

Editorial Copy



The JOURNAL of
THE SCOTTISH
ROCK GARDEN CLUB

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VOLUME XII, Part 4
No. 49

SEPTEMBER 1971

Editor — P. J. W. KILPATRICK, Slipperfield House, West Linton, Peeblesshire

Obtainable from John B. Duff, Hon. Publications Manager,
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JOHN B. DUFF,
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Plant hunting in Kurile Islands

I. Alpines of the volcano Notoro

by ING. VLADIMIR VASAK, CSc.,
Pruhonice, Czechoslovakia

TO CALL a hill of 357m altitude a mountain seems to be a little queer, but one must concede that on the little island Shikotan, situated not far off the East coast of Japan, it is really a mountain. The whole island Shikotan is 30 km long and 14 km wide. But I have to say it is not so easy to visit all its lovely places. For example, our journey from the village of Malokurilsk to the foot of Notoro—that is an extinct volcano—took seven hours fast walking. Our expedition started in the morning and reached Notoro at three o'clock in the afternoon. There were three of us : the chief of our expedition, E. M. Egorova—botanist, an entomologist from Vladivostok, and the author of this article. Our way led from Malokurilsk via Krabozavodskoje. Both settlements are fishing harbours. It was a time when the fish canning works had their "top season". While the journey there was troublesome, the stretch from Krabozavodskoje to Notoro was beautiful—the scenery looked like an extensive fantastic natural park (fig. 76).

At our destination we divided our tasks : my friend, the entomologist, hunted his favoured little flies from mushrooms, Mrs. Egorova stayed in the forest situated at the foot of Notoro, and I had three hours for hunting of my favourite plants on the rocks and crests of Notoro. How much I have seen and how many lovely alpines I have collected in the course of this limited time !

Up to Notoro's crest I climbed over a gentle rock-slope. On the rocky places I have seen plants of a low blue-green *Juniperus sargentii* (Henry) Takeda and a green crowberry *Empetrum asiaticum* Nakai which differs only slightly from the basic species *Empetrum nigrum* L. *Juniperus sargentii* is a species near to the well-known tree *Juniperus chinensis* L. and its synonymous name is *Juniperus chinensis* var. *sargentii* Henry. And I can say, it is a quite nice and sympathetic variety, shaping for walkers pleasant thick carpets. The dark blue-green colour of its leaves markedly differentiates with the light-green low bushes of bamboo—*Sasa paniculata* (Makino) Makino et Shibata.

I remember that just at the moment I collected the fruits of these

two bushes when all of a sudden the heavy clouds from the Pacific Ocean arrived and it began to rain. But I have to say—to rain—that's really a weak expression, as it rained cats and dogs, I could not see at all—which in the Kurile islands is usual. In spite of this trouble I reached the top of the mountain. And what I have seen! There was a rich botanical garden. Truth to tell it was rich especially for a botanist with reference to the multitude of species—as I have to say after mid-September on Shikotan only a few species of plants are still in flower. At that time there flowered blue monkshood—*Aconitum kurilense* Takeda up to 20-30 cm high—the only species of Aconites I have collected there. It is a strongly endemic species, growing only at Shikotan island.

On the fresh alpine meadows also grew saw-wort—*Saussurea riederi* Herd. var. *yezoensis* Maxim., with the purplish inflorescence. This is widespread on south Kurile islands, in Japan on Hokkaido and on north Honshu. I remember—every leaf was covered with the rain drops. But not only every leaf of the plants, but also my nose, hands—everything. Everything was “wet to the skin”. But it was no time for waiting and looking forward to a change of weather and therefore I had to continue in my plant hunting.

On a patch of grass I found an uncommon pasque-flower—*Pulsatilla taraoi* (Makino) Takeda with the divided fragile smooth leaves looking rather like leaves of *Corydalis*. By digging up its seedlings I did not hope that they would be alive after such a long journey from Shikotan to our country, to Czechoslovakia. But I am pleased to say, wonder of wonders, I have brought both plants quite alive. I am sorry to say one of them perished in the Spring of 1969, but the second one has kept alive and lives in the garden of Dr. M. Deyl—joint author of the Czech rock-garden “bible”—“Alpinky”, issued in the years 1939 and 1964. Every one of my readers can imagine how much I am afraid for the life of this only specimen. It is something like a father and his only child. As far as the seeds of *Pulsatilla taraoi* are concerned I could not collect them as they were blown away by the sea-winds a long time before my arrival.

Once speaking about the family Ranunculaceae, so rich in ornamental plants, we can continue here for some moment. In low grasses I have found scattered virgin's-bower—*Clematis fusca* Turcz. var. *ajanensis* Regel et Tilling. It is 20-30 cm high and has a woody stem. Its spread in the east zone of Siberia, Kamchatka, on Sakhalin, and on the Kurile islands. It grows also in north Japan, the island of

Hokkaido. On the madzhuria steppes in North China it is one of the most attractive and beautiful plants according to Komarov. *Clematis fusca* flowers in July. It has brown-violet, dark hairy bell-shaped flowers. It is really an interesting hardy and nice Clematis, suitable for large gardens and for an alpine rockery, and appeals to all lovers of interesting plants. In gardens the most cultivated variety is *violacea* Maxim., with less hairy violet flowers. I suppose that the seeds of *C. f.* var. *ajanensis* Regel et Tilling from Kurile islands, which I have brought, could enrich our alpine gardens.

The third species of family Ranunculaceae was the well-known columbine—*Aquilegia flabellata* Sieb. et Zucc. var. *prototypica* Takeda, cultivated in Europe in the garden from the year 1887. In Japan, it has been cultivated for a long time as a garden culture and besides also as a top-plant. As it is a species, flowering early in Spring (April and May), I could collect its ripe specimens with the seeds. I should like to recall the appreciation of the author of the rock gardeners' "koran", R. Farrer, who writes: "Plant that conveys the mystic fascination of the East. . . In cultivation *A. flabellata* is perfectly easy, sure and permanent and true—a neat and tidy species, early-blooming and of special loveliness".

At the foot of the rocks on the grassy straight places was scattered a little violet felwort just blooming—*Swertia tetrapetala* Pall. Its appearance reminds me of Gentianella. It flowers late—in August and September. And that may be in future a reason for the interest of the growers of Gentian. And how many names has this little plant! *Swertia pallasii* G. Don, *S. yesoensis* (Fr. et Sav.) Matsum., *S. bissetii* S. Moore et Burkill, *Ophelia tetrapetala* (Pall.) Grossh., *O. papillosa* Fr. et Sav., *O. yesoensis* Fr. et Sav., *Stellera cyanea* Turcz., *Rellesta cyanea* Turcz., and *Anagallidium tetrapetalum* Griseb. In spite of that—it is in Flora of USSR published as an endemic plant for USSR zone, it grows also in Japan, on Hokkaido and its variety *yezoalpina* (Hara) Hara with the light-blue flowers is spread on Hokkaido, Honshu and in Korea (Ohwi, 1965).

In the neighbourhood of the felwort bloomed a clear pink plant—lady's tresses—*Spiranthes sinensis* (Pers.) Ames, 10-15 cm high. It is a miniature orchid, which is not cultivated in the alpinists up to this date. Perhaps for the reason that it is not easy to cultivate from seeds. Its flowers look like the flowers of *Spiranthes grayi*—little lady's tresses. *Spiranthes sinensis* grows on Sakhalin, Kurile islands, Japan, China, India and Australia. Sorry I have to say, that the plants of it

I have brought to Czechoslovakia did not survive such a long way from its native country to Middle Europe and therefore I can keep this nice little orchid only in my memories and on the coloured photos.

In the grasses were spread two species of dogwoods : bunchberry—*Cornus canadensis* L. and *Cornus suaecica* L., with the vivid red fruits, which are suitable for the moisty shady nooks of alpine rockery. They are really impressive in their large carpets. Farrer states that *Cornus canadensis* is much greater than *C. suaecica*. But on the island Shikotan I have seen *C. suaecica* much greater than *C. canadensis* and the same was at Sakhalin. On all places with the same conditions, where grew both species of *Cornus*, *Cornus suaecica* was higher and more portly. *Cornus canadensis*, bearing a drier soil, *Cornus suaecica* represents a plant suitable specially for a moisty boggy soil rich of peat and humus. Both species of *Cornus* have two decorative periods. At flower time with nice white bracts and at time of fruiting—red dense bunches of grapes with the sweetish, edible, not much palatable drupelets. These drupelets are used also as a medicament.

The last interesting plant which I should like to mention today from the alpine meadows of volcano Notoro is ladybell—*Adenophora kurilensis* Nakai—with the whorl of the wide leaves 30 cm high, probably very nice in flowering stage. It is one of many species of East Asian *Adenophoras*. Its roots are thick and carrot-shaped and sometimes look like the roots of the most scarce China's medicinal plant, Ginseng—*Panax schinseng* Nees. It happens that both these roots are confused—but it is really only a worthless fallacy—something like as the confusion of red pepper and ground red brick.

I have met there, of course, much more interesting plants (fig. 77), but with reference to the limited space of my article I cannot mention all of them. In the course of that day's hunting I collected about 150 species. On the top of Notoro, covered not only with the green grass carpets but also with the rock turrets and blocks of rock, so many alpine treasures were concealed. I recall that by this discovery I was so enthusiastic of all these treasures that I have forgotten I am wet to the skin, and I felt quite happy in this charming nook of Notoro.

On the rocky turrets grew a little ubiquitous fellow of the mountains of the Northern hemisphere, knotweed—*Polygonum viviparum* L., with dark green shiny leaves, and a very interesting little primrose—*Primula matsumurae* Petitm. of section *Farinosae*. I collected its seeds, but unfortunately after their sowing they did not emerge. There are two different opinions of the primula's growers. The first states that

the primula quickly loses germination ; the other tells that it preserves it, on the contrary, for 3-4 years. Let us hope, therefore, that my primula of Shikotan will emerge in the next year. This plant is an uncommon valuable plant suitable for the shady nooks and north sides of the rockery. Its flowers are great, red-violet, its little leaves put in a ground rosette are on their wrong side dense yellow and gold-yellow—as dusted. For the readers who are interested in Sakhalin and Kurile primulas I should like to recommend my article in the Quarterly of the American Primrose Society, No. 2, 1970.

In the crevices of rocks I found the little *Tofieldia nutans* Willd. (syn, *T. coccinea* Willd.). Its synonym indicates something quite new. Most species of *Tofieldia* have green, or green-yellow flowers, but this *Tofieldia* from Shikotan has interesting dark red flowers. Farrer recommends for *Tofieldia* a “very wet and very loose gritty, spongy soil”, and I should like to recommend placing it into the wet crevice between the stones where it could be as happy as at home.

On the rocks grew also four species of woody plant : *Diapensia lapponica* L. var. *obovata* F. Schmidt—it is a very tiny evergreen dwarf semi-shrub, creating the dense mats, growing on the rocks and in the mountains of Asia and the American coast of the Pacific Ocean. *Arctous alpina* (L.) Niedenzu var. *japonicus* (Nakai) Ohwi—it has the leaves falling with the perceptible impressed veinlets, which are glossy, and in autumn they are blood-red to dark red-black. The Japanese variation grows infrequently in Japan, on the island of Hokkaido, North and Middle Honshu, Kurile islands and on Sakhalin.

The following plants are miniature rhododendrons, *Rhododendron aureum* Georgi (*R. chrysanthum* Pall.) and *Rhododendron camtschaticum* Pall. *Rhododendron camtschaticum* is a well-known little alpine plant, but to collect its seeds in its home is really not possible for many of its growers. The difficulty is that its home is far from customary tourists' roads : on Alaska, Kamchatka, Sakhalin, Kurile islands, in zone at the Okhotsk Sea, in alpine zone of Japan, in Hokkaido and in the mountain Iwate on the Honshu island (Ohwi, 1965).

Rhododendron aureum with the evergreen great stiff leathery leaves is not so common in culture. Its bushes on Notoro were not fertile and therefore I could not bring the seeds. But I have collected some of them on Sakhalin and on Khamar Daban mountains near Baical lake and therefore I hope I shall have some plants in the next year and then I shall be able to send some to the lovers of this *Rhododendron*. Both species are frost-resisting. *Rhododendron aureum* prefers its local con-

ditions ; that means the mountains, rocks, clear air, and has no "interest" for some domestication in other soil and climatic conditions. It is suitable, therefore, for expert alpine growers. The English botanist R. A. Salisbury gave to this plant a synonym *Rhododendron officinale*, as it is used in Tibetan and Mongolian medicine as a medicament for rheumatism, heart and women's diseases.

In the narrow crevices I found also a miniature cinquefoil—*Potentilla dickinsii* Fr. et Sav.—only up to 10 cm high with trifoliate leaves. Having yellow flowers up to 1 cm in diameter, which is large in relation to the whole plant, it grows only in the mountains of Kurile islands, Kunashiri and Shikotan, and on the Japanese islands. On the highest top of Notoro, nearest to the sky, the groups of *Bupleurum triradiatum* Adams grew in the rocks, a similar species to circumpolar *B. ranunculoides* L. *Bupleurum ranunculoides* grows also in Czechoslovakia on the highest tops of the Carpathian mountains. The *Bupleurum triradiatum* was spread in an area of the Okhotsk Sea. Its most southerly location is on the top of mountains on Hokkaido.

And now I should like to mention some of the plants which I found on the 19th of September 1968 on Shikotan for the first time. They were two species now in Kurile islands, sea starwort—*Aster tripolium* L., and shrubby bamboo—*Sasa spiculosa* (F. Schm.) Makino. One species of sedge—*Carex capillaris* L.—is known only in North Kurile islands, but unknown from South Kuriles. (Voroshilov, 1966).

About the other rock plants which I met at our botanical expedition on the various places of Shikotan island I shall write in my following articles. And now it is time to return back to the top of Notoro, where the other members of our group are awaiting. The weather did not improve at all. It rained and it was so foggy, so that I could not orientate. When the wind dispersed the heavy black clouds for a while I saw that I had lost the way. It was an unpleasant surprise for me. I was on some quite unknown place. Below me were the alpine meadows, the ravines full of wild bushes, and not far off roared the Pacific Ocean. I had to go back to the top of Notoro. And this story repeated several times : heavy clouds, dense fog, no visibility, straying on the meadow hillsides, wild deep ravines, with the murmur of the ocean, my hope lost and a new belief again. At last ! By a passing brightening of the sun I found the vestiges of my work : the pits caused by my digging of *Potentilla dickinsii*. And from this place I saw a known hill I had ascended. And so with little delay I reached my friends, waiting for me. It was six o'clock in the afternoon. Our

journey in the daytime took more than six hours. Shall we be able—wet to the skin on such a wet muddy path—to achieve Malokurilsk before midnight? But it was no time for thinking over. We have therefore quickly adapted our rucksacks—being lighter of our luncheons and heavier of the plastic bags with the plants and with the seeds and started for our return journey. We speeded, we stumbled, we lighted with matches—as we had forgotten an electric torch. It was difficult. . .

Finally, at midnight—very tired, hungry and dirty—we reached Malokurilsk. And happy as we brought the rich beautiful prey of the plant elfs of the mountain Notoro, which does not give anybody its treasures cost-free. It is possible that just the pains, which must be paid as a heavy toll by every member of expedition in such a fantastic wild nature of nearly uninhabited country, is a spice of my work. And it is probable that just for this reason all the places I have visited and all the plants I have personally collected seem to me prettier and nicer than they indeed are. And, of course, much favoured and more fantastic than for the readers.

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An Expedition to Nepal

by LEONARD W. BEER

THE Himalayan mountain range is one of the most diverse areas as regards its flora, a flora which attracted such famous plant collectors as Farrer, Forrest, Wilson and Kingdon-Ward. They, however, were lucky in that they were able to travel in Western China, one of the richest areas in the world, botanically speaking. It is ironic that, in their day, China was open to travellers while Nepal was a forbidden land : now the reverse is the case and so it is to Nepal that I shall be going this year with a 5 man expedition from the University College of North Wales, Bangor.

Nepal, in the central Himalayas, presents a wide variety of floras. In the west there is a dry flora typical to that of Kashmir, to the south of the country we have the Terai which is a long strip of inaccessible jungle, and to the east the vegetation merges with the rich Chinese flora, while the north borders on Tibet with its high barren plateau.

The area which our expedition hopes to visit is N.E. Nepal. We intend to explore the upper reaches of the Arun and Tamur rivers. The northernmost valley in this region is the Barun Khola, where we will set up a base camp at 15,000 ft. The vegetation here extends up to the snow line at about 20,000 ft., the flowering plant which holds the record for growing at a high altitude, *Stellaria decumbens* var. *pulvinata*, was collected here on the slopes of Mackalu at 20,130 ft. Other high alpiners of this region are *Saxifraga engleriana*, *Androsace delavayi*, *Gentiana urnula* and *Leontopodium monocephalum*. From this site we later plan to cross a col at 19,000 ft. and visit two unbotanised valleys, the Iswa Khola and the Choyang Khola. These remote glacial valleys should abound in alpine plants ; the herds of yak which graze in the Barun Khola in the summer tend to reduce the lush vegetation there, and this is one reason why we intend to visit the Iswa Khola and the Choyang Khola as they are uninhabited and should contain a much more interesting flora.

By November, it will be too cold to work at 15,000 ft. and snow will be falling, so we intend to cross over to the other side of the Arun river and collect on the Lumbasumba Himal. Base camp will be set up around the village of Topke Gola at 12,000 ft. ; from here we will work until Christmas. Plants in this area have an affinity with those of neighbouring Sikkim, and many *Meconopsis* and *Primula* species will be found.

Although we are a horticultural rather than a botanical expedition, we intend to make a comprehensive collection of herbarium material for the British Museum. Our main aim is to bring back seed, and in some cases live plants, with the intention of introducing them to British gardens.

The main body of the expedition will leave for Nepal in September, although I intend to begin a solo reconnaissance of the area in June, and also to select and mark desirable plants of the species from which seed is required.

(*Editorial Note* : Mr. Beer has agreed to write an article in due course provided that the Expedition finds material of interest to our members.)

A Tyro in Wonderland

by W. H. IVEY

YOU KNOW what happens—you're perfectly happy, dodging along growing the odd packet of hardy annual, and a dahlia or two, and, in order on occasion to sport your gardening skills, you do a quick turn round the Ayr Flower Show to learn a few awe inspiring latin names—and then your wife comes with you.

Your annual quick nip round the show and into the bar is doomed.

Instead you find yourself looking at midget wonders on Jean Izatt's stand and your wife drooling over them.

That's it—you're hooked.

Club meetings follow next, then, "All I need is a little frame." And another—and another.

Your nice dilapidated old green house is next to go to make way for an Alpine house, and then you find yourself carrying back into your garden the tons and tons of boulders and rubble you've taken years to get rid of.

And then there are the Shows, the culmination of your year's work, and I mean work, the time to meet friends and discuss plants and awards, and judges. At least your wife does—you've just got time to gather your energy together, dissipated in hauling the potted darlings to the Show, to haul them home again.

But there is a silver lining. Part of the ritual of alpine gardening is to visit the natural haunts of these plants, and, if you are a real zealot, excavate and transport in a healthy condition, a few choice specimens.

And so we decided to try.

For all other tyros who decide to take the plunge and go by car, here are some tips you may take, and pitfalls to avoid, which we discovered on our first journey to the Dolomites.

First of all, let us thank all our friends who helped us, and especially our Border friends who gave us so much experience, and told us of "digs" on the Dolomite Road which were a delight.

Let's start with the journey. Five star car insurance is a must. When, only fifty miles from home with 1500 miles to go, you discover, on the remotest part of the A74, that you are trailing your dynamo behind you by its terminals, then imagine your helplessness in a similar

position on the continent with only basic “pidgin” as your means of communication.

We describe it later.

Anyway, either join the AA or carry a spare engine.

Your Channel car ferry ticket insists you be in position for boarding an hour before sailing time. You certainly won't miss the ferry, in fact you'll be first on, and by the time you disembark at the other side, the last to embark will have reached his destination.

