

# BULLETIN

of the

## AMERICAN ROCK GARDEN SOCIETY

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Vol. 16

APRIL, 1958

No. 2

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## BULLETIN

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### SPRING IN THE NEVADA DESERT

MARGARET WILLIAMS, *Reno, Nevada*

MY EXPERIENCE with the Nevada flora is confined to the area immediately around Reno, perhaps fifty miles east into the desert and then in the Sierra Nevadas on both east and west slopes. We had more rain at a favorable time than usual in the spring of 1956 and the desert truly blossomed like a rose. No one could ever remember anything like it near Reno. Especially profuse were *Abronia villosa* and *A. turbinata*, *Oenothera caespitosa* and *O. brevipes*, *Nama aretioides*, *Cleome lutea*, *Sphaeralcea ambigua*, *Malacothrix fendleri*, *Calochortus nudus* and other species, *Hydrophyllum capitatum*, and *Phacelia* sp. I am sure, from what I have read, that such a spectacle is common in other areas, but it was most unusual here to see whole mountainsides carpeted with these plants.

Other desert plants which are normally abundant here did not put on any extra show with the added moisture. These include such plants as *Mimulus* sp., *Lupinus* sp., *Astragalus* sp., *Rumex venosus*, *Viola beckwithii*, *Stanleya elata*, *Phlox dolichantha*, *P. douglasii*, *P. gracilis*, *Mentzelia laevicaulis*, *Prunus andersonii*, *Miltitzia glandulifera*, *Purshia tridentata*, *Paonia brownii*, *Wyethia mollis*, *Balsamorhiza hookeri* and *B. sagittata*, *Allium* sp., *Zygadenus paniculatus*, *Eriogonum* sp., *Calyptidium umbellatum*, *Carduus candidissimus*, *Lomatium* sp., *Castilleja* sp.

Some of the real treasures of the desert such as *Lewisia rediviva*, *Beckwithia andersonii*, *Leucocrinum montanum*, *Draba douglasii*, *Fritillaria pudica*, and *Ranunculus lemmonii* were as hard to find as always.

And, of course, there was no difference in the plants of the Sierras where the moisture is more constant.

In 1957 we had a typical Nevada spring, cold one day, hot the next, punctuated with dry winds. The high one day can be 80° and, the next morning, the hoses can have ice in them. And the desert is dry.

*Beckwithia andersonii* has set seed, but sparsely this year. I do not know anyone who has tried growing it from seed, but I have some planted in a pot of dry soil, and shall let nature do the rest. The bloom of *Beckwithia andersonii* begins in late February and early March and lasts three to four weeks. The





Miss Laura C. Mills

*The pink buttercup, Beckwithia andersonii, a rare treasure of Nevada.*

plants grow from a thick, deeply-seated rootstock and form clumps 4" to 8" across. The pinkish flowers are about 1" across and are borne singly on naked scapes 4" to 6" tall. The leaves are glabrous, greyish green, and are palmately dissected into many pointed linear segments. The leaf petioles are short when the bloom begins, but they lengthen as the plant matures. The freshly gathered achenes are covered with an inflated loose coat and are green, tipped with brownish red. The achenes are numerous: this year on a typical flower I counted about 15 achenes which developed, out of a possible 30 or 40.

Beckwithia plants grow in full sun in the desert, in rocky primitive soil bolstered somewhat either by pinon pine needles or by sagebrush or by both. Sometimes the plants will grow right under a sagebrush. The soil is sandy, with a pH varying from 6.5 to 7.0. The best stand I know about grows on the western slopes of the Virginia City mountains about a 10-minute drive from Reno. These mountains are always beautiful because they are covered with many-hued ore-bearing rocks encrusted with black, grey, yellow, orange, and green lichens. The plants grow on a steep hillside along a dry wash, where there is evidence of early spring run-off water. The hillside will be dry from now (mid-May) until late fall or winter, with the possibility of less than 1" moisture between now and then. Some of the plants are beginning to turn yellow and I imagine they will soon disappear.

On these same hills, beckwithia was followed by *Viola beckwithii*, *Allium* sp., *Lomatium nevadense* and *L. plummerae*. When I went looking for seed the other day, I found *Purshia tridentata*, a white erigeron similar to *E. breweri*, a red-purple arabis, *Phlox speciosa*, and an ugly tall orange senecio all in bloom. The ground is carpeted in spots there with the eriogonum that is used commercially to make Ming trees.

*Hydrophyllum capitatum* is starting to bloom now. Right now the fuzzy violet blue clusters of flowers have barely emerged from the ground. Later, the peduncles will grow as the flowers mature. While it can be found in the desert, it

grows best in the foothills of the Sierras just west of here. It grows in the open sagebrush areas and also in partially shaded pine forest areas. The soil in that area has considerably more humus in it and retains moisture longer—there is a possibility of moisture later in the season too. There are still a few snow patches on these foothills.

As I said before—the desert is dry. I've been out several times, and while the plants are to be found, they bear no resemblance to last year's magnificence. So, since my time is so limited, I'll head for the mountains. At the moment, I'm on the hunt for *Dicentra uniflora*. I saw one flower picked by a bird-watcher who could only remember vaguely where he found it. Last Sunday in my search I passed fields yellow with *Ranunculus glaberrimus* and a variety of *R. occidentalis*. It was heartbreaking to see a magnificent stand, in the middle of nowhere, of *Mertensia ciliata* var. *stomatechoides* being uprooted to make way for an oil-pipe line. I helped with the uprooting, and now have a big patch growing in the garden—still blooming, it doesn't even look like it was disturbed. *Hesperochiron californicus*, *Paeonia brownii*, *Viola beckwithii* and *V. nuttallii* were everywhere. The springy mats of *Ceanothus prostratus* were blue with bloom. (That is a plant I would like to cultivate!—I must work on it.) Phlox shading from violet through pink to white carpeted the ground. The young leaves of *Verbascum thapsus* were popping out—much handsomer than the full-grown plant will ever be. I dug a few plants of *Lithophragma tenella* to try in the garden—this is a quite common native, but the pink flowers are as dainty and graceful as any saxifrage. The inevitable buckets in the back of the station wagon were filled with ancient decomposed sawdust from a deserted mill site. Rich, black, and crumbly—it disappeared into the garden in short order. The buckets never have come home empty and bit by bit we are replacing our alkaline clay soil with decomposed pine needles, leaf mold and sandy loam.

## PLANTS WHICH STOOD THE TEST OF THE 1957 DROUGHT

RALPH W. BENNETT, *Arlington, Va.*

**A**FTER THREE MONTHS of burning sun and no rain this summer, it seemed a good idea to note down the plants which came through with no sign of damage. If you have a section of your rock garden which is exposed to the sun and doesn't often get watered artificially, these plants will do you good service.

Our old friends *Phlox subulata* and *Saponaria ocymoides* are known to most of us as drought-endurers, but we might forget about them unless we are reminded. *Aster linariifolius* stands almost at the top of the list. It actually seems to luxuriate in drought conditions, its leaves defying the sun with their bright dark green appearance. The two eastern *Chrysopsis*, *falcata* and *mariana*, are equally resistant, but do not have quite such handsome foliage. All the *Liatris* species are good, and our two local species *graminifolia* and *squarrosa* are low enough for a rock garden. *Onosma stellulatum* (*tauricum*) has both extreme drought resistance and handsome grayish-green felty leaves. *Hypericum polyphyllum* remained as pert as a daisy all through the drought, its solidly packed mound of little leaves not scorched a bit. Penstemons of many species vied with each other in displaying their indifference to the heat and dryness, and I couldn't see that any one was less resistant than the others. Lastly, *Antennaria dioica* cannot be beaten for such conditions.



## MY NEXT ROCK GARDEN

G. G. NEARING, *Ramsey, N. J.*

PERHAPS IT WILL NEVER be completed, for as planned the outlay of effort will need to be spread over a number of years, and the work must be done entirely by my own hands. But the construction has begun, some of the rocks are in place, some of the plants already growing. The picture is already largely complete in my imagination, though of course subject to changes if a last-minute idea looks better than the original conception.

When you build a rock garden piecemeal, planting need not wait until the whole project is finished. Indeed each pocket may receive its tenant, temporary or permanent, as soon as the rocks immediately surrounding it have been given their final shove and pat. This is far from the case where bulldozers and other devilish modern inventions are employed, for in that case acres of surrounding ground must be laid waste, and half a lifetime used up in repairing the damage the machines have done.

The area chosen lies to the west of my driveway. Six years ago part of it was in a cornfield, part a no-man's land between the field and the woods where occasional small piles of junk had been dumped. There is a gentle upward slope westward from the driveway for about 30 feet at the south, then farther west and to the north also a considerable dip. At the north end the driveway had to be bulldozed in order to get rid of a sharp and unnecessary hump, several underground boulders ranging up to perhaps four tons each. These the bulldozer pushed into an ugly heap against a black oak on the west bank, for they had to go somewhere, and in a hurry. To unsnarl them became one of the first projects.

The smaller ones were pried with crowbars and oaken poles until they came into proper relation with a huge rock mostly buried which logically makes the downhill and farthest north anchor of the whole construction. The bulldozer did scar it and chip off half its lichens, but still it looks fairly well and will soon recover its natural complexion.

The largest loose rock rested against the oak, so I threw a chain around it, hitched a rope to a smaller white oak across the driveway, and attached my chain hoist. It soon became evident that this particular stone would not go where I wished. A couple of hours tightening the hoist and prying with my stoutest and longest poles, moved the monster about six inches and pulled the little white oak loose in its bank. The tree was hardly ten inches in diameter and gradually losing the battle of light and shade with its larger neighbors, so its loss was of no moment. But the rock held fast.

So my plan had to be changed a little. If you can't move a big fellow where you want it, you build your rock work up to it with smaller units, in what may eventually prove a pattern just as pleasing as would have been the original arrangement. In fact the stubbornness of this piece of granite resulted in a pocket at its foot, so well protected from the south and the sun, so deeply recessed into the earth, that a planting of *Chiogenes hispidula*, the Creeping Snowberry, placed there in June, came through the summer as fresh and healthy as though it had been facing an Adirondack ski trail.

Here close to the drive, in a large bed of subsoil rearranged where the bulldozer had heaped it, ten crowns of *Cypripedium acaule*, the local Moccasin Flower, are waiting to show whether I have guessed their needs correctly. Will there be ten next spring, or eleven, or only nine? They have nothing except that subsoil and a thin skiff of pine needles, as described in a previous issue of the

*Bulletin*. It succeeded for Walter Winkler only a mile away, but in these matters of soil, with a thousand unknowns in the formula, a mile might be an unfathomable gulf.

In a similar bed nearby I placed some *Lilium philadelphicum*, raised from seed and three years old when they left the pots, to find out whether subsoil might not hold the secret also for the successful cultivation of this notorious un-growable. This experiment however does not look hopeful.

