higher, and plant cover less disturbed. Still were noticeable at the roadside the rocks, small and large, brought by the ice from far away. But ahead the summit of a high distant butte to the left of the road showed something different, a rugged crest of bedrock. Came the by-now-habitual question; had the glaciers been up there?

Opposite the hill stood a windbreak planting and a white painted house, now abandoned; gates were open and I drove partly directly up slope, then sidled to a fence corner near the summit. Scattered bouquets of purple-red *Oxytropis lambertii*, full bloom, were round about and sparkles of yellow, too. Underfoot plump pods of *Viola nuttallii* were ripening. Beyond the fence, a level, vegetation excluding, sandstone pavement was decorated with a few of the calling cards of the ice, particularly a large symmetrically rounded one.

Now across the transverse fence to the south, about some rough exposures of rock, brilliant golden blossoms in daisy pattern required attention. The distinct inflorescence structure, rather heavy hypanthiums, well-filled circlets of round-tipped rays, and the gray, entire leaves with margins not rolled under (though the stature of the plants under the open sky was that of *Senecio purshianus*), declared them to be *S. canus*.

Back toward the boulder! Glancing to the east, the vivid green slope, seemingly at 45 degrees, stretched a half mile to a herd of pasturing cattle, then up to equal or greater heights. This plaything of the ice, this marvelous marble, was of fine-textured pink granite, finely modeled, slightly flattened, a yard in diameter, 30 inches high. What an ornament it would be to my rock garden—to my whole domain! In the car were some cobbles of special pattern, presented as mementos by friends back in Manitoba, that would make little show. But this great rock might scale a ton and a half. Pass. Sadly! Then how about some giant-killer bringing loading equipment up here and hauling this treasure away? Forbid! No, it deserves to remain where it stands, a fitting and memorable monument to the immeasurable power of nature, to the Wisconsin ice sheet—or an earlier one—at any rate to the Genius of the

Pleistocene; memorable, indeed, to the Red Man, from the retreat of the great ice-pack, who sought this high lookout, pondered the stone's roundness, perhaps leapt upon it to strike a pose, to the amusement of his fellows.

Higher and higher rock of weathered irregularity lay ahead. I was almost upon it when there showed on the red-brown surface, bits, tufts, buns of small four-petaled florets of pure flashing gold, only a few tips of tiny, narrowly oblanceolate, gray leaves showing. I had seen this thing in other years on gray or white limestone in Nebraska and Wyoming. Now I knew by consulting Steven's *North Dakota Plants*, that it was *Lesquerella alpina*. No digging; all roots were in almost invisible fissures of the inhospitable rock, and it was the day for blossoms, not ripe seed.

Farther on was one of those odd, picturesque heaps of seemingly separate rocks of enormous tonnage, precariously balanced, that cap recurrent buttes down through western North Dakota, eastern Montana, and well into Wyoming; perhaps Fox-Hills formation. And beyond the heap in soft sandstone, a wind-eroded channel, hard to descend into, held several of the foreign boulders of undistinguished form. Hardly a plant held footing there.

On the way around the grosser features was a secluded pocket, hollowed by the elements, protected all around by walls three to five feet high, with a narrow outlet. Stony soil formed the floor. There were some tufts of grass, what else I do not recall, for dozens and dozens of little plants with tufts of green, much-divided leaves peopled the twenty-foot floor, absorbing all attention; the most startling find on this super-eminence. This lone pocket appeared to be a last refuge of *Erigeron trifidus*, a species I had associated with high, cool habitats. This one, under 3000 feet, had on June 25, not only all bloom passed but practically all seed scattered. Will my two little transplants, at home, safely guarded until blanketed by snow, as of this writing, flower with rays of white, or will they dress themselves in tints of pink-purple as do some of their variant sisters? Inevitably came the questions; how long had the tiny daisy dwelt here where once lay the absolute desert of ice? What pains of adaptation had it suffered as the Plain's climate grew drier and drier—or do plants adjust more readily than we think? And how remote from Alexander Butte dwells the nearest other *E. trifidus* colony?

Truly the butte that day was not in holiday array, yet a few steps down, to the west, bits of color showed. Three plants of penstemons, *PP. albidus*, *angustifolius*, and *eriantherus*, though it was late for them, each carried a few trumpets, white, azure, rosy lavender. The striking feature of their association was that these three, normally addicted to different diets, all grew within a space of a fourteen-inch triangle: marvel of a soil that nourished all, or perhaps, again, of adaptation!

My check list by now included forty-four species, much the greater number not in season. Other unexpected kinds were a *Ribes* (Gooseberry); *Juniperus horizontalis*; *Gaillardia aristata*, with yellow-tipped crimson rays and dark centers; *Mertensia lanceolata*; *Anemone patens*; *Phlox andicola parvula*, with a lone, fresh, white identification; and an insignificant tiny white thing which I took for one of the gillias. It had not been a thorough search, for the north exposures of rock and slope, often rewarding, had been neglected. But the road was calling.

A short way along, a minor eminence on the right carried an exposure of red-brown rock, by no means unworthy of a look-over; half a mile down hill lay the village of Alexander, where a Sunday afternoon gathering was just breaking up. The road led on!

HOW WE BUILT OUR ROCK GARDEN

SAMUEL M. and BEVERLEY H. RYBURN, *Dover, Mass.*

Rock gardening has become for us an absorbing hobby, almost entirely by accident. It all started when we moved to the Boston area from New York City and were looking for land to build on. One day we were driving through a winding short-cut along a woodsy lane when we were told the land on either side of us was for sale. We immediately expressed an interest in it. "Oh!", said the agent, "You wouldn't want that land—it's ledgy." Undaunted by whatever problems "it's ledgy" might entail, we both thought this tract of woodland was just right for us. We could already imagine the rock outcropping, back of where we would put our house, covered with colorful rock plants and alpines, a little retreat that looked out toward a pine grove.

After the third cable broke on the well-digging equipment and we had given up all thought of a full basement for the house and had stood aghast at the size of the boulders that emerged from the driveway, we began to develop a real respect for the now meaningful term "it's ledgy!"

The rocky outcropping back of the house was roughly circular in shape, and encompassed a mound in the center about ten feet high. The entire outcrop area was about 35 feet in diameter and was covered with a thin layer of dirt and rotted leaves, out of which grew wild huckleberry, cat briar, poison ivy, witch hazel and an assortment of oak, pine, ash, and maple.

The year after the house was built we began to think about what could be done with this rocky mound. The obvious answer, of course, was to make a rock garden, and we started it by clearing away some of the more undesirable growth such as cat briar and ivy and by planting an assortment of peonies, violets, iris, tulips, azaleas, yews, etc., which had looked so attractive in the seed catalogs.

We soon discovered, however, that the soil layer was indeed thin and poor and was, in addition, highly acidic. Plants that survived the first summer succumbed in the second, and when we finally got around to measuring the depth of the soil overburden, we found it ranged from twelve inches at the deepest to something under two inches, and needless to say became bone dry in summer droughts.

Our next move was to attempt to correct this by hauling in dozens of wheelbarrows of soil to deepen the pockets, but in so doing the rock outcroppings became almost completely covered up, and more rocks had to be brought in if it was to be kept a rock garden. This time we determined to plant mostly native wild flowers, since the overhanging trees gave fairly dense shade, and the acid soil was more suited to this type of plant. Fortunately, lady slippers, partridge-berry, pyrola, pipsissewa, and princess pine grew in the neighboring woods, and these were transplanted into the new



Path leading from flagstone terrace

Samuel M. Ryburn

soil pockets, along with some wild ginger, various species of violets and some hepaticas. Later, Jack-in-the-pulpits and two small clumps of trailing arbutus were put in, together with clintonia and wild columbine. During this stage of planting, most of the smaller trees and all of the witch hazel were removed, and the remaining wild blueberry was taken out.

By the next summer, most of the plants had established themselves (only one out of eight lady slippers survived, however) and the rock garden presented a reasonably pleasant, although somewhat "peanut brittle" appearance. It was not until later, after reading the first of what became a succession of books on Japanese rock gardening, that we began to understand the significance of structural form in rock placement, and with this came dissatisfaction with the hit-or-miss rock arrangement we had, and with the too uniform size of the rocks, most of which were between one and two feet in diameter.

By this time rock gardening had become a hobby in earnest, and after a winter devoted almost entirely to reading any number of books on English, Japanese, and American gardens, we determined to try again for the third time. We started by moving out all the plants into a nursery, then wheelbarrowing out all the soil we had brought in two years before. The smaller rocks were also removed, and the overburden on much of the ledge was taken away. This revealed a basic structural design in the form of a ridge running roughly NE-SW and terminating in a high point about twelve feet above the lower ground level. It also revealed natural pockets and depressions which lent themselves to water pools. These depressions were further cleaned out and the bottom and sides cemented in, using fiberglass in resin (as used in boat construction) to seal the crevices in the rocks and the junctures of cement and ledge.

Flat rocks were then brought to make the steps in the paths up to the top of the garden. We constructed three of these paths; one on the east side, one on the west, and a shorter one on the north side, the latter leading off the flagstone terrace. On the east side a pool was constructed near the top of the garden, with an arching bridge over it, as part of the path leading downward. Another pool was built into the ledge at the base of the garden and a waterfall was made by cementing in a watercourse through a natural cleft in the ledge, using a recirculating pump as the water source.

A considerably large rock placement on the east side ascending path had to be done. We used a Come Along tied to nearby trees to leverage the larger boulders (some weighing upward to 3,000 pounds) into positions on either side of the path. A large upright boulder was placed to the right of the path to give an upward thrust to the design and to provide an obstacle around which the path could wind.

Of the two pools built into the ledge on the west side, the upper one reflects a Japanese lantern mounted between two ledges at the end. From the seating circle at the top of the garden both pools can be seen. Most of the construction work on this side consisted of opening up natural foundations of the ledge, and in bringing in a number of moss-covered rocks, obtained from an old stone wall running through the woods at the back of the property.

The planting on the west side consists of galax, leucothoe, pyrola, trailing arbutus, dwarf Alberta spruce, dwarf Hinoki cypress, daphne, azaleas,



View of west side of garden

lady slipper, trillium, oconee bells (*Shortia galacifolia*) partridge-berry, princess pine, a dwarf white pine, dwarf Japanese holly, *Pieris japonica*, clintonia, hepatica, columbine and epimedium. Mosses or arenaria were planted around the stone steps in the path. The east side of the garden is planted primarily to ferns, with some eighteen species and varieties represented. As on the west side, mosses have been planted between the stone steps and in some small crevices in the ledge.

The garden is now finished, and except for a few crevices, most of the planting is in. The pump works splendidly and it is a very pleasant thing to sit on the terrace at the end of the day, listening to the trickle of the water over the rocks, and to promise yourself that never again will you tear it all out and start over again.

THE RARE TRILLIUM OF VANCOUVER ISLAND

ARTHUR G. GUPPY, *North Vancouver, B. C.*

At a few locations along the lonely fjords of Vancouver Island's west coast grows what may well be the rarest of all *Trillium* species.