Now, you face driving on the right of the road for the first time. There really is nothing to it, you take to it very quickly, and within a very short time you have all your confidence returned. Then you discover that, so long as you are not on a main road, all traffic turning on to the road from the right has priority, so unless you forsake the slow right lane for the fast left, you'll spend your fortnight trying to overtake an unending series of hay wagons.

And a cautionary note. Don't worry too much about those two vertical, alternately flashing amber road signs, for if you do, you miss the traffic lights which follow closely in their wake, and then you are in trouble.

Three days from leaving home, we reached our destination, a dream of a house right beside the Dolomite Road as it rose through the Val Gardena, with the Adige Valley below us to the West and the Dolomite Peaks in full view from our bedroom window. There was only one irritation in this pastoral bliss, one small worm chewing away the perfect carving. About one thousand lorries, buses and cars per hour ground up that hill from the crack of dawn till long after the velvet Italian dusk drew each perfect day to a close.

Just as I mustn't make this a description of another Dolomite Plant Hunt, neither must I make it an anthology of groans. We—my wife, my eleven-year-old son and myself—had a most marvellous holiday. Even the minor disappointments I write about helped in no small way to make it such a holiday.

For months before we left home, we had inflicted ourselves on our friends who owned copies of Scottish Rock Garden Club and Alpine Garden Society Journals, devouring these for information on the best areas to visit to see these lovely plants. We learned of their experiences, we arrived with our eyes open, we were prepared. The time was the 25th June to the 12th July.

The Siusi Alp was a top priority must. Every article said so.

We arrived on the slope via the cable car, early in the morning,

after an overnight snowfall. The change from glittering snow-covered slopes to hot summer scented fields framed by cliffs of Langkoffel and Sciliar was breathtaking and utterly satisfying.

But hardly one plant did we see. A few small semps., the very occasional *Primula viscosa*, *Campanula barbata*, and tons of unflowered, or deflowered, *Rhododendron ferrugineum*, and that was it.

I would suggest the area be approached by road from Castelrotto or Siusi, where, a little farther from the madding crowd, your day on the unforgettable, beautiful Siusi may just be perfected.

Another good friend, and despite this paragraph, I trust we remain good friends, told us to go to Selva, and if we walked a little way up the lane opposite the hotel Oswaldo we would find *Primula balbesii* by the wayside.

We found the Hotel Oswaldo. We were lucky. It has been closed for years, and looked it, and has probably fallen to the demolishers by now. Opposite the Hotel is a thriving, bustling town which successfully defied our several attempts to find the long gone lane. Behind the town, the entrance to the Val Lunga has been turned into a large well guarded training area for the Italian Carabinieri.

But don't despair—there is a way past this camp with its snarling, drooling guard dogs, and it is worth finding.

The Val Lunga is a gem, but not where the car park is. Keep walking to the head of the Val and the beauty is rewarding.

There are plants, *Saxifraga caesia* and others, pyrola, globularia, pinguicula. *Crepis aurea*, rhododendron and daphnes.

But we didn't see *Phyteuma comosum* (fig. 78) nor *Rhodothamnus chamaecistus* claimed in earlier books.

We are convinced now, from the many hikers coming, one way down the Val, laden with pulled primula, that the only way to enjoy the splendours of these areas is to forget your car, your bus or your old age and walk as far as possible into the hills and use the overnight Alpine Huts to the full.

You'll have guessed by now the trend of this article. The experience that our younger members go by, though written in truthfulness and good faith, was written in a former era. They are still first class to read, but not to follow literally to these former happy hunting grounds. We therefore, reluctantly, threw aside those hard won notes, we put away the journals we had carried with us, and with only Barneby's guide to keep us company, we went our own way.

Below the Gardena Pass, on the south side, we climbed to just

below the final scree on the Mesiles, and passing soldanellas, daphnes, gentians and many seeding pulsatillas, we came upon an area thick with yellow *Primula auricula*, the best we were to see.

On the South side of the Pordoi Pass, close to the Col de Cuc, we found the greatest number of *Ranunculus seguirii* and great masses of hutchinsia, *Dryas octopetala*, and *Thlaspi rotundifolia*. If we had only known we were so near the Padon Ridge at this point perhaps we might have seen the lovely *Ranunculus glacialis* and *Eritrichium nanum*.

Our own personal triumph was in the evening of a lovely day returning through the Falzarego Pass, our young son found a rocky limestone area covered with *Rhodothamnus chamaecistus*.

If we had had more time the areas we would have loved to reach are the Passo Fedaia, the upper Val de Vajolet, the Upper Val Chedul and the Durontal.

Maybe we would have seen one of them if we hadn't burned up our brake linings while returning down the Pordoi Pass.

Now here I give you another tip. Learn to say the number of your car in the language of the country you visit. I lost pounds in sweat, while on the phone, trying to say HUS 272 D in Italian.

Well, it's all past now, and despite the strains of autobahn travel, and hunting for digs in a German thunderstorm, we loved it all, and this year we head for the Vorarlberg. Now what the devil is the Austrian for HUS 272 D ?

Botany for the Alpine Gardener - Part IV

Primulaceae

by Dr. MAVIS R. PATON

THE PRIMULACEAE is an important family for the alpine gardener. Most of its members are true mountain plants and have outstandingly beautiful flowers. The genera include Androsace ; Soldanella ; Omphalogramma ; Cyclamen ; Dodecatheon ; Dionysia ; Douglasia and Anagallis (pimperel).

The native primrose (*Primula vulgaris*) will serve well to illustrate the characteristic parts of the flower in this family.

PRIMULA VULGARIS in section

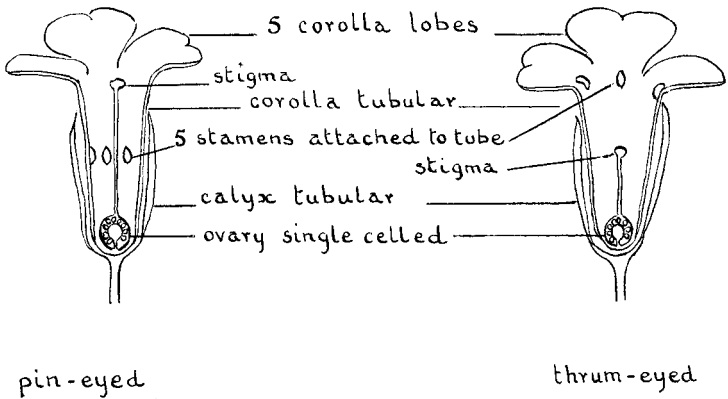


Fig. 79

Note that the stamens and stigma can be in different positions in the flowers of individual plants : in one kind of flower the stigma is hidden inside the corolla tube and only the stamens are visible at the mouth of the flower (termed thrum-eyed) ; in the other, the stigma is visible and the stamens situated at the base of the corolla tube (termed pin-eyed). This arrangement is an aid to cross fertilization by insects which carry the pollen from flower to flower.

There are usually five lobes to the corolla and calyx : in Cyclamen and Dodecatheon the petals are strongly reflexed. The five stamens are positioned opposite the centre of each petal lobe, not between, which is exceptional in systematic Botany. The only other family showing this character which one might come across in Alpine gardening is Berberidaceae.

The ovary in Primulaceae is also exceptional in flowers having a tubular corolla. The seeds are developed in a single celled capsule with no compartments and grow on a rounded cushion enclosed by a capsule cover ; the whole being anchored at the base only. The capsule splits open to release the seed in varying ways in the different genera : in Primula and Soldanella by small terminal teeth ; in Cyclamen by five valves, and in Anagallis by a lid lifting off the top of the capsule.

The leaves are generally basal (radical) and rounded to strap-like in shape. They may be smooth or deeply veined and sometimes hairy.

The genus *Primula* is the largest in the family, containing about 250 species : these are divided into 33 sections. Many beautiful species have been introduced from South West Asia and Japan where the family is richly represented. There are by comparison only a very few species in the United States of America.

Primula plants have a very distinctive smell, as every one knows who has handled the leaves and roots. Another feature in many is the presence of white farina on stems, leaves or all parts of the plant above ground.

Variations in Shapes of Inflorescence

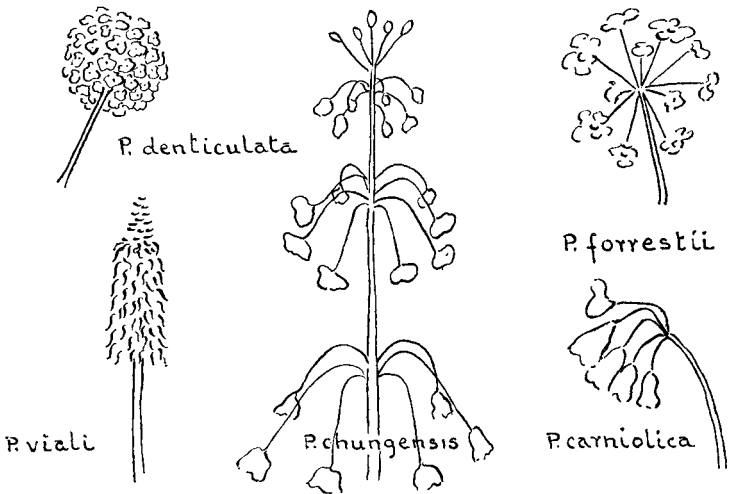


Fig. 80

The flowers are sometimes borne singly on a stem but more usually there are several. In the section *Candelabra*, the flowers grow in successive whorls up a long stalk ; in the section *Denticulata* and *Muscarioides* they are in a dense terminal head. In the section *Petiolares* the flower rudiments are formed long before the Winter and then lie dormant in a large basal resting bud until the Spring arrives.

The small genus *Omphalogramma*, confined to a very small area in South West Asia, is split off from *Primula* because of the irregular shape of the corolla and in having *six* petal lobes instead of five. The flower is always single on the stem.

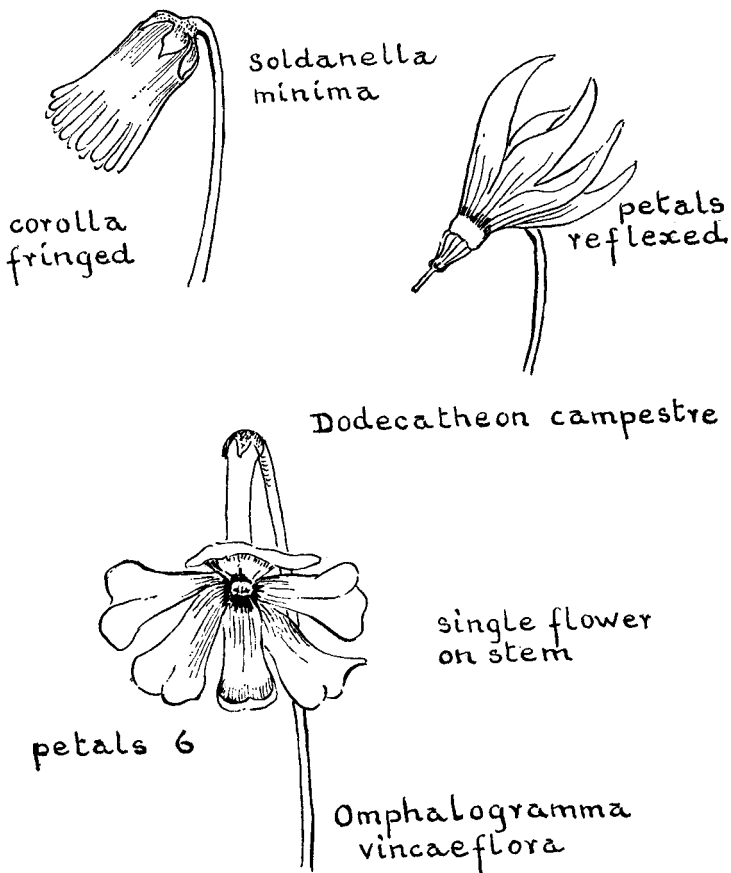
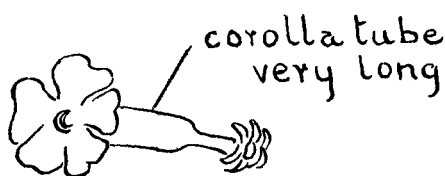


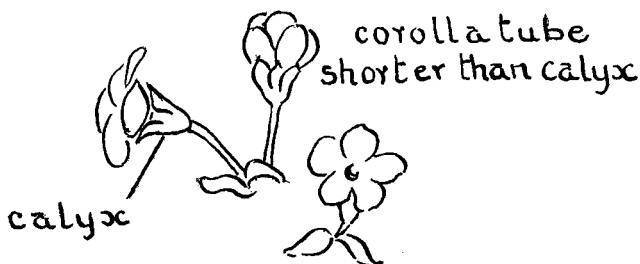
Fig. 81

In the United States of America the genus *Dodecatheon* takes the place of *Primula*. The species are very much alike with reflexed petals and protruding stigma and stamens.

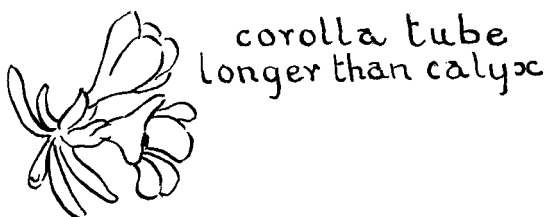
The genus *Androsace* contains many true mountain plants. Botanically the flower differs from *Primula* by the *very short* corolla tube. The plants form tight cushions or loose hairy rosettes which reproduce themselves by runners as do strawberries.



Dionysia sp.



Androsace matildae



Douglasia laevigata

Fig. 82

Dionysia has some of the features of Primula and some of Androsace. The genus is almost exclusively confined to Persia and at very high altitudes, climatic conditions tending to make the species very difficult in cultivation. The leaves and roots have a distinctive smell resembling Primula. The flowers look rather like Androsace but differ in having a *very long* corolla tube and few seeds in the ovary. In habit the cushion species also resemble Androsace but there are other species which are shrubby.

There is a small North American genus, Douglasia, named after David Douglas who collected widely there during the last century. It is very close to Androsace but the corolla tube *projects beyond* the calyx and there are also scales in the base of the tube. The only species found in the Old World is *D. vitaliana*.

Soldanella is another genus of true alpiners flowering as soon as the snow retreats in Spring. The genus is distinguished by the *fringed* corolla lobes and the species are confined to the European Alps.

The last genus of importance to rock gardeners is Cyclamen. All the species develop a food store in the shape of a corm, enabling them to survive periods of drought in a dormant state, which is very necessary in the Mediterranean climate in which they live. The seed capsules of all the species (except *C. persicum*) demonstrate a remarkable method whereby they are protected from adverse weather or mechanical damage. As the capsules ripen, the stems bearing them coil up in a spiral and thus pull the seeds down to ground level.

GIFT OF MEMBERSHIP

MEMBERS are reminded of the "Gift of Membership" scheme introduced by a notice in the Spring 1970 *Journal*, which is repeated herewith.

You must have some friend whom you are sure would enjoy being a member of the Scottish Rock Garden Club. Why not give him or her a gift of membership on some suitable anniversary?

All you have to do is to send the name and address of your friend and the appropriate membership fee, mentioning the type of Anniversary or Celebration, to: Mr. R. H. D. Orr, C.A., 30 Alva Street, Edinburgh 2, who will send your friend a new Member's Card, with a Greeting Card, quoting your name.

The scheme is suitable for many occasions and is particularly appropriate as a Christmas gift from a member to a favourite friend.

The Maritime Alps

by C. GRAHAM

SINCE WE had our first Alpine holiday in 1956 we have been in the fortunate position to plan according to the district to be visited and the possibility of reasonable weather for photography of the flora. We preferred taking the car though this meant, on average, one week's driving out of our precious fortnight ; with this method of travel one can book a week at a high mountain centre and search for flowers on foot, or use the car up some of the military roads where chair-lifts are not available. En route one can usually find a small attractive hotel, call on the local 'boulangier' and come out with those long loaves under the arm which would be an embarrassment in, say, Princes Street, Edinburgh ; buy in the local market, fresh fruit and 'fromage de région'. It is better to keep the cheese out of the sun as this writer found when driving up to Lauteret. However, whether one is travelling to Switzerland, the Dolomites or the French or Italian Alps, there is always a lot of mileage to cover on fast roads through France and as one gets older, this becomes rather a strain. In 1963 we took the car by Wagons-Lits by night sleeper, Boulogne-Lyon, which next morning gave us an easy day to Col du Lauteret and ultimately on to Mt. Cenis. In 1964 we decided, for our Maritime holiday, again to take the car by train to Lyon and return by night sleeper from Avignon to Boulogne, our main stay being at the Hotel Terminus, St. Dalmas-de-Tende in the upper valley of the Roya. One can travel there much quicker by air to Nice, then, I believe, by bus to St. Dalmas. A taxi is necessary to get up the military roads to the high alpins and the charming ladies who recommended this venue to me, and used this method of transport, found that the driver, seeing their interest in flowers, stopped the taxi on frequent occasions so that they might gather all blooms in sight, much to their embarrassment.

On the 22nd of May we drove from Lyon to Grenoble and took the N 85, Route-Napoleon to Gap, stopping to take a photograph of the statue of the famous soldier at Laffrey and *Saponaria ocymoides* in quantity at La Salette. This is a very pleasant run on a good road with mountain views and much cultivation. From Gap we took the N 94, the road which goes northwards to Embrun and Briançon, for a little way, crossed the R. Durance and along the N 100, L'Ubaye,

climbing through wild country, impressive in the evening light and deteriorating weather, to Barcelonnette, where we stayed the night. Previous writers have given vivid descriptions of the richness of the flora on and around the Cols of this military town, 3,500 ft., and these we can well believe, but over the Col de Larche everything was snow-covered with tantalising glimpses of Soldanelles, *Gentiana verna* and *Primula farinosa*. The small lake at Maddalena, just over the Italian frontier, was frozen over and this area must be rich in Alpines, but a little down the Stura valley we had our first sight of *Primula marginata* festooned on the rock faces, often inaccessible, but also growing on the summits in fine schist, almost a pasture plant, leggy in the crevices, short on the tops of the rocks, vivid in colour in the pouring rain. Also *Orchis sambucina*, strong plants in both colour forms, yellow and reddish, which we have always seen in quantity in the high pastures ; a common but beautiful orchid.

Descending the Stura valley we turned right at Pianche and ascended a well-wooded valley to Besmorello above Bagni di Vinadio, 4,265 ft., where we hoped to explore the northern slopes of the Maritime range. Persistent rain and cloud-covered summits limited our stay to two nights and we spent one day driving down to Cuneo. Just below Vinadio we found on the roadside *Orchis ustulata*, *Ophrys fuciflora*, *Anacamptis pyramidalis*, Broomrape, *Helianthemum alpestre*, several plants of each in a patch of 12 ft. in length. We were not looking for flowers ; this was just a lunch break and we took several photographs.

Southwards from Cuneo the road through Limone leads to the tunnel under the Col de Tende, Customs, and on the French side we were in brilliant sunshine, the first since leaving Gap. This is the area for *Saxifraga lingulata bellardii* (old name) and we found one plant on the cliffs with a very fine inflorescence, more rounded flowers like 'Tumbling Waters' ; we prefer *S. l. bellardii* to *S. l. lantoscana* in the Vésubie district, to which we shall refer later.