Dwarf rhododendrons and pieris already make a good showing between the big rocks. But all this is in woodland shade and my frames harbor a number of plants that require more sun. Forty feet further to the south, where the bulldozer made the same bank steeper, stands another black oak, its roots clasping two blocks of granite on which a few lichens have been spreading their rosettes. The sun reaches this bank in the morning, and fits it for plants less avid of shadow.

A few rocks generously offered by my neighbor across the driveway were soon rolled and pried here into a satisfactory grouping with those already in place, and a rough stone stairway swung around them. It leads nowhere now, but later it will loop across a ridge not yet existent, and branch, one path going north behind the bank, the other west into a ravine not yet dug, where will some day be a pool.

The scheme on this bank south of the second oak is a very gentle slope of dwarf rhododendrons and conifers, with a few gentians and other plants accumulating from seeds and cuttings and the gifts of friends, and begging to be moved from their pots into the unconfined and kindly earth. A few square yards of the slope are build and planted. *Pieris japonica albomarginata* harmonizes its silver-edged foliage remarkably with the lichen, *Parmelia conspersa*, on the rock behind it. Three midget hemlock spruces wait there until a fourth grows large enough to join them; 'Cole's Prostrate', creeping flat across the granite like a fringed rug; 'Horsford's Dwarf', a tiny cushion tinted bluish; and 'Jervis', described in a previous *Bulletin*, a propagation about seven years old, seven inches high and wide. For the record, I tried to count its branchlets, but gave up in despair. It occupies a place of honor because of its exceptional texture.

*Rhododendron ovatum* is already demonstrating the unexpected hardness which Joseph B. Gable said it had, but which I could hardly believe possible because it comes from Hong Kong. After a few years it will require moving to more spacious quarters. *R. ledoides* and Azalea 'Hakatashiro' have already wintered buds and opened them on this rock, so it must have what ericaceous plants approve of. A couple of dozen other items will soon vote for or against it, with their lives for ballots.

Behind this slope, a dozen feet or so from the driveway, will rise abruptly a composite rock ledge or ridge. The soil hereabouts is glacial deposit with abundant granite boulders, and now and then a nearly house-sized mass protruding, usually much cracked and fissured. To build out of smaller rocks an imitation of one of these partly buried ridges, will require ingenuity and patience, but I mean to try. It will rise about head-high as seen from the driveway. Of course the core will consist of soil dug from the future ravine, while the many crevices will be crammed with Sempervivums and other appropriate subjects.

The ridge will end precipitously close to the driveway and farther south, where an entrance path will wind downhill into the ravine that will lie behind the ridge. On either side of this entrance is a small specimen of *Picea glauca conica*, the dwarf Alberta spruce, already well established, and a fragment of rock work started with some boulders, which lurked nearly buried in the drive-



way until I tired of bumping over them. Here also in full sun and nearly always dry, because the hose does not reach there handily, a five-year-old *Penstemon Davidsonii* spreads its evergreen mat in a manner to delight the most fastidious rock gardener.

Wherever you run a path, there will be two sides of it to consider, build and plant. The north side of this one will simply skirt around to the rear of the composite ridge. Its south side, and after it has turned northward, its west bank will require special treatment, for this looks directly at my propagating area, which cannot be considered ornamental. Farther south, the driveway swings westward to enter the nursery, having already widened into a parking and turning space. At the southwest corner of the irregular area bordered by the ravine path, the driveway and the nursery, a decorative boulder rises conspicuously to make a natural dropping-off point for what will be a secondary ridge. Behind it a dense belt of Hicks Yew already five feet high sweeps around to form a backdrop and conceal the propagating frames.

This arrangement was suggested by plantings of Irish Yew in England, especially a startling affectively grouping at Bocconoc in Devon. In our region the Irish is not quite hardy, but its offspring selected years ago by Hicks endures sub-zero temperatures well, and should prove satisfactory. Its dark mass with the characteristic columnar flutings as I have planned it, ought to set off the rock garden at its feet with dramatic grandeur. At any rate it is worth trying, but with a nervous consciousness that such powerful accenting will demand the most meticulous designing and proportioning of the rock work at that point, planted with my worthiest and most decorative specimens. Else it will be open to ridicule, as though I had placed around a worthless painting an ornate and elaborate frame. May my humble art gain inspiration to meet that challenge!

The north end of the yew belt is already a low ridge, with one fair-sized rock on which a red oak sapling has established itself. Close inspection shows among the weeds where a heap of roofing-paper scraps was burned on this rock. Somehow I must remove the tar and get lichens started. To look at it now, the word ridge seems hardly appropriate, since it rises hardly four feet above the level of the drive. But when the ravine entrance has been excavated in front of it, and it has been connected by raised rockwork with the corner boulder, the impression of height will be accentuated, especially because the rocks will rise directly into the soaring lines of the yew belt.

Details of the ravine must remain somewhat vague until after digging has begun. Rocks, probably some of considerable size, lie there under the soil waiting to be exposed, and their position and mobility may determine the exact configuration of the banks. Its bottom, where a trickle of water will flow from pipes to be placed there later, can drop perhaps eight or nine feet below the present soil level where that is highest, and can wind irregularly westward between future plantings of dense evergreens atop the banks, until it arrives, a hundred feet to the west, at what will be a large bog into which the overflow from the pool must run.

My wheelbarrow is still strong and I am only 67 years old. It may be that by the time the rock garden reaches this bog, I shall be obliged to sit down and rest rather often. But by that time, think what a number of beautiful plants will be established there for me to look at while resting!

\* \* \*

*Bitter experience has taught me that if ever you do omit to secure a rare plant when you see it, you will never have a chance of getting it again. —Farrer.*



## PLANT HUNTING IN KASHMIR—II

O. POLUNIN, M.A., F.L.S., *Godalming, England.*

ABOVE GULMARG a track, along which ponies can be ridden, climbs up through the forest 1500 ft. to a higher *marg* of Khelanmarg, and a further three hours riding will take the traveller almost to the summit of Mt. Apharwat, 13,300 ft., where there are many good alpine to be found. On Khelanmarg the short green sward was like a lawn perched on the mountainside. Behind it rose the steep flank of Apharwat with rhododendrons, willows and stunted birch trees, and above this the peaty slopes leading to the summit scree of the mountain; while on the outer edge of the *marg* there was a fringe of columnar trees, of *Abies pindrow* and *Picea morinda*. The view was magnificent, for one looked across the fringe of trees to the wide valley 5,000 ft. below, ringed on all sides by snow-capped mountains. Dominating the northeastern horizon was the enormous white cone of Nanga Parbat, over 26,600 ft. high, nearly ninety miles away and one of the dozen or so highest mountains in the world. Khelanmarg is a wonderful situation for a camp and a rich hunting ground for the plant lover. We set our camp on the *marg* and Ramzana and I spent many successful days plant collecting. There was a good growth of shrubs on the edge of the *marg* where several species of shrubby honeysuckle were growing, for instance *Lonicera purpurascens* (with purple flowers) was at this time forming red berries, and *Lonicera quinquelocularis* bore translucent whitish berries, while the dwarf *L. myrtilis* had purple berries. Species of currant like *Ribes glacialis* grew in the thicket, as well as a tall pink rose, *Rosa macrophylla*, and the white-flowered lilac, *Syringa emodi*. There are only two species of rhododendron widespread in Kashmir, and they both grow on Apharwat; they are *Rhododendron campanulatum* which grew among the birch thickets and out on the open hillsides, with delicate pale violet flowers and beautifully shaped grey-green leaves, a pale cinnamon color on the underside; and, higher up, the dwarf, aromatic-leaved *R. hypenanthum*, a foot or so high with compact heads of pale yellow flowers. On the sunny south-facing flank of the mountain was a dense low growth of juniper, two or three feet high, through which a number of herbaceous species grew: such, for instance, as *Inula royleana* which has large flat plate-like flowers nearly six inches across with narrow strap-shaped ray florets, deep orange in colour. Growing on the verges of the juniper thickets I found the seed pods of a robust fritillary, *Fritillaria roylei*, and in even more grassy places grew the local alpine iris, *I. hookeriana*. Another striking plant in this region was a species of sage, *Salvia hians*. It grows a foot or more high and has rich blue flowers nearly two inches in length with a white or mottled lower lip, one of the most striking species of this genus that I have seen.

Above 10,300 ft. one passed from what might be called the sub-alpine zone into the true alpine zone of vegetation. Birch trees, willow and rhododendron thickets persisted higher than this in sheltered gullies, but on the open hillside real dwarf alpine plants were to be found. One of the most abundant species was *Polygonum affine*, which grew in thick mats over the boulders, excluding almost every other plant. It was a wonderful sight in early August, as its pale pink and dark pink flowers draped the rocks and took the contours of the boulders beneath. Another species, *Polygonum emodi*, has a much more delicate growth and deeper pink spikes of flowers; it grew from crevices over the face of vertical cliffs. The papery white heads of *Anaphalis nubigena* covered the hillsides to such an extent that it looked as though they had been dusted with snow. In



*Oleg Polunin*

*The camp at Khelanmarg, with Nanga Parbat, 90 miles away, rising above the clouds (top center).*



*Oleg Polunin*

*The six-inch orange daisies of *Inula royleana*.*



damp peaty spots the leathery leaves of *Bergenia ligulata* formed dense masses and in early spring it must have made a fine show with its small heads of pink flowers. In the autumn, even by mid September, the leaves were turning a rich rusty red and covered the whole hillside in autumn tints. Also common on the slopes above Khelanmarg was *Trollius acaulis* which had masses of feathery leaves and bore solitary yellow flowers which were now ripening to compact heads of achenes. Rather similar in appearance and even more abundant was *Adonis chrysocyanthus*, an attractive yellow-flowered species. Where the ground was turfy and wetter there was an abundance of the lovely nivalid primula, *P. macrophylla*, which has greyish-green, powdery, lanceolate leaves and heads of deep mauve, sweet-scented flowers. Often growing with it was a delicate saxifrage with erect stems six to eight inches high, bearing bright orange-yellow flowers rather loosely on the flower stalk; the fruits turned red as the flower matured, while the heart-shaped leaves clasped the stem—*Saxifraga diversifolia*. There were a number of species of anemone, and particularly worthy of mention was *Anemone obtusiloba*. In Kashmir this species occurs in white, blue, and less commonly, in yellow forms. It is a charming little species growing close to the ground and has silky leaves and rather rounded flowers one-half to three-quarters of an inch in size, with masses of yellow stamens in the centre. In places it grows in great abundance and studs the alpine meadow with flowers soon after the snow melts. More than one robust species of anemone grew on the cliffs and grassy ledges, such as *A. tetrasepala* which has a head of white flowers flushed with pink on the outside of the petals. *Anemone narcissiflora* was another quite widespread species. Elsewhere I found a few plants of the alpine species *Anemone rupicola* which has large solitary flowers, a good inch across and often carried a few inches above the ground. It is a most attractive alpine plant which delights in screes and rock ledges.

