Editorial Copy

The JOURNAL of THE SCOTTISH ROCK GARDEN CLUB

VOLUME XII, Part 1
No. 46

APRIL 1970

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

Obtainable from Mr. John B. Duff, Hon. Publicity Manager,
Langfauld, Glenfarg, Perthshire

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Notice

The ANNUAL GENERAL MEETING will be held in the Carlton Hotel, North Bridge, Edinburgh 1, on **Thursday 5th November 1970, at 2.00 p.m.**

Members are notified that nominations are required for President and other Office-bearers and for Ordinary Members of the Council. Nominations in writing, seconded by another Club member or members, must be sent to the Honorary Secretary no later than 20th August, the nominator having ascertained that the nominee is willing to serve if elected.

All executive Office-bearers retire annually, but are eligible for re-election, except that J. L. Mowat, Esq., having served as President for three years, is ineligible for re-election as President.

The following Ordinary Members, having served for three years, are not eligible for re-election as Ordinary Members for one year :

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Alpines in the Wild and in the Garden

by D. M. MURRAY-LYON

(The William C. Buchanan Memorial Lecture given at Dunblane on 18th October 1969)

I CONSIDER it a great honour to be allowed to give the W. C. Buchanan Memorial Lecture. Willie was a really great plantsman, full of knowledge, know how and enthusiasm. He was, too, most generous. I know I never left his garden without a basketful of plants and cuttings.

The title of my talk today is "Alpines in the Wild and in the Garden". The late Mr. Stewart Mitchell was to have given a lecture with that title at the 1967 Discussion Weekend.

Before he died he had made a few rough notes for the lecture, but most of his notes were still only in his head. He had, however, got together a number of slides, although this task also had not been completed.

I am indebted to Mrs. Mitchell for allowing me to use the notes and the slides. A few of the slides I will be showing are, however, from other sources.

The notes on plants both in the wild and in gardens are mostly the result of my own observation and experience.

As rock gardeners we are interested in growing alpines in our gardens, and I think study of the conditions in which they grow in the wild should help us to grow them successfully.

At this point it might be a good idea to consider what the chief characteristics of alpine plants are, and what the conditions are which cause them to have these.

Most of them are low growing, often in the form of a tight cushion. Some die back to ground level, or below it, for the winter. Others are very dwarf prostrate shrubs. These characteristics are presumably caused by harsh conditions of weather, strong cold winds for example. Their growing season is very short owing to the long winter, their annual growth and development therefore must be rapid, otherwise they would not be able to ripen seed.

The soil in which most alpines grow is not very rich, but perhaps richer than one might think. It probably contains a lot of grit, but

there will be quite a bit of humus in it too.

I suggest that to bring an alpine home in a great chunk of its own soil, or meticulously to copy the soil mixture of its native habitat, will not necessarily prove successful in the garden, for the climatic conditions will not be the same.

Probably the greatest differences between conditions in the wild and in our gardens occur in winter. In the wild most alpines have a thick blanket of snow over them for six months or more. This results in a fairly stable temperature which is definitely higher than in the open above the snow. During the time they are under the snow blanket plants remain comparatively dry, and presumably comparatively inert.

In our gardens, on the other hand, temperatures may vary enormously during the winter, a mild spell followed by hard frost, followed by another mild spell, and so on.

A lengthy period of snow cover is the exception rather than the rule, and there are usually long spells of wet weather. These alternating spells of cold and of mild and wet weather are liable to be rather disastrous for the less easy plants. The mild wet spells encourage precocious growth which then gets cut back when the frost returns. Protection from rain can of course be provided by using cloches or bits of glass ; personally, however, I think these are an eyesore in a rock garden. If a plant must have glass cover, put it in a frame.

A good deal can, however, be done to protect plants from rain by planting them under a rock overhang which can often be fairly easily provided in a rock wall, or o fcourse you could make a miniature cave for them.

In the wild most alpines grow in soil which is very well drained. Few, apart from bog plants, will stand wet soggy soil. This good drainage is easily provided by putting plenty of coarse drainage material at the bottom with a good run-off for surplus water. Of course, that may not be necessary on sandy stony soil or on a slope.

On ground inclined to be wet do not dig down, build up.

In the past too large a proportion of drainage material has perhaps been suggested in many books and articles.

If you examine the soil in which many alpines grow in the wild, you will find that, although it is very gritty, it does contain quite a lot of humus. In other words, many alpines do appreciate good feeding. You can give them both feeding and drainage in adequate proportions by providing some good meaty stuff, say a foot down. Then make the rest of the soil more and more gritty as you come up,

ending with an inch or more of gravel, or gravel and coarse sand on top.

A foot is not too far down for the roots of even a small plant to reach the good feeding. A tiny alpine plant with only an inch of growth above ground may well have roots twelve inches or more in length.

Perhaps the most vulnerable part of a plant is round its neck at ground level. To protect this part surround it with chips, gravel or very coarse sand and so guard against excessive moisture lodging there.

In the Alps certain plants seem to thrive in a wide variety of locations, in sun and in shadow, in dry and in moist positions. Usually such plants are adaptable, and hence easy in cultivation, doing well in the garden in scree, wall or alpine meadow, or in a peat bed. Incidentally, the alpine meadow of gardens is really just a rather rich scree, probably with good solid feeding a foot or so down.

On the contrary, however, some plants with a wide and varied distribution are not as adaptable as one might expect.

Chrysanthemum alpinum, for example, seems to grow almost anywhere and everywhere in the Alps, so one would expect it to be easy to grow in the garden. I have grown it at home, both collected plants and plants from seed, but I have not found it easy, and that I believe is a pretty general experience.

I have tried it in every kind of soil and position I could think of, but three years is the longest I have been able to keep it, and that was in the alpine meadow.

Incidentally, seven years is, I am given to understand, the average life-span of an alpine plant.

If you have a number of plants of a difficult species, try them in different situations and in different soil mixtures and note which give the best results.

There is one fact which I have not so far mentioned, and it is one which is very liable to lead us to draw false conclusions. This is that many high alpine plants, when the snow melts in spring or early summer, live in a constant trickle of snow water by day, and are possibly frozen each night. This is the season in which we are most likely to see them, and if this caused us to think that here we have more or less aquatic plants to deal with we would be quite wrong. After the snow has all melted above them, these same plants may well be living on a really sun-baked dry hillside.

Examples that come to mind are soldanellas and *Androsace alpina.*

I have a plant of the latter growing in scree, which has thrived and flowered, and even self-sown itself for some years now. I have not been able to arrange for a trickle of snow water but, when I remember, I give it a good canful of water in the morning at flowering time.

Two inter-connected factors which affect alpines are altitude and latitude.

There is really nothing much we can do about these, but it is interesting to note that certain alpine species are found not only at, say, eight or nine thousand feet in the Alps, but also at sea level in Norway. The light intensity at 8000 or 9000 feet in the Alps is greater than at lower levels. Perhaps this difference is partly compensated for by the longer hours of daylight in summer further north. In our gardens the longer day-length, and the longer growing season perhaps, partly make up for the loss of light intensity.

Walter Ingwersen, a great alpine plantsman, wrote somewhere "Failures with more difficult plants are often due to over-coddling." He also pointed out that snow cover is not universal, and that some high alpines grow in sheer cliff faces where snow cannot lie.

So—there is hope for us yet ! If someone with the necessary facilities were to do a bit of research work on wintering high alpines in a refrigerator, and on adding to the light intensity in summer, it would certainly be interesting. It might even produce the answer to growing the really difficult alpines, if not in the open, at least in a super alpine house.

I am now going to show some slides ; these will be in pairs, one of the plant in the wild, and one of the same species in a garden in Scotland.

I will try and remember to tell you in each case where the garden is, for even in Scotland climatic conditions vary a lot. A plant which flourishes in St. Andrews may perish in Pitlochry, and vice-versa.

All the plants I mention I have seen growing in the wild, and I grow, or have tried to grow them, in my own garden.

Photographs 'in the wild' were taken in late June or early July.

Photographs of the same species in Scotland were taken two to ten weeks earlier.

SLIDES

Chrysanthemum alpinum.—This is the plant which I have said is found under almost every imaginable condition in the Alps, and yet is difficult in the garden. This slide shows it growing on the Padon Ridge above the Pordoi Pass in the Dolomites. It is a low tufty plant with flower stems of 3 to 5 inches.

Next is a plant of it grown from seed, growing in rich scree in my garden at Pitlochry (fig. 1).

Next some typical scree plants.

Androsace alpina (Syn. *A. glacialis*) growing in a rock crevice on Diavolezza at about 9000 feet in the Upper Engadine.

This is the white-flowered form which is the one commonly found in the Dolomites ; it was growing on the southern slopes of the Padon Ridge.

Androsace alpina growing in my garden at Ardcuil. This is the plant I mentioned as having flourished for some years in my scree, the one that enjoys its morning can of water at flowering time.

Androsace imbricata (Syn. *A. argentea*) growing in a rock crevice on the Hannig Alp at Saas-Fée. Many of them were actually growing inside miniature caves.

The same species growing at Cluny House in Strathtay and showing more flourish too than the one in the wild. Personally I grow it in a small cave, but not nearly so well as this one is grown.

Androsace obtusifolia growing in The Heutal near Pontresina. It is an alpine meadow plant and of softer, more floppy growth than the last one.

Here it is growing in a scree at the Royal Botanic Garden, Edinburgh. Flower stems up to 3 or 4 inches. Quite easy.

Next some Gentians.

Gentiana species of the *acaulis* group, probably *G. clusii.* Growing on Mont Cenis.

Gentiana acaulis at Bush House, near Edinburgh. If it likes your garden it is easy and flowers freely. If it does not like your garden, it is a thrawn little devil ; it will grow all right but it won't flower. I find it does well and looks well in a wall with good feeding in it.

Gentiana verna at Lautaret, probably in rich scree.

This is the white-flowered form growing at Passo Gardena, Dolomites.

G. verna at Ardcuil in scree with a little cow-pat below its roots.

Globularia bellidifolia in The Val Lunga, Dolomites.

The same in pretty sharp scree in my garden.

Leontopodium alpinum (Edelweiss) at the Rolle Pass, Dolomites. Usually in scree or crevice.

Edelweiss in my garden on top of a scree wall and obviously happy. It lived there for 8 or 9 years.

Campanula cochlearifolia (used to be known as *C. pusilla*). Here it is in a scree at Arosa in the Engadine.

Here it is in Stewart Mitchell's garden in Dundee. It is too well known to need any description and is quite easy to grow.

Campanula barbata.—This is the white form, but you also get flowers of dark or light blue. Flowers are carried on stiff hairy stems 8 or 9 inches tall. This slide was taken at Corvara in the Dolomites.

Here it is in Stewart Mitchell's garden. It is quite easy in scree, wall or alpine meadow. It seeds itself quite freely.

Potentilla nitida at Val Lunga, and a good colour form. It is often said to be shy flowering, but a spartan diet in full sun will usually cure that.

Here it is in Dundee in Stewart Mitchell's garden and looking well too.

Dianthus neglectus on Mont Cenis. Quite an easy plant in scree and full sun.

Here it is growing in Stewart Mitchell's garden in Dundee. In one of the flowers you can just see the distinctive buff colour on the reverse of the petals.

Douglasia vitaliana at Lautaret. This is another plant with the reputation of being a shy flowerer, but we saw masses of it in full flourish on a hot dry ridge above the Sella Pass in the Dolomites.

Here it is in my garden growing in rather poor sharp scree in full sun. Those are the essentials, I think.

Sempervivum arachnoideum on Mont Cenis. Like Douglasia, it flourishes in sharp scree in full sun.

In Stewart Mitchell's garden (fig. 2). There are a number of forms differing in size of rosette and in shade of red or pink flower.

Next some plants for less spartan conditions.

Pulsatilla sulphurea (*P. alpina* var. *sulphurea*) at Saas-Fée, where on the slopes below the Langfluh glacier you can see thousands of its flowers as you go up in the cable car.

The same at Branklyn, Perth, a form with paler yellow flowers, the shade is very variable. It is quite easy in the alpine meadow.

Pulsatilla vernalis on the Bindelweg above the Pordoi Pass. The bleached grass shows that the snow has only recently melted.

Next is a self-sown seedling of *P. vernalis* in my garden. It is growing in a crack in the rock, but the roots have escaped into the scree.

Soldanella alpina at Sella Pass, again notice the bleached grass.

Another picture of *S. alpina* in the wild, and a typical picture too. This was taken on the Langfluh at Saas-Fée and shows the flowers forcing their way through the snow.

Next we see a very well flowered plant of it in the Weir's garden in St. Andrews. Soldanellas are easy enough to grow, but not so easy to flower ; slugs are often blamed for this. I find a peat bed is where they do best with me, not too wet though, and plenty of slug pellets.