It is a little gem averaging only two or three inches in height. In appearance it is a miniature of *Trillium ovatum* except that the flowers are pink from the time they open and do not darken appreciably with age. In contrast, the flowers of *Trillium ovatum* come out white and darken to pink or even dark red in age.

I have referred to this little *Trillium* as a species, but there is controversy as to its botanical status. Dr. T. M. C. Taylor considers it to be only a form of *Trillium ovatum*, and at most, warranting distinction only as a variety of that species. However, Leonard Wiley in his recent book, *Rare Wild Flowers of North America*, has elevated it to specific standing under the name *Trillium hibbersonii*.

The little *Trillium* was first collected in 1938 by J. A. Hibberson at Hesquiat Harbour, some fifteen miles south of Nootka on the west coast of Vancouver Island. Plants of this collection have continued to thrive in the Hibbersons' garden at Victoria.

The plant's natural habitat is a rather surprising one. Hibberson's discovery was on an exposed rocky cliff a short distance inland and at about 2,000 feet elevation. In 1956, Dr. T. M. C. Taylor and Dr. A. F. Szczawinski discovered the little *Trillium* in the vicinity of Kyuquot Sound, some fifty miles farther north. There it was growing at a low elevation and within a mile of the sea. They found only two small colonies, each in exposed and only semi-shaded positions on rocky outcroppings in the coastal coniferous forest.

The little *Trillium* is a delightful plant for the garden as it fully retains its dwarf stature. It thrives in peaty woodland soil in a shaded position. Though it does not demand rocks, they would add authenticity to the setting. In spite of the relatively exposed nature of its natural habitat, it does not take kindly to a sunny rock garden. Its chosen habitat is a region of cool summers with



Trillium hibbersonii

Arthur G. Guppy

sea fogs and heavy night dews to temper the effects of the sun. In warmer and drier regions, too much sun would be fatal.

As with most other Trilliums, this one can be propagated by seed or offsets. Seedlings that I have seen show no sign of reverting toward the usual *Trillium ovatum* or toward intermediate forms. This fact seems to add support to those who consider it a separate species.

A final interesting note is that a similar dwarf Trillium has been found in the interior of British Columbia, near Kelowna, hundreds of miles from the Vancouver Island locations. Whether this will turn out to be the same little pink-flowered beauty, or whether it will be something closer to the ordinary *Trillium ovatum*, remains to be seen.

* * * * *

RUBUS SPECTABILIS—A DOUBLE FORM—Mrs. P. Leamy, Secretary of the Alpine Garden Club of British Columbia gives us this bit of information, "Mrs. Munday (Mrs. D. Munday, the Society's president, who lives in North Vancouver, B. C.) found years ago a double form of our native salmon berry, *Rubus spectabilis*, and she has it in her garden. The most remarkable thing about it, as far as I can see, is that it still sets fruit. It is only the petals that have multiplied. It is most attractive, and just as rampant as the common one."

ARE YOU MISSING SOMETHING?

MAREEN KRUCKEBERG, *Seattle, Wash.*

Take a closer look at your garden! There is beauty and perfection of form that no stroll or even close scrutiny can reveal. The glandular hairs that cover every part of the beautiful flowers of salal (*Gaultheria shallon*) are not obvious at a close look; nor is the interesting way in which the stamens of the Prince's Pine (*Chimaphila umbellata*) are attached to the base of the petal; the particular swirl of the stamens in the genus *Hepatica*; the perfection of the flowers one upon another to form the racemes of the Silk Tassel tree (*Garrya elliptica*); the large cupped bracts subtending the beautiful flowers of *Corylopsis spicata*; and the intricate veining of leaves of many different species.

The beautiful and interesting details of your treasures can be revealed to you in a very enjoyable way—by sketching them! Sketching them not en masse, but by using specimens brought indoors to a table, a good sharp pencil, and a steady hand. Measure the actual width and length of the specimen, mark it on the paper, and sketch the plant life size, drawing every part of the plant in detail. You immediately see things you never noticed before. Nothing else brings the perfection of nature so clearly to mind. Try it! The hardest part is taking the shears and the time in hand. An hour or two can produce amazing results. Then for the finished product try a crowquill pen.

Even if you don't turn out a work of art everytime, you will have seen parts of the plant you didn't know existed, and have taken a few hours from the daily routine, working closely with a favorite subject.



Hepatica sp.

“MILLGLEN” — A SCOTTISH GARDEN

MARGOT STUART, *Pitlochry, Scotland*

The old village of Moulin lies on the lower southern slope of Ben-y-Vrackie (2750 feet) and is a mile from Pitlochry which is roughly at the centre of Scotland. The elevation of Millglen is approximately six hundred feet and the annual rainfall thirty-four inches. Snow cover in winter cannot be depended upon, and severe frosts of zero Fahrenheit have been experienced several times with little or no snow cover. Late spring frosts of eight to twelve degrees Fahrenheit are, unfortunately, only too common.

Twenty years ago we bought a 17th century cottage (with 20th century plumbing) with a garden of half an acre in Moulin. Fourteen years later found us with a garden so full of plants, it was with great difficulty that a place could be found to plant one more bulb. A larger garden was essential, but with no wish to leave this lovely village we were doubtful as to the outcome. It was, therefore, with some excitement and relief that we eventually found a site at the upper limit of the village. Moulin has approximately two hundred inhabitants. There is a very old church, built on the foundations of an older one, previously destroyed by fire. Opposite the church is the Moulin Hotel, in bygone days a coaching inn; inside, one can see old photographs of the ‘four in hand’ ready to start the journey over the moors to Braemar. The Moulin Burn flows through the centre of the village. In spring, children can be seen on the banks with homemade fishing rods, endeavoring to catch the wily small brown trout. In a storm this stream can change from a gurgling burn to a roaring torrent.

The two-acre site we acquired had been part of Moulin two hundred years ago. In the midst of a dense scrub of sapling elm and ash, brambles and nettles, two derelict cottages and several outbuildings remained as relics of human habitation. A millstream still cascaded down a tortuous course from an old and very dilapidated millpond, situated at the highest point of the site. From here, the water can be controlled and diverted down a rocky gully to the Moulin Burn which flows rapidly in its own deep ravine and marks our western boundary. It was, without a doubt, this clear water delivered to the pond from the slope of Ben-y-Vrackie that decided us to accept this challenge and make our garden here.

The garden is situated on a steep slope, open to the south. The first task was to clear the site. A very noble and ancient beech tree standing by the millpond and dominating the northern boundary was spared, as was an old apple tree rescued from the jungle of saplings, etc. The trees were quickly felled, but, as I write this five years later, my winter exercise is still the sawing up of this wood to burn during the winter months.

Clearing of the scrub soon let us know the areas from which gales and icy winds could be expected and the planting of shelter belts was therefore a priority. The north boundary was, however, amply protected by existing woodland, but to the east, about two hundred dwarf mountain pines, *Pinus mugo* var. *mughus*, were planted as a boundary fence. This is an alpine pine which attains a height of only ten to fifteen feet in maturity but becomes as

broad as it is tall. To combat gales from the opposite direction, the west boundary was planted with taller conifers such as *Abies grandis*, and *X Cupressocyparis leylandii*. The leyland cypress is of special interest as the only known hybrid between the two sections of cypresses—between *Cupressus macrocarpa* and *Chamaecyparis nootkatensis*. It was raised in 1880, is reputed to have the fastest growth of any conifer, and has inherited the extreme hardiness of *C. nootkatensis*. Propagation by cuttings is neither quick nor easy, and plants obtained in 1962 had been grafted; but today, thanks to the technique of mist propagation, this tree is much easier to procure. Our young trees are now twelve feet high by five feet in width and have never been burnt by our often severe spring frosts, as have young stocks of *Abies grandis*.

We have also used groups of pines for internal windbreaks comprising *Pinus contorta*, *ponderosa*, *strobus*, *banksiana*, and *sylvestris*.

Many deciduous trees have been planted to provide summer shade, colourful autumn foliage and fruit, and bark of varied hue and texture for winter effect. A collection of Asiatic, North American, and European *Sorbus* has been grouped to display their diversity of foliage and colour of fruits. Together with maples from North America and Japan, they end the year in a blaze of glory.

The birches, *Betula pendula*, *papyrifera*, and *albo-sinensis* are also grouped, but varieties such as the Swedish birch, *B. dalecarlica*, with finely cut leaves, and *B. verrucosa* 'Youngii', the weeping birch, are utilised as 'spot' plants.

An outstanding *Prunus* for winter effect, indeed colourful at all seasons, is *P. serrulata tibetica* whose silky mahogany bark irresistibly compels fingers to stroke it and which, when it peels in translucent ribands and is viewed against the sunlight, needs no apology for its otherwise insignificant flowers.

As the windbreaks grow and provide their necessary shelter, so the making of the garden becomes more of a pleasure and less of a battle.

The rock garden is made partly within the walls of one of the derelict cottages. The soil was modified by the addition of peat, sand, and gravel, and sloped to simulate a scree. Ancient rough-hewn flagstones which had served as floor covering in the cottage, are now placed in the rock garden making a winding path of stepping stones from the lowest to the highest point. Scree plants requiring perfect drainage are planted at the top, others preferring moister conditions find a suitable home on the lower slope. The setting of the new house into a steep slope entailed much excavation and thus about eighty tons of good top soil became available for dumping on this site. The old cottage, like the new house, was set into the hill, so, after the removal of the front wall, the soil was sloped from the top of the rear wall to the foundations of the front. The rock garden faces due south and receives full sun.

Saxifrages have excelled (our soil is acid and no lime is added) and the position chosen for *Kabschias* and *Englerias* is well drained and lightly shaded from the midday sun. *Saxifraga diapensioides*, 'Faldonside', *X irvingii*, *X jenkinsae*, *X megaseaeiflora*, *burseriana* 'Gloria', *b. 'Crenata'*, and *b. sulphurea* have made hard symmetrical cushions eight inches across, smothered

in early spring with flowers of white, pink, and yellow. *S. grisebachii* 'Wisely var.' has been growing here for three years. *S. 'Bridget'* has attractive rosettes which form a hard silver cushion and the pink flowers on four-inch stems are long-lasting. *S. kellereri* is the earliest to flower, opening in January if the weather is suitable. No protection whatever is given to these plants. Our native, *S. oppositifolia*, seeds itself profusely. Our plant was collected on Ben-y-Vrackie, where the crags above 2,000 feet glow purple with its flowers in April. *S. longifolia*, and its variety 'Tumbling Waters', are grown in walls where their arching plumes of bloom and great silver rosettes are seen to advantage. *S. 'Southside Seedling'*, a new cotyledon hybrid, has a red-spotted ring on the white flowers.

Draba dedeana, *imbricata*, *rigida*, *oligosperma*, and others are grown in very gritty soil in full sun on the highest point of the scree, but have proved more difficult to accommodate than the *Kabschia* and *Engleria saxifrages*. Sunny frosty mornings damage the cushions, so to protect them, a large shrub of *Stranvaesia davidiana* was planted.

Petrophytum hendersonii and *Geum (Sieversia) pentapetalum* enjoy full sun with their backs against a rock. The autumn colours of the *geum* are magnificent. *Phyteuma comosum* has a west-facing crevice and produces its curious blue clusters of flowers with gratifying regularity.

