

BULLETIN

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THE BOTANICAL GARDEN IN GENEVA, SWITZERLAND

VIRGINIA BRIGGS, *Ithaca, N. Y.*

In 1960 my husband decided to spend his sabbatical year studying in Geneva at the library of the United Nations headquarters and invited the whole family to go along. As an alpine gardener of little experience but great enthusiasm, I looked forward to a year which would be spent close to the mountains where so many of the first rock garden plants had been collected. My head swam with visions of *Eritrichium nanum*, for I had already progressed far enough to scorn the popular enchantment with *Leontopodium alpinum*. The only mountains I had ever climbed were two or three green hills in Vermont many years before and I must have forgotten the effort that had been involved, for my vision of life in Switzerland had me sitting happily on top of an alp most of the twelve months we were to stay there. Needless to say, it was not to be. Although a few glorious expeditions to the mountains were finally made, this alpine enthusiast spent a good part of the year waxing floors up to high Swiss standards, washing clothes in the bathtub and lugging heavy shopping bags on foot from the Swiss counterpart of the A & P.

But Geneva offers a great compensation to the frustrated lover of alpine plants. Its large and beautiful botanical garden on a site sloping gently down to Lake Lemman offers, in clear weather, a magnificent view of Mont Blanc forty miles to the southeast. The garden includes an interesting collection of trees and shrubs, a small but delightfully arranged tropical greenhouse, and an orangerie or cool greenhouse, but the rock garden, several acres in extent, is the chief attraction.

Like everything else in Europe, the Geneva Botanical Garden has a considerable history, including, what is rare in garden histories, its complete removal over a period of ten or twelve years from its original site to the present location near the European headquarters of the United Nations. The garden was begun in 1817 with the aid of a popular subscription and was laid out at the foot of the ancient walls which guarded the old city of Geneva. Augustin-Pyrame de Candolle, (1778-1841), a famous Swiss botanist, was one of those instrumental in the founding of the garden, and its first curator.

From the beginning, the need of a conservatory was felt, and in 1824 a

building was erected to house the growing library and dried plant collections. The growth of the city and the fumes of the automobile age eventually made the removal of the garden imperative, and during the years from 1905 to 1918 a gradual transfer of everything movable was made to the present extensive and beautiful site in the Ariana Park close to the former League of Nations building, now the European headquarters of the United Nations.

The landscape architect, Allemand, a pupil of Correvon, designed the garden and supervised the digging of the streams and small lake and the erection of the rock work of weathered limestone. Every possible need of an alpine plant has been foreseen. There are hot, dry beds where large lizards flash in and out among the daphnes and the spring bulbs; sunny, wet situations along the streams crowded with primulas and other moisture lovers; a partly shaded grotto where *Potentilla nitida* grows among the shade-loving saxifrages of the Swiss woods; an acid bog at the foot of a small waterfall where the air is moist with drifting spray; and, of course, countless mounds and hillocks, cliffs and ledges, slopes and hollows which provide the varied growing conditions demanded by a large collection of alpine plants.

The first big splash of color in the spring is made by *Cyclamen coum*. In 1961 it was in full bloom on February 28. This tiny cyclamen, which Farrer disparages, made a ravishing impression on me. The small flowers of brilliant carmine are spotted with purple at the base of the petals and make a splendid show when mixed with the pure white form. This cyclamen is perfectly adapted to the Geneva climate which makes me doubt that it would survive the rigors of an upstate New York winter. Geneva has mild, fog-bound winters and moderate summers so that the total effect on plants must be more similar to that of the English climate than to the extremes of the central Alps. In any case, this cyclamen needs sun in the springtime but must be protected from the dryness of summer days. In the Geneva garden it is overplanted with *Arenaria longifolia*, a wiry, attractive, grass-like mat which allows the cyclamen to push through during the period of autumn leaf growth.

Another plant new to me was *Alyssum spinosum*, a great, gray-green hump sprinkled with tiny white flowers. Farrer calls this *Ptilotrichum spinosum* and a "commonplace" of gardens. Now that I am home again I have noticed the name in seed lists and want to try it, although it is of doubtful hardiness according to the staff of the Geneva Conservatory. But what an enchanting mass to grow on a hot, dry wall in climates it can tolerate. It needs plenty of space and sun.

Daphne cneorum 'Major' grows in the garden in abundance, in full flower last year on April 12. Although I had never seen it before, I doubt that it could be grown any better than it is at Geneva where the neat, low bushes reach several feet in diameter and the closely packed blooms fill the air with fragrance. *Daphne mezereum* is common in the wild and I saw lanky shoots of it in blossom, scattered here and there in the underbrush on the lower slopes of the Jura in late March.

Of the many anemones in the garden, two linger in my memory; the dazzling scarlet *Anemone fulgens*, the most hypnotic red I have ever seen, and *Anemone coronaria*, a big, pale blue anemone with a deep blue center.

Very different growing conditions are provided in an acid bog at the foot of a small waterfall. There *Soldanella alpina* was growing well but flowering almost not at all. Later I saw it blooming by the hundreds in a most unromantic cow pasture in the Jura where I would not even have noticed it if the steepness of the path had not brought it within a few feet of my near-sighted eyes. *Soldanella alpina* was a disappointment to me. How often I had admired those il-



View toward orangerie

illustrations in garden books of graceful lavender bells swaying against the whiteness of melting snow. Perhaps snow would relieve the undeniably murky cast of the dark purple-blue bells. The ones I saw were growing in grass and making less effort than the common violet. *S. alpina* is very small and to get the effect shown by most illustrations, you would have to lie flat on your stomach about six inches from the plant. Undoubtedly more attractive forms exist. *S. montana*, which I did not see, is highly regarded. Perhaps, too, the real but limited charms of *S. alpina* have been inflated by the few people who get up into the mountains early enough in the spring to see it in bloom and whose claims in paint and print cannot be refuted because the plant is not often flowered in lowland gardens.

Oxycoccus quadripetalus and *Andromeda polifolia* were growing in the bog but were so tightly interwoven that I was never able to decide which was which. Both plants have beautiful shining foliage and in the midst of this ericaceous tangle the American pitcher plant (*Sarracenia purpurea*) was lifting its carnivorous leaves, and bright green colonies of *Saxifraga aixoides*, with their pretty red and yellow flowers, were crowding close to the pool just as they decorate the edges of many high alpine streams. This plant, in bloom in Geneva on May 14, I later found in bloom on August 15 at 7000 feet in the Pennine Alps.

One of the prettiest corners in the Botanical Garden is a cool, very protected wall facing east and shaded by a large shrub of *Cytisus* (*Sarothamnus*) *scoparius* 'Dorothy Walpole'. Miss Walpole is about three feet high and covered with gorgeous pea flowers of a deep mahogany red velvet with pale yellow interior. In her shade, on the wall, were flowering tufts of *Ramonda myconi*, a curtain of the soft, loose, dull green foliage of *Petrocoptis lagascae*, sprinkled with flowers of deep rose, and *Haberlea rhodopensis* with dark purple tubular flowers, the color fading to lavender at the lip. *Saxifraga cochlearis* 'Major' completed the grouping. This is a saxifrage of such compelling beauty that even the most hardened expert would not fail to desire it. Humped-up, narrow-leaved rosettes

of lime-encrusted green send forth long red spikes of eight to ten inches bearing sprays of very white flowers. Farrer says this is vigorous and easy.

The area of the garden devoted to plants from the Nouveau Monde (the New World) naturally interested me but the collection seemed rather commonplace to American eyes. (I have seen our gray squirrels and blue jays in cages in European zoos and realized that what is commonplace to us is of sharp interest to Europeans because it is exotic to them, and by the same token, the Swiss would find ridiculous our concentrated efforts to grow the gentians which bloom by the million in their alpine pastures). *Sanguinaria canadensis* was proving its good nature by blooming in almost the sunniest, hottest spot in the garden, but when one is used to seeing it in the cool spring woodland, it looks rather forlorn on a dry, bare southern slope. *Adiantum pedatum* (maidenhair fern) and *Aquilegia canadensis* were doing the honors with several species of *Opuntia*, *Dodecatheon meadia* and *Erigeron glabellus*, an ordinary eight inch purple daisy. *Erigeron leiomerus*, a spreading little lavender daisy of three inches, looked good for rough places but also dangerously rampant.

The real glory of the collection in this area was a dozen plants of *Cypripedium spectabile*, two and a half feet tall with enormous pink and white pouches. There were a few penstemons, *P. pulchellus*, *P. bridgesii* and *P. eriantherus*, but all in the two or three foot class and not particularly striking. I made my first acquaintance with the eriogonums in Geneva. Although their foliage was engagingly alpine in character, a huge spreading mat of *Eriogonum umbellatum* had only one flower, but that large red and yellow umbel was almost worth the investment in space. *Delphinium nudicaule* struck me as very lovely. It is a frail little plant of a foot or so with thin trumpets, but they are so brilliantly scarlet and so gracefully arranged along the spike as to be most desirable. Another American met for the first time was *Eriophyllum arachnoideum* which, while not very refined, was consistently interesting throughout the spring season. It makes a one foot mass of rough-looking foliage covered with cobwebby down and at the end of May is crowded with a profusion of golden daisies with darker gold centers. These are not floppy or fringy; in fact they seem more like an application of the daisy form in decorative art than the natural, imperfect flower. It is a curious effect and most attractive.

The rarest jewels of the Geneva garden in my untutored opinion were the small things growing on a long, low wall of tufa. This wall consisted of three shallow, stepped-back levels of tufa and supported three sides of a large, low terrace under the open sky. Here were the smaller saxifrages, starting with masses of *Saxifraga oppositifolia* with its lovely rose-lavender flowers. Later in the summer I found at least one mountain top covered with sheets of this plant out of bloom and wondered what particular difficulties stand in the way of our having it more generally available. Another very early-blooming saxifrage was *Saxifraga pseudo-paulinae*; its tiny gray-green rosettes were thickly covered with large soft-yellow flowers on red stems. *S. irvingii* was equally attractive with white flowers above small gray rosettes. *S. sanguinea* 'Superba' had striking green rosettes with dark red stems supporting wine-red flowers with yellow stamens. *S. cochlearis* 'Minor' is an altogether charming small edition of the form 'Major' mentioned above; the crowded, humped-up rosettes carry the purest of pure white flower clusters on six inch red stems.

My favorite was *Saxifraga sribryni* (sic) which Farrer spells *sribnrnyi*. (An effort to track down the correct spelling led to T. C. Mansfield, who spells it *sribnrnyi*.* Take your choice.) This has drooping clusters of fuzzy, wine-red flowers on wine-red stems rising about two inches above the gray-green rosettes. I first saw it in bloom on March 12 and it was still going strong on April 28.

* This is correct (Ed.)

Another charmer was *S. cotyledon* var. *platyphylla* which sends up a small eight inch plume of white flowers which nods a little at the apex.

Also growing on the tufa was *Morisia monantha* (*hypogaea*) which although it comes from the seacoast of Corsica is nevertheless a very attractive "alpine". It makes small tufts of dark green, armored foliage, each leaflet a three-cornered tooth. The flowers are small and deep yellow with an unusual purity and intensity of color. The flowers last a long time, or perhaps new ones coming; in any event, it was in full bloom for several weeks.