Tende, a 'perched' town, has good shopping facilities, but St. Dalmas-de-Tende, though lower in altitude, 2,300 ft., is a better centre for exploring the side valleys of the Upper Roya. Our first trip was up the hairpin bends of the Vallée de la Minière, a good surface to the Hydro-electric dam Les Mesces, thereafter, the sign 'Route jeepable', so we 'jeeped' the Riley in first and second gear to the crossroads about a mile beyond the dam, past meadows full of high pasture flowers. The left turn at the crossroads leads to Mt. Bego, famous for the prehistoric rock carvings, but we had progressed only a few hundred

yards to find the road completely blocked with snow. Reverse, hack out a space with ice axes, forward a few inches, back, eventually face the way we came, four hefty chock stones, one for each wheel, brew-up and up to heights for four hours, and well worth it. *Tulipa australis*, a saxatile plant, white *Viola calcarata*, *Primula hirsuta*, *P. marginata*, *P. viscosa*, hybrids of the latter, one with stem 1 inch thick and 15 ins. long, the finest primulas always on the shady side of the mountain ; on to thickets of *Rhododendron ferrugineum* and *Primula elatior* var. *intricata*. We visited this valley again and a full day should be allowed.

The cliffs above Tende in the Roya Valley, on a limited stroll, seemed full of various plants—Sempervivums in variety, *Asplenium septentrionale* and *A. fontanum*, the latter dainty but we have not found it hardy, and the ubiquitous *Saxifraga l. bellardii*. We did not see *Primula allionii*. On the left of the commencement of the main road zigzags to the French Customs, a small military road with a rough surface leads to one of Mussolini's small deserted forts. The writer then walked up to the summit of the Col de Tende, above the tunnel, seeing *Aster alpinus*, *Arnica alpina* and *Orchis sambucina* in masses. The large fort on the summit, which is visible from the road, devastated by air bombardment by the Allies in the last War, contrasted strangely with the mass of *Gentiana verna* in the short turf with the snows of Mt. Clapier as a backcloth. *Primula marginata* on the south facing crags were stunted and obviously suffer from drought.

In the Roya gorge cliffs below St. Dalmas we saw fine plants of *Saxifraga cochlearis*, but the best display of this plant was on the cliffs just before the fish farm in the Cairos valley south of Fontan, D 40. The writer is interested in fish breeding and, honour being satisfied by the Alsatian bitch taking a piece out of his calf, the Belgian owner, who had not spoken to an Englishman for three years, was delighted to show us round. The notice 'Attention vipère' was confirmed when we saw a large one shoot across the road above La Brigue, whilst driving ; obviously their road sense is already highly developed.

Travelling homewards, with regret, towards Sospel, fine *Orchis militaris* and *Spartium junceum*, and dropping into the olive country the flora completely changes. At the side of the road dwarf pink sweet peas, Valerian, and in the terrace walls the large form of *Ceterach officinarum*. From Sospel N 566 to Col de Turini, cliffs, north facing, filled with *Saxifraga l. lantoscana* and, after passing through the forest of Turini and descending the N 565 to the Vésubie gorge, this Saxifrage was again growing profusely, always on the rock faces. We grow

The Scottish Rock Garden Club

Boonslie,
DIRLETON, North Berwick,
East Lothian.
21 August 1971.

DEAR SIR/MADAM,

The ANNUAL GENERAL MEETING will be held in Hutcheson's Hospital, No. 2 John Street, Glasgow, C.1, on **Thursday 4th November 1971, at 2 o'clock**. Hutcheson's Hospital is to the South-east of the City Chambers. John Street is one street to the East of George Square, and Hutcheson's Hospital is at the intersection with Ingram Street, which is one street to the South of George Square.

In accordance with Rule 4 (a) the President retires annually. Having held office as President for one year only, David Livingstone, Esq., is eligible for re-election and has been nominated.

In accordance with Rule 4 (b) J. L. Mowat, Esq., as the immediate Past-President, automatically serves on the Council as a Vice-President. Three Vice-Presidents to serve on the Council are to be elected annually from the list of Vice-Presidents. The following have been nominated :

Dr. James Davidson, F.R.C.P.

David Elder, Esq.

Major-General D. M. Murray-Lyon, D.S.O., M.C.

In accordance with Rule 4 (a) all Executive Office Bearers retire annually but are eligible for re-election. The following have been nominated :

Secretary Mrs. L. C. Boyd-Harvey

Treasurer John Hall, Esq.

Subscription Secretary R. H. D. Orr, Esq., C.A.

Editor P. J. W. Kilpatrick, Esq.

Publicity Manager W. H. Ivey, Esq.

Publications Manager J. B. Duff, Esq.

Seed Exchange Manager Dr. Lucy Dean

Curator of Slide Library Mrs. C. E. Davidson

In accordance with Rule 5, five Ordinary Members to serve on the Council for three years are to be elected. The following have been nominated :

Dr. Peter Harper

Dr. D. M. Stead

Angus Small, Esq.

James T. Aitken, Esq.

Tea and biscuits (price 10p) will be served at 3.15 p.m.

The CLARK MEMORIAL LECTURE will be given by Dr. W. T. Stearn, of the Department of Botany, British Museum (Natural History). His subject will be "The Introduction of Plants into the Gardens of Western Europe" (from 4 o'clock until 5.15 p.m.).

Yours faithfully,

L. CHRISTIANA BOYD-HARVEY,
Honorary Secretary.

AGENDA

1. Minutes of the Annual General Meeting held in Edinburgh on Thursday, 5th November 1970.
2. Consider for adoption the Accounts for the year ending 30th September 1971.
3. Election of Jack Drake, Esq., as an Honorary Member in recognition of his material contribution to rock gardening.
4. Election of President.
5. Election of three Vice-Presidents to serve on the Council.
6. Election of Executive Office Bearers.
7. Election of five Ordinary Members to serve on the Council.
8. Appointment of Auditor.
9. Annual General Meeting 1972.
10. Intimation of Show dates 1972.
11. Intimation of dates and places of the R.H.S. Joint Rock-Garden Plant Committee Meetings in Scotland in 1972.
12. Consider and, if thought fit, adopt a resolution to alter the existing Constitution and Rules. The resolution will be :—
 Carried. “That in Rule 3 (c) and in Rule 3 (d) the words ‘fifty pence’ be substituted for the words ‘ten shillings.’
 That in Rule 4 (a) the words ‘Seed Exchange Manager’ be substituted for the words ‘Seed Distribution Manager.’ ”

(Note that these alterations do not affect the principles of the Constitution and Rules, but merely describe the subscription for Family membership and for Junior membership in terms of decimal currency. The second alteration is to give effect to the new title which the Council agreed for the Office.)

the three varieties mentioned in this article, together with *Saxifraga longifolia* and the hybrids, always in vertical situations, and we find them absolutely hardy and good value. In the Vésubie gorge we photographed *Potentilla saxifraga* on a cliff face, a rare plant mentioned by Reginald Farrer who knew the district well. Maidenhair ferns grew in profusion in damp spots by the side of the road. We travelled from St. Dalmas to St. André-les-Alps in the Verdon valley, by the route just stated, in the day, and we had the usual thunderstorms.

2nd June. Glorious weather and only two days left. Northwards from St. André-les-Alps the N 555 joins the N 208 for Col d'Allos, 7,382 ft., and Barcelonnette. However, we drove leisurely southwards past the Barrage de Castillon, *Cytisus* in quantity, and photographed a large colony of *Ononis fruticosa*, a pink-flowered and attractive shrub up to three feet, and which is listed by Messrs. Hillier. It was growing in wet, heavy limey clay. With difficulty we collected a very small plant which has survived 8° F., flowered and is 15 ins. high in 1970, but looks emaciated because it has been crowded out by other shrubs. It requires full sun. Following the N 555 down the R. Verdon to Castellane with the elevated Chapelle Nôtre Dame du Roc, down the same road to reach the south road, D 71 of the Grand Canyon du Verdon, over 13 miles long. This magnificent gorge varies in depth, from the edge of the plateau, from 800 to 2,500 ft., and we had not much time to look for plants. On the approach we did see numerous orchids, dwarf linums and *Aphyllanthes monspeliensis*; we are trying the latter in a south facing scree. Stopping at the various belvederes overlooking the Grand Canyon meant that we had the usual evening rush through Moustiers-Ste.-Marie, famous for its pottery and Crusader's iron chain, 230 yards long across the cliffs, to find accommodation at La Fuste, east side of the Durance on the outskirts of Manosque; a 17th century mansion converted into a quiet hotel with plane trees probably the same age as the mansion. A quick shopping in Manosque, over the tops to join the N 100, with a photograph of our old friend, *Catananche caerulea*, on to Avignon, arriving in a violent thunderstorm which would not allow us to photograph the famous Pont or should it be Half Pont.

The Michelin Guides, French Alps and Côte d'Azur are indispensable, their Maps 77, 81 and 84 adequate for road travel in France, and Carta Turistica della provincia di Cuneo for the Italian side of the Maritimes, obtainable from Cuneo Department of Tourism.

Seamill

Discussion Weekend Show

THE SHOW will be held at the Seamill Hydro during the Saturday afternoon (30th October) of the Discussion Weekend.

SHOW SCHEDULE

- Section 1. Open to Forrest Medal winners.
- Section 2. Open to Bronze Medal winners, but excluding Forrest Medal winners.
- Section 3. Open to all others.

EACH SECTION WILL HAVE TWO CLASSES

- Class 1. 1 Pan rock plant in flower or fruit.
- Class 2. 1 Pan rock plant for foliage effect.

Each of the six classes will be awarded a First Prize and a Runner-up Prize.

The William Buchanan Medal will be awarded to the plant judged best in the Show.

Presentation of prizes on Saturday evening.

SO BRING YOUR PLANTS ALONG AND MAKE THIS A GREAT SHOW

Exhibitors please try to have their plants staged by noon on Saturday

CLUB LAPEL BADGE

Lapel badges are available for members of the Club. The badges, substantially made representations of the Club Emblem, *Dryas octopetala*, will be of much assistance in the recognition of fellow members. Priced 15p each, they should be obtained from Group Conveners, failing that from the Treasurer at 20p post paid. They may also be bought at any Club Show.

Bankers Orders

IT WILL be of great help to the Club if members will complete Bankers Orders for the payment of their subscriptions.

With increased postal charges the expense to the Club of sending out reminders to members is considerable. It adds appreciably to the work of the Honorary Subscription Secretary when subscriptions are paid as and when they are due by individual cheques or postal orders.

The subscription to the Scottish Rock Garden Club is one of the smallest to an Horticultural Society. The Council do not wish to raise the subscription to members. Payment of subscriptions by Bankers Orders will help substantially to delay any increase in subscription. Combined with an increasing number of members, this will enable the subscription at the very low figure of £1.00 to remain constant.

A form for making application to pay by Bankers Order is enclosed with this *Journal*, and it is hoped that the majority of members who do not pay in this way at present will make use of it and send it to the Honorary Subscription Secretary, R. H. D. Orr, Esq., C.A., Whittinghame, Haddington, E. Lothian. It should *not* be sent to your bank direct.

There is an additional advantage in the use of Bankers Orders. When a member moves house and does not notify the Honorary Subscription Secretary his *Journal* is returned to the Honorary Subscription Secretary. If he has the address of the member's bank, the new address can be discovered and the *Journal* can be forwarded to the new address.

OFFPRINTS

CONTRIBUTORS of articles to the *Journal* (as opposed to short notes, as for instance Plant Notes) are entitled to ask for offprints of their articles, provided that the request is made at latest at the time of returning the proof to the editor. Twenty offprints will be supplied free of charge, but if more are required a charge will be made to cover the cost.

Contributors from overseas will normally be given 20 offprints unless the author states that these are not required.

Reginald Farrer

The Father of the Rock Garden

by JAMES T. AITKEN

“It is NOT too much to assert that but for Farrer’s work the Alpine Garden Society would not have been born”, wrote Mr. F. H. Fisher, ex-President of that Society. And the Alpine Garden Society have honoured Farrer by naming after him the Farrer Medal, awarded to the best plant exhibited at each of their Shows. The Society’s publications reveal him held in almost messianic esteem. Respect borders on worship. Indeed, Farrer alone in gardening circles enjoys a sort of cult.

What manner of man was he ?

He was an upper middle class gentleman of the Edwardian era, born in 1880 at Clapham, Yorkshire, the eldest son of James Farrer, a landowner of Ingleborough in the Craven district of West Yorkshire.

Because he was a frail child he was educated at home until he went to Oxford. At this time his mother appears as the dominating personality in his life and he seems throughout his life to have remained very close to her. In these childhood days at home he conceived his love of mountain plants and of rock gardening.

By age 14 he had contributed an article on an indigenous alpine plant—*Arenaria gothica*—to the *Journal of Botany*. As a boy he laid out his first rock garden in his father’s land. While an undergraduate at Oxford he laid out a rock garden in the College grounds which thirty years later was reported still to be in good condition.

All his life he was a prolific writer on a great variety of topics. His first publication was a play he wrote as an undergraduate. During the subsequent twenty years till his death he was to write five novels, two plays, five travel books and five gardening books, as well as a great outpouring of articles on diverse subjects in magazines. Articles on travel, geography and literature were accepted by the best of the contemporary learned periodicals. He wrote a play in blank verse. His contemporaries knew him best as a novelist. He was a regular contributor to *Gardeners’ Chronicle* and to the *Journal of the Royal*

Horticultural Society.

The great range of his talents embraced painting in water colours, of which the Royal Horticultural Society possess a number presented by the family after his death. His pictures were mainly of flowers or mountain scenes he visited. They were intended for personal record and enjoyment and generally for family possession only. But they were sufficiently well thought of by his contemporaries for some to be exhibited at a London gallery. The paintings are pleasant and well executed, of good draughtsmanship and true colour—not great art but displaying real artistic ability.

His early manhood was spent in a period of intense political controversy in which he was active. The family appear to have had a radical tradition, contrary to what might have been expected of them as lesser landowners. In the aftermath of the Boer War and the period of the 1906 Liberal Government's social revolution Farrer was an active Liberal. He was a Justice of the Peace and a Yorkshire County Councillor. In 1911 he contested the Ashford Division of Kent as the Liberal candidate. His interest in politics tends to be played down, however. The favourite anecdote is that his father gave him £1,000 for his election expenses—this was the age when Parliamentary candidates were expected to support the expenses of their constituency party. He is said to have spent much of this parental donation not on politics but on orchids. He was numbered among the young men gathered round Prime Minister Asquith and he was intimate with Liberal Ministers. When he was planning a collecting expedition he had the advantage of knowing personally the Minister within whose Department Kew was administered, so as to influence the support of Kew for his expedition.

He visited Ceylon soon after leaving University and returned as a convert to Bhuddism.

In the note concerning him in 'Who's Who'—written of course by himself—he lists among his hobbies 'talking without music' and 'indulging in drama'. A contemporary of his writes that he was 'prone to unpardonable exaggeration'. He was theatrical in behaviour, moody and short-tempered. He was a splendid lecturer. A regular companion on his trips to the Alps comments on how entertaining his company was and how by his forethought and trouble he could crown an exhilarating day on the mountains. But his friends had to be tolerant of his eccentricities.

He had an intense love of hills and particularly of their flowers.

Year after year he went to the Alps, generally accompanied by professional gardening friends. In his native village he established an alpine plant nursery. In these days rock plants were either indigenous plants or plants from the European mountains.

But there was a keen awareness among those interested in gardens and plants of the treasure available to be collected in the mountains of south-east Asia. Farrer being by this time well acquainted with the Alps decided personally to participate in the exploration of this great new flora.

His first expedition was in 1914 to Khansu in western China with William Purdom, a professional gardener who had previously explored in China for plants and who agreed to go with Farrer on the basis of being reimbursed his expenses. Purdom ultimately made his career in China and became Inspector of the Government Forestry Service.

At this time the pattern was for such plant expeditions to be supported by sponsors. Typical was George Forrest, who was employed first by Bulley of Bees Seeds and later by a consortium of private gentlemen. Such as Forrest were professional collectors with the mission of carrying out the thorough botanical exploration of a district. They collected specimens and seeds so far as practical of all plants encountered. Generally their interest in exploration carried over to other matters. Forrest, for example, collected birds also.

Farrer was different. He did not intend to accept financial support from private gardeners or from nursery or seed growers. He hoped, however, for assistance from public Botanic Gardens whose Keepers were loath to grant it. Farrer applied for a grant of £2,000 towards the expenses of his expedition to Khansu. Official reaction was that Farrer was scientifically unskilled to merit such a grant. The Botanic Gardens of Kew and Edinburgh were apprehensive of him because they suspected Farrer of quoting the one to the other as a supporter without authority. However, Farrer had the trump card. He was on terms of Christian names with the Minister and got his subsidy !

Khansu proved a mistaken place to go to. The harvest was meagre, not least because Farrer collected only what interested him personally for possible garden use in Britain. He had no scientific interest in botany and made no pretence of carrying out a botanical exploration. In any case the area had already been botanised to a great extent and additionally was not botanically rich. The fact that War broke out before any specimens or seed could be sent home robbed his expedition of any real chance of success. But this excuse cannot cloud the fact

that little of value was collected. The most useful shrub was almost certainly *Viburnum fragrans*, now happily called *Viburnum farreri*, an excellent hardy water-flowering shrub of limited size which merits being given the chance to adorn any garden.

However, it is from Khansu that the best known plant associated with him comes—*Gentiana farreri*. He did not know he had collected it. Among a collection of *Gentiana hexaphylla* he had noted one of a darker ovary. This was later raised and flowered in the Royal Botanic Garden, Edinburgh, from where the Keeper, Sir Isaac Bayley Balfour, wrote to him that the plant was different from *Gentiana hexaphylla* and was ‘worshipped by all the visitors’. This is a beautiful plant described by Farrer as of ‘an indescribably fierce luminous Cambridge blue’. It has the great merit of being lime tolerant, which as a rule the Asiatic gentians are not. It has proved useful in hybridising. Unfortunately the stock has deteriorated and the green metallic luminous element in the flower colour, well remembered by those who first saw it, is no longer present.

Like his earlier travels, Farrer wrote of the journey in two books, one in two volumes. Although in his day it was his novels and travel books which were most esteemed, these are not now of consequence. His style is tiring to read. He was extremely discursive and uneconomical of words. He was repetitive. He had a great command of words to the extent indeed that the reader comes to reel under the sheer impact of the purple passages. To an age which requires simplicity and terseness of expression his writing is very alien.

Yet it is by his writing that he has his claim to fame.

This stems from his books on Rock Gardening and particularly his monumental *The English Rock Garden*, in two volumes, published in 1919 and since eight times reprinted. It is an alphabetical directory to the cultivation of rock plants, amazingly comprehensive still, with an Introduction on the general cultivation of rock plants and the construction of the rock garden. Anyone keen on rock gardening sooner or later will draw his purse and buy a copy. (*The Present Day Rock Garden* by Dr. Sampson Clay (published in 1937) is a supplement to *The English Rock Garden* and the two together omit few plants of significance).

But *The English Rock Garden* and two earlier works on rock gardening represented much more than an addition to the corpus of knowledge of rock gardening. Farrer altered the whole conception and philosophy. He carried the rock garden into the British idea of

the 'natural' garden.

Farrer's virulent criticisms of the rockery as he found it have become classical. He ridiculed the 'devil's lapfuls'; he scorned 'the dog's graveyards'; he warned against the 'almond pudding system'; he censured the 'plum buns'. He cautioned against being clobbered with 'humpety-dumpeties' of stones.

He enunciated the great principles that have never been re-stated better. Interstices have to be filled; stones have to be set firm and solid; discipline against the use of too much stone. He encouraged his novice that, good or bad, let the garden be always its owners. Really, so he almost said in so many words, you are more likely to satisfy yourself in your rock garden construction than is any garden contractor. And there never has been better advice on gardening construction than that.

The great truth which he preached was that the model upon which the rock garden must be fashioned was nature. Place the stone as it would be found in nature. Make the contours natural. Achieve the harmony of shape, of constructional material, of plants as would be found in nature. However the effect is achieved—by engineering the position of stones, or by making rises or hollows in the ground, or by planting prostrate or erect plants—if the rules of nature are broken, there is no art or satisfaction.

This doctrine was by no means original in garden design. The great practitioners of English landscape design—men like Capability Brown—were essentially 'natural' gardeners. They aimed indeed to improve nature but never to run counter. This English tradition was different from other concepts of gardening, particularly from the formal style popular in most of continental Europe.