Edraianthus pumilio and *Wahlenbergia (Edraianthus) serpyllifolia* are grown high on the scree, also in full sun. Although their flowering period is of short duration, the blue, wide-open flowers, which look straight up at one and completely cover every leaf, are outstanding.

Gentiana acaulis and named hybrids planted on the lower level where scree blends into moister richer soil present no problems and after the main spring show are rarely without the odd blossom. *G. sino-ornata* and *G. s. 'Brin form'* are major plantings for the autumn garden. These are lifted and replanted in enriched soil every three years. *G. verna*, too, grows and flowers profusely, always producing a few self-sown seedlings. Each plant lives and blooms for approximately three years, and weeding around these plants in April is done very carefully as it is then that the tiny seedlings appear. Other gentians such as *Gentiana farreri*, 'Caroli', 'Glendevon', 'Inverleith', and 'Devonhall' are not so easy, as they definitely require replanting in fresh ground every two years to keep them strong and healthy.

We are very interested in the New Zealand genus *Celmisia* and grow as many different varieties as we can procure. Included in the collection are *C. spectabilis*, *rigida*, a silver-and-gold-leafed form of *coriacea*, *sessiliflora*, *gracilentata*, *argentea*, *hectori*, *bellidioides*, and others unnamed from seed. Before the publication of *Rock Garden Plants of the Southern Alps* by W. R. Philipson and D. Hearn, in which the habitat of *Celmisia* is described as very moist, most plants in Britain were grown on warm, well drained slopes, possibly because of generally experienced adverse effect of our damp climate on felt-like hirsute leaves. It was decided to test this by placing *C. spectabilis* right at the water's edge. Some of our visitors saw this planting during the first summer and bluntly said that it would not survive a winter. However, this *celmisia* is healthy and very vigorous, perhaps more so than those on the drier slopes of the rock garden. Philipson and Hearn also state that as the

leaves die they form a natural moisture-retaining mulch over the roots. But, as it happened, it was a mistake in this garden. The vole (*Microtus*) made a cosy winter home hidden under the leaves and fed off the succulent stems. Now, the dying leaves are removed and the plants top-dressed in spring with a mulch of peat mixed with hoof and horn fertilizer. One thing is certain, they resent drips from overhanging trees but do not object to rain and cold.

Celmisia longifolia from Australia succeeds, too, and is a most attractive plant with rosettes of thin silver leaves four inches long. It has many single, pink-backed daisies on six-inch stems. It propagates by runners, popping up six inches or so from the parent plant, but is not rampant.

Behind and above the rock garden is a remnant of a small ruined stone out-house. One of the walls has been closely planted with sempervivums which clothe it like tapestry with all the muted colours of a Persian carpet. Within the suntrap of the remaining walls three terraced beds give the extra warmth and drainage necessary for choice small bulbs such as *Narcissus bulbocodium romieuxii*, *N. b. monophyllus*, *Rhodohypoxis* and many others. This situation has also favored *Viola pedata*.

The peat beds, which face west, are at a lower level than the rock garden. Behind them and above, the stream cascades from the higher slopes and water constantly percolates through its banks to irrigate the peat beds. It is well drained, too, for beyond the path which skirts it, there is a drop of eight feet into the Moulin Burn.

The moist soil, rich in humus, makes a happy home for many rare, beautiful but difficult plants. Interspersed with trilliums and erythroniums from North America are soldanellas from the Alps. Likewise, *Cypripedium reginae* finds a congenial neighbor and welcome cover for its roots in *Corydalis cashmeriana*. The ericaceae in particular, with the diversity of shape and habit, and wealth of bloom over a long period, make the preparation of a special bed well worth while.

Favourites at Millglen are many varieties of *Cassiope*, *Vaccinium*, *Phyllodoce*, *Arctostaphylos*, *Shortia* and *Schizocodon*. Over the past twenty years we have been able to acquire a collection of Japanese schizocodons and shortias. Those grown are:

Schizocodon soldanelloides

S.	s.	<i>alpinus</i>
S.	s.	<i>magnus carnea</i>
S.	s.	<i>ilicifolius</i>
S.	s.	<i>i. alba</i>
S.	s.	<i>rubrifolius (minima)</i>

Shortia uniflora

S.	u.	<i>grandiflora</i>
S.	u.	g. 'Attraction'
S.	u.	g. 'Snowflake'
S.	u.	g. <i>rosea</i>

S. *galacifolia*, the sole North American species, and its hybrid with *S. uniflora*. *Shortia intertexta* 'Wimborne' is also grown.

Throughout the year their leaves change in colour from shiny green to crimson and gold and always with a metallic sheen. The Japanese name for

these plants is approximately 'Mirror of the Skies.' When transplanted from our last garden, they were placed in a temporary bed, as the site of the present peat bed was piled high with logs. The plants survived, but did not thrive. The temporary site, the only possible one at the time, was too exposed to sun and wind. In autumn 1962, the logs were removed. The ground was then well dug and enriched with peat and hoof and horn fertilizer and the plants removed to their present position. They responded almost immediately with renewed vigour and beauty. Seed has been sown with no success, but suitable rooted layers are now available for propagation this year.

A small lawn set between the old ruined cottages, towards which all paths converge, we named the 'Village Green.' The stream skirts the north side close to the walls of the 'Rock Garden Cottage' whose construction shows evidence of the use of water power to turn wheels or a lathe for some long forgotten cottage industry. Well worn stone steps lead down to a pool which was then the sole source of water for all purposes. These old steps have been preserved and still retain their usefulness when watering cans have to be filled. Within the shelter of the reduced walls of the second cottage on the opposite side of the lawn more tender plants are accommodated. A collection of variously coloured kniphofias ranging in height from eighteen inches to six feet are planted here. Proving much hardier than expected is *Crinodendron hookerianum* (*Tricuspidaria lanceolata*), while *Camellia* X *williamsii* 'Mary Christian' bloomed for the first time last year and has made flower buds for this season. The original small beds around the cottage are planted with lilies, paeonies and the large *Fritillaria imperialis*, both red and yellow. The moisture loving climber, *Tropaeolum speciosum* twines through the original covering of ivy, clothing the ancient stones with a riot of scarlet bloom in autumn.

In front of the south wall a lightly wooded plot has been maintained for extensive plantings of *Helleborus* and *Meconopsis*. Beneath flowering cherry trees and open bushes of *Enkianthus*, these provide a ground cover which has interest throughout the year.

The many species of *Helleborus* (Christmas and Lenten roses) are invaluable for winter and early spring display. The bold foliage and green flowers of *H. corsicus*, *foetidus*, *cyclophylla*, and the small deciduous *viridis* blend with the white flowers of *H. niger*. Later to bloom is *H. orientalis* in various shades of white, pink, and purple, some spotted and splashed with crimson. Among those grown are *H. niger* 'Potter's Wheel' which has huge white flowers measuring four inches across; *H. n. altifolius* and *H. n. macranthus* with white flowers fading to pleasing shades of old rose, but smaller than those of *H. n.* 'Potter's Wheel.' A recent acquisition is *H. X torquatus* which has not flowered here, but is reputed to be of varying shades of blue, and has been called the 'Blue Christmas rose.' An interesting hybrid, *H. X sternii*, is a cross between the very hardy *H. corsicus* and the tender *H. lividus*. The leaves are gray-green with slight marbling, the reverse side being rosy pink. The green flowers are also tinged with pink. This plant is not as hardy as the others and is planted in a warm, sheltered position.

Meconopsis grows well and our best blues are *M. grandis* 600, *M.* 'Branklyn' and *M. X sheldonii*. *M. grandis* 'Prain' is crimson in bud. A good white is *M. g. alba* which is a useful plant to separate the coloured varieties. All the above are perennial.

The monocarpic species are well worth growing but are less popular as they take from three to five years to bloom from seed. Nevertheless, some gardeners are sorry to see them bloom, for then their handsome rosettes of downy gold or silver leaves die. Those grown are *M. napaulensis* S. S. W. pink form, which grows seven feet high here; *M. aculeata* and *M. horridula* which have blue flowers but only grow two feet in height. The latter are deciduous and care has to be taken to mark their position, to prevent damage to their crowns when tidying up in spring. The same applies to *M. integrifolia* whose soft yellow flowers can measure four inches across. Originally seed had to be sown each year in order to have plants in all stages of growth, but now self-sown seedlings are appearing in places that suit their needs. Gardeners with a penchant for tidiness, wielding the hoe over every inch of soil, seldom receive this bounty.

On the lower slope where the original canalised stream has been reformed with pools, riffles, and waterfalls, the continually moist margin provides natural conditions for water-loving plants. Among the many Asiatic primula which seed themselves freely are *Primula pulverulenta*, *waltonii*, *sikkimensis*, *florindae*, *ioessa*, *yargongensis*, etc. Other showy and interesting primulas are *P. rosea* 'Delight' and the fragrant Japanese *Primula sieboldii*, the latter in drifts of blue, pink, and white, and white with carmine reverse. *P. parryi* also grows well, giving colour later in the season.

After dividing the petiolarid primulas *P. gracilipes* and *P. scapigera*, which grow in the peat bed, some small plants being left over, were planted by the waterside where the constant availability of water has resulted in superior growth and bloom. When spare plants are available of *P. whitei* (bhutanica) and *P. sonchifolia*, they too, will be planted here.

Ourisia caespitosa gracilis, from New Zealand, makes a hard prostrate mat of shining green, enveloping the large stones at the water's edge, while the dainty white flowers on two-inch wiry stems bloom over a long period.

One plant that literally cannot be overlooked is the giant *Gunnera manicata* from Brazil which exceeds ten feet in height here. For frost protection when young a straw covering was necessary, but now as the huge leaves collapse after the first hard frost they are draped over the crown and give all the protection required. Nearby, for contrast, we have planted the miniature three-inch *Gunnera magellanica*.

The banks of the stream are also furnished with various willows, including the prostate species, *Salix reticulata*, *retusa*, *apoda*, *herbacea*, and the taller shrubs, *S. lanata*, *hastata* 'Wehrhahnii', and *fargesii*. *Iris kaempferi*, *pumila*, and *gracilipes* add contrast in foliage as well as colourful blooms. At the water's edge are *Lysichitum americanum* and *L. camtschatense*. *Mimulus lewisii* spreads rapidly and has to be restrained, for self-sown seedlings are even appearing outwith our boundary. Aquatics include *Nuphar advena* and *Iris laevigata*.

The streamside garden is always lively. Mallard duck return each spring to nest, and throughout the year the dipper (*Cinclus cinclus*) flies busily up and down the water course, closely between banks, but often 'taking to the road' and walking the stream bed, completely submerged. A heron, too, although less welcome to the trout, has a favourite observation post at the head of a pool.

The fern garden is bounded on the north by a steep rocky gully through which surplus water cascades to the lower Moulin Burn. Constantly moist with spray and shaded by a light canopy of native ash, elm, and hawthorn species from Europe, Himalaya, North America, and Japan, ferns luxuriate among mossy stones. Equally happy in this situation are *Romanzoffia sitchensis* and *R. unalascensis* (Mist Maidens) raised from A.R.G.S. seed. Other congenial companions are *Parnassia palustris*, *P. nubicola* (Grass of Parnassus), *Pyrola media*, *secunda*, and *asarifolia*, and *Moneses uniflora*.