Another plant from Corsica, *Erodium chamaedryoides*, has the same delicate, jewel-like quality. It is a neat tuft of pretty, dark green, scalloped leaves with small, delicately striped pink flowers. Seed under this name was offered in the ARGS seed list for 1960. Since Farrer describes *E. chamaedryoides* as having white flowers, the plant I saw is more probably *E. hybridum roseum* mentioned in Clay, or the *E. reichardii roseum* of Mansfield.

The only possible objection to the fascinating *Sedum sempervivoides* is that it is biennial. This starts out like a sempervivum, a flat rosette of fat leaves. In late spring the rosette sends up a column of fat leaves all piled like a stack of thick pottery saucers, or, to shift the analogy, like some exotic far-eastern temple tower in miniature. At first the leaves are dark green, edged with reddish bronze, but by the time the flowers start to develop, the whole knobly column turns red, a deep, pulsating, arterial red, finally topped by a spray of bell-shaped, vividly scarlet flowers. The whole plant is not more than six inches high. The rosette dies after flowering, but it is said to come easily from seed. Although *S. sempervivoides* is not really beautiful, it is certainly spectacular and extremely interesting throughout its period of growth. If obtainable this plant would attract more comment from alpine gardeners and laymen alike than anything else in the garden.

Another miniature charmer (I lean heavily toward the very dwarf and dainty in my predilections) is *Asperula arcadiensis* from the Peloponnesus. It looks enormously difficult if only because it is so small and delicate-looking. It makes a small huddle of two inch, woolly gray-green stems and, marvelous to report, from the top of the stem comes a little bunch of exquisitely perfect, shiny pink trumpets for all the world like "real" fairy trumpets left lying on a green, cobwebby fairy carpet. All this needs a magnifying glass to be truly appreciated and would never be noticed by the garden visitor who raves about the aubrieta. How it ever got this far in the struggle for existence is a miracle.

Grassy and creeping ground covers are used to such good effect in the Geneva garden that I made a list of them in the hope that seed will turn up sooner or later. These little slopes and valleys of green carpet, sometimes sprinkled with small flowers, afford relief from the bewildering variety of plant forms in the garden and at the same time provide a useful background for the more exotic shapes. My favorite was *Arenaria parnassica* which makes a bright green bumpy carpet following the relief of the ground. *Arenaria pulvinata* is like *A. parnassica* but has a more sponge-like texture and is gray-green. It has tiny white flowers and must be a ramper for I saw it in the process of eliminating a considerable patch of *sempervivum*. This tiny creeping green crust was winning a battle with the big, fleshy rosettes which, half-strangled, struggled to lift their leaves through the green tide. *Arenaria longifolia* is a shaggy, wiry grass mentioned above as a cover for *Cyclamen coum*. Of less interest is *Ephedra helvetica*, a widely extending ground cover of dull green with a wiry, dusty look about it and the usual tiny white flowers. Also less appealing is *Arenaria tetraquetra* with its columns of crowded leaves. *Heliosperma* (*Silene*) *quadridentatum*, on the other hand, makes a nice green mat of crowded small spears sprinkled with

pretty, notched flowers of a dazzling white. This is native to Switzerland and much to be desired by those who like unassuming beauty.

My Geneva garden notes go on and on but this report must come to an end. I certainly have not done justice to the beauty and variety of the rock garden in Geneva, but I felt it should be brought to the attention of any American rock gardeners planning a garden tour of Europe. This garden in April or May is well worth a special trip to Geneva.

A NEGLECTED COREOPSIS

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

"All the monkeys aren't in the zoo", goes a popular ditty of some years ago. Paraphrasing, neither are all deserving plants in the rock garden. *Coreopsis*, as a rule, are unsuited to the rock garden. They are mostly upright, with leafy stems, and a bit too flashy for little nooks. But with all rules there is usually an exception, and in the case of *Coreopsis* it is a brilliant one.

Coreopsis auriculata, native to the dry Piedmont woodlands of the southeastern United States, once you are lucky enough to obtain it and grow it, will so impress you with its unusual foliage and brilliant orange-red daises, that you are bound to wonder, like me, why it is not a stock item in the rock garden trade. It is listed in Taylor's "Encyclopedia", but so far I've found no commercial source, only the wild.

Unlike the *Coreopsis* of the hardy border, *Coreopsis auriculata* is mostly basal leaved. The leaves are usually three or four inches long, round to oval, with ear-lobes at the petiole. During the non-blooming season they form a dense circle. These leaves are beautiful for their own sake. They are not coarse as are those of so many composites, and most striking is their color—a deep, almost black, green, about the colour of the leather borders of the blotter on my desk. Overlying all is a whitish felt. Most fascinatingly, although the plant is a woodland native, it luxuriates in the open sun, with the leaves turning their darkest and richest under such conditions.

The flowers are borne jauntily and airily over the leaves, each head individually, on an erect, almost naked stem twelve to eighteen inches high. Taylor describes their color as golden yellow, which is the color of most *Coreopsis*, but here in Virginia, where I know them, they are an orange-yellow, bright to be sure, but, it seems to me, a little more refined than in the other *Coreopsis*. They are daisy-like in form, an inch and a half wide, appearing in May and June. The orange-yellow flowers against the deep green felted leaves are dynamic to see.

One fault which this plant has, if it is a fault, is that it is stoloniferous and may spread, but that is only if you allow it to. Restrained from spreading, the original crown may get a bit too thick, and may warrant replacement by an offset.

I believe that this plant will be hardy anywhere that Stokes' aster may be grown. It makes a good substitute for arnicas, perhaps even an improvement, in regions where arnicas are difficult to grow. It can also be used where *Doronicum* is called for.

This past June I found myself with so many pots on the fire that I missed the crop of seeds of *Coreopsis auriculata*. I shall try next year to collect a good supply for the Seed Exchange.

AND SO TO BED

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

Here it is the last week of November and the garden has assumed, slowly, a new face. It has been a fine gradual autumn. Rains have come, well spaced and gentle. There have been gray days and blue, blue days.

The fall foliage was as splendid as ever I remember it. (Was it ever any less, any year?) Now the last loose leaf is down; only a few reluctant shreds hang brown on apple and on oak and on scattered shrubs. There is still color in persistent leaves of azalea and geranium species. The greens of conifers and broad-leaved evergreens are now the accent amidst the lichen-molded gray of rock and the russet carpet of down leaves out on the fringes of the garden where the forest fingers down from the mountain.

No leaves now carpet the open rock garden; only the maple keys (which chipmunks by day, and I surmise, mice by night are vacuum-cleaning up) are left from the fall drop on the rock garden proper. Beds under the pines, where needles form a bolstering mulch, are permitted to retain their catch of leaves. Here are mostly the plants that in their native homes receive a cover of leaves from tree and shrub. Most other leaves have been gathered up and tossed into the billowy heaps of the two compost piles.

There is a different radiance to the rock garden at this somber season when the lushness of summer is spent. Now each fretted blade of the saxifrage rosette is firm and precious. The silver fur on the *Oenothera caespitosa* seedlings is like premature hoarfrost. The new silvered whorl of needles on the fans of the two young *Anacyclus* are elegant in design.

As the structure in the shorn tree stands starkly beautiful, each separate plant now has a new identity undiminished by a burst of bloom. Even the laggard species which deny their flowering, *Primula clusiana* and *Gentiana acaulis*, have their stance and promise.

The late gentians are done. *G. scabra*, a week ago, was a wheel of magnificent blue amidst the brown of fallen leaves. *G. ornata* and *G. farreri*, lush of leaf, refused to flower this year.

Others, too eager to bloom, forward in a flowerless season, flaunt a fall blossom. Here amidst a bed of youthful vigorous *Primula acaulis* are precocious individuals, one with a flamboyant head of deep, deep blue and another of spotless white flowers. Or here, an out of season gift of phlox blossom, or a single blue star of *Houstonia*. One longs to still their eagerness but loves them for their daring. *Iberis saxatilis*, and a hybrid of it, will yearly yield a spate of fall bloom.

Now more than ever the firm ruggedness of rock, unadorned, makes clear its rightness or its wrongness. Now is the time to take the measure, not of bloom, but of structure. Now the bare bones of the garden, like the inner frame of a handsome woman, take the eye.

At this time of year one moves through the garden full of remembrance and anticipation. It is not very difficult to recall those days of early May when here was almost too riotous a blanket of blossom and the senses jangled under the demand. Only in certain nooks is there subtlety then. Now in late November every sweep is gentle with the variety of quiet texture and subtle shape. But most of all there is the promise.

Along this path are the new seedlings which have never before bloomed here, new townsendias, each a cup of buds ready to be touched by the first spring

warmth, new little tufts of various sorts; erigerons, anemones, dianthus, aethionemas, campanulas, penstemons and others, all in youthful health.

Along the other path is a whole new aspect, created last summer, of two raised beds on low, planted walls, one of acid rock backed with acid soil, the other, satisfactorily harmonious, of weathered limestone. This is one of those additions, either a revision of past mistakes or an entirely new extension, for whichever purpose, always an annual demand, not only to satisfy the everlasting discontent of the rock gardener but to provide at last that perfect site for all the new seedlings and special cuttings which beguiled so much attention. From the February sowing of the seed till their final domestication in August, they won a deal of fretful attention. Now, with only a daily benediction, even if every one shrivels beneath the blasts of an unprecedented winter or if mice move in, in hungry hordes, beneath a shelter of snow, they make November a wonderful month.

Who could ask for more of remembrance and anticipation than two new beds crammed with such precious jewels as these from cuttings or this year's seedlings:

Saxifraga oppositifolia, sancta, valdensis, schleicheri, hostii, biaolettii, longifolia, elizabethae, boeckleri, rocheliana, lingulata, cochlearis minor, grisebachii, 'Riverslea', and 'Cranbourne'; Draba polytricha, mollissima, athoa, oligosperma, dedeana, rigida, borealis, rupestris and incerta; Dianthus callizonus, neglectus, glacialis and alpinus; Campanula elatines glabra, cenisia, planiflora alba and aucheri; Primula pubescens, minima, hirsuta, cottia, clusiana, marginata, pedemontana, wulfeniana, glaucescens and villosa commutata.

And there are many others in this new raised limy bed, young and full of life at this point; *Penstemon pinifolius, Soldanella alpina, Myosotis rupicola, Globularia nana, Aethionema 'Warleyensis', Silene acaulis, Asperula pontica, Anemone vernalis, Geum reptans, Saponaria ocymoides 'Rubra Compacta' and Androsace sempervivoides.*

Many of these same species and others, such as gentians and the dwarfiest of *Ericaceae*, are being tried in the companion wall bed of acid rock and soil.

Will spring ever come?

ROCK PLANTS WITHOUT ROCKS

DONALD G. ALLEN, *Barre, Vermont*

What do we have when we take the rocks out of rock gardening . . . nothing? Of course not, unless we are geologists! What we do have left is just plain gardening.