Ranunculus seguieri at the Sella Pass growing in dried up and cracked silty soil. In some of the depressions the plants looked as if "lined out" in a nursery bed. I had not time to investigate why, but my theory is that there were probably cracks in the rock and that plants grew along the line of these cracks, thus enabling the roots to get any moisture seeping up through the cracks.

Next we see it in my garden (fig. 3) sharing the same scree with *Androsace alpina*. It is a really lovely little flower, I think more beautiful than *Ranunculus glacialis*, and definitely easier to grow and to flower.

Next some Bulbs, Corms and Tubers, mostly growing in rich scree.

Crocus vernus (syn. *C. albiflorus*). In spite of its synonymous name many of the flowers are blue or mauve. Here we see it at the Sella Pass in the Dolomites. It grows in masses in turf on slopes at 7000 or 8000 feet at St. Luc and other places.

Here we see it in my garden in Pitlochry ; the bulbs were collected a good many years ago at St. Luc in the Valais. I have also raised them from seed. For some reason or other the true species is not obtainable from bulb firms, at least that is my experience, although you can get hybrids or cultivars.

Cyclamen europaeum in the Dolomites. It usually grows there in part shade, but that is not necessary in most of our gardens.

Here it is growing amongst dwarf conifers in my garden (fig. 4). The flowers on three-inch stems are sweetly scented. It is summer flowering, and in some years it does not flower so well, perhaps after a wet sunless autumn resulting in badly ripened corms.

Orchis sambucina growing at Lautaret.

Here it is in a peat bed in my garden in almost full sun. I find it quite amenable. There is also a form with red flowers. Both forms are

free flowering and most attractive.

Cypripedium calceolus at Tri Croci in the Dolomites ; it is usually found in light woodland.

I don't grow it myself as I don't like the colour combination, but here it is at Keillour Castle in Perthshire.

Gagea fistulosa (syn. *G. liottardii*) at Muottas Muragl near Pontresina growing beside some cowsheds where of course there is plenty of "pâté de vache."

Here we see it in a peat bed in my garden with some of its favourite food added. It is about three or four inches tall with starry golden flowers.

That finishes the bulbs. Next some more Peat Bed plants.

Loiseleuria procumbens growing over a rock at Muottas Muragl. Of course, you don't have to go to the Alps to see it ; it has quite a wide distribution in the Highlands.

Next we see it in my garden at Ardcuil ; here also it is growing over a rock, in such a position you tend to get more flowers, reflected heat I imagine. This one was collected on Beinn a' Ghlo.

Primula pedemontana, one of the Auricula section ; this was taken at Mont Cenis.

Here it is growing in peaty soil in a wall in my garden, where it gets part shade around mid-day for an hour or two. It is attractive and easy (fig. 24).

Primula farinosa growing in moist humusy soil in Val Lunga, Dolomites.

Here it is growing at St. Andrews in the University Botanic Garden. It is, or was, a native of Berwickshire, and also I think of Galloway.

Anemone narcissiflora at Lautaret. Flower stems about 8 or 9 inches high.

In St. Andrews University Botanic Garden, in a peat bed, I think, anyhow that is where it does well in my garden.

Saxifraga oppositifolia on the Weisshorn, but of course it is to be found on most of the Bens in our own country.

Next we see it in the University Botanic Garden at St. Andrews.

Geum reptans—one of the most attractive members of the family. This one was growing on a rock crevice on Diavolezza. You can see the red strawberry-like runners.

Here it is in a peat border in my garden. The runners make it easy to propagate, though it is not always too easy to keep happy.

Pyrola rotundifolia at Corvara in the Dolomites.

Here it is in the garden at Balendoch, Perthshire. It is not too difficult in moist but well drained humusy soil in shade or part shade. It is, of course, a native of Scotland.

Moneses uniflora (syn. *Pyrola uniflora*). Here it is at Arosa in the Engadine.

Here we see it in Dr. and Mrs. Stuart's garden in Pitlochry. It needs moist conditions and at least part shade. The biggest colony of it I have ever seen was at Saas-Fée entirely covering a large boulder of four or five square feet. The boulder was at the foot of a north slope in the shadow of big larches, and it was growing in larch needle mould.

To finish up I will show you two slides of what is sometimes called "King of the Alps"—*Eritrichium nanum*. The first slide shows it on Diavolezza, where incidentally Mr. Esslemont found a white-flowered one, I believe.

Next we see it in my garden, only in a pot, I am afraid. So far I have failed to bring one through a winter in the open. I have, however, managed to keep them in pots for a dozen years, not the same plants all the time, but self-sown seedlings. The pots are sunk in sand in a box which is covered by a cloche in winter, but with all-round through draught.

Have you....?

made a note in your diary that the Fourth International Rock Garden Plant Conference will be held at Harrogate, Yorkshire. from 21st to 25th April, 1971

REPORT OF 1961 JOINT CONFERENCE

MEMBERS who are looking forward to attending the 1971 Joint Conference will find much to interest them in *Journal* No. 29, which is a very extensive and well-illustrated report on the previous Conference in 1961. New members since that date can obtain a copy of the Report for 10/- post free from the Hon. Publicity Manager.

The Discussion Weekend 1970

THE MARINE HOTEL, NORTH BERWICK, EAST LOTHIAN
24th and 25th OCTOBER 1970

PROGRAMME

Saturday :

1.00 p.m.	Lunch
2.15 p.m.	Address of Welcome
2.30 p.m.	The W. C. Buchanan Memorial Lecture "Growing Rock Garden Plants in Character and Condition" by Henry Tod, Esq., Ph.D., F.R.S.E.
4.00 p.m.	Afternoon Tea
5.00 p.m.	"American Plants and Gardens" by Roy Elliott, Esq., F.L.S., A.R.P.S.
7.15 p.m.	Dinner
9.15 p.m.	"Mountain Summits" by Mrs. C. E. Davidson

Sunday :

10.00 a.m.	"European Primulas and their Hybrids" by David Livingstone, Esq.
11.15 a.m.	Morning Coffee
11.30 a.m.	Free time to visit local attractions, a list of which will be displayed in the Conference Office
1.00 p.m.	Lunch
2.30 p.m.	Discussion Period : "Questions out of a Hat" A panel of experts on the platform will examine the questions raised, and these will then be discussed by members in the body of the hall. Members who have difficult problems of rock gardening interest, are asked to write them on postcards and hand them in at the Conference Office on arrival.
4.00 p.m.	Close of Proceedings
4.15 p.m.	Afternoon Tea

HOTEL ARRANGEMENTS FOR WEEKEND RESIDENTS :

Bookings for the Weekend must be made *direct* with THE MARINE HOTEL, CROMWELL ROAD, NORTH BERWICK, EAST LOTHIAN, mentioning membership of the S.R.G.C.

It is a most comfortable four-star hotel overlooking the Firth of Forth. The special Conference rate will be 100/- per person, from and including lunch on Saturday until and including tea on Sunday. It covers all meals, accommodation and service charges. Private bathrooms are available in some rooms at an extra charge of 11/- per person in twin-bedded rooms, and 16/6 per person in single rooms.

Early application is advised, particularly by those members requiring single rooms, and by those who wish to stay for an extra night or so.

NON-RESIDENTS :

Non-residents who require meals should order them in good time at the Reception Desk. These meals will be paid for in the Restaurant in the usual way.

CONFERENCE CHARGE AND IDENTITY BADGES :

Both residents and non-residents will be asked to contribute a fee of 10/- to cover the overhead expenses of the Weekend. No rebate will be allowed for lectures not attended. This fee is payable in the Conference Office on arrival, and at the same time Identity Badges will be issued. For the convenience of hotel staff, these will be of different colours for residents and non-residents. MEMBERS ARE ASKED TO WEAR THEIR BADGES ALL THE TIME.

NON-COMPETITIVE EXHIBITION OF ROCK GARDEN PLANTS

"WEEK-ENDERS" are invited to bring gentians, heathers, cyclamens and any other plants which have flowers, fruits or decorative foliage. Those members who have a large collection of, say, gentians are asked not to confine themselves to showing one or two specimens only, but to bring along as many as they can conveniently manage, so as to make a good show and give pleasure to other members.

Plants will not be judged in "classes" in the usual way. The W. C. Buchanan Bronze Medal (presented by Dr. Henry Tod) will be awarded to the plant which, so late in October, provides the greatest interest and/or decorative value for rock garden or alpine house. Judging will be by popular vote.

The Genus Trillium - II

by ROBERT J. MITCHELL

WITHOUT doubt North America contains the greatest number of Trillium species. Many of them are extremely decorative, most are desirable as garden plants and, without question, their apparent lack of popularity is due to a very limited supply and a slow natural increase in gardens. A much greater number of the American plants are of real garden value than is the case with the Asiatic species, described in the S.R.G.C. *Journal*, Vol. XI, pt. 4.

It is interesting to note that the North American trilliums can be divided into two distinct geographical areas and this is clearly illustrated by the map incorporated by Gates in the Annals of the Missouri Botanical Garden, 1917. This shows that the greatest concentration of species is found in the eastern states of the U.S.A. and in the eastern provinces of Canada, the Ozark region being particularly rich. On the other hand the western states of the United States of America and British Columbia offer but four species and one natural hybrid. Of these, four are garden-worthy, two being rare and very difficult to procure, while the other three are readily available.

Whatever the geographical distribution, confusion in nomenclature seems to be one of the main troubles and this is certainly the case with the western species. Several names applied many years ago have now been reduced to synonymy and at least five epithets, although they still persist in articles, should no longer be used.

The most widespread of the western species is the "Coast Trillium", *T. ovatum* Pursh, a plant which is distributed over a greater range than the common name suggests. This species is native to British Columbia and the coastal states of Washington, Oregon and California, but it is also found in the adjacent inland states from Montana to Colorado. *Trillium ovatum* is one of the easiest to grow in cultivation and is often considered to be the West American version of *T. grandiflorum*. Like that species the flowers are white, turning to rose or deep pink with age, and they are held on 8-10 in. high stems. The leaves are sessile and rhomboid in outline but the flowers, opening in March-April, are held clear of the foliage on stems 2-2½ ins. long. *Trillium ovatum* (figs. 5 and 6), although found growing in dense coniferous and mixed woodland in moist acid conditions, is ideally suited to a pocket in the rock garden and peat garden and is one of the few which comes freely

Photo—The late Stewart Mitchell ▲
Fig. 1—Chrysanthemum alpinum

Fig. 2—Sempervivum arachnoideum
▼ *Photo—The late Stewart Mitchell*

Photo—The late Stewart Mitchell ▲ Fig. 3—Ranunculus seguieri

Fig. 5—Trillium ovatum *Photo—The late D. Wilkie* ▶

Photo—The late Stewart Mitchell ▼ Fig. 4—Cyclamen europaeum

from seed. Seedlings take about five years to reach flowering size, but they must be grown in an acid soil and should not be allowed to dry out. This species will tolerate quite deep shade and yet still produce flowers every year.

Trillium ovatum was introduced into cultivation in 1806 and since that time has been grown under various names. These include *T. californicum* Kellogg ; *T. crassifolium* Piper ; *T. scouleri* Rydbeg and *T. venosum* Gates, all of which are now considered to be synonyms. There are records which tell of variations within the species, but none has been of sufficient significance to warrant varietal status. In the Annals of the Missouri Botanical Garden (1917), however, Gates describes the variety *stenosepalum* but in his own words he says, "It seems necessary to regard it as a transitional variety". He gives it a more southerly distribution than the species and states that the differences are only slight. Munz, in the Flora of California 1959, removes the status of variety from *stenosepalum* and, since great variation occurs in this species, refers to it as a synonym of *T. ovatum.* One or two double forms have been collected but their distribution in gardens is limited.

Trillium petiolatum Pursh is quite distinct from other western species, for the leaves have very long petioles—hence the name. The leaves are large and rounded while the purple sessile flowers are comprised of 1-2 in. long petals. Four to eight inches is the height given for the stems.

This species has been likened to *T. recurvatum,* which also possesses a long petiole, but it differs from it in other ways. For example, the petiole in *T. petiolatum* is longer, being about the same size as the leaf, and the petals, too, are broader. The geographical distribution is also distinct—*T. recurvatum* belongs to the east central states from Ohio to Minnesota, and south to Arkansas and Mississippi. *Trillium petiolatum,* on the other hand, grows on rocky hillsides and in copses in the states of Washington, Idaho and E. Oregon. It will flower in this country in late April and May but, as it tends to hide its flowers beneath the leaves, it cannot be recommended for garden display. The flowers themselves are not the most beautiful and are deep red in colour.

One of the common plants and certainly the most variable of the Pacific Coast species is *T. chloropetalum* (Torr) Howell (figs. 8 and 9). Over the years a great many names have been attached to this plant and it is to be hoped that the present one will remain constant.