The old mill pond is roughly pear-shaped, the inlet being the narrow end. It is 140 feet long by 50 feet at the widest point. The pond can be reached from the fern garden by following the gully up very steep steps, or by a gentle, tree-lined slope through the main garden. A new dam has just been built and the pond refilled. Banks have been left for the planting of shrubs and moisture-loving plants. A gravelly bay near the shallower inlet has been devised for aquatic plants requiring this medium. At the dam the water is five feet deep. To break the expanse of water and to induce our wild duck to nest in safety, an artificial island supported on piles and covered with turf and brushwood has been made.

Throughout the rock garden, dwarf and slow-growing conifers have been placed at strategic points as focal points of interest. Among treasured varieties are: *Abies balsamea* 'Nana', after twenty years this is now fourteen inches high and twenty-four inches across, with dark glossy green foliage; *A. lasiocarpa* 'Compacta', eighteen inches high, and a very slow-growing densely-branched conical tree with attractive blue-green foliage; *Juniperus communis depressa* 'Aurea Nana', an exceptionally fine prostrate form. In spring the colour of this dwarf is brilliant gold, turning to bright green in summer, and changing to russet in autumn. This is a much better form in every respect than J. c. d. 'Aurea.' *Juniperus recurva* is an outstanding, graceful little tree with rich green foliage and very pendulous whip-cord branches. A rooted cutting received fifteen years ago, from a twenty-eight year old tree measuring two feet high by three feet wide, is now eighteen inches high by twenty inches wide. The species *J. recurva coxii*, known as the "Chinese Coffin" tree has been planted where it can remain to reach its full stature which, in its native land, exceeds eighty feet. *Microcachrys tetragona*, a unique Tasmanian usually given alpine house protection, has been growing here in the open for twelve years. It regularly sets its tiny red cones.

As time goes on the collection increases and a special site has been constructed to permit more natural groupings. This has been done by terracing one of our many slopes, the retaining walls being built of field stones interspersed with blocks of peat dug from bogs on the moorland. The slope is to the west and the terrace walls provide shelter from the morning sun after spring frosts. Representative genera include *Abies*, *Cedrus*, *Chamaecyparis*, *Cryptomeria*, *Juniperus*, *Picea*, *Taxus*, *Sequoia*, and *Thuja*. Ground covers among these little trees are provided by three species of cyclamen; *C. europeum*, *neapolitanum*, and *coum*, which increase steadily by self-sown seedlings. On the terrace walls masses of *Lewisia cotyledon* hybrids are planted in crevices. *Lewisia tweedyi*, grown from A.R.G.S. seed, has pride of place.

Dwarf pines grow among hardy rhododendrons of the Lapponicum series on another west-facing slope adjoining the rock garden, which is also

terraced. These include *Pinus pumila*, *P. aristata*, *P. parviflora*, *P. sylvestris argentea*, *P. s.* 'Beauvronensis' *P. s.* 'Viride'. Rather larger than "dwarf" but slow-growing is *Pinus sylvestris* 'Aurea', which, after eleven years, has reached six feet in height. The needles turn golden yellow in autumn, changing again to gray-green in spring. It is a curious fact that each leaf must, of course, repeat these changes twice or thrice before falling.

So many trees and shrubs have been mentioned here, and these only a selection from the total, that I fear I may have given the impression that we have returned to the state of congestion that literally squeezed us out of our previous garden. Indeed, if all present plantings remained this would become inevitable.

However, some method has been contrived and trees and shrubs with a long expectation of life have been suitably spaced, and the present wide areas between planted with short term subjects. As the definitive plantings mature, space is easily released for them. In the meantime they provide shelter for each other and removals, when they become necessary, open up new "mini-vistas" and mark the continuing development of the ultimate garden.

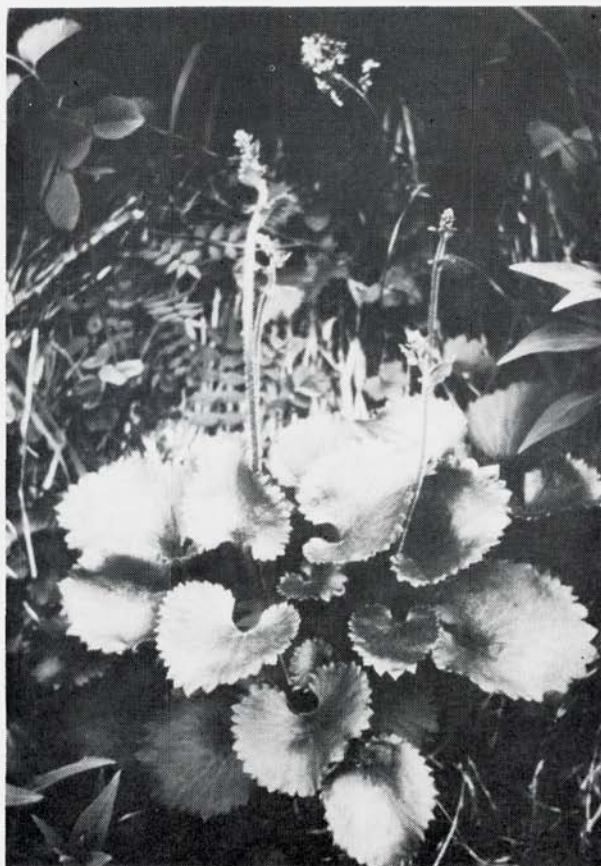
ALASKA MOUNTAIN MALADY

KENNETH ROBERSON, *Seattle, Wash.*

On a blistering 12th of July, with many miles of cool lakes and streams to contemplate, those separated from their senses scrambled through thicket after thicket and trudged across clearings dotted with ferns. Only demented souls clamber up a rock strewn creek bed channeled deep into an alder-cloaked mountainside to emerge on an alpine slope covered with granite boulders. To thrash a sweaty track 3,000 feet up a mountainside, blinded from the surroundings by alder thickets until the snorting of an inquisitive brown bear causes one to listen and look beyond his shadow must indicate some form of unusual malady. Alas, the malady had a name; curiosity.

The Nushagak District of Bristol Bay abounds in large glacially formed lakes which serve as spawning grounds and rearing areas for sockeye salmon. Each summer a group of biologists from the Fisheries Research Institute of the University of Washington travel north to field stations located on the Wood River lake system, one of four systems in the Nushagak District. Although surveys have been conducted by Fisheries Research Institute personnel on the Igushik, Tikchik, and Snake River lake systems, the major research effort is directed toward studies on four large lakes and several smaller ones of the Wood River system. First as an assistant and later as a part of the team of biologists studying various aspects of the freshwater residence period of the sockeye salmon, I have had ample opportunity to travel extensively throughout the Wood River lakes and have made several survey trips to each of the three remaining systems in the Nushagak District.

Each field season, a few days of leeway are provided per month to allow for severe weather and other inconveniences. Good fortune allows these days to be turned to other purposes. Thus, on July 12, 1967, under a cool early morning sun, two adventurers set off to appease the malady. A few miles across Lake Nerka in an outboard skiff places us at the base of 4,000-foot

*Saxifraga spicata*

Kenneth Roberson

Akuluktok Mountain. Climbing is difficult from the start, thickets of *Alnus sinuata* line the lake shore and extend nearly 2,000 feet up the mountainside, interrupted by scattered clearings goose-bumped with tufts of *Spiraea beauverdiana* and *Athyrium alpestre*. Occasional stalks of *Streptopus amplexifolius* and *Veratrum eschscholtzii*, as well as scattered clumps of elderberry, *Sambucus racemosa*, spot the perimeters of many clearings among the alder thickets. Farther up the slope in a scoured creek bed the trickling from a remnant snow patch murmurs among moss-crusting rocks. The sparse gully-side flora includes *Saxifraga spicata* and *S. punctata*, *Sedum roseum*, *Sibbaldia procumbens*, and the attractive *Primula borealis*. We travel upward in the barren furrow until the alders which carpet the lower mountainside are reduced to a smattering of dwarfed clumps.

The flora changes radically above the thickets and *Empetrum nigrum* becomes the dominant species. Intertwined with these mats of crowberry are *Cassiope stelleriana* and *C. lycopodioides*, *Phyllococe glanduliflora*, and the ever present bearberry, *Arctous ruber (erythrocarpa)* upon which ptarmigan feed, source of the synonym, Ptarmigan Berry. A variety of colors speckle the low-growing mat. The slender stalk and deep blue corolla of *Campanula*

uniflora can hardly be called showy and yet, upon the mountain shoulder, small and seemingly delicate species represent the colors scattered about as stars are seen of a twilight eve. On a nearly barren slope, *Primula parvifolia*, a flicker of white at a distance, struggles to keep a footing, with the creamy *Androsace chamaejasme lehmanniana* and maroon tufted heads of *Artemisia glomerata* for companions. Traverse along the lip of a granite bluff past squat clumps of fleshy-leaved *Diapensia lapponica* and *Dryas octopetala* and suddenly the tiny alpines are displaced by a looming mass lurching 4,000 feet toward the mid-day sun. Snowfields at the base of the peak and on adjacent ridges form a large stream which pours over, between, and beneath tumbled blocks of granite which support luxurious growths of moss. Sharing the moss-drawn moisture are clumps of buttery yellow *Saxifraga hirculus* and straggly pink *Claytonia sarmentosa* which hold forth in protected crannies.

In the hot afternoon the journey turns into a slow meander across several tiny damp-soiled plateaus retaining moisture from a long past rain, and thoughts of descent to the cool lake shore are only temporarily distracted by the subtle blue-green hue of *Gentiana glauca*. Slabs of granite form giant terrace steps which radiate unceasing heat more unbearable than the sun's rays. Flattened on the boulder slabs *Juniperus communis*, with its blue fruit and gray-green needles, forms mats a meter or more in diameter. Reflecting in the sunlight numerous yellow, rose-like flowers of *Potentilla fruticosa* show brightly in a meadow below, and upon reaching them other species become evident. The red bottle brush of *Polygonum bistorta plumosum* and the green-on-chocolate of *Fritillaria camtschaticensis* overshadow *Viola epipsila repens* and its lavender faces.

Scrub alders again slow our progress as we reach the steep slope which leads to the lake shore, nearly obscured by the tangled enveloping growth. A small stream course notched into the mountain slope provides a slightly less arduous route through the dense foliage until it plunges over a 100 foot precipice onto a rocky heap below, and spatters into mist. A challenging descent, using tenacious alders for hand holds, delivers us to a more navigable stretch of creek bottom. Series after series of small cascades pour over beds of jumbled boulders bordered by several species of *Salix* as we approach the valley floor. Lodged firmly in damp crevices away from the stream course *Primula tschuktschorum* brightens the shadows with yellow-eyed corollas centered in violet; several atop each scape.

Algae-covered bedrock and stray boulders give way to merge with a new torrent scouring and gouging over rock sills, plunging into pools and on, leaving only granite sand. Boulders tumble and roll and tumble again until they are only sand pebbles gathering in an eddy. Fronds of the Ostrich Fern, *Struthiopteris filicastrum*, hang far over the creek and seem to grasp at tired wanderers. Creek water sloshing in our shoes and the afternoon sun beating on our necks, we make our way a last quarter mile to the lake shore. A stroll along the beach to our boat allows us to cool off and contemplate what we have seen.