Rock gardens are wonderful in their place, but it happens that a few of us can't obtain the kinds of rocks we want. Others of us have enjoyed rock plants so well we could not find room for them all in the rock garden. In the past too many have reasoned that to raise healthy rock plants you had to have rocks. How inconsiderate! When put to the test many rock plants will show that they like people better than rocks and will make themselves happy if given room almost anywhere on your home lot. In fact some "rock plants" feel a little embarrassed in rock gardens. It seems that once upon a time when rock gardening was all the rage some folks wanted to put all their plants among rocks; after a while they got so used to seeing them there that they didn't think they would grow anywhere else!

Rock garden plants perhaps cover a greater range of botany than any other specific group. Besides the delicate alpines, its span includes low perennials, wild

flowers, small ferns, low herbs, dwarf iris, small bulbous plants, groundcovers, dwarf succulents and Cacti, midget conifers and shrubs. Who has a yard without room for some of these?

Probably the most familiar expatriates of the rock garden are those that form eye-catching masses of springtime color. Bold effects like basket-of-gold (*Alyssum saxatile*), wall rock-cress (*Arabis albida*), pasque-flower (*Anemone pulsatilla*) have long proved popular in bed and border. Millions have found a place near their hearts and homes for the flowery blankets of moss pinks (*Phlox subulata*); the very versatility with which people all over America have used them suggesting places for many other rock plants. We have seen them billowing over steep banks, filling plump beds at doorways, spreading at the base of the perennial border, lining the front path or driveway, covering the bare feet of shrubs, crowning the tops of walls.

Equally at home in such places are some of the Dianthus, commonly called pinks, especially the Cheddar variety (*D. gratianopolitanus*) with its masses of fragrant rosy bloom and the Maiden pink (*D. deltoides*) famous for crimson brilliance. Also reliable—especially for dry places—are certain of the sedums, like *S. pruinaum* and *S. kantschaticum*, rewarding both in golden flowers and carpeting foliage in June. During the same month *Veronica chamaedrys*, the germander speedwell, offers a shower of blue, dropwort (*Filipendula hexapetala fl. pl.*) has charming white clusters over fern foliage, Coral Bells (*Heuchera sanguinea*) brings a torrent of scarlet. All are easily grown in sun, good soil.

Numerous other rock plants may be used in similar locations—some in shade—if given regular attention. Among these are members of the genera *Achillea*, *Aethionema*, *Anemone*, *Aquilegia*, *Arenaria*, *Astilbe*, *Campanula*, *Draba*, *Erysimum*, *Geranium*, *Gypsophila*, *Helianthemum*, *Iberis*, *Jasione*, *Lysichiton*, *Lychnis*, *Nepeta*, *Oenothera*, *Polemonium*, *Potentilla*, *Pulmonaria* and *Viola*.

Since the showiest rock plants are primarily spring and early summer flowering the low perennial span takes on quieter hues later on. But when everything else has failed to show off in July and August, thymes, such as *Thymus balticus*, *T. broussonetii* and *T. adamovicii* offer grand masses of lavender and purple. During the fall the showy stonecrop (*Sedum spectabile*) provides tremendous corymbs of red in dry, sunny locations while dwarf *Aster* hybrids make a glorious effect in moist places.

Rock plants have the answer to modern home fashions too. For patio flagstone crevices what could be more perfect than *Thymus serpyllum* or sandwort (*Arenaria verna*)? For moist shaded pockets of earth in surrounding rock work dwarf ferns like maidenhair spleenwort (*Asplenium trichomanes*) and fragile fern (*Cystopteris fragilis*) give an unusual charm, and for drier spots there is rusty Woodsia (*Woodsia ilvensis*). A patio planting bed may be enhanced by dwarf conifers like *Chamaecyparis*, *Picea* and *Juniperus*, or some of the dwarf deciduous shrubs from the genera *Cotoneaster*, *Euonymus*, *Cytisus*, *Genista*, *Potentilla*.

As the popularity of spacious, scrupulously trimmed lawns increases so does the demand for groundcovers to round out areas difficult to reach with the mower, and to a limited extent to fill in areas where grass does not grow well. Many of our finest groundcovers are drawn from the rock garden. The thymes, *Phlox subulata*, bugle (*Ajuga reptans*) sedums, *Cerastium tomentosum* (snow-in-summer) all have their places in sunny locations. Bearberry (*Arctostaphylos*), *Veronica filiformis* and foamflower (*Tiarella cordifolia*) adapt to semi-shaded places. For dense shade there is Canada ginger (*Asarum canadense*), wintergreen (*Gaultheria procumbens*) and goldthread (*Coptis groenlandica*), to name a few.

The rock garden has drawn substantially from wild material everywhere so most of our wild favorites are likewise rock plants. These can also prove rewarding in our perennial beds and borders. Moreover the rock garden shelters many wild rarities and sports such as double bloodroot (*Sanguinaria canadensis* fl. pl.) which may become the focal point of any planting.

Don't forget the rock plants such as the showy lady-slipper (*Cypripedium reginae*), forget-me-nots (*Myosotis palustris*) and *Primula japonica* which thrive in wet locations. With these your spot of swamp may become your most precious garden. To go to the other extreme, for the little desert on your lot there are the dwarf cacti, in genera *Opuntia*, *Coryphantha*, *Neobesseya*, besides the old favorites, hen-and-chickens (*Sempervivum*) and certain of the sedums.

At the kitchen door a little plot of low herbs may be included for both fragrance and beauty. Here is a place for familiar rock plants like the thymes, savory (*Satureja alpina* and *S. montana*), sweet woodruff (*Asperula odorata*), *Nepeta mussinii* and *Mentha requienii*.

For the iris lover there is the idea of a bed devoted entirely to a dwarf iris collection offering all the diversity and excitement of the taller relatives.

Lastly, all of us have used the dwarf spring-flowering bulbs—*Scilla*, *Muscari*, *Galanthus*, *Chionodoxa*—in a thousand places without even thinking that they too are rock plants. The time may come when we are similarly planting all of the rock garden plants mentioned. To some of us the most fascinating feature of growing rock plants is that their numbers have no limit and their range of form and color is infinite. Our dooryards need never grow dull nor our imaginations fail as long as we use them freely in all of our gardening plans.

PROJECT ROCK GARDEN

NELL LEE GOSLING, *White Pigeon, Michigan*

A few weeks ago we planted a new rock garden on a sunny rock-studded bank along the drive. Nothing had grown there for years, for it had been in the dense shade of a tremendous sugar maple that stood close beside our house. It had been a big tree when we built the house nearly thirty years ago, and had doubled in size in the interval. Through the years it had shaded the house, leaned on it, dwarfed it, filled the gutters with bright yellow leaves each fall, and strewn thousands of maple seedlings which had to be weeded constantly out of the gardens. We feared that it would eventually fall and crush the house, and so it was that, at long last, the maple had to go.

In the thin layer of leaf mould that covered the root-filled sand, we planted our latest rock garden. We used the "old standby" rock plants for the first time in many years. Many were rooted bits and pieces from plants that still survived in our first rock garden, which had been one of our first "projects".

Realizing we were now completing a full circle of rock gardening, we had a great feeling of nostalgia as we recalled those early gardening days. With what confidence we had set about building that first big rock garden! There had been many other projects that had had priority. "Big Pond" had been completed, and the "Primrose Stream" planted. Dry stone walls—miles of them, it seemed—had been built to hold the terraces that were needed to make our hillside gardens more level and plantable.

We had built a greenhouse and were having the thrill of learning to grow things from cuttings and seeds. I am convinced that cuttings, like tiny babies, recognize the novice and misbehave accordingly. So many cuttings that gave us trouble in those early years, we now grow with ease, with no appreciable change

in method. Seeds, we were glad to discover, do not seem to have this faculty so markedly, and we raised dozens of new kinds of rock plants, mostly from English seeds, as we found a greater variety in their catalogues than in ours. We made up our seed orders from lists recommended in rock garden articles, assorted books, magazines and pamphlets. Naturally, we avoided those labeled difficult. We also had a list of rock plants we had seen blooming in Westchester County, New York, in New England and in British Columbia.

At that time we did not know that there was even a possibility of growing, here in Michigan, those choicer alpine plants that are so glowingly described in English garden books and magazines, and we had not then even heard of the several rock garden societies.

We felt we had all the proper ingredients for making a rock garden, namely; (1) a spacious hillside, facing north, and covering about a quarter of an acre, (2) many tons of boulders hauled in by previous owners to fill washouts on the hillside, (3) a railroad flatcar load of flat slabs of sandstone from Ohio, to use for paths and steps, and (4) many hundreds of seedling plants needing a home.

We had read enough about rock gardens to realize that our boulders were not the ideal kind of rock to use. They were glacial rocks of many kinds, ranging from melon size up to those that could only be moved by team or tractor. We were in no position to quibble, however, for something had to be done with that boulder-strewn hillside. This area, adjacent to a no longer existing barn, had been the standing-about place for stock for many, many years. To enrich our basic sand even more we disced in a topping of black muck from the marsh. The drainage was excellent.

Washed-out gullies, that formed an irregular "X" shape, were ready-made valleys for placing the stone slab steps. With the crawler-tractor we pushed the largest boulders into strategic locations and rolled the others about to hold the banks and create many crevices for planting.

At the bottom of the rock garden flows our "Primrose Stream" as it takes a round-about way from the artesian well to the big pond. At the top of the hill and to the east and the west were plantings of yews, firs, and white barked birches (*Betula alba*), Russian olive and flowering trees—*Cornus*, *Cercis*, *Malus* and *Prunus* in variety. These plantings gave a bit of shade and good shelter from the winds.

In front of these trees we put in a large number of low growing evergreens. This group of plants eventually took over the entire garden, and by crowding out the flowering plants and giving protection to many troublesome weeds, they became our greatest problem. The worst offenders were a half dozen kinds of junipers, many of them so prickly as to make work in their immediate vicinity nearly impossible. *Cotoneaster horizontalis* and *Euonymus radicans* proved much too spreading. Mugo pines grew too rapidly. The Alberta spruce (*Picea glauca* var. *conica*), the nest spruce (*P. excelsa* var. *maxwellii*) and the small leaved box (*Buxus microphylla* var. *koreana*) were more suitable and the only ones we have kept when re-doing the garden in recent years. The Albertas are about ten feet tall now and the nests are five feet across but both are still dense and make attractive accents.

Late that August and in September we were ready to put the rock plants in place, a simple task as none were given special consideration as to soil and placement. Naturally those plants that were listed as low growing or crevice fillers were placed in front. The taller plants were grouped, as far as possible, to give some bloom throughout the spring and summer, and to give pleasing colour and foliage combinations.

Everything grew luxuriantly in the rich, light textured soil. The pH was

nearly neutral—if anything a bit on the alkaline side. We were a little surprised to find that the size given in the books and catalogues was about half the size of our plants, in both height and spread. Perhaps we were just lucky, but in spite of the lush growth, we had very few losses, either from winter cold or summer humidity and damp-off. Seeing our first rock garden burst into bloom that next spring was one of our most thrilling experiences.

Being collectors at heart, it was very exciting to become acquainted with such a number of new things, all of which seemed eager to please with their masses of bloom.

The weeding in the new garden, that summer, was never finished. There were always weeds growing up where we had started before we had done the further end. Fortunately we do not mind the on-the-knees gardening with trowel and kitchen fork for implements. The second spring the new garden truly surpassed our greatest expectations. The hillside was covered with wide masses of colour. All but the largest boulders were blanketed and even the weeds were overwhelmed.