The nineteenth century had seen an erosion of the 'natural' gardening tradition. There was a greater formalisation. This partly stemmed from the influence of the Continent and particularly France and Holland. The formal pattern could be easily adapted to the new suburban villa garden. It was neat and ordered and clean and these were virtues of work and business that led to success and became elevated to virtues of life. Some plants grow naturally in that manner. It is difficult not to plant tulips like grenadiers. The annual flowers, popularised by the availability of new plants from North America and South Africa, and their ready propagation in greenhouses heated by cheap coal, lent themselves to formal borders.

The challenge to this alien notion of gardening was sounded in







Fig. 78—*Phyteuma comosum*

Photo—The late D. Wilkie



1883 when William Robinson published his *English Flower Garden*, said to have initiated a revolution in gardening, but more correctly a counter-revolution that restored the traditional ideal.

Robinson's message is simply stated. That which ran counter to nature was foreign to good gardening. The ideal was the emulation of the natural. The formal garden was unnatural and as such bad practice.

To the present-day gardener this is a message that needs no statement. It is accepted practice in all but municipal gardens where the formal pattern tends to persist. Whether it should, is a controversy for another day.

What Robinson enunciated for the garden generally, Farrer brought to the specialised rock garden. Before Farrer the rock garden merited the ridicule he directed towards it. Clinker and glazed brick were used. Stones stuck up at curious angles. The site could be the least fertile of the garden. It could be a sugar-loaf mound in the midst of the flat. It frequently was a number of equal rectangular plots of earth edged by thin flagstones. This last was indeed often the shape of the enthusiast's rock garden because it had the merit of enabling the use of different composts for various plants. But it looked little better than a bank of fish boxes. The then rock garden of the Royal Botanic Garden, Edinburgh, was a typical example.

Out of all this Farrer taught how the rock garden should be a harmonious thing of beauty blending into the garden as a whole. He taught how to provide the growing conditions which mountain plants demanded and how to exploit their aesthetic qualities. His writing to this end was supplemented by his lecturing and indeed by his own practical example of making rock gardens.

His writing on garden construction is more attractive than the generality of his work. The bulk of his *English Rock Garden* is, however, taken up with an encyclopaedic description of plants, their habits and requirements. The erudition displayed is enormous and the industry vast. There are errors ; there are controversial statements written like gospel truth ; and there are corrections which stem from the passage of time. But these are insignificant blemishes in the perspective of the work. The book was written in 1913 but publication was delayed until 1919.

Farrer marked the end of the War by setting out on a second plant collecting trip. This time his companion for the first year was Mr. Euan Cox and together they went to Upper Burma for one season. The

second he remained in the same general area alone.

By this time collecting was uppermost in his thoughts and ambitions. The advent of the War and the choice of locus had rendered his first expedition relatively fruitless. His goal was the introduction of plants for adorning British gardens. He conceived a jealousy of Forrest and got some consolation by considering that the bulk of Forrest's collection numbers were herbarium specimens only. Farrer could never bring himself to give proper attention to botanical material and, as might be expected, the botanists protested at the quality of his specimens and the manner of their packing. Unlike Forrest, Farrer did not delegate the collection of specimens or seed to native helpers. He personally selected and collected both seed and specimens. For this reason, doubtless, the seed he sent home was highly commended. But the collecting area was again poor—too warm and humid to yield plants of garden merit—and Farrer did not need telling of this. In the field also at the same time were both Forrest and Kingdon-Ward. Of the latter he had no fear, but he wrote of 'Forrest's octopus tentacles', and of hoping to 'wipe Forrest's eye over rhododendrons'. He pleads that Forrest might be kept away from him. He also assures Sir William Wright Smith, Deputy Keeper of the Royal Botanic Garden, Edinburgh, before he sets out on his second year's collecting, that he will take great pains in future with his specimens and will collect more widely—'even the filthy weeds from the fields'.

In the middle of the depressing and lonely second year of the Burma trip he contracted pneumonia and died alone except for his Burmese servants on 17th October 1920.

By the time of his death his personal ambition had centred on collecting. The fruit of his collecting in terms of plants in active general cultivation is small. From Khansu, *Buddleia alternifolia*, *Potentilla fruticosa* var. *farrereri* and *Viburnum farrereri* (*fragrans*) of shrubs and *Aster farrereri*, *Gentiana farrereri*, *Gentiana hexaphylla* and *Meconopsis quintuplinerva* of rock garden plants. From Burma *Rhododendron calostrotum* and *R. campylogynum* var. *myrtilloides* and *Primula sonchifolia* (although this last is by no means a plant for easy general cultivation). In comparison with the great collectors he does not rank mention and would be almost unremembered but for his own writings and for the account of his expedition written after his death by Mr. Cox. He had neither the aptitude nor the training to be a collector. It is pathetic that he died wasting his talents and enthusiasm travelling a road for which he was not shod, which disheartened him and dis-

appointed his gardening friends.

His fame stands not on his collectings as he would have hoped, not on his novels as his contemporaries expected, not on his descriptions of particular plants as many still imagine. He merits his fame through his teaching of the principles by which he transformed rock gardening into a sophisticated art form, blending the beauty of nature to the handicraft of man.

Show Reports

DUNFERMLINE

COLOUR was the keynote of the Show held in the Music Pavilion on May 21st and 22nd.

The judges were Mr. J. L. Mowat, Major-General D. M. Murray-Lyon and Dr. H. Tod.

In Section I the W. B. Robertson Challenge Cup for 3 pans of different genera was won by Mr. J. B. Duff with three superb plants—*Lewisia heckneri*, *Celmisia villosa* and *Oxalis lacianata*. In second place was Mr. H. Esslemont with *Petrrophytum hendersonii*, *Glaucidium palmatum* (fig. 83) and *Erinacea pungens*.

In the class for new, rare or difficult plants Mrs. S. Maule took first place with *Fritillaria pinetorum*, which was awarded the George Forrest Medal for the most meritorious plant in the Show. We were privileged to see this beautiful plant, which was collected in the pine forests of California, flowering for what is believed to be the first time in this country. Second came *Phacelia dalesiana* exhibited by Mr. J. Crosland, which was awarded a Certificate of Merit. Third was *Jankaea x vandedemi*, a natural hybrid between *Jankaea* and *Ramonda*, which occurred in the garden of Monsieur Vandedem, exhibited by Mr H. Esslemont and obtained by him from Monsieur Correvon of Geneva.

The dainty *Minuartia verna* grown by Mrs. B. Cormack was awarded first prize in the class for Scottish native plants, followed by a well flowered *Veronica fruticans* shown by Miss J. L. Thomson.

In Class 5 for one pan *Primula*, Mr. H. Esslemont's lovely *Primula ellisae* took first place. Second came Mr. J. B. Duff's very fine pan of *Auricula* 'McWatt's Blue'.

The Ericaceae class was well supported, the very attractive *Menziesia*

purpurea with its wax-like pink bells being placed first.

From the interesting miscellany in Class 23, the charming *Viola pedata* gained a first place for Mrs. S. Maule. Also in this class Mr. J. B. Duff staged *Boykinia jamesii* which had been persuaded to show several pink spikes.

The Carnegie Dunfermline Trust Trophy for most points in Section was awarded to Mrs. S. Maule, whose entries included the delightful *Eritrichium nanum*, a well flowered *Oxalis lacianata* and the dainty *Tsusiophyllum tanakae*.

It was encouraging to see more competitors in Section II where the Bronze Medal for most points in the section was won by Mr. J. Campion. The best plant in the section was adjudged to be *Dianthus* 'Whitehills' exhibited by Miss M. Sinclair.

All the classes in Section IV were well supported with the exception of Primulas. There was a wide variety of good plants in the native to Scotland class where *Sedum roseum*, exhibited by Miss B. Milburn, took first place.

The Institute of Quarrying Quaich for most points in the Section was won by Miss B. Milburn in the face of keen competition.

The prize for the best plant in the Section was awarded to Miss J. L. Thomson for an exceptionally well flowered *Veronica armstrongii*.

Thanks are due to the Committee and helpers who worked so hard to make the Show a success.

J. & M. CAMPION

GLASGOW

THE SHOW was held in the McLellan Galleries on 7th and 8th May 1971. Despite the early season and the trying period of warm sunshine and lack of rain which preceded the Show, the overall standard of the plants exhibited was good. It was particularly gratifying to see a large increase in the number of plants of fine quality in Section II, the so called "Beginners' Section". There were, for instance, seven entries in the three pan class, six of which would not have been disgraced in Section I. This augurs well for the future of the Show, as does the fact that Mrs. Elizabeth Ivey and Mrs. D. M. Stead, who recently graduated from the "Beginners' Section", were showing fine plants and winning many first prizes in Section I.

The principal class for six pans of rock plants for which the Dr. William Buchanan Memorial Rose Bowl is awarded was won by Mrs.

Ivey, Dalry. Her most outstanding plant was *Lewisia cotyledon alba* which was probably the best of many good specimens of this genus in the Show. She also had a very fine plant of *Corydalis wilsonii* with a plentiful display of its yellow flowers.

Mr. Harold Esslemont, Aberdeen, gained a narrow victory in the three pan class in winning the Henry Archibald Challenge Rose Bowl with *Androsace imbricata*, *Primula aureata* and *Ramonda nathaliae*. The Androsace, which Mr. Esslemont always grows so well, was awarded the George Forrest Medal as the most meritorious plant in the Show. Mrs. D. M. Stead, Thorntonhall, was a close second with *Soldanella carpatica*, *Corydalis cashmeriana*, both of which were very well flowered, and *Cassiope* 'Bearsden' which was a little past its best. The third prize went to Mrs. Ivey with three well balanced plants of which *Morisia monantha*, smothered with little yellow flowers, was best.

The William C. Buchanan Challenge Cup for three pans rock plants rare, new or difficult was also won by Mr. Esslemont, with Mrs. Sheila Maule, Balerno, and Mrs. Ivey in second and third places. The outstanding plants in the three entries, all unknown to the writer, were *Alcana incana* with grey leaves and blue flowers, *Viola hallii* with purple and cream flowers, and *Oxalis obtusa* which caused quite a sensation when it opened its large peachy pink flowers with a yellow eye. Coats & Cullen, who had a Trade Stand to which reference is made later in this report, sold their stock of this *Oxalis* in next to no time.

Mrs. Maule, who grows Fritillarias to perfection, was an easy first with *F. recurva* which, unlike some species of this genus, had beautiful flowers, the colour being orange/red and the flowers recurving at the mouth, thus giving it its name. A Fritillaria from Iran was second for Mr. Esslemont. It was a dainty little thing with small narrow flowers purple and cream on the outside spotted yellow and purple. Both classes for native plants were won by Mr. Bob Easton, Greenock, with the little willows, *Salix reticulata* and x *Boydii* and the double flowered *Cardamine pratensis* which is very colourful. *Veronica bombycina*, not often seen these days, with its soft grey leaves well covered by pale blue flowers took pride of place for Mrs. Stead over a big well grown plant of *Helichrysum marginatum* shown by Mrs. Ivey in the class for grey-leaved plants.

Mr. Esslemont again displayed his amazing skill with Androsaces when he took first for a very well grown *A. helvetica*. Mrs. Ivey came second in this class with the hybrid *A. carnea* x *pyrenaica*. It was a

bit late perhaps for Saxifrages, but Mr. Easton and Mrs. Ivey scored with good plants of *S. 'Flowers of Sulphur'* and *S. exerata*, the latter being very compact with white flowers set off by red-tipped stamens. The three pan Primula class provided keen competition between Mrs. Stead and Mrs. Ivey, the former taking the red ticket by a narrow margin. In her winning exhibit she had very fine plants of *P. jesoana* and *melanops*. Mrs. Ivey's best were *P. aureata* and the new and rare yellow flowered *P. gaubeana* which in appearance and style of flowering looks mid-way between a Primula and a shrubby Dionysia.

Cyclamen pseud-ibericum (P.D. 26844), a particularly good form with long flowers, was a winner for Mr. Esslemont. This genus has become very popular recently, as was demonstrated at the International Show at Harrogate, and this form will hold its own with most of the spring flowering Cyclamen.

Mrs. Sheila Maule and Mrs. Ivey gave notice to Mr. Esslemont that they are about to challenge him as successful growers of Androsaces by winning with *Aa. imbricata* and *cylindrica x hirtella*, certainly young plants, but very well flowered.

Mrs. Stead, as if to demonstrate the variety of plants she is now growing so well, took a further four firsts with among others excellent plants of *Dodecatheon alpina*, *Ranunculus amplexicaulis*, *Anacyclus depressus*, *Cassiope 'Medusa'* and *Andromeda polifolia compacta*. Mrs. Ivey went one better and gained another six firsts to give her the Crawford Silver Challenge Cup for most first prizes in Section I. Noted particularly in her exhibits were a very fine form of the white buttercup *Ranunculus parnassifolius* (fig. 84), *Rhodohypoxis 'Great Scot'* with carmine flowers (are we not being overwhelmed with not very different colour forms of this genus?), a free flowering orange form of *Lewisia cotyledon*, *Haberlea ferdinandi-coburgi* in rude health and well flowered, and *Convolvulus cneorum* with beautiful silver foliage and large white flowers flushed pink on the reverse. The writer entered the first prize list at this stage with *Lewisia cotyledon* and Drake's large flowered form of *L. heckneri*, which makes an extraordinarily good plant in two years from seed, *Sempervivum arachnoideum* in three different small forms (this species is amazingly variable in the wild), the little fern *Asplenium septentrionale* collected in the Otztal, Austria, where it grows in great abundance in cracks in the rocks, and the so called hardy orchid *Pleione formosana alba* with as the name indicates white flowers which are beautifully marked on the lip with yellow.

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Fig. 76—Landscape near volcano Notoro, ►
Shikotan

Photo—E. Egorova

Fig. 77—*Rhus orientale* with *Picea ajanensis*
(overleaf)

Photo—Vladimir Vasak

Mr. Bob Easton did not do so well on this occasion with his *Sempervivums*, but he made up for this by winning two of the classes for *Sedums*, depending mainly on forms of *S. spathulifolium* and *S. athoum* with small reddish-green foliage which was not known to the writer. He also took a first with two good shrubs, *Veronica pageana*, grey-leaved and white flowers, and the dwarf yellow broom *Cytisus ardoinii*.

Mrs. Elizabeth McLean, Bearsden, did not figure so much in the prize list this year because the early spring bulbs which she grows so well were mostly over, but she did have two firsts with *Iris* 'Green Spot' which has white flowers with green on the falls and grows about a foot high, and with a bowl of cut flowers of rock garden plants.

Rhododendrons were particularly good and a Certificate of Merit and a first prize were awarded to a large well flowered specimen of the yellow hybrid *R.* 'Chikor' shown by Mr. Esslemont. The two pan class was won by Mrs. May Lunn, Drymen, with *R.* 'Pink Drift', a free flowering hybrid, and *R.* 'Chikor', a smaller plant than Mr. Esslemont's, but well flowered too. Miss Margaret Nicolson was a close second with *R.* 'Pink Drift' and *impeditum*, a low growing bush with blue flowers.

Next to the rhododendrons was another very fine shrub *Ledum palustre japonicum* absolutely covered with creamy white flowers, which gained a first prize and Certificate of Merit for Mrs. B. B. Cormack, Edinburgh.

Although there were fewer conifers on the show bench than usual, quality was good. Dr. and Mrs. Holgate, Bearsden, had a first and second here : their outstanding specimens were *Chamaecyparis nana gracilis* and *Picea mariana nana*. Mrs. Lunn also took a first prize with *Abies balsamea hudsoni* and *Chamaecyparis obtusa intermedia*. Mrs. K. Simson Hall, Edinburgh, won the red ticket in the class for plants not eligible elsewhere in the schedule with *Arisarum proboscideum* well endowed with its curious rather than pretty flowers. Mrs. C. M. Simpson, Bearsden, well deserved the first prize for two hardy orchids with young plants of *Cypripedium acaule*, greenish-white sepals and petals and rose-coloured pouch, and *C. pubescens*, yellowish-brown sepals and petals and pale yellow pouch. These and other species of hardy orchids, that is, hardy in most parts of the country in a sheltered situation, are more readily available now ranging in price from 50p to £1.25 and, although requiring some care to establish, are not too difficult.

As noted already, competition in Section II for so called beginners was well contested and there were many fine plants. All the more honour, therefore, to Mr. Ian C. Donald, Clydebank, who won the Bronze Medal and the James A. Wilson Trophy for most points in this Section.

The three pan class attracted seven entries and there was little to choose between the first three exhibits. However, a choice had to be made and the first prize went to Mr. C. M. Simpson for *Lewisia* 'Sunset Strain', *L. cotyledon* and *Trillium grandiflorum*. Mr. Ian C. Donald got the second award for *Pleione pricei*, *Lewisia heckneri* and *Armeria caespitosa* 'Bevan's var.' The third prize went to Mrs. Doreen Golder, Beith, making her first tentative venture into the world of showing with a well flowered *Gentiana verna*, *Lewisia nevadensis*, which sets enormous quantities of seed and which is easily raised by this means, and the strong growing *Primula* 'Broadwell Gold'. Mrs. Golder went two better in the next class, winning the red ticket with *Lewisia* 'Sunset Strain'. Second was Dr. H. M. McCallum, Johnstone, with *Ourisia macrocarpa* x *caespitosa*, which had a generous number of its large white flowers over dark green foliage, a nice contrast.

From this point on Mr. Donald began to collect a number of first prizes for very well grown plants. Notable among them were *Primula vulgaris*, the common primrose, but there was nothing common about this pan, *Celmisia sessiflora* with sparkling silver leaves, *Primula yargonensis*, an Asiatic species not often seen, *Douglasia primuliflora*, *Gentiana verna*, a very dark blue set off by a pronounced white eye, *Rhododendron* 'Carmen' absolutely covered with its dark crimson flowers, which was awarded a well deserved Certificate of Merit, *Lewisia cotyledon* with deep pink flowers. To finish off his successes Mr. Donald won the class for a container of rock garden plants arranged for effect. This was well laid out with good young plants, including a well flowered *Androsace cylindrica*, a not too easy plant, the flowers of which have a delightful hawthorn scent.

Dr. D. M. Stead, Thorntonhall, scored successes with *Saxifraga umbrosa*, the pink form collected many years ago by the late Clarence Elliott, *Ranunculus amplexicaulis*, *Narcissus hawera*, a lemon yellow *N. triandrus* hybrid with several flowers to a stem, *Jasminum parkeri*, a dainty prostrate little plant, and *Asplenium pedatum aleuticum*.

Besides winning the principal class in this Section, Mr. C. M. Simpson won other prizes with *Primula pubescens* 'The General', *Rhodohypoxis* 'Albrighton' and 'Apple Blossom', *Sedum spathuli-*

folium 'Capa Blanca', *Rhododendron* 'Golden Fleece', a free flowering yellow hybrid with a good constitution, and *Chamaecyparis obtusa caespitosa*. Mr. Malcolm G. Adair, Glasgow, and Mr. Angus C. Small, Glasgow, both of whom do a tremendous amount of good work for the Club in this area, scored notable successes with fine plants. Mr. Adair's prize winning exhibits included *Celmisia sessiflora*, *Saxifraga cochlearis minor*, *Primula auricula decora*, *Doronicum cordatum*, and a very well grown, well flowered *Rhododendron keleticum*. Mr. Small's outstanding entries were *Vaccinium vitis idaeae*, *Andromeda polifolia*, exceptionally well flowered, and a really superb specimen of *Abies balsamea hudsoni*.

Other exhibitors who gained awards in Section II and who may be thus encouraged to further effort in later Shows were Mr. and Mrs. Neil Rutherford, Roseneath (an unnamed *Centaurea* and *Scilla peruviana*), Mr. W. L. Morton, Bearsden (*Saxifraga diapensioides lutea*), Mrs. C. O. Kelly, Drymen (Primulas *wanda*, 'Garryarde' and a pale yellow *auricula*) and Dr. B. A. Knights, Glasgow (*Iberis sempervivoides*). Special mention must be made too of a fine non-competitive exhibit of composites staged by Dr. Knights.