The lake is clear and still. It mirrors the surrounding peaks in fine detail from pinnacles and snow fields to the open meadows and alder thickets. but the bear, the ptarmigan, and the myriad species of plants clinging to the mountainside can only be recalled from memory.



Akuluktok Mountain

Kenneth Roberson

Lake Nerka bears the name given to the sockeye, or red salmon, *Oncorhynchus nerka*, and its average spawning population of several hundred thousand salmon per year suggests why. Red salmon brought us to Lake Nerka and the Wood River lakes, an area being considered as a state or national park site, and our studies of the red salmon, suspended for this part-day, must now be continued. Ripples form and spread to disturb the mirrored lake surface as we shove the boat off. The mirror and the fever of our malady are broken. Turn and motor away, leave the shore and the mountain, but take away memories of *Streptopus* and *Sibbaldia*, *Arctous* and *Androsace*, *Potentilla*, *Primula*, *Polygonum*, and more; denizens of Akuluktok Mountain in the Nushagak District, Bristol Bay, Alaska.

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APPRECIATION FROM ABROAD—Mrs. J. K. Blythe, of Timaru, New Zealand, writes, "I must express my pleasure in your *Bulletin* and delight at the wonderful fresh seed which I received so promptly. I have a very small alpine nursery in a very small back yard and I am very proud to be able to produce healthy American seedlings . . . Thank you."

From England, Mrs. K. N. Dryden, who has just moved to a new home in Hertfordshire, writes, "Would you offer my appreciation to the editor for a very excellent and enjoyable *Bulletin*. I sincerely hope that the *Bulletin Board* will be able to continue in some form. As an overseas member, I thoroughly enjoy it. It gives to those outside, the pulse of the Society and some little insight as to what is going on. Speaking for the rank and file, in general, individuals do like to know what is going on hundreds of miles away. Even in this age of speed and efficient travel, there are hundreds of other members whom we shall never meet in our gardening lives except through the medium of our journals and bulletins. Thank you very much for all that you and your fellow officers do for us to make our membership a happy and profitable one." Both excerpts were from letters to Richard Redfield, our Society's secretary.

THE SMALLER PLANTAIN-LILIES

GERTRUDE S. WISTER, *Swarthmore, Pennsylvania*

As a group, the plantain-lilies are far too large of leaf and portly of aspect to be admitted into the company of the plants usually grown in a rock garden. But there are a few among them that are small enough to deserve consideration when plants for shady positions are being chosen.

Plantain-lily is the common name given to the genus *Hosta* (or *Funkia*), belonging to the Lily family, a group of woodland plants that has become increasingly popular during the past few years. The group is confused as to nomenclature. Seedlings appear in such numbers where capsules are allowed to ripen that the matter of names threatens to become worse every year. However, it is quite possible to buy from catalog descriptions rather than from names, and friends can usually be persuaded to part with divisions of plants that are especially appealing. After all, where is the gardener without a bit of gambling blood?

There is a small plantain-lily sold under the name of *Hosta nakaimo minor*, although this name does not appear in any authoritative works on *Hosta* that I have seen. It is distinct and charming, its heart-shaped leaves, about three inches long by two inches wide, forming a neat mound about six inches high. In early July there rise slender scapes reaching 18 inches to two feet, bearing up to 15 flowers of medium purple set closely along the top three or four inches. There is a pleasing proportion between foliage and flowers.

It is said that this plant comes true from seed, but my seedlings, now in their second spring, have a suspiciously glaucous look that suggests visits from bees that had just left nearby plants of the extremely glaucous *Hosta sieboldiana*. At this time of writing, they are sending up their flower stalks, and the look of those flowers will be important in evaluating their garden worth, though ultimate stature will also have a bearing.

The smallest of the hostas known to me is *Hosta venusta*. The leaves are two inches long and less than an inch wide, and the scapes rise to about 16 inches. The foliage mound is about six inches high. Flowers appear earlier than those of *H. nakaimo minor* (in mid-June here near Philadelphia), and on our plant are a little less attractive. The color has a slightly blotched look, and the flowers more thinly distributed, up to 12 on four to six inches of scape. The plant is dainty and well proportioned.

Open pollinated seedlings vary, but many retain small size. Further selection is an alluring prospect, perhaps for further dwarfness or shorter scapes. A white one would be a treasure.

Speaking of a white hosta leads us to an old standby, the delightful plant known in this country—without botanical blessings—as *Hosta minor alba*, a name which belongs to a Japanese plant apparently not in cultivation there or here. In early August, this slender-leaved hosta produces its spires of graceful white bells. Apparently, it is more correctly called *H. albo-marginata alba*. But to show how confused things can be, this white-flowered

variety is supposed to have all-green leaves, and there is a form that does have white-edged leaves. But for the stern dictates of botanical nomenclature, would we call this *H. albo-marginata* *alba albo-marginata*? We acquired a plant of this attractive form as *H. minor alba* 'White Edge', and another as *H. lancifolia albo-marginata alba*! No matter what its name, it is a treasure.

We have another good white form which probably originated among the dozens of seedlings that appear in our garden every year. Its leaves are somewhat wider than those of "Minor Alba" and the flowers are shaped quite like those of *H. decorata*, with a bit of a bulge in the tubular portion of the flower.

Seed from all these whites produce offspring varying from all white to palest purple and medium purple. White plants can always be chosen for prominent places, and the others, unless they show traits of unusual interest, can be used as fillers where green is needed in the shade.

REQUESTS BY MEMBERS

Will any member who is able to fulfill a request, please contact directly the person who has made the request!

Aquilegia jonesii, seed; *Dianthus callizonus*, seed; *Weldenia candida*, seed; *Lewisia sierrae*, seed; *L. kelloggii*, seed. Mrs. Laura Barnett, 65 Evans St., Timaru, New Zealand.

Plants of the following: *Asperula suberosa*, *Veronica cinerea*, *Wahlenbergia tasmanica*, *Globularia nana repens*, *Primula clarkei*, *P. clusiana*, *Saxifraga x frederici-augustii*, *Arenaria tetraquetra granatensis*, *Globularia bellidifolia*, *G. bellidioides*, *G. incana (incanescens)*, *Campanula herzogovanensis nana*, *C. 'Mrs. G. F. Wilson'*, *Helianthemum*—any of the "Ben . . ." series. Seeds of *Thymus serpyllum lanuginosus*. Dr. Daniel C. Weaver, 18 Charlson Lane, Hamden, Conn. 06517.

Seeds of *Asphodelus acaulis*, *Iris danfordiae*, *I. verna*, *I. winogradowii*, *I. cristata*, *I. germanica*, *Leucojum trichophyllum*. Will exchange for seeds of *Dianella tasmanica*, *Geum renifolium*, and *Clematis gentianoides*. Mrs. D. W. Wolfhagen, Auburn, Ross 7209, Tasmania.

Plants of the following: *Salix x boydii*, *Lysimachia japonica* var. *minutissima*, *Corydalis cashmeriana*, *Hepatica x media* 'Ballard's var.', *Anemonella thalictroides* 'Schoaf's Double Pink', *Oxalis laciniata*, *Hylomecon japonicum*. Will trade or purchase. Can offer rare plants of South America hardy in Michigan. Richard Punnett, 547 Nash St., Ypsilanti, Mich. 48197.

Seeds of the following: *Digitalis davisiana*, *D. ciliata*, *Erysimum crepidifolium*. In exchange I can offer seeds of *Campanula elatinooides*, *Viola dubyana*, *Moehringia bavarica*, *M. insubrica*, *Bupthalmum speciosissimum*, and others. Dr. Oscar Fervidi, c/o Simes S. p. A., Via Bellerio 41, 20161 Milano, Italy.

Seed or a bit of plant of the following: *Tropaeolum polyphyllum*, *T. p.* var.

leichtlinii. Seeds preferred of these: *Primula clarkei*, *P. reinii*, *P. tenella*, *Campanula abietina*, *C. oreadum*, *Gentiana kurroo*. Mrs. Eleanor Brinckerhoff, Georgetown, Conn. 06829.

Seed or plants of *Bergenia (Saxifraga) crassifolia*. Mrs. Elizabeth Van Etten, RD 1, Beaver Dams, N. Y. 14812.

(Editor's Note)—Occasionally requests are received that in some detail are not entirely clear. In such cases the exact wording of the request will be printed and any confusion that may still exist can be cleared up by the interested parties. Note that the letter from Mr. Watch, of Australia, has been printed in full below.

From the letter of Mr. Alois Kober, Canavesegasse 2, 1230-Vienna, Austria: "I'm looking for all native *Cypripedium* in the U.S.A., except *C. californicum* (not hardy with us) and other native orchids. Seeds from *Rydbergia grandifl.* In exchange for *fresh seeds* or plants of all rare species like *C. zoyssii*, *Viola zoyssii*, *alpina*, *Omphalodes lucil.* *Rhodothamnus cham.aso.aso.*

Following is the letter written by Mr. Robert C. Watch, 24 Eighth Avenue, Loftus, 2232, N.S.W. Australia:

I would be pleased if you would let it be known in the journal (*Bulletin*) that I would like to exchange 2 species of conifers which I doubt would be available in America.

1—MICROSTROBUS FITZGERALDI—which is a semi-prostrate grower. It is extremely rare as it was only discovered about 2 years ago growing in the Blue Mountains of N.S.W. and is known only by a few people. I have 6 of these plants.

2—CUPRESSUS TIRULOSA PENDULA GLAUCA—This was discovered a few years ago. It is a clone or witch's broom found growing on an old specimen of CUPRESSUS TIRULOSA at Epping in N.S.W. This conifer is not rare but is only common as far as conifer collectors in this country are concerned. It is one which can be trained upright, then let weep, or it can be left to grow naturally in which case it grows close to the ground.

CUPRESSUS TIRULOSA PENDULA GLAUCA has to be grafted, the understock being CUPRESSUS TIRULOSA or SEMPERVIRENSE, both of these, MICROSTROBUS FITZGERALDI and CUPRESSUS TIRULOSA PEN. GLAU. are very hardy. The conifers which I would like in exchange are as follows: (*Rooted cuttings*)

1 — PICEA ABIES PYGMEA — 2 — PICEA ABIES PUNGENS GLAUCA COMPACTA—3—PICEA ABIES PENDULA (REFLEXA)—4—THUJA PLICATA ROGERSII (REFLEXA)—5—TSUGA CANADENSIS PROSTRATA FASTIGIATA (PENDULA)—6—TSUGA CANADENSIS AUREA—7—TSUGA CANADENSIS COLES PROSTRATE.

If any person in the society is interested in this exchange I would be only too willing to answer any questions about the 2 conifers I have mentioned.

BOOK REVIEW

ROCK GARDENING by H. Lincoln Foster. 466 pp. Drawings by Laura Louise Foster. Houghton Mifflin Company, Boston, 1968. \$7.00.

