

BULLETIN

of the

AMERICAN ROCK GARDEN SOCIETY

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RARE AMERICAN PLANTS IN GREAT BRITAIN

WILL INGWERSEN, ENGLAND

BBRITAIN'S capacity for absorbing exotics is as well illustrated in its gardens as elsewhere, for an average English garden is a storehouse of plants from all parts of the world. The temperate climate, though maligned by natives and visitors alike, permits the cultivation, either in the open, or with no more protection than is provided by a cold greenhouse, of a great variety of plant life, ranging from Arctic to sub-tropical varieties. Amongst such a plethora of material it is not surprising to find American plants well represented, and especially those which are of particular interest both to me, and to the readers of this Bulletin, and find their ideal home on the rock garden or in its immediate environs.



—Photo by Donald F. Merrett

The free flowering *Lewisia brachycalyx*, pure white or suffused pink.

Most of the American plants take kindly to conditions in Britain, and present no special problems to the grower who obeys the fundamental rules of providing efficient drainage, and an "open", porous soil which is not overweighted with plant foods which alpine plants, accustomed to a spartan diet, might well find indigestible.

There is, however, a minority of intractable species, which require constant care and attention, and even so, will frequently defy the skill of the cleverest cultivator. An excellent example of this type of plant is found in the lovely *Phlox* which has somehow got itself tangled up with three separate specific names, and is variously known as *P. mesoleuca*, *P. triovulata* and *P. nana ensifolia*. My own choice, backed by a sound American authority, falls on the last one, but I'll



—Photo by Donald F. Merrett

Phlox nana ensifolia, clear pink, not purplish as in typical *Phlox nana*.

not argue about it with anyone who has other opinions. Such success as I have attained with this delightful but rather temperamental plant has been achieved by growing it in very deep pots - almost land-drains in shape - in a compost consisting of one half sharp sand and the other half equal parts of fibrous loam and leafmold. The deep pots offer room for the long and wandering roots.

Plants grown in this way will flower freely, as the illustration shows, although they are usually of straggling habit. I feel it is a plant which ought never to see a pot, but alas, it resents the wet British winter and is seldom seen outside the alpine house. Its large clear pink flowers are so lovely that it is worth any effort to attain success.

I was once fortunate enough to spend a whole summer in the Rocky Mountains, covering an area extending from Calgary, in Alberta, to Vancouver Island, and taking in part of the Olympics of Washington, and several of the great isolated

peaks, such as Rainier, Hood, Baker, etc. I remember being entranced by the many species of *Eriogonum*, few of which I was able to identify at the time. Some of those which I sent home as seeds have established themselves, and I have, ever since then, assiduously collected every *Eriogonum* offered to me. The species illustrated, *E. Jamesonii*, is an old friend and has been in cultivation for many years, and serves to indicate how well these handsome plants grow in a British rock garden in any sunny position and in even poor and stony soil.

Several of the American *Silenes* are great favourites with British rock gardeners, and here again, some are easily grown, whilst others pose cultural problems to tax the most enthusiastic grower. Not the least of these is how to keep slugs and snails away from *S. Hookeri*!! Those who have had, in sheer despair, to abandon hope of ever seeing the huge salmon-pink flowers of this grand plant adorning their choicest scree, have found *S. Ingramii* an excellent substitute. It is fairly easy to grow in scree soil and is of almost equal beauty, with flowers of brighter red, and is, apparently, less palatable to gastropods. Its minor fault of untidiness in habit is readily forgiven when, during spring and early summer it produces the immense flowers with deeply lacinated petals. I find that it prefers lime-free soil, but is tolerant of some lime.

Feelings about *Lewisia*s are rather mixed in Britain, both as to the best method of growing them, and as to their general popularity. These remarks apply in parti-



—Photo by Donald F. Merrett

The red *Silene Ingramii* is offered as an excellent substitute for the pink *S. Hookeri*.

cular to the *melange* of hybrids which are now grown, and which are derived from such species (?) as *LL. Howellii*, *Mariana*, *Cotyledon*, *Finchii*, and so on. None of these, with the possible exception of *Howellii*, is now to be found in its original form, and I am convinced that all of them are but variants of one species. In any

case their progeny has interbred to produce a race of fertile plants bearing flowers whose color ranges from orange and yellow shades to pale and deep pink and bright red. The petals of their freely produced flowers are striped and ribboned with all these colors in a gay, but "chocolate-boxy" mixture.

Given a lime-free soil and sharp drainage, none of these hybrids is difficult to grow, and they are seen at their best when planted in the interstices between the stones of a sunny wall. My own preference is for such species as *LL. Tweedyi*, *rediviva* and *brachycalyx*. The accompanying illustration gives some idea of the fine display made by the last named species early in the spring. It is grown here in several slightly varying forms; the most usual bears pure white flowers, but the rarer, and, to me, more desirable forms, have the tissue-paper petals of the stemless flowers delicately flushed with soft pink.