On sunny banks and rock bosses were some fine species of androsace, such as *Androsace primuloides*, a very rich coloured form, bearing an umbel of deep pink flowers above silky grey rosettes of leaves, and even commoner was *Androsace mucronifolia* forming tiny rosettes with ciliate margins to the leaves, closely pressed to the soil—and also with pink flowers.

From the high *marg* of Khelanmarg it is an easy climb to the patches of snow lying under the summit of Mt. Apharwat. In fact one can hire a pony from Gulmarg and ride very nearly to the top of this mountain. Here some of the true high alpine Himalayan species can be found. At the base of one dirty patch of snow I saw *Cremanthodium reniforme*, a member of a beautiful genus (of the Compositae) which is restricted to the Himalaya and which has proved to be almost impossible to cultivate in Great Britain. This species grows in ice-cold water dripping down from the melting snow and has lovely solitary drooping flowers, yellow in colour with shaggy greenish-brown involucre bracts. Growing only an inch or two high in the turf was a little annual gentian, *Gentiana venusta*. It has clear sky-blue flowers with an inch long corolla, carried above a tiny rosette of leaves smaller than the individual flowers. On the screes and at the bases of cliffs under the summit grew *Saxifraga sibirica*, a delicate white flowered species with kidney-shaped dentate leaves, and a tiny golden yellow flowered species, *Saxifraga flagellaris*, had long thread-like stolons spreading out over the rock surface and ending in reddish offshoots. There were various species of stonecrops growing high up, the most attractive being *Sedum ewersii*, with flattened egg-shaped fleshy leaves and heads of delicate rosy pink flowers, while near the summit were two other species with short stems bunching in a tuft from a woody base, bearing yellow flowers. *Sedum quadrifidum* was particularly noticeable later on in the autumn, for it turned a very striking deep



*Oleg Polunin*

*Intractable Cremanthodium decesnei.*







*Oleg Polunin*

*Codonopsis ovata* with pale blue bells—rarely seen true in gardens.

reddish colour and, like the bergenia, helped to turn the mountain into a rich mosaic of browns and reds.

The three choicest flowers to be found on Apharwat were in all probability a tiny columbine, a mertensia and a primula. The first, *Aquilegia nivalis*, grew only a few inches high on earthy ledges and under the partial shade of boulders. It had the typical silvery-grey foliage of the genus and bore solitary violet flowers, with deep purple centres, a few inches above the ground. I failed to find this plant in flower but by September seed was obtainable. On north-facing rocky ledges grew a beautiful little mertensia, *M. primuloides*, with tiny nodding primula-like heads of rich blue flowers with orange eyes—a very choice plant for the rock garden. In damper places grew a tiny primula, *P. elliptica*, which is endemic to Kashmir and which has rosy purple flowers, again with an orange eye. A few late flowers were still out. Near the summit in dark peaty patches grew an even more prostrate primula, *P. reptans*, with minute rosettes pushing up through the peaty soil, and large pale pinkish-purple flowers, nearly one inch across, held an inch or two above the leaves.

These are but a selection of the many fine plants to be found in the Pir Panjal range, and those I have so far mentioned are not difficult to find, while so far as accessibility is concerned it is in fact possible to reach the summit of Apharwat in a single day's journey from Srinagar, though it is not to be recommended.

Having collected over three hundred species in this rich area and having obtained an introduction to the mountain flora of Kashmir, I decided to trek in the wilder country to the east of the valley of Kashmir. I returned therefore to Srinagar with my tents and collections; with Ramzana, Abdul the cook, and the cook-boy. By this time we had developed into quite a team. Ramzana settled down into the usual routine of changing drying papers every day—often



*Oleg Polunin*

*Polygonum affine, with flowers of pale and deep pink.*

involving many hours of work—while I hunted for new plants. Ramzana always accompanied me when plant drying was completed. Abdul dealt with all the cooking and catering arrangements, buying milk and chickens from the local Gujjar shepherds and preparing sandwich lunches and the welcome evening meals, while Koidra, the boy, did every conceivable odd job like wood gathering, pot cleaning, sewing, serving at table, etc. In fact such a happy and helpful team had I with me that when I spent a few days in Srinagar before going off on the longer trek, I chose for preference to camp out in the Chenar Bagh in Srinagar rather than staying in a hotel.

The main journey which I planned to undertake was to traverse an arc of mountains to the west and northwest of the Vale of Kashmir. The climate here was drier and the altitudes were higher, so that I hoped to be able to collect many of the highest alpine species of Kashmir. The country was more remote and difficult to travel in, and necessitated the hire of ponies and horsemen to carry out this three week journey. Unfortunately at present military restrictions prevent the traveller from going far to the east, into Ladakh, or Little Tibet as it is sometimes called, and in consequence I did not see some of the plants of the drier Tibetan plateau.

*(To be continued)*

## MISS FANNY CALVERT HILL

Miss Fanny Calvert Hill, long a member of the Society, passed away on January 21. She was a member of many horticultural organizations. She and her sisters, Miss Evelyn Collins Hill and the late Miss Elizabeth Gregory Hill, were hostesses to the Society at one of the annual meetings, held at the Hills' beautiful estate, Sea Breeze Farm, in Princess Anne County, Virginia.



## GLEANINGS FROM THE SEED EXCHANGE CORRESPONDENCE

DR. A. R. KRUCKEBERG, *Seattle, Wash.*

BY THE TIME THE MEMBERSHIP has the April issue in hand, the machinery of the Seed Exchange will have assembled and shipped a sizable number of requests. Before your selections become seedlings, damp off, or live to become dazzling showpieces, your Seed Exchange Director would like you to enjoy and perhaps profit by some of the correspondence he has received while he and his cohorts of the Northwest Unit have been compiling the seed bounty for 1958. Aside from the many notes of encouragement and praise from contributors (all of which should fall on Mr. Bernard Harkness' back as he only just bowed out), certain bits of horticultural information, folklore, and what-have-you crossed our desk. We think you might like to share some of these marginalia with us.

It is apparant that the workings of a Seed Exchange are a mystery to some of the new members. For instance, Mrs. J. G. Gosling of White Pigeon, Michigan, writes: "I joined the American Rock Garden Society only a month or two ago, and am not familiar with the manner in which the Seed Exchange is conducted, nor what kinds of seeds are in demand. However I am enclosing some of the seed which are now ripe in my garden and hope they may prove suitable." Being novices ourselves, we, the present directorate of the Exchange, sympathize with Mrs. Gosling. After our first year of experience we will be in a position to set forth some general suggestions and procedures in a later issue of the *Bulletin*.

Here is a note of encouragement from Mrs. A. N. Griffith of Cambridge, England, to all those who can and will collect native Western North American alpiners: She writes; "It is always such a delight to receive your generous allocation of seeds, especially those of your own Western natives. I am still hoping that some day *Monardella macrantha* will appear. Sometime when you are not too busy (sic!) with seeds I should be most grateful if you would send me on a postcard the addresses of one or two alpine nurseries who might be able to supply such natives as the very congested cushion phloxes, *really* dwarf lupins and aquilegias, etc. . ." We hope Mrs. Griffith's wants can be fulfilled by some one of our readers.

From a Scot, and one of our most esteemed members, Mr. E. H. M. Cox of Glendoick, Perth, (Scotland), comes this word about his contribution of Meconopsis: "Some of your members might like to try these Meconopsis—all are uncommon and one (the pink) is new and so far un-named. It is a *very* good true pink . . . Can we have *Lilium washingtonianum* if available this year?" Since it did not appear in this year's exchange, perhaps some one can fill this request?

This bit of urban natural history should catch a bird-watcher's fancy: From Mr. R. B. Chillas, Jr. of Philadelphia came this note: "With this is a batch of seed of *Lobelia cardinalis*, collected in my city back yard (32' x 150') from about 30 plants. Some of them had bronzy foliage, grew about 5 feet tall with 30 inches of bloom spike, (not all in bloom at same time), well-branched and had wide petals (?)—i.e., the three lower ones. Unfortunately, I did not have the bright idea of segregating these until I started this letter to you. However, here they are for what they are worth . . . I realize that this is not

a rock garden plant but maybe some members have a spot that needs a bit of red;—for the benefit of humming birds." We hope some one takes up Mr. Chillars's idea. In fact the more the merrier, for, rock plant or not, we received more *Lobelia cardinalis* seed than any one other single item!

From our Editor Emeritus, Dr. Edgar Wherry, comes this background information on *Heuchera pubescens*, the only alumroot on the list this year:

"The history of this material is a bit unusual. I collected the original plants on a shaded limestone ledge toward the southwestern tip of Virginia, and have grown it in successive gardens. Now that I do not have a garden, I planted a lot of it in the rock wall at the Morris Arboretum and this seed came from there. But as to the story of its horticultural history—in an early number of the National Horticultural Magazine, I published an illustrated article on this plant, and gave clumps to a few people who expressed interest. Then it was forgotten for 25 years. In the anniversary issue of that magazine they reprinted various early articles, and the one on this Alumroot was included. Thereupon several inquiries came in as to where it might be obtained, and the answer was nowhere, then! Since it is an American native, no dealer was interested in it. But now that seed has been saved, perhaps some of the members of the A.R.G.S. may be interested in it!"

Now are you sorry you did not ask for some? Try us again for the Surplus Exchange which closes on May 1, 1958.

Perhaps those who have had success with *Cypripediums* from seed could help out Mrs. Earl A. Marshall of Portland, Oregon. She writes:

"The *Cypripedium* I am not sure you will want to list. I was told by one English grower, who specialized in plants of this type, that they required 'asymbiotic assn.' to germinate. I had been told years ago that there was no trouble to grow the native *Cypripediums* from seed by sowing on agar. I know nothing about propagation of the orchids as you no doubt do. If you consider the English chap correct in his statement, just chuck the packet."

Does anyone want to comply with this advice from Mrs. H. O. Wendel of Cincinnati, Ohio? She states: "I am sending some seeds of *Hosta coerulea*. If there is no demand for them just scatter them somewhere." Your Director has no place to scatter them. Do any of you?

Mr. Paul H. Boswell of Massillon, Ohio, speculates on the causes of color variation. His comments are well-taken and it is likely (as he suggests) that there is no simple answer to this vexing contrariness of alpinines to "change" color. We quote:

"I am well aware that a variation in color does not always constitute a mutation and I hesitated to write 'white' after the *Penstemon hirsutus*; several plants, however, have bloomed in my rock garden for the past five or six years without a trace of the typical mauve, although other seedlings from the same wild stock came true to form.