◀ *Photo—R.B.G., Edinburgh* (opposite)
Fig. 6—Trillium ovatum ' Kenmore '

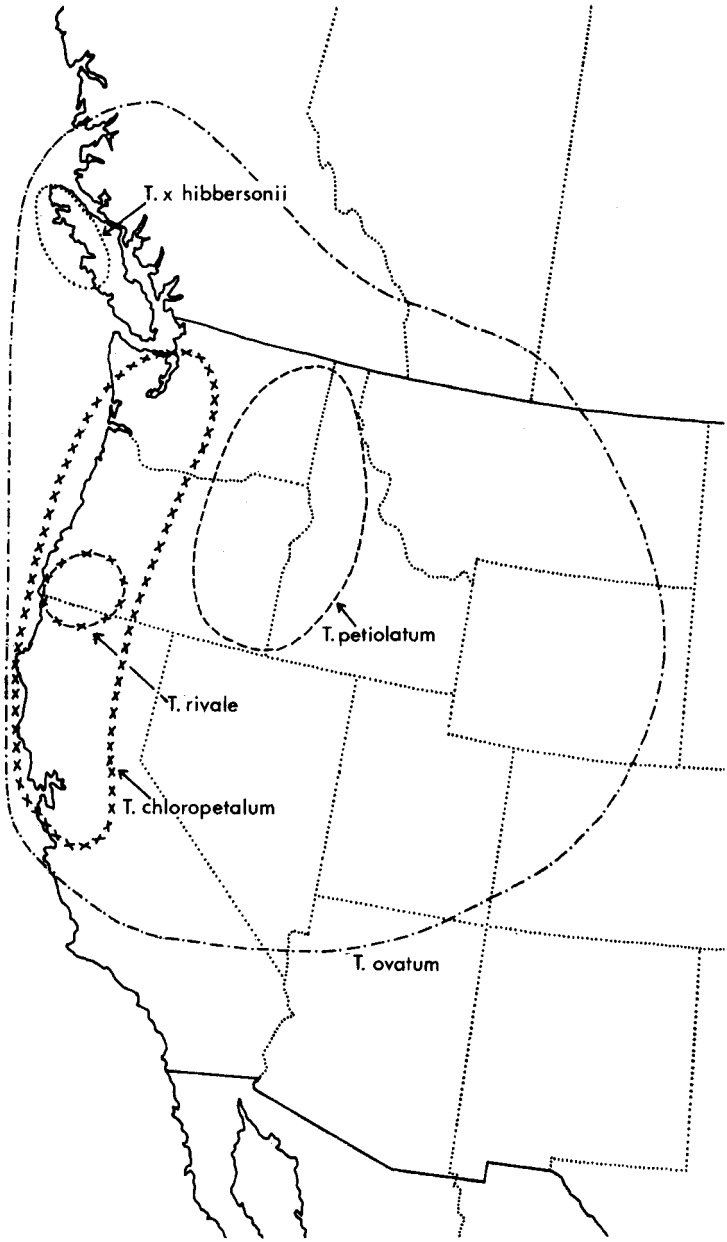

Fig. 7—Distribution of Trillium species in the Western States

More commonly called *T. sessile* var. *californicum* Wats., *T. chloropetalum* (Torr) Howell comes from N.W. America. Its habitat extends along the coastal range of mountains from Washington to California, where it grows in the Redwood and mixed evergreen forests. It is also found on the inland ranges of Washington, Oregon and California on wooded slopes at altitudes of up to 3,500 feet.

Trillium chloropetalum is not unlike *T. sessile* L. (an eastern species which occurs from Pennsylvania to Minnesota and south to Florida, Mississippi and Arkansas), as both leaves and flowers are without stems. The anthers, however, are much longer and the petals, although sometimes maroon as in the variety *giganteum* (H. & A.) Munz, (syn. *T. sessile* var. *giganteum* H. & A.), are usually greenish or greenish-yellow in colour. There is yet another variety, *angustipetalum* (Torr) Munz (syn. *T. sessile* var. *angustipetalum* Gates), which has very narrow petals and narrower leaves. All grow 1-2 feet in height and with the exception of the variety *angustipetalum* have rhomboid leaves 2½-6 ins. in length and width with dark mottling. The top of the leaf is pointed but its base is rounded. The petals, which are mostly green or greenish-yellow in colour, are 1½-3½ ins. long by ⅛-1¼ ins. wide and as large as the sepals, while the fruit, a berry, is reddish in colour and winged.

Being a robust species, *T. chloropetalum* associates well with ferns and some of the larger woodland plants, but it is one which demands plenty of light. Furthermore, although *T. chloropetalum* is variable in nature, pure stands without any variation are often seen. This is a plant which requires more moisture than needed by *T. ovatum* in whose range it grows. According to Roderick in the Lily Year Book for 1964 it appears that while *T. chloropetalum* grows in the valley where there is plenty of water, and the trees are of a deciduous nature and include Alder, Willow and Chestnut, *T. ovatum* is found higher up the slopes in the deeper shade and in drier sites : conditions it can tolerate.

Trillium rivale Wats. is one of the gems of the genus (fig. 10). It has a more limited range than the other western species, being confined, according to Watson, to rocky banks of streams in the Siskiyou Mountains of California and the coastal ranges of S.W. Oregon. It dislikes dry conditions and in its natural locations, even when the streams fall to a low level, there is sufficient moisture available for deep searching roots.

The "Brook Trillium", as it is commonly called, is a dwarf species

rarely exceeding 6 ins. in height. Its pure white flowers are marked with small purple spots near the base of the petals and this distinguishes it from the mid and eastern American species with the similar sounding name—*T. nivale*—the "Snow Trillium". The erect flowers are held well clear of the leaves, which also have short stems. This miniature, first collected by Shockley in 1880, has been seen on the show bench at infrequent times and in 1914 received an Award of Merit. This was the year following its introduction into this country. The plant illustrated in Curtis's Botanical Magazine in 1963, N.S. t 444, was shown in 1962 at a March meeting of the R.H.S. by the late Major Knox Finlay and Mrs. Knox Finlay.

Trillium rivale can be grown in full sun and in moist soil but, where this is not possible, it is better to plant it in slight shade in an open soil mixture and at a depth of 6-8 ins. where a more constant supply of moisture can be expected. At Keillour Castle, Perthshire, it is growing happily in a well drained mixture of leaf mould and sand.

Trillium x hibbersonii, described by Leonard Wiley in "Rare Flowers of North America" 1968, is a natural hybrid with the possibility of claiming *T. ovatum* as one of its parents. It grows in a few very isolated localities in British Columbia on steep rocky slopes overlooking the Pacific Ocean.

This extremely rare plant is dwarf in stature—not more than 4 ins. in height to the top of the flowers. These are clear pink, fading with age, and are set among leaves which can measure 1-2½ ins. long and be half as broad and are not unlike those of *T. rivale*. The flowers have short stalks but the leaves are sessile. According to Wiley it blooms two weeks before *T. ovatum* and this would be about late March in Britain. It is possible that these two species are the parents of this natural hybrid, as its morphological characteristics appear to be intermediate between them.

The "Rock Trillium", as its common name suggests, is a suitable subject for the rock garden, where it should succeed in a shady position. Due to its rarity, however, it is unlikely that it will be freely available for some time and those fortunate enough to obtain a plant would be better advised to treat it as a subject for the alpine house. In the wild the total population is estimated at 120-150 plants and it is obvious that any private scheme to collect this Trillium should be discouraged.

The Seed Distribution

MOST MEMBERS probably read the "deadlines" for the various activities of the Club and make a mental note of them, but probably do not realise that many are not for the convenience of the Office-bearers but are enforced by outside requirements.This is very much the case with the Seed Distribution, where the "closing date" is controlled by the work position of the printers. They are heavily involved around Christmas time so all "copy" *must* be in their hands well before then if the final printing of the Seed List is not to be delayed until *after* the New Year.

A number of Members have complained that the receipt of seed is closed far too early, but this is really a misapprehension—for the following reason. If you cannot have the seeds cleaned and ready by the deadline of October 31st, a list of seeds "to be sent later" will enable the List to be compiled, numbered and sent to the printer by early November.

Please, then, send all the seed you can to the Seed Distribution Manager by the deadline, accompanied by a list of the seed enclosed and a separate list of those seeds still to come both with your name and address clearly written or printed. A list, alphabetically arranged and preferably printed in BLOCK CAPITALS or even better, typed, will save an enormous amount of time and trouble to those working the Distribution. This latter point is a heart-felt plea by one of us whose writing is normally almost illegible !

The Seed Distribution Manager from June 1st 1970 will be Dr. L. M. Dean, Sararoga, 9 Ledcameroch Crescent, Bearsden, by Glasgow.

M.B.T. H.T.

Spring Flowers in South Africa

by MICHAEL UPWARD

The Clark Memorial Lecture given at Glasgow on 6th November 1969

ABOUT two months before we left England we had a report that the wild flowers in South Africa were poor, owing to a series of droughts in early winter, which had prevented the germination of the annuals. Severe (by their standards) frosts had followed, killing off a number of the plants which had germinated. We then heard the Darling wild flower show had been cancelled and were advised by the National Botanic Garden at Kirstenbosch to cancel our intended visit to Lower Namaqualand, where, according to our brochure we were to see "nemesias of all colours, an amazing variety of the daisy family, bobbejantjies and other typical Cape bulbs which carpet the veldt with a great splash of colour."

Undaunted, 23 of us set off on Saturday, September 20th, from London Airport to Cape Town, on a 24 hour flight via Geneva, Nairobi, Dar-es-Salaam and Johannesburg.

Our first day's outing was to Table Mountain, which has a most interesting endemic flora and would provide a full day's worthwhile study ; we spent precisely one hour at the summit, which was an insult forced upon us by the inflexibility of the tour organisers in South Africa. If I had the choice again, I think I would opt for a three week stay in the area of Cape Town alone, rather than chasing up the rather over-rated Garden Route to Natal. However, Table Mountain did reveal one or two of its beauties to us and we saw our first proteaceous shrub, a leucodendron (species unknown at the moment) with bright yellow bracts and cone-shaped greenish-yellow flowers, growing to about 5 feet (fig. 11). Two helichrysums were sighted—*H. sesamoides*, a pale cream everlasting, and *H. humile*, a pink companion. Both these were no more than 9-12 ins. Rushing back to catch the cable car, we just had time to see an aloe species, one of the 2,000 or so to be found in South Africa.

After our short visit to Table Mountain, we visited the Cape Town Botanical Gardens. One had great hopes of all the Botanical Gardens, but regrettably we were disappointed. They use the term 'botanical' rather indiscriminately, I fear, having many societies and gardens that

are in no sense botanical. Cape Town Botanical Garden is no more than a public park, where we were able to see the ubiquitous *Strelitzia reginae* ; an unusual herbaceous eupatorium—*E. floribundum*, a native of America. An aloe which was recognised was *A. marlottii* ; it grows on Tresco apparently. We also saw *A. plicatalis*, which I also happened to see in the glasshouses at Edinburgh recently.

The National Botanic Gardens at Kirstenbosch is really a Botanic Garden and worthy of its name. To our chagrin the day we visited it was rainy and heavily overcast, so we were able to photograph very little. What we were able to see were the silver trees—*Leucodendron argenteum*, growing in their native habitat in the gardens. The sight of the silver leaves blowing in the wind is never to be forgotten. At Kirstenbosch we saw many proteas—*P. barbigera*, the 'Woolly-bearded Protea' ; *P. aristata*, which has distinctive pine-needle-like foliage and a deep red flower. When proteas turn into pincushions they become leucospermums and we saw a great deal of *L. nutans*, a ball of apricot-coloured petals.

One of the highlights of our tour was an unscheduled visit to Nordhoek, the home of Miss Godman, who also owns South Lodge, near Horsham in Sussex. We had an invitation to see her garden and estate, which extended several miles along the Cape Peninsula. The estate was still recovering from a fire which had swept through it seven years before, and the endemic shrubs were beginning to re-establish themselves and amongst them we found many ericas, the King Protea—*P. cynaroides* ; the 'Blushing Bride' Protea—*Serruria florida* ; and several brunia species—a completely new genus to me.

The day of our drive to the Cape of Good Hope was absolutely filthy—there is no other way of describing weather which prevents one from seeing one of the most scenic drives in the world. However, we did see a family of zebras, as well as baboons, which are a menace, and bonteboks, a type of antelope, all of which were free to roam on the nature reserve set up on the Cape. We did see a field of cinerarias, but I regret we cannot identify the species. I should perhaps point out at this stage that it is estimated South Africa has an endemic flora of some 16,000 species, of which at least 2,600 are found on the Cape Peninsula and which is more than you will find in the whole of Great Britain—and the Cape Peninsula is only 40 miles long ! Although between us we had a fair collection of reference books, there were many items left unidentified. One plant we did see was *Protea repens* —a prostrate gem which had small yellow flowers, brightening to

orange with age. One wished it might be hardy enough for the rock garden over here.