L. brachycalyx is a deciduous plant, and goes to rest very soon after it has flowered and borne its seeds. These, like those of all *Lewisias*, mature rapidly, and often whilst still green and apparently unripe. The plants appreciate a good summer baking when dormant, and I like to shake the thick, fleshy roots free of soil in early October, and repot them in fairly rich, gritty loam. They are kept fairly dry thereafter, until signs of new growth can be seen, after which they are watered copiously. Recently, several hybrids have appeared, mostly between *L. brachycalyx* and one or other of the evergreen species. Several of them have been spontaneous, others deliberately contrived. These crosses are interesting, but have no great garden value, and seem in some doubt how to behave owing to their mixed evergreen and deciduous parentage.

Many American gardeners who visited Britain during 1951, on the occasion of the International Alpine Plant Conference, were intrigued in one garden to see plants of that very lovely shrublet, *Kalmiopsis Leachiana*, growing vigorously in the surprising medium of a sunny limestone scree. This is not to be recommended as the ideal situation for a plant which has always been supposed to be a calcifuge with a preference for a cool, or north facing aspect, but it has proved to be the only place where the owner of this garden could grow it. Many hundreds of seedlings were lost when given conventional treatment, and placing the last half dozen in the scree was a last defiant gesture before admitting defeat. From that time those six plants never looked back, and each year they flower freely, and delight all who see them with their exquisite pink bells so well displayed against the dark green foliage.

Eriogonum Jaesonii, a densely tufted alpine shrublet, as grown in England. Seeds of two related species were collected by our Northwestern unit. See the following article.



—Photo by Donald F. Merrett

The short account given in our September-October issue, by Mrs. Rober-son, of a collecting trip into the mountains by the whole Northwestern Unit, was at the time the only record we had received of this momentous program. Since not one, but a series of such trips were undertaken, we welcome this more detailed narrative by Mr. Mulligan, for little repetition is involved. Note that no such ambitious activities have ever been undertaken by any unit of the Society. The Northwestern group is to be congratulated for its leadership in this most appropriate direction.

COLLECTING IN THE CASCADES

B. O. MULLIGAN, SEATTLE, WASHINGTON

I. SUMMER

FROM June through September, 1951, a week-end visit, first to the lower hills, then into the mountains as the snow receded, has each month been on the program of the Northwestern Unit of the A. R. G. S., centered in Seattle, but having members as far north as Bellingham, and extending in a wide area around the city.

The trip on July 14-15 was memorable both for the fine weather (In Seattle this year measurable rain fell only on five days in June and on two in July) and for the members and guests attending. One of the latter, Dr. Earle, was from Maine, another, Miss Joan Parry, from England. Memorable too was the variety of scenery and plants encountered on the two hikes made.

By leaving Seattle early in the morning it is possible to cross Snoqualmie, the lowest pass of the Cascade Range at just over 3,000 feet, drive some 40 miles east of it to beyond Cle Elum, then northwards up the Teanaway River Valley another 25 miles, to reach Stafford Creek campground in the Wenatchee National Forest in time for lunch; thereafter to climb on foot up the five miles of well graded though zigzagging trail to Miller Peak (6,460 feet) in the Wenatchee Mountains, and return in time for a well earned and welcome evening meal beneath the Douglas and grand firs of the campground. The latter tree is dominant at the lower levels, though western white pine, *Pinus monticola*, is quite common and some fine rugged-barked specimens of *P. ponderosa* stand beside the trail. Engelmann spruce is infrequent here.

On the way up few unusual or unexpected flowers were encountered; *Mimulus Lewisii* in bloom at a creek crossing, and on the neighboring bank a blue-flowered Penstemon, probably *P. diffusus*. Somewhat higher, where a trickle of water came down a narrow gully, we found a thriving colony of the dainty white *Dodecatheon dentatum*, not exactly an exciting plant, but one found much earlier by Douglas and described by the elder Hooker in 1838. Growing nearby, with its roots beneath stones, was the holly fern, *Polystichum Lonchitis*, a distinct and attractive species. *Rhododendron albiflorum* was seen flowering at the lower levels, and though it extends to near the tree limit, it frequently seems shy of producing its clusters of white bells, especially when heavily shaded, and suitable material for photography is often hard to find.

Somewhere around the 5,000-foot line, we made our most notable discoveries of the ascent. First, an obvious Cypripedium growing beside the trail, having three or four small flowers with brown sepals and a greenish lip, on a six-inch stem bearing a pair of broad leaves. Only a very few plants were seen in this one small area. Piper's Flora of Washington decided us that this was *C. fasciculatum*. It must be one of the dingiest of its race, and certainly not to be placed in the same class with

C. montanum, seen a month or so earlier some twenty miles northwards in the hills above Leavenworth. The former extends from eastern Washington to the Santa Cruz Mountains south of the San Francisco Bay area in California. The latter ranges even more widely northwards into Canada, east to Wyoming, and as far south.

Very shortly after this discovery another unusual flower was noticed, a mauve or purplish-blue Clematis with trifoliate leaves and solitary nodding flowers on long stalks, rambling over low shrubs or trailing down steep banks or even on rocks, never climbing like the majority of its brothers. This has proved to be *C. occidentalis* (Hornem.) D. C. (*C. columbiana* of Torrey and Gray) and by the want of references to it in horticultural literature, is evidently little known and seldom grown in gardens. If the right kind of well drained and partly sunny position can be found for it, then it should be worth a trial. Cuttings were obtained and rooted from this location.



—Photo by B. O. Mulligan

Meadow near Esmeralda and Hawkins Peaks, Mt. Stewart in background. Here grew *Trollius albiflorus*. Evergreens are *Pinus albicaulis* and *Abies lasiocarpa*.