Every once in a while there is a book happening that gives us a book that is not only a joy to look at and to read, but becomes sheer pleasure to report. I consider this a rare privilege to be able to review a book that I consider will become a standard for rock gardeners in the United States, a book that will last for many, many years and not become dated as do so many garden books. Secondly, this great book by Linc Foster, with its absolutely superb line drawings by his wife, Timmy, I consider a masterpiece of writing and illustrating by two people who are unselfish in sharing their garden secrets.

Most rock gardeners are "how to" people. In other words, rock gardeners are not only optimists but insist on doing the gardening themselves. All too often many of the books that come down the garden path, we see through very quickly because we know that the person who wrote the book is not a serious gardener, has probably purloined most of the material from other sources, has never really gotten into the "nitty-gritty" the way all rock gardeners must in order really to learn this wonderful and very rewarding hobby. Linc, of course, is a "how to" gardener. He and Timmy have grown or have seen growing every plant described or illustrated in this book. Most of the plants Linc has tried at some time or other in his garden at Millstream House. Therefore, when he says it can be done,—it can be done—and when he has a failure, he tells you so, describes the failure and therefore you know just exactly what your chances are with the plant. Then, of course, the all-important fact that Linc's garden is in Connecticut, in the eastern part of the United States, means that this book can serve all rock gardeners in all parts of the United States because certainly his climate is as harsh and unsuitable for many of the choice alpinists as any place in the United States.

As you begin the book, the first thing that strikes your eye after the Table of Contents is a superb Glossary. All too often, no matter how long you have gardened, or your degree of sophistication, garden authors use words that, unless you are a trained botanist, escape you. Here, right at the beginning of the book, is a most complete glossary which will help us all. Then, we get into the "meat and potatoes" of the book.

One of the glories of Linc Foster is that he never looks down his nose at the beginner or turns up his nose at the experienced. He has that delightful way of expressing himself so that one and all enjoy reading what he has to say. The beginning 107 pages of the book are devoted to things such as the definition of a rock garden, making and planning a variety of sites, planting and maintenance, and propagation. It is a credit to the author that he has cut through much of the mystery and aura that many books pose as to things like the moraine and the scree, soils, propagation with its black magic, cuttings that are taken in the still of the night, that strike and won't strike. And, of course, seed plantings in mediums ranging from sterile soil to hot clinkers. Linc just states it in very simple language, tells you what he has done

and how he has done it and leaves it up to you to carry on from there.

The next 300 some odd pages are devoted to a complete descriptive catalog of more than 400 genera comprising over 1900 individual plants with cultural directions for all of them. This, in itself, was a staggering undertaking and yet, once again, Linc carves through much of the "baloney" and comes up with just the facts . . . the honest facts, which, in itself is not only refreshing, but is a striking tribute to the man. Sometimes I know many of us wonder when we watch many of our choice androsace, saxifrage, and other rare, little tufts burn up in the sun how in the dickens we got ourselves so involved. I think the answer is very beautifully said on page 12 of this book.

"Yet much of your pleasure will be in the very handiwork; and your deep delight will come when you rise early and saunter along the path, stopping for close inspection of old familiar faces and the unexpected loveliness of some new plant just opening a flower which before had been for you only a name in a catalog. And again on a May evening to traverse the same paths and find still new wonders. These may be simple pleasures, but there is a quiet serenity nurtured in the soul when you stand in the midst of the garden among the plants that through your love and care have come to grace the world."

LEE RADEN

PLANT ASSOCIATIONS

MAJ. GEN. D. M. MURRAY-LYON, *Pitlochry, Scotland*

This is a subject to which I think more thought might be given. Certainly my own garden might well be improved if I were to do more deliberate planning in this connection.

In my garden, though, there are some pleasing associations which just happened. A cool, moist, shady bank is carpeted with *Linnaea borealis* var. *americana*, *Rubus arcticus*, and *Pyrola asarifolia*, both the white and the red flowered forms. The three are all intermingled, and popping up amongst the tangle here and there *Narcissus cyclamineus*.

In another spot *N. cyclamineus* has a covering of a mossy saxifrage. This is a narcissus which enjoys dampish conditions. Bulbs which require dry conditions would not enjoy such a cool, moist covering.

Another chance pleasing effect is the result of *Hypericum olympicum* seeding itself into a large patch, some yards across, of *Lithospermum difusum*. The blue and the yellow seem to enhance each other. Another pleasing blue and yellow combination is the result of *Douglasia vitaliana* invading the territory of *Gentiana verna*. The *Douglasia* is var. *praetutiana* which I find much more free flowering than the type.

A combination which I have read about in the wild sounds most attractive. The constituents are *Fritillaria pudica* and *Sisyrinchium grandiflorum* (Syn. *douglasii*). When I can lay hands on a few of the fritillaria bulbs I shall dibble them in amongst the sisyrinchiums.

THE PRESIDENT'S PAGE

BERNARD E. HARKNESS, *Geneva, N. Y.*

Liberty Hyde Bailey earned the respect of the whole horticultural world for his achievements; those fortunate enough to have known him remember him with deep affection. In 1948, he looked back over his ninetieth year and wrote this reflection; "The year has been noteworthy. In it I have been again to South America and to many far strange islands and in those countries I have visited gardens such as we never see in these brief northern seasons. I have come back full of the verve of growing plants that make the inert soil to bloom and fructify and display its endless insolvable mysteries. Why and how plants grow is one of the riddles of creation . . . in the Spring new multitudes will be sown and planted. The mysteries never cease. We are always in good company. Always the world goes round and round."

The American Rock Garden Society has its orbit, too, and I am happy to be included in the roster of its engineers guiding the widening spirals of its influence. Just sampling last quarter's New Member list, you may have noted that a "hold-out" state, Wyoming, now has a member team, Rhode Island's membership is doubled and Idaho's increased by one-third, not to mention outposts in Mongolia and Iceland.

It has been difficult to schedule a meeting of the officers that make up the Administrative Committee because of the running series of western trips, but early in August a session will get under way to make committee appointments and 1969 Annual Meeting plans. By October publication I expect to have made a courtesy visit to two of the important centers of activity within the ARGS: the Medford, Oregon, Seed Exchange headquarters and the Seattle, Washington, Editor's office.

In order to be able to tap the marvelous range of seeds offered by botanical gardens of the world, I have made arrangements to collect in various areas of the United States as a return contribution through the good offices of my former employer, the Monroe County (N. Y.) Department of Parks. On the return trip from the Northwest towards home, the southern and western counties of Missouri will be traversed in the expectation that some of the treasures chronicled by Steyermark in his *Flora of Missouri* will be in abundant seed production. All in all, the little greenhouse on Pre-emption Road should be an interesting place by next April.

Some good spurs toward searching for better understanding of what we may be growing in our gardens are gradually becoming available. Volume I of *Flora Europa*, though only one-fourth of what is on the way, is a present help for Anemones and other of the Ranunculaceae, for Alyssum and other Cruciferae, for Corydalis and other Papaveraceae, for Dianthus and other Caryophyllaceae. It covers the important sources of so many of our plants in cultivation from the Alps to the Urals. Volumes I and II (out of a possible eight) of the *Davis Flora of Turkey* treats flaxes and geraniums in addition to the above, though here, too, many excellent things seem just beyond our reach, awaiting more plant hunting expeditions.

The sprightly "Pages from the Society's History" now appearing in the

Alpine Garden Society's *Bulletin* should be a reminder that something more should be recorded of the early days of the ARGs before it is too late. Personal recollections are the stuff of which interesting histories are compiled long afterwards, but they must be written out and made available.

A VACATION IN GLACIER AND YELLOWSTONE

NICKOLAS NICKOU, *Branford, Conn.*

Ahead of us lay the rolling plains of Montana, "The Big Sky Country." Cattle grazing on what appeared to be nearby slopes were mere dots. The enormous sky and vast panoramas typify the area. Here and there antelope grazed and a closer look revealed a flora far different from that which we had seen in the high mountains and valleys.

We were leaving a portion of mountainous America which must be seen to be believed. It is an area which I would urge our overseas friends to visit should they want to see a part of our country which has everything. It is literally a "Three Ring Circus" of natural history.

Our two-week trip to the West was partially the result of the repeated entreaties of our three sons who are fishing enthusiasts. They also wanted to see real snow-capped mountains with peaks. Yellowstone National Park and Glacier National Park would fill the bill for both plant hunting and fishing.

We flew to Billings, Montana, rented a car and our adventure was started. Billings is a prosperous city in south central Montana lying in the valley of the Yellowstone River. Here the river runs through the vast rolling plains on its way to join the Missouri. The valley is many miles in width and is bordered by steep cliffs, called rimrock; a most impressive setting.

We arrived early enough to explore the rimrock and its surroundings before spending the night at the Rimrock Motel. It's a dry area and surprisingly reminiscent of a more southerly desert. Yuccas sprouted from the cliff faces and talus along with clumps of *Opuntia polyacantha*. The broad fertile valley below was green with corn and sugar beets, while the drier flatlands above were planted to wheat. On top of the rimrock were numerous xerophytic composites, dwarf delphiniums, the very attractive *Sphaeralcea coccinea* and impressive clumps of *Asclepias speciosa* which were much more handsome than our eastern *A. syriaca*.

Recognizing a loud squawk, I was glad to find the flashy magpie, a first for the boys. Later we saw several others cavorting in some stunted pines. It's one of the more attractive members of the crow family.

The next morning we left Billings and aimed for the northeast corner of Yellowstone via Beartooth Pass. Dead ahead rose the glistening snowy cap of Granite Peak and its lower sister peaks. We entered Custer National Forest and the road started to climb. The air became cool and crisp and many plants of interest started to appear, resulting in frequent stops for picture taking. We saw *Smilacina stellata*, *Geum triflorum*, some arnicas, a beautiful large-flowered lavender penstemon, possibly *Penstemon eriantherus* and *Hydrophyllum capitatum*.

Off to the right loomed a high sheer cliff. It remained ever-present as we negotiated the hairpin turns. First it towered above us, then we looked straight at its face, and later as we neared the summit we looked down on what had appeared so mighty at first. The boys had their first views of picas, marmots, and ground squirrels, typical denizens of the high Rocky Mountains. It was cool and clear, and we were surrounded by the snowfields of the encompassing mountains which were no more than a thousand feet higher than the pass itself. A nearby meadow, which seemed brown and uninteresting from the parked car, was loaded with such choice items as *Caltha leptosepala*, *Anemone globosa*, *Sedum stenopetalum*, a dwarf legume no more than an inch or two high which I presumed to be an astragalus, *Myosotis alpestris*, and most thrilling of all, innumerable plants of *Eritrichium elongatum* and *Dodecatheon pauciflorum*. This eritrichium was like an alpine jewel with its tight, low mat of grayish green leaves supporting brilliant blue Boraginaceous flowers. These blues rarely record well for me, so I had no great hopes for the numerous pictures I took. The dodecatheons also put on quite a show and I could think of no better emblem for the American Rock Garden Society.

Quite common on this high meadow was a black velvety caterpillar covered with bright yellow spots. Several were posed on cushions of eritrichiums for closeup portraits.

