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C. R. Worth, Editor

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MAKING THE BEST OF A BAD SITE

EDGAR L. TOTTEN, *Ho-Ho-Kus, N. J.*

(An article based on an extemporaneous talk given by the author at the December Symposium of the Middle Atlantic group at New York Botanical Garden. Editor).

THIS MORNING I shall attempt something that may not have been attempted before at any gathering of our members. It will be necessary that we use two screens. The picture now shown on the small screen, which, with a bit of luck, will remain exposed throughout my talk, is that of a ledge on the Skyline Drive in Virginia at an elevation of perhaps 3800 feet. The exposure is an easterly one. The first and second pictures you will see on the large screen are of my garden which also has an easterly exposure. Let us imagine that we are to decorate a similar ledge in Westchester county (adjoining New York City) using plants from my garden. The ground around the bottom of the ledge will first need a bit of manicuring and the removal of the small fir tree seen in the center of the picture. This will be done with care as we find a place for it as we progress, perhaps well back of the ledge as part of the background planting. A few loose stones at the foot of the ledge may need slight rearranging and a few others may be added. The ground above the ledge is comparatively level, that below gradually sloping from the ledge toward the foreground of the picture and strewn with rock debris and several large rocks. This site is quite ideal and will provide a suitable home for many types of plants. The ledge is about ten feet high and extends much further than the 30 or so feet shown in the picture.

In the hole left after we removed the small fir tree in the center of the picture, we shall place a *Polygonum Reynoutria*. Since this is placed in the most conspicuous part of the garden, there must be some good reason for its selection. There are, in fact, several reasons: its beautiful sprays of pink flowers which in the bud stage are a more salmon or coral color; its time of flowering which is August or September when there is little color in the garden; and lastly, its hardiness. Along with this, it does have one bad feature—it is a notoriously rapid spreader by deep underground runners. If you cannot give it space, which



An effective planting of a ledge in the author's garden.

Edgar L. Totten

I do not believe we should in this position, place it in a ten inch or larger pot and divide it every three or four years. A poor well drained soil will suit it well. Its height is between 6 and 10 inches.

At the top of the ledge to the left, what could be more attractive than a clematis or two hanging over the perpendicular part of the ledge. Clematis are usually thought of as climbers and are often seen trained to a trellis or fence, or up a string or wire. I like them best when going in the opposite direction as over a large stone or just creeping along a rather steep part of the garden. If you prefer blue, 'Lawsoniana' is a good one, a good white is 'Henry' while 'Ernest Markham' would be my choice of reds. All are of the large flowered type. Clematis like a bit of lime in the soil. I use hardwood ashes as a substitute, to which they seem to respond very nicely. A shaded root run is recommended and to provide this, we might use *Cymbalaria pilosa* if we are not pressed for space, as it increases quite rapidly from underground runners and may get out of control. Its gray-green leaves and attractive lavender flowers are with us from May until killed by a severe frost. *C. pilosa* might also be used in one of the horizontal crevices near the center of the ledge where it could wander to its liking without becoming unruly.

Slightly to the left along the bottom of the ledge, we shall prepare a bed of about equal parts leafmold, sand, loam, and peatmoss and there intersperse a few of the more upright forms of *Rhododendron racemosum* with *Leiophyllum buxifolium*. This gives us a delightful pink and white combination. We shall continue the specially prepared bed toward the foreground of the garden, keeping a bit to the left of center and planting there a few other acid soil lovers of less stature, such as *Vaccinium vitis-idaea minus* (White Mountain type) whose principal attraction is its large red berries smothering the plant in the fall, and *Gaylussacia brachycera* with its glossy evergreen foliage and small clusters of drooping urn-shaped white flowers. In this position, the foliage may show a tendency to take on a bronze tint. That should not be objectionable for I think it would be equally attractive.

To complete the left foreground planting we shall try that seldom used little creeping evergreen cranberry, *Vaccinium crassifolium*. This should be much easier to establish than the more frequently used bearberry, *Arctostaphylos uva-ursi*, and I think it a better all-around plant.

Let us do a little double-decking at this point. Under the branches of the little creeping *V. crassifolium*, a planting of that delightful little Argentine bulb *Tritelia uniflora* could be made. Its light blue flowers on 5" to 6" stems in May are unusually attractive. It is perfectly hardy in this section and increases quite rapidly, is indifferent to position or soil. Its foliage dies back soon after flowering, thus avoiding an unsightly spot which is sometimes encountered when using other bulbs.

At the right of the picture where the large dark gray stone seems to rest on a large lighter gray stone, there is apparently a pocket suitable for planting; here we shall use one of our creeping junipers, *Juniperus procumbens nana* with light green foliage or, if you prefer, *J. 'Bar Harbor'*, which has a bluish-green foliage. Neither becomes bronzed in winter and both gradually creep over and conform to the contour of the soil and stones surrounding them. 'Bar Harbor' will grow much more rapidly than the former. We might also use 'Bar Harbor' next to the clematis which we have planted at the top of the ledge. We should be careful not to cover too much of the stone, for stone alone to some possesses a great deal of beauty.

We still have a few horizontal crevices in which we can plant. What shall we choose? My favorite would be *Sedum sieboldii* with its graceful arching stems of grayish leaves tipped with red, bearing large clusters of showy pink flowers at their tips in September or October. Use them liberally; you will like the picture they produce. *Aquilegia canadensis* could also be used in the same situation. Crowding of the roots in the crevices will tend to keep it dwarf. Neither requires a great amount of soil.

At the extreme right of our picture we seem to have a rather dry situation, and apparently very well drained. The plants we are going to use here will differ considerably from those we used at the left. Let us begin at the steepest part of the garden with the taller plants and gradually end up with some of those little bun-like treasures in the foreground.

We would, of course, like a bit of fragrance in the garden. So we will start at the top by enriching the soil slightly by the incorporation of some organic matter at a spot in the extreme right and making a planting there of *Phlox stolonifera* 'Blue Ridge.' It produces its fragrant flowers on stems about 6 or 7 inches tall. We shall continue to our left with another of *P. stolonifera* 'Pink Ridge.' Here we should allow a foot or more to permit them to creep forward. At this safe distance, we shall now plant a dozen or more of that dainty little jewel *Tradescantia rosea graminea* (Syn. *Cuthbertia*) with its bright pink flowers on 5 inch stems from little bushy clumps which will appear a bit later than the phlox planted above it and flower the whole summer through. This plant may be difficult to obtain, but get it if you can. It is a native of the sandy barrens of Georgia and rather easy from seed, but I have had very slight success with division.

Off to either side of the tradescantia planting, a small place will be enriched for the planting of a collection of the miniature roses. Why do all writers apologize for using them in rock gardens? Anything that will flower throughout the summer is well worth including in one's garden. They may now be had in yellow, pink, white and several shades of red. One rose grower lists about ten in his catalog, among them a miniature climber. Miniature tree roses are also available. It is claimed they make ideal house plants. This I have never tried. *Hypoxis hirsuta*, usually found in the wild growing in shade or in damp sunny places, will do well just below the bed of miniature roses. I grow it in full sun under fairly dry conditions where it seems to produce more of its little yellow stars and less foliage than when it is pampered. At this same level we might include *Anemone pulsatilla* in its various shades of blue, lavender and red. Just below this try some of the rock roses (*Helianthemum*), I prefer the single flowered type: 'Apricot Queen' is a good yellow, *H. appeninum*, white, and 'Ben Ledi,' a red. The rock roses are the only plants I have so far mentioned that might be benefitted by a bit of winter protection.

We are now getting down near the foreground of this part of our garden and should begin considering some of the tiny fellows.

Let us try a bed of *Viola pedata* 'Tuscaloosa.' I choose this for its enormous lavender flowers which are more than twice the size of our New Jersey strain, and because it gives us a second crop of flowers in early autumn. I should remind you, although you have perhaps been told of it many times before: *Viola pedata* requires full sun and a very poor acid soil. In a similar soil we could use *Penstemon coloradoensis* with its silvery foliage and pink to lavender-blue flowers. This is one of the easier penstemons. *P. tolmiei* is another rather easy one with purplish blue flowers on 6 inch stems; it is also fragrant. Due to their rather late flowering period, we could plant under them that delightful mauve colored *Tulipa aucheriana* or *T. kaufmanniana* 'Brilliant,' a brilliant little red fellow



Edgar L. Totten

The planting suggests a stunted conifer at timberline.

with flowers not over two or three inches from the ground. We should not overlook *Silene wherryi*, which I think is the most beautiful of all silenes. *S. alpestris flore-pleno* is the whitest white of any flower I know. *S. schafta* with rose colored flowers in early fall is a very durable plant; mine have been with me for more than ten years.

We must not overlook the smaller narcissi. We are approaching very near the foreground of our garden and must be choosy as to size. *N. nanus (lobularis)* with a yellow trumpet and pale yellow perianth is a good one. In the Incomparabilis type, 'Marionette' with a bright yellow perianth and a small cup fringed with orange-red at 4 inches is also nice. 'Mustardseed' is similiar but yellow throughout. 'Flomay' is an exquisite little white Jonquil hybrid with a cup edged with pinkish-buff, whose height is about 3 inches. The jewel of them all, I believe, is 'Raindrop,' a lovely little pure white, on the order of a tiny Tazetta; it too is only about three inches high. I would like to include some of the cyclamineus type but I fear they would require more moisture than our location provides.

The aubrietias should not be overlooked. I have found them to enjoy a very long life. They may be had in white, pink, red and lavender shades. They are easy either from seed or from cuttings taken in the fall.

Erigeron scribneri is a dependable little white daisy from the great plains, only about three inches high which would fit into our foreground planting very nicely. *Iris flavissima (arenaria)*, the little yellow sand iris, is dainty but difficult unless the rhizomes are kept covered with sand, which should be done annually.

A little native which I have found quite adaptable is *Houstonia caerulea*. You have probably seen it covering vast areas in moist meadows. I have found that it will thrive in much less moist conditions and produce its little light blue flowers for many months. There are a few scattered flowers on my plants while

I am writing this on January third. It forms tight little clumps and is very useful for joining two stones or obscuring unsightly defects we sometimes make in the construction of our garden.

No garden seems to be complete without the use of dianthus. The hybrid "Little Joe," a clump forming type with bluish foliage, producing its deep crimson flowers over a long period, is my favorite. *D. alpinus* and *D. neglectus* are, of course, the aristocrats of the clan but I am not going to mislead you by claiming they are of easy culture. *D. noeanus* is a very fragrant one and easy to grow. It forms dense cushions of green foliage and has deeply lacinated white flowers on ten inch stems in late spring. This one seems to be more permanent than most dianthus.