Despite the advice offered, we made our short trip to Lower Namaqualand, staying at Citrusdal for two nights instead of three. Along the wayside we saw what we understood to be Mesembryanthemums, but on looking further into the subject discovered there is no such thing botanically. You could have either drosanthemum, lampranthus, carprobrotus or cephalophyllum and between these you had 400 species. The largest genus was lampranthus and we saw many coloured forms from yellow through to bright deep orange and then shining maroon. In the Karoo Garden at Worcester we saw many more 'mesembryanthemums', along with countless aloes and other succulents. A curious climbing aloe was *A. ciliaris* which was clambering along a wire-netting fence.

One day we paid a visit to the Cape Town sewage works—not the choicest of sites for flowers or animals, but what we had come to see were the flamingoes in their thousands. In the sand dunes nearby could be found more lampranthus spp., pelargoniums (more than 200 species in South Africa) and *Zantedeschia africana*—the well-known Arum Lily.

September 30th was my day off, so with a friend who had been a contemporary at Wisley I spent a day driving across the French Hoek Mountains on forest tracks, botanising as we went. We left behind the fields of ursinias waving their golden heads in the breeze and passed by the modderkappie orchid—*Satyrium coriifolium*—a delightful orange spire of hooded flowers. Higher up, about 3,000 ft., we came across a dwarf Nivenia sp., a member of the Iridaceae and named after a Scotsman—Joseph Niven, who spent five years in South Africa collecting plants for the Empress Josephine's garden at Malmaison. A robust little shrublet we came across which looked very similar to some of its New Zealand composite cousins was *Phaenocoma prolifera*, with dark evergreen foliage and 'everlasting' flowers of pale pink, deepening in bud to maroon. It grows no more than 2 ft. A proteaceous plant that is fairly widespread is *Mimetes lyrigera*, making a neat shrub some 4 ft. high. It has colourful reddish bracts and soft woolly flower parts. I expected to see fields of Watsonias shimmering in the distance, but unfortunately saw only one or two single specimens dotted about—the common *Watsonia pyramidata* we did see. I understand this grows well at Inverewe. The tragic story about this day's outing was that our tour was seemingly devised deliberately to miss all the wild flower

shows that were being held whilst we were over there. These wild flower shows have a long history and have often been found to produce long-lost or hitherto unknown species. The farmers in the various districts gather the flowers from their lands and stage them in friendly competition. So my friend suggested we visited the last day of the Hermanus wild flower show some 80 miles out of Cape Town—we arrived at Hermanus at 4 p.m., having driven across the mountain tracks in a leisurely fashion, only to find that the wild flower show had closed at noon !

The next day we started our journey away from the Cape and on up the Garden Route, a much over-rated stretch of scenery from Cape Town to Port Elizabeth. We paid fleeting visits to various reserves and gardens en route and noted various shrubs, such as *Leucodendron salignum*, with handsome yellow bracts and fine foliage, up to 6 ft. in height. At the Fernkloof Garden at Hermanus we came across *Watsonia stenosiphon*—a slighter, more red version of *W. pyramidata* with elongated flowers more widely spaced along the flowering stem. Caledon was a most rewarding garden and here we saw the best collection of ericas of our tour. *E. bauera* in its white and pink forms ; *E. patersonii* (fig. 13) with spires of stout stems bearing yellow flowers which turn to a not unattractive brown, and *E. meadia variegata*, a straggly red and white flowered species. Two bulbous plants we also came across were *Aristea africana*, a tall blue-flowered member of the Iris family ; another relative was *Bobartia juncifolia* with large yellow flowers that seemed too heavy for the slender flower stem. The latter grew in boggy places and curiously enough was one of the first plants to appear after a veldt fire.

One of the most striking trees we saw along the road was *Virgilia capensis*, or more properly *V. oroboides* ; the typical pea-like flowers covered the tree with mauve.

We eventually left the Garden Route and struck inland to the Little Karroo and Oudtshoorn, where we found the ostriches. There were few plants to be seen as the country was so arid, so the ostrich farm was an interesting diversion. It was curious that eighteen of us sat down to lunch that day, as an ostrich egg produces exactly eighteen omelettes—served with grated biltong it provided an interesting course between the soup and the meat !

On one item in our itinerary the party was 100% agreed. We did not want to see a snake park in Port Elizabeth ; so we laid on a diversion to the Elephant Park at Addo, where we saw the elephants alright,

but also the Kaffirboom tree—*Erythrina caffra*—it has magnificent clusters of red flowers on leafless branches, the tree being the size of a large flowering cherry over here. It is apparently easy to propagate —you just stick a piece in the ground and it roots !

We visited one or two of the so-called botanical gardens on our way north, where we began to see more of the exotic type of flora— such as the Australian Waratah, callistemon species, pointsettia and a blue-flowered shrub I knew only as petraea. A tree which is similar to the Kaffirboom in that it has red flowers on leafless stems is *Schotia brachypetala*.

We drove on through the Transkei, past native settlements until we came to the Drakensbergs, where we were due for three days rest —if you can call walking up several thousand feet a rest ! We were strictly speaking too early for the best flowers, but were able to find quite a lot to interest us. We found that the farmers had started to burn off the grass, which was disastrous for finding plants, but made good grazing for the cattle. It was to the unburnt pastures we kept and found *Scilla natalensis*, a gladiolus species, orchids, many everlastings, and at last a plant we knew and grew—*Rhodohypoxis baurii forma platypetala*, pure white and varying from squinny to good-sized flowers. Higher up we found an aloe, nameless as yet, and an interesting white erica, possibly *E. woodii* (fig. 14). Growing by the water was *Euryops tysonii* with white daisies and green foliage ; nearby was *Phygelius aequalis*, which I understand does well in Ireland, and not far away we almost fell over *Haemanthus natalensis*, a luscious bulb with a spotted flower stem topped with orange stamens—or so it seemed (fig. 12).

This brought an end to the spring flowers in South Africa, as the next day we descended to the fleshpots of Durban to spend two glorious nights of comfort in the Edward Hotel before beginning the long journey home to what we thought would be a chill autumn, but in fact was the tail-end of a late heatwave.

The National Park of Ordesa-Spanish Pyrenees

by C. GRAHAM

OUR reason for visiting this Park (fig. 15) was a strange one.

Over 37 years one grows and loses many plants and becomes attached to those which have some degree of permanence. *Saxifraga* 'Tumbling Waters' has been in this writer's collection since 1938, propagated by means of offshoots. In our late Millstone Grit garden, on average, we could budget for a five year build-up of the rosette before flowering; in our present limestone garden we find that the plant flowers at a much earlier age and we have difficulty in maintaining our stock.

This magnificent saxifrage hybrid was created by the late Captain B. H. B. Symons-Jeune crossing *Saxifraga lingulata* var. *lantoscana* (old name), the mother plant found in the Maritime Alps, with *Saxifraga longifolia* (fig. 16) from the Pyrenees. The first makes offsets, the latter is usually a single rosette building up into a magnificent plant and is monocarpic. The hybrid has the rosette of the male plant with a finer inflorescence, and can be propagated vegetatively by offsets, a characteristic of the female parent. We had seen the latter in the Vesubie area and with the aid of a medical certificate and age allowance, we decided to make a pilgrimage to see *Saxifraga longifolia*. We chose the Spanish side of the Pyrenees because, first, most visitors seem to choose the French section, and secondly, in those days of restricted travel allowance, it would be cheaper. This, then, is an account of our impressions of the districts we visited and not a catalogue of rare or unusual plants.

We took the car from Southampton to Cherbourg on the 28th May 1969 on the day crossing, first night Avranches, second La Rochelle. The Huguenots would still recognise the very picturesque Old Port, but would need several shoehorns to get into the Old City, as it is now bursting at the seams. A leisurely journey southwards, marred only by a round-the-mulberry-bush chase in Bordeaux in violent thunderstorm, with windscreen wipers that did not function, ended at the small village of Treiz (Hotel Lafitte), ten miles north of Pau. At Oloron-Ste-Marie we had our first sight of the Pyrenees, and

by a very picturesque road skirting the Aspe high peaks, *Aquilegia alpina* and *Phyteuma halleri*, two feet high in the meadows, we ascended the Col de Somport to Candanchu. Even the sight of *Primula farinosa* could not persuade us to stay at this military frontier post with its ski hotels, though the climate was ideal. In contrast, our proposed overnight stay at Jaca was frustrated by it being too hot and stuffy, and we decided to drive the 40 miles on to the Refugio at Ordesa, even though we were two days early for our booking. However, we had to spend only one night in bunks ; the top bunk, whilst easy enough in youth, was successfully negotiated by the coathook traverse.

The National Park of Ordesa is situated in the centre of the Pyrenean frontier of the province of Huesca, south of the Cirque de Gavarnie. As the eagle flies, the refugio is a mere three miles south-west of the Cirque, but there is a lot of mountain around the 10,000 ft. altitude in between. Built before the Spanish Civil War for foresters, the refugio is now an attractively stone built Refugio Nacional in magnificent mountain scenery, backed on all sides by mountains and extensive forests except on the south, where one has an elevated and extensive vista over Torla and down the Valle de Broto.

The forest just behind the refugio is carpeted with a marble-leaved Hepatica, but what few flowers we saw were of poor quality ; the large white Helleborine, *Cephalanthera damasonium*, is also fairly common. The rocks below the refugio are filled with Thymus, probably *nitidus*, *Genista hispanica*, which is only exceeded in numbers throughout the district by the Common Box, *Buxus sempervirens*, and we saw one plant of *Polygonatum verticillatum* in full sun and a very dry situation. An easy walk westward, for about half a mile, brings one to a 'boiler-slab' limestone gully with masses of *Paronychia serpyllifolia*, a prostrate carpeter with insignificant flowers but attractive silvery bracts. This has since been seen as an alpine house plant, but it may survive the winter in a hot dry scree. The cracks of the rocks were pointed with *Globularia bellidifolia*, with mats a yard across the hot rocks. *Lonicera pyrenaica* is a very neat flowering shrub which was growing in spartan conditions ; we at Giggleswick think it is doubtfully hardy because, though on the 3,500 ft. contour, the gully was sheltered on all sides but the south. Nevertheless, we have been confounded before with these so-called tender plants, but on this occasion we were content with a photograph.

Eastwards from the refugio one can take the car for about two miles along the Valle de Ordesa to the parking ground, a very popular

spot for tourists at the weekends. A well-defined path then ascends through the forest to Refugio de Goriz, 7,000 ft., the jumping off ground for Monte Perdido, 10,894 ft. We were too early for the high alpines and the tops were well covered with snow. Between the Refugio Ordesa and the parking ground we saw *Pinguicula grandiflora* in quantity, a few *Androsace villosa* and *Saxifraga longifolia* on the roadside crags and screes. In spite of plant protection notices, everything around the parking ground in flower seems to be picked, and this is the story through the forest, supplemented by an omnivorous herd of cattle ; only a few small ramondas were noted, not in flower. Nevertheless, the ascent through the beech woods is very pleasant, though it took the writer two hours from the refugio to the tree-line. Thereafter, the impression is of meadows of globularias and fine backward views to Sierra Custodia.

Descending the Torla road to the bridge, Puente de los Novarros, a rough foresters' road leads to Bujaruelo, a hamlet consisting of a ruined church, a farm, the frontier post, and a small sow, which seemed to have a peculiar affection for the writer. If you cross the river to take the path over the Port de Gavarnie, you will need your passport ; the path was blocked with snow on our visit. Westwards is a mountainous 400 square miles of game reserve extending to the Valle de Tena and northwards to the French frontier. You can, with care and a head for heights, take your car to Bujaruelo, about two miles from the bridge, but the road should be classified "Route jeepable". Whereas on the Petit Mt. Cenis we burst the oil sump, this time we got away with a badly dented exhaust which had to be replaced. The trouble is that as the snow waters increase, the invisibility of the potholes is in direct ratio. From a plant photographer's point of view we found this valley the most rewarding. At the entrance, on the crags in full sun, *Saxifraga longifolia*, the largest rosette measured 14½ ins., with a two-foot flower spike of poor quality ; also, in full sun, small inaccessible Ramondas in flower, which did nothing to correct our experience that this plant should be planted in a north-facing aspect. Along the roadside, *Erinus alpinus* in quantity, and on the crags above Bujaruelo, large numbers of *Saxifraga longifolia* which, receiving the morning sun only, were not in flower. In the riverside meadows, myriads of *Primula farinosa*, and ascending the meadows to around the 7,000 ft. mark, in great quantities, *Orchis sambucina*, *Iris xiphioides*, not in flower, *Gentiana verna*, *Viola canina*, of such flower profusion as to justify a place in the rock garden, *Linaria alpina*, the ubiquitous

Helleborus foetidus, even at its best, not very suitable for the rock garden, and in the highest meadows, at the snow line, white *Hepatica triloba*, in full sun, and *Primula elatior* var. *intricata* which, free from competition, seemed more handsome than those I had seen previously, apart from plants in the hanging valley below the Sella refuge in the Dolomites.