Starting again, we began the slow descent toward Cooke City and the northeast entrance of Yellowstone Park. We made fewer stops as the Old Faithful Inn was still many miles away and we wanted to get settled before dark. A stop at Soda Butte was rewarding because we were attracted to the side away from the road by a constant chattering which turned out to be a colony of cliff swallows. Their unique bottle-shaped nests were made of mud and plastered under an overhang.



Caltha leptosepala

Yellowstone Park is too enormous, contains too many sights, and incites too many impressions to be described casually. It is truly one of nature's wonders and satisfies geologically, zoologically, and botanically. Scenically it is truly a wonderland. The well-known landmarks and views I'll leave to the all-inclusive guide books.

The famous thermal areas with their geysers, hot springs, gurgling mud volcanoes and paint pots support an interesting flora, depending on the composition of the substrata, amount of water, and other less apparent conditions. On the dry, gravelly areas we found patches of *Mimulus nanus*, a dwarf monkey flower, which on closer inspection revealed a strikingly attractive pink flower with a dark throat. The entire plant was no more than an inch in height. In similar locations we found *Sedum stenopetalum*, *Eriogonum* sp., *Phacelia sericea*, *Eriophyllum* sp., and *Spraguea umbellata* (*multiceps*).

On the edges of the streams draining or running through the thermal areas, the most obvious plant was the yellow monkey flower, *Mimulus guttatus*. Its yellow masses could sometimes be measured by square yards. The marshy areas featured the uniquely beautiful *Pedicularis groenlandica* with its purplish spires of elephant heads, and in several places we saw a few plants sporting pure white flowers. It seems to me that I once read that white Elephant heads had never been described, so I dutifully recorded these on film. From a distance they looked like habenarias.

The plant that grew nearest to the hot springs in a wet, pasty, marl-like material was *Gentiana thermalis*. The flowers were variable in color from a very light blue to a dark purple. The plants growing close to the springs were compact and low while those growing in nearby marshy areas were a foot or more in height and resembled our eastern Fringed Gentian.

On higher slopes of the streams we found *Phlox multiflora*, *Geranium viscosissimum*, *Oenothera caespitosa*, and *Ledum glandulosum*. On the wet, shady slopes grew the Fernleaf, *Pedicularis bracteosa*, with its impressive two-foot spires.

Growing in open fields was *Frasera speciosa*, a striking species bearing the name of Elkweed or Monument Plant. It is a 2-5 foot tall biennial member of the Gentianaceae, but nothing about its gross appearance was suggestive of the family. The other eye-catcher growing in the wet meadows was *Cirsium foliosum*, the Elk Thistle. It is a tall, grayish plant with deeply dissected leaves and stands well above its neighbors.

The boys soon had enough of the hot springs and other features which interested us, so we dropped them off at likely streams and picked them up around lunch time. They did well with their fly rods and caught some nice rainbow, brown, and cutthroat trout. The Firehole River was their favorite and they are still talking about catching fish in a river lined with hot springs and geysers.

On a side trip south to the Grand Tetons, we passed extensive areas of sagebrush, *Artemisia tridentata*. On top of a hill that overlooks the Tetons and the flats of Jackson Hole, we found a treasure trove of species new to us. The standouts were Scarlet Gilia, *Gilia aggregata*, *Penstemon albertinus*, and further exploration revealed a few plants of *Fritillaria atropurpurea*, as

*Frasera speciosa*

Dr. Nickolas Nickou

well as *Mahonia repens*, *Purshia tridentata*, *Lupinus* sp., *Lithospermum incisum*, and *Cynoglossum officinale*. The ski lift up Snowking Mountain out of Jackson also supplied some new plants for us. The slopes beneath as we ascended contained many plants of the beautiful *Hedysarum occidentale*. In addition there were *Ceanothus velutinus*, *Pachistima myrsinites*, and *Clematis columbiana*.

A few more days back in Yellowstone and then we were on our way toward Glacier National Park. Along the way we visited a very nicely presented geological sight—the Madison River Canyon Earthquake Area. The torn out mountainside which roared across the Madison River and part way up the opposite slope formed what is now called Earthquake Lake. From the visitor center, the entire cataclysmic event could be visualized.

Glacier National Park may not have as many interesting features as Yellowstone, but its scenery is awesome. The drive along Going to the Sun Highway scrapes along spectacular cliffs and reveals geological wonders on all sides—U-shaped glacial valleys, hanging valleys, cirques, glaciers, and waterfalls.

The lush valley near Lake McDonald contains some very large specimens of Western White Pine, Western Larch, Western Red Cedar, and unbelievably large Black Cottonwoods, *Populus trichocarpa*, which had trunks six or more feet in diameter. In the drainage ditches beside the road were masses of *Habenaria dilatata*. On the edges of the woods were large clumps of *Oplopanax horridum*, and as a contrast, the pretty Mountain Hollyhock, *Sphaeralcea rivularis*. Along the trails through the forest in McDonald valley we found *Moneses uniflora*, *Linnaea borealis*, *Xerophyllum tenax*, *Clintonia uniflora*, and *Calochortus nuttallii*.

Behind a waterfall at the end of one of the trails nested a water ouzel. This is a bird worth watching and we saw it later on several other streams and lakes. It is a plump, black relative of the wrens, which plunges into the water, walks on the bottom, and feeds on insects. It doesn't look like an aquatic bird, but it seems more at home in the water than does a duck.

At Logan Pass we left the car again to explore for alpine plants and found *Gentiana calycosa* not quite in bloom, *Phyllodoce empetriformis*, *Erythronium grandiflorum*, and *Anemone (Pulsatilla) occidentalis*. Also seen were *Oxyria digyna*, and *Silene acaulis* which I had found previously on Mt. Washington and in Iceland. Needless to say, we saw many other plants, but as listing becomes monotonous I hope only to whet the reader's appetite.

These parks of ours can be enjoyed by anyone willing to make the trip. The services the park centers offer are extensive and quite reasonable. You can stay in a moderately priced lodge, or in campgrounds. You can take a shower with fresh towel and soap for a nominal fee in the campgrounds, use the laundromats, buy groceries, attend lectures or guided tours. You can easily make the stay fit your budget. The parks are beautifully maintained and are certainly national treasures which should be protected forever.

* * * * *

PRINCE AND PRINCESS—To ease the mind of those who read closely and are conscious of and concerned about errors, especially errors in nomenclature, the reference to pipsissewa and princess pine in the article by Mr. and Mrs. Ryburn should be explained. To many, the common name "pipsissewa" refers to a plant whose botanical name is *Chimaphila umbellata*, or perhaps to *C. maculata*. Many know these plants also as "prince's pine." Other common names are "wintergreen" and "waxflower." The unwary, though they may say "prince's pine" may not articulate clearly and carefully, and the listener, if later writing about the plant, is apt to write "princess pine." Knowing this, the editor questioned Mr. Ryburn in reference to his use of pipsissewa and princess pine in his article. This is his answer: "The mix-up on pipsissewa and princess pine certainly makes the point for using latin names to avoid confusion, for this appears to be a case in point. In Massachusetts the plant we call princess pine is lycopodium, and it comes in three or four different species. The pipsissewa I was referring to is chimaphila, as you surmised. Actually there are two species in the garden—*Chimaphila umbellata* and *C. maculata*." So now you know; Mr. and Mrs. Ryburn have in their garden, in common parlance, not only "prince's pine" but "princess pine" as well.

HARDY MEMBERS OF THE CAMPANULACEAE

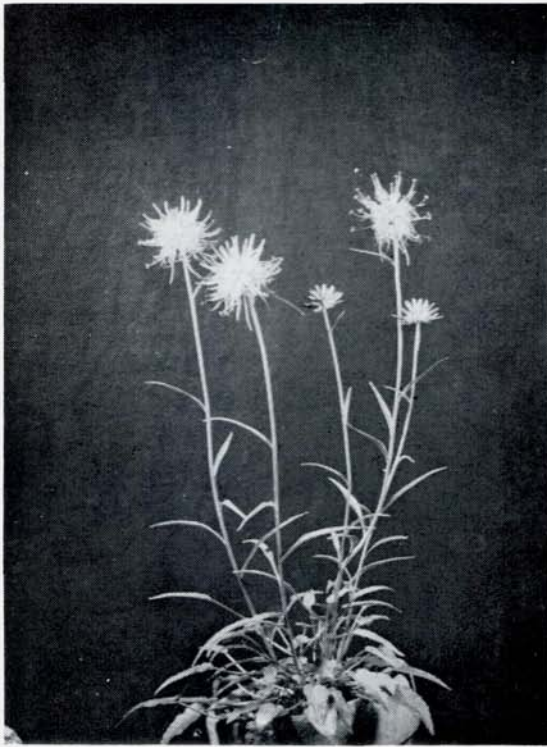
ROBERT M. SENIOR, *Cincinnati, Ohio*

No doubt most novices at rock gardening have grown at least one or two Campanulas, but the number of gardeners trying out other members of the family, such as *Phyteumas* or *Edraianthus* are probably very few. My purpose in writing this article is to select one or two plants of the various genera that we have found to combine both hardiness and attractiveness of bloom. Nearly every plant mentioned has had a reasonably long life in our garden.

When it comes to Campanulas, we have a considerable range of choice: however, if I could have only one Campanula in our garden, my choice would be *C. garganica*; a low growing species that in early summer literally covers the plant with scores of saucer-shaped, violet-colored flowers. It has been growing in our garden for years placed in a crevice that shelters it from the midday sun. Moreover, it is not invasive, but every year slowly increases its girth. Very possibly, at this point, some advanced gardener may question my choice by calling attention to the merits of such plants as *C. portenschlagiana* (*C. muralis*) or *C. carpatica*, both attractive and hardy species, but with us not nearly so floriferous as *C. garganica*.

Two genera, *Adenophora* and *Codonopsis*, of which we have raised a considerable number, with the exception of a very few species can hardly be recommended as rock garden plants. The flowers of many *Adenophoras* greatly resemble those of the Campanulas, but the main difference between them is that *Adenophoras* have a raised cylindrical disc at the base of the flower to which the style is attached. If you admire the pestiferous *Campanula rapunculoides*, but because of its invasive character, decline to admit it to the garden, you might try *Adenophora khasiana* or *A. latifolia* which bear flowers in long stalks that greatly resemble *Campanula rapunculoides* in appearance, but do not have the roving habit of this Campanula. However, I should not want to leave the impression that there are no *Adenophoras* suitable for the rock garden. *A. coelestis* and *A. nikoensis* are attractive low-growing plants, but I cannot attest to their hardiness; at least not here in southwestern Ohio.

In the genus *Codonopsis* can be found many varieties of flowers and growth. Some have long stems that twine over various supports, some are low growing and erect. The main interest is in the flowers that have odd coloration; some bell-shaped, some wide open saucer-shaped flowers. Many of them have odd colors inside the corolla, such as a reddish band toward the base of the flower, or have yellow or purplish spots. We have raised a number of different plants in our little Alpine House, but with the exception of one species, *C. ovata*, we cannot attest to their hardiness outdoors. *C. ovata*, placed in a crevice that protected it from the midday sun, lived with us for three years. It is an herbaceous plant and one spring, for no reason that we can explain, it disappeared. It is an interesting plant, about one foot high, that once received an Award of Merit from the Royal Horticultural Society, and it is pictured in color in *Curtis Botanical Magazine*. The

*Phyteuma scheuchzeri*

Robert M. Senior

nodding flowers, about one inch long, borne on long slender stalks are a light sky blue, and the inside of the bell-shaped corolla has purplish veins. It blooms in early summer. Incidentally I observed, last year, that seeds of this species were offered in the Seed List of our Society.