Of the small, well behaved sedums, my choice is *S. caucicum*, a Japanese clump forming species with thick bluish leaves and deep red flowers on 4 inch stems in early fall. In some respects it resembles *S. sieboldi*, except that it is more dwarf and its flowering period two or three weeks earlier. In addition to using this in our foreground planting, it would be equally at home along with *S. sieboldii* which we have already placed in some of our rock crevices.

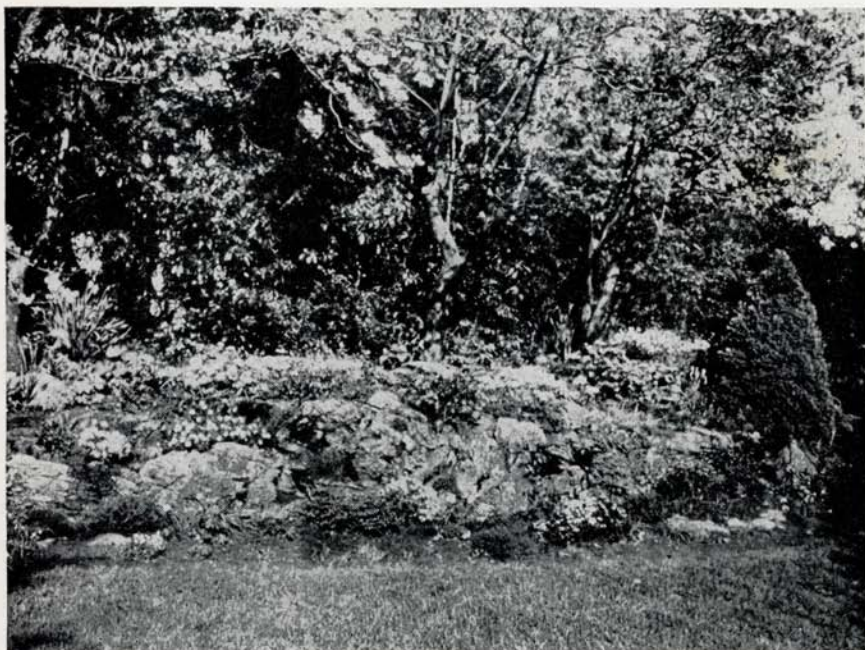
For yellow in the garden, try some of those dainty little mat-forming drabas. My first choice would be *D. rigida*, followed by *D. olympica* and *D. densifolia*. Most drabs are tap rooted and to prevent frost upheaval, spring planting in our climate is advisable so that they may become well established during the growing season. *Eriogonum ovalifolium* is a little charmer from our great plains, forming an inch high mat of almost white foliage with buff tinted pink flowers on 4 inch stems. It is not too easy to establish but once you have succeeded, it will be with you for many years. Full sun and very sharp drainage are essential.

Oenothera caespitosa—my what a big flower for such a little plant, another great plains native with large white saucers on very short stems. The flowers gradually fade into a light pink before dropping from the plant. It is also very fragrant. It requires excellent drainage in a poor sunny location.

Armeria caespitosa and *A. rosea* are charming little Spaniards for a sunny location. They will eventually form low mounds a foot or more in diameter and produce their white and rose flowers in abundance just above the mound. Remove the faded flower heads and enjoy them over a long period.

If I knew all the adjectives in the dictionary, they would not be adequate to describe the beauty of *Mertensia longiflora*, the miniature bluebell from our northern Rockies. Can you imagine our native *M. virginica* only four inches high with clusters of uniformly light blue flowers drooping from the top of every plant? Plant a dozen—plant several dozen of the tiny tubers in an elevated pocket and listen to the Oh's and Ah's when your friends visit your garden. Scatter them here, there and everywhere, in clumps, in drifts or as you like. The foliage disappears in an amazingly short time after flowering. They are very adaptable. I plant them under every condition and in every soil imaginable, mark their location and enjoy them for many years.

Malvastrum coccinium (Syn. *Sphaeralcea coccinea*) should not have been omitted from the plants growing around six inches tall. They are not very easy to establish. The long roots should be planted horizontally about three inches deep. I once planted some in October and saw nothing of them until the second spring following. They have now taken hold and spread under good size stones for five or six feet from where they were originally planted. No one seems to agree on the color of this exquisitely fragrant westerner. Senior says "brilliant crimson;" Barr "salmon-scarlet," Frank Rose "orange-scarlet,;" Kolaga "vivid orange-red;" Rex Pearce "flame copper." I believe Preece has come nearest with "not quite orange, nor apricot, nor vermilion, yet akin to all three." At least no one has



Another view of Mr. Totten's garden.

Edgar L. Totten

accused it of being blue, so I shall add more to the confusion by giving my own description, "a blend of apricot and tangerine." Take your choice.

A few added suggestions for the background planting at this point might be helpful. It is the rock garden proper in which we are interested and the use of vivid colors at the top of the ledge or its sides at the time the garden is at its flowering peak will center attention away from the garden and defeat all our labor. Expressing the idea in a more penetrating manner—you would not place the picture of the new bride in a frame so ornate as to cause your friends to remark, "Oh, what a beautiful frame! Where did you get it?"

Our native hemlock might be used at quite a distance in the background, or should you prefer something out of the ordinary, use instead that small Japanese evergreen tree *Sciadopitys verticillata* (umbrella pine). This will not be found in many nurseries but is well worth searching for.

If the garden is lorded over by the man of the house, I would suggest deleting the next sentence before permitting the fair lady to read this article. The boughs of *Sciadopitys verticillata* are ideal for flower arrangement backgrounds. I am not much on flower arranging but must admit that Mrs. T. uses this to produce some very artistic effects, sometimes to the detriment of the symmetry of the tree.

Whether you use hemlock or umbrella pine, they should be faced with nothing more eye-attracting than our native mountain laurel (*Kalmia latifolia*), which will flower later than the time at which the garden is at its flowering peak. The extreme opposite in brilliance of background would be the use of *Pyracantha coccinea lalandei* with its large orange berries in late fall. It would do no harm at that time when the garden is otherwise denuded of color. In short, know the time of flowering of your background planting before you plant. My garden, al-

though more than twenty years old, is still considered an experimental one. I have not given much thought to creating pictures by the blending of foliage or flowers. If I have suggested the placing of certain plants where they would be displeasing to a discriminating eye, with few exceptions, they may be easily remedied by the use of a well sharpened trowel. Dig, sister, dig.

Before concluding this, I wonder if many of you have ever strolled through your rock garden or that of a neighbor and hesitated a few moments to think of the many places from which the plants originated. The few I have mentioned in this article are from a vast expanse of the earth's surface. Why not take a little trip and visit them in their natural habitats? We shall begin atop the White Mountains of New Hampshire, down through the New Jersey Pine Barrens, the mountains of Virginia, the sand barrens of Georgia and on down to the Argentine pampas.

Westerly, we would visit the great plains, the Bad Lands, Black Hills and the lofty peaks of our northern Rockies, skip across the Pacific to Japan, the Himalayas, the Caucasus, the mountains of Iran, Turkey, Bulgaria, Switzerland, Spain, France and Portugal and home again.

THE SEED EXCHANGE

With fear and trepidation a committee of eager novitiates from the Northwest Unit have volunteered to take over the responsibility of the A.R.G.S. Seed Exchange. First of all, we would like to join our fellow members of the Society in offering a vote of gratitude to Bernard Harkness, who has masterminded the Seed Exchange so faithfully and efficiently in the past. We wish he did not have to give it up.

This year seeds for the Exchange should be sent to the chairman, A. R. Kruckeberg, Department of Botany, University of Washington, Seattle 5, Washington. It is essential that all seed shipments arrive at the above address before November 15. It is just as easy to send off the seeds you collected in September or October, as to let them get "buggy" in a desk drawer. And remember that seeds are distributed to contributors in the same order as the seed lots were received.

Mr. Harkness has had great success in getting together a unique and choice array of seeds for the Exchange. A good part of this treasure-trove came from members of the Society, but other rare items came to him from botanical gardens, commercial establishments, etc., all over the world. We hope to continue tapping these and other sources of unusual seed. So we suggest that the membership not only send us the results of their own labors but capitalize on any other sources of fine seed known to them.

The Seed Exchange List is compiled from all entries received by the deadline of November 15, and is distributed with the *Bulletin* the following January. By following this schedule, recipients are able to sow their treasures before January is over. Thus in order to achieve this schedule in spite of the handicap of slow mails and holidays at this time of year, we remind one and all of the deadline for receiving seed—NOVEMBER 15, 1957! Here's for a bountiful harvest of prize items for our 1958 Seed Exchange.

—A. R. K.

JOTTINGS ON CAMPANULA

H. CLIFFORD CROOK, *Bromley, Kent, England*

Amongst the larger genera of plants on which we must rely for providing the main frame work of our rock gardens, the claims of *Campanula* will be denied by few. Flowering, as most of them do, about midsummer, they give colour when saxifrage, primula, and other early spring plants are past their best. They give us, also, the blue and purple tones which few other rock plants provide, while it is also in their favor that, with few exceptions, they have no fads or fancies in the matter of soil. I should like to add that, speaking very generally, they are reliably hardy, but this is more difficult to determine by a writer in England where we do not have the climatic extremes which seem to afflict the North American continent, at least in the Eastern States, and I can only say that, in England at least, we have no trouble on that score though some of the species which are natives of Greece and those which have soft woolly leaves do need the help of a sheet of glass fixed above them during the winter to keep off the rain.

This question of climate is one of the more important factors which must be taken into consideration when recommending particular species. Those with a stoloniferous habit, especially where the stolons are thin and keep near the surface, such as *C. arvensis*, would probably succumb to sub-zero temperatures. Yet this is not the whole story for several of North America's indigenous species prove difficult, short-lived, or even impossible in this country. On many occasions friends have sent me seed of, e.g., *C. uniflora* or *C. piperi* and I have never succeeded in bringing them to the flowering stage; while another species, *C. divaricata*, that most attractive species from Virginia and other southern states which was in cultivation here before the war, seems to have disappeared entirely.

Another difficulty that faces me is that, judging from statements made by the late Prof. Bailey in "The Garden of Bellflowers" there is more trouble in America than in England with mixed or misnamed stocks in the hands of nurserymen and prospective growers must be advised to see the plants before purchasing.

With these few preliminary remarks, let us consider some of the more desirable species, omitting those that are too large or coarse for rock gardens, and such well-known and almost universally grown ones as *C. portenschlagiana* (syn. *muralis*), *C. poscharskyana*, *C. cochlearifolia* (syn. *pusilla*) and the many forms and varieties of *C. rotundifolia*. First on the list should come *C. tridentata*—with *CC. aucheri*, *bellidifolia* and *saxifraga* which can be separated only by minor botanical differences. Native of the Caucasus, there should be no doubt about its hardiness as there can be none about its attractiveness. A very deep rooting species, it needs a well drained site, almost scree conditions for its long tap root at the head of which it forms an ever increasing tuft of small rosettes of more or less spoon shaped leaves; from each rosette it emits a flower stem of three or four inches terminating in a large upright-facing bell in some shade of blue, with a distinct white base. It is one of the earliest of the genus and, at least in England, is at its best by the latter part of May. Readily raised from seed, self-sown seedlings occasionally appear near the parent plant.