Shortly before emerging from the trees, the trail passes through a narrow zone of western larch trees, *Larix occidentalis*. At timberline Douglas fir, white-barked pine (*P. albicaulis*) and stunted *P. ponderosa* grew side by side, the last a surprising inhabitant of this dry and rocky terrain. One of the firs 27 inches high on a most exposed ridge, was actually bearing cones.

The flora under such conditions of full exposure on a volcanic type of rock was obviously very different from what we had encountered coming up. *Eriogonum* species were most prominent, notably cream-and lemon-colored variations of the handsome *E. compositum*, and the smaller *E. umbellatum*. Scattered about also were compact six-inch-high tufts of an evident labiate shrublet, but it was not until

we returned to Seattle and could consult the third volume of Abrams' monumental Flora of the Pacific States, that its real identity could be learned — *Monardella odoratissima* sub-sp. *discolor* Ehling, a Washington and northern Oregon variation of a complex species extending from British Columbia to Lower California and east to the Rocky Mountain states. For a place in full sun on a scree or steep bank, or in a dry wall, this with its umbels of purplish flowers and narrow gray leaves, would seem a likely candidate, although its habitat at 6,000 feet might or might not make for hardiness at low altitudes.

In the rocks at the base of the peak itself were numerous plants of the tiny *Polemonium pulcherrimum* var. *filosum* J. F. Davidson (*P. Pilosum* G. N. Jones), three inches high and already ripening seeds, which we speedily collected. No flowers remained. This occurs also in the Olympics, on Mt. Ranier, and in the Goat Mountains south of the latter. The trail continues around the north side of the peak, then east and southeast, to emerge finally after nine or ten miles, on Highway 97 at Blewett Pass (4,070 feet).

Next morning the party was augmented and botanically much strengthened by the arrival of Mr. and Mrs. Carl S. English Jr. of Seattle, old hands at mountain explorations for plants. Eleven members and guests started from near the end of the valley road to follow the Boulder de Roux Trail (named for two creeks which it follows in part) northwestwards in the direction of Esmeralda and Hawkins Peaks, eleven or twelve miles northwest of Miller Peak, nearer the main chain of the Cascades, and of about the same or a little greater height. Few if any of the party had been on this route previously, which added a spice of novelty to the excursion.

Almost from the beginning the topography and scenery proved different, with more open spaces and occasional small meadows, though in some sections steeper. These factors and conditions also produced more variety in the flora. For instance, *Phlox diffusa* occurred on a dry open slope at comparatively low level; a single white-flowered plant of the common western *Rosa gymnocarpa* was discovered, and somewhat higher the low and creeping *Arctostaphylos nevadensis* was clothing some barren rocky outcrops.

In one place the trail passed through a belt of timber where snow patches still remained, and in a boggy area here were freshly opened clumps of the white *Trollius albiflorus*, as well as *Erythronium grandiflorum*, *Dodecatheon Jeffreyi*, merely the forerunner of legions later on, and the weedy *Delphinium Nuttallii* (*columbianum*), besides other moisture lovers.

Thereafter we traversed across what was almost a cliff face, had it been somewhat less tilted, but on it grew a wealth of real rock plants. Penstemons, particularly *P. fruticosus*, *Luina hypoleuca*, a composite with white-felted foliage and heads of creamy flowers, stunted clumps of *Pachistima Myrsinites*, and in one place scores of plants of the lace fern, *Cheilanthes gracillima*, are some especially remembered.

Round a corner the trail continued between the rock face on one side and a miniature gorge on the other, then crossed the shallow stream and brought us into a fresh, ungrazed meadow where groups of fine Engelmann spruce trees 50 - 80 feet high were numerous and very decorative, many of them laden with young cones on their upper branches. Along the stream banks the Dodecatheon was plentiful, and with it the first plants seen of *Gentiana calycosa*, though not yet flowering, while a group of the broad-leaved *Ledum glandulosum* well covered with clusters of white flowers, drew the photographers.

At the northern end of this short valley, from which the upper part of Hawkins Mtn. was visible not far away, drier conditions produced the prostrate *Juniperus communis* var. *montana*, often found on the higher ridges of the Cascade and

Olympic Mountains, and a small group of the lowly *Douglasia dentata*, displaying crimson-centered bright rose flowers. Alpine firs (*Abies lasiocarpa*) made their appearance at this point also, associated chiefly with mountain hemlocks (*Tsuga Mertensiana*), but none of any great size. It was soon evident that many of the older and larger trees had been cut to provide lumber for miners' cabins, of which the remains dotted some parts of these higher valleys and slopes.

At a small stream-crossing here the party lunched, after three hours of almost steady climbing, and sat appreciatively on a rug of *Phyllodoce*, *Cassiope*, gentian, *Luetkea*, *Vaccinium deliciosum*, and other plants of the Hudsonian zone, regretting perhaps that it could not easily be reproduced in our own gardens.