The Show was well supported by three Trade stands and it is understood that the firms were more than satisfied with the custom they received from the many visitors. Mr. John R. Ponton, The Gardens, Kirknewton, Midlothian, had a colourful display in which he made good use of rhododendrons in variety, among them *Rr. lepidotum*, 'Elizabeth', *scintillans*, *fastigiatum* and 'Carmen'. He featured the comparatively new *Cassiope* 'Beatrice Lilley' and the older upright hybrid raised at the Royal Botanic Garden, Edinburgh, appropriately named *C. 'Edinburgh'*. Other plants noted were *Androsace primuloides* and *jacquimontii*, various forms of the winter flowering heath *Erica carnea*, *Lewisia cotyledon* and *nevadensis*, *Haberlea rhodopensis* and *Gentiana acaulis*.

Miss Jean G. M. Izatt, Grovemount Nurseries, Auchterarder, Perthshire, had a small tastefully arranged stand, using dwarf conifers and various heathers effectively. Among her plants were noted *Soldanella villosa*, one of the easier to flower of this genus, *Geum montanum*, Primulas 'Apple Blossom' and 'Clare', *Cassiope* 'Edinburgh', *Tulipa linifolia*, a fine dwarf red, *Lewisia cotyledon* hybrids and the hybrid *Narcissus* 'April Tears' which has several flowers to a stem, is a good doer and increases its bulbs rapidly.

We were pleased to welcome for the first time Messrs. Coats &

Cullen, The Garden Centre, Milngavie Road, Bearsden, Glasgow, who had a wide selection of rock garden plants and gardening books. They made good use of dwarf conifers, including *Juniperus communis compressa*, and rhododendrons, among them *Rr.* 'Blue Tit' and 'Carmen'. Others noted were *Oxalis obtusa*, to which reference is made elsewhere in this report, *Campanula nitida* (blue-flowered and much rarer than the white form), *Calceolaria tenella*, the little creeping species which is unfortunately suspect for hardiness in some localities, *Astilbe simplicifolia* and various Primulas and Lewisias which were a colourful feature throughout the Show.

We were very grateful indeed to the City of Glasgow Parks Department for a fine display of foliage and flowering pot plants which gave a "clothed" look to that end of the hall at which visitors entered. The rhododendrons and Floral Arts Sections were again a feature of the Show and added much interest for our increased number of visitors.

A very warm vote of thanks is due to the Show Committee and all those who helped to make the Show the success that it was. In particular we owe a deep debt of gratitude to the Joint Secretaries, Miss Margaret Thomson, and Mrs. Norman Holgate, and Mr. Angus C. Small who had various successful money raising "ploys" and who played a large part in enrolling 24 new members.

D. LIVINGSTONE

PENICUIK

THE SHOW was held as before in Eastfield School Hall jointly with the Penicuik Horticultural & Industrial Society's Industrial and Bulb Show on March 13th. The postal strike had made contact extremely difficult and many of the entries were "last minute" ones, and it was difficult to know what kind of Show would eventually appear. The winter had been quite exceptionally mild with many odd results, some plants being very early and long past and some very late and not yet "ready". As it turned out, the benches were well filled with excellently flowered plants, the numbers being up on last year's.

The Open Section was very well supported, with very welcome exhibitors from Aberdeen, Ayrshire, Fife, Glasgow, Newcastle and Perth, as well as the more local counties. The Restricted Section (Midlothian and Peeblesshire) had more entries than before.

The Forrest Medal was awarded to a fine well-flowered cushion of

Dionysia curviflora exhibited by Mr. R. L. Mitchell of St. Andrews. This is one of the much more difficult Dionysias and is seldom seen, especially in full flower. The runner-up was a lovely plant of *Primula allionii alba* from Mr. Esslemont. This was a fine form with really solid white flowers—so often they are a “weak white” with a greenish tinge. Another striking plant was Mr. Duff’s *Saxifraga jenkinsae*, a huge, very old plant and well-flowered—but not quite so well as we have sometimes seen it in past years. The best plant in Section II, which gained the Midlothian Vase, was a very dainty white form of *Cyclamen persicum* shown by Mr. W. A. Bruce Robertson of Howgate, who also gained the Midlothian Bowl for the highest number of points in either Section.

As mentioned above, the behaviour of bulbs was erratic, which led to some thinness in the Crocus, Narcissus and Iris classes, but those which did appear were good. The Saxifrages were better this year, as also were both the Asiatic and the European Primulas. It was good to see more Petiolarids on the bench again. The dwarf rhododendrons were very good this year, particularly Dr. and Mrs. Simson Hall’s *Rh. x cilpinense*, which was an even dome of bloom, lacking the legginess which this hybrid often shows.

Perhaps the most unusual and interesting plant—though not the most noticeable or beautiful to the ordinary eye—on the benches was exhibited by Mr. J. D. Main of Edinburgh. This was *Scoliopus bigelovii*, a plant from the woodlands of the Rocky Mountains, I think. It is reminiscent of a tiny Tricyrtis with similarly-shaped little flowers of pale cream and chocolate nestling in a rosette of broad green leaves. None of the Judges nor the writer had ever seen this plant, though the writer had read of it—and had to search through five texts including a Flora of the area to find its natural order (Liliaceae) when writing this, and only found it in the R.H.S. Dictionary. Even the local Flora did not list it! More fascinating than beautiful, perhaps, but still a little gem, and Mr. Main is to be congratulated on having actually raised and flowered it.

As usual our Judges—Mr. Livingstone, Major-General Murray-Lyon and Mrs. Simson Hall—judged the Industrial Section’s Bulb Show which, in spite of the erratic behaviour of the bulbs this year, was extremely good and colourful. Again, as usual, the ladies of the Section provided most welcome and delightful teas—a feature which has been appreciated by our members since the first Show in 1954.

HENRY TOD

PERTH

THIS YEAR the Perth Show was held in the Scone Hall, a mile or two from the ever increasing busy city centre, on the 9th and 10th of April. This proved to be rather early for us here on the colder east of the country and entries were slow to come in. For a time in fact it seemed very possible that this would turn out to be the greatest non-event of the S.R.G.C. year.

However, at last the plants materialised, few in number, but of high quality, and we were blessed with two days of beautiful weather.

Our Judges on this occasion were Mr. D. Livingstone of Bearsden, Mr. J. L. Mowat of Ceres, Fife, and Major-General D. M. Murray-Lyon of Pitlochry, Perthshire, to whom my sincere thanks are due.

This year the George Forrest Memorial Medal was awarded to Mr. Harold Esslemont of Aberdeen, who exhibited an excellent example of *Dionysia aretioides* (fig. 85). The Caird Trophy for the six pan class was taken by Mr. J. B. Duff of Langfauld, Glenfarg, Perthshire. This exhibit was highly praised by the Judges. Mr. Esslemont was a close second here. The three pan class (Dundas Quaich) was again—I may almost say of course—won by Mr. Harold Esslemont.

Mr. J. B. Duff's plants included *Saxifraga chrystalae* (fig. 86), *Cyclamen coum alba* (fig. 87) and *Cassiope* 'Muirhead' (fig. 88). Other outstanding plants included *Pulsatilla vulgaris* (fig. 89) and *Salix apoda* (fig. 90). The Middleton Trophy went to Mr. J. D. Youngson of Perth.

In Section II the Bronze Medal was won by Mr. Robert Pullar of Perth, though competition here was poor.

An exhibit attracting a great deal of attention was a display of very beautiful water colour paintings of rock plants by Mr. Lawrence Greenwood, a S.R.G.C. member from Yorkshire.

We had only one Trade stand this year, space being rather limited. This was provided to his usual high standard by Mr. Jim Aitken of Orchardbank, Perth, and provided a most attractive centre-piece to the Show.

Of all the plants there, if not the star then surely the most interesting was Mr. Esslemont's pan of the Tibetan terrestrial orchid, *Pleione forrestii* (fig. 91), a rare and difficult plant indeed. This may well be the first time it has flowered in Scotland.

In conclusion may I say thank you to Mr. Youngson who deputised on the judging day, to the ladies who provided teas, much appreciated, and to all the others who rallied round to ensure a success.

JOHN WATT

Professor John Scouler, M.D., LL.D., F.L.S. 1804-1871

by A. C. SMALL

WHEN WE read *Rhododendron forrestii* we at once associate the specific name with George Forrest, who is also honoured by the medal awarded at our Shows for the plant judged best of those exhibited. But if we read *Penstemon scouleri* would the name Scouler mean anything to most of us? I doubt it. And yet John Scouler had not less than 31 plants dedicated to him besides a mineral, a fish and at least four fossils. So he must have been quite a remarkable man to have been so highly regarded by his contemporaries.

What then can we tell of him in this year of the centenary of his death? He was born in Glasgow on Hogmanay 1804, but at an early age was taken to Kilbarchan, Renfrewshire, where he received his education from the local minister. It must have been a good one, too, for he proceeded to Glasgow University at the age of 16 to study medicine and there he came to the notice of Professor (later Sir William) Hooker. Three years later he went to the University of Paris, when he enjoyed the advantages of its famous Jardin des Plantes.

In 1824 the Hudson's Bay Company, at the request of the British Government, was sending a ship to explore the Columbia River area on the boundary between what are now the states of Washington and Oregon, U.S.A., and asked Hooker to suggest someone for the post of ship's surgeon and naturalist. In recommending Scouler, Hooker described him as "unquestionably one of our best botanical students". On the ship was a passenger in the person of David Douglas,* who had given up the assistant curatorship of the Botanic Gardens, Glasgow, to take up an appointment with the Horticultural Society of London, later the R.H.S., as plant collector on the expedition. The voyage was by Madeira, Rio de Janeiro, round the Horn to Juan Fernandez (Cruzoe's island), on to the Galapagos group and the Columbia River as far as Fort Vancouver, now the town of Vancouver, Washington U.S.A. Landings were made at each of these places and Scouler and Douglas went ashore, Douglas collecting plants for his

* See Hero of the West—David Douglas by James T. Aitken

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patrons, while, his interest being wider, Scouler examined the geology, zoology and ethnology, as well as the botany of these areas.

At Fort Vancouver Scouler and Douglas parted, the latter to continue up river while Scouler was tied to the ship to care for some sick members of the crew. Douglas, after injuring a leg, returned to Fort Vancouver later, missing the ship by the narrow margin of one hour. He then proceeded overland the full width of the continent to Baffin's Bay and achieved fame on account of the large number of plants he had gathered and brought back. Probably the best known are *Ribes sanguineum* (flowering currant) and *Pseudotsuga* variously *taxifolia*, *douglasii* and now *menziesii* (Douglas Fir). Another of his collection, a Pentstemon, he dedicated to his friend Dr. Scouler.

The ship proceeded northwards along the west coast of Vancouver Island, pausing at Nootka Island and other places as far as Dundas Island off the southern tip of Alaska, opportunity being taken by Scouler to extend his examination of the natural history of the region and to add to his collection of herbarium and other specimens. On his return the botanical materials were handed to Hooker, who also received plants from Douglas. The latter was obliged to send plants of his collection to his sponsors, but duplicates were sent to Hooker. These specimens appear to have been the basis of Hooker's "Flora Boreale Americani", so Scouler could have claimed to have played a part in securing Hooker's appointment to the Directorship of Kew.

After his return, Scouler did not spend long at home and before the end of the year was off again in a similar capacity, in the service of the East India Company on a voyage to the Cape, Mauritius, Ceylon, India and Macao in the East Indies.

Back in Glasgow he graduated in medicine and for a short time practised there, but in 1829 he accepted an appointment to the Chair of Natural History at the Andersonian University, now the University of Strathclyde, Glasgow. In the same year he was elected a Fellow of the Linnaean Society. During his time at the Andersonian, he built up a herbarium with his own material, augmented by specimens donated by friends at home and abroad. His botanical interests at that time were especially in algae and alpine flowering plants. He also founded and became joint editor of the *Glasgow Medical Journal*. His herbarium somehow came into the possession of his old University, then was lost for about 50 years, to be discovered accidentally about 1954.

After four years at the Andersonian he accepted an appointment as Professor of Mineralogy at Dublin, although he soon persuaded

the authorities to change his subject to Geology and Zoology. His interest in botany continued, however, as the herbarium and his library prove.

In 1850 his alma mater conferred on him the honorary degree of LL.D. and the following year he became first President of the Glasgow Natural History Society, now the Andersonian Naturalists of Glasgow.

In 1853, after 20 years in Dublin, Scouler retired, for health reasons, to his native city, and in the succeeding years he travelled in Portugal, Sweden and the Low Countries, at the same time building up a substantial library of books in many languages. He is reported to have been fluent in eleven and had, besides, a working knowledge of several languages of Red Indian tribes of the north-west coast of America. His library of 1,463 volumes and manuscripts he bequeathed to Stirling's Library, Glasgow, and it now lies in the Mitchell Library there. It is of interest to note that John Anderson, the founder of the University where he first occupied a chair, had been a Professor of Oriental languages and that his library, bequeathed to his intended University, included volumes in 9 languages. Scouler's library, on the other hand, contained dictionaries of not less than 32 different languages. Of main interest to our members, it also contained 44 volumes on botanical subjects besides numerous other works on natural history, some of which would include botanical material. His zoological collection went to the Hunterian Museum, Glasgow University, while his geological specimens are at the Kelvingrove Museum, Glasgow.

During his years of retirement he gave occasional lectures and acted as unofficial custodian of the museum in the Andersonian, although James Croll, a well-known geologist, was officially appointed keeper of the museum (and janitor !) in 1859. Scouler was well liked and no doubt Croll would appreciate the assistance of the former professor.

Scouler's interest was now directed more towards geology and from 1859 to 1860 he was President of the Geological Society of Glasgow. He was also President of the Archaeological Society and of the Philosophical Society. He published numerous papers on various subjects, but no major work, and that is undoubtedly the main reason that he is largely forgotten today. He spent years translating Aristotle's *De Rerum Animalium* (The natural history of animals) but his extreme modesty would not allow it to be published despite the urging of his friends, and the manuscript, still unprinted, lies in the Mitchell Library with his books.

It was unfortunate for Scouler that his very valuable collection of

herbarium materials from the Columbia River and the coast of what is now British Columbia was overshadowed by that of David Douglas, whose almost overwhelming collection brought him great fame. Douglas's mysterious death at an early age in somewhat romantic circumstances also drew the spotlight away from Scouler, who lived so many more years a useful, highly respected but unglamorous life amongst his students in Glasgow and Dublin.

Nevertheless Scouler's life was not devoid of excitement, as when on the Columbia River expedition he determined to obtain a specimen of a mummified head of one of the Flat Head Indians. This tribe bound a flat board to the heads of their children till the bones hardened. So at the dead of night Scouler made a dash to the Indian burial ground, collected the head of a child and hurried back to the ship just before its departure. Had he been caught the consequences would have been extremely serious for him.

Another possible reason for his name being overlooked is that he was a zealous liberal at the time when the agitation for parliamentary reform was disturbing the country and he would not be popular with the traditionalists. Nevertheless he was greatly admired by Hooker and Wallich, names which have meaning for gardeners, and also by Agassiz, the famous French geologist.

When he died in 1871 he left his ethnological collection to the Museum of Natural History in Paris in appreciation of the benefits he obtained there in his student days.

Although little known today, Scouler is not completely overlooked ; a bust of him looks down from a wall of the University of Strathclyde and in 1961 an exhibition illustrating his work in geology, zoology and botany, together with letters and other personalia, was staged in the Art Gallery and Museum, Kelvingrove, Glasgow.

During his years at Dublin he had the misfortune to lose his wife and only child and thereafter led a bachelor existence.

He was a kindly man and when his friends visited him in later years, in his residence at the corner of Elmbank Street and Sauchiehall Street, Glasgow, he would be discerned through a thick haze of tobacco smoke, surrounded by a litter of books covering every available surface, and there he would pour out discourses on many and varied topics to an appreciative audience.

His remains lie in the little churchyard at Kilbarchan, Renfrewshire.

I wish to thank Professor Lloyd-Binns of the University of Malawi for her permission to make use of files at the University of Strathclyde



Fig. 84—*Ranunculus parnassifolius*

Photo—The late D. Wilkie

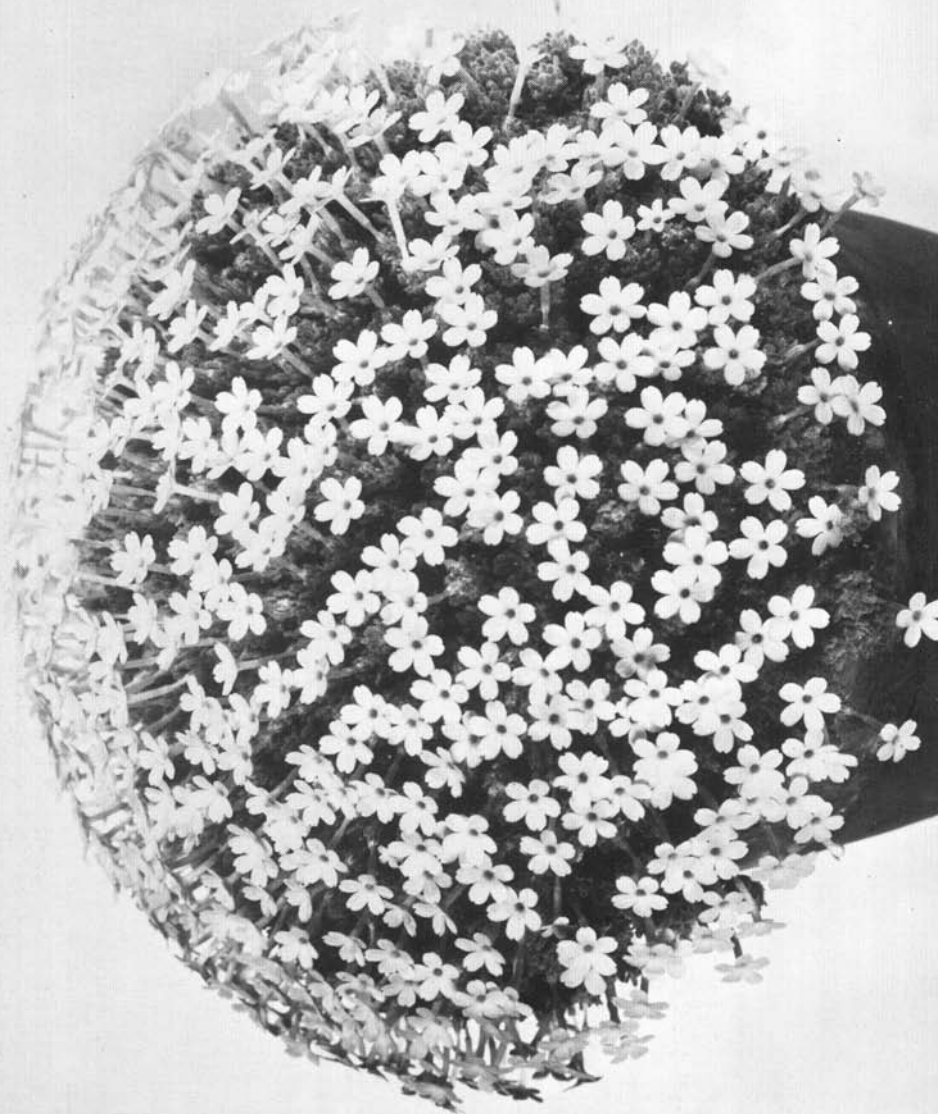


Fig. 85—*Dionysia aretioides*

Photo—John Watt



Fig. 86—*Saxifraga chrystalae*

Photo—John Watt



Fig. 87—*Cyclamen coum alba*

Photo—John Watt

and also the University authorities for allowing me to have access to them.