Quite distinct in habit *C. raddeana* deserves attention though it may spread rather excessively in lighter soils. It forms tufts of dark green, noticeably serrate leaves (almost holly-like) on short stalks and among them throws up well branched stems to a height of a foot, furnished with numerous hanging bells deep purple in colour and somewhat narrow in outline. *C. kemulariae* is closely related and generally a rather stronger grower but the flower stems are much more trailing in habit and it looks its best planted high up on the rocks over which

it can hang. A rather poor soil is almost essential. Otherwise leaves will develop at the expense of flowers. Another attractive species with a running rootstock is *C. collina*, over which Farrer waxes so enthusiastic. A thick fleshy root emits numerous (sometimes too numerous) stolons terminating in tufts of ovate cordate leaves sharply pointed and more or less hairy, on fairly long petioles; among these rise twelve- to eighteen-inch flower stems carrying one-sided showers of dark purple hanging tubular bells. Some people consider the colour rather dull unless seen in full sunshine but, under such conditions, Farrer's encomiums are fully justified. As in the case of the last-named species—and for the same reasons—soil should not be too rich.

Two species which always appeal to me, especially when planted together, are *C. sarmatica* and *C. alliariaefolia*. Maybe, with their flower stems two feet or more long, they are too large for the smaller rock garden and need to be kept to the back and higher parts. Here, however, planted in the upper part of a drystone wall or in the larger vertical crevices they will produce their tufts of leaves and, splaying out their fairly rigid stems at an angle from the rock face, will show off their one-sided showers of large bells to the best advantage. Both form tufts of greyish leaves, rounded in outline in *C. alliariaefolia*, long and pointed in *C. sarmatica*; the flowers of the first named are creamy white, those of the other a pale lilac blue, fully an inch long in both. If space can be found for one only, choose *C. sarmatica*, in every way a choicer and more compact grower, but the association of the pair is particularly pleasing.

C. allioni (syn. *alpestris*) with its flowers like Canterbury Bells on one inch stalks is a plant for definitely scree treatment. But, what scree? In its native district (Southern France) you will find an area of a few square yards covered with the plant, and may then have to go a mile or more over apparently exactly similar soil and aspect before seeing the plant again, and may then arrive at another few square yards of it. That there is something in the small areas which is essential to the well-being of the species seems clear—and it is equally clear that my own garden does not supply it for I have never been able to keep the plant for more than a year or two though its deep and extensive root system would show a truly perennial character. Its fleshy taproot goes diving among the stones and from the top produces numerous stolons which end in rosettes of narrow undulate leaves two or three inches in diameter from among which rise the short erect stems with their single up-facing bell. Normally of a blue-purple colour, a white form sometimes occurs, and a pink form (not a very clear pink I am afraid) is known.

Two species which I always think of together because of their very similar habits are *C. tommasiniana* and *C. waldsteiniana*. They form small bushlets of stiff wiry leafy stems up to eight or nine inches high, topped with an almost incredible number of flowers. In the first-named these are long tubular drooping and pale lilac; those of *C. waldsteiniana* are flat, saucer-shaped, and of a bright purple-blue shade. Among the neatest of plants, soundly perennial and hardy, they generally provide a few self-sown seedlings.

Some of the most attractive species are among the rarest in nature and the most difficult in cultivation. Or, is it the other way round, their inherent difficulty and rarity providing a large part of their attraction for the grower? Is a cultivated plant of the almost impossible *Eritrichium terglouense* (*nanum*) with half a dozen flowers on a two-inch cushion (a mere travesty of its splendour in the wild) really more fascinating than, say, a square yard of *Campanula portenschlagiana* so covered with flowers that the leaves are almost hidden?

C. zoyzii with its queer bottle-shaped flowers on two inch stalks is one of the

rarest of the genus, being restricted to a small area in the eastern European Alps. Here it grows in the very tightest of cracks in the rocks, cracks into which it is difficult to insert even the point of a knife. Its difficulty in cultivation probably arises from the virtual impossibility of reproducing such conditions, for once established, it is fairly easily propagated from early summer cuttings. Much the same may be said of *C. morettiana* though this has wide distributions throughout the Austrian and Italian Tyrol and is rather more amenable to cultivation. Its small rosettes of softly hairy, almost round leaves emit the large upstanding bells on inch stems, and being completely herbaceous, there would be little difficulty in carrying it through the winter if planted in tight well-drained crevices were it not for the attention of slugs which, certainly in England and probably elsewhere, find, as do growers, added attraction in rarity. For similar conditions—and similar precautions—is *C. cenisia* which should be easier to please as its leaves are smooth and its native home in scree rather than in crevice.

Two easy species of biennial duration (they might almost be described as hardy annuals for self-sown seedlings of one summer will flower the following year) are *C. sartori* and *C. cymbalaria*. The former was well described in the *A. R. G. S. Bulletin* of July 1955 and it is unnecessary to say more than that its mats of interlacing stems with their white or pink erect broadly funnel-shaped flowers invariably attract favorable notice. The latter, whose home is in Lebanon, is a looser and more dainty plant forming small tufts of toothed ovate leaves on long stalks, and throwing up amongst them numerous slender much branched stems sometimes a foot in length and bearing an almost incredible number of bell-shaped flowers of a bright blue, whose spreading lobes gives quite a starlike effect. A characteristic of these two species which adds to their charms is a habit of dropping their seeds into almost inaccessible crevices where, as these resemble their native environment, they always look their best and happiest.

In an article of this kind it is, of course, only possible to refer to a very few of the three hundred or more species which comprise this large genus; anyone who is interested must be referred to my book "Campanulas" (published by Country Life, London, 35 shillings—\$4.90) in which every known species is described in full detail.

A PLANTING OF CAMPANULA GARGANICA

I SHOULD LIKE TO REPORT the amazing success of a planting of *Campanula garganica* which has stumped many who have tried this species with no success. I planted about one hundred seedlings on a terrace which has northwest exposure, with some protection from the west, but from the north it gets a terrific blast of arctic air in winter. The plants have self-sown in such number, and have bloomed so beautifully, that there must be a secret of their prosperity. I have decided that it must be the base that is responsible, as I built the terrace where the former owners of the house had dumped their coal ashes. These I covered with a layer of "garden soil," with nothing special added, but the roots of the plants penetrate deeply and have perfect drainage. They are a sight to behold when in full bloom. — ALICE HILLS BAYLOR

* * *

Watering, . . . simple as it sounds, is really one of the subtlest and most vital secrets of success in gardening.—FARRER.

WILD FLOWER HUNTING IN THE MT. ADAMS AREA

MYRTLE HEBERT, *Elma, Washington*

IN LATE AUGUST I joined two friends, Midge Dutton and Clenda Davidson, on an outing into the Cascade Mountains, just south of Rainier National Park. We had to wait until that date in order to have dry roads and to avoid snow difficulties. The snow lies late in that area.

We met in Tacoma, where Midge had her car packed with the necessary equipment, ranging from food supplies and camp gear, to books for reference, and sleeping blankets.

We left at noon and drove over black top, then gravel, and finally the regular mountain dirt roads, winding up a creek valley, climbing higher through timber, and finally arriving at camping grounds on a little lake, Chamber's Lake, among tall trees, with interesting trails all about. Delicious mountain water was piped in, and a stone fireplace was available for camp cooking. We had it all to ourselves, as the only other car left just after we arrived.

We had arrived there in mid-afternoon so that we had time to ramble about on nearby trails before dark. There were white anemones, *A. deltoidea*, growing in the woods around the camp, and farther on we found erigerons, probably *E. salsuginosus*, and lupins of two or three species. *L. subalpinus* and *L. volcanicus* are both plentiful, and sometimes we saw *L. lyalli*. A lovely yellow mimulus grew in the moister spots. This may have been *M. guttatus*, but there are at least four native yellow mimuli in the area, and we were not sure which this was. We had found *M. tilingi* and *M. alsinoides* on a previous trip, so were becoming confused. A very cute little pedicularis grew in abundance alongside the trails, dainty little flared skirts in various shades; we finally decided this was *P. contorta*. White calochortus, possibly the pussy ears or *C. maweanus*, grew in scattered, sparse places. Just as we were returning to camp, with swarms of hungry mosquitoes keeping us company, we found what I had been specially hoping for, mats of the red heather, *Phyllodoce empetriformis*. I admire it extravagantly even though I can't pronounce its name.

A beautiful clear starry night and the fragrance of woods and a dying fire—we slept well and got up at daylight, as we wanted to climb to a ranger station that Clenda had visited before, a two mile climb, mostly up, on the north slope. After cooking breakfast, we put light knapsacks on our backs; Midge and Clenda both carried kodaks, and we also took along digging tools and containers. It was cool and shadowy as we started the climb up through thick timber, but following a good trail. In openings in the woods we found asters, lupins, *Arnica latifolia*, *Penstemon nemorosus*, columbine or *Aquilegia formosa*, and once or twice we saw *Aconitum columbianum*.

As we climbed, the type of flowers changed: beargrass began to appear among the trees, and the Indian paint brush (castilleja) brightened the woods. We made slow progress; Clenda glided easily along in the lead, with Midge, and at last me, laboring along several lengths behind.

About half way up the sun met us, and in front of us snow-capped Mt. Adams was a never to be forgotten picture. The trees thinned out, and we found our first ripe berries—big, black and delicious. We sampled them and guessed as to what they were—huckleberries? service berries, blueberries?—and later identified them as whortleberries.

A quarter-mile short of our goal we ran on to a sheer rock slide; we could see the lookout station perched above it. By this time the sun was hot, and we were thirsty; we had brought no water expecting to find it along the way, but

there was none. I was ready to admit defeat but while we rested, Clenda scouted on ahead and found the trail circled about and wound up in a series of spirals that were not too difficult, so again we plodded upward. Little low bushes of red huckleberries were growing on this peak, above the timber, and again we found lots of the red heather, the little calochortus and polemoniiums. On the final lap Midge discovered a little saprophytic or parasitic plant that intrigued all of us and we finally decided it was 'barber pole' (allotropa). It had thick fleshy stems, streaked red and greenish white, and scale-like false leaves. It was sort of a weird looking thing, several inches high and probably half an inch in diameter. There was paint brush in more colors than I had ever seen before, pink, scarlet, maroon and everything in between, all growing in the grassy glades between the scattered trees.