The only motor road into the Park is through Torla, and a little south of Torla—at the junction of the C 140 and C 138—one descends the latter and follows the course of the Rio Ara. To escape the thunderstorms at Ordesa we travelled twice along this route, into brilliant sunshine, and as far as Boltana. From the junction to Broto, 2,700 ft., the vegetation is lush, *Geranium sanguineum*, and as one leaves the high mountains the country becomes arid, eroded, and with a different type of flora suited to such conditions. Our memory is of aromatic plants—Thymes, Lavenders, Rosemary, the ubiquitous *Genista hispanica*, dwarf Brooms and dwarf Linums, white and pale blue. A few Woodcock orchids, *Ophrys scolopax*, at the side of the road in very dry conditions, two *Gladiolus byzantinus* ; at the side of the river, in areas subject to flooding, the tallest Orchids we have seen, 30 ins. high, *Orchis majalis*. These are all limestone plants, and *Juniperus sabina*, in the same area, gave us some indication as to why, in our garden, we have found it burn badly in a hard winter. It is a sun lover. The evening sunshine on Torla, with the backcloth of the snow-topped Mondarruego, is a photographer's dream.

Twenty miles along the mountainous road back to Jaca is the small town of Biescas, and twenty miles north, along the lovely Valle de Tena, is the French frontier and the Col du Pourtalet. It is better to travel this road on a Sunday, when the extensive road and dam building constructions are at a standstill. Sallent de Gallego is too low for the plant photographer and the excellently situated ski centre on the summit of the pass, Formigal, is being developed, with fluorescent lit streets and expensive stone-built chalets. There is something incongruous in having a lawn of small flowered *Gentiana acaulis*. Obviously these chalets will be occupied in the summer months as well as the ski season, and one can only hope that the alpines, flowering between seasons, will survive. At Formigal one is among the high alpine pastures, and the mountains are both calcareous and what appears to be a neutral schist. On the limestone in the wet meadows, *Primula farinosa*, the finest we have seen, small Trollius, on the drier banks, *Scilla bifolia*, and on higher and drier screes, *Androsace villosa*

in quantity. On the schists, *Douglasia vitaliana* and a dwarf *Sempervivum arachnoideum*, in perfect harmony. The few *Narcissus pseudonarcissus* seen will certainly disappear, for the reasons previously given. Hotel Tirol is open between seasons but is essentially a skiers' hotel.

Three-quarters of the way up the Valle de Tena from Biescas, a side road on the right leads to Panticosa, and ascends by loops to Panticosa Balneario, which is the summer resort of the wealthy, with a small lake and spa. The district is granitic and flowers seen on the 2nd June were *Primula rubra*, in fine form and very large numbers, a crevice plant. On the pastures a deep, nearly violet, form of *Gentiana kochiana* ; on dry rocks, *Saxifraga cotyledon, S. aizoon, S. iratiana* and, on wet rocks, *Pinguicula grandiflora* and a minute neat Pinguicula, two inches high. Finally, two large patches of a very attractive viola, yellow and white, in the style of *V. lutea* but with flowers ¾ in. across and very floriferous. We did not see *Viola cornuta.*

On our way to the Basque coast we turned north at Berdún into the foothills of Aragon. About three miles north of the main road, N.240, a bastion of limestone hills rise precipitately, and the few roads are cut through gorges. On the walls of these gorges we saw more *Saxifraga longifolia* and *Ramonda myconi* than we had previously seen. North of the gorges the country is very hilly and well cultivated in parts, with many forests and rich pasture. From Biescas to Anso, Roncal and Yesa, driving through thunderstorms, was a heavy day. On the Basque coast around Deva we were surprised to see *Lithospermum diffusum* growing in the hedgerows ; the most floriferous plants were on a clay bank in full sun and free from competition. In the hedgerows it grows leggy. The district receives a substantial rainfall and the rocks seemed to be neutral schist, because we again saw the Woodcock orchid which we had previously seen on limestone. We saw several colonies of the Tongue orchid, *Serapias lingua*, growing in the thin meadow pastures, about 15 ins. high and of rather bizarre appearance ; the reddish tongue is the most attractive feature.

Notes.—The quickest route to Ordesa and also the most expensive is to take the car to Bilbao by Swedish-Lloyd. The voyage from Southampton to Bilbao takes 36 hours and services and accommodation on the boats are excellent. From Bilbao to Pamplona, Jaca, Biescas and Ordesa.

The Spanish National Tourist Office, 70 Jermyn Street, London S.W.1, are very helpful and publish an excellent brochure in English, "The Pyrenees", "Huesca" in French, and one should ask for,

"Suplemento No. 213, Parque Nacional de Ordesa". Ask also for the "Hotels in the Pyrenees" list, which can be relied upon.

The accommodation at the Refugio Nacional de Ordesa, and the courtesy of the staff, is all that can be desired. The refugio is very popular with the Continental tourists and it is advisable to book well in advance. Dinner does not, however, commence until 2100 hours, which will not, perhaps, allow enough sleep for those who spend hard days in the mountains.

The complaint that the flowers are a long way from the accommodation on the French side of the Pyrenees applies equally to the Spanish side, in the areas we visited, with the exceptions mentioned.

The Seed Distribution —an urgent appeal

THE YEAR 1969 was an exceptionally poor seed-year which has emphasised the very delicate balance on which the Seed Distribution depends. This would better be called the Seed Exchange, for those who donate seed get preference in the distribution of seed. Thus if only small amounts of seed come in, as in 1969, the non-donors have little chance of getting their "first preferences"—or their "seconds" for that matter.

We would most urgently appeal for as many members who can possibly manage it to send seed of good rock garden plants to the Manager (in 1970, Dr. Dean, see the *Year Book*) and in as large amounts as possible. This season (1969-1970) we had a full list which contained many unusual and desirable plants thanks to the generous efforts of many of our members both at home and particularly overseas, *but*, whereas in earlier years there might have been 20 or 30—or even 40 or more—packets of a species to send out, we had often only four, five or six—sometimes only one ! Add to this the fact that the number of applications from home and overseas from members who have not donated seed has rocketted and it will be seen that unless more seed comes in each year, there will be proportionately less and less to distribute.

Will you please help both yourself and the other members by collecting and contributing all the seed you can from your rock garden —or from the wild if you happen so to spend your holidays ?

MARY B. TOD HENRY TOD

Photo—R.B.G., Edinburgh ▲
Fig. 8—Trillium chloropetalum

Fig. 9—Trillium chloropetalum (white form)
Photo—R.B.G., Edinburgh ▼

Photo—E. M. Upward ▲ Fig. 11—Leucodendron sp. Table Mountain

◀ Fig. 10—Trillium rivale *Photo—R.B.G., Edinburgh*

Fig. 12—Haemanthus Natalensis (5-6000 ft.) Drakensberg Bushman's Nek ▼*Photo—E. M. Upward*

Photo—E. M. Upward ▲
Fig. 13—Erica Patersonii

Fig. 14—Erica sp. Drakensberg
Photo—E. M. Upward ▼

Rock Gardening - " from the ground up " - IV

by HENRY TOD, Ph.D.

A LOT has been written about the siting of a rock garden and, once again, this has been largely based on the "broad acres" of past days when one could choose where to put a rock garden. Modern gardens seldom allow much latitude in placing ; the question is whether one *can* fit a rock garden into the available space rather than *where.* At the same time there are certain points to be borne in mind. First, a site under trees and especially under their canopy is best avoided, and for several reasons. First, such a site will usually be very dry ; second, it will be invaded by the fine feeding roots of the trees so that the plants may suffer, and third, the falling leaves can, in a damp autumn, form a dense, sodden mass on top of the plants which can do endless harm —and harbour slugs. Finally, with strong-growing trees the shade will probably be too dense for too long a time in the day, so that any plant other than the few shade-lovers will perish from lack of light. Close proximity to a strong hedge may produce effects one and two and, if anywhere southwards of the rock garden, may also have the last result as well.

A grass path between the hedge and the rock garden helps a lot and also, as I mentioned before, allows access for trimming the hedge and collecting the clippings. Grass also provides a good break between, say, flower-beds and a rock garden, but some provision *must* be made to prevent the grass invading the rock garden. Something of the nature of the metal edging now available should be driven in and *all the turf, roots and all* actually adjoining it and now separated from the lawn or grass path should be carefully removed. In this I speak from immediate experience, for I have just been fighting what looks like a losing battle with rapidly-spreading clumps of fescues which have regenerated from remaining root-systems of the turf removed when I put the metal edging around my lawn to save trimming the grass edge.

One point should, I think, be made here. When Reginald Farrer wrote on the construction of rock gardens he emphasised over and over again the necessity of putting in "really good drainage" below

any rock garden bank. In my early days I followed this advice slavishly and was puzzled for a number of years to find how much watering was required in moderately dry weather. As the years passed I used less and less extra drainage and got better results—and still wondered why.

A few years ago I was in the "Farrer country" and only then realised that the rainfall—and dampening from mist—in that area was from two to three times that in most of Scotland (except the west coast), hence his insistence on extra drainage. By an odd chance I saw this very point raised and the same conclusions drawn in an article I read somewhere in the last few weeks.

I am quite sure that this matter of rapid and complete drainage still tends to be overdone. Nowadays there is probably less of the "take out a trench, fill it with stones, cover this with turves upside down and then start to build up the bank on this", but a substitute has arrived in the "very gritty compost" that is so often recommended. This has, I think, derived from pot culture where it generally is needed but its use in the open garden is rather less advisable. This is, I admit, a change of view on my part, but it has arisen in this way. Four or five years ago I built a new rock garden for plants which mostly came from rather dry areas and the mixture I used was equal parts of John Innes potting compost and coarse gritty sand. Ever since then I have had a struggle to keep the plants from flagging from lack of water, while some planted in more normal soil have grown on quite steadily and well.

This is not a criticism of the scree mixtures, for scree culture is a totally different concept. There the richer and more retentive mixture ends up at depth and the roots go down deep into it while the plant's neck and crown are in drier conditions. With the very gritty compost the drainage is very thorough and complete throughout—and I am inclined to think it may well be *too* complete, leading to a struggle by the plants to get enough moisture for their health.

* * *

I have mentioned the question of exposure before in the sense of compass direction, but there is more to exposure than at first appears.

The effective factors in exposure are sun radiation, wind and to a considerable extent, rainfall. All these are very important to rock plants. A south-facing slope will get much more intense solar radiation than a north one, and several workers (Sellei and Aymon Correvon

in particular) have shown that strong solar radiation has a very real dwarfing effect. Many years ago I wrote up the results that I found in my previous garden and also in my present one corroborating these workers' findings so that I knew these to be fact and not just theory. In that article I also discussed the effect of wind which, in the final result, is much the same, though for different reasons, and this should be kept in mind *as far as is possible* in the siting of a rock garden. By this I mean that if one side of a garden faces into the strongest sun and the prevailing wind (both usually from the south-west) while the other faces east to south-east, the former is the place to choose rather than the latter. Rock plants mostly are denizens of the high hills where they really get a hammering from blazing sun, tearing winds and lashing rain, so if you grow them in relatively sheltered positions it is hardly likely that they will remain "in character", i.e. they will tend to grow too big and too soft and often will not flower so freely.

The differential effect of a "south-lying" and "north-lying" field is a commonplace in agriculture and the same applies to rock gardens. On a south slope crops are earlier—this is important to the farmer but not so much to us—because the sun's rays strike more nearly at a right angle to the soil surface. By contrast, on a north one the angle is proportionately more acute so the ground heats up more slowly—the agricultural effect—or the plants receive less direct radiation, the rock garden one. The effect of rain is rather less simple for here a north-lying slope tends to be damper since there is less drying effect from sun and wind. With heavy rain driven by the prevailing wind the south slope may be wetter, but usually it loses its moisture more rapidly and completely when the sun comes out. I have actually seen plants flagging in drought recover and become turgid in heavy rain and an hour or so later flag again because the rain had stopped, the wind had continued and the sun had come out. This was on a south slope, and plants on a north slope only a few yards away showed no signs of wilting again even after several hours of sun and wind.

As I said earlier, these are only too often counsels of perfection, but they are points that are worth while bearing in mind and can be quite important in the final results obtained in the rock garden.