Plants dedicated to him include :

- Scouleria aquatica* (water moss)
- Allocarya scouleri* syn. *Myosotis scouleri*
- Amsinckia scouleri* (annual)
- Campanula scouleri*
- Corydalis scouleri* syn. *Capnodes scouleri*
- Hieracium scouleri*
- Mimulus guttatus* ssp. *scouleri*
- Pentstemon fruticosus* ssp. *scouleri*
- Phyllospadix scouleri* (Pacific surf grass)
- Polypodium scouleri* (fern)
- Salix scouleriana* (a beautiful tall tree)
- Silene scouleri*

Animals : *Salmo scouleri* (Salmon)

Eurypteris scouleri

Mineral : *Scoulerite*

In addition 19 other plants were dedicated to him but these names were not ratified or were superseded.

Rock Gardening - “from the ground up”-VII

by HENRY TOD, Ph.D., S.H.M.

WHILE peat is a well-known material in most parts of this country, and the world for that matter, there are areas where it does not occur and at this point it might perhaps be as well to explain just what peat really is, and how it is formed. There are several types of peat with definite and different characteristics, but they are really all stages of development of the one material.

When water flows into a basin-like hollow, water plants grow and die and their residues fall to the bottom, gradually building up until

the water becomes shallower and shallower. If the plants are growing strongly they will have an appreciable mineral content derived from the soil in the bottom of the pool, and, if the water running into the pool is mineral-rich, the total mineral content of the herbage, both living and dead, will rise. As the dead plants fall below water level their decomposition goes on in the absence of air and the product is ultimately peat. This is what is known as basin, low moor or fen peat, and if it forms under mineral-rich water it may have almost any mineral content—in fact if the rock from which the water drains is limestone, strongly alkaline, lime-rich peat will be formed. Thus not all peats are acid ; in fact the peat from large tracts of the Fens in England is almost too rich in lime for many plants.

As the basin peat builds up, the level of the top of the peat approaches nearer and nearer to the water surface and so less and less water will run in—it will tend to run over or past the peat bog which, however, will remain sodden. This will have the effect of reducing the input of minerals and only plants which have a low mineral requirement like cotton grass, sedges and various mosses—especially sphagnum—can survive. These plants in their turn die and break down in the sodden surface, forming what is known as raised moss or high moor peat. This is always more acid than the deep basin peat, a fairly common sequence of pH levels being surface peat pH 3-4 ; two to three feet down pH 5-5.5 ; at greater depth pH 6.5-8.3. In the Netherlands these are known as “white peat”, “water peat” (because it is well below the permanent water-table) and “black peat” respectively.

Peat, then, is organic matter in varying stages of decomposition and of varying physical and chemical characteristics, but at the same time, all types of peat have certain features in common. First, all peats hold large amounts of water and all except the very compact greasy deep peat also hold a large amount of air as they are fibrous. This means that while they hold a valuable reserve of water they also hold the air which is essential for the production of good root activity.

Secondly, peats have the very valuable property of holding plant nutrients so that they are not so liable to be washed out by the water passing through the soil when it rains, hence peat worked well into a soil provides a stabilising effect in that it retains moisture, air and plant nutrients so that they are available to plants growing in it.

It is also, obviously, a most important method of keeping up the organic matter of a soil. In areas where peat does not exist, leaf mould

may largely take its place, though it is very different, for the decomposition of leaf mould occurs in the presence of air, while in peat it is in the absence of air and leaf mould tends to break down more rapidly in the soil than peat does. Like peat, leaf mould varies very markedly in its mineral content—for example, beech leaf mould from beeches growing on a lime-rich soil will be strongly alkaline and high in lime. If the trees are growing on an acid soil, the mould will tend to be acid and relatively low in nutrients.



The general considerations of soil, lay-out, siting and the use of stone were summarised earlier. We can now summarise the next section.

One. Rock garden plants need not have an actual “rock garden” for their successful growth. They may flourish under more formal conditions in specially constructed beds either “on the flat” or else in levelled beds on a slope, these beds being joined by dry walls between the different levels.

Two. Rock garden plants may also be grown in dry walls, used to change the level between, say, strips of lawn.

Three. They may be grown in raised beds of the “table-top” variety or Dr. Curle’s “snakes”, i.e. between two dry walls, or else on sloping banks built up against dry walls.

Four. Such constructions can give exposures away from the strongest sun and wind—conditions that some rock garden plants require for their health.

Five. Soil conditions can be varied by making separate beds or else pockets with differing types of soil mixtures.

Six. For those plants that require definitely damper conditions peat beds and peat walls may be built to suit their requirements.

At the risk of repeating myself I would like to make the following points quite clearly and strongly. Rock garden plants, as well as the usual garden plants, differ in the conditions which suit them best. Some like, in fact demand, the roughest exposure to sun, wind and rain. Others require quite a fair amount of protection—many of these are what Dr. Peter Davis classes as “chasmophytes”, i.e. they grow on the steep walls of cliffs where they may get little direct exposure to the sun and rather less constant wind. These will benefit from a northerly exposure and will appreciate crevice planting virtually on

their sides. Still others may grow in full exposure in the hills but, in lowland gardens, will be helped by a little moving shade about the middle of the day.

Most rock garden plants, once fully established, will have developed extensive root systems which will enable them to get sufficient moisture in relatively dry conditions, but some will require damper spots to grow in if they are to thrive. Others again—especially among many of the bulbs—will be helped by a really hot, dry site at mid-summer, conditions which would kill many that do not need really drastic ripening after flowering.

Let us now look at a few examples of plants in each of these groups : in the first one come the “mossy” phloxes and saxifrages. In full exposure they form firm cushions and flower freely, in easier conditions they become soft and increase vegetatively rather than by flower and seed. The second group is exemplified by *Ramondas* and *Haberleas* which will curl up and ultimately die in full sun, wind and dryness. On the flat the rain water may lodge in the rosettes and lead to rotting. Planted on edge and in partial shade they will prosper and flower freely.

Among plants in the third category, the *Kabschia* saxifrages will, in the garden, suffer severely from “sunburn” ; if they get the hot midsummer sun on their cushions they may develop badly browned patches which usually die completely. Light moving shade from a dwarf shrub or a rock will prevent this trouble which is quite characteristic of this group.

The fourth group includes many plants from the edge of the woodland on the hillsides ; their size and habit make them good rock garden plants, though they are not true *rock plants*, i.e. they are not saxatile plants, scree plants or high alpiners. Such are the *Schizocodons*, *Shortias* and many of the primulas and gentians (especially the Asiatic species). Oddly enough several of our own mountain plants also need damper conditions to grow well, though in the hills they may be able to flourish in apparently dry places. An example is *Saxifraga aizoides*, which is quite difficult in the fully-exposed rock garden, but given a damper spot, for example at the foot of a bank, will grow on quite happily and flower well.

The fifth section includes most of the bulbs and rhizomatous plants from the Middle East—tulips, irises, crocus and so on—and quite probably many of the newer herbaceous plants from these areas. It is, however, early days to be sure just what many of them *will* require.

With some plants the soil reaction (the pH) is important, as they

will not grow in alkaline soils containing free lime, while some others prefer it in moderate amounts. The first of these two is the most important, for this is the group of calcifuge plants that will not tolerate free lime in the soil. Even in this group, however, some are more tolerant than others, though most prefer a definitely acid soil. Examples of the most intolerant, that is those which will develop yellowing of the foliage (chlorosis) and ultimate death are almost all of the Ericaceae and the Asiatic Gentians. The situation with the lime-lovers is, oddly enough, much less clear for, while they will grow and flower at their best in the presence of free lime in the soil, they will do well enough in neutral or mildly acid soils. They will not, however, reach their "peak of performance" under these conditions. Many of the irises, dianthus and encrusted saxifrages come into this group, the encrustation on the saxifrages only really being fully developed in the presence of lime.

One other point to be considered is hardiness. There are quite a few good rock garden plants that are just on the border of hardiness—many of the Hypericums, for example. Many of these "marginal" plants will get through a moderate winter but may succumb in a really severe one, especially with little or no snow cover (which is a most effective insulator). Two positions may be of value where they are concerned, firstly the top of a fairly steep bank, and secondly in a dry wall. In both cases the cold air can drain away from the plants as, being denser than warmer air, it flows downward to the lowest spots. Often this "cold-air-drainage" will be the salvation of marginally frost-tender plants, though of course very severe air-frost will probably be fatal. Further, such positions will favour dryness of the plant itself and of the surface soil, both of which are helpful in lessening frost damage.

Many plants such as *Parochaetus* and *Rhodohypoxis* will overwinter under a flat stone placed on the surface of the soil when the plant dies down in the autumn and before hard frost sets in, but it must, obviously, be removed before growth starts—and then a severe late frost may be fatal. Plants that "run" like *Parochaetus* can emerge around the edges of the stone, but those that grow "up" like *Rhodohypoxis* do not, and the stone must be removed.

Other measures which have been tried with varying success are fibreglass mats and polystyrene sheet, for a leaf, peat or ash mulch as used in the herbaceous border is difficult to keep in position on a sloping surface, and cloches are rather vulnerable to wind unless

firmly anchored down. In many cases the damage is caused more by cold and wet, rather than simple low temperature, and in this case a sheet of glass or rigid plastic held in wire clips a few inches clear of the plant and open to air movement all around the edges will generally be sufficient to avoid injury. Many of the woolly-leaved plants and some of the cushion plants are vulnerable in this way and are best protected by such overhead means.

In my own experience the worst damage from frost and dampness seems to occur at the end of winter and the beginning of spring, roughly in March or early April. Why this should be the case is rather difficult to explain. Most probably the plants have ceased to be truly and completely dormant and the fact that they are "on the move" makes them more vulnerable. Whatever may be the cause, practically all the near-East plants sent back by Dr. Davis which I lost "over-winter" had come through to mid-March unharmed, but by the end of April were quite dead—and several nurserymen have told me that they have had the same experience of "late-winter or early-spring" losses with marginally hardy plants, especially from that area.

While all plants have particular conditions for their best development and performance, the majority of what may be called the "bread and butter" or "indestructible" rock garden plants will grow quite satisfactorily under almost any conditions, growing and flowering happily no matter what the soil reaction is, or what the exposure, in dryness or dampness, always granted that none of these are *too* extreme—and these are the ideal plants for the beginner to grow and to form the backbone of any collection of plants to grow in a rock garden.

Two further points may be made here. Firstly, many of these really reliable "backbone" plants should be watched carefully for they can be quite dangerously invasive. If they spread rapidly by above-ground growth the problem is not very serious, for they can be cut back and so kept in control—an example of this type is the "sun-rose" or *Helianthemum*. This may spread over a smaller and less-strong-growing plant and ultimately smother it—cutting back will control it and settle this problem.

If, however, the spread is by underground roots and shoots the difficulty may be extremely serious. Many years ago I was given small pieces of two plants, *Linaria cymbalaria* and *Euphorbia cyparissias*. I planted them in one bank in my rock garden—and a couple of years later spent many weeks dismantling that particular bank so as to get every bit of their root systems out, for they had both spread so fast

underground that they were coming up through and among other plants as much as three or four feet away. Every smallest piece of underground growth had to be picked out of the soil, for even a small piece may grow into another wide-spreading plant in time. Many nurserymen lists such plants as "invasive" and, particularly in a light soil, they should be carefully confined—or avoided altogether.

The second point is that conditions in gardens vary so markedly that plants listed as "difficult" in the average garden may not necessarily be difficult in *your* garden. An example of this is the genus *Cremanthodium*, which is generally considered either "difficult" or "tricky". Now in my garden, with no particular care at all and perfectly ordinary soil and weather conditions, once planted they go on for years, growing and flowering normally—and that is true of four or five different species. Accordingly it is always worth while trying some of these reputedly difficult genera, or species of one genus considered to be so, for because others have had trouble, it may not necessarily be the case in your garden.

There are usually quite a number of these "difficult" plants in the Club's Seed List and they are worth trying. The real difficulty with some of them is in the seedling stage—once past that they give little trouble ; others tend to fail on pricking out, others on transplanting into the open ground. In these cases handling in small clumps of seedlings instead of as individuals is often the answer, thinning the clumps later if necessary. Using this method, if there are, say, ten seedlings in a clump and eight succumb, there are still two left which should grow on successfully. This method not only applies to the pricking-out stage but also to the phase of transplanting into the open ground if the difficulty arises then. In all probability the real cause of the trouble lies in root injury on lifting, at either stage, for some plants are extremely susceptible in this way. In many cases this disability lasts on to maturity, a good example being the Hellebores amongst herbaceous plants, for they may "sulk" for a year or more on transplanting, if they do not even die. It is, in any case, well worth trying a few of these less common plants when opportunity arises, for there are many very lovely and attractive things among them.

Primulas at Howgate - Part III

by W. A. BRUCE ROBERTSON

EACH YEAR many *Primula* plants are pushed out of the ground by frost and subsequently lost due to extensive root damage or by not being replanted in time. It is difficult to say whether the root damage was caused by the frost lift or if this condition existed before and contributed to the lifting. In this garden more *Primulas* are lost by this cause than any other.

Both *Primula nutans* and *macrophylla* H78 disappeared last winter and have had to be replaced. *Primula nutans* has scapes 12 to 18 ins. high carrying umbels of lavender-violet, nodding, bell-shaped flowers which are also sweet-scented. This *Primula* is a Chinese species from Yunnan. The form of *Primula macrophylla* H78 which is grown appears to be very similar to the basic description of *P. macrophylla*. The purple flowers are $\frac{3}{4}$ in. in diameter with yellow eyes, carried 5 to 20 in an umbel on 1 in. pedicels. The scape is 6 to 9 ins. and farinose. Leaves are lanceolate, slightly crenulate, 4 ins. long on short winged stalk and farinose beneath. This is another Himalayan *Primula* and sometimes appears under the synonyms of *P. nivalis purpurea* or *P. stuartii purpurea*. Both *Primula nutans* and *macrophylla* H78 have been replanted in their previous positions and have been given new soil with a quantity of peat down below.

In this garden *Primula capitata* and its varieties 'Early Lilac' and *sphaerocephala* require replacing every second or third year, but they are some of the few *Primulas* in the garden which reproduce themselves readily from seed. As it was not possible to tell the seedlings apart, however, the plantings have now been re-positioned some distance apart in the garden.

In some sheltered positions plantings of *Pp. aureata*, *boothii*, *petiolaris*, *bracteosa*, *edgeworthii*, *cunninghamii* and *edgeworthii alba* were made. The *Primula aureata* turned out to be a poor form with smaller flowers and paler yellow colour than the type. Some young plants of the type have now been acquired but are meantime being retained in the propagating house until they are large enough to risk planting outside.

Primula boothii comes from Bhutan and has a fairly large umbel of flowers, pale or deep purple, with yellow eyes, set close down in the rosette of leaves. *Primula bracteosa* also comes from Bhutan, but at flowering time the scape is about 2 ins. high, finally extending to about 9 ins. The umbel again carries many flowers of pinkish-lilac with yellow eyes. *Primula edgeworthii* does well in the alpine house and should be grown in a compost containing a high proportion of peat. The flowers are mauvish-pink with a white eye and yellow throat, the scape sitting tight down on top of the foliage.

Both *Pp. concholoba* and *cortusoides* have done well outside here, although I was somewhat doubtful when these were originally planted out. *Cortusoides* has done well in a fairly shaded position, while *concholoba* has a more exposed and sunny position. Another *Primula* growing in a similar position is *fauriae modesta* and this is quite striking when flowering well, something like a white *frondosa*. A similar type plant was acquired under the title of *modesta yuparensis* and this turned out to have lilac-pink flowers.

Many other small *Primulas* are grown in open beds and the best of these are probably *obtusifolia*, *gambeliana*, *auriculata*, *ellisiae*, *ruprechtii*, *firmipes* and *pedemontana*. The plants of *Primula obtusifolia* vary very much in size, some being quite small, others much taller, even when grown under similar conditions. The number of flowers per umbel is very few, normally two or three, but sometimes only one. The flowers also vary in differing shades of purple.

Primula gambeliana is a small member of the Section *Rotundifolia* from Sikkim and growing only about 4 ins. high. The leaves are roundish, with toothed edges, on stalks longer than the leaf blade and glabrous. The flowers are light purple with a yellow throat, set in the form of a small umbel. *Gambeliana* flowers in April or May.

Primula auriculata seems to have a misleading title, as this belongs to the Section *Farinosae* and not to the Section *Auricula*. Nevertheless, this is a very nice small *Primula* from Persia growing 3 to 20 ins. high. The elliptical leaves are set in regular rosettes while the heads of flowers are reddish-purple or bluish. The flowers are carried on short pedicels in umbels of 8 to 20 flowers, each flower being $\frac{3}{4}$ in. in diameter with deeply notched petal lobes. The leaves are 2 to 6 ins. long, finely toothed and tapering to a winged stalk.

Primula firmipes has nodding flowers of primrose yellow just under 1 in. across. The flowers are carried in an umbel of 2 to 10, yellow farinose above, on a 4 to 16 in. tall scape. Flower pedicels may be

anything from $\frac{1}{2}$ in. to $1\frac{1}{2}$ ins. in length. Flowering time is late May. The leaves are distinct, being ovate or roundish, cordate at base, deeply crenate and dentate. Leaves are from 1 in. to 3 ins. in length with slightly longer winged stalk, sheathing at base. This Primrose may appear under the pseudonym *Primula deleiensis* or *Primula flexilipes*. Distribution is fairly extensive, including Yunnan, Burma, Assam and the Himalaya.

Primula pedemontana should be grown in full sun to produce the maximum deep pink, white-eyed flowers on their short stems. The plants, however, require a moist well-drained soil and plenty peat below satisfies this requirement. This is a species from Italy and is easily reproduced by division.

For brilliance of colour in the spring there is little to beat *Primula rosea*, *rosea* 'Delight' with its larger flowers, or *rosea* 'Micia Visser de Greer' with its deeper shade of rose. Here these varieties stay nice and tight and come into full flower while the flower heads are still close to the ground.

Primula warshenewskiana, which has been likened to a miniature *Primula rosea*, has not done particularly well in this garden; the flowers have been few and far between and the colour far less intense than any of the *Rosea* types. *Primula viallii* is planted in three positions in the garden, but the planting which is by far the best is that in an open bed which has some peat down below. The plants here have kept growing for several years and they are the only group which has produced offsets.

A number of the Japonica type Primulas are grown, mainly at the back of the open beds—*aurantiaca*, *bulleyana*, 'Itton Court', *chumbiensis*, *burmanica* and 'Millers Crimson'.

Primula aurantiaca is a small growing member of the Candelabra Section, carrying anything from 2 to 6 whorls on a 12 in. scape. The flowers are reddish-orange, $\frac{1}{2}$ in. across, while the calyx is dark red and the scape similarly tinted. The flower pedicels are $\frac{1}{2}$ in. long and 6 to 12 flowers are carried in each whorl. The leaves are up to 8 ins. long, obovate to oblanceolate and denticulate. This Primula is a native of Yunnan.

Primula bulleyana is another of the Candelabra Section, growing between 24 and 30 ins. high. This species has golden yellow flowers coming from red-gold tinted buds and is easily reproduced from seed.

Primula 'Itton Court' is a garden hybrid also of the Candelabra Section, with deep orange to orange-scarlet flowers, growing here up

to 16 ins. high. This hybrid comes true from seed.

Primula burmanica has flowers of a magenta shade, the candelabra being some 15 ins. high. This species appears to put up flowering stems at various times during the summer and autumn.

Primula 'Postford White' was also grown, but an attempt to replace this from seed only produced plants with piebald flowers. This is one on the replacement list. *Primula sonchifolia* was grown for a number of years on a raised scree bed in a very shady position, but the number of plants kept diminishing and the remainder have now been transferred to an open bed and set in where this joins a peat wall. It is hoped that they will settle in this new position.