When we staggered up to the lookout station, where the boy in charge very graciously gave each of us a glass of water (which he had packed on his back a full mile), we rested and enjoyed a short visit with him. Clenda and Midge got some pictures that were indescribably beautiful of Mt. Rainier, Mt. Adams and Mt. St. Helens, all by just standing in one spot and rotating. The brilliant sun made the snow caps of the peaks sparkle and stand out in clearcut relief.

While they took pictures I scouted around looking for a couple of penstemons that were reported from that area, but I failed to find them. I did find the typical *P. menziesii* form, but not the subspecies I wanted.

We were just starting to retrace our steps when a couple of rangers appeared and, learning that we were wild flower fans, they directed us back over a different route, this time down the south facing slope of the mountain. We walked a short distance (and I ate snow from drifts as we passed them), then we came out on the crest of a divide, and looked down the south slope.

No trees were there, except along a stream far below, and that slope was a paradise of wild flowers so thick that it made a solid carpet of color, yet the rim of the slope still had snowbanks. Here we saw most of the kinds we had seen before, with many others added—beautiful patches of eriogonum, of which there are three types listed from the area, but we saw mostly the creamy form, probably *E. compositum*. There were claytonias, senecios, agoseris, mertensias, little mountain buttercups, and an especially lovely erigeron with large and very full pink flowers.

My biggest thrill came when we discovered that high up on the slope, bordering the snowdrifts, there were masses of the lovely white heather, *Cassiope mertensiana*; I had been hoping to find it, as well as the red form.

It was near noon now with the sun blazing down, and again no water. We plugged along with our tongues hanging out, but the containers in our packs were filling and our spirits were still high. We did travel the trail back to camp more rapidly, and a more tired, dirty trio would be hard to find. It was powder dry and the dust swirled up in clouds while perspiration made rivulets down our faces. Camp never looked so good and water never tasted so delicious.

We ate lunch, repacked the car and fixed our collected treasure for the homeward trip. We took a different road out of the mountains, almost parallel but following a different creek back to the pavement. One interesting note to me, the mad penstemon fan: *P. ovatus* was blooming on a roadside cut, two months later than in my lowland garden, and less than half the size.

We got back to Tacoma just before dark, and saw our first wild animals just as we entered the outskirts of the city, two deer feeding beside the highway and not in the least afraid.

We were exhausted and disreputable looking but blissfully happy and contented—a good rest and the roving urge surges up again.

ANNUAL REPORT ON "NEW" FLOWERS

DORETTA KLABER, *Quakertown, Pennsylvania*

Dianthus glacialis blooms in May, an early pink. It makes neat tufts of grassy foliage and is effective when covered with its medium sized flowers, which one must admit are not quite as good as those of *D. alpinus* and *D. neglectus*, although the plant is well worth having.

Dracocephalum grandiflorum I consider my "find" of the year. *D. nutans* blooms in May with purplish spikes, which everyone thinks are those of an ajuga, so that I was not prepared to have *D. grandiflorum* anything exceptional. First, it does not bloom until the middle of June and then keeps up for at least a month, and might do better if all seed heads were kept clipped. The flowers are rich blue, almost a gentian blue. I had two types of plants. Some made smallish leaves on six inch plants—in both height and spread. Others spread a foot to fifteen inches, with the large flower heads rising about six inches, and with leaves considerably larger than in the small form. The large plants were the more effective.

Geranium macrorrhizum consented to bloom at last, rather disappointingly with its very pale pink flowers lost among the foliage. However the plant is worth growing for its leaves which take on pleasant tones of pink among the green, and which have a pungent odor when picked.

Iris ruthenica and related species continue to delight me with their delicate purple flowers with white markings, and their thin firm leaves; they bloom in June.

Veronica argentea looks a lot like *V. incana*. The flowers are not quite as good, a little taller and not as deep a purple, but the leaves stay low in good clumps and are definitely silvery instead of the grey of *V. incana*. Anyone looking for a silver edging to a border could not make a better choice.

The summer gentians, while not "new," were gorgeous this year, filling the July-August slump with outstanding beauty and color. They hybridize freely, so there are always surprises when one raises them from seed as I do. They are absolutely indispensable.

Potentilla eriocarpa is a choice member of the family. I gratefully acknowledge that seed came from Mrs. Hayward's contribution to the ARGS Exchange. She says that it is a bit tender, but comes through in Maine with protection over the winter. I planted the seeds in February of 1955. They started blooming in early spring, one or two translucent yellow blossoms at a time, and have kept up in their modest way to Nov. 15 or later. The little trefoiled leaves are as delicate as those of *Thalictrum kiusianum* or a baby maidenhair, of an unusual light bluish green color that takes on delightful pink tones in the autumn, so that the leaves are as decorative as the flowers. The plants seem inclined to creep slowly and send out anchoring roots as they go. I shall try them with only a mulch of stone chips such as the rest of the plants have to put up with.

Another contribution I have been enjoying is an erodium. I believe it must be a hybrid, and not "macradenum" as listed in the Exchange. The ferny foliage makes a pleasant rosette from which the long and continually elongating flower stems (6" to 9") keep coming all season in a succession of crimson blooms with no markings. If it only bloomed in the spring one might pass it over, but its great value lies in its long season of bloom, its only rivals being *Geranium sanguineum* 'Walney' and *Campanula rotundifolia*, the three of them making a pleasant harmony of color.

NEW LIGHT ON NAMES

BERNARD HARKNESS, *Rochester, N. Y.*

CERTAIN NAMES, both botanical and cultivar in form, which appear yearly in our Seed Exchange List, cannot be found in the customary reference sources. Mostly these may be attributed to the naming of new species recently discovered and to necessary renaming when monographic work is done on a genus, and there is a lapse of time before these appear in the reference books. A summary of the good response to my appeal for help is made herewith.

ADENOPHORA NYSTROEMII—No information.

AETHIONEMA THEODORUM—See Dr. Worth's note April 1957 Bulletin.

ALYSSUM BERTOLINII—No information.

AMSONIA MONTANA—James R. Fleming has an old catalog of Mr. Rex Pearce which calls this a dwarf (15 inch) version of *A. tabernaemontana*. As Dr. Scorgie suggested it is in two senses a shortened version of Amsonia.

ANEMONE PULSATILLA FARRERI—No information.

CAMPANULA SCHEUCHZERI COVODANGA—This would be a cultivar of the species, Mr. Mulligan writes, collected in northern Spain by Frank Barker or Clarence Elliott of the Six Hills Nursery prior to the war. Dr. Scorgie gives a reference to it in the Bulletin of the Alpine Garden Society 7:4 pp 319-321.

CHRYSANTHEMUM SEDGEWICK—Its source, as noted by James R. Fleming, is Mr. Skinner's Dropmore Nursery in Manitoba and it is a double ox-eye daisy, *C. leucanthemum*.

COLLINSIA HETEROPHYLLA—This should not have been of this listing. As Dr. Scorgie has noted, this native of California is described in the eighth edition of Gray's Manual and noted to be introduced eastwards.

DIANTHUS STRICTUS BRIGANTIACUS—No information.

HYPERICUM YAHUSINENSE—Mr. Mulligan suggests reading *H. yakusimense*, but where is the record for this?

LEONTOPODIUM STRACHEYI—Dr. Scorgie notes as an Asiatic species with whiter flowers than the European Edelweiss. The introducer and time was not known.

LOBELIA DRESDENSIS—No information.

MUSCARI TUBERGENIANUM—Mr. E. H. M. Cox contributes a note that he has grown it for years and considers it to be far the best of the Grape Hyacinths. It was introduced by Van Tubergen, having been collected by Herr George Egger in the fountains of n.w. Persia. In flower it has a bicolor effect, the upper half of the corolla light blue, the lower half dark blue, April flowering (in Scotland), completely hardy and increasing less rapidly than the common Muscari. Miss Elizabeth Lawrence, whose new book, LITTLE BULBS, is out this spring, notes that an Award of Merit was given it at which time a short botanical description was published.

PHACELIA PLATYCARPA—A plant of the mountains of Mexico distributed by Stuart Boothman according to Dr. Scorgie. A good perennial for the alpine house but in Dr. Scorgie's garden was monocarpic

and in a wet summer did not set seed. It had acaulescent large, white flowers conspicuously veined with lilac. It made a lovely silvery flat rosette.

PHYTEUMA LAIBACHIANUM—No information.

POTENTILLA ATRORUBENS—Dr. Scorgie queries whether a mistake for *P. atrosanguineum*.

POTENTILLA FILIPE—Correctly, *Geum filipes*, notes Dr. Scorgie. A native of the Blue Mountains of Oregon, and has silky, villous leaves and yellow flowers.

PRIMULA CORTUSOIDES VEITCHII—Mr. Mulligan records that *P. Veitchii* is now considered a synonym of *P. polyneura*, Franchet. *P. cortusoides* is distinct from that.

ROSA POLYANTHA NANA—No information.

SALVIA BROUSSONETII—No information.

SCABIOSA VARIFOLIA—Mr. Ray Williams contributes a note on this for the Bulletin.

SERRATULA SHAWII—This is listed with description in the Mayfair Nurseries's Handbook of Alpines. Two years search in botanical garden lists has not resulted in a clue to this name, but the whole lot of Sawworts, including some from Moscow, is being investigated at Rochester and a report is promised on them.

Finally Mr. Mulligan suggested that the *Digitalis* listed as a Peter Davis collection might be *D. Davisiana*. However, that was described as a species near *D. grandiflora* and does not seem to fit too well. Mr. Davis has in his hands a kodachrome of the flower spike and he may be able to give us some information as to identity.

SCABIOSA VARIIFOLIA

RAY WILLIAMS, *Watsonville, Cal.*

In response to the inquiry in the *Bulletin* about certain seeds sent for distribution, with botanical names not readily traced, I wish to clear up the mystery about *Scabiosa variifolia*.

Seed of this plant was received from Peter H. Davis of the Royal Botanic Garden at Edinburgh, as part of his 1950 collection from Western Anatolia and the islands of the Aegean. Here is the very brief description, from the field notes, sent with the seed:

"*Scabiosa variifolia*: three foot shrub. Pink flowered. Dry vertical cliffs. Karpathos. May be tender."

The specific name is spelled with two i's. It is a shrub—quite unusual with scabiosa—and is pink flowered although it nearly succeeds in being lavender. Very free blooming, it has the added attraction of quite persistent seed heads almost as attractive as the flowers. In my garden it grows in full sun in ordinary soil in a place decidedly on the dry side. It is evergreen but shows its xerophytic nature by retaining only the leaves at the tips of the branches after prolonged drying. Plants grown with moisture respond with better foliage. The only fault is that its dead leaves are persistent and will not drop of their own accord, so that if the plant is left to its own devices it becomes a shaggy and untidy specimen.

The plants grown from the original seed are now about two and a half feet high and as much across, and show no sign of deterioration. They reseed freely and young plants come up thickly around the parents each spring. A kodachrome slide is now in the possession of Mr. Edgar Totten as part of the Society's colored slide library.