The genus *Cyananthus* has two very attractive plants, *C. lobatus* and *C. microphyllus*, both Himalayan species with which we have had no success. They will start readily enough from seed, but when the summer temperature soars into the nineties they invariably succumb. Possibly in the Pacific Northwest, with cooler summers, they may be raised successfully.

Now we come to the genera *Edraianthus*, *Phyteuma*, and *Jasione* of which there are a number of good low-growing hardy species. There are several *Edraianthus* that are rather similar and all of them, placed in a crevice where they would have a deep root run, should live many years if in full sun. Those mentioned have linear leaves and bear violet or purplish flowers in clusters at the ends of the stems which vary in height up to six inches. You will find probably either *E. dalmaticus* or *E. graminifolius* easy to raise.

Of the few *Jasiones* which we have raised, *J. humilis* is probably the most attractive, but with us it was very short-lived. If you would care to try one of this genus, I suggest the low-growing *J. montana* which has been classed as a biennial, although if seed is started indoors early in the winter,

you may have bloom the first year. Though it dies after blooming, it seeds itself freely so that you are always likely to find new plants springing up in the garden. It, too, has clusters of light bluish violet flowers terminating the ends of the stems. It flowers in summer, when there is usually a dearth of bloom in the rock garden.

Phyteumas also have clusters of violet-colored flowers terminating the stems. Two of them that are attractive and probably easiest to grow are *P. charmelii* and *P. scheuchzeri*, both somewhat similar and slightly taller plants than the *Edraianthus* species above mentioned. In any well drained location, possibly shaded from the midday sun, they should be long-lived.

The Platycodons or "Balloon Flowers" are perfectly hardy, but too tall for the rock garden. I might mention a variety called *P. grandiflorum* 'Apoyanum', which we have raised, that is about one foot high and considering its size it has relatively large violet-colored flowers, however, we have had it for only a year and so cannot, as yet, determine its hardiness. If seeds are procurable, it is certainly worth trying.

The Symphyandras differ mainly from Campanulas in that the anthers are joined into a tube surrounding the style, a difference which hardly interests the average gardener. We have raised three or four species, all very heavy bloomers. Probably the best known is *S. wanneri*, about eight inches high, usually sending up several stems from the base, bearing somewhat tubular, bell-shaped, violet-colored flowers. It is a profuse bloomer, resulting in heavy seed formation—a weakening process that may cause the death of the plant. Possibly for this reason it has often been classed as a biennial. In one instance, in order to prevent seed formation, we cut off all the faded flowers, and this plant lived through the winter and bloomed again the following year. The seeds germinate readily, and if a plant is placed in well drained soil, possibly in a crevice, it seems to present no cultural difficulty.

* * * * *

SYMPHYANDRA WANNERI — In the last *Bulletin*, the editor questioned the reported blooming time of this plant in relation to that of a plant he obtained under the name which came from seed sent out by the Scottish Rock Garden Club. Nearly all authorities state that this plant flowers late in the summer, whereas the editor's plant started blooming late in April and continued on into July. Are the authorities in error? Surely not. Is the editor's plant misnamed? Perhaps. Or is there some good reason for this difference in blooming time? Reginald Farrer, in his *The English Rock Garden* gives this species his blessing, as he does the whole genus. Of the genus he says, "They are all plants of the Caucasus and Levant, all quite easy to raise from seed, all quite easy to grow in light open conditions of the rockwork, all of the most well-bred and delicate loveliness, and all blooming in late summer, when their beauty gains an added value that it hardly needs." Of *S. wanneri* he writes, ". . . the sprays branch into lateral shoots so that they become a thyrse or ample spire of nodding long bells of imperial violet and imperial magnificence." Please, will some one who has intimate knowledge of this genus, and of *S. wanneri* in particular, write an article for the *Bulletin*? Certainly a genus that evokes Farrer's lavish praise should be better known to more of our rock gardeners!

OMNIUM-GATHERUM

Geography is important! When you read "Requests by Members" take special notice of the number of requests from overseas members. They come from New Zealand, Australia, Tasmania, Italy, and Austria. It can be reported, too, that with the receipt of the latest "New Member List" it is found that the ARGS has members living in each of the fifty states, as well as in the District of Columbia, Puerto Rico, and even one member has an A.P.O. address. There are members in 27 foreign countries, with every continent represented. Truly our membership is widespread. Our opportunities for the interchange of gardening information, the establishment of better understanding, and the formation of lasting friendships throughout the world have been multiplied.

It is to be regretted that there are no illustrations to accompany Margot Stuart's article. She had taken pictures but they did not turn out well. How fortunate we are, however, that Margot's description of Millglen, and all the work that went into the garden, is so vivid that the absence of illustrations is only a minor disappointment. Her delightful philosophy is clearly seen in the following excerpt from a recent letter. "There is always something to be done in a garden, and so much weeding. To think that in June we were as tidy as we ever have been, and to see us now when I don't know where to start weeding or cutting down the plants that have finished blooming—however why worry, we will get there someday." If it were not for our own untended weeds, I suspect that there are many of us who would be happy to dash over to Scotland and help her.

In the October, 1967 issue of the California Horticultural Society's *Journal*, kindly sent to the *Bulletin* editor by Mr. Owen Pearce, editor of the California publication, there appeared an article on *Paeonia brownii* by Marjorie Schmidt. Accompanying it is an illustration of the plant which was reproduced from a water color plate in an old out-of-print book, *Wild Flowers of the Pacific Coast*, by Emma Homan Thayer. The editor realizes that the article and the picture are of the plant as it grows in California. However, he has great difficulty in reconciling the drawing with the live specimens of the *Paeonia brownii* he has seen many times in the mountainous areas of Eastern Washington.

According to Abrams, in *Illustrated Flora of the Pacific States*, *P. brownii* is the only American species; all the others being European. Abrams shows that this plant has 5 or 6 sepals and the same number of petals, whereas the illustration in the *Journal* definitely shows 8 petals and the sepals are all but missing. Every plant seen by the editor in bloom has been notable for the shyness of the individual blossoms, each nodding flower a nearly spherical ball, far from being fully opened, with the stamens and pistil never exposed, as they are in the illustration. Perhaps in the northern limits of this plant there is not enough sunshine to coax the flower to fully open.

In the wilds of Washington this plant is modestly decorative and should be experimented with in the hope of its eventual establishment as a useful

plant in our gardens. In size it is within rock garden limits and though it may not bloom, its foliage is very attractive. Should any member be inspired to make a closer study of *Paeonia brownii* and write an article for the *Bulletin*, his efforts will be greatly appreciated.

It is suggested that gardeners of the Pacific Northwest, ARGS members or not, should avail themselves of a copy of this *Journal*. It is full of interesting Northwest news for you. When the members of the California Horticultural Society visited the Northwest in 1967, they were impressed enough with what they saw to nearly fill their *Journal* with accounts of their impressions. In it are articles about the Arboretum of the University of Washington, the Seattle gardens visited, and a fine and well-illustrated article on the ARGS Rock Garden Show of April, 1967. If interested send \$1.50 to the California Horticultural Society, c/o California Academy of Sciences, Golden Gate Park, San Francisco, Cal. 94118, and ask for a copy of the *Journal* of October, 1967, Vol. XXVIII, No. 4.

Lawrence Crocker, Director of the ARGS Seed Exchange, asks that members keep in mind that the deadline for sending seeds to him at 3355 Jacksonville Hy., Medford, Oregon 97501, is November 10. Lawrence's job is a difficult one and you can help him most by sending in properly cleaned seed, properly packaged, clearly and correctly labeled, and mailed so as to reach him not later than November 10—sooner than that, if possible, so that he will not be swamped at the last moment. It might help to reread Mr. Foster's article on seed collecting and cleaning in the July issue of the *Bulletin* and Lawrence Crocker's Seed Exchange Notes in the same issue. It is assumed that many of you have already started to collect seed!

A welcome visitor came to the United States in May. He was Mr. Roy Elliott, the Honorable Editor of the Alpine Garden Society *Bulletin*, and his visit brought much pleasure to a great many people. He visited, and was entertained by ARGS members in New York, at Far Hills, N. J. (where he was the principal speaker at the Annual Meeting), in Reno, Nevada, San Francisco and Seattle. Always his showing of slides and his commentary were received with acclaim. One member who attended the meeting at Far Hills wrote, "Roy Elliott was the perfect conclusion to the Saturday program. Everyone was utterly charmed by him as a person, by his slides, and by the beautifully organized and delivered talk." Roy Elliott's visit will be long and pleasantly remembered by those members who were privileged to meet him.

May the editor be allowed to say a few words in appreciation of what Linc Foster has done for the Society in his four years as president of the American Rock Garden Society? His accomplishments are well-known to our members generally and on the first page of this issue Mr. John Osborne has summed them up nicely. Actually, what I have to say is concerned more with the president-editor relationship as it existed throughout the four eventful years.

To work closely with a person many thousands of miles away necessitates considerable correspondence. This is a time-consuming chore, but as far as

the editor is concerned, a most rewarding one. Linc always answered the editor's letters promptly and to the point. He answered questions, made suggestions, gave good advice, offered criticisms (not always relished by the editor), and filled his letters with interesting observations, pertinent information, and kindly humor. Sometimes, he rhapsodized so beguilingly that the editor was carried away into that realm of botanical and philosophical bliss that is reserved for gardeners alone.

For four years, Linc worked closely with the editor; encouraged him, provided him with articles and inspired others to make contributions to the *Bulletin*, and always his concern for the welfare of the Society and its continuing progress toward better service to more people has been an inspiration to all, especially to the editor. On two occasions it has been the editor's pleasure to meet personally with Linc; once on a collecting trip of his in the West, and once on a fast visit to Millstream House in Connecticut, when snow hid most of Linc's cherished garden. And there is Timmy, too, fast becoming internationally known for her sketching of garden subjects. To watch their teamwork, and the dedication and the concentration that went into it, disclosed their secret of being able to accomplish so very much.

To the ARGs and to the gardening world in general there has been offered a bonus. During Linc's four years in office, he has been working on his book, *Rock Gardening*, and Tommy has, too, and now that he is no longer president, he can still be with us every day through the pages of this excellent book, just recently released. Is there no end to the service this man and his wife are anxious and willing to give to the Society and to gardeners everywhere? The editor thinks not! He will still call on Linc for support in his job and he has every confidence that such support will be forthcoming as long as it is needed.

If my words have touched a responsive chord in your heart, sit down now and write a brief note to Linc and Timmy and thank them for their magnificent efforts in behalf of the Society. In your note relieve them of the necessity of answering for it would not be a kindness to add to the weight of the work they yet have to do. Linc, especially, deserves some time to himself, time to catch up on his garden work, to delight in the beauty of his garden, to share it with Timmy and the chance visitor who may wander by.

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