After only a brief rest, the more energetic were soon on the move again, and the next hour or two was spent in exploring the higher slopes and approaches of Hawkins Mtn., west of Esmeralda, passing on the way a shallow lake lying between the two peaks. Beside the water a small colony of *Kalmia polifolia* was found in bloom and duly recorded by the camera. The surrounding meadow was full of *Dodecatheon Jeffreyi*, and numerous plants of the gentian were seen in vigorous growth. Other local inhabitants were *Tofieldia occidentalis*, related to Bear Grass in Liliaceae, more conspicuous perhaps in fruit than in flower, and the broad-leaved *Leptarrhena amplexifolia* in the saxifrage family, of which the same is true.



—Photo by B. O. Mu'ligan

Lake below Esmeralda Peak, with *Dodecatheon Jeffreyi* plentiful in the meadow. Altitude 4,700 - 4,800 feet.

In slightly higher wet and boggy areas *Trollius albiflorus* was flowering, and not far away comparatively young 15 - 20 ft. trees of the whitebark pine were coning. The view to the northeast was blocked by the solid pyramid of Mt. Stuart (9,470 feet), a reasonably accessible but steep-sided, almost treeless peak in this region, on which *Saxifraga oppositifolia* is to be found, as well as other high alpine plants. On the slopes above our meadow were also seen the grouseberry, *Vaccinium*

scoparium, a miniature shrub 6 - 8 inches high, with solitary flesh-pink bells at this stage, the mat-forming *Gaultheria humifusa*, smallest of its race in the west, and another colony of *Douglasia dentata*, again on an almost bare earth slope facing southwest.

The majority of the expedition returned by the way we had come; some however, among them the indefatigable Dr. Earle and Carl English, made a longer loop around Esmerelda Peak, and returned by another trail to the forest road where the cars awaited us. Everyone, however tired at the end of the day, or of the two days hiking, seemed to agree that it had been a very worthwhile effort into high country excellent for our intentions, and no doubt a varied choice of plants or cuttings found their way to members' gardens as a result of it. The ferns *Cheilanthes gracilima* and *Polystichum Lemmonii* will, we hope, remain as souvenirs in our own, with seedlings of grand fir and Engelmann spruce as long-term prospects for the future.

II. HARVEST

Having been impressed on our July explorations with the potentialities of the trails up to, and the areas surrounding both Miller and Esmeralda Peaks in the Washington Cascade Mountains, as a source of good plant material, and being mindful of the Society's Seed Exchange, the secretary and program chairman of the Northwestern Unit arranged another week-end visit to the same sites on September 8 - 9 with the main purpose of gathering seeds for the exchange list.

A few of the members were able to arrive at the campground on the night of Friday the 7th, others came in next morning, and the Miller Peak Trail, being nearest our campground, was again ascended first. At about two-thirds of the distance, a slight diversion was made to explore some rock ribs and gullies close to the trail but not covered by trees. On them were found, amongst other items, a large plant of *Clematis occidentalis* growing on a steep stone slide, with ample supply of ripe seeds, the lovely little *Heuchera racemosa*, *Penstemon rupicola* and a presumed hybrid, perhaps with *P. fruticosus*. All these provided seeds, though some only in small quantity. Of plants the rare and dainty slender lip-fern, *Cheilanthes Feei*, was a particularly welcome find. Seeds of *Dodecatheon dentatum* had already been carefully gathered at the original site, the only place where it was seen.

We reached the open ridge below the peak about noon, and were pleasantly surprised to find a yellow-flowered shrub some 15 inches high, obviously of the family Compositae, still gaily flowering. This was later identified as *Aplopappus Greenei* Gray (in Piper as *Hoorebeckia*), and if it could be successfully cultivated, might well justify its existence on the driest possible bank or rock wall. Here we collected a sufficiency of the drying *Monardella* flower heads to give us, we hoped, enough seeds, and then proceeded a little further upwards until we found a lunch spot at about 6,000 feet facing south, whence we could see, with great clarity on such a brilliant day, the majestic bulk of Mt. Ranier (14,400 feet) more than 60 miles away to the southwest.

And not only Ranier, but also the more distant apex of Mt. Adams (12,300 feet) in southern Washington, over 90 miles from where we stood. Northwards the Three Brothers were the nearest larger peaks (7,370 feet), some three miles distant, whilst to the northwest the very tip of Mt. Stuart (9,470 feet) was just visible some ten miles from us, over intervening ridges. Having lunched under such superlative conditions, the party began seed collecting in earnest on the slopes west of Miller Peak, and successfully gathered two species of *Eriogonum* (*E. compositum* and *E. umbellatum*), the dwarf *Penstemon Tolmiei*, more of the *Polemonium*

mentioned previously, *Sedum stenopetalum*, and a *Potentilla* growing on some of the highest and consequently driest ridges, which proved to be *P. glandulosa* sub-sp. *pseudorupestris* Keck (*Drymocalis pseudorupestris* Rydberg) in Piper's Flora of Washington.

Next day a party of eleven, including Mr. and Mrs. L. N. Roberson and their two boys, climbed the long and varied trail to Esmeralda Lake, collecting on the way seeds of *Phlox diffusa*, although many had already dispersed, the yellow-flowered low-growing *Lomatium triternatum*, one of the more attractive umbellifers, *Luina hypoleuca* from its rocky site, and in the first meadow, *Ledum glandulosum* (barely ripe), *Dodecatheon Jeffreyi*, *Gentiana calycosa* and *Phyllodoce empetri-formis*. Cuttings were also acquired of an unusual type of shrubby *Penstemon*, which may be a form of the variable *P. Menziesii*, growing close to the Luina.