PLANTS I HAVE ENJOYED

BETTY JANE HAYWARD, *Scarborough, Maine*

ARNICA MONTANA — *CAMPANULA BARBATA*

MANY TRAVELERS HAVE SEEN *Arnica montana* and *Campanula barbata* growing together in the grassy meadows of the Alps. There the Golden Arnica complements the gentle blue of the Bearded Bellflower.

In a small way, this admired companionship can be enjoyed in parts of the garden suited to its use. Last season groups of these two plants grew together at the foot of a tree on the garden's edge. I was pleased with the result.

The campanula was an old friend, having been in and out of the garden many times through the years, as is the habit of biennial plants. It is one that is worthy of growing again and again from seed, however.

Arnica montana was new to me, and I thought it most attractive. The large flowers of soft orange, above the downy, gray leaves are effective and pleasing. *Arnica montana* is perennial, and also furnishes abundant seed to continue its propagation. Trying combinations such as this is one of the rewards to those who grow plants from seeds.

DIANTHUS GLACIALIS

Enough has been written about the difficulty of growing *Dianthus glacialis* to frighten timid souls. Seed is not often available, but when it is there is no reason why anyone need fail with it.

From the first the little plants went forward with vigor. During the first summer they developed into tufts of over one inch. When planted in groups in the rock garden last summer they measured fully two and one half or three inches across. Clustered in close array, in gritty soil on one of the low walls, they continued to flourish. In summer, the low green leaves were covered with pink flowers.

Dianthus glacialis is distinct in its small tufted habit, its narrow, linear-lanceolate, lightish green leaves. The flowers are comparatively small, on very short stems. Among the plants here one had blooms of a lovely clear shade of pale pink. All in all, *D. glacialis* is a worthy and delightful small dianthus.

DRABA DEDEANA

Little drabas of sorts have always been in the garden. Invariably, the flowers have been yellow. Some years ago, seeds of *D. dedeana* were planted in late November, when it seemed that winter had come to stay. However, a January thaw, lasting for some time, induced every seed of the draba to germinate. When freezing weather came again, every one was lost. The following year, we were fortunately able to try again, that time with success. At present, there is a number of good groups established and increasing.

The growth is made up of dark green, velvety rosettes. Most of them are added as the plant increases in size. In May, the foliage is hidden by the fine, large blossoms of pure white, poised just above the leaves on short stems. Seeds form readily, and furnish the best and easiest method of propagation. It is a pleasure to have *D. dedeana* at last, having known it only from its picture hitherto.

DRABA ANDINA

(Listed as *D. oligosperma* var. *andina*, *ARGS Bulletin*, July, 1956)

Under the name of *Draba andina*, this attractive small plant has been around for some time. Its diminutive small size, unusual foliage, and soft, pale yellow flowers won a place for it in choice company.

It is a very slow grower; perhaps the distinctive feature of this tiny plant is the scale-like texture of the minute, gray leaves. It is interesting to learn of its being a native plant, surprising too, as the seed came from England. Seeds are the best method of increase also.

MYOSOTIS RUPICOLA

Myosotis rupicola has been in the garden more than twenty years, without needing replacement. It is so easy to keep, from both seed and division, that it is easily one of the most permanent plants.

Curiously, contrary to the habits of its immediate relatives, it keeps to itself, not seeming to cross with other forget-me-nots growing near. This has surprised me, for various strains grow like little weeds everywhere throughout the rock garden and in the borders under the flowering crabs. That is not to say that there is no variation in the plants. Some are paler and darker blue etc. Occasionally, one will have tiny blossoms of deepest sapphire blue. Always, the plants have the relatively small leaves and the low, tufted habit. Each year groups of several plants together are placed in favored spots. After flowering the plants usually retain enough growth at the base to make divisions. This should be attended to early, to allow the separations time to develop into good plants by the autumn. Seed is not too plentiful, but should be watched for, and harvested.

M. rupicola is but a form of *M. alpestris*, the common forget-me-not but is distinct in its restrained dwarf growth and lovely pure blue flowers. It grows in the mountains of Europe and in the hills of Scotland as well. It is a plant I love and prize and want to keep in the garden always.

SAPONARIA OCYMOIDES ALBA

It is pleasant to welcome *Saponaria ocymoides alba* once more after a long lapse of time. One seldom finds it in seed lists, which is hard to understand, for it is as easily grown as the type.

The foliage is light green so that in the small seedlings it is possible to distinguish those that are true from others because of the tinge of red in the stems of pink forms of *S. ocymoides*. This white type is compact, making it a bit more welcome for places among the less rampant plants. The white blossoms come at a time when many other white-flowered rock plants have finished blooming, making a good effect when the garden is in need of the contrast among all the pink shades of dianthus etc. Propagation is by seeds and soft cuttings taken in summer.

SAPONARIA LUTEA

From Mont Cenis in the Italian Alps comes this small saponaria, very different in character from the last. *S. lutea* is a tiny plant making a tuft of pale foliage, still small at maturity. The blossoms make no brilliant display, for the color is the palest straw yellow, the center filled with little black anthers. Modest though it is, a closely planted group with other refined kinds shows its distinctiveness. The small flowers set seeds quite freely. Well drained situations are essential for success.

ANDROSACE LANUGINOSA and ANDROSACE LANUGINOSA var. LEICHTLINII

These two androsace varieties are not new, but are well known to all rock gardeners. Recent success in establishing them in my garden encourages me to tell about it. In previous years I had come to think that *A. lanuginosa* was not really hardy. Several times it had been lost during winter. I think now that it had been planted in the wrong place. The group that had been so successful is planted where the stems can hang down the front of a large rock, facing southeast. The growth has been remarkable, blossoms cover the plant, and the thick mat furnished many cuttings for rooting in sand. Incidentally, cuttings taken in summer

root with ease. When good roots have formed, three or more can be put together into one hole, and a good plant can be grown quickly by so doing.

Occasionally there is confusion between these two varieties. Plants bought from a nursery came labeled *A. lanuginosa*, when they were the variety *A. lanuginosa leichtlinii*. The latter has flowers of white with red eye, the type being lavender, also with a red eye. The habit is the same in both varieties.

HIMALAYAN GENTIANAS and HYBRIDS

The choice and comparatively rare gentian species under this heading have long presented a challenge to gardeners. Few, however, are able to resist the attempt to try their hand at growing them. After a period of trial and error I can report considerable success, for at the present time a good number have grown into fine specimens and in several locations about the garden they are show pieces.

With the exception of *Gentiana x macauleyii* which was purchased, all have been grown from seed. Doubtless, to some that would be unsatisfactory because of the unreliability of seeds producing plants true to name. It has mattered little to me because many of these seedling have had flowers of matchless blue. A percentage do appear to be true species: for instance, *G. veitchiorum* has the character of the true plant.

The plants have been growing for several seasons, long enough to indicate some of their requirements. Soil with grit, but with considerable humus in it, seems to be right; lime has been omitted. Some shade should be provided, but as the flowers will not open in deep shade, a place where there is considerable sunshine will induce the lovely flowers to open wide. Many bloom in autumn when the leaves are falling. In placing them it might be kept in mind that shade is enjoyed in high summer. In the cool of autumn more sun is indicated.

It was interesting to see how quickly the seed ripened on the plants. Before the flowers had faded, the seed vessel protruded far out of the flower. In a short time the end would open, and the ripe seeds could be shaken out. This haste is nature's way of insuring the continuation of mountain plants before winter descends.

Sowing the seed in winter in prepared frames has been practiced usually. Good germination has resulted. It seems to indicate that frost does influence germination. Nearly everything I have grown has been started in these frames, and I would hesitate to recommend the planting of seed, that of gentians particularly, in the warmth of spring. Each year a new crop of these beautiful gentians has been started to further the pleasure and anticipation of the venture.

SENECIO SPECIOSUS AS A HARDY PERENNIAL?

(The author of the following note is somewhat mysterious. He was a Father at the Russian Center of Fordham University, whose name, not attached to the note, has been misplaced; he wrote that he is no longer a member of the Society, as he expected to leave shortly for a remote part of Canada. Our reply, sent to the Fordham address on his stationery, was returned marked "addressee unknown." If he by any chance sees this, or if anyone can enlighten us on him, information will be most welcome.)

Though still listed as a "greenhouse perennial" in the R.H.S. Dictionary, *Senecio speciosus* from South Africa has recently proved to be hardy in England. From English seed sown indoors in New York on 2 February 1956 young plants were set out-of-doors in April. One plant began to flower in the last days of May, and nearly all the others also flowered the first year, a number

of them over a period of about three months (from June through August and even into September). The height of the plant in bloom is about 14" to 18"; the daisy flowers are numerous, in clusters, 1" to 2" across, shiny and reddish-violet or bright purple in color. The plant is not over-tidy, but is handsome and useful. It seems to require plenty of sun, and does well in full sun. As for soil, a few plants grew in quite acid soil with an azalea, some in a bed with gladiolus and annuals, some in lean "alpine" soil (alkaline) three or four on top of a 2 ft. bank of rather loose gravelly scree. All were, however, in well-drained soil.

There were many self-sown seedlings, some of which have come through the winter. The parent plants have also proved quite hardy—that is, out-of-doors without any special protection in an open position in the Bronx. A number planted where a hedge and the house break the full force of the wind, and with the litter of autumn weeds and dead grass partly covering their crowns, seem never to have died back completely, though subject to incessant thawing and refreezing. In positions completely open as regards wind and sun and without the slightest ground-cover except their own dead leaves the tops disappeared, but the plants remained healthy and strong and are now (mid-March) coming into leaf again with the crocus. It would be interesting to find out how long-lived the plant is in this zone, and whether it will survive farther to the north.

ROCK GARDENS IN WINTER

ELIZABETH LAWRENCE, *Charlotte, N. C.*

I WISH SOME GARDENERS would write about bloom in November, December and January. There must have been some, even in cold gardens, in this very open winter. Mr. Starker wrote on January 8th of heathers, hellebore and snowdrops in bloom in an Oregon snowstorm, and here it seems to me that we have had more winter flowers than ever before. This may be partly because there is more to bloom as I keep adding new things for this time of year, and partly because the old plants bloom more freely and over a longer period as they get better established, but most of all, I think it is due to a mild season.

The first week in November, *Zephyranthes candida* was still in bloom along with *Crocus longiflorus*, *C. ochroleucus*, and *Cyclamen neapolitanum*. There were still forget-me-nots that the frost had missed, and several kinds of violets. On the first day of the month *Oxalis bowieana* began to bloom, but it did not get far before the frost caught it. This is really a fall bulb, and should bloom in September. The Algerian iris came into bloom on the same day, and there have been flowers at intervals ever since. Whenever the thermometer drops below twenty they stop, but as soon as it warms up they come again.