Several positions have previously been tried for *Primula clarkei* and this has now been placed in a similar position to that provided for *Primula sonchifolia*. Both these positions get some forenoon sun but are in shade from mid-day on. Another *Primula* which has been tried outside several times is 'Maid Marion' and as another planting has just been made the spring will tell whether the correct position has now been selected. *Primula* 'Maid Marion' does particularly well in a pot plunged in the propagating house. Another *Primula* doing well in the propagating house is *geraniifolia*, but like 'Maid Marion' the correct position has not yet been found outside to grow this successfully. *Primula geraniifolia* belongs to the Section *Cortusoides* and is a neat growing type with its rose coloured flowers carried on scapes 6 to 8 ins. high.

Other *Primulas* on trial outside are *strumosa*, *wilsoni* and *grandis*, and although they all stood last winter unprotected, neither *strumosa* or *wilsoni* made much progress or flowered. These may require re-positioning. *Primula wilsoni* is a tall species of the Candelabra Section, each scape carrying several tiers of deep purple flowers. This should be grown in a woodland or sheltered position.

Primula grandis is an unusual type, the flowers being distinctive but not very attractive. The flowers themselves are tubular, yellow, and carried in a drooping cluster on top of a scape 15 to 18 ins. tall. This species comes from Russia and flowers here in June.

As previously mentioned, *Primula denticulata* and its cultivars are grown in these open beds. The best colour form here is without doubt *denticulata* 'Stormonths Red'.

The gravel beds hold a number of *Primula* but the majority of these are varieties of *marginata*, *pubescens* or species of similar type. Three varieties of *marginata*—*x rosea*, 'Prichards var.' and 'Linda

Pope'—were brought from the previous garden and all have done even better here. *Primula* 'Linda Pope' is without doubt the best of the three and, although the plants are growing in very poor soil and facing east, they have flowered well every year and the planting has increased considerably. This variety has slightly larger and better-shaped flowers of lavender blue, with a strong white eye, than the type species.

Three other *marginata* varieties have been added to the garden—'Jenkins var.', 'Drakes Form' and 'Beatrix Lascaris'. 'Drakes Form' has now been established for some years and this has formed a clump almost a foot wide. This form is easy growing and good flowering, the large flower heads being of deep lavender, while the leaves are toothed and edged with a distinct farina.

A Holiday at Lech, Vorarlberg

by DAVID LIVINGSTONE

LECH is a delightful mountain village at a height of about 4,700 feet in the Vorarlberg region of Austria. My wife and I spent a fortnight there from 26th June to 10th July 1968 in glorious sunshine, the top shade temperature reaching 81° Fahrenheit. We flew from Glasgow to Innsbruck by way of London and then proceeded by train through the Arlberg tunnel to Langen where we took a postal bus to Lech, passing through the well known winter ski-ing centre Zurs before descending to our destination a few miles away. We stayed at the Hotel Post, which was very comfortable, and the food was excellent and varied.

I am no geologist but judging by the plants found I would say that the area around Lech is predominantly limestone and consequently the alpine flora is rich. Certainly the impression left was of flowers everywhere and there was no need to do any strenuous climbing, nor did we do any. There are two lifts, one to Oberlech at about 5,200 feet which we used before starting off on easy rambles over well-defined paths, and the other to Rufikopf at about 8,000 feet which we did not use as we were well content with the flowers to be found at lower altitudes. Many indeed were growing only a few minutes' walk from

the village main street. Once again I was forced to a recognition of my comparative ignorance of the alpine flora and the inadequacies of my reference books. This then is a tale mainly of some of the plants I found and recognised. It is difficult to know where to begin, but perhaps I should give pride of place to the Club's emblem. *Dryas octopetala* was found in great profusion, clambering over rocks, clothing the banks beside the paths and studding the short turf. All were good, but in the best forms the flowers were very large and magnificent. *Gentiana acaulis* and *G. verna* were also in great numbers, varying only in the intensity of their blue colouring. Again I was struck by the fact that all the plants were small but well flowered : indeed, many of the *G. verna* looked to me to be little more than one-year-old seedlings. The tall yellow gentian *G. lutea* found in the higher alpine meadows was not yet in flower, but *G. campestris*, the field gentian, was just beginning to flower in the thick vegetation of the same meadows, where it really made no show at all amongst its competitors.

Pulsatilla vernalis away up in the highest meadows was going over : all its flowering glory was gone and as yet the fluffy seed heads had not properly formed. Lower down *Pulsatilla alpina* was at its best. The big white flowers set off by the many golden stamens were a joy to behold. In the garden it grows much taller and lacks the grace and beauty it has in the wild. *Anemone narcissiflora* was abundant and it was just coming to its best. Each stem carries some seven or eight white flowers, the backs of the petals being flushed pink. Indeed, in the unopened bud stage the flower head bears a strong resemblance to a truss of apple blossom.

Near the village there was a pleasant walk through a grassy area strewn with boulders from the crags above. Here there were a hundred or more *Daphne mezereum* in berry. The bushes were much smaller than cultivated ones and most were multi-branched from ground level. Whether this was an indication that the tops of the seedling daphne had been eaten by the large brown cows which grazed there I do not know. Across the river from the small village of Zug about two miles from Lech, growing in grass amongst small pines and dwarf shrubs unknown to me was another daphne, *D. striata*. I was delighted to find this sweetly scented small shrub which is only a few inches high and which has clusters of comparatively large purpley-pink flowers. It is semi-prostrate and its branches trail through the grass and other vegetation.

Small well-flowered plants of *Soldanella alpina* were to be found

in great numbers from the village right up to the highest meadows, and at this limit of its distribution, where there was still some snow and the ground was sopping wet in places, there were a few of its very dainty relative *S. pusilla*. This species is only an inch or two high as found there and its flowers, carried only one to a stem, are pale lavender, tube-shaped and fringed only at the mouth. This is a beautiful little plant, a delightful companion for the small white Soldanella, *S. minima*, which I found at Selva in the Italian Tyrol some years ago. Perhaps I should say it would be a delightful companion if only I could induce the plants to flower as freely in cultivation as they do in the wild. In any case I have established *S. pusilla* without difficulty and it now remains to be seen whether it will oblige with its attractive little flowers.

My particular interest in primulas is well known. It will, therefore, be no surprise to readers that I was very pleased indeed to find *P. auricula* in full flower in a number of varied locations. At one place it was growing on the rocky banks of a dried-up stream, and at another in the cracks and hollows in huge boulders. It was, however, in its greatest numbers in very short alpine turf in one of the very high alpine meadows near to the foot of real rugged rock faces. Nowhere were the plants big, the flower scapes were short and the flowers varied slightly in their shade of yellow, some almost lemon, but all had the white eye which I find attractive. As the weather was dry and warm the leaves were well covered with white farina. At the highest station this primula seemed to be very happy as it had seeded itself about quite freely. *Primula farinosa* was, of course, in vastly greater numbers on the lower slopes near the village. Mostly I have found this species in wettish places, but here it was also growing well in fairly dry conditions on the banks beside the paths. Again the colour of the flowers was variable between pale pink and almost red, but search as I did amongst the many thousands, I could not find an albino.

Ground orchids were in greater profusion than I have ever seen them in the mountains. Pride of place for numbers must go to what I think was the early purple orchid *Orchis mascula*, which was growing in hundreds wherever the ground was soft and wet. Not far behind from the point of view of numbers was the fragrant orchid, *Gymnadenia conopsea* growing in the meadows. This species has blueish-pink very strongly scented flowers. In company with it was the much smaller *Gymnadenia albida* with very small greenish-white flowers. At a higher altitude I was thrilled to find the lesser butterfly orchid,

Habenaria bifolia, which has comparatively large white flowers, and in the same area the black vanilla orchid, *Nigritella nigra*, which hitherto I had not seen in the wild. Another which I had not found before was the round-headed orchid, *Orchis globosa*, with small pink flowers tightly packed in a round pyramidal head growing in a meadow along with such things as the orange-yellow *Arnica montana*, a good plant for the front of a herbaceous border, *Lilium martagon*, very variable in colour and the number of spots on the petals, and the pale yellow biennial *Campanula thyrsoides*, the flowers of which are densely clustered into a head shaped like a pineapple. Another campanula, *C. barbata*, with its pale blue bell flowers fringed with hairs at the mouth made a brave show here too. This species grows well with no special attention in the rock garden, but it seeds very freely and the resulting youngsters have to be thinned or weeded out to prevent them becoming an embarrassment. There is a beautiful albino, but it has never been my luck to find it in the wild.

Viola biflora was very plentiful in sparse woodland and around the edges of forests. It has very pretty, small deep yellow flowers, usually two to a stem over kidney-shaped leaves. In the garden I have found it to grow rather lush and thereby lose character. Growing in similar surroundings to the *Viola* I found *Cortusa matthioli*, which I had found for the first time a few years previously growing at the road side near St. Anton, when my first reaction was that I had found a primula unknown to me. I now know that I erred in good company, because at one time professional botanists had indeed included it in the genus primula. *C. matthioli* is the only European species and has up to twelve pendulous bell-shaped rosy purple flowers borne on twelve-inch stems over coarse leaves not unlike some Asiatic woodland primulas.

Two insectivorous plants were plentiful in wet places. *Pinguicula alpina*, white flowers with an orange spot, and *P. vulgaris*, violet with a white patch at the mouth. I like them both, but I have had little success in trying to grow them in pots in sphagnum moss. The main trouble seems to arise in winter when they die back to resting buds and appear to lose almost all the few roots that they have.

These then are some of the plants found at Lech. My holiday was not in the least spoiled by the fact that I did not see *Eritrichium nanum* or any of the Aretian Androsace. There were so many beautiful flowers within easy access that I did not really mind the absence of the more exotic alpinists.

I referred earlier to the inadequacy of my reference books. I now

have one which fills the bill. 'Mountain Flowers' by Anthony Huxley, published by Blandford Press at £1.50, is worth every penny and more. There are 112 colour plates depicting 884 plants, with a further 36 plates of line drawings, bringing the total of plants illustrated to over 1200. The book is of a handy size for taking around, as it will go into a large pocket or take up little room in a haversack.

4th International Rock Garden Plant Conference 1971

THE 4th International Rock Garden Plant Conference and Show were held at Harrogate from 21st to 25th April 1971. This was organised jointly by the Alpine Garden Society and the Scottish Rock Garden Club in connection with the Spring Show of the North of England Horticultural Society.

The Conference was an undoubted success, being attended by a large number of members. There was a very large attendance from countries overseas. It was a delight to meet people who one had only known by name and to renew acquaintance with those whom one had not seen for some time, particularly those who were here at the last Conference in 1961. The Conference was a very friendly affair.

The thanks of all members are due to the Joint Committee who carried out the arrangements. This must have involved a tremendous amount of work, for there was a very full programme of lectures, symposia, colour slides, a demonstration and a film.

Special mention must be made of the Show, which provided an outstanding collection of rock garden plants from all over the world. The thanks of all those attending are due to Mr. S. E. Lilley and his helpers for making it possible to see over 800 plants in absolutely first class condition.

Further reference is made in the "Review of the Year" by our President, Mr. D. Livingstone, in this issue.

By arrangement with the Scottish Rock Garden Club, the Proceedings will be published by the Alpine Garden Society. A copy of the Proceedings (which will contain a report on the Show) will be

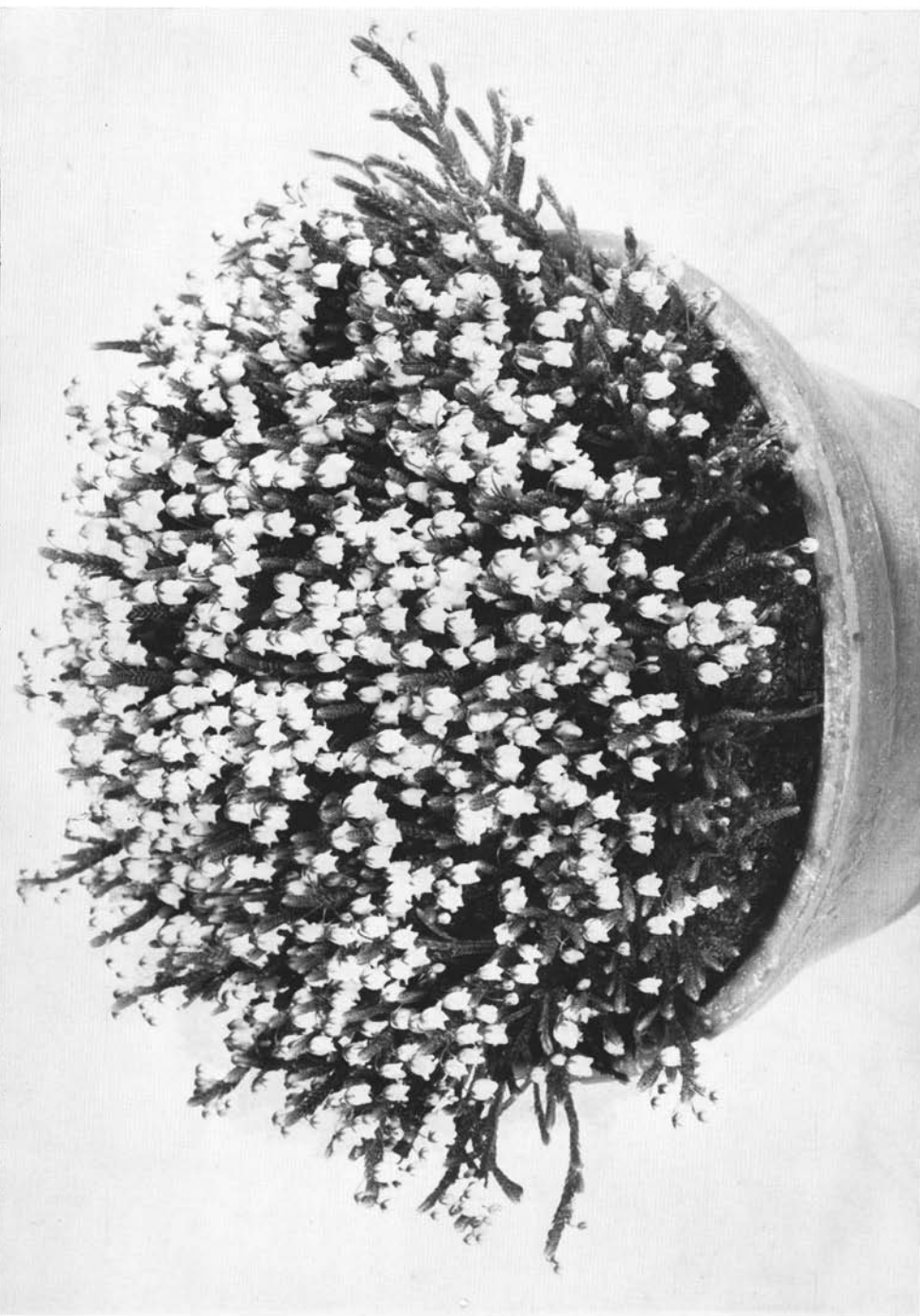


Fig. 88—*Cassiope* 'Muirhead'

Photo—John Watt



Fig. 89—*Pulsatilla vulgaris*

Photo—John Watt



Fig. 90—*Salix apoda*

Photo—John Watt



Fig. 91—*Pleione forrestii*

Photo—John Watt

sent on publication to all members who attended the Conference. The Conference Fee included the cost of this. Other members of the Scottish Rock Garden Club may buy a copy. At the time of going to press the date of publication is not known, neither is the cost. Notification will be made to members in the first publication of the Club after these are known.

5th International Rock Garden Plant Conference 1981

LOOKING ahead to another International Conference in ten years' time, it would be of great help to those who may have the task of organising it if members who attended the recent Conference at Harrogate could record their comments on that Conference whilst it is fresh in their minds.

Comments should not only include criticisms, which would be helpful, but also points which were appreciated and which should be repeated at any future Conference.

The whole purpose is to ensure for the benefit of the Organising Committee of the next Conference that the experience of individual members is taken into account.

Too frequently the views of the Office-bearers of the Organising Body are carried out without ascertaining the views of the rank and file members.

This is your opportunity to influence the next Conference.

Please send any comments to the Honorary Secretary, Mrs. L. C. Boyd-Harvey, Boonslie, Dirleton, North Berwick, East Lothian. These will be collected in a file and made available to the Organising Committee for the next Conference.

The Seed Exchange

1971

UNDER favourable circumstances the Seed Exchange is a formidable task, but an eight-week postal strike meant, to the Seed Exchange Manager and her band of helpers, a period of frustration. They could not forget the many applicants waiting, with what patience they could muster, the problematical arrival of their seed allocation. That the recipients were in the main sympathetic and understanding put fresh heart into the Seed Exchange team. So, too, did the generosity of many members which did much to offset the steep rise in the unavoidable costs of the operation as compared with earlier years.

162 Home and 94 Overseas members donated seed

250 Home and 372 Overseas members applied for seed

The thanks of the Seed Exchange Manager are extended to all donors, to those who made her task lighter, either by helping in the work involved, or by words of cheer and encouragement accompanying their applications, and to those who, by applying for seed, completed the Exchange cycle. The Seed Exchange Manager looks forward to even greater participation in the 1972 Exchange.

1972

Members are reminded that seeds for the Seed Exchange should reach the Seed Exchange Manager, Dr. Lucy M. Dean, 9 Ledcameroch Crescent, Bearsden, by Glasgow, Scotland, **not later than 31st October 1971.**

In the case of late-ripening seeds, the names of those to be forwarded later should also be sent on this date ; these seeds must reach the Seed Exchange Manager **not later than 31st December 1971.**

Copies of the Seed List will be sent to all Overseas Members and to Home Members who supply seed. Any other member who would like a Seed List should send a stamped self-addressed envelope not smaller than 5½ ins. by 8½ ins.

Applications for seed will be dealt with in the order of receipt, but priority will be given to those who have contributed seed. Applications will be dealt with in the following order :—

Overseas members who have contributed seed

Home members who have contributed seed

Other Overseas members

Other Home members

It must be emphasised that some seed will be in very short supply and only a very few packets will be available.

Review of the Year

THE outstanding event of the year was, of course, the Fourth International Rock Garden Plant Conference organised jointly by the Scottish Rock Garden Club and the Alpine Garden Society, which was held in Harrogate between 21st and 25th April 1971. There were over 500 delegates in residence, many of whom had come from overseas. A very full programme of lectures was much enjoyed, the standard of lecturing being high and the illustrating slides of excellent quality.

A three-day Show, an integral part of the Conference, was held in the Valley Gardens, Harrogate, in conjunction with the North of England Horticultural Society's Spring Show. There were over 800 entries of rock garden plants, the quality of which had to be seen to be believed. In some classes there were as many as twenty entries and the judges had a difficult task in deciding the prize winners. There appeared to be unanimous opinion that never before had so many fine rock garden plants been gathered together under one roof. Our overseas visitors were most impressed and an Australian's observation is perhaps worth recording. He said: "We buy bulbs and seeds and we get seeds through the Seed Exchange. We grow them on and we think we are doing well, but having seen this Show we are set new standards. Obviously we have got to go back home and re-think our approach". Indeed, new standards were set for most of those who attended the Show.

The arrangements made for the Conference and Show were splendid and warmest thanks are due to the Joint Committee and in particular to Mr. R. D. Nutt, Chairman, Mr. David Elder, Treasurer, Mr. E. M. Upward, Secretary, and Mr. S. E. Lilley, Secretary of the Show. Two ladies rendered invaluable service and no praise would be too lavish for them. Mrs. E. M. Upward in an unofficial capacity worked long hours and unceasingly on administration in the Conference Office, and Mrs. K. N. Dryden, Assistant Show Secretary, calm and serene, was a great

help and comfort to harassed exhibitors.

A Conference Report is being printed and will be issued free to those who registered as delegates. Copies will be available for purchase by those members who were unfortunate enough not to be present at Harrogate.

On the domestic front the Discussion Week-end at North Berwick in the Autumn of last year was a great success and another has been arranged for this coming Autumn at West Kilbride. Details will be found elsewhere. These occasions, as well as giving an opportunity to hear how experts grow their rock garden plants and see slides of splendid specimens, are fruitful as a social gathering where one meets people with common interests which can be discussed informally and where many lasting friendships have been made.