Again we had lunch by the stream-crossing, now unfortunately almost dry, and after it separated and explored the lake shores or the upper meadows. There some of us were able to gather sufficient berries of the two most prevalent dwarf *Vacciniums* of those altitudes, *V. deliciosum* and *V. scoparium*, the former purple, the latter much smaller and red, as well as of *Gaultheria humifusa*, so that perhaps others elsewhere may have opportunity to try these small or prostrate shrubs. More gentian and *Dodecatheon* seed was added, although the flower heads of many of the latter had been chewed off by some animals. Finally our worthy and dependable chairman, Mr. A. M. Sutton, discovered a seeding colony of *Douglasia dentata*, which we carefully picked over and added to the collection.

So we returned to camp more easily than we had come, well satisfied with the results of the week-end excursion, and carrying the harvest lightly. The fine warm evening encouraged us to have supper there before we left, and when we did depart, the rising moon and the sight of deer along the valley road added to our feeling that this had been an unusually worthwhile effort.

SCOTTISH ALPINES

THOMAS L. AFFLECK, LESMAHAGOW, SCOTLAND

THE mountain plants of Scotland which are found at and above 3,000 feet are arctic-alpine plants, many of which are found at sea level in the Arctic, but not below 8,000 feet in the Swiss Alps. The area richest in plant life lies around Loch Tay, with the 4,000-foot Ben Lawers the focal point for ardent alpine botanists. This mountain is of a plant-sustaining schistose formation, and there is also the factor that this peak probably missed the last glaciation.

But in the following description of plants and habitats, no special area has been chosen; rather is the hypothetical mountain a combination of Ben Lawers in Perthshire, Ben Lui to the west near Loch Awe, the hogback of Schiehallion to the north with its acid humus and heather slopes, and wild Glencoe mountains and Cairngorm plateaux thrown in. So to our imaginary mountain and its plants.

We can lightly pass over, literally put perhaps not physically, the lower slopes up to the 1,000-foot contour. Among the blankets of light green bracken fern broken by areas of bog and heather, we can easily find *Parnassia palustris* with its glistening white flowers, and *Pinguicula vulgaris* spreading its pale green insect-catching leafy stars. Leading the way right to the top itself are the ever-present *Potentilla tomentella* and fragrant *Thymus serpyllum*. Various *Orchis* species and ferns with *Vacciniums* and *Ericas* are common.

At the 1,000-foot mark we begin to find more interesting stuff. Beside streams and on ground kept constantly wet grows *Chrysosplenium oppositifolium*, the com-

mon golden saxifrage, *Saxifraga aizoides*, *Polygonum viviparum* with its spike half flowers and half bulbils, and *Oxyria digyna* beautiful in the autumn with its gold, red and green seed vessels.

Also at this level are the golden globes of *Trollius europaeus*, the Scottish plant seemingly more dwarf than the Continental one. On grassy ledges the little greenish-spiked *Thalictrum alpinum* is found perhaps with yellow clumps of *Sedum Rosea* as a background on the wet rocks. We may also find the alpine goldenrod, *Solidago virga-aurea* var. *Cambrica*, its stem being much shorter and its flowers more showy than the species.

Between this and the 2,500-foot mark new plants make their appearance. Generally speaking, these are more suitable for collection. There is the beautiful *Saxifraga oppositifolia*, draping sheets of vivid purple over wet rocks. Its more modest sister, *S. stellaris*, is found in wet places, especially near streams. It has a little white star of a flower, each petal having two yellow spots at the base. It also has red anthers to make it a very pretty flower when seen swaying above the small cuneate-leaved rosette.

On peaty soil at this level may be found the rare *Cornus suecica* with its little clusters of dark purple flowers subtended by four creamy-white bracts. I found this small plant growing on Schiehallion among little fronds of parsley-fern, forming a delightful combination.

Around this area, generally in wet situations, are also the various dwarf willows, some rare, others only too common. And that beautiful alpine shrub *Dryas octopetala* lives hereabouts. On rock ledges from here to the summit grows *Alchemilla alpina* (ad nauseum!).

In alpine berry-bearing plants there are three outstanding species, *Empetrum nigrum* the crowberry, *Vaccinium Vitis-Idaea* the cowberry, and *Rubus chamaemorus* the cloudberry, with its large white flowers followed by beautiful amber fruit.

We are now on the true alpine levels at 2,500 to 4,000 feet. The Scottish glory of these heights in *Silene acaulis*, its mats of bright pink sparkling in the scree and among the short alpine grass. There is no lack of interest now with such plants as *Potentilla alpestris*, *Veronica saxatilis*, *Loiseleuria procumbens*, and white and pink *Antennaria dioica*. One may be lucky in finding such rarities as *Cherleria sedoides*, *Draba incana* and *Saxifraga nivalis*. Two silvery-foliaged plants, *Cerastium alpinum* and *Gnaphalium supinum*, are fairly common.

And with that very incomplete list of plants I finish. These are not as brilliant as most alpine, but when seen among the exclusively impressive Scottish mountain scenery, the Scottish alpine bear comparison with their more gaudy relatives from other parts of the world.