Soon after *Cyclamen neapolitanum* bloomed out, *C. cilicicum* began, and on a sunny fall there was a rosy flower of *C. vernum* on Christmas day.

The white hoop petticoats began to bloom early in December. Now in the middle of January, 'Nylon' is in bloom, and I see that the first bud of *Narcissus scaberulus* has poked up out of the ground.

Before Christmas two bergenias were in bloom. One is called *Bergenia (Saxifraga) cordifolia*, but I think it is the wrong plant as the leaves are not at all heart-shaped. The flowers are very pale. The other, with flowers of a deeper pink, is *B. ligulata rosea*. *Iberis sempervirens* 'Little Gem' has a distinct tendency toward winter bloom. Since early December it has been flecked with white. Mrs. Chrismon says she has in her Greensboro, N. C. garden a wild white phlox that blooms all winter, and the rest of the year too. From time to time I find a round blue periwinkle, and parting the dark leaves of *Viola rosina* uncovers a rosy pink flower.

From Thanksgiving on the buds of the winter heaths begin to show color, and, come what may, you can count on them for an amethyst glow for the rest of the winter. There is also a good white form of *Erica mediterranea*.

Crocus laevigatus var. *fontenayi* began to bloom the fifteenth of November, and *C. minimus* on the third of December. I have had a long search for the latter, and this is the first time it has bloomed in my garden. The violet cups are charming, but no smaller than most winter species. *C. sieberi* is usually the first to bloom after Christmas, but this year *C. chrysanthus* 'E. A. Bowles' was ahead. I found a stray bloom the day after Christmas. Now, in mid-January, there has been a flower of 'Snow Bunting,' and the buds of *C. imperati* are waiting for a sunny day. *Galanthus elwesii* also bloomed before the end of the old year. Now the oriental hellebores are in bloom—but where are the snows of yesteryear?

SAXIFRAGA MEDIA

CARL STARKER, *Jennings Lodge, Oregon*

Saxifraga media is one of the Engleria group of saxifrages. It grows into handsome tufts of small oval blue-gray leaves that curve and overlap in a delightful manner. The flower stems are three or four inches tall, red and velvety, with short hairs completely covering the flower stems. The blossoms are small and pink and are quite surrounded by the velvety red fur of the calyx. It is a delightful and not difficult sort for a limy soil with good drainage and a cool root run. It is a much admired plant, especially when in bud or bloom with its showy red stems, but alas it is not offered by many plantsmen.

REPORT OF THE NORTHWEST UNIT

HELEN MORRIS, *Bellevue, Wash.*

The Northwest Unit met on March 14 at the Arboretum clubhouse. Our program was an illustrated talk by Edith Harden English on "Northwest Natives for the Garden." No one could be better qualified to describe the plants and their requirements, since she has seen them all in their natural surroundings. As she is an expert photographer, her colored slides were lovely. She described plants for wet places, shady places, and the meadow, finishing the talk with pictures of tantalizing beauties that she listed as difficult.

It is always requested that members bring interesting specimens to meetings, and among those on display was a blossoming plant of *Orphanidesia gaultherioides* brought by Carl English. This is a rare creeping shrublet with leathery evergreen leaves and two inch flowers of soft pink in April. It is pictured in the July 1953 *Bulletin* and described by Will Ingwersen as "so supremely lovely that it is worth any effort to obtain."

Our meeting on April 11 was the annual plant sale, which is always an occasion for fun and friendly rivalry. A table laden with plants, from the most common to the very unusual, rapidly vanished at the auctioneer's urging, and our treasury was again enriched this time by \$159.15.

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If you want a beautiful rockery, as well as beautiful plants, you must think it out for yourself.

—FARRER.

WESTERN PLANTS IN MY GARDEN—II

IZETTA M. RENTON, *North Bend, Wash.*

Among the many species of gentian which I grow is our native *G. calycosa*. Along little streams in the high mountains this six-inch gentian makes huge mats of lovely blue trumpets and does the same along the little creek in my garden. We found a darker blue one, some three to four inches high, in the Wallawas.

Hesperochiron pumilus is a nice little plant which hugs the ground with succulent basal leaves, and which has huge saucer-shaped flowers of white. Mine grow in semi-shaded scree, and must be plainly marked to prevent their being dug up while dormant in summer.

Of the iris species native to the Northwest there are many suited to rock gardens. *I. bracteata* from the pine forest of the Siskiyou has long leathery evergreen foliage and deep yellow blossoms netted and veined with brown. *I. douglasiana* in its common form is too large for the rock garden, but there is a dwarf form in the trade which is very nice. The usual color is purple but there are white and pink forms available now. *I. tenax* is an eight-inch purple iris with narrow grasslike foliage. *I. gormanii* is of the same size and similar narrow foliage, but has soft yellow flowers. We found a stand of hybrids between *I. tenax* and *I. gormanii* which ranged from cream through pinks and coffee brown to deep pinks and reds. These iris are wonderful in the rock garden. One year I counted over two hundred blooms on an established clump. It is very easily grown from seed. *I. tenuis* is a small wide bladed iris with two or three white and lavender flowers laced with yellow, on a six-inch stem. I know of only one locality where it grows. *I. innominata* from southern Oregon is a little fellow with evergreen foliage. The little flowers on six-inch stems are, in the true species, a deep orange yellow. I have some natural hybrids with flowers from cream to purple, but still of the same size as the species. It does extremely well here in the screes. There is a small four-inch iris growing around Chehalis, Washington, that resembles *I. cristata* but is much deeper in color. What this is I'm not sure, but I know it is delightful.

Kalmia polifolia microphylla is a small mountain laurel from our alpine bogs, with delightful pink flowers. It stays small in the garden. In the bogs of the Wallawas I collected an exceptionally tiny one growing with the deep colored gentian and a tiny willow.

Kalmiopsis leachiana from the Siskiyou Mountains was discovered in 1930 by Mr. and Mrs. John Leach of Portland, Oregon. Growing after years to a foot in height, it covers itself with wide saucer-shaped flowers of deep rose. It somewhat resembles a kalmia and is a delightful member of the Ericaceae which is happy here in sand and peat.

Leucocrinum montanum, the sand lily, has grass-like leaves and white flowers which rest almost on the ground. It should be grown in well-drained sandy soil containing rock chips and leafmold.

There are several lewisias that are worth growing in a soil of rock chips, peat, and leafmold, in full sun. *L. columbiana*, which comes from mountains above the Snake River, has evergreen rosettes of narrow thick leaves, and numerous stems of rather small pink or white flowers. *L. rediviva*, a tiny one with fat leaves like fir needles, and large flowers like pink or white waterlilies, is found over a wide range, often among sagebrush. *L. finchii's* leaves are broad and overlap, making a fine emerald green rosette. Bright orange buds open into soft pink flowers with a dark stripe down each petal. *L. heckneri* has broad green leaves,

red beneath with tiny brown-tipped spines along their edges; its large pink flowers have no stripe. *L. howellii* has leaves with crinkled margins, green with red tints. The flowers, five to ten on a stem, are pink with white margin and a broad central stripe of purple. *L. tweedyi*, from the Wenatchee Mountains, is the beauty of the family, with apricot flowers and broad evergreen foliage. I once saw a double one that was very attractive. There are several other species, among them *L. brachycalyx* which I once grew and liked very much, but a mole got it. The foliage was dark green and spatulate, and the large white flowers grew close to the foliage.

Leucothoe davisiae is a small species from Oregon with glossy green foliage conspicuously veined, and white flowers like lily of the valley in numerous short spikes in spring. It needs semi-shade, peat, sand and leafmold.

Linnaea borealis is our twinflower, a little vine which runs over the ground in bogs, has little rounded leaves in pairs, and little bell-shaped flowers of delicate pink, very fragrant, on inch-high stems.

The one lupine I admire is *L. lyallii*, which grows on the high mountains among such treasures as *Silene acaulis*, dwarf phlox, and *Erigeron aureus*. The tiny leaves look as though they were made of pure silver, and the flowers on one to two inch stems fit close to the foliage. In the early morning, with drops of dew on them, they look like diamonds set in platinum. I have some pink and pure white ones along with the lovely gentian blue. This is quite difficult to keep dwarf in our gardens. I have not tried it in scree yet.

Lutkea pectinata, the partridge-foot, from timberline parks, is a member of the rose family. It resembles a mossy saxifrage with very finely cut lacy foliage. The little spikes of pale yellow flowers come in June here in the garden. It is easy in coarse scree mixture, and makes a perfect ground cover.

Mertensia longiflora is a delightful early spring plant which we collected in the lowlands of eastern Washington, where it grows with the yellow bells and claytonias. It has a couple of big ovate blue-green leaves and not more than three smaller stem leaves on the four-inch flower stalks. The little clusters of brilliant blue flowers are sometimes tipped with pink. I grow it on the edge of the woodland.

There are some good species of mimulus, for the edge of the stream in my garden. *M. lewisii* grows in the high meadows, with gorgeous deep pink flowers. I have collected a cream colored one that was a beauty, as well as a bright yellow one around eight inches in height. In the high alpine places, along little snow-fed streams, I have seen a tiny yellow one an inch high.

Paenonia brownii is easy in the garden, but to me is little more than a curiosity. The brownish single flowers are odd rather than beautiful, although the foliage is attractive, much divided and bluish green. The whole plant is only twelve inches high. It likes sandy soil.

Penstemon is a huge family, and it would be wonderful if we could get all the wee ones established in our rock gardens. Here we grow *P. tolmiei*, a little one of compact growth with small foliage lying on the ground, and little flat heads of bright blue flowers. The best form of this I collected in the Wallows, only an inch or so high. *P. mentiesii* grows all over this part of the Cascades. The plant is a creeper and varies in color from white to lavender, pink, blue, and purple, with deep green foliage. *P. rupicola* has silver grey foliage in the best forms, which are very compact and cling to the rocks. The trumpets are reddish pink, but in Oregon I collected a lavender blue with silver foliage. *P. fruticosus* is a more upright grower, around eight or ten inches, with purple flowers. *P. newberryi* from the California mountains grows eight inches high, with reddish green foliage and dark red flowers. *P. aridus* from Montana is very

dwarf with good blue flowers. *P. abietinus* from Utah is tiny and heath-like with clear light blue flowers. *P. caespitosus*, a mat-forming one, looks somewhat like a phlox, with bluish purple flowers, and small greyish evergreen leaves. *P. coloradoensis* looks like a little grey sagebrush, with foliage narrow and grey, and spikes of relatively large flowers. The plant's overall size is six inches. It does well in scree. *P. gairdneri* grows in the sagebrush country of eastern Washington and Oregon. The plant grows six inches high, with very grey foliage and the lavender flowers with deep purple markings are very lovely. It dries up completely in summer in its home, and turns green when the fall rains come. Here it requires scree treatment. *P. pinifolius* is a good name for this shrubby little fellow, for it does look like an evergreen tree and has bright red flowers in long sprays of narrow trumpets—a good rock garden plant either in bloom or out. There are many more little ones which I am acquiring as fast as possible.