This display became quite renowned during the next few years and people, who had never been interested in gardens before, came each May to see the Gosling's rock garden and brought their friends and relatives. We were amused when we noticed that our three young sons, who had no more appreciation of gardens than the average pre-teenagers, were planning their social events to meet out here when the rock garden was at its best. The garden could never aspire to greater heights than that they were proud of it.

About this time an English friend sent me a copy of Reginald Farrer's *My Rock Garden* which I leafed through looking for references to the plants which I was growing. Finding that most of them were either ignored completely or given very faint praise, I took a dislike to this opinionated writer and his book found itself neglected on our shelves for a long time.

Is it possible that beginning rock gardeners who join our Society feel the same resentment, when many of the rock plants they cherish are referred to, if at all, as "common" or "easy" in our Bulletins? Do we become "rock garden snobs" as we succeed with the rarer primulas, saxifragas and androsaces and other miffy little treasures, and then forget the pleasure we had from our first rock gardens and the common, easy plants that do not need to be coddled?

In the years between our first rock garden and our latest, we have seen many of the choicest alpiners growing in their native habitats, and discovered that if we went to sufficient trouble to satisfy their whims we could grow many of these small plants in our Michigan climate. Reginald Farrer's *The English Rock Garden* has become our favorite bedside book and we find ourselves quoting him constantly.

I joined the American Rock Garden Society, the Alpine Garden Society and the Scottish Rock Garden Club and began enjoying their bulletins. The seed exchanges were a wonderful discovery for here we found seed available that we had never seen offered before. Poring over the seed lists and trying new methods for germinating these more difficult seeds were engrossing tasks, and bringing some small treasure on to bloom in our scree always calls for a celebration.

Very few of our old standbys were given a place in our new alpine garden, so carefully constructed and filled with stone chips, grit and leaf mould. It has a bit the look of the babies nursery at a hospital, and no small plantlet is allowed to be crowded. If anything grows too well it is promptly expelled.

We are having a wonderful time with our new hobby, but we still enjoy our latest rock garden, too. Even now the old familiar plants are growing into strong clumps that will make a fine show next spring, and we will enjoy hearing the

enthusiastic approval of our visitors once again. I think that I shall not even bother to take many of them to see the scree as they always look a bit puzzled and bored when I try to explain why mountain plants need stone chips all about and water underneath.

So very many gardeners in our country must find the climate and long growing season unsuitable for the choicest alpiners, but surely they can take pride in a display of the easier kinds. Let the experts in the northern corners of our country boast of their rare alpiners. Who can say that one garden is superior to the other?

Perhaps readers who are starting a rock garden would be interested to know what plants we grew in our "Old Rock Garden". I have sorted them into four groups. All those not marked with an asterisk were from seed.

(1) The ones we liked very much and never had reason to wish would be less enthusiastic:

<i>Aquilegia 'Crimson Star'</i>	<i>Globularia cordifolia</i>
<i>A. flabellata nana</i>	<i>G. nudicaulis</i>
<i>A. flabellata nana alba</i>	<i>Gypsophila repens</i>
<i>A. longissima</i>	<i>Hypericum reptans</i>
<i>Aethionema grandiflorum</i>	<i>Iris cristata*</i>
<i>Arenaria montana</i>	<i>Leontopodium alpinum</i>
<i>A. grandiflora</i>	<i>Phlox subulata 'Vivid'*</i>
<i>Armeria maritima*</i>	<i>P. subulata 'Nelson's White' *</i>
<i>Aubrieta</i> - various	<i>Platycodon mariesii</i>
<i>Campanula barbata</i>	<i>Primula polyanthus</i>
<i>C. garganica</i>	<i>P. veris</i>
<i>C. poscharskyana</i>	<i>Sedum sieboldii *</i>
<i>C. pusilla</i>	<i>Semprevivum</i> - few tiny
<i>C. turbinata</i>	<i>Silene alpestris</i>
<i>Daphne cneorum*</i>	<i>S. alpestris fl. pl. *</i>
<i>Dianthus neglectus</i>	<i>Thalictrum minus</i>
<i>Draba aizoon</i>	<i>Veronica armena *</i>
<i>Erica carnea</i>	<i>Viola 'Arkwright Ruby'</i>
<i>Erinus alpinus</i>	<i>V. 'Apricot'</i>

Viola 'Jersey Gem'

(2) These gave the really important masses of colour in a garden such as ours, but were in frequent need of trimming, or of being divided, or kept from going to seed. One should not be without them, but they do need to be watched:

<i>Achillea tomentosa</i>	<i>Linaria maroccana</i>
<i>Alyssum saxatile 'Compactum'</i>	<i>Lavendula 'Munstead Dwarf'</i>
<i>Arabis alpina</i>	<i>Linum perenne</i>
<i>Aster alpinus</i>	<i>Mazus reptans *</i>
<i>Campanula carpatica</i>	<i>Oenothera missouriensis</i>
<i>C. rotundifolia</i>	<i>Papaver alpinum</i>
<i>Dicentra eximia *</i>	<i>Phlox subulata</i> - red *
<i>D. formosa alba *</i>	<i>P. subulata</i> - lilac *
<i>Dianthus arenarius</i>	<i>Polemonium humile *</i>
<i>D. caesius</i>	<i>Pulmonaria angustifolia</i>
<i>Delphinium grandiflorum</i>	<i>Semprevivum</i> - most var. *
<i>Helianthemum</i>	<i>Tunica saxifraga</i>
<i>Iberis sempervirens</i>	<i>Veronica incana</i>
<i>I. gibraltaria</i>	<i>V. pectinata rosea</i>
<i>Iris</i> - dwarf bearded in variety *	<i>V. rupestris</i>
<i>Linaria alpina</i>	<i>Viola cornuta</i>

(3) These bad actors want to take over everything and defy the poor gardener to do anything about it. In a poorer soil or a different climate they might behave well enough, but in our experience—thumbs down. Many of them bring the highest praise from other gardeners.

Ajuga reptans *

Cerastium tomentosum *

Ceratostigma plumbaginoides *

Corydalis cheilanthifolia

Dianthus deltoides

Linaria cymbalaria

Myosotis dissitiflora

M. palustris

Ononis spinosa

Phlox subulata - magenta

Ranunculus reptans fl. pl. *

Saponaria ocymoides

Sedum - nearly all varieties*

Thymus serpyllum

Viola tricolor

NOTES ON *CLAYTONIA NIVALIS*

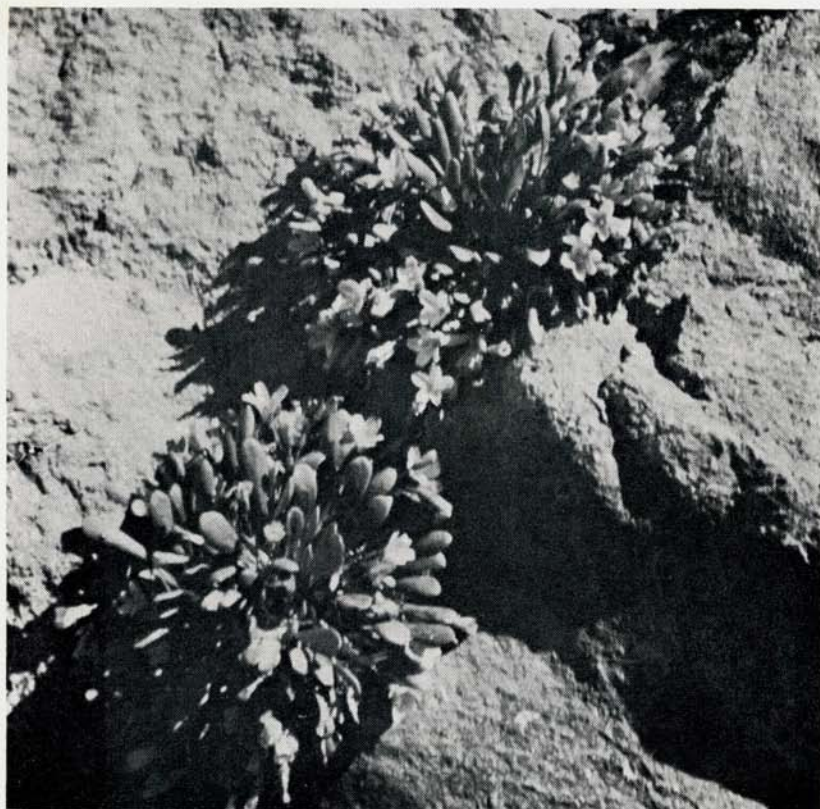
A. M. S.

Many years ago we were camping in one of the many pleasant valleys of the Wenatchee Mountains in central Washington. These mountains are older than the Cascade range and lie west of the Columbia River. They join the Cascades at an angle from the southeast. All streams originating in the Wenatchees find their way to the Columbia for they cannot flow westward because of the



Claytonia nivalis in the Wild

Albert M. Sutton



Claytonia nivalis in the Garden

Albert M. Sutton

Cascade barrier. The many forested valleys make ideal camping spots and the spring and summer weather is pleasantly warm.

From our camp site we had the choice of many trails into the high country. There were passes to reach and peaks to climb, hidden lakes and open meadows scattered about and some of the state's most delightful flowers to be enjoyed by those hardy enough to venture into this fascinating area. So on a bright Saturday morning we started up a trail that wound through deep woods for a while until it brought us out on a steep and bare, or nearly bare, mountainside up which the trail zigzagged forever, it seemed. The sun was concentrating its hottest rays on us as we toiled back and forth, ever upward. We found it difficult to force ourselves from one little patch of shade to the next. Sometimes these patches were far apart.

There were times when the whole steep slope from one switchback to the next was carpeted with *Lewisia columbiana*. To stray off the trail was to crush these delicate flowers underfoot. Myriads of many-flowered panicles, on their six to eight inch stems, danced daintily in the warm zephyrs that played about the mountainside. The flowers were bright pink and not as large as one would expect of a *Lewisia* but they made up in numbers what they lacked in size. Where the flowers were white the petals were decorated with pink lines. Since

we were somewhat used to these flowers we did not tarry for them. It was too hot.

Eventually we overcame the last switchback and reached the pass. From it there was a wonderful view of Mt. Rainier straight to the south. There were barren peaks all around us. At one point the horizon was punctured by Mt. Stuart, a 9,470 foot monument in granite. In looking down the eastern slope from the pass we saw great rounded piles of rock that were bare of snow but surrounded by it. Does this puzzle you? To have it so hot on one side of the mountain and snow on the other! It was only the early morning sun that shone on the northern slope, but when the sun was the hottest, during the middle of the day, it tormented the southern slope up which we had toiled.

The great rock mounds we had seen were as large as houses and were an odd shade of warm brown. They were so entirely different from anything else on the mountainside that one wondered about their origin. There were numerous crevices in their surfaces but all had been weathered for so many years that their edges were rounded and smooth and there seemed to be no new cracks. We were able to scramble all over these huge rocks and we were well rewarded. In nearly every crevice nestled a little circle of very fleshy, spatulate leaves from which arose short, somewhat recumbent stems carrying several lovely rose flowers, large enough to be individually pleasing. They all were situated where they had shade at least part of the day. Within this area there seemed to be almost no color variation.