THE SEED EXCHANGE

THE seed list enclosed with this issue of the Bulletin represents the combined efforts of a great many contributors of seed and of our Seed Exchange Director. Members of the Society may request any of the seeds listed, with great hopes of obtaining most of those requested. Because it is an exchange, first consideration is given to those members who have themselves contributed seeds, and whose names therefore appear on the list. Next come our foreign members, whose other benefits from membership in the Society are curtailed by distance. After that, non-contributor members are supplied in the order of requests received. Deviations from this procedure may be made if in Miss Harding's opinion they are justified.

That the Exchange is serving our membership well is attested by its rapid growth from 34 items contributed by 5 members in 1946, 14 items by 7 members in 1947,

to the present proportions only 5 years later. Suggestions for still further increasing its usefulness will be welcomed in these pages. Here is one from the editor.

In the May-June issue, 1952, we shall be glad to print a column of Seed Wishes. Sit down and dream up as long a list as you please of seeds you would like to get, no matter how unlikely or how difficult to procure. Your suggestions may set other members thinking, and who knows? Perhaps some distant reader can supply in abundance the very seeds you had believed unobtainable. Perhaps someone else has been wishing in vain for seeds you can easily offer, but had not thought of sending to the exchange.

Many of our members may have considered a contribution of seeds but failed to send them, because not sure of just what kinds other members might want. A Wish List will indicate not only the definite species and varieties wanted, but give a clue as well to the sort of thing rock gardeners are aspiring to possess, the direction in which our preferences are moving. Seeing a certain plant named in the Wish List will at once bring to mind other similar plants equally desirable, or attractive enough to warrant offering their seeds instead.

Send in your Wish Lists so that they will reach the editor before May first, which is not far off.

Campanula Wilkinsiana is an annual, but because of its rarity and small size, suits the rock garden. This offer of seed is most exceptional.

—Photo by Robert M. Senior



CAMPANULA WILKINSIANA

ROBERT M. SENIOR, CINCINNATI, OHIO

THIS is one of the rarest *Campanulas* in North America, and among annuals is probably the most attractive. It is said to be found only on Mt. Shasta in California, at an altitude of about 8,000 feet, where I judge it grows in some shade. Seed is virtually unprocurable, but I was fortunate enough to secure a small quantity from a traveler who visited that region.

Even when not in bloom the plant is attractive, with its tiny holly-shaped leaves that are hardly a half inch long. The flowers are apparently all terminal, erect, violet-colored, with recurved lobes. The many fragile stems seem hardly to support the bloom.

I have found that if cuttings are inserted in sand, and the flowering buds removed, that occasionally these will root, and thus the plants can be carried over in pots until the succeeding year. However I doubt whether these could survive the winter except in an alpine house. For those members who can offer the plants this protection, I am furnishing a small quantity of seed for our exchange list. Possibly those who may raise these dainty plants successfully, will be able to secure enough seeds so that they in turn can offer it for wider distribution.

MIXING IDEAS IN MIXED PLANTINGS

HAVING read repeatedly advice by competent landscape designers to plant bulbous subjects where they will grow through dwarf evergreens, the editor is led to wonder whether other members greet this practice with some of his own skepticism. If you consider only the flower of the bulbous plant, and have no regard for the appearance of the evergreen at that moment or in the future, such advice is unquestionably good, for a dark background helps set off almost any pale or brilliant flower, though not a flower of dull hue, to the best advantage.

Now let us consider the effect on the appearance of the evergreen. What above all pleases the eye in the picture created by a miniature juniper or spruce or hemlock is its symmetry. Even the irregular types which are neither globes nor pyramids, nor yet columns, depend on balance of outline, either wholly in their own foliage or in combination with the rocks against which they have gradually adjusted their miniature masses. If a branch is broken off, note how the beauty of the ensemble is spoiled for months or years to come. Students of flower arrangement will readily understand this subtle relation between the parts of an artistic unit, for the principles are the same indoors or out.

A vertical green line rising through one side of a symmetrical evergreen is atrocious flower arrangement. To test the principle for yourself, poke a green stake upright through one side of the foliage of some prize Hinoki cypress. Stand back and look at it, then remove the stake and look again. Not how much better the evergreen looks without the stake. Here the stake represents the budding and flowering stalk from a bulb, as it looks during the weeks of growth. Even worse are the grass-like leaves which precede or follow the flower stalk, imposing even more unrelated and inharmonious lines. A mere half dozen of these will destroy the most enchanting effects which rock garden shrubbery can achieve.

Nor does the harm end in this violation of artistic lines. To build and store with food next year's bulb, the roots drain from the evergreen's soil great quantities of much-needed nutriment, which cannot be easily replaced in a form acceptable to the deprived specimen. A bulb may be fed from a bag and remain satisfied, but it is not so with many evergreens, which demand a soil to their own special taste.

More serious and more permanent injury is almost sure to follow from shade damage. A juniper, for instance, requires plenty of light and sun. Shade one branch for three or four weeks, and it will almost certainly lose color, become infested with insect pests or fungus diseases, and later drop its foliage. The leaves of many bulbous things give considerable shade right down at the surface of the plant, where it does the most harm. When these leaves begin to die, flop and rot in masses, draping the evergreen foliage with their disgusting cadaverous embrace, nothing could be worse for the health of the juniper or any other conifer of broad-leaved evergreen.