Phlox are many and varied in our Northwest, and most grow in the garden here in ordinary soil and sun. *P. diffusa* grows in the high Cascades; it has needle-like foliage, with flowers white to lavender and pink. *P. douglasii* has needle-like leaves, resembling a moss, and white or lavender flowers that are slightly fragrant. On a high peak I collected a very woolly looking phlox with wide-petalled lavender flowers, which grows very compactly. It crosses with *P. subulata*, and gives some very interesting hybrids. This grey foliated phlox is my favorite, but I am not sure which species it is. My favorite lowland phlox is *P. adsurgens* from Oregon, a small grower, six inches high, with shiny green foliage and large clusters of pale pink flowers, with a much deeper stripe. This is a very attractive plant, and easy in semi-shade.

Of the polemoniums, the only ones I grow are apricot-colored *P. carneum* from Oregon, and the tiny high alpine *P. elegans* which grows from under the edge of rocks and is only a couple of inches high. It is dark blue, with a strong odor of musk when disturbed.

Phyllodeles, our mountain heathers, are easy and long lived in my garden. *P. empetriformis* is pink-flowered, and grows eight inches high here. *P. glanduliflora* is pale yellow, but in the high Wenatchee range I found a very good form which makes a compact shrub like a very old conifer, eight inches high, with flowers of a good yellow. I have had it for more than ten years.

I found a very dwarf form of potentilla in the Wallows, which has silver foliage flat on the ground, and large yellow flowers.

Sedums are many, and I grow several very interesting forms, but I do not know which they are. If, when travelling, I see one which interests me, I collect and grow it.

Of silenes I grow the native *S. acaulis*, which is known the world over. This is easy to collect and to grow in scree, increasing all the time. It has deep pink flowers on flat little buns of foliage. I do grow several others from various places.

Sisyrinchium grandiflorum I have in different colors and like very much. I have also a blue and a yellow species.

Synthyris rotundifolia I love, for it grows so easily and is so bright and cheerful early in the spring. It has rounded leaves crinkled at the edge, and flowers of a good blue color. *S. reniformis* from eastern Washington and Oregon is another, with kidney-shaped leaves and taller spikes of deeper blue. There is a pink form from California which I must get. These plants like semi-shade, with coarse scree or ordinary soil.

Years ago, I had a lovely little trillium, *T. rivale*, from the Siskiyou. It was only four inches high, white speckled with brown. I must locate it again.

Our *T. ovatum* grows all over my woodland garden and along the edge of the dwarf rhododendrons. I also have several species from different parts of the United States.

There are some tiny vacciniums which make good ground covers, in sand, leafmold and peat. *V. caespitosum* has blue berries and wide leaves, while *V. deliciosum* has red berries.

Vancouverias are likewise lovely ground covers. *V. chrysantha* has leathery, almost evergreen foliage and yellow flowers, while *V. hexandra* has more lacy foliage and white flowers. They like sandy leafmold.

Among the many violets I grow are: *V. adunca*, which makes compact clumps of leaves and has dark blue flowers; *V. flettii*, a tiny one from high mountains, like a small *V. adunca*; *V. hallii*, from Oregon, with the two upper petals violet and lower three creamy yellow, and finely cut foliage, a lover of scree; *V. chrysantha*, with large golden yellow flowers, brown on reverse of the upper petals; *V. trinervata*, an eastern Washington desert species (sagebrush) with finely cut foliage, the upper two petals purple, the lower ones reddish; and *V. sheltoni*, with divided palmate foliage and yellow flowers, the upper petals tinged brown.

Xerophyllum is a lovely plant in its mountain home, where I admire it very much, but have had no desire to bring it into the garden.

There are many plants which I have left out, no doubt, as it is hard to remember when things are dormant. We have several good rock garden ferns, but we can talk of those another time.

CHILEAN NOTES—IV

CRW

John developed a digestive attack that night, fortunately not a serious one, but sufficient to keep him inactive for some days. Without him, at six o'clock on the morning of November 10 Rodolfo and I set out in a Road Office car (for which a driver was always provided) for the famous Bosque Fray Jorge, "northernmost forest in Chile," perched on cliffs above the Pacific. We drove almost to Cerillos, then turned west onto a much better road, but soon ran into difficulties with irrigation ditches which crossed the road; once we bogged down and dug out with difficulty. Then we climbed to the top of a flat pampa, but the road soon left this and entered the hills, forking and forking again and almost playing out. We passed cabins fenced by waist-high hedges of a shingle cactus (*Opuntia* sp.), where twice the driver stopped to ask directions. We approached the fog belt, but always just avoided the mists; the hills had good stands of shrubs and cacti, but everything else had been grazed off except an occasional plant of *Argyria puberula*, at last in ripe seed. I fear that nothing ever came of this seed, for I have never seen the plant mentioned in catalogs or articles.

At nine o'clock we came to Hacienda Fray Jorge, and could glimpse the main house surrounded by trees. We did not stop there (probably the owner was away) but went on to the home of the overseer Sr. Pedro Juan Muñoz, a slight dark young man in the early thirties, who came out to greet us, then gave orders for horses to be brought, and invited us inside for breakfast. Rodolfo brought out tea and sugar, which seemed to serve as calling cards in these homes far from a store, and a woman went in search of eggs. Our host, clinking around in spurs more than three inches in diameter, waited on us, serving the eggs and tea, and slices of an inch-thick bun made from very brown flour which had a

slightly sour taste that I could not identify. Intermittently he gave us the details of a recent visit to the forest by four gringos, one of whom had departed with her hands full of cactus thorns. When we went outdoors, I was entranced by two enormous white locusts, full of bloom, which shaded the corral, for we had seen few trees since leaving Ecuador. I rode on a Chilean saddle for the first time: three or four sheepskins strapped under a leather seat, a small swell instead of horn, and stirrups that were hollowed-out blocks of wood, too small for my size 7 shoe, so that the toe always stuck in the stirrup. The saddle looked alarmingly wide, but was far more comfortable than the best stock saddle. The trail wound among heavily grazed hills on which we saw little other than shrubs, of which I noted only a purplish eupatorium and a white erigeron. After a couple of kilometers of hillside riding we came to a summit which had nothing on it but a new nolana bearing isolated flowers flat on the ground, morning glories about two inches across, with a purplish margin shading to blue, a grey throat black at the center. On the other side of the hill a tiny amaryllid, probably a habranthus, was in bloom, never more than four inches high, each stem with two or three flowers two inches long, ranging in color from pink to salmon. There were also the little tylloma, apparently the same species that had appeared at intervals all the way from Taltal — this was the last time we were to meet it; a lone plant of a sisyrinchium with wide-open flowers an inch across, golden yellow with brown spots in the center—I hoped that it would turn up among the seeds which I had collected previously; and a stunning little hypericum which the stock appreciated as much as I, with tangerine buds opening into inch-wide golden flowers. Then we rode into the famous forest, only a few acres in extent, perched on top of a hill with the ocean at its foot. Here and there were tangles of rather small trees of several sorts, none in bloom or fruit, while the open spaces were filled with an orange loasa, and a stinging nettle grew in the shade. There was little under the trees but mosses and three ferns, with a few species which we had seen at El Tofo, and *Oxalis rosea* with insignificant white flowers. Almost every edible plant had been cropped off, so that it was hard to find any material to collect. On the way back we found a lone plant of an alstroemeria with red-splashed yellow flowers, and in the pasture itself a malvaceous plant with ash-grey foliage and pale lemon flowers, tinged red on the reverse. Strangely, as I read my notes, I find that not a single plant from the forest region has impressed itself on my memory, sure indication that nothing was seen of horticultural merit.

Although at the beginning of these notes I wrote that we had never seen the Chile-Argentine Andes, from time to time we caught glimpses, in the hazy distance, of snow-streaked mountains which seemed unimpressive, but which Rodolfo assured us were the Andes themselves; always I felt that they could be hardly more than lofty foothills. From the roads near Ovalle, and from Bosque Fray Jorge, we saw for the first time an extended panorama of the Alta Cordillera, a low-seeming wall with occasional peaks rising slightly higher, with rare streaks of snow, often quite low on the wall. Recalling descriptions of the Himalayas, rising so high that even from many miles away one had to look up to see their summits, I had anticipated an almost equally awe-inspiring spectacle: a few Peruvian peaks seen while on the ship—Coropuno probably among them—had been much more impressive, though of lower altitude. Any way I consider the matter, I was rooked: either the Chilean Cordillera is far less impressive than I had expected, or I never saw more than its minor peaks, except brief glimpses of Doña Aña.

From Ovalle we made a trip toward the Cordillera, over a road through Carín and up the valley of the Mostazal, which was at that time barely passable, although it was scheduled to be opened to San Juan, in Argentina, the following

year. It was a frustrating day: there were almost no plants, and just as we came into sight of interesting peaks, the road ended abruptly. We might have hiked on farther, but nothing could have been accomplished without staying in the mountains for at least one night, and the season was not yet enough advanced to make this profitable.

The scanty and disappointing flora of the region around Ovalle did not merit further exploration, while that farther south would soon be past its prime, yet John had not recovered from his illness, and it seemed inadvisable to move him. He decided to remain in Ovalle till fully well, as the hotel was good, and its proprietor had a fair amount of English; Rodolfo and I would keep in touch, and return if needed.

On the morning of November 12, 1938, Rodolfo and I boarded the "rapido" for Illapel, some five hours to the south; here to our surprise we found a wealth of plants that more than compensated for the lean weeks in northern Coquimbo province. The country through which the train travelled was rough, yet as barren as that around Ovalle; the only interesting plants I saw were a pink alstroemeria and the habranthus of Bosque Fray Jorge. Throughout most of the journey, the snow-streaked northern face of 11,000 ft. Cuesta de Espina was visible, and when we rounded its base, a few miles from Illapel, and saw the heavy snows on its south side, I began to dream of exploring it. Rodolfo was extremely pessimistic about such an undertaking, but on one of the last days we spent in the region we went nearly to its summit and found some wonderful plants.

At Illapel, a small town in an agricultural community, we stayed at the Hotel Alemán, which boasted a waitress in black dress with white apron, but otherwise was neither better nor worse than most of the other hotels at which we stayed. Its rate (fixed by the Chilean government) was exorbitant, 22 pesos—nearly a dollar—a day for room and meals. Perhaps the white apron made it a luxury hotel. I ran into difficulties when I tried to send air-mail letters back to the States, for the local postoffice had only 20 centavo stamps, rather large ones; there was not space for seventy-five of them, even if both sides of the oversized Chilean envelopes were used. After a prolonged argument, during which my usually halting Spanish became exceedingly fluent, arrangements were made for the letters to be sent stampless to Santiago, where the proper denominations could be affixed.