"Soil chemistry may be a factor. *Monarda fistulosa* brought into a similarly humus-enriched soil always blooms white for me.

"Regardless of color, this strain of penstemon is good rock garden size, never growing more than twelve inches high, even in a compost enriched soil. I hope the seed will beget white-flowering plants under other climatic and soil conditions and I should very much enjoy hearing from any of the members who care to experiment with it."

Doretta Klaber of the Cloud Hill Nursery, Quakertown, Pa., a faithful



contributor to the Seed Exchange and to the *Bulletin*, writes enthusiastically about her gentians in the 1958 List:

"Last year I was lucky enough to get 3 forms of *Gentiana scabra buergeri* from Japan by an 'Exchange' of seeds. They were *G. scabra saxatilis* or 'Kirishima' rindo, *G. scabra* Tukasa rindo, *G. scabra* Kumagawa rindo; (guess you know 'rindo' means gentian). They all bloomed profusely this year. I don't know whether you are familiar with them. *Saxatilis* is flat, Tukasa 3 to 4 inches and Kumagawa 10 to 12 inches. All have beautiful blue flowers—Kirishima the smallest but most delicately formed. The first two bloom in September and into October and the last starts blooming in October but can stand some frost. We've already had some (November 14) and on a pleasant day flowers still are opening. All are sensitive to weather and want warm sunny days to flower or else close up and wait for a good day. Planting in full sun is best. Here, (Quakerstown) they get a loose soil and plenty of water. Daily hosing in summer unless it rains. Thought you might want to pass these notes on to the *Bulletin*. There are so few sources for seeds of these exceptional flowers that I'm trying to distribute mine as widely as possible."

And on and on we could go. Such a potpourri would be endless could we transcribe the minutae from packets, hurriedly scribbled notes, etc. The above sample may at least goad the curious into corresponding with the donor of a particular seed lot.

A. R. K.

## TO THOSE WHO REQUESTED SEEDS

The volunteer labor force of the Seed Exchange, all members of the Northwest Unit, has worked many evening hours in getting seed into the hands of the more than 200 applicants. This, the initial year of our handling the Seed Exchange, has taught us much and we hope to profit from this first experience. One of our errors was that of generosity: too much seed of certain items was allowed per packet, causing early shortages. Since the charge of 3 cents per packet was so small, we felt that we could overlook the extra work entailed by small refunds that might be due persons who received less than they had ordered. Moreover it seemed unwise to fill uncompleted orders with unspecified substitutes. Thus are explained the shortages experienced by some, even donors who were given preferential treatment, in order of the date of their requests. We can offer two alternative solutions to those who desire some adjustment on their original request for seed. Such persons may either ask for refunds (in stamps) or ask for surplus seed (unspecified or specified only as to genus). In either case the person requesting the adjustment should indicate the amount owed him.

We ask your indulgence for the errata that crept into our operations this first year of our novitiate. Look for a better year in 1959, if you, the membership, will still have us!

A. R. K.

\* \* \*

*On the same rock in the Alps you may easily find two plants of which the one will thrive with us like a groundsel in any sort of decent soil and situation, while the other dies as obstinately as an allegory on the banks of Nile, no matter what exquisite care you may take in reproducing its native soils and stones and aspects. —Farrer.*

## SUPPLEMENT TO THE 1958 SEED LIST

Director: A. R. Kruckeberg, Dept. of Botany, University of Washington,  
Seattle 5, Washington

Certain choice items were received after the November 15, 1957 deadline. Rather than distribute them at random, we will offer them in this list. Such a procedure should not give courage to contributors in the future who hate deadlines. The main reason for the present list was the receipt of two overseas shipments, unavoidably delayed.

**PROCEDURE FOR ORDERING:** *Order by number only.* If you want a particular contributor's seed, add the letter designating the contributor after the number of the seed. E.g., should you want seed of *Primula japonica* from Brooklyn Botanic Garden simply put down the number, 113-a. We will try this new procedure in hopes that it will prove time-saving enough for use in 1959.

A maximum of 10 packets may be ordered; include a list of five or more alternative choices. Names have not been thoroughly checked. Remit *five cents per packet* (no stamps, please!) to cover costs of mailing, packaging, etc. This IS inflation, due to the smaller number of packets per recipient. Overseas members need not remit. The deadline for this distribution is May 15, 1958.

### Contributors to the Seed Exchange

- |   |  |
|---|--|
| a. Brooklyn Botanic Garden, Brooklyn,<br>New York | f. T. P. Maslin, Boulder, Colorado   |
| b. E. H. North, New York. N. Y.                   | g. W. Adamsen, Ossining, New York  |
| c. E. C. Baldwin, Syracuse, New York              | h. (sender unknown, Wellington, New<br>Zealand) (Please identify yourself) |
| d. C. R. Worth, Ithaca, New York                  | i. Motonosuke Ozawa, Tokyo, Japan  |
| e. Mrs. Wm. Wright, East Boothbay,<br>Maine       | j. Alice H. Baylor, Johnson, Vermont                                       |
|   | k. Mrs. A. Boelter, N. Fond du Lac,<br>Wisconsin                           |

### SEEDS FOR SUPPLEMENTAL LIST

- |   |  |
|---|--|
| 1. <i>Acaena microphylla</i> a                            | 23. <i>Arisaema triphyllum</i> c                             |
| 2. <i>Acantholimon</i> sp. d                              | 24. <i>Arenaria formosa</i>                                  |
| 3. <i>Adenophora nikoensis</i> i                          | 25. <i>Armeria caespitosa</i> var.<br><i>juniperifolia</i> a |
| 4. <i>Adenophora nikoensis alba</i> i                     | 26. <i>Armeria lauchiana</i> e                               |
| 5. <i>Aethionema grandiflorum</i> a                       | 27. <i>Armeria maritima</i> var.<br><i>Labradorica</i> a     |
| 6. <i>Aethionema pulchellum</i> e                         | 28. <i>Arnica unalaschkensis</i> i                           |
| 7. <i>Agapanthus umbellatus</i> h                         | 29. <i>Arthropodium cirrhatum</i> h                          |
| 8. <i>Ainsliaea apiculata</i> i                           | 30. <i>Asclepias tuberosa</i> h                              |
| 9. <i>Ainsliaea dissecta</i> i                            | 31. <i>Aster alpinus</i> e                                   |
| 10. <i>Alstromeria</i> sp. h                              | 32. <i>Aster flaccidus</i> (purdomii) e                      |
| 11. <i>Alyssum argenteum</i> e                            | 33. <i>Babiana</i> sp. h                                     |
| 12. <i>Alyssum saxatile</i> a                             | 34. <i>Belamcanda chinensis</i> h                            |
| 13. <i>Anacyclus atlanticus</i> e                         | 35. <i>Billardiera longiflora</i> h                          |
| 14. <i>Anemonopsis macrophylla</i> i                      | 36. <i>Bletia hyacinthina</i> h                              |
| 15. <i>Anemone pulsatilla</i> e                           | 37. <i>Bryanthus gmelinii</i> i                              |
| 16. <i>Anthemis biebersteiniana</i> a                     | 38. <i>Calceolaria biflora</i> a                             |
| 17. <i>Anthemis hausknechtii</i> e                        | 39. <i>Callirrhoe involucreta</i> e                          |
| 18. <i>Aquilegia alpina</i> g                             | 40. <i>Caltha sibirica membranacea</i> i                     |
| 19. <i>Aquilegia flabellata</i> a                         | 41. <i>Camassia leichtlinii</i> a                            |
| 20. <i>Aquilegia</i> sp. 'Edelweiss' j                    | 42. <i>Catananche caerulea</i> e                             |
| 21. <i>Arabis alpina</i> a                                | 43. <i>Chaenomeles japonica</i> c                            |
| 22. <i>Arisaema thunbergii</i> var.<br><i>Urashimae</i> i | 44. <i>Cirsium purpuratum</i> i                              |



45. *Cladrastis lutea* c  
 46. *Clematis alpina* d  
 47. *Clianthus puniceus* h  
 48. *Coreopsis auriculata nana* a  
 49. *Cotoneaster apiculata* c  
 50. *Crawfurdia japonica* i  
 51. *Crocus thomasi* a  
 52. *Dianella intermedia* h  
 53. *Dianthus myrtinervius* a  
 54. *Dianthus shinanensis* i  
 55. *Dianthus velenowskii* a  
 56. *Draba aizoides* a  
 57. *Draba incerta* a  
 58. *Elscholtzia stauntonii* c  
 59. *Enkianthus campanulatus* g  
 60. *Erigeron mucronatus* e  
 61. *Erinus alpinus* g  
 62. *Eriophyllum lanatum* e  
 63. *Euonymus alatus compactus* c  
 64. *Euphorbia Myrsinites* a  
 65. *Fritillaria Meleagris* d  
 66. *Fritillaria Meleagris* d (mixed)  
 67. *Galtonia candicans* h  
 68. *Gaultheria procumbens* c  
 69. *Genista sagittalis* a  
 70. *Gentiana scabra buergeri* i  
 71. *Gentiana septemfida* e  
 72. *Gentiana squarrosa* i  
 73. *Gentiana* sp. 'Bottle Gent.' b  
 74. *Geum coccineum* a  
 75. *Hardenbergia comptoniana* h  
 76. *Hedysarum coronarium* h  
 77. *Hibiscus* sp. (?) 'New Zealand Hibiscus' h  
 78. *Hyacinthus azureus* d  
 79. *Hyacinthus botryoides* a  
 80. *Impatiens noli-tangere* i  
 81. *Ilex convexa* a  
 82. *Iris histrioides major* d  
 83. *Iris magnifica* d  
 84. *Iris sibirica* (dark) h  
 85. *Iris versicolor* a  
 86. *Iris* sp. L. & S. (purple) d  
 87. *Jasione humilis* e  
 88. *Jasione jankae* e  
 89. *Lawsonia inermis*  
 (Tree Mignonette) h  
 90. *Leontopodium alpinum* e  
 91. *Leontopodium discolor* i  
 92. *Liatris spicata* h  
 93. *Lilium canadense rubrum* (coll.) d  
 94. *Lilium michiganense* d  
 95. *Lilium* sp. 'G. C. Creelman' h  
 96. *Lilium* sp. 'Olympic Hybrids' h  
 97. *Lunaria alpina* e  
 98. *Lychnis haageana* e  
 99. *Moraea edulis* h  
 100. *Muscari comosum* h  
 101. *Oenothera pumila* h  
 102. *Papaver nudicaule* a  
 103. *Parnassia foliosa* i  
 104. *Penstemon hirsutus* a  
 105. *Phyllodoce coerulea* i  
 106. *Phyllodoce tsugifolia* i  
 107. *Potentilla nivea* i  
 108. *Phyteuma charmellii* e  
 109. *Polemonium reptans* a  
 110. *Primula Auricula*—in following forms: purple, 'Red Giant', lavender, blue, rose shades, mixed colors. j  
 111. *Primula denticulata* j  
 112. *Primula japonica* e, a, and j in forms  
 113. *Primula* 'Glowing Embers', 'Pink Lady' j  
 114. *Primula saxatilis* j  
 115. *Primula vulgaris* g  
 116. *Pulsatilla halleri* d  
 117. *Pseudolarix amabilis* a  
 118. *Rhododendron pentaphyllum* var. *nikoense* i  
 119. *Scabiosa alpina* a  
 120. *Scilla chinensis* f  
 121. *Sedum verticillatum* i  
 122. *Sesbania tripetii* h  
 123. *Shortia soldanelloides alpina* i  
 124. *Shortia soldanelloides intercedens* i  
 125. *Silene alpestris* e  
 126. *Silene armeria* a  
 127. *Silene Keiskei* (Mt. Hoō) i  
 128. *Silene Keiskei procumbens* (hyb.) i  
 129. *Stevia serrata* h  
 130. *Streptanthera cuphea* h  
 131. *Swertia japonica* i  
 132. *Talinum paniculatum* h  
 133. *Teucrium hycranum* c  
 134. *Trollius europaeus* a  
 135. *Tricyrtis nana* i  
 136. *Vernonia noveboracensis* c  
 137. *Veronica repens* g  
 138. *Viola priceana* c  
 139. *Zinnia grandiflora* f  
 140. 'New Zealand Cork Lily' (?) h