All mixtures of evergreen and deciduous shrubbery, large or small suffer from this type of injury. Planters who crowd a Spiraea against a juniper may create a pleasing effect for the moment, and may never come back to see the eventual disaster from such a contact. But in one season the Spiraea will shade out one side of the evergreen, then losing its leaves in autumn, will display its evil work. The juniper, with a great bite taken out of one side, has lost all symmetry, leaving an unsightly exposure for six months to come, until spring again brings out the leaves on its neighbor.

Had two evergreens been crowded together, the same shading out would have taken place in both, but you never would have seen it, since neither drops its leaves

to reveal the injury. No symmetry would have been destroyed because the two would adjust a new pattern of combined beauty. Similarly if two deciduous shrubs are planted together, both drop their leaves in season, giving no offense to the eye.

Therefore let us suggest that evergreens be planted with evergreens, deciduous shrubs with deciduous shrubs, herbaceous plants with herbaceous plants, and their groups separated by a little space of no plant's land, or better still, a rock. The effect of dark background for bulbous flowers may be secured by planting them in front of the evergreens with enough open ground between so that no shading or root-robbing will take place. The unpleasant conflict of line and symmetry will then prove the only drawback, removable at will with no loss of health to either subject.

Any and all articles written by landscape planters to dispute these conclusions will be welcomed and published.

WHAT HYBRIDS DO FOR US

IN the June Quarterly Bulletin of the Alpine Garden Society, an article on Dwarf Rhododendrons by Sir Humphrey Bell lists and describes some of the best of the 150 species which do not exceed three or four feet in height. The author adds a paragraph on dwarf hybrids, introduced by some reflections of an unnamed friend of his "deploring the urge for more hybrids of all sorts of plants." Sir Humphrey Bell's own position is temperate and well considered, yet the attitude of his real or imaginary friend echoes a familiar trend of thought which crops up frequently nowadays in conversation as in writings.

Should we consider that we have arrived at perfection, and should we stop trying to make beautiful flowers more beautiful and more available to severer climates? Nature has not reached perfection, and is forever changing her species and varieties in countless ways, slowly, to be sure, but then—nature has unlimited time. Nature's aims do not always coincide with ours. When we weed, transplant, cultivate, fertilize, spray, prune, we are opposing nature as surely as when we improve a plant.

What Sir Humphrey Bell's friend and many others interested in horticulture may not have considered sufficiently is the purpose, in fact the multiplicity of purposes behind hybridization. Worse, the hybridists themselves often lose sight of their own goal, and offer to the public countless slightly different versions of familiar plants, most of which should have graced the compost heap.

The word hybrid itself has assumed in the public mind a meaning which does not properly belong to it, and which has enabled unscrupulous merchants to sell at a profit those plants which the hybridist should have thrown away but did not. The halo which this misunderstood word brings to an undeserving plant, can be dispelled on y by reviewing the whole subject.

A hybrid is the offspring of a mating between two plants belonging to different genera, different varieties, different species, or in a few cases different genera. It is not necessarily a superior plant. In fact the vast majority of hybrids are inferior to their parents, many totally worthless. Why then do we hybridize?

A hybrid made under certain controlled conditions may show a remarkable increase of vigor and productivity. Hence the recent wave of hybrid seed for field crops and vegetables. Here we want the hybrid because it is a hybrid. The seed from it is worthless for the production of future crops. Each year we must go

back to the controlled parents, gather their hybrid seed to produce the bumper hybrid crop. This sort of hybrid represents a startling advance in agriculture.

A hybrid marigold may be something utterly different from the crop hybrid. Here hybridization is used only as a means to an end. To obtain a race of marigolds with better colors, a longer season of bloom, and seed that will reproduce plants like the parents, the breeder selects and keeps selecting individual plants which measure up to his ideal. Selection, not hybridizing, is his primary method, and the only reason he hybridizes it is to make his plants vary from each other, so that he will have a wider field from which to select.

It may sound strange to state that the new crop breeder hybridizes to obtain a uniform crop while the old fashioned flower breeder hybridizes to promote variations, yet this is exactly the case. When two uniform races or species are crossed together, the resulting hybrids are all nearly alike, though different from their parents. But when these hybrids are crossed together, the resulting offspring vary from each other often to an astonishing degree, and in many different directions. The crop breeder uses only the uniform first generation, the flower breeder mainly the second generation.

Annuals after hybridizing must be bred into fixed strains by generation after generation of selection, keeping only a few of the best, while destroying the great majority, which are sure to be worthless. Perennials and woody plants could be bred in the same way, but a long time would be consumed unnecessarily. For when a single superior plant appears, it can be multiplied by division, cuttings, layers, grafts or buds. With rare exceptions, every new plant grown by any one of these methods except graftage or budding will eventually become exactly like the original plant, and all of the new plants developed from a single named original are called collectively a clone.

Hybridizing, with most plants which live longer than two years, is merely the first stage in the method of arriving at a clone. By hybridizing, the good and bad qualities of existing plants are shaken up and recombined, in order to widen the field from which a clone can be chosen. Of these two processes, hybridization and selection, selection is by far the more important, and everything depends on the good taste of the person who selects.