* * *

In the April 1968 number of our *Journal* my old friend Reginald Kaye wrote a spirited "Defence of Rocks" and I would be the last to argue with him, especially in his discussion of the lay-out of rock

and the like. Now he is fundamentally an artist while I am a grower of plants and, in view of my profession, a student of their habits and habitats, and, to me, rock is an *adjunct* to, and a vital factor in, the growth of rock plants, while to his very different eye the total effect is all-important.

This is not to say that I do not appreciate a beautifully-built and laid-out rock garden, for I do. *But* to me it is the plants that matter more, hence the somewhat heretical views for which, as I said earlier, I got into trouble in the past.

Not for a moment would I question what he says about stone, its use and beauty, but once again I stress that the old "Chelsea-type" of rock garden is a mistake. First, it costs a lot. Good stone, as is required for such constructions, is expensive and a lot is needed, and secondly, once planted up, there is literally little room for expansion. In fact a new plant may have to wait for the demise—or scrapping—of one of the original planting, and this is not my idea of rock gardening. If you have acres of room and can go on building more and more rock gardens, then as you acquire new treasures you can make new homes for them, but if you are restricted for room, as most of us are, this just is not possible.

Better, I think, to have a rock bank with fewer well-placed good-looking rocks and plenty of room for planting than all the rock gardens where rock predominates and plants are secondary. This, however, is a purely personal view and many will not agree with me—but I am writing and not Reggie Kaye !

Rock, however, as I have said, has several real functions in the rock garden. Let me recapitulate : first, it holds films of moisture around its surface, causing a cool, moist area where the plant roots will prosper ; secondly, it heats up in the sun and reflects warmth on to the leaves of the plants growing near it for some time after the sun has gone under a cloud or has set. Thirdly, a projecting rock can provide shade for plants which do not relish the full mid-day sun and fourthly, the crevices between rocks may supply the restriction of root-runs that some plants require.

Perhaps the most striking example of what to avoid is given by a development of a newer section in the Edinburgh Royal Botanic Garden's rock garden. To do this a few square yards of the original "Devil's Lapful" construction were dismantled—and provided enough stone to make a really beautiful extension of at least, I should estimate, a quarter to a third of an acre of rock garden. Nowadays

the cost of the total amount of rock in the original rock garden would be really astronomical—but that amount of rock could be utilised to make a rock garden at least fifty times the size of the original one !

Tempora mutantur nos et mutamur in illis—at least many of us do, though some do not !

* * *

I would like to summarise this section of my series, emphasising once more that these are entirely my own personal views.

One. If you want to grow rock plants and go in for rock gardening, and your garden is a formal one, you can adopt several methods which we will consider later—there is no need to demolish the formal garden entirely.

Two. As far as possible, site your rock garden with the various questions of exposure that I have quoted above in your mind—they can affect the growth of your plants to a surprising extent.

Three. Provided you do not have a really wet garden, do not overdo the drainage. If it *is* very wet, then drain it as necessary and utilise the dampness to develop a "bog garden" section.

Four. Remember the value of stone, but do not become obsessed with it unless you want a garden of rocks rather than a rock garden.

Five. Keep scale in mind. In a small garden a huge rock garden will look rather out of place unless the whole garden is on a steep slope, in which case it is the obvious way to handle it.

Six. If you have room and want, say, rose beds *and* a rock garden, remember that a well-controlled lawn or grass path will make a good "break" of design.

Seven. You can break a continuous slope in a garden by levelling the ground at the top and again at the foot, and using one of two methods of making a break of level, either a dry wall or a rock bank. This is another matter which, like the first in the list, will be discussed next.

* * *

I will now get away from controversy (I hope) and consider some other methods of growing rock plants in the garden.

First, let us look at the problem of providing a congenial home for rock plants in a strictly formal setting. As I write this I see in my mind's eye a rather rigidly formal villa-type house (this one is, oddly enough, all by itself in the deep country). It has a wide flagged terrace

in front of its bow windows and front door and beyond the terrace there is a neat rectangular lawn with herbaceous borders on each side and shrubs along the side opposite to the terrace. This garden holds some really outstanding rock plants in a very fine general collection —how are they grown ?

On the terrace are several really good stone troughs with various soil mixtures—peaty, limey, normal. At the edge of the terrace there are quite formal scree beds and then a more or less formal dry wall down to narrower scree beds at the edge of the lawn below. The lay-out and construction of the scree beds and dry wall is shown in the drawing (fig. 17) and the wall can be as formal or informal as

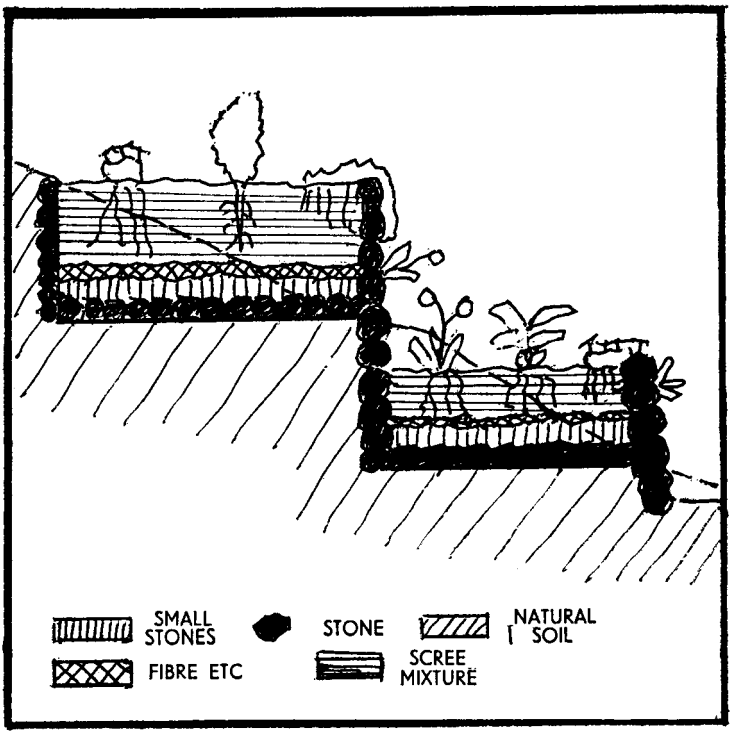

Fig. 17—Dry Wall

wanted by using either squared stone or else natural stones after the fashion of a real dry-stane dyke as used in the fields. One highly successful dry wall that I saw some years ago was built with "causey

setts''. This made a very pleasant grey (granite) wall in which plants grew extremely well in gaps left in the setts.

The rock bed or scree bed (according to the ''filling'') can be worked into the lawn by making it up on the lines of one level of the drawing (fig. 18). There used to be a very beautiful rock bed built

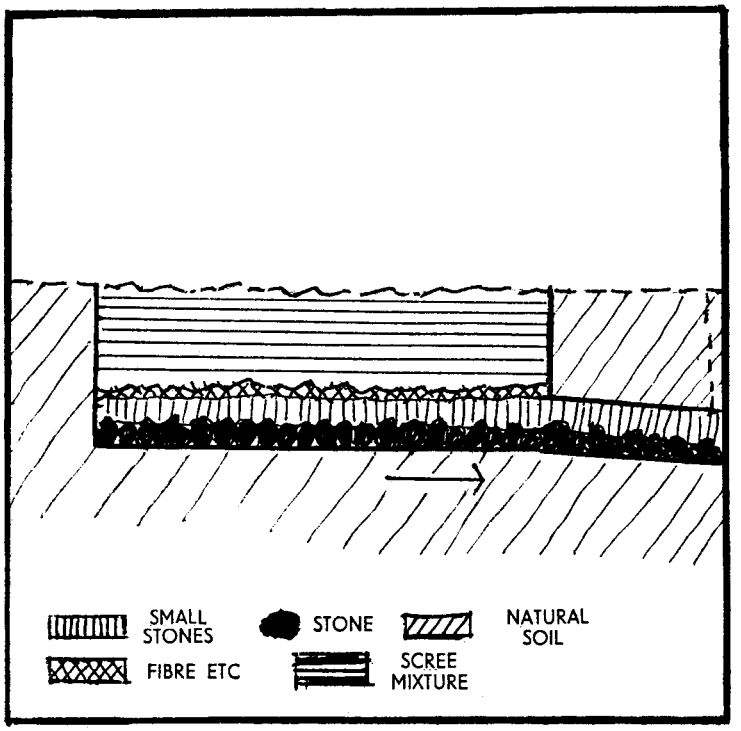

Fig. 18—Scree bed

in this way, not rising more than a foot or so from ''the level'' in a garden down beside, as I recall, the Gala Water. Tragically enough, no thought had been taken as to the possibility of floods and one raging torrent as far as could be seen washed it away entirely. Certainly it is there no longer.

If this type of construction is used, the outline should be laid out and the site excavated, some drainage put in the bottom (if the ground is flat this will probably be needed) and the remainder filled with the required mixture. The surface can be worked into differing levels with suitably placed rock and then planting can commence. This is, in one

way, a Symons-Jeune type of construction, a parallel to the strange flat outcrops one sees in some of the Dales in the North of England, and here and there in Scotland, but without attempting the elaborate set-up of rocks that the real "single-feature" rock garden really demands. To be effective, however, it has to be sited in a fairly large area of lawn, as the one was that was so sadly washed away by the river.

Earlier I mentioned changing levels in a sloping garden (the villa garden I referred to earlier had a sunk lawn). If the slope is gentle, it is fairly easy to decide where the change should come. The lower part is then worked back into the slope, the lowest edge of the garden being the level from which to work. The excavated soil is thrown up above the "change" line and the upper part also worked level using

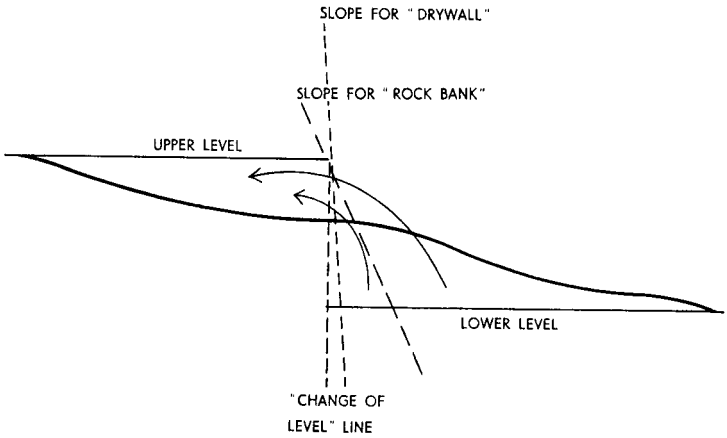

Fig. 19—Change of level

this material (fig. 19). At the "change" one of two methods can be used. The first is to work the change into a fairly steep slope, work stone into it and develop a fairly shallow rock bank. The second is to slope the soil very steeply and build a dry wall against it for support and plant into the bank in the crevices between the stones of the wall.

My first experience of a dry wall was one that I had to build in my previous garden to retain an exposure of a very friable bed-rock which was shattering at an alarming rate. This had been left by the builders when they excavated the foundations of the house and had promptly begun to break down. My wife and I built this wall of whinstone (never again !) and filled good compost between it and the crumbling

rock. This was surprisingly successful as a home for crevice plants and also for retaining the crumbling rock. When last I saw it, it was as firm and stable as ever, though it had been built some thirty years earlier. Another in the same garden was used for a change of level and was only a foot or so high. The stones that I used for it came from the hill burns of the Southern Uplands and when I saw it last the rock plants had grown so well that the stones were invisible under the mats of plants hanging down, over and between them.

Oddly enough there are two gardens, almost side by side, which I pass daily ; the one has used the "rock bank" construction (fig. 20) and the other the "dry wall" (fig. 21)—both are extremely effective and successful and for a hilly town like Edinburgh this is a very good way of dealing with steep slopes which are so difficult to work otherwise.

Her Majesty Queen Elizabeth, The Queen Mother,
has graciously accepted the invitation of the Council and Members
of the Scottish Rock Garden Club to become an Honorary Member
of the Club.

PUBLICATIONS

Stocks of many numbers of the *Journal* are held, and sell at from 2/- per copy, post free, depending on scarcity. There are now a few copies available of the following : Nos. 15, 21 and 27, which were previously out of stock.

The availability and price list will be sent on request.

Still available, but in short supply, is "Dwarf Conifers" by H. G. Hillier, 11/3 post free.

The Club will welcome the opportunity to buy (or be gifted) old *Journals* providing they are in good condition.

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Some Snowflakes

by K. S. HALL

UNTIL Linnaeus described the genus Leucoium or Leucojum as we know it today, the name was given to several other genera. Leucoion, used by the Greek naturalist Theophrastus in the 3rd century B.C., was applied at various times to some Cruciferae and to Snowdrops as well as to the three leucojum species known up to the 18th century—*L. vernum*, *L. aestivum* and *L. autumnale*.