This lovely *Claytonia*, when we first heard of it, was said to be *Claytonia megarrhiza* and was so listed by Piper in his *Flora of the State of Washington*, with the type locality the Rocky Mountains. The specimen examined by Piper was collected by Elmer on Mt. Stuart, the same mountain we were looking at from the pass and one a long way from the Rockies.

Later, Carl S. English, Jr. of the *Bulletin* editorial staff, having found this plant on another peak not too far removed from Mt. Stuart, took the trouble to obtain material of the Rocky Mountain species and was soon able to compare the plants with those collected in the Wenatchees. He grew both side by side and his observations led to the raising of the Washington plants to specific rank and the name given by him to the new species was *Claytonia nivalis*. This was in 1934.

We collected three small 'take home' plants from those brown rocks. We planted them in a crevice in our rock garden that duplicated, as nearly as possible, their original home crevice. We used soil that was even more gritty than that in which they had been growing, for we knew that in Western Washington they were going to need faster drainage than in the much drier Wenatchee Mountains. The next year the plants developed nicely and one or two blossoms appeared on each of the three plants. These blooms were of good color and size and the plants seemed quite happy. The second year the burst of flowers testified to the increased happiness of the little group in their adopted home. They made a brilliant diagonal flash of color across the slashed face of our gray rocks. However, the brown rocks of the Wenatchees seemed to give greater depth to the flower's rosiness than did our more severe gray ones.

We kept our plants in good health until they succumbed to the nocturnal raids of the heinous slug—blast him! In certain seasons they seem to defy humans and are able to circumvent all means taken to protect choice plants.

Those who are interested in growing the genus *Lewisia* in their rock gardens, where slugs are not admitted, should consider *Claytonia nivalis* as desirable, for it will fit in with them nicely and the treatment required is not too different.

1962 ANNUAL MEMBERS' MEETING AND GARDEN TOUR

Extremes of temperature seem to plague our Annual Members' meetings; from a low, almost to the freezing point in 1959, to a hot sticky temperature hovering around the 100 mark on May 19th, this year, when some eighty members visited gardens in the Westport, Connecticut area.

The first garden visited was that of Mr. and Mrs. M. K. Whitehead in Fairfield. It was a most meticulously kept garden containing many interesting plants and unusual shrubs.

The garden of Mr. and Mrs. Roy E. Larson, also in Fairfield, was next on our schedule. Here we saw beautifully landscaped rock work, waterfalls, ponds and bog gardens. The Larsons are to be complimented on their accomplishments in the short space of three years.

At the Henry Fullers' garden at Easton Center, we had the pleasure of viewing some interesting rock and alpine plants in settings displaying them to the utmost of their beauty and in accord with cultural requirements.

One high official of your society was so enthused with a beautiful specimen of *Lewisia tweedyi* in full flower that he neglected to notice that he was treading near the edge of the fish pool and backed into it, necessitating a drying out process, which provided much hilarity as well as delaying proceedings. After luncheon an accumulation of garden books was disposed of, including items by such outstanding authors as Farrer, Clay, Wilder and others, some of which are seldom obtainable.

A visit to the garden of Mr. and Mrs. J. P. Osborne at Westport was next. There our most hospitable hosts served cooling refreshments. Theirs is a newly constructed garden which is still undergoing expansion. The material being used contained many unusual plants which were most artistically arranged.

The annual plant sale was conducted on the spacious lawn amid the usual scramble for the choice items. The amount realized from the sale was rather disappointing, being almost half what it has been in past years.

After all plant material was disposed of, the Annual Members' Meeting was called to order by our president who spoke of the difficulty in obtaining a new editor for the *Bulletin* due to the resignation of Doctor Worth. (You have since been advised of the appointment of Mr. Sutton of Seattle). The president urged members to be more liberal with articles of interest for publication in the *Bulletin* and close cooperation with the new editor.

The nominating committee under the chairmanship of Mr. Henry R. Fuller, submitted the names of the present officers who were unanimously reelected for two year terms. The directors reelected for three year terms were Doctor Wherry, Messrs. Baasch and Harkness.

The Treasurer's report was summarized by your secretary in the absence of Mr. Reid. We managed to end the year with a very small surplus. (A detailed report appears elsewhere in this issue of the *Bulletin*.)

The secretary reported a membership of approximately 800 which was substantially the same as that of last year, this in spite of the usual annual turnover of around 100 members. During the year new members were obtained in Chile, Denmark, Italy, Germany and Czechoslovakia, countries in which we previously had no members.

A schedule of meetings in several other regions was read and an invitation extended to members present to attend.

Edgar L. Totten, *Secretary*

A FEW NEW ZEALANDERS

MRS. JOHN WARREN, *Dunedin, New Zealand*

When building a new rock garden and scree early in 1958, chiefly to accommodate dwarf conifers and saxifrages, a small corner was reserved for New Zealand natives, in which, after four years in this country, I was beginning to take a keen interest. I made no pretense of being a mountaineer, but many sub-alpine plants grow along the roadsides in New Zealand and in open country from sea-level to about 5000 feet. It is therefore not difficult to make a varied and interesting collection of native plants suitable for the rock garden.

Perhaps I should digress here to explain something of the make-up of this country for readers who may have very little idea of what kind of country New Zealand is.

In the first place, New Zealand is a very different country from Australia—geographically, climatically, and in every other way. Both flora and fauna are totally different, with one or two notable exceptions. The two countries are several days sea journey apart, though, of course, air travel has now brought us within a few hours of one another. Being an Australian myself, married to a New Zealander and now resident in New Zealand, I find the unusual flora of this beautiful land has a great fascination.

New Zealand consists of two large islands known as North Island and South Island, a smaller one—Stewart Island, and numerous very small ones at various points off the main coast. Much of North Island is hilly, parts of it mountainous, and there are isolated volcanic cones of which the highest, Mt. Ruapehu, is over 9,000 feet.

The South Island is largely mountainous. It is about five hundred miles long, with a mountain "backbone" extending almost its whole length on the west. Part of this vast divide is known as the Southern Alps. There are many peaks over 9,000 feet, the highest being Mt. Cook (12,349 feet). The permanent snowline is about 7,000 feet. It is in this area that the most famous of New Zealand's endemic alpinines are to be found.

We live in Dunedin, on the East Coast, some hundreds of miles away. There are no high mountains in our vicinity, but nevertheless Dunedin is set amongst beautiful hills and our home looks straight across open country to one of them, known simply as Flagstaff, which is 2,100 feet high. It is in this open country, very close to home, where we are able to collect some of the plants I am going to write about.

The small corner in the new scree reserved for natives was immediately filled, largely with plants from the North Island, because at that time we had just returned from a motor trip of more than a thousand miles, which took us as far north as Auckland. So it was decided to extend the area and build an adjoining scree for native plants only. This section gets full sun in winter, but shade from afternoon sun in summer, and has proved most successful. We enjoy in Dunedin a moderate climate without extremes of heat or cold; average annual rainfall is approximately 37 inches. Wherever possible the plants are grown in their natural association, but in any case they form their own happy associations in the scree.

Among the earliest plantings were celmisias, raoulias and helichrysoms. *Celmisia gracilentia* was collected in flower not far from Dunedin, and continued to flower in the scree for several weeks without interruption. This was a single plant, and has remained so; it is a good form of *C. gracilentia* (an extremely variable species) with large pure white daisy flowers the size of a half-crown.*

*Approximating a half-dollar in size. (Ed.)

A small clump of a similar *Celmisia* was brought from the same vicinity, and has now spread into a thick mat by means of a creeping rootstock. Its flower is much inferior to the other, its leaves narrower, and its habit different, but, I understand, it is still *C. gracilentia*.

Several of the raoulias are found practically all over New Zealand. All are mat or cushion-forming, and most have stone-coloured or silvery foliage. The four most common I have collected from various places in the South Island—*RR. australis*, *glabra*, *tenuicaulis* and *lutescens*, the last-named being the only one not easy to establish. However, it is now as tight and hard on the scree as on the roadside rocks in Central Otago. *Raoulia eximia*, the object (to my surprise) of extraordinary interest among alpine gardeners in Britain when I was there in 1960, I cannot report on, having not yet seen it in the wild, nor had an opportunity of growing it. In fact, I have seen only one plant in Dunedin, pot-grown under glass by Mr. Carl Teschner, and I think it is less exciting in its class than *Raoulia x loganii* (Cheeseman, 1925)—a fascinating and beautiful cross between *Leucogenes leontopodium* and *Raoulia rubra*.** This plant is also grown by Mr. Teschner, but outside, in a trough garden. I can only describe it by saying it is like a small cushion of embossed gray velvet.

Leucogenes grandiceps, the South Island edelweiss, came from the high country at the head of Lake Wakatipu. The small silvery rosettes are the chief attraction of this plant in the scree, the little white daisy flowers being rather insignificant. They can, however, be far more striking in their native state.

Helichrysum bellidioides, on the other hand, so much easier to find and to grow, is more rewarding—if you have the space to spare—with its sheets of crisp white everlastings for months on end. Better still is the Campbell Island form which is more silvery in the leaf and considerably less rampant.

Hebes are almost inevitably the chief feature of any collection of New Zealand plants. Only the fortunate few manage to obtain or to grow successfully such things as *Ranunculus lyallii*, *Celmisia coriacea*, or *Myosotidium nobile*. But even then the hebes are well deserving of their place. There is a charm in variety, and the hebes certainly provide that. One of my favorites is a plant I bought under the name of *Hebe vernicosa gracilis*. It is now a handsome shrub about three feet high and some five feet across, with shining bright green foliage all the year round, and countless spikes of snow-white bloom unfailingly every spring. It continues in flower for several weeks and is a most graceful and lovely sight. Another white-flowered one is *H. macrantha*, the largest-flowered of all hebes. This forms rather a leggy bush and blooms here only spasmodically, but for the first time in five years it is really laden with flowers this spring.

Probably the most popular hebe is *Hebe hulkeana*, often grown in gardens where it is not even known to be a native. I grow it in a slightly raised position among rocks at the back of the scree, but grown at the top of a sunny wall it is especially successful, with its long sprays of soft lavender flowers tumbling down in profusion. It comes from Marlborough, in the north of the South Island, where it grows on dry rocky faces. In the garden it prefers a light dryish soil, but unfortunately needs some protection from frost as far south as Dunedin.

Among the prostrate or very low-growing hebes are two attractive hybrids, one a natural hybrid with numerous spikes of pretty lavender-blue flowers in spring, the other (said to be a cross between *H. elliptica* and *H. pimeleoides*) with flowers of violet-purple giving valuable colour in summer. *H. pimeleoides* itself, with grey foliage and purple flowers, is at its best about Christmas. *H. bidwillii* flowers only sparsely but provides interest throughout the year with its tiny neat foliage varying in colour from soft green to rust and coppery-red.