The next morning we drove westward through overgrazed hills to the low ridge known as Cuesta de Cavilolín, hidden in dense fog, its lower slopes a tangle of shrubs and small trees. The road climbed to the summit of the ridge, and as we ascended we stopped from time to time for specimens, then dropped down the rather barren western slope. A bit farther on, we stopped at a house for tea, for which we waited on the porch. Plants grew in oil-tin hanging baskets, on one of which was perched what I took for a young robin, but Rodolfo gave it another name, and told me that its nest is on the ground, often along irrigation ditches. The bird screamed for food, while young chicks wandered about and were relentlessly pursued by a huge dog whenever they found anything edible. On the return trip, after we had passed the summit of the ridge, which had been grazed entirely bare for a kilometer or so, I walked most of the way down, collecting as I went. Finally, for the first and only time, our supply of paper for specimens was exhausted, some were carried back in our arms, and many had to be left behind for collection on a later visit.

Among the plants collected, other than those "of botanical interest," were a *Sisyrinchium* with inch-wide butter-yellow flowers; another one two feet tall, with flowers of the same size, but cream to pale yellow, veined brown on the reverse; five *calceolarias*, three of them shrubby, all yellow-flowered; an *argylia*

(? *A. radiata*) with very finely divided basal foliage which, although green, appeared grey in mass, and with yard-high stems carrying several large velvety-maroon trumpets, orange-yellow at the base; an "everlasting" which made dense six-inch clumps, with whitish buds and quarter-inch flower heads of intense blue; an alstroemeria looking a bit like a pale version of *A. violacea*, its flowers lavender with a purple bar on the lowest tepal, while the two upper petals were yellow, dotted maroon; a large-flowered pea with banner shading from pink to blue and white wings; a smaller one with blue banner; a quite nice astragalus with densely grey-pubescent foliage and blue-purple and white flowers; a trifolium with showy heads varying from bright rose to vivid red, a couple of inches across, on stems of only two inches; the hypericum of Fray Jorge, here uncropped and foot-high, a lovely thing covered with inch-wide garden flowers opening from buds that shaded from red at the tip to yellow at the base; a deep purple conanthera, quite attractive, and another monocot up to a yard in height with inch-wide stars of intense satiny blue; and, hardly a charmer, a tall shrubby lobelia with brownish flowers. Also I made acquaintance with *Mutisia*, a genus of climbing composites, usually of a high order of beauty, with large daisies of brilliant color. The one found here was relatively dull, with three-inch heads of washed-out pink, rather coarse in texture.

As we drove back to Illapel, the fog lifted, and we were able to see that there is only a very small region in which the fogs are dense enough to produce a rich flora. That night Rodolfo and I had a long task, writing notes (the collecting had been so fast and exciting that we had not been able to do this chore in the field), and putting the specimens between fresh newspapers, for the plants were sopping wet from the mist. The Coleman lantern over which we hung presses to dry the material went on strike, probably because of dirty gas, and it was not until John rejoined us and, after a minor conflagration, got the lantern in working order, that the drying could be finished.

Late the next morning, after futile efforts to repair the lantern or to borrow another to take its place, we started eastward, as usual in a car belonging to the Chilean Road Commission, furnished to us at no cost other than that of gas, and of the driver's wages, which were about 50 cents a day. We drove back a few miles along the road to Ovalle, passable for only part of the way, meeting many people on horseback, and a few two-wheeled carts, but never another car, for we were in what I believe was the only one in Illapel. We left the highway and followed a road through fields, each numbered and bearing its owner's name, until unexpectedly we came to a gate where we were stopped by a guard who was persuaded after some discussion to let us enter a great ranch, many miles square, and running far back into the mountains. Along the private road were occasional small settlements, a white church perched on a hillside, and a pretentious turreted white stucco mansion. About forty kilometers from Illapel we passed through a cypress grove, over an irrigation ditch, and into a farmyard at one side of which was a square group of adobe buildings, and another long low one, in which the administrador of the estate lived, behind a garden of fruit trees, grape vines and flowers in confusion. The administrador refused to see us until after lunch. Rodolfo, always resourceful, found a woman who prepared a special meal for us, and then insisted that there was no charge, but after some persuasion reluctantly accepted ten pesos—less than forty cents for a good meal for three. The administrador was less agreeable, for after a long and futile talk, Rodolfo returned muttering that he was "no buen hombre," had refused to furnish horses for us, and had only grudgingly consented to let us look around on foot. Gone were our hopes of using the ranch as a base for a few days, from which we could penetrate back into the mountains which are rumored to harbor

such rarities as a pink *sisyrinchium*. This was, however, the only occasion on which a Chilean did not cooperate fully and cordially, making every effort to assist us; perhaps the administrador had just been worsted in an argument with his mother-in-law.

It was by then two o'clock, so there was no time for wandering far on foot, and the road went no farther. Along the bed of the river, Quebrada Luncumán, we found a dwarf *matricaria* which made up in odor for its lack of size. There were two little mimuli, and a taller one with flowers an inch and a half across, yellow with a big red-brown spot. Then I clambered up the cliff that rose beside the creek, finding only an oxalis past blooming, and on to a dry, much-grazed slope thick with shrubs, of which the most interesting was a *calceolaria* eighteen inches high, grey with wool, just beginning to open its light yellow pouches. On the way down I harvested a few seeds of the vicious orange loasa by knocking the capsules into a packet with my pick. Farther up the riverbed, there was a herbaceous *calceolaria* (? *C. polifolia*), with yard-high stems bearing small light yellow flowers—hardly a connoisseur's item. Such was our bag, but on the return trip we picked up a quite distinctive *alstroemeria*, whose upper tepals had three bands, of white, yellow, pink, maroon dotted, while the lower ones were clear pink.

(To be continued)

PHILIP C. KEITH

ROCK GARDENERS in the Portland area of Maine were greatly saddened by the loss of Philip C. Keith of Cape Elizabeth. Mr. Keith was one of the most active members, taking an enthusiastic part in all activities of the Maine Unit, and acting as Chairman in 1952 and '53.

Mr. Keith's rock garden was a "gem" if any ever deserved that description. The natural ledge outcrop and tiny hollowed-out pool had been slightly enlarged and skillfully planted over a period of many years, using only the most miniature and restrained plants in perfect scale and harmony. He was also especially fond of native wildflowers and many grew naturally or had been added in the woodland around his home, with bog plants along the little brook below the pool outlet. Daffodils danced in a carpet of bluets under a beautiful white birch on the lawn, artfully spotlighted for the delight of evening visitors.

Phil Keith's garden visits will be much missed, with his gentle good-humor and his great love for all lovely growing things. Mrs. Keith shared his love for the garden and hopes to continue it as he had planned.

—G. M. B.

SALMAGUNDI

A REPRESENTATIVE GROUP of the Maine Unit of the American Rock Garden Society met on March 29, 1957, to discuss the practicability of continuing or terminating this unit. It was unanimously voted to dissolve the Unit as such. This decision was ascribed to members being so widely scattered over the state as to make meetings impossible."

The above communication from Blanche L. Olsen, secretary of the Unit, is cause for regret that some means could not be found for continuing meetings of the group, at least once or twice a year. Probably much of the membership of the Scottish Rock Garden Club, largest of the three specialist organizations, is due to the organization of many local groups, and to their varied activities. A reading of the calendar of meetings of one of these clubs makes one long to be within commuting distance. Our own Northwest Unit has demonstrated,

and we have been delighted to report, that much can be done by a small organization. Our local garden club, whose membership has never been more than ten, has accomplished many times as much, in the way of shows and activities of benefit to the whole community, as nearby clubs of several times its size. It is not the number of members, but their enthusiasm and industry, which makes a garden club a success. It seems to us that there must be in many localities at least four or five members of the Society, and that they could, by opening their gardens at announced times, arouse interest and awaken enthusiasm among gardeners who have never realized the possibilities of gardening in miniature. This could lead to other activities which would "spread the gospel" of this most fascinating of gardening interests.

* * * *

It is a pleasure to announce that Olga Johnson, well known to members through her frequent articles on native plants of Montana, is planning a collecting trip into the high mountains of southern Montana this summer. The region she plans to visit, well known to us, is particularly rich in beautiful species: *Kalmia microphylla*, two phyllodoces and their hybrids, prostrate willows, an exquisite alpine phlox, superlatively beautiful *Mertensia tweedyi*, *Douglasia montana*, *Eritrichium elongatum*, *Polemonium viscosum*, *Gentiana romanzovii*, *Anemone tetonensis*, and a host of other treasures.

She will accept subscriptions for shares in the plants collected; a minimum of five dollars will bring the subscriber at least two or three plants of each of six or more species. As many shares as desired may be taken, if one wishes more plants of a kind, or more kinds; the larger the subscription, the more plants per dollar subscribed.

It is to be hoped that many of our members will take advantage of this opportunity to procure plants most of which have been unavailable for many years. Anyone interested should write at once as she will make the trip in early August. Address Mrs. Peter Johnson, Box 947, Libby, Montana.

* * * *

If not all the seeds sown this spring of alpine and other perennials have germinated, *do not* throw away the seed pots, or disturb the seed bed, for at least another year. This spring we have had phenomenal germination, not only of species which had done nothing last season, but also from pots from which the 1956 crop was removed, but which for lack of time were still sitting around the alpine house. Never has laziness been better rewarded, for rare iris, androsaces, anemones, buttercups, campanulas, lewisias, and many others are now, in mid-May, ready for transplanting, fully a month earlier than usual. Some of the seeds which held over include genera which normally germinate in a few days: there is no forecasting how alpine seeds will behave, but normally such seeds would have been regarded as failures, and their pots dumped. It seems clear from the results of this season that sowbugs, for which we have never found any adequate weapon, have destroyed many ungerminated seeds in the past; this year, sown in fruit jars, the seeds were safe from these pests, and we are much the richer in tiny alpine.

* * * *

We are greatly honored by having in this *Bulletin* an article by H. Clifford Crook, who probably knows more about campanulas than any other living person. It is suggested that anyone desiring to purchase his book write directly to the publishers. For reasons unknown, but certainly not due to shipping costs or duty, English books and music sell in this country for about twice their price at home, and a substantial saving may be realized by ordering through a British dealer.

Several days of extremely low temperatures last January, dropping to at least -25° F at times, were disastrous to woody plants, but alpines, even tender sorts, suffered little. The only obvious casualties in our garden were a few aethionemas, most of which are breaking from the base, and *Genista tinctoria fl. pl.*, which is past recovery. Even *Amenone hortensis* 'St. Bavo', which had made several inches of premature growth during late fall rains, was unscathed. Freezing weather in spring, after plants had started growth, has done far more damage than the extreme cold of the winter.

* * * *



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