## A NOTE ON *DIPLACUS GRANDIFLORUS*

MRS. C. E. WELLS, *Oakhurst, Cal.*

PERHAPS MY EXPERIENCE with *Diplacus (Mimulus) grandiflorus* may be of interest to those who try the seed of this species which I sent to the Seed Exchange. In the late fall of 1956 I cleaned a batch of this seed to send to England, and threw the chaff on the first snowfall. To my delight, late the following spring I noticed fine young plants in a shaded spot, moved some of them out into the sun, where a number bloomed beautifully by October, with very large soft apricot monkey-flowers, and did even better in the garden than they had in the wild; of course, here they had water, while the wild plants were growing on hot rocky slopes.

## WILD FLOWERS OF THE OZARKS

ALBERTA MAGERS, *Mountain Home, Ark.*

SPRING BEGINS EARLY in our beloved Ozarks. So early that we can scarcely believe it the little bluets are opening all over the meadows. They range from a pure blue through the blue-pinks to pink-blues, but so subtly that one is never sure where one shade stops and the other begins. We have tried to move them into the garden, even by slicing deep down and getting a sod covered with the tiny beauties, but, though they continue blooming for that spring, they are always gone the following year.

Next are the rue anemones in white and delicate shades of pink. My husband found a few gorgeous deep rose double ones one year, which remained with us for a few years, then disappeared, though the more ordinary ones are quite happy and multiply anywhere.

Spring beauty in white with a deep rose stripe through each petal is a very persistent garden friend, seeding and coming in the most unexpected locations. Trying to dig the old plants, even though they are quite fragile appearing, is an experience, for the roots seem never to end.

There are a number of inferior penstemons but one real beauty is the type known as *P. cobbæa ozarkiana*. It has a rosette of dark, shining evergreen leaves from which rise stems 14 to 18 in. tall, topped by large clusters of big, deep toned flowers. The shade is hard to describe as it has a reddish glow, though neither a true red nor a purple, a beautiful, glowing, deeply colored flower. Locally they are called "wild foxglove" and one meets with some resentment when suggesting the correct name. These penstemons are at their best in full sun and where the shale rock is near the surface. However, the first ones we ever saw were in full bloom when we lifted several plants and carried them about in the trunk of the car, packed in damp newspaper, for a number of days until we got home, then planted them in the heavy black Kansas soil, where they ran riot, spreading their seedlings in all directions. Strangely, here at home, in Arkansas, we seldom have a seedling in the garden.

We have always been sure the talinums should be at home here but never found them until last year, when we were looking over some new locations where the shale rocks scarcely had any soil covering at all. In fact, that time water was seeping over the rocks, so we could scarcely believe our eyes when we found clustered all along the rock edges, any number of the tight, spiny little clusters that so evidently were dormant talinum. We were not disappointed, for last spring there were many airy stems topped by their flat, satiny rose blooms. Companions of these talinums were the tiny annual sedum that bloomed with triangular little pale pink umbrellas on short stems.

The rose gentian blooms around the middle of the summer in blackberry time and is a beautiful thing. It has little, if any, foliage, but sends up a stiff stem topped by a flat umbel, sometimes as wide as an ordinary pie plate, of wide, flat, rose colored stars. This seems to be a biennial and one never finds it two successive years in the same locality. We have been able to grow a few from seed in the rock garden, but could never have them there the next year.

The native erythroniums are white with buff reverses and are quite often accompanied by the white shooting star. Also the rose colored wood phlox, among which is an occasional white one, likes the same situation. The bright scarlet saline accompanies these and is most often found snuggled up against a stump or big rock, making a beautiful picture.

One finds solid plantings of the lovely birdsfoot violet also, but when there



is a goodly mixture of the tri-color their beauty is breath taking. There is a wide variety in this violet as to shape and coloring, even among the solid blue; some being wide and full, others dark and more spreading. The deep purple banners of the two-toned ones are gorgeous. However, the loveliest find we ever made when on plant hunting expeditions, was along the roadside where a deep cut had been made and right at the top, so high it was hard to reach, my husband saw two plants simply covered with snow white violets. He managed to get them but they did not like their home and gradually dwindled away and left us. This is the only birdsfoot we ever had any difficulty with, I think.

The wild rose azalea or "wild honeysuckle," as it is called locally is, with most of its tribe, a glorious flower, but unless we wake up to the fact that it needs protection, it will soon disappear from our woodlands. It is practically impossible to transplant to home gardens, though many are destroyed each year by the effort.

## THE CULTIVATION OF DAPHNES

IZETTA M. RENTON, *North Bend, Washington*

FROM TIME TO TIME, in the Bulletins of the Alpine Garden Society, it is mentioned that in British gardens daphnes prefer lime soil. Here in my garden, where the soil is definitely acid, they grow to perfection. In fact *Daphne cneorum*, both plain and variegated forms, grows so well that I have had to dig up plants several feet across and throw them away, as they smother everything around them. They bloom so profusely that the foliage is entirely hidden.

*D. arbuscula* grows in wide mats rooting all along the branches and is a mass of bloom. I continually take rooted cuttings away from the main plant for use in other parts of the rock garden, and for gifts to friends.

*D. blagayana* increases every year and blooms to perfection. I have taken several rooted cuttings from the main plant of this also. I grow these among the rocks so that the limbs can root through them and then emerge to display their cream colored bouquets of flowers, without having their usual lean and leggy look.

*D. collina* grows into magnificent rounded bushes and blooms off and on all year. It comes quite readily from cuttings, and I have given several to friends.

*D. retusa* grows into lovely little shrubs and I raise lots of them from seed when I can beat the birds to it each fall. I like this very much, and have several filling the garden with perfume each spring.

*D. cashmerica* makes a neat little cushion plant rather like a refined *D. cneorum*. I have taken rooted layers from this also.

I have the promise of a plant of *D. petraea (rupestris) grandiflora* from a friend. I have searched for this treasure for a long time; it is very hard to locate here. I am importing plants of *D. striata* from England this spring, I hope, and have seeds of *DD. alpina, giraldii, and sericea*.

*D. mezereum* and *D. m. alba* grow like weeds here, but I have had no luck with 'Somerset,' perhaps because I have been unable to get a healthy plant to start with.

*D. odora* makes a grand shrub here in the Northwest, while *D. genkwa* makes a lovely little bush covered with fragrant lavender-blue flowers in a warm spot in the rock garden. It is a slender grower, deciduous, and is not too large for my garden.

I'd love to try all the daphnes I read about, and maybe some day I will—I'll keep hoping. I should like to hear from other American gardeners on their success with the daphnes.

## THE NORTHWEST UNIT GOES BUS RIDING

ALBERT M. SUTTON, *Seattle, Wash.*

THE NORTHWEST UNIT parted with tradition this summer and found that it paid dividends. For years one of the midsummer highlights for the members had been a picnic, a sumptuous banquet with all the trimmings. Each summer some member, whose grounds were spacious enough, had lent her home for the occasion and acted as hostess. This entailed a great deal of work for her and for the committee as well as for every other member who attended. There was cooking to be done, salads to be made, food to be packed, transported and unloaded, tables to be set, decorations to be arranged, coffee to be made, dinner to be served and then all of the cleanup work to be done afterwards. The picnic had become quite a chore for the ladies.

With this in mind the Unit's chairman, Dr. Barksdale, decided to try something different. His idea was to forego the picnic and go for a bus ride into the country. This ride would likewise replace the summer field trip, abandoned in recent years because of the reluctance of all but a few of the members to drive into the mountains' less traveled byways.

All those turning out for the ride, including guests and some youngsters, gathered at the club house in the University of Washington Arboretum in Seattle on a gray Saturday morning in July and boarded the waiting cross-country bus chartered for the occasion. Promptly at nine o'clock the bus pulled out with every seat taken. It was followed by two private cars whose occupants had arrived on time but too late to find seats. The driver took secondary highways after leaving the city and several stops were made in the back country which afforded Dr. Barksdale (Barky for short) opportunities to tell the group interesting facts concerning the geology of the western part of Washington. He illustrated his talks with references to the geological aspects of the local scene.

Dr. Barksdale is a geologist with an added interest in botany, and by the time the bus had reached its destination it was apparent that all had enjoyed the short sally into a science dissimilar to botany, but related to it. To them the short lectures were meaningful. They superimposed their own botanical knowledge of the region on the geological happenings of the past and were able to more fully appreciate the part played in the development of the present local flora by these happenings.

The bus ended its outward trip at the former site of the Big Four Inn which burned to the ground years ago. It lies in the valley of the Stillaguamish River where it flows past great cliffs that rise steeply into massed peaks to form the southern limits of the valley. These peaks are over 5,000 feet above the valley floor and made, in the old days, a splendid setting for the inn. On this day in July, snowfields still clung to the steep sides and the narrow upended ravines were white gashes on the mountain's massive flanks. In this beautiful spot picnic baskets were opened and while luncheon was being enjoyed plans were made for the afternoon.

After luncheon three of the hardier men ventured across the river but before reaching the other side their ardor was somewhat cooled. The cable on which they were crossing was loose enough to allow for a momentary meeting in which the hardy ones and the cold river water became quite intimately associated. Once across, they were rewarded by finding an azalea-like plant which was identified as *Cladothamnus pyrolaeiflorus*. It has interesting flowers of salmon or apricot and is not often found. The rest of the group crossed the road to the other side of the valley and gathered about Dr. Hitchcock (Hitchy, as he prefers to be



called) where he stood at the entrance of a half hidden trail. Hitchy is a botanist with an added interest in geology so now the botanical Hitchy took charge and the geological Barky, with good natured reluctance, took his place in the ranks.