**Hybrids between these two genera have been described as *Leucoraoulia* (Allan, 1939) (Ed.)

There has been much confusion among gardeners as to the differences between *Hebe* and *Veronica*; according to one authority the distinction is to be found in the placing of the division on the capsule, so, from a horticultural point of view, confusion is likely to remain. Some confusion also seems to exist in the nomenclature of the whipcord hebes, and I hesitate to name specifically those I have. They are an interesting group of plants, several of them to the casual eye being reminiscent of dwarf conifers. Like conifers, the whipcords make a valuable contribution to the rock garden in variety of form and winter colour.

Colour is provided throughout the year by the different hybrids of *Leptospermum scoparium* 'Nanum', which are now easily obtained from nurserymen. The flowers range in colour from white or palest pink with a dark eye, to deep ruby red, the foliage varying from green to coppery-red. The little hard seed capsules are also reddish-brown in colour and remain on the bush for a long time, having quite a decorative effect when flowering is over. These dwarf hybrids will flower when only two or three inches high, but many eventually reach a height of two feet or more.

Leptospermum scoparium itself is the most abundant of all New Zealand shrubs. Found from one end of the country to the other, it grows as a shrub or as a tree, on mountain-tops, dwarfed and contorted by the wind, in valleys and on the sea-shore. A valley or hillside in early summer, sheeted with the soft white of the manuka in flower, is a beautiful sight. It was known to the Maoris as "manuka", and this name is still in general use; but it is also sometimes called "tea-tree" because Captain Cook on one of his expeditions used the leaves as a brew for his men in place of tea. Like so many members of the *Myrtaceae*, the plant is highly aromatic. The genus *Leptospermum* is among those common to both New Zealand and Australia; there are about 35 species, of which the majority belong to Australia. There they are all known as tea-trees.

Pimelea prostrata is one of the most trouble-free carpeting plants. From a central rootstock it sends forth innumerable branches which fan out in all directions, thickly clothed with tiny blue-grey leaves. It is attractive at all times, but especially so in spring and summer when studded with the tiny white flower clusters. Pimeleas bought from nurseries tend to flower themselves to death, but my experience—though limited—suggests that collected plants, while not so prolific with their flowers, seem to have a stronger constitution. Pimeleas are members of the *Daphne* family so it is not surprising perhaps, that they are rather short-lived.

A useful ground-covering plant for damp and shady banks is *Pratia angulata*, with quaint white flowers followed by purplish berries. It is unfortunately very invasive; it roots as it goes and will completely engulf any other small plants in its path, unless controlled. But on the whole I think plants of this type are less trouble to control than those which seed themselves indiscriminately all over the place. *Ranunculus lappaceus* comes into this category, but I cannot yet bring myself to discard it. My first plant I brought down from the hills outside Dunedin, but now I have dozens—not counting the many more dozens destroyed. I like its pert glossy yellow flowers, reminiscent of the English buttercup, which appear with the utmost profusion in spring. As fast as the seed-heads are picked off to prevent seeding another crop of flowers appears, and despite all precautions self-sown seedlings spring up all around.

Epilobium is another genus which self-sows far too freely and contains many weeds, but some species are so pretty that one forgives them their bad habits.

A plant for a cool corner is *Ourisia macrocarpa*. It also has a creeping rootstock, but one could scarcely have too much of this. The leathery leaves, dark green above and purple below, are handsome in themselves, while the large

umbels of pure white flowers, held aloft on strong eighteen-inch stems, are most distinctive.

It has probably been noticed that a great many of the flowers mentioned are white. The loveliest of the high alpine, *Ranunculus lyallii* (the mountain buttercup) also has great chalice of glistening white; most of the forget-me-nots are white or cream; the little native violet is white; all the celmisias and nearly all of the many species of *Olearia* are white; even the gentians are white in New Zealand, although, according to Laing and Blackwell (*Plants of New Zealand*) "some occasionally are streaked with shades of red, purple, violet and pale lemon; but the deep blues, yellows, or purples so characteristic of gentians everywhere, are here unknown." I have never seen these streaked gentians, but the pure white certainly have a charm of their own.

Several theories have been put forward to explain the preponderance of white flowers in this country. The most widely accepted seems to be that pollination is frequently effected by moths, which go about their business by night and find white flowers more conspicuous than coloured ones.

Finally I must mention the first native plant I grew—*Fuchsia procumbens*. It belongs to the very north of New Zealand and is only half-hardy in the south, but it flourishes here in a sunny frost-free border against the house, and its descendants now flourish equally in the scree. The tiny, bizarre flowers sit on the ground and look up at you; they are followed by large red berries which eventually turn almost black. *F. procumbens* is stated to be the only fuchsia in the world which holds its flowers erect.

NORTHWEST FIELD TRIPS

Florence Free, *Seattle, Washington*

It is largely true that any area has a climate which gives one too much of a thing occasionally, be it sun or rain, or heat or cold. We in Seattle feel that we sometimes get too much of, perhaps not rain, but of wetness. Our rainfall is actually not very heavy, say around thirty-five inches a year, but it comes mostly in winter when we are apt to have three months of, perhaps not rain, but of gentle drizzle which does not evaporate but augments that which fell the day before until by spring the world is a very soggy thing indeed.

Then we long to be free of the leaden skies and general dampness and those of us who can, seek some desert spot where we can bask in the sun beside the rancho pool and write letters home describing our sunburns. But it is here that we also receive letters from home describing how deliriously beautiful the gardens are with early spring flowers until we wonder if a winter vacation is such a good thing after all.

Those of us who can't get away are probably the lucky ones, providing we have a bit of know-how. For one of the big advantages of living in Seattle is the ease with which we can vary our climate by going a short distance. We are tired of gray skies? The sun is shining on Whidbey Island where the rainfall is only twenty-two inches a year, because that short distance to the north has put it in the "rain-shadow" of the Olympics. We are tired of a summer dry spell? The valley of the Stillaguamish in the Cascades a short distance to the northeast has more than sixty inches of rain a year, and the forests there are damp and cool on the hottest day.

Or perhaps we are tired of luxuriant greenness in general and long for the big open spaces. Then we do what we did on our first field trip this spring, i.e., cross the Cascade Range into eastern Washington where the climate is entirely different.

The first indication of this difference is the appearance of *Pinus ponderosa* in the predominately fir forest soon after the summit of the range has been reached. It is not long before the dense fir forest has given way to a more open pine forest. Then, as we continue down the eastern slope of the range, the pines, too, disappear and the soft outlines of the apparently barren hills take on lovely tints of rose and gold and lavender in the brilliant sunshine. We are in the west of the "Westerns", a country of dust and sagebrush and immense expanses of nothingness broken by the weird cliffs and gorges of the Columbia, (plus, of course, great dams, irrigated fields, orchards and booming cities).

Ohme Gardens, our destination, is located on one of these cliffs. It is famous for the spectacular view it commands of the surrounding country, and for the beauty of its man-arranged and natural rockwork. Water has been brought to this high arid spot, so that there are occasional pools and grassy plots surrounded by subalpine trees, but because the gardens are open to the public, one will not find there many of the rare alpine plants that would look so much at home among the rocks. The slopes are colorful with thyme and creeping phlox. Junipers and various pines, including *Pinus monophylla*, are interesting. An occasional *Lewisia tweedyi* demonstrates what could be done along that line if the public could be trusted.

In accord with the Northwest Unit's policy of keeping organizational work at a minimum, each of us had brought along what he wanted for lunch. But one of our members was celebrating a birthday, and he and we were pleasantly surprised by the birthday cake his wife had provided which was big enough for all of us to share.

After our picnic at the garden, we continued a short distance along the Columbia to Swakane Canyon where plant collecting is permissible. *Brodiaea (Hookera) howellii*, *Zygadenus paniculatus*, *Heuchera cylindrica*, and the ferns *Woodsia scopulina* and *Cystopteris fragilis* were plentiful and charming. *Erigeron linearis* was vetoed by those without an especially favorable spot for it, and *Horkelia fusca* was vetoed by all.

From the canyon each went his own way, some to return to Seattle that afternoon, others to seek lodgings for the night so that they could continue plant hunting on the morrow in the Cascades where erythroniums, anemones, trilliums and calthas marked the path of receding snow.

This first trip was a rather long one, about a two and a half hour drive in each direction. Our second trip was much shorter, just down Highway 99 a little way to the South Tacoma prairies. Here, again, we were in a much drier zone, this time not due to a mountain range, but to the character of the soil largely made up of gravel, sometimes to a depth of one hundred feet, which had been deposited in a late glacial period.

At one time, the Indians burned the dry grass of the prairies each year, thus protecting their supply of camas and balsamroot from encroaching trees. But since this has been discontinued, a forest is taking over. It is made up of rather scrubby specimens of Douglas fir where the stand is thick, but of beautiful symmetrical trees clothed to the ground with branches where the trees stand apart. The presence of *Pinus ponderosa* among the firs attests to the aridity of the region, for this pine is usually found only in eastern Washington.

Since World War 1, a large army post has occupied a portion of the prairies. That, and the encroaching forest, make it desirable to have a guide if one wants to see the prairies at their best. Mr. Cyrus Happy of Tacoma, who gave us an illustrated talk on the flora of the area last winter, acted as our guide and took us to choice spots where we soon collected *Synthyris reniformis*, *Fritillaria lanceolata*, *Dodecatheon pauciflorum*, *Viola adunca* and *V. palustris*, as

well as *Sisyrinchium idahoense*. A treat to be collected only on film was a group of *Orobanche uniflora* in the duff beneath a Garry oak. *Arctostaphylos uva-ursi* abounded in the wooded sections and was of a very dwarf form with richly colored flowers. The fragrant wild rose, *Rosa nutkana*, was also very dwarf, just a few inches high, and was also richly colored. *Crepis* and *Castilleja*, *Antennaria* and *Armeria*, *Eriophyllum* and *Lomatium* made colorful washes across the park-like landscape. The *Camassia quamash* and *Balsamorhiza hookeri* that the Indians valued were still plentiful and flourishing.

Our field trips are deservedly popular. About twenty-five people went on each trip and every member would have gone if he could, for it is a rare privilege to make these viewing and collecting trips in the company of members who may be anything from accomplished amateurs to nationally known authorities on the flora of the Northwest.

PLANTS NEW TO ME IN 1961

DORETTA KLABER, Quakertown, Pa.

BLOOMING LAST SPRING were a few of the early bulbs I had not tried before. *Iris danfordiae* was one of the first flowers of the year. It was three inches high, a good yellow and thoroughly delightful. It was, however, no counterpart of *I. reticulata*, as it is so often stated to be. The falls are broad, the standards inconspicuous, and the styles tall and ruffled, looking like standards. The foliage is similar to that of *I. reticulata*, reedy, rectangular and low while the flowers bloom, then lengthening to ten inches or so before dying down.

I tried two of the small narcissi: *N. minimus* and *N. rupicola*. The former has, as advertised, the smallest trumpet. It was a bit on the greenish-yellow side, and not too happy with the rough weather at its early period of bloom. It was cute rather than entrancing. *N. rupicola* on the other hand was a darling. It is about three or four inches high, with six-petalled flat flowers perfect in every way, a bit later than *N. minimus* and impervious to weather.

The white *Oxalis enneaphylla* bloomed sparsely. It is lovely, but not as showy, so far, as the pink *O. adenophylla* which bloomed last year but sent up only its decorative leaves this year. It will be moved where it gets more sun than it does now. Perhaps that is what is wrong.