Sir Frederick Stern in his book on "Snowdrops and Snowflakes" describes the genus fully, but from the point of view of the gardener the most obvious distinction between Galanthus and Leucojum lies in the length of the perianth segments. In the Snowdrops the three outer segments are longer than the inner ones, whereas in the Snowflakes they are all the same length, although the shape of the segments, and hence of the flower, varies from one species to another.

The most commonly grown and the hardiest are *L. aestivum* and *L. vernum*. The Summer Snowflake (though it flowers in May) or "Loddon Lily", *L. aestivum*, is reported from one or twp places in the Thames valley, notably beside one of its tributaries in Berkshire, the River Loddon. This habitat gives an indication of the plant's liking for a moist and even a shady site. Growing to a height of about 2 ft., it is better suited to the Wild than the Rock Garden. Its white flowers, normally less than an inch across but somewhat larger in the 'Gravetye' variety, have a dark green mark near the tip of each segment and hang in umbels which look rather insignificant at the top of a tall stem, but which show to advantage when grown amongst dwarf shrubs.

L. vernum, the Spring Snowflake, is a woodland or meadow plant of the lower Alps, naturalised in a few places in England. Growing to 8 or 10 inches, it has a single bell-like flower, occasionally two, with segments an inch across, each having a dark green tip, the broad leaves are a rich green. It appears to grow in any soil, in sun or shade, and naturalises easily in grass, which makes it a welcome addition to the bulbs of February and March.

The form *L.* var. *carpathicum* comes from further East, into Rumania. Of it Reginald Farrer in "The English Rock Garden" (1st ed.), wrote: "sends up its ample, cosy, wide cups of pure white, tipped with gold in earliest Spring . . . incomparably more cheerful

than those chilly snowdrops . . .''. But he does not mention the somewhat rare twin-flowered *L.* var. *vagneri* from Hungary, which is probably the finest form of all.

L. autumnale is described by Farrer, in the same edition, as ''Too delicate for most gardens, is exquisite, thread frail *L. autumnale* from Gibraltar, with dainty roseate bells in autumn on stems of 2 or 3 inches. It may, however, be grown well in warm sandy soil in the south.'' Yet here, in Edinburgh, I have *L. autumnale* grown from Club seed in 1956 whose clumps increase steadily in pans and to a lesser degree out of doors in a soil which is far from warm and sandy. It is probable that these are two different varieties as described by Stern, ''8-15 cm. high in European specimens and 25 cm. high in Moroccan specimens.'' In my form the delicate coppery-green stems shoot up to 8 ins. or more, before the leaves appear, in a steady succession from late July to September. Growing among *Cyclamen neapolitanum*, the white bells, flushed pink, have an ethereal quality.

Nearer to Farrer's description of *L. autumnale*, and certainly not hardy here, is the loveliest of all, *L roseum*. This treasure is found in only a few places in Corsica and Sardinia, but is easily grown from seed, flowering in September of the second year. The stems are only 3 ins. high and the bells, dainty in proportion, are a delicate pink with white lines. Surprisingly, for a Mediterranean bulb, the leaves do not die down after flowering, so the pans in the Alpine House are not allowed to dry out completely. By using a very sandy compost one can avoid any risk of the bulbs rotting.

L nicaeënse (*L hiemale*) has an equally limited habitat in the hills behind Nice. This also I grew 12 years ago from Club seed and it increased under glass, both by division and seed, often seeding itself in the ash plunge where it grew on contentedly. Two years ago I broke up the clumps and re-potted them, but this seems to have been a mistake, as many of the bulbs failed to reappear last Spring.

Why, one wonders, should Farrer have written : ''*L. hiemale* and the very rare *L. nicaeënse* from Eze . . .'' when they are synonymous. Whatever the name, it is a very lovely thing, growing about 4 inches high and producing, in April or May, two wide-mouthed white bells on each stem, in some forms only one. The leaves, which are narrow and linear, appear in autumn, so there is only a short dormant period. Like *L. roseum* this is grown in well-drained soil and kept slightly damp.

Seed of other species appears occasionally in the seed lists and I have some young bulbs, not yet flowered, of *L. trichophyllum* grown from seed collected in S. Spain by the late Lt.-Cdr. Stocken. This, from the description, should flower in February and be a welcome addition to a collection of Leucojum for Alpine house or frame.

GIFT OF MEMBERSHIP

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.

Our Shows - an Appeal, an Explanation and a Challenge

by HENRY TOD, Ph.D.

I AM afraid that there are a number of misconceptions rife among members of the Club about our Shows. These have come to me as Chairman of the Show Secretaries Committee and this note is an attempt to clear them up.

First, there was a comment made at the Musselburgh Autumn Show : "I was astonished to see that ordinary rock plants could be entered in the six-pan class—I had always thought that it was only for rare alpine-house plants".

Secondly, another comment was made about the same Show : "This was a most happy and enjoyable Show—most of the plants were ordinary ones that anyone can grow" and, as a corollary to this, "I said to myself, 'I grow that plant, maybe next year mine will be good enough to enter it for the Show' " and further, "There were not so many rare and difficult plants to scare off the ordinary member".

Apart from these specific comments, the general impression I have had is that a number of the members were surprised that so many "ordinary plants" were entered—and *could* be entered in the competitive classes. This is, of course, a completely ridiculous idea, for the Shows are for ALL the members and, most definitely, *not* for a privileged minority alone. The last thing that we want to do, however, is to suggest that the showing of really rare and difficult—and often very beautiful—plants is not to be fully welcomed and encouraged. I must confess that, in reporting on the Shows for the Gardening Press I have been too often guilty of stressing the "new, rare and difficult" type of plants and, to be honest, of exhibiting them on the few occasions when I have had them to show. This has been partly due to the fact that one of the Journals that takes my reports has specifically asked me to deal with this class of plants, and also to the fact that I am particularly interested in new plants myself.

But, and here is the point of this note, this is not to mean that the importance *to the Show* is the "unusual" plant—far from it, for the

real importance is in the *usual* plant really well grown and presented. I have heard it said often that only some out-of-the-way rarity from the Andes, New Zealand or Central Asia lovingly coddled in the Alpine House has a chance of gaining a Forrest Medal. This is just not true, for at one Show a few years ago the Medal went to *Sedum cauticola*, and another went to a hybrid Lewisia of no "rarity" whatever. At this year's (1969) eight Shows only two of the Forrests awarded went to plants that are not in most of the Nursery Catalogues. *Any* rock plant, really well grown, really well presented and in full flower can easily "ca' the breeks aff" the little rarity, for it is an odd Judge who will overlook a big pan of *Douglasia vitaliana* covered with its bright yellow flowers for a little pad of Raoulia, no matter how well grown.

I have a very strong feeling that there is a movement abroad to reinforce these ideas, for already I have been offered an "anti-Forrest Medal" for the best *ordinary* rock plant in the Penicuik Show, rarities *not* to be eligible. A really good ordinary rock plant in perfect condition and full flourish would quite obviously get both the Forrest and the new Medal if it beat the rarities—and why not ? I was interested to be told of an almost identical award proposed for next year's Autumn Show—quite independently, mark you—and I was interested to note that the Editor of *Amateur Gardening* selected *only* from my report on the Musselburgh Show my comments on the success of the more usual plants there and how it probably "scared off" the members less for that reason.

While the bigger Shows of our calendar always include what may be called "specialist's" classes, the vast majority of the classes are meant for the usual rock garden plants, well grown and well flowered. For these plants, and believe me, I speak from bitter experience, an alpine house is no real benefit, in fact it usually leads to disaster. The plant grown in the open, either in a pot in an open unprotected plunge frame or in the open rock garden, lifted and potted up for the Show, will almost invariably win easily, for it will be "in character", not drawn in any way or grown "soft".

If you are swithering as to whether to compete or not, stop it and have a try. If you are in doubt as to *what* to show or *how* to prepare your plants, every Group has someone who will be only too ready to help and guide you. Further, we have lecturers who will give talks on these topics and will illustrate the points involved and give advice. We hope, too, that as many Groups as possible will have one, two or

more members who do show, available to help new exhibitors on their way and to encourage them to "have a try". Once you do start and see a sticker for First, Second or Third on one or two (or more) of your cards, I think you will find that showing is a lot of fun and that it gets a grip of you—and makes you a better grower too in the long run.

What we must aim at is more exhibitors and many more exhibits. We want big healthy pans of the bright, gay, reliable rock plants in our Shows. As one member wrote to me : "He—and she—(The Man- and Woman-in-the-Street) want to see something that they can grow in their garden at home and that will make a splash of colour. If it's something that the neighbours haven't got—and that's not too time- and labour-consuming—so much the better. But he is not in the least interested in wee bits of moss with one tiny flower on them. I'm not myself ; I still maintain that wood sorrel is a much bonnier thing than Pyxidanthera. What I would like to see would be huge pans (none of your six-inch affairs) of Alyssum, Aubrieta, Campanula, Polyanthus and things like that. Don't ask me how you're going to get them ; I wouldn't know, but I'm certain that that would attract the non-expert, and it is them that you want to get interested".

Now *there's* a challenge—what are you going to do about it ? The classes are there in the schedules just waiting for you.

A Visit to Vancouver

by A. C. SMALL

IN AUGUST 1969, my wife and I spent a month in Vancouver and district, the purpose being primarily to visit relatives, but opportunity was taken to visit gardens and, briefly, mountains, to see some of the native flora. Contact was made in advance with the Alpine Garden Club of British Columbia, which is affiliated to the Scottish Rock Garden Club.

This Club, which has about 150 members, is a very active body, meetings being held monthly in Vancouver, and a Bulletin issued each month from September until June.

From the evidence of the one copy which we saw, the members include some very enthusiastic and knowledgeable persons. The Editor is to be congratulated on this lively production of five duplicated quarto pages. Black and white illustrations are being introduced and experiments are being made with offset printing. Field trips extending over two or three days are organised and a seed collecting trip to collect for the A.G.S., A.R.G.S. and S.R.G.C. exchanges was arranged to take place on Saturday 13th September.

The President of the Club, Mr. Geoff. Williams, entertained us at his home and showed us his garden, very attractively laid out and constructed entirely by himself and his wife. Through their agency we had invitations to visit other gardens, all in North Vancouver, which is across the Burrard Inlet (a sea loch) from Vancouver. The ground there rises steeply to the north to a mountainous background and provides very suitable terrain for rock gardening. The rock which outcrops all over the place is mainly granite, and houses are perched on all likely, and some very unlikely, looking crannies. Some herculean tasks have been accomplished in the creation of many of the gardens. The latitude is roughly that of the English South Coast and has an average rainfall of 57 ins., but there are considerable local variations up to 80 ins., mainly in late autumn following warm dry summers. There is not much snow as a rule, although the winter of 1968-69 produced several heavy falls. A lot of damage of which we saw plenty of evidence was caused by low temperatures and high winds. In North and West Vancouver the landscape features many woods containing large trees, mostly Douglas Fir (*Pseudotsuga douglasii*); Hemlock

(*Tsuga heterophylla*); Pacific dogwood (*Cornus nuttallii*), the floral emblem of British Columbia, and Cedar (*Thuja plicata*), and in moister areas the Vine maple with its brilliant autumn tints.

Dwarf junipers are very popular in the usually unfenced front gardens, and great quantities of *Calluna* 'H. E. Beale' (which they call Mrs. Beale). I wonder if these were derived from the plants mentioned by R. E. Cooper in *Journal* No. 4 (1947) as sent to Canada by Air Mail, which "generated tremendous enthusiasm". We saw very few other kinds of calluna, but other ericaceous plants such as daboecias, phyllodoces and cassiopes are grown.

For top dressing the soil, pulverised Douglas Fir bark is widely used. We saw it advertised at $2\frac{1}{2}$ for 2.7 cu. ft. The gardens which we visited were very well stocked with good plants, most of which were familiar. Great importance is attached to seed distribution, as the importation of growing plants into Canada is difficult owing to the strict regulations enforced to keep out pests and diseases.

The grounds of the University of British Columbia are beautifully kept with wide fine lawns, beds of roses and plantings of small shrubs in formal beds. There is only the nucleus of a botanical garden, but a Committee of the Alpine Garden Club of British Columbia has been formed for the purpose, *inter alia*, of providing designated species for the Botanical Garden.

Any members of the Scottish Rock Garden Club who are interested might contact Mrs. E. C. Darts, 1660 Coast Meridian Road, RR4, White Rock, B.C.

In the University grounds is the Nitobe Memorial Garden, consisting of two Japanese gardens, the landscape garden and the tea-garden, which is described as a rock garden.

The main feature is the lay-out of the rocks with stepping stones and paths of crushed rock surrounding a pool, the plants being of secondary importance. Ground cover is, mainly, "Kinnikinnik", the Indian name for *Arctostaphylos uva-ursi* and *Pachysandra terminalis*.