Hitchy's first effort was dramatic. With professorial skill he gained the rapt attention of the more than fifty people gathered about him and then with a swift stooping motion and one sweeping gesture he plucked from the roadside ditch the materials with which he illustrated a short lecture on how to differentiate between grasses, sedges and rushes. Then followed a perambulating lecture through the forest as the group made slow progress along the fern-bordered path.

Because of the varying degrees of knowledge concerning plant nomenclature represented by the members, and because there were guests, Hitchy used both the botanical and the common name of the plants he brought to their attention. He showed them wild lily of the valley, Canadian dogwood, queen's cup and Devil's club which are known botanically as *Maianthemum dilatatum*, *Cornus canadensis*, *Clintonia uniflora* and *Oplopanax horridum*. Great interest was shown in the Devil's club with its great leaves and cruelly armed stems. Many plants of this are over six feet high and are wonderful plants from which to stay away. The sword fern, *Polystichum munium*, was abundantly present as it is in nearly all Western Washington forests. In the moisture spots the lady fern, *Athyrium filix-femina*, displayed her five foot fronds.

Beside the trail there were sometimes fallen trees that had lain there so long that kindly nature had mounded them over with thick moss from which grew long marching lines of the fragile shield fern, *Dryopteris linnaeana*, fresh and green in the deep shade. Nestled close to these fallen trees and in other protected places *Struthiopteris spicant* spread its circle of sterile fronds on the ground and from the center of that circle rose the tall graceful fertile fronds that in some places had been browsed by the deer. This fern is called the deer or deer foot fern. From the trunks of gnarled old maple trees, *Acer macrophyllum*, elfin clumps of *Polypodium glycyrrhiza*, the licorice fern, rewarded those who were fortunate enough to raise their eyes above the enticing trailside.

Hitchy was all things to his followers that afternoon; giver of information; pointer-outer of interesting plants and odd situations that otherwise might have been missed; answerer of questions botanical and questions cultural; helper of those trail-weary ones in the late afternoon; dispenser of patience and good humor and kindness. Yet there were those who did not stay with him but raced on ahead to get out of the deep forest into the more open country where the trail cut along the sides of hills more lightly wooded and then skirted high cliffs and crossed numerous rock slides. This slide area was also a fern paradise but with a different grouping of genera.

Along the trail before reaching the slides many intriguing plants were found. Both *Chimaphila umbellata* and *C. menziesii* were in flower with the former, known as Prince's Pine, having the more showy display. A creamy white mass emerging from the leaf mold of the forest floor was thought to be *Monotropa hypopitys*, the pinesap, while nearby a fine specimen of *Allotropa virgata* left no doubt as to its identity for there was the red and white barber pole stem. Pyrolas were plentiful too, especially *Pyrola bracteata* and *P. secunda*.

To those who wandered farthest along this pleasant trail went the greatest reward for they were the only ones who saw the lovely fern gardens covering an ancient rock slide that had lain undisturbed for many years. Where the trail crossed the slide enough conifers had grown to a size sufficient to afford the proper shade necessary for the graceful and airy growth of numerous vine maples, *Acer circinatum*, with slender arching branches, which in turn furnished the dappled sunlight and shade pattern so essential to the dainty ferns scattered

on and among the moss-covered rocks. At the edge of the slide where a tiny trickle of water came down from the heights, a large colony of maidenhair ferns danced gently in the little wind currents created by the falling water. This fern is *Adiantum pedatum* var. *aleuticum* and is one of the finest varieties of this well-loved fern.

On the slide itself some grand gardener had arranged a beauty spot that seemed impossible of improvement and he had done it with tumbled rocks, thick moss, scattered conifers, vine maples and the lavish use of two lovely ferns. One was the parsley fern, *Cryptogramma acrostichoides*, which has both fertile and sterile fronds and is very ornamental. The other was *Asplenium trichomanes*, a little narrow-fronded fern daintier than the maidenhair fern but not quite as graceful. Color was added to this scene where the yellow and red of an occasional columbine hung its brilliant flowers above the rocks. The columbine of Western Washington is *Aquilegia formosa*. The two ferns that were found thriving so happily in this slide do not form groups or clusters as do the more vigorous ferns of the forest but each plant stands out as an individual that had chosen its place in which to flourish.

It would be wonderful to stand at the bottom of this great slide on an afternoon during Indian summer after fall rains had freshened the moss and early frosts had brought brilliant color to deciduous leaves. Looking up, with the sun at one's back, one would behold the running flame of vine maple sweeping up the slope and spreading to the bordering hillsides; dark fir crowns standing aloof on straight and naked trunks unharmed and unmoved by this autumn magic; high on the mountain's shoulder, an unhealed wound, ancient home of the fallen rocks at one's feet, splashed now with maple crimson; higher yet, ground-hugging *vaccinium* taking over to spread the fire up the cliffs and along the high ridges until the summit is reached and the dancing flames are quenched in the deep blue of the sky where it rests on the peaks.

But it was July and not October and the day was green and gray. A light rain started to fall and the few members farthest along the trail turned back and soon the trail was crowded with happy people busward bound. The rain was light and then ceased and caused no discomfort at all. Many of the members had collected specimens for planting in their home gardens but the plants taken had been collected far from the trail even though it meant vigorous scrambling uphill and down through heavy brush and ever tumbled rocks. It was evident that very few visit this beautiful area for there were no signs of trailside specimen collecting or vandalism of any kind. This is as it should be. Before the bus was reached two more ferns were reported as having been found. One was the holly fern, *Polystichum lonchitis* and the other *P. andersoni*.

The trip home was restful and without incident. There was a general expression of pleasure over the day's outing and it is certain that when another summer rolls around there will be another bus ride. Botany and geology had joined hands to the enjoyment and benefit to the Unit members and of the guests as well. It is interesting to note that one of the most attentive listeners to the various lectures and discussions was the bus driver who throughout the trip was courteous, efficient and thoughtful of his passengers' comfort. To Barky and Hitchy and the committee went the thanks of the crowd for their endeavors during the day; and so, at the end of the line the members and their guests, pleasantly tired and happy, sought their own cars and the party was over.

\* \* \*

*And here one felt the vast embalming stillness of the high mountains, that consecrated solitude which is more full of company than the densest crowd of men. —Farrer.*



## A CHAT WITH THE SECRETARY

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

WITH THIS ISSUE of the *Bulletin* is enclosed a pink leaflet describing the objectives and services of your Society, on which has been printed a membership application form. This is not a reminder that your dues are due. You will always be reminded of that a month in advance of the due date and will be given an envelope in which to remit. It is not a stamped envelope, sorry. What I should like to have you do is to make a real effort to bring in a new member. What would please me most is to be flooded with a hundred applications.

Managing the financial affairs of the Society is no different from managing a household budget. There are times when one wishes for a filet mignon and has to compromise on hamburger. Last year we had a surplus of only \$18.00. Please do not push us over the precipice this year.

A hundred additional *Bulletins* would cost very little, as the principal cost is in setting the type. A hundred new members would enable us to inaugurate desirable projects that are now beyond our finances.

April is the month in which most memberships are renewable and I trust that it will not be necessary this year to spend so much in postage for the second and third reminders. Besides, I have a lot of work to do in the garden, and I know you would not want me to neglect that.

A member of long standing has asked if anyone has for disposal, or knows where to obtain, parts 1, 2, and 4 of "Flora of Alaska and Adjacent Parts of Canada" by Dr. J. P. Anderson. They were published between 1943 and 1946 by the College Press of Iowa State College at Ames, in their *Journal of Science*.

We have also had several inquiries for numbers one and two of Volume 13 of the *Bulletin*, the supply of which is exhausted.

I had several delightful visitors to my garden during the past summer, some from as far away as the Pacific coast. You are always welcome to visit me, and if no one answers the doorbell, you will probably find me under the big pine tree in the back yard. It's nice and cool down there, but occasionally a bit of rosin drops down the back of my neck. Maybe I shall have a few spare plants. Bring pots—labels are free.

## THE WANT LIST — A "NEW" ENTERPRISE

DR. A. R. KRUCKEBERG, *Seattle, Wash.*

THOUGH THE SEED EXCHANGE may answer most needs of the rock garden enthusiast, he may have become such a specialist that often his favorite group is not well represented on the annual List. A number of contributors to the 1958 List asked for items which, unfortunately, either did not appear or quickly vanished. Often such items are native in areas where members of the ARGS may live or have contacts. This suggests that an additional avenue of Seed Exchange could be exploited: to wit, the occasional publication of a Want List. With this issue, then, we shall begin listing specific wants of members. From time to time we shall publish additional listings. Either the Director of the Seed Exchange or the Editor of the *Bulletin* will be glad to receive any such requests for publication in the *Bulletin*. Note that the Director is not a bit modest in starting off the project with a burgeoning list of desiderata.

Such a project was undertaken by the former editor, Mr. G. G. Nearing, but it became almost a "wish list" of plants that have never been introduced. Consequently, while any American native requested will receive a listing, as

there is at least a remote chance of its being collected, for the present it is futile to request most plants from central Asia or from the Andes, such as scarlet gentians, rosulate violas, and aretioid oxalis. Such treasures will probably never become available unless there is sufficient interest to support an expedition sent in search of them, the cost of which would not be unreasonable.

*Items wanted (seed, unless otherwise specified)*

1. Dr. A. R. Kruckeberg, Department of Botany, University of Washington, Seattle 5, Washington:

Any collected (wild) seed or plants of perennial *Silene*, *Lychnis*, and *Melandrium*. In particular, from eastern U. S. A., *Silene ovata*, *S. nivea*, *S. baldwinii*, *S. subciliata*, *S. wherryi*, *S. pennsylvanica*, *S. rotundifolia*, *S. regia*.

Seed or living plants of any species of *Synthyris*, *Besseyia*, *Lagotis*, and *Picrorhiza*; also seed or plants of *Wulfenia* species (except *W. carinthiaca*).

2. E. H. M. Cox, Glendoick, Perth, Scotland:

*Lilium washingtonianum*.

3. Mrs. A. N. Griffith, Paradise House, Newnham, Cambridge, England: Dwarf lupins, congested cushion phloxes, *Monardella macrantha*.

4. Major R. Ginns, 112, Rothwell Road, Desborough, Northants., England. Dwarf phlox, western American fritillarias.

5. E. B. Anderson, Bale's Mead, West Porlock, Minehead, Somerset, England.

Erythroniums, fritillarias, trilliums, especially the rarer American species.