Eranthis tubergeniana, a hybrid, was a great improvement over *E. hyemalis*. There was something sturdier about both leaves and flowers, which were of a richer yellow color and a longer season of bloom. Here they opened two weeks ahead of *E. hyemalis*, but Mrs. Hayward remarked just the opposite about them in her garden. The answer may be in the location. One needs both forms, in any case.

Now to report on some of the plants from seeds collected by our respected editor. The erigerons outdid themselves, a long succession of bloom from species ranging from an inch or two in height to big six inch ones. Some were white, some lavender, one yellow, some cut-leaved, some entire. The only names I'm sure of are *EE. compositus*, *trifidus* (synonymous—Ed), *glabellus*, *aureus*, *montanus*. There were a couple of townsendias too. This is the second year of bloom for many of them. Most of them are planted on a special mound with rather poor soil, where they get full sun and perfect drainage.

Rydbergias came through their second winter, but still no bloom. They have bloomed for me in the past, and I don't know why not now.

Vesicaria utricularia, which was not much last year, really put on a show this year. It had six or seven twelve inch stems full of alyssum-like flowers, which evoked much interest from visitors. Its seed-heads are spherical tan pods all along

and on top of the spire, eventually bursting in half and dropping, leaving the seeds clinging to a silvery translucent membrane, like the "silver dollars" of honesty, but half the size of a dime.

Physaria didymocarpa, on a wall top, bloomed for the second or third year. Its clump of low firm gray foliage is very nice, so are its showy alyssum-like flowers.

Plants from seed marked "Rosaceae" amused me. Very pleasing three-toothed leaves, of silvery green, evidently a potentilla, but with infinitesimal flowers: just a few yellow specks on a calyx. While the foliage is attractive it is not quite good enough to be grown for itself alone.

An *Astilbe* "sp. from Bhutan" grew two and a half feet tall, with widely spaced foliage and soft pink flowers looked just like an astilbe.

Geranium dalmaticum has small leaves and rather large good pink flowers with conspicuously protruding stamens; charming.

Potentilla fruticosa mandschurica is one of my favorites, a creeping shrub that lends itself to layering. The white "wild roses" are as large or larger than the yellow ones of *P. fragiformis*, and remind one of *Dryas octopetala*.

A tiny polemonium, probably *P. viscosum*, lived over and bloomed for a second year — a real pet.

Of flowers from other sources: Two herbs proved hardy. One is a dwarf hyssop, *H. aristatus*, which grows between six and ten inches high. It has lots of narrow green foliage, is quite bushy, and has deep blue-purple flowers. The other is *Rosmarinus prostratus*, at least that is the name that was on the seed packet. It has grayish-green foliage, very low, and flowering stems not more than four inches high, with pink flowers. The plant of the same name which I saw on the West Coast had gray foliage and pink flowers, and was not hardy here. This has survived two winters outdoors without protection other than my usual mulch of stone chips. It is on the mound with the erigerons. *Myosotis fragrans* really has a smell of honey. It makes huge mounds of foliage. One needs to find a place for it where it will not smother everything in its vicinity. It is a heartier grower than *M. sempervirens (scorpioides)* and likes the same moist position.

Now that I know what to expect of *Anthemis biebersteiniana* (or *rudolfiana*! I wish they wouldn't keep changing the names) I think its large firm yellow daisies rather nice. It is surprisingly hardy considering its delicately cut silvery foliage, making six inch mounds. Its artemisia-like foliage really is good enough to grow for itself alone.

Aethionema grandiflorum as blooming this year is a pale pink with reasonably large flowers. However they are no larger than those of *A. theodorum* which has flowers of a richer pink. The foliage is lower and bluer than that of the latter. It came through a hard winter with flying colors. Here we had snow cover for a long time, but when it melted, the changes in temperature were erratic to say the least.

Linaria (Cymbalaria) pilosa is an improvement on our old friend *C. muralis*. It does not spread quite as fast, has firmer foliage and larger flowers of a good purple. It is just as easy to remove if it gets in the way of anything precious.

Achillea taygetea is hardly a rock plant. It is at least a foot high, has flat heads of soft yellow flowers and a long late season of bloom. It really does something for the June garden. If dying flower heads are removed, it will keep on blooming almost indefinitely.

Aquilegia oxysepala is a pleasant addition to the dwarfer columbines. It is blue and white or just white, about six inches high with rather large foliage which colors prettily after the bloom is over.

Golden *Hypericum rhodopeum* is a large flowered creeping plant, blooming in June. It roots as it walks (it really doesn't "run"), so can be readily multiplied.

H. hyssopifolium does have foliage somewhat like that of the hyssop, but of a much paler green. It is an erect plant, about eight inches high, and has rather starry pale yellow flowers growing up and on top of the stems.

Gentiana cachemirica has bloomed at last after a couple of years. It is a darling, not more than three inches in any direction, with silvery green leaves and inch-long flowers of a good medium blue, striped inside. It stays wide open all day, with pointed petals that curl back, giving it a squared off look. I have only two plants of it, one in sun, the other in shade. Both have bloomed but the one on the sunny bank looks happier. *G. waltoni* hybrids belong to what I call the *decumbens* type of gentian. They have a large central rosette of noticeably veined leaves, from which the flowering stems spray out. The flowers are not very large, but most are of a good deep blue, in sufficient quantity to be showy. They are growing in almost full sun in a fairly moist section of the garden.

I find the small dodecatheons hardy and permanent here: *DD. amethystinum*, *pauciflorum* and *tetrandum*. They come readily from seed and if placed where one can find them (all disappear after blooming) increase and are divisible. All are beautiful, six to eight inches high the color of their pink shooting stars varying slightly.

Orobis vernus had interesting pea-flowers of fuchsia-like red and purple coloring. The foliage is firm and glossy, six to eight inches high. The same beetles that used to eat the leaves of *Anemone hupehensis* and *Pulsatilla* before we sprayed them seem to like this foliage too.

The evergreen lewisias are taking hold at last, though not all of them bloomed this year. They all have fleshy rosettes, some larger than others, some with smooth edges to the leaves, some with crinkled, and one, *leana*, with cylindrical leaves. There was a small-flowered hybrid of fine apricot color, a striped pink one an inch or so wide, and a larger pure pink. I've grown *cotyledon* hybrids, *heckneri*, *howellii* and several others, but the names are mixed.

Iris ruthenica makes clumps of six inch firm leaves three eighths of an inch wide, and has purplish blue flowers. I was glad to see it, as Dykes lists it as similar to *I. sintenisii*, which I've had for years. The latter has somewhat taller leaves, is of a better color, and has more white lines on the petals. The flowers of both are somewhat like those of *I. reticulata* in form.

Farrer is so scornful of *Meconopsis cambrica* that I've only now gotten around to trying it. I like it. I must have put the seedlings directly into the garden in a shady place at the edge of the woods. This year I was surprised to see an orange poppy over delicately lacy leaves, then realized that it was the meconopsis. It was particularly gratifying as all other meconopsis I've tried have usually come up but departed this world after transplanting. I had a grand bunch of *M. baileyi* this past spring which did just that.

A low drooping form of *Chrysopsis villosa* bloomed gaily in June and July, its bright yellow daisies over grayish-green foliage. It seems to like my sunny, rather dry hillside, and I want lots more of it for its good late bloom.

Prunella hybrids called 'Loveliness', purple, and 'Pink Loveliness' look just like the wild self-heal except for the flowers. The hybridizers have overcome the sparse look, and these have well-flowered heads a bit larger than the wild ones. It should make a good groundcover for shade.

I have been delighted by *Jasione montana*, dwarf form "from the outer Hebrides". It is only two to four inches high with many firm narrow rough leaves, and is just covered with buds which look pinkish and flowers which open white with purple anthers, so that the effect of the tight balls of bloom is a pale pink. *Jasione perennis*, our old friend, is pleasant, but a bit straggly in growth, so that this neat decorative plant was a pleasant surprise. I shall try to send some seed of it to the Exchange.

TREASURER'S REPORT FOR THE YEAR ENDING MARCH 31, 1962

Cash in banks at March 31, 1961		\$4,529.94
Income for the year:		
Current dues - 1961	\$ 708.18	
Life membership	50.00	\$ 758.18
Prepaid dues:		
1962	\$1,751.88	
1963	206.50	
1964	122.00	2,080.38
Sale of Bulletins		114.00
Seed exchange		416.94
Plant sale at annual meeting		270.38
Advertising in Bulletin		191.00
Gifts		46.50
Interest on savings account		48.76
Sale of books	\$ 332.62	
Less —cost of books	326.13	6.49
		<u>\$3,932.63</u>
Expenses for the year:		
Bulletin expenses:		
Printing, including index	\$1,898.02	
Cuts	68.21	
Mailing and postage	86.91	
Editor's compensation	300.00	
	<u>\$2,353.14</u>	
General expenses:		
Secretary's compensation	\$ 394.00	
Printing and stationery	248.36	
Printing seed list	251.75	
Postage	183.56	
Moving expense	71.50	
Office supplies	23.72	
Telephone	6.74	
File cabinet	39.95	
Meeting expense	33.78	
Membership dues	18.00	
	<u>\$1,271.36</u>	
Total expense		3,624.50
Excess of income over expenses for the year ending March 31, 1962		<u>308.13</u>
Cash in banks at March 31, 1962:		
The Northwestern Bank, Hendersonville, N. C.	\$2,939.54	
East River Savings Bank, New York, N. Y.	1,898.53	<u>\$4,838.07</u>

Respectfully submitted,
Alex D. Reid, Treasurer

FURTHER COMMENTS ON MY SEED GROWING SYSTEM

NELL LEE GOSLING, *White Pigeon, Mich.*

SINCE MRS. KLABER AND I seem to advocate such diametrically opposed viewpoints on seed raising, I feel that I should add a paragraph or two that may, perhaps, clarify the issue a bit.

My system was developed to deal with the small amounts of seed that must perforce be sent out from seed exchanges. When there are only five or six or a dozen seeds, or a tiny pinch of something one has long been hoping to obtain, my aim is to do the best I can to put a dozen, a half dozen, or at least one or two plants of each species in my garden. Then I can propagate more from cuttings, or from seeds it produces.

When I do have a generous amount of seed, I plant a pot full and put the rest in a row in a cold frame in the Klaber manner, to take their chances with careless nature. On a number of occasions seeds have germinated in the pot and not in the cold frame, but I have never had seed germinate in the cold frame and not in the pot. Generally there are seedlings in both, but the percentage of germination and survival makes the pots a far out favorite.

In Michigan, at least, the time factor is also important. I am far ahead if I can do the painstaking job of pricking off tiny seedlings into flats or rose pots while the bad weather is still holding up the flurry of spring garden work. By the time the outdoor seeds are beginning to germinate, my precocious babies are fine little tufts hardening off in an outdoor frame, and many will be in their permanent homes in the moraine by the time the outdoor seedlings have their second leaves in early May. They have a much better chance of surviving the killing 100° heat of a Michigan summer than if they suffered the shock of transplanting when Mrs. Klaber moves hers at the end of June. Some of these early germinated plants will be in bloom by midsummer of their first year, although I cannot say that I am glad to have this happen, for it often means that they are not long lived varieties, if they must hurry along in this manner. If they cannot survive the winter, however, it is a satisfaction to have had them bloom once before they bow out. From my 1961 pot sown seeds the ones that bloomed well this past summer (their first) in the garden were:

Centaurium scilloides
Linaria supina
Codonopsis clematidea
Cyananthus lobatus
Dianthus alpinus albus
Mimulus primuloides
Mimulus lewisii
Mimulus cupreus var.