Another, much larger, garden we visited was the famous Butchart Garden, 13 miles north of Victoria on Vancouver Island, 25 acres in extent, started in 1904 on the site of an old limestone quarry and gradually developed over the years. This is a very beautiful place, full of colour with roses, begonias, pelargoniums and all sorts of bedding out plants. There are fine trees including native maples for background, and on one side of the sunken garden there are alpines, the most interesting one we noticed being *Convolvulus mauretanicus*.

New to my Garden

by D. M. MURRAY-LYON

QUITE a time has passed since I last contributed a note on this subject* Perhaps, therefore, for the sake of new members, I had better explain what the title is meant to convey.

The plants I propose describing are not necessarily "new", but they are "new to my garden".

I feel that plant notes which do not say where the garden is, and what the conditions are under which the plants are growing there, lose a great deal of their value. So, for the benefit of those who do not know my garden, I will try and give a short description of it.

It is in Pitlochry in Perthshire, and lies on the northern slopes of Strath Tummel at about 600 ft. above sea level. It is situated on what I am told is an old lateral moraine, and it faces roughly south-west. The soil is poor and gravelly, with lots of rocks and stones of all sizes in it. It is acid and contains little humus of any kind. To try and improve it, tons of peat and as much leaf-mould as I could lay hands on have been added to it. Winters can be severe, and sub-zero frosts are not unknown, and that too sometimes with little or no snow cover. The average rainfall is about 34 inches.

The plants which I now propose trying to describe prefer rather cool and moist conditions, and are suitable for at least partly shaded peat beds, perhaps 'peaty' is the more accurate word.

Four Trilliums (Liliaceae) from North America which like the same conditions as the better known *Trillium grandiflorum* are *T. undulatum*, *T. erectum*, *T. stylosum* and *T. luteum*. A cool, moist but well drained, humusy soil in partial shade will satisfy them all.

Trillium undulatum (syn. *pictum*) is an attractive little thing with pointed oval leaves. The flowers, carried on four- or five-inch stems, tend to look upwards unlike most trillium flowers. They are white, splashed inside with crimson. The leaves are copper-coloured.

Trillium erectum, about twice the size of *T. undulatum*, is perhaps not quite so attractive, but I think Farrer was a bit hard on it when he described it as ugly. The flowers are a deep red and of good size.

T. stylosum is about ten inches high, with most pleasing rose-coloured flowers.

* See S.R.G.C. Journal for April, 1963

cades, see the article by Leo M. Le Blanc in the *Journal* Nos. 14 and 15, 1954.

Around Eagle Harbour, where we had our temporary home, the natural ground cover includes blue berry (*Vaccinium canadense*), whose delicious fruit we greatly enjoyed, red huckleberry (*V. parvifolium*) with its coral red berries, Salal (*Gaultheria shallon*), *Berberis aquifolium* and oregon grape *B. nervosa*, the floral emblem of Oregon.

A popular tourist trip is to Mount Seymour, North Vancouver. A road has been constructed to a car park near the top and the lazy or the infirm can complete the trip by chair lift through the trees. The ground cover in the glades where the trees had begun to thin out included the plants mentioned above and many others which looked interesting but were not blooming at the time, including the twin flower (*Linnaea borealis*) which grows in great abundance there. In winter this area caters for thousands of skiers and gets at least 10 ft. of snow.

Of the animal life the most attractive were the humming birds, the chipmunks (tiny squirrels), both difficult to photograph owing to their quick darting movements, and the raccoons, said to be very tame, but nocturnal and only seen in the car headlights.

The scenery is superb, the view from Vancouver looking north over the Burrard Inlet is eye-catching, while the sail through the Gulf Islands to and from Victoria is reminiscent of the Firth of Clyde on a larger scale, even including narrows like the Kyles of Bute.

The foregoing is only a very bald outline of our impressions, but it is hoped that it will show that, for those who can make it, the journey is well worth while.

I should add that I am greatly indebted to Mr. Williams for checking this article.

PUBLICATIONS

MEMBERS are advised that the Office of Hon. Publications Manager has been merged with that of the Hon. Publicity Manager.

To the best of his knowledge the Hon. Publicity Manager has cleared all orders for publications, but if any have been overlooked in the transfer operations and are still outstanding, will affected members please communicate with Mr. Duff ?

Hunting for Pyxies

by FIONA SLACK, Ph.D.

INTEREST in the New Jersey Pine Barrens was aroused by the late W. C. Buchanan who suggested that I might like to collect some specimens of *Pyxidanthera barbulata* during the summer of 1963 when my husband and I were visiting relatives in that State. Our relatives were only too anxious to take us places by car and a plant hunting expedition appealed especially to a nephew who is a keen photographer.

Having set out on our adventure with almost youthful enthusiasm, our first problem was to find the Pine Barrens. The people we met had only a vague idea if any of the location of the region, to say nothing of its interest or importance to us. All that was known was that it was somewhere in the south-eastern part of the State.

We travelled along a fast highway for what seemed to be a very short time and found ourselves approaching Atlantic City. Knowing then that we had come too far south, but finding ourselves near to a coastal bird sanctuary, we made a detour to admire the egrets and other marsh birds and then turned north along the coast. Thick on the ground were seaside resorts with sandy beaches, boarding houses, amusement parks and restaurants advertising shore dinners. None of these interested us so we turned west.

Presently road signs directed us to Philadelphia, forty miles distant, and to New York City, one hundred miles in another direction. As neither of these places attracted us more than the beach we had left a few miles behind, we turned off the main highway and immediately found ourselves in a vast uninhabited wilderness. We had arrived in the Pine Barrens, an area of 1,300,000 acres and comprising one quarter of the total area of the State of New Jersey, but right in the heart of the most thickly populated region of the U.S.A. (fig. 22).

The first impression is of hundreds and hundreds of pine trees growing out of acres and acres of white sand. There are, however, breaks in the forest caused by frequent devastating fires. Here there may be stunted pines. In some places scrub oaks have replaced them. The country is not quite flat, but very gently rolling and traversed by slowly flowing streams surrounded by bogs. Thus within an area not more than a hundred yards square can be found a desert, a bog and all gradations in between. At one time I was digging up a long-rooted

sandwort while conversing with my nephew who was photographing a pitcher-plant in the nearby bog.

The object of this first journey was to find a *Pyxidanthera* and, since no member of the party had a very accurate idea of what he was looking for, we collected everything that had moss-like leaves and lived in the sand. Of the three distinct species collected, the one which was finally identified as the coveted "Pyxie" was growing in one of the recently burned over areas. It was the only one which survived a Scottish winter (fig. 23).

Beside the *Pyxidanthera*, a wealth of beautiful flowers were seen, some, old friends of my up-state New York and New England youth, many previously unknown to us or seen only in cultivation. My husband and I had to return to Scotland, but our nephew has returned, ever since that day, to the Pine Barrens with his camera whenever he could spare the time. Most kindly he has supplied me with a collection of outstanding photographs of over sixty species. After many horticultural failures I have decided that plant collecting by photography is the best way after all and certainly should be the only method with rarities.

The collection of photographs contains six species of orchid, nine Ericaceae (ranging in size from *Rhododendron arborescens* to *Pyrola sp.* and *Chimaphila maculata*), aquatic plants, bog plants, carnivorous plants, tropical plants, arctic plants and many common to the Atlantic coast and North America in general. While the photographs were taken primarily for pictorial reasons, they were subsequently identified with care. One rarity, *Schizaea pusilla* (a fern), for which the Pine Barrens are famous, is absent, but others are there including *Pyxidantheraum barbulata, Hudsonia ericoides, Narthecium americanum, Lophiola aurea* and *Chrysopsis graminifolia.*

As early as 1910, Mr. Witmer Stone counted 565 species of plants growing in the Pine Barrens, designated 386 as true Pine Barren species and classified them according to distribution throughout America as follows :—

153 species ranging widely from the Canadian Provinces through the U.S.A. down to Florida.

28 species forming a northern element, 18 having New Jersey as their southern limit.

188 species forming a southern element, 70 having New Jersey as their northern limit.

17 species forming a local element.

Geologically, the Pine Barrens are part of a slowly rising coast extending from the region of New York City to Florida. From Stone's classification it would appear that the maximum number of species, or at least the maximum diversity of species, live in the New Jersey area.

The New Jersey Pine Barrens have been of great interest to naturalists for 150 years though practically ignored by others, even residents of the State. This could be because the good roads lead to famous places where people like to congregate. It could also have something to do with the mosquitoes which inhabit this country in hordes and drive away all but the most ardent naturalists. Whatever the reason, for the isolation, the resulting protection of so many interesting and rare plants (and animals) should give cause for gratitude.

Some apprehension exists with regard to the future, but fortunately the conservationists have had enough foresight to set aside large areas as State Forest Reserves. Now the Audubon Society is agitating for the reservation of another area to link up those already designated.

The question which comes to our minds is how it is possible for so many kinds of plants with such varied habits and requirements to live together so successfully. Dr. Lutz of Yale University kindly loaned me a paper on the ecology of the region which gives information about soil and climate.

In general the climate is very hot in summer and mild in winter, affording a long growing season. The coolest month is February with mean temperatures of 29° to 34°F. Between December and the end of February the temperature may drop to 0°F. or lower. It has been known to fall to —16°F. July is the warmest month with mean temperatures of 73° to 77°F., with a high summer maximum of 100°F., and even 107°F. is on record.

Annual precipitation of 45 to 50 inches is well distributed throughout the year. Rainfall is relatively constant, snowfall is light and of short duration. During the warmer portion of the year the weather is almost sub-tropical, with many consecutive days and nights of excessive warmth and humidity.

The soil is very poor and intensely leached. There are two types : one, designated as "Lakewood", where the surface is white quartz sand over an orange sub-soil with low organic content and excessive drainage ; the other, "Sassafras", which has a brown or light brown surface over reddish yellow or orange friable soil and a lower sub-soil of coarse granular texture. This again has good drainage and is easily

penetrated by plant roots. These types are evidently very good conductors of heat, for a soil temperature of 160°F. has been recorded.

It is estimated that 90% of the rainfall soaks into the soil, but its water-holding capacity is low compared with other forests owing to its nature.

In spite of this, experiments have shown that the available moisture is relatively high. I have not been able to find data concerning the water table, but it does seem obvious that it must be high. Consequently small variations in ground elevation furnish a wide range of amounts of available water. Photographs of the same areas taken at different times indicate some fluctuation in the water level.

The soil is distinctly acid with a pH range of 3.48 to 5.14. The nitrogen content is low and the carbon/nitrogen ratio high, possibly by reason of excess charcoal resulting from frequent burning. All these conditions discourage the use of the land for agriculture beyond a small amount of cranberry cultivation.

For more than a century the Pine Barrens have been recognized as an important region for field studies by scientists and University students. Questions have been asked and theories put forward concerning the origin of many of the plants and about the areas of stunted pine trees. It is now believed that the stunted pines are the result of frequent fires encouraged by high maximum temperatures accompanied by strong dry winds from the west and north.

An early geological theory suggested that the area represented an island which escaped flooding following glaciation and so was considered to have been the centre of an isolated flora. Since, however, it was thought only to have been separated from the mainland by some fifteen miles of sea, it is hardly likely that the plants would have been really isolated. Moreover, it now appears that there are few if any plants that are unique to the Pine Barrens.

We went to the Pine Barrens to find "Pyxies", and how much more we found ! The great interest lies in the fact that here in a state of nature is an area where plants from so many varied and normally widely separated habitats thrive. Exactly the kind of situation that many of us make elaborate efforts to achieve in our own gardens.

In conclusion I wish to thank Mr. M. Allen Northup for giving me the splendid collection of photographs as well as for very helpful information, and Dr. H. J. Lutz for the loan of two papers. I should also like to acknowledge the assistance of my husband in the preparation and typing of the manuscript.

PHOTOGRAPHS OF PLANTS

Aletris farinosa, Arctostaphylos uva-ursi, Arenaria stricta. Arethusa bulbosa, Ascyrum hypercoides, Ascyrum stans, Aster sp., Aureolaria pedicularis, Baptisia tinctoria, Calopogon pulchellus, Cassia fasciculata, Chimaphila maculata, Chrysopsis graminifolia, Chrysopsis mariana, Clethra alnifolia, Coreopsis palmata, Cypripedium acaule, Drosera filiformis, Drosera intermedia, Euphorbia maculata, Gaultheria procumbens, Gentiana autumnalis, Habenaria blephariglottis, Habenaria ciliaris, Helianthemum canadensis, Helianthus angustifolius, Hudsonia ericoides, Hypericum adpressum, Iris versicolor, Kalmia angustifolia, Leucothoë racemosa, Liatris pycnostachya, Linaria