6. C. R. Worth, Groton, N. Y.

Either seeds or plants of dwarf mertensias, *Dicentra peregrina pusilla*, *Primula allioni* and hybrids of European species.

## REPORT OF THE NORTHWEST UNIT

HELEN MORRIS, *Bellevue, Wash.*

THE NORTHWEST UNIT is pleased to announce the following officers for the year 1958:

Chairman—Mr. Alton DuFlon, 3223 Perkins Lane, Seattle

Vice Chairman in Charge of Programs—

Mrs. Clarence Larsen, 3883 W. Mercer Way, Mercer Island

Secretary-Treasurer—Mrs. Eddie Moulton, 8238 2nd N.E., Seattle

Hostess Chairman—Mrs. S. A. McClanahan, 2643 38th W., Seattle

Corresponding Secretary—Mrs. Gregory Morris, 3858 Hunts Pt. Rd., Bellevue

The first fall meeting of our unit was held on September 12 at the home of Dr. and Mrs. J. D. Barksdale. Elections were held, and we discussed our newest project, handling the Seed Exchange for the Society. The program subject was "The Geological Setting of the Cascades", described by Dr. Barksdale. The subject was skillfully presented in such a clear and concise manner that we learned not only about the Cascades, but about other sections of our state as well. Many puzzling questions were explained, and we will all look with new interest at the topography as we take our trips in the future.

In October we went to the Student Union Building on the campus of the University of Washington for our annual banquet. Members brought their favorite slides of the last year, and after a delicious meal we spent the evening enjoying our friends' gardens, and retravelling the roads, trails and waterways from Alaska to Florida.



## NOTES ON VARIOUS PLANTS—II

The percentage of fertile seeds, or at least of those that germinate, so far as my experience with *erigonums* goes, must be extremely low, for I seem never to have grown more than one plant from a sowing.

*Eritrichium*, it is said, can be propagated from soft cuttings; seeds germinate readily too—but few gardeners keep it long enough to do much experimenting with it.

*Erodium chamaedryoides*, in white, single or double pink, is one of the easiest of plants from cuttings. Seedlings of the larger species, which often from a May sowing germinate in a week, should be moved to their permanent positions as soon as they are large enough not to be lost, for they are fussy about overwatering when grown in pots. Perhaps it would be better to sow directly where they are to grow, but seeds are usually hard to obtain at present. Cuttings of these larger kinds, taken with as much of the old brown stem as possible—two inches is none too much—may be put three or four in a four inch pot filled with sand, and will root in less than a month, but they are extremely sensitive to overwatering at any stage, and will soon die if put in the regular cutting box.

*Gentians*, except the more difficult European species, germinate quite readily from early spring sowing. Often they are not true to name, and any with narrowly elliptic leaves an inch or more long at the end of the first growing season should be regarded with suspicion, for the choice kinds remain small for the first year. Cuttings of the grassy-leaved Asiatics, taken when two or three inches long in spring, root readily but are difficult to keep going during hot weather, and often fail to reappear the next spring, though apparently in good condition when they went dormant. Seedlings are somewhat more reliable. Presumably any of the *G. septemfida-lagodechiana* clan will come equally well from cuttings, but I seem never to have tried them. They, *G. acaulis*, and the grassy ones can be divided, but a little less casually in this country than in England.

*Geranium dalmaticum* roots 100% from cuttings taken in mid-August, while those made a month earlier may be complete failures. A bit of the brown wood at the base of the new growth should be included in the cutting, and as much of the old wood as possible in cuttings from plants of the type of *G. argenteum*. I have tried such cuttings only this past season, with success, while cuttings of green new growth have always collapsed in a few days; it may be that I am overoptimistic about this season's results.

Cuttings of all *globularius* that I know-root with extreme ease, even those of *G. nana*; they can also be divided. The time of year seems of no consequence in propagating them.

*Haberlea*: see ramonda.

*Hebes*, the shrubby veronicas from New Zealand, so far as I have tried them can be rooted from soft cuttings, with ease varying with the species.

*Hepaticas*, even the precious doubles, do not resent division at flowering time or immediately thereafter. If one does not wish to disturb the whole plant, dig down at one side to loosen the soil, and detach the crowns one at a time. Choice varieties should be grown in pots for the remainder of the season, to make sure that they are fully established before being set in the garden.

While most *iberis* come easily from cuttings, some of the minute prostrate forms (which may be hybrids) are quite difficult and slow to strike.

Rare bulbous *iris*, if happy, are best left alone, for they often resent dis-

turbance, although division is the only practicable means of increase. *I. reticulata* and *I. histrioides major* can be moved even in full bloom, but should be divided just as the leaves die down, for later they are extremely difficult to locate.

Whoever can keep *Jankaea heldreichii* happy may propagate it like a ramonda—with due respect for sensitivity to moisture.

*Lewisia*: see vol. 15, no. 4, p. 107-8. At the first Alpine Plant Conference, Ben Wells, who was one of the leading English alpine nurserymen, reported taking leaf cuttings of some evergreen forms, which rooted well, formed large swellings at the base of the leaves, but could not develop a growing point from which to produce new leaves. Leaf-cuttings of *episcias* have behaved similarly at Cornell.

*Lithospermums*, *moltkias*, or *lithodoras* according to taste, are often extremely slow to flower from seed: *L. purpureo-caeruleum* grew at a great rate for at least five years before blooming, and *L. (Moltkia) doerfleri* nearer ten. The latter can be increased by division, the former tip-roots, and all the European species come more or less readily from soft cuttings taken in June or early July here. The American species are another matter, for I have never succeeded in germinating any of their seed, even that personally collected and fully ripe. It is said that lovely *L. canescens* will come from root cuttings, but where can one obtain a plant of it, except by hunting it in the not-so-wild regions of the Midwest?

*Macrotomia (Arnebia) echioides* seedlings should be set in the garden as soon as they are large enough to handle. They abhor pot culture, and particularly the alpine house in winter. The plant is perfectly hardy, by the way, in spite of rumors of tenderness.

*Malvastrum coccineum* runs underground here, but the suckers so far have never developed roots. Cuttings so far seem noncommittal, but perhaps were taken too late in the season, about September 1.

*Mertensias*, at least the choice little western and Asiatic species, are not difficult from seed if one can obtain it, but our natives, except perhaps *M. tweedyi*, are likely to follow the style of dodecatheons and go dormant in early summer; the Asiatics remain active throughout the growing season. Of the latter, *M. coventryana* has been here for many years. At times it can be divided successfully in spring, at others, every division dies. Lately I have become cautious, carefully tap the plant out of its pot and detach a rooted side-shoot or two without disturbing the main plant. This has been done in both spring and late summer with complete success. The other species are not very long-lived, are shy about seeding, and I hope that of the present stock I shall find that most species can be increased like *M. coventryana*. But *M. pteridocarpa* with heart-shaped glaucous leaves suggesting those of a miniature hosta, and similar but smaller and green-leaved *M. rivularis japonica* do not, as I recall, develop side crowns readily, and perhaps cannot be increased except by seed.

*Morisia monanthos* is one of the few rock plants regularly propagated from root cuttings. Roots cut into sections about an inch long and inserted vertically into sand, *top end up*, will develop roots and small rosettes in a few weeks. I cannot recall ever having seen an offer of seed.

*Myosotis decora*, and probably other New Zealand species, can be divided; it is the easiest, in our climate, of a group of fussy plants not all of which seem fully hardy.

*Omphalodes luciliae* can be increased by division, it is said. Seeds are rather slow and erratic in germination, while slugs and caterpillars admire the plant at any stage of growth.



*Onosmas* usually come quickly from seed, but resent disturbance, and are best put in their permanent locations, in hot dry places, while still small. Soft cuttings in midsummer root easily.

*Paeonia species* are mostly too large for the rock garden, but suitable for its background. Seed normally germinates and develops a root system the first season, but puts out no leaves till the second; tree peonies are likely to damp off during this interval, and after the leaves appear the young plants are sensitive to freezing. Some trials at Cornell suggest that the period before the leaves appear can be greatly shortened by keeping the seedpots as 38°, but that once top growth starts, they must be removed to a warmer place, perhaps 60°, immediately.

*Penstemon* seeds apparently will not germinate well without exposure to cold, but the optimum cold treatment has not been determined, and seems to vary according to the species involved. The woody species may all be propagated from soft cuttings taken in midsummer; procumbent ones, such as *P. menziesii* v. *dauidsonii*, will root very quickly if taken with a piece of stem on which little knobs are showing—prospective roots. Otherwise, *P. pinifolius* is the quickest to root, while the *Caespitosi* (*PP. xylus, abietinus*, etc.) are almost as prompt, and the *Dasanthera*, the shrubby species with wide leaves, are considerably slower.

*Phlox subulata*, and others, can be increased by cuttings, which are usually in no hurry to root, although they grow quickly afterward, and usually make more shapely plants than do divisions.

*Polemoniums* are best grown from seeds. Division of many species is feasible, but those with whorled leaflets violently resent disturbance, and so far I have had no success with cuttings of this group.

*Polygala chamaebuxus* and *P. vayredae* are slow, but not difficult from cuttings. It pays better to divide the latter, or to pull off a branch of either, if one can be found with a few roots.

*Potentilla fruticosa*, in its many forms, should be propagated from cuttings, as seedlings vary immensely, but some forms are much more difficult to strike than others. Many of the other species, especially *P. tormentillo-formosa*, divide easily.

The germination of *primula* seeds, to judge from the elaborate instructions provided by specialists in the Northwest, presents a greater problem than that of raising orchids. Here hundreds of sowings have been made, often as late as June (of seed of the previous year's crop), directly from the packet, with no pre-treatment, into pots, or frames covered with sash and shaded. Germination normally takes place in three or four weeks, profusely, even from June sowings, while *P. denticulata* has come up in a week. *P. rosea* is erratic, and sometimes does not germinate at all, even from fall sowings of fresh seed, while the European species of section *Auricula* sometimes comes promptly, and sometimes lie over till the second season. See the comment on *auricula* in the note on snow treatment. European species which have fleshy stems, especially *P. marginata* and 'Linda Pope', may be propagated from cuttings of individual rosettes taken with a half-inch to an inch of stem. All species may of course be divided, and should be, every two or three years, or the plants will deteriorate.

*Ramonda* and *haberlea* are normally increased from leaf-cuttings, pulled, not cut, from the plant, so that as much as possible of the petiole is retained with the blade. These should be inserted in a peat-sand mixture so that one-third of the blade is covered; in their own good time they will root and develop new rosettes. Do not place stones over the leaves, as Mrs. Anley has suggested, for all to which I have done this rotted at once. It is quicker and simpler to detach side rosettes with a few roots, which may be done at any time during

the growing season, and the divisions can be planted directly in their permanent locations. Seeds respond best to the fruit-jar method, and the seedlings may remain in the jar with the glass lid still on, requiring almost no attention, for a full year. By this time they will be large enough to be handled without the use of micro-technic.