Pulsatilla vulgaris
Potentilla eriocarpa
Bellium minutum
Wahlenbergia albo-marginata
Bellis rotundifolia 'Shortcake'
Primula sieboldii
Primula veris
Sisyrinchium brachypus

I dare not boast of the other hundred odd varieties of seedling plants that looked so well established in the gardens when the ten below zero weather descended on them. I hope they will all survive and bloom this summer.

To the new seed grower, then, if you obtain your seed in generous packets, or if your time is limited and you really will not mind if many of the small amounts of exchange seed fail to produce plants, then don't bother with pot sowing. You will undoubtedly grow all the seedlings you can take care of in a cold frame outside. Maybe the pot method is most suitable for those of us

with time on our hands, as a device to fill the empty winter months with some of the thrills of rock gardening.

In the end, perhaps, Mrs. Klaber and I are not so diametrically opposed as Dr. Worth suggests (in method only—Ed.), but are really working toward the same goal—that of trying to interest rock gardeners in attempting to grow their own plants from seed. Whichever method you favor, do try one of them soon, as a step toward developing your own system and getting one of the greatest thrills in gardening.

OMNIUM-GATHERUM

The change in the editorship of the *Bulletin of the American Rock Garden Society* has been brought sufficiently to the attention of the members of the Society by Dr. Worth's notice of retirement from the position in the July *Bulletin* and by the notice sent to each member by Harold Epstein, the Society's president.

Now that we have assumed our new duties and are hard at work to assure a publication of acceptable standard and one that appears on schedule, no particular comment seems necessary, except to say that every day that goes by increases our respect for the retiring editor and our appreciation of his tireless efforts to bring to the members a magazine worthy of the Society.

Dr. Carleton R. Worth strove mightily to accomplish this painstaking task at considerable sacrifice of time and energy from other pursuits, both professional and personal. We join the other members in thanking Dr. Worth for his eight long years of work in our behalf and we wish him 'good hunting' this summer in his favorite mountains, the Rockies, where he will search for some of the rare alpine plants that have so far eluded him. He will be accompanied by Dr. Henry Tod, president of the Scottish Rock Garden Club.

Certainly Dr. Worth's resignation need not mean that the *Bulletin* will be without further valuable contributions from him, for we will solicit material from him as assiduously as he formerly solicited material from us.

A few words about the new name of this particular column: The old catch-all name of "Salmagundi", long identified with Dr. Worth, is being retired with him. It served its purpose well and some of our readers may mourn its passing but they should not despair for such a column will retain its functional character whatever its name.

To us "Omnium-gatherum" seems a fine quasi-Latin mouthful (one can see the editor reaching out and gathering in everything he can get his hands on that might be of interest). According to Webster omnium-gatherum means "A miscellaneous collection of all sorts of things". As a name for this column it will do until a better one suggests itself.

A few words, also, about the new editor:

Qualifications—Negligible.

Background—Obscure.

Botanical education—Informal.

Literary accomplishment—Trifling.

Reason for appointment—Desperation.

Now you know the truth and we do not have to pretend. Let the officers and the members of this Society harbor no illusions, now that a new editor has been appointed, that they may heave a collective sigh of relief and settle back in relaxation, their work done. Neither let them despair for there are saving factors. The new editor has the prerequisite love of plants, considerable rock garden experience, extensive plant exploration in mountains and forest, knowledgeable friends, time and energy for the job and, above all, an editorial staff

of such ability, knowledge and character, that any one of its members would have been an ideal choice for the editorship, had his time not been otherwise occupied to the fullest extent.

Be assured that the technical excellence (botanically speaking) of the *Bulletin* will be maintained for it is now the responsibility of the following capable men to maintain it: Brian O. Mulligan and Joseph A. Witt, Director and Assistant Director of the Arboretum of the University of Washington, respectively; Dr. Arthur R. Kruckeberg, Professor of Botony at the same university; and Carl S. English, Jr., prominent plantsman and botanist. They are the editorial staff. The subject of responsibility for the production of the material upon which the *Bulletin* depends for its continuing health, even its very existence, will be touched on later in this column.

Long before man made his hesitant appearance on this earth of ours there were plants. It well may be that there still will be plants when man, in the fullness of time, has joined the long parade of extinct animals. Yet, so far, in his earthly existence man has wielded an astonishing domination over most plant forms and has contrived to bend them to his need.

In the struggle for early survival man fought all forms of nature for he was the interloper and was resented. With the slow increase in intelligence, born of experience and the ability to communicate one with another, man learned to use nature, to use plant life especially. To feed and clothe him (with an assist from the animals), to shelter him, to medicate him, to sooth and solace him in pain and trouble, yes, and to inspire him, man learned to use plants.

Nature, in general, and plants, in particular, voluntarily joined together to satisfy one other need of man, of later man. That need was the need for beauty. Man must learn of beauty from constant exposure to it, he must have appreciation of beauty, even strive to create it through his own efforts and thus become a part of beauty. In a world full of natural beauty, of far-flung landscapes that have the power to lift man above his mundane needs, to fill his thoughts with grandeur and his being with exaltation, man has learned to create his own specialized landscapes, and so gardeners were born.

In the same world, also, are precious spots so minute that they contain but a single rock and a single blossom and it is here that man learned of the more subtle beauty of simplicity, and a rock gardener was born. That he might abide with these newly found enchantments—that he might never again be without his awakened appreciation of them, man surrounded his home place with the plants of his own choosing and in his own arrangement, and so gardens were born.

A garden is a place where nature and man have united to create an example of one of man's highest arts. Without the beneficent help of nature there would be no gardens, but since there are gardens in nature's own domain that have known no man's hand, it follows that nature must be considered the senior partner. Man can and does assist nature in bringing a beautiful garden into being. Man can conceive the design and the general characteristics of his garden. He can assist nature in making the garden a reality if he has sufficient knowledge to enable him to choose wisely the plants he desires and the means with which to supply, for those plants within his garden that are not indigenous, the conditions for healthy survival that nature, as localized in the garden's environment, cannot supply. Man can assist if he has patience, pertinacity, loves the soil, has the strength and stamina to dig and lift, has a sense of timing and is orderly. Whether native or acquired, he must have enough appreciation and understanding of the harmonies of form, texture and color to establish and control the desired effects of the ever changing moods that the seasons in their progression bring to a garden.

Man, as junior partner, holds abnormal powers over the inmates of his garden; powers that he may use for good or ill. So far as the combined efforts of nature and man have created and marshalled plant life in the garden, man has the absolute power of life and death over these plants. He can cut down trees, uproot plants he considers weeds, mutilate in the name of pruning, deprive plants of their choicest blossoms that the interior of his house may be brightened. He may deprive them of their natural immobility by transplanting, by giving them to friends or by hauling unwanted plants to the dump. He can keep them from propagating or meddle in their propagating processes. In the name of form or at the dictates of prevailing garden styling or the fluctuation of plant desirability he may bring chaos to his garden. He may destroy otherwise healthy plants through carelessness, ignorance, neglect or sloth and no one calls him to account. He may exercise this terrible power of his for good or for ill, as has been said, in spite of all the powerful weapons nature has in its arsenal. Short of wide-spread catastrophe, man is master in his own garden.

The measure of a gardener is in the degree of his understanding of this power and his use of it. He is a good gardener if he serves beauty, if his acts within his garden are dictated by a sincere desire to attain the fulfillment of his conception of the ideal garden, if he loves his plants and finds compassion in his heart when one of them must be sacrificed to that ideal.

It is the love of plants and of gardening that has brought us together in our Rock Garden Society and it is possible that we are all good gardeners. Now we wish to bring up the subject of contributions to the *Bulletin*. Harold Epstein has said that the *Bulletin* is the keystone of our Society. Thinking of the *Bulletin* and gardening, an analogy presents itself. Here we have a garden wherein nature is the vital force and the gardener is the intermediary with certain drastic powers within the garden. There can be no garden, without contributions from nature and only a garden overgrown and uncontrolled, without a gardener. There can be a beautiful garden if nature and the gardener work in harmony. Then we have the *Bulletin* wherein the membership is the vital force and the editor is the intermediary with certain blue pencil powers within the *Bulletin*. There can be no magazine without contributions from the membership and only a mass of unorganized material without an editor. There can be a beautiful magazine if the members and the editor work in harmony.

Now comes the matter of the two New Zealand ladies who are new contributors to the *Bulletin*—bless their hearts! When Dr. Worth sent us his unpublished contributions we found two fine articles from New Zealand. One, written by Mrs. John Warren, having been mailed to us some three months earlier than the other, appears in this issue. The other, the work of Mrs. R. L. Laurenson will appear in a subsequent issue. Dr. Arthur A. Kruckeberg, of the editorial staff of the *Bulletin*, after reviewing both articles, was moved to write as follows:

“Those of our membership who can wangle a trip to New Zealand will want to see the South Island and the plants there as described by Mrs. Warren, whose article appears elsewhere in this issue and by Mrs. Laurenson—her contribution is scheduled for later inclusion in the *Bulletin*.”

Another ‘must’ for the rock gardener abroad in New Zealand is the newly developed Alpine Garden in Tongariro National Park. We have received the illustrated booklet prepared for those who tour the garden. We were most impressed! The garden is situated well south of Auckland in that hinterland region of the highest peak of the North Island, Mount Ruapehu.

The garden owes its existence to the perseverance and skill of New Zealand plant enthusiasts, prominent among them was the late Phil Bennett. Though we never met him, his infectious enthusiasm for New Zealand native alpine plants often made us want to head for 'down under' forthwith. His generosity, too, found its way to our Seed Exchange annually. We were saddened to hear of his passing only a few months ago.

The Tongariro Alpine Garden is devoted to native plants, especially the low-growing shrubs and herbaceous species occurring wild in the surrounding high country. Here you will find such genera represented as *Wahlenbergia*, *Ourisia*, *Parahebe*, *Dracophyllum*, *Phyllocladus*, *Olearia*, *Celmisia*, *Gaultheria*, *Dacrydium*, *Coprosma*, etc., *ad deliciasum*.

Does this list make you want to pack up and go south?

It will be our policy to illustrate each *Bulletin*, within budget allowances, with pictures that are appropriate to the text and may be considered instructive.

The best illustrations are said to result from sharp black and white glossy prints enlarged to 5 x 7 inches. When mailing manuscripts to the editor it is highly desirable that you also send prints, as described above, that will serve to illuminate your article. Unused prints will be returned to the sender.

If the article by Donald G. Allen, appearing elsewhere in this issue, brings to mind something you may have read before, you are probably right. Mr. Allen, faced with requests to contribute to two publications, wrote his article and arranged that it should be used by the New York Horticultural Society's *Bulletin* in their May number and that it should appear at a later date in our own *Bulletin*.

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