So if you "don't like hybrids" you really mean that you don't like the taste of the people who select the clones. Anyone who wishes may do the selecting and naming for himself. If you feel strongly on the subject, why not try selecting and naming your own? You do select. Every gardener who wants ten plants and can select the ten out of a row of five hundred, picks out the ten which please him most. If he had a million to pick from, his ten would be better. Moreover, the more the plants in the row vary, the surer he is of finding ten to suit him. Hybridization is the easiest way to make them vary.

But the misunderstanding of hybrids has led to an evil practice which makes the dislike of them seem justified. Breeders, like other people, need money. Instead of destroying the inferior plants, breeders are selling these by the million as hybrids. Hybrids they are, it is true, mostly worthless trash. The sale of them is lessening the respect of the gardening public for breeders, as well as for the hybrids they breed.

Instead of pinning your faith on hybrids, pin it on clones. Insist on named clones with established reputations, plants which have won the approval of competent judges. If you ask for variety Ruby or variety Mrs. John A. Smith, you are calling for a clone, and few growers will risk their reputations by supplying you with anything but that clone.

READERS' PROBLEMS

MR. Roger W. Pitchford of Windsor, Ontario, Canada, writes that his much discussed plant of *Phlox adsurgens* flowered beautifully this year. Perhaps it sensed in some way that it was attracting attention, and wanted to show off. Dogs do that, so why not plants.

Windsor is farther north than La Anna, Pennsylvania, where a previous plant of the species was successfully grown, as related by Dr. Wherry, but not too much farther west, and at a lower altitude. *Phlox adsurgens* is therefore twice removed from the ranks of the impossibilities. Rock gardeners, we are driven to conclude, have given it up too soon, and must now revise their estimates of it.

In such cases we must remember that the attributes of an individual plant are not necessarily those of the species to which it belongs. The species is a human invention, unrecognized by nature. We must not generalize that because an individual plant is hardy and consents to grow under cultivation, other members of the species will do the same, nor that because trials of several individual plants from one source fail, others of the same species from elsewhere will fail too.

Plants of this *Phlox* grown from cuttings of Mr. Pitchford's exceptional individual can be expected to thrive under reasonable care in other parts of the East. Other plants from the same region where his was secured may or may not inherit the same degree of adaptability. Seedlings from Mr. Pitchford's plant are likely to include a few with qualities similar to the parent.

In any event *Phlox adsurgens*, considered by some the finest of the genus, is growable, and should be re-investigated at once, pursuing all possible avenues to its successful establishment. Dr. Wherry, our best authority on the genus, writing in the Bulletin, March-April, 1946, said, "Perhaps some day a strain adaptable to general rock garden cultivation may be developed." "Perhaps" may now be written "probably", and "some day" may be at hand.

By the same token, should we not take up again the cause of a long list of al-pines condemned as ungrowable, searching for the growable individual or strain that may be lurking somewhere just out of present reach? Too often the trials which led to abandonment of a superior plant may have been insufficiently thorough. And then — what fun it is to do the impossible!

BACK NUMBERS OF THE BULLETIN

PUBLICATION of the Bulletin was begun in 1943, and this issue completes its ninth volume, each volume covering one year, six issues. With 54 separate items in existence, it is not surprising that some of these have grown exceedingly scarce. New members, discovering what a wealth of information is contained in them, are often anxious to obtain complete sets.

For this reason you will see listed at the bottom of the last page a number of surplus volumes now in the hands of the Society, and for sale to those who need them. Many have been sold, and have served to help the Society's treasury, but the list has shrunk and is shrinking.

Volume 1, 1943 can no longer be offered complete, as the September-October issue, No. 5, is missing, in fact is not even represented in the editorial file.

Volume 5, 1947, is blocked by the absence of No. 4, May-June, but other issues of that year are scarce also.

Volume 6, 1948 too is nearly gone, as is the following year, 1949, Volume 7. Even as late as 1950, Volume 8, the July-August issue is unobtainable. More unexpected still, the July-August of this current year, 1951, has run short.

The Society's treasury needs money, some of which it has been obtaining from the sale of back numbers, but as this source is rapidly drying up, members are re-

quested to help us ferret out any copies anywhere that are not needed and not wanted, especially of the crucial issues named above, though any and all copies will be welcomed.

One suggestion that nearly every member can act on now, is to will the entire file to the Society. Although a few of us will wish to hand on the complete Bulletin to an interested son or daughter, or will have a library so complete that it should not be broken up, more will envision their treasured reading matter going eventually to the dealer in second hand books or old paper. In this case it is easy to write a note to your executor directing that your file of the Bulletin be sent to the Society, enclose this with your will, and forget about the matter, knowing that in the end the Society will benefit.

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This Society, founded in 1930, has well over a hundred members in North America. As distance prevents their taking part in the Society's other activities, it is obvious that they have found the Quarterly bulletin to be good value for their subscriptions.

Further particulars regarding the Alpine Garden Society may be obtained from the Secretary, C. B. Saunders, Husseys, Green Street Green, Farnborough, Kent or, better, from Mr. C. R. Worth, Groton, New York, who is one of the Society's Ass't. Hon. Secretaries (foreign).

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- 18 Volume 3 (1945)
- 12 Volume 4 (1946)
- 3 Volume 6 (1948)
- 3 Volume 7 (1949)

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