*Ranunculus* seeds may germinate in a few weeks (*R. glacialis* is perhaps the easiest to germinate and most difficult to grow on), or may take a year or two. The babies of the choicer species are rather difficult to please.

*Salix*: because of the ease with which the large willows come from cuttings, it was rather demoralizing to find that the Rocky Mountain alpine species baffled me, until I learned that Will Ingwersen likewise has found the alpines difficult. Hills, on the other hand, reports that they are easy, which leads one to wonder—. Further, our western alpines are as difficult to keep alive here as they are to propagate, so that my garden will never be overwhelmed by them.

*Saxifragas* of the mossy and encrusted types are quite easy from seed, as are those of *SS. oppositifolia* and *retusa*, although the last two are difficult to bring to maturity; of many sowings of Kabschias and Englerias, I have had only a single seedling, and am inclined to blame the seed rather than the treatment. While all can be divided, more shapely plants of the mossies and Kabschias are obtained by taking cuttings of single rosettes. Those of the latter section are tiny (in the case of *S. lilacina* and 'Lady B. Stanley' so minute that it is better to divide these) but if the plants are grown in considerable shade for a time in spring they will stretch upward and be easier to handle. The leaves on the stems of these cuttings should *not* be trimmed away, but the little rosettes inserted so that they lie flat on the surface of the rooting material, which must be pressed down around them as firmly as possible. Cuttings made in mid-summer or after will root well, though somewhat more slowly than those made in spring. About two months must elapse before the cuttings are ready to pot up, and they will form no new rosettes till the next spring, so two or three years must elapse before the plants are more than "whiskers". The lovely hybrid of *S. longifolia*, 'Tumbling Waters', throws some side rosettes before it flowers and dies, and these must be removed and struck as cuttings, but here the side growth has never developed enough of a stem so that it could be removed.

Many *sedums* offer the reverse problem—how to restrain them from propagating themselves. Biennial *S. sempervivoides* rarely throws side rosettes, which may be rooted as cuttings. Most of the seed offered refuses to germinate.

*Sempervivums* from seed are interesting, for the rosette is built up slowly, a leaf at a time, and it is about two years before the plant shows its true character. The seed requires cold treatment for several weeks before it will germinate.

*Silene acaulis*, according to Hills, can be divided—but in our mountains, at least, it is taprooted. Cuttings, consisting of several rosettes, root easily, but seed is sometimes slow to germinate. Seed is, apparently, the only method of propagating our western species. I should guess that *S. laciniata* might come from cuttings of its fleshy roots, but hesitate to risk a plant to make the experiment.

*Soldanellas* are easy to divide, and not difficult from seed, but I have yet to find a position in the garden where they will survive more than a few weeks, and suspect that in this climate the moraine with underground water may be the only solution, although they grow freely in pots, plunged and shaded in summer.

*Synthryis* may be increased by either seed or division, and should be better known, particularly the Rocky Mountain sorts—but beware of besseyas, though the "kittentails" have a quaint charm, for all are petalless and dowdy.



*Trachelium rumelicum* and *Diosphaera dubia* are the same plant, though Hills gives different advice on propagation, and different evaluations of their garden value and hardiness! Under either name, the plant is easy from seed, although there is a high mortality, in this climate, of young plants during the first winter; the survivors are fully hardy and long-lived, but remain in bloom for only a few days.

*Tricyrtis hirta*, unlike many monocotyledonous plants, germinates quickly and grows rapidly, but its hardiness is suspect, and has yet to be tested here.

*Trillium*: see the *Bulletin*, vol. 14, no. 2.

The dwarf species of *trollius*, unlike their big brothers, germinate profusely in a few weeks from spring-sown seed, but some of the more recent introductions are less easy to keep happy than *T. acaulis*, which seems to have modified its habit and flowering time during the past twenty years, and plants grown from any source are somewhat taller and later-flowering than pre-war ones. Mature plants can be divided, but are not (here at least) very long-lived.

*Veronicas* are easy from either seed or division, but few of the better sorts appear in seed lists.

*Violas*, whether pansies or violets, are either extremely difficult (alpine pansies and cut-leaf western species), or pests because of their free seeding.

*Wulfenia carinthiaca* may be grown from seeds or division, but is hardly worth the trouble.

*Zauscherias* would be well worth growing from seed, but none has survived a single winter here.

## SALMAGUNDI

AFTER THE JANUARY *Bulletin* was off the press, word was received from Mr. Oleg Polunin, whose account of the fascinating plants of Kashmir is continued in this number, regarding his plans for the coming season. He expects to spend the month of April collecting bulbs in northern Iraq, working as far eastward as the Iranian border. This is a region particularly rich in bulbous plants, of which the most exciting is probably *Iris persica*, of which he hopes to obtain some of the many color forms. Tulips, fritillarias, muscari, crocus, and many other monocotyledons are to be expected, mostly unknown or extremely rare in present-day gardens. The cost of a share is \$40, which includes air freight from Baghdad.

Mr. Polunin is limiting the number of shares that he will accept, and at the end of January subscriptions had been received for most of these. He will, however, accept provisionally further subscriptions, subject to his being able to collect adequate stocks of the various species.

Anyone interested is asked to communicate at once with the editor, who will forward requests to Mr. Polunin in Iraq.

\* \* \*

In planning the January number, it was our intention to have more experts represented than actually were. Before we could contact them, the "flu" interrupted our correspondence and by the time we were again active, the deadline was upon us, so that it became necessary to use only material already at hand. Our apologies to all whom we intended to solicit, for they could have added much to the scope of the material; and our thanks to those who contributed so generously their knowledge based on long experience.

In "Notes on Various Plants", a footnote was omitted: "Hills" refers to Lawrence D. Hills' book, "The Propagation of Alpines", which is interesting and useful, although it often fails to mention a species about which information

is sought, or suggests only methods that have not proved successful.

It was strictly coincidental that this winter the Brooklyn Botanic Garden and the American Penstemon Society likewise devoted numbers to propagation. Just as our copy was about to go to the printer, our scouts brought word of the "Handbook on Propagation", and a copy arrived in time to assure us that there is little overlapping of subject matter, and to insert a few references to the "Handbook".

When the Penstemon Society's *Yearbook* arrived, after the *Bulletin* was off the press, but not yet in the mails, we were astonished to find that a good share of it had been devoted to the problem of raising penstemons from seed. Many methods are presented, with detailed analyses of the effect of various soil combinations, of cold treatment, and sundry other important matters. While somewhat heavy reading, it is invaluable for reference.

\* \* \*

How many readers are familiar with MacSelf's "Plants from Seed", a book probably long out of print? It gives detailed recipes, often rather complicated, for raising even the easiest and commonest of alpine. The three methods offered in January all are applicable to an extremely wide range of species, without any modification. The gardener will do well to select the one that is most suited to his equipment and conditions, and to vary it only slightly for especially rare and fussy species.

\* \* \*

In a letter dated January 31, Dr. A. R. Kruckeberg wrote:

"To date, we have received around 100 requests for seed and they come in ten strong every day. Last night we finished a full day's operation; six women of the Northwest Unit worked from 10 A.M. to 5 P.M., then the night shift of thirteen people took over. We've just about caught up on orders. . . (Members of) our Seed Exchange crew . . . have been a spartan crowd. First and foremost is my wife, who has straw-bossed the daytime operations, worked with me hours on end prior to a given meeting of the crew, and served refreshments. (Unless we hear otherwise, we are going to extract a little coffee money from the proceeds of the Exchange.) Then, there has been Brian Mulligan who has materially aided us at every step; especially important was his contribution on checking names. From here on we just couldn't single out people. By next week the list may have swelled considerably, but here are the names of those who have given unstintingly of their time to our cause: Mr. and Mrs. Page Ballard, Mr. and Mrs. Julian D. Barksdale, Mrs. Henry Bittman, Mr. and Mrs. James Buzard, Mrs. Kenneth Callahan, Mrs. Chester Chatfield, Mrs. Alton Du Flon, Mrs. Elmer Dutton, Mrs. A. K. Free, Mr. Neill D. Hall, Mrs. C. Leo Hitchcock, Mr. and Mrs. Clarence F. Larsen, Mr. and Mrs. S. A. McClanahan, Mr. and Mrs. H. H. Miller, Mr. and Mrs. Merle Sutton, Mr. and Mrs. Joe Witt, and . . . more to come beginning next week, no doubt."

To all who participated in this work from which every member may profit, go the thanks of all the Society—and who is there so hard-hearted as to deny them a drop of coffee?

\* \* \*

There really is a yellow cortusa, according to Farrer, but it seems unknown in cultivation, and certainly has not yet become available in the Seed Exchange. In correcting an error in the spelling of *Corydalis lutea* in the proof, the generic name was omitted and the Seed List offered spieces of *Cortusa* not yet known to the taxonomist! Another reading of the proofs would have delayed the appearance of the seed list by at least a week, so perhaps the error is preferable.



Dorothy Stillwell writes that she has just germinated *Anemone patula obtusiloba*, after keeping the seed under refrigeration for almost a year. Maj. Gen. D. M. Murray-Lyon, President of the Scottish Rock Garden Club, gives detailed information on raising this species from seed, which he says germinates readily if sown while still green. This is to American gardeners much like the famous recipe for hare pie. Robert Ruffier-Lanche reports on sowings of acantholimon and celmisias: from collected seed, he had good germination of the first, and fair of the second, while there was no germination of garden-saved seed of either. He also notes that *Androsace villosa* has in the wild the same habit as *Sempervivum arachnoideum*, of growing on hot sunny rocks. Dare we risk our few plants in such a place? Our own acantholimon, by the way, are from seed collected by Dr. Peter Davis on one of his expeditions to Anatolia; garden-saved seed has never germinated for us, either.

\* \* \*

Ruth B. Manton has called attention to an error in the reference to her article on lewisias: she does not raise them in pots (we should have written "soil" instead of "pots") and the surfacing of "chips" did not, as we had assumed, refer to the hen grit mentioned a couple of paragraphs earlier.

\* \* \*

The editor, like the secretary, extends a cordial invitation for members to visit him, although he warns that his garden is an experimental, not a show, one. He will be at home evenings (except Wednesdays), Saturday afternoons and Sundays, through May, and at almost any time during June. After that—perhaps you should look for him on a mountain top, surrounded by *Aquilegia jonesii* and *Eritrichium howardii*, or other delights, until recalled East by academic duties.

\* \* \*

The contributor to the Seed exchange listed as Mr. Fulton M. Cooke, Falls Church, Va. (No. 37), was actually Mrs. N. V. Cooke of Belfast, Ireland, who mailed them while on a visit to this country last fall.

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