Membership of the Club continues to increase slowly and now stands at 3,120. Individual members could do much to encourage friends to join and the greater the membership the more the Club could extend its activities and service to members. The costs of running the Club, such as printing and postage, continue to rise and economies have had to be made to keep the annual subscription at £1. The full list of members will not be published annually, but it is intended to print the names and addresses of new members in the *Year Book*. For the time being colour plates will not be included in the *Journals*, but they will be restored as soon as funds permit.

Group activities continue and the various Shows, our shop windows for the public as it were, are run in the main with commendable success. It becomes increasingly clear that Groups and Shows are most successful where there are strong committees rather than strong individuals and where there is co-operation and co-ordination between Group and Show committees. All concerned with these activities are urged to look at their organisation to see what improvements can be effected and, if required, to seek advice from Mrs. K. Simson Hall, Chairman of the Standing Committee of Group Conveners, 93 Whitehouse Road, Edinburgh 4, or Dr. H. Tod, F.R.S.E., Carnethy, Seafield, Roslin, Midlothian.

So far as Shows are concerned there is a great need to encourage members, particularly young members, to exhibit. Some Groups have already taken steps to do this by running a small Show ; they need consist of no more than half a dozen classes, in conjunction with one of their Spring lectures. In the informal surroundings of a local meeting some members may be tempted to try out their plants against their

friends and, having once experienced the fun of showing, may be encouraged to put in a few plants in Section II of an officially sponsored Show. The gift of a good young plant or two to members thus started from an experienced grower and exhibitor works wonders. This kind of encouragement pays dividends, as witness the Glasgow Show this year when competition in Section II was keen and the quality of the plants good, indeed in some cases excellent.

The Seed Exchange was again well supported by members and there were many requests for seeds which unfortunately could not always be met. It is the case that often the supply of seeds of the rarer species is small and the demand great. Where alternatives were given the task of completing an order was eased, but even so there were bound to be disappointments for which we express our regrets. Members who grow the rarer plants which are difficult to obtain through any other channel are urged to save and send in as much seed of these plants as they possibly can. The prolonged postal strike upset distribution of seed and, of course, considerably delayed receipt of requests. Dr. L. M. Dean, our new Seed Exchange Manager, and Dr. and Mrs. Norman Holgate who with other local members gave invaluable assistance, are to be congratulated on the way in which they overcame the difficulties imposed on them by the strike.

Finally, I express my warmest thanks to Council and the other Office Bearers for their kind co-operation and assistance in this my first year as President.

DAVID LIVINGSTONE

Plant Notes

ANEMONE RUPICOLA

COLONEL Lowndes in his *Extracts from a Diary of the Expedition to Annapurna Himal in 1950* (A.G.S. Vol. 22) mentions having found this Anemone in a gorge and described it as not unlike *Pulsatilla alpina* (*Anemone alpina*).

Mr. R. L. Holdsworth (A.G.S. Vol. 33) found it growing at an altitude of between 12,000 and 13,000 ft., "Growing in colonies in turf on rather stony alps. One slope will contain thousands of plants : another, just like it, none at all".

The description in both articles was of a beautiful plant. Seed was procured four years ago from S.R.G.C. Seed Exchange. Germination

was poor and of four seedlings two grew well and were planted out the following year. The sites chosen were (1) rich scree, (2) damp peaty position by stream side in full sun. Both plants have bloomed and increased slowly by runners. *Anemone rupicola* blooms here late May or early June. The dark green much divided foliage make a perfect foil for the two-inch wide white, blue-backed flowers held on six-inch stems. This Anemone, shown by Edrom Nurseries, was awarded a Preliminary Commendation in May 1952. It seems strange that this plant is not seen more often in gardens. Seed is listed in the S.R.G.C. Seed List and I know of one Nursery that grows it.

Pitlochry.

M. R. S.

RHODODENDRON FORRESTII—Some Forms and Hybrids

THE rhododendrons now known as *Forrestii* and its varieties were up to a few years ago, by gardeners at least, more or less lumped together as *Rhododendron repens*. Now the botanists seem to have got things sorted out, and they are included in the *Neriiflorum* series. They are graded H4 in the R.H.S. *Rhododendron Handbook*, i.e. hardy anywhere in the British Isles.

R. Forrestii is the type form of the *Forrestii* sub-series. It is prostrate, seldom taller than four inches, if that, and it layers itself as it creeps along the ground. Propagation, therefore, is no problem. It is not a fast grower, but a plant I got as a small rooted layer in 1954 is now in 1970 eighteen inches in diameter. Its leaves, unlike those of its varieties, are a dull red colour on the under side, on the upper surface they are dark green and shiny. They are small and obovate in shape. The flowers, about one and a half inches long, are waxy and bright scarlet and usually carried singly, but sometimes in twos. Unfortunately some clones in cultivation are extremely shy flowering. Plants of a good clone, however, are most floriferous and quite lovely.

It is quite hardy, but there is one drawback if your garden is liable to suffer from late frosts. In the middle of April 1970 my biggest plant was simply covered in scarlet buds on the point of bursting. Then we had 12° of frost and next morning the plant was a sorry sight. Luckily this does not happen very often, so it is well worth persevering with it.

Rhododendron forrestii var. *repens* used to be known as *R. repens*, and in some catalogues it is still so named.

It is similar in habit to the type form, but a somewhat stronger grower, and its leaves do not show any red colouring. The flowers are much the same as those of the type, and some clones show the same

reluctance to flower. It is important, therefore, to be quite sure you get a floriferous form, for it can be really beautiful. (Awarded F.C.C. in 1935.)

R. forrestii var. *tumescens* is somewhat larger than the two forms already described. It tends to be rather humped up in the middle, though the outer branches creep and root in the same way as the other two. The leaves are larger and rather a duller green. The flowers also are larger, and the colour a somewhat deeper red.

The form I have flowers well and came to me many years ago as *R. repens* 'Red Letter Day'. (Awarded A.M. 1957.)

Rhododendron forrestii var. *repens* has proved itself a good parent, and a number of really good hybrids have been produced by using different species and hybrids as the other parent.

One of the finest of these, and possibly the best known, is *R.* 'Elizabeth', the other parent being *R. griersonianum*. It was raised at Bodnant. There seem to be two forms of it, at least of the two I got from Bodnant seven years ago one is upright and has reached three feet in height, the other is about half that height and less upright.

In both forms the flowers are the same, and definitely larger than those of *R. forrestii* var. *repens*; another difference is that flowers are carried up to six to a truss. The colour is light blood-red with perhaps a suggestion of geranium, presumably inherited from *R. griersonianum*.

There is a much dwarfer form known as 'Jenny' (sometimes 'Creeping Jenny'). It is prostrate and its flowers are a little smaller than those of the taller 'Elizabeth'.

Another *R. f. repens* cross is 'Ethel', the other parent being *R.* 'F. O. Puddle'. It is a little smaller in every way than 'Elizabeth' and its leaves are a darker green and more glossy. Its young partly ripened shoots and its bud scales are reddish. Even when not in flower it is most attractive. Its flowers are crimson-scarlet and freely produced. It was awarded a F.C.C. in 1940.

Another of these Forrestii hybrids, this time with *R. didymum* as the other parent, is *R.* 'Carmen'. It is a small plant, but not quite as prostrate as *repens*, and it is perfectly hardy. It has the dark red flowers of *didymum*. To get the best effect, therefore, it should be given a position where you can see it with the sun shining through the flowers.

All the above species and hybrids I grow myself. There are a number of other hybrids, but I have no personal experience of growing them.

Apart from flower damage caused by a late frost after a mild spell

they are all hardy here in north Perthshire. Like other rhododendrons, they like a moist, humusy soil.

Personally I grow them in full sun, or where they get light, partial shade around mid-day. I have a theory that a possible cause of these rhododendrons sometimes not flowering well is too much shade, resulting in unripened wood.

Established plants appreciate some feeding. Some ultra tidy gardeners perhaps starve their plants by brushing up and removing all fallen leaves !

A mulch of leaf-mould, well-rotted garden compost, or even of really old, well ripened farmyard manure is good. 'Friable' and 'crumbly' are the operative words for the mulch in the case of prostrate creeping forms. A soggy mulch on top of the leaves is NOT appreciated, so work it well in with the fingers.

Cuttings of all these rhododendrons strike quite easily. Latish summer or autumn, when the wood has been more or less ripened, are probably the best times. In the case of the prostrate kinds you can usually find rooted layers.

The Forrestii Clan and its relations by marriage are a very attractive lot. They all have pleasing foliage and lovely waxy flowers which stand up well to bad weather, except for late frosts, particularly after a mild spell.

Pitlochry.

M-L.

HARDY ! BUT WHERE ?

HARDINESS to many people means ability to stand up to cold, but there is much more to it than that. Cold at what season ?

The same temperature, which in say December or January is quite innocuous to a plant, may well be disastrous in March or April. In the former case the plant is probably still more or less dormant, and inactive. By the later date, however, it may well have fresh unseasoned growth, and possibly flower buds beginning to colour. Now many flower buds are not very resistant to frost, or for that matter to cold drying winds.

Possibly the most important characteristic of our climate is its variability. Our winters often, one might almost say usually, consist of alternating spells of hard and mild weather, repeated in some years almost *ad lib.* from November to April. This variability is probably the greatest hazard plants in our climate have to face. We grow, or try to grow, plants from very many parts of the world.

Most plants from the high mountains are accustomed to spending the winter under a good blanket of snow. Now the temperature under that snow blanket is degrees higher than the temperature above the snow. Also the temperature below the snow does not undergo sudden changes, but remains much the same all winter. Another result of being under the snow blanket is that the plant remains fairly dry all winter. We can, to a certain extent at least, provide this dryness if we keep our plant in a cold frame all winter or, if we can bear the ugliness of it, we can get the same result in an outdoor scree if we cover it with a cloche or a bit of glass. The same result may sometimes be obtained, perhaps more aesthetically, by growing your plant under an overhanging rock in wall or scree.

Some borderline plants, including high alpiners, and some shrubs from mountains with a much drier and hotter climate than ours, will do all right without overhead cover, if they have really sharp drainage. An example of this is a prickly dwarf shrub from Spain and North Africa—*Erinacea pungens*. I have one near the top of a three-foot wall backed by very sharp scree mixture. It has been there a dozen years or more and every year it covers itself with its attractive mauve 'pea' flowers. Planted in ordinary soil on the flat it would probably not have survived even its first winter.

I have already mentioned cold drying winds as a hazard, and it is one to which much thought should be given when choosing the exact spot in which to put a plant with the reputation of not being quite hardy.

Another point to keep in mind when choosing such a position is exposure to sun. Many a plant, particularly a shrub with fresh new growth, will get away with it in a late frost, if it is in a position where it does not get the early morning sun on it. That means that it does not get rapidly defrosted by warm rays of sunlight before the air around it has been gradually warmed up, at least partly. Under such conditions the thawing out should be gradual; it is a sudden thaw which is most damaging.

Examples of plants which particularly call for these attentions (wind and sun) are early flowering dwarf and semi-dwarf Rhododendrons, Camellias, Pieris and others.

Even in Scotland climate can and does vary quite a lot. A plant which flourishes on the drier east coast may be a complete failure on the wetter west coast, and vice-versa.

We cannot really say that a plant is 'hardy', we can only say that

it is hardy in certain areas and under certain conditions. Luckily for us, however, many plants are much more adaptable and, within reason, will grow almost anywhere. They must, however, be given a suitable position and suitable soil.

A 'hardy' woodland plant, for example, is hardly likely to flourish if planted in a hot sunny scree. In many areas from which our plants come winters are dry, even if there isn't a snow blanket, and this is their resting period. Rain in spring is the signal for them to start into new growth. It is not surprising, therefore, if they are tempted into new growth in our mild wet spells in winter, then of course they are liable to get a real rebuff with the return of cold frosty weather. By skilful placing of our plants we can avoid, or at least lessen, the effect of such mishaps.

I suggest that you should not accept as gospel a prescription for treating a "difficult" plant, no matter how eminent the writer may be, unless you know where he does his gardening. Remember, many books and articles in journals, etc., are written by people who are gardening in the south, and their advice may well not be at all suited to gardens in the North.

Of course there is the reverse to the coin ; plants easy in the north may be, and often are, difficult in the south, e.g. some species of *Meconopsis* and *Primulas*.

As an example of this I might mention my visit one summer to the garden, in the south of England, of a very well-known and very skilful and successful grower of difficult plants. She showed me how she grew, with some difficulty, her *Petiolarid* primulas. They had a shaded frame to themselves which was kept closed all day in warm weather, and the plants were regularly sprayed with water. Now many of these primulas are reasonably easy to grow in the open in my own and in other gardens in this part of the country.

Incidentally, although I make no claim to be an eminent writer or grower, it might interest readers to know that my garden is in north Perthshire and about six hundred feet above sea level.

Pitlochry.

M-L.

Book Reviews

"SILVER-FOLIAGED PLANTS," by W. W. Drysdale. 37 pp., 10 illustrations in monochrome. 1971. Alpine Garden Society. 25p plus postage 4½p.

This posthumous booklet is, very evidently, the work of a real enthusiast—and one who knew what he was doing. “Silvers” are always popular show plants and, as the author points out, by no means the easiest plants to grow really well.

His descriptions are accurate and vivid, and his advice on culture, sound. To one who has grown (and, regrettably, lost) almost all of the delightful silver-foliaged plants sent from Turkey by Dr. Peter Davis, his comments on culture are both useful and valuable. As a judge I agree entirely with his distinction between the true silver-foliaged plant and those which have green leaves adorned with relatively sparse silvery hairs—but this does not simplify matters when required to judge between a really good, but very difficult, plant of the latter group and an equally good, but easy, one of the former!

Some of the plants omitted are surprising, but this may be a question of the date of writing, for surely he would have rejoiced in a plant of *Chrysanthemum haradjanii* grown really hard—or *Verbascum* ‘Letitia’, though perhaps the latter is nearer a white than a silver—or some of the Middle Eastern *Verbascums*. Be that as it may, this book is a delight to read and clear and instructive at the same time.

H. T.

“HEATHS AND HEATHERS—CALLUNA, DABOECIA AND ERICA,” by Terry L. Underhill. Two hundred and fifty-six pages, illustrated by thirty-one photographs, and by line drawings showing botanical details and geographical distribution. Published by David & Charles, Newton Abbot, Devon. Price £2.50.

I am grateful to Mr. Underhill for having written this book. As a direct result of reading it, part of my own *Calluna*-less garden has been cleared to make room for a collection. What other single species has such wide variation in stature, flower and foliage colouring and in period of flowering?

There is a chapter on planting and cultivation in which reference is made to soil pH and lists are given of those *Ericas* which accept or tolerate lime. Treatment is recommended for sites which are heavy and water-logged and for parched soils which dry too rapidly. For those who have no space for an extensive heather garden, suggestions are offered for the use of heathers in the rock garden, the shrub border or even in paved areas.

The chapter on propagation gives full details of methods, material and equipment for large or small increases of stock. Ease of propagation by cuttings is stressed.

The chapters which will perhaps be in most frequent use are those which list all the cultivars of *Calluna vulgaris*, the species, hybrids and cultivars of *Erica* and the *Daboecias*. This glossary not only gives descriptions and dimensions of plants, but also indicates those which have received the R.H.S. awards of F.C.C., A.M. and A.G.M. An asterisk indicates the varieties which the author considers to be outstanding.

An appendix gives a calendar of heaths and heathers to flower each month of the year, and lists those which are valuable for their coloured foliage.

This is a necessary book for beginners and for those whose established gardens need the stimulus of a new interest. Most Scottish nurseries now list a fine selection of heathers to suit all tastes, and this book takes the guess-work out of their selection.

Some of the photographs of heather gardens were taken at the Ness Garden, Liverpool University, and at the R.H.S. Garden, Wisley, and this will be an added recommendation for those overseas delegates who visited these two gardens during the International Conference Tour.

L. C. B.-H.

Slide Library

A SUPPLEMENTARY list of recently acquired slides has been compiled. This will be sent out in future with the main catalogue, but it can also be obtained separately.

The Club is indebted to Mr. Josef Halda of Prague for a collection of about 60 slides of plants photographed on Sakhalin Island, and in other parts of N.E. Asia. This most interesting collection may be borrowed by members or Groups. Applicants are asked to pay both postages.

The following LECTURES ON TAPE are available for hire :—

1. "Early and Late Flowers for the Rock Garden" by Major-General D. M. Murray-Lyon, D.S.O., M.C.
2. "Adaptation to Environment" by Mrs. L. C. Boyd-Harvey.
3. "Dianthus for the Rock Garden" by Mr. John Belchamber (presented by the lecturer).
4. "Ericaceae" by Mr. A. Evans, Royal Botanic Garden, Edinburgh (slides presented by the lecturer).
5. "Walls and Scree" by Major-General D. M. Murray-Lyon, D.S.O., M.C.
6. "Peat Banks and Beds" by Major-General D. M. Murray-Lyon, D.S.O., M.C. (both sets of slides presented by the lecturer).
7. "Reflections on Rhododendrons" by Mr. F. Cyril Barnes (*in preparation*) (slides presented by the N.E. England Alpine and Rock Garden Group).

Charge : 50p.

Typescript copies of the lectures, with slides but without recordings, can be hired. Charge : 20p.

There is also a tape-recording of a BBC "Rock Gardeners' Forum" which was held at North Berwick in January 1964. This runs for about 25 minutes and is not illustrated by slides.

Full particulars of the above from the Curator : Mrs. C. E. Davidson, Linton Muir, West Linton, Peeblesshire.

MEMBERS IN THE U.S. AND CANADA please note that Lectures Nos. 1, 2 and 4 can be hired from Mrs. Henry G. Clarke, Bear Swamp Gardens, Ashfield, Mass. 01330, U.S.A.

Photographic Competition

The Editorial Committee have decided to organise a photographic competition for Black-and-White photographic prints. The First Prize will be £5, with prizes of £3 and £2 for Second and Third. The Regulations are :—

1. Plants must be suitable for rock garden, cold greenhouse or frame.
2. The competition will not be confined to members of the Scottish Rock Garden Club, but is only open to amateur photographers.
3. An individual will be encouraged to submit as many entries as possible.
4. Office-bearers and officials of the Club (other than the editor) may compete.
5. The Judges, who have not been selected or approached, will *not* be members of the Scottish Rock Garden Club. They will be asked to judge on photographic merit and not on rarity.
6. Photographs must be *taken* by the competitor, but not necessarily with his own camera.
7. Prints need not be produced by the competitor. There is no reason why they should not be done commercially.
8. The plant need not belong to the competitor.
9. Plants may be photographed in the wild or in cultivation.
10. Unmounted glossy prints in black and white, not smaller than 8 ins. × 5 ins. nor larger than 11 ins. × 9 ins., must be submitted. Prints will not be returned to competitors.
11. The name of the plant must be written on the back of the print without causing an impression on the surface.
12. Entries will close on the day of the Annual General Meeting of the Club in 1971.
13. Copyright will remain with the photographer, but the Editor reserves the right to publish in the *Journal* all entries submitted.
14. Prints must be adequately protected to prevent damage in the post.
15. Photographs should be sent to the Hon. Editor, P. J. W. Kilpatrick, Slipperfield House, West Linton, Peeblesshire.

ERRATA

OWING to the postal strike, proofs were not seen by authors. The following mistakes occurred in the article "Snowdrop Cultivars and Colchicums in Cultivation" in the *Journal* for April 1971.

- Page 196 line 28. For 'the side' read 'above'
197 29. For 'Doendel' read 'Daendels'
203 5. For 'grower' read 'increaser'
205 bottom. For 'extra petals' read 'green tips'
207 27. Delete 'syn. Barbara'
208 19. *G. ikariae* does not have three leaves
208 25. For 'Whitakii' read 'Whitallii'



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R. H. D. Orr, C.A., Whittinghame, Haddington, East Lothian, will be glad to send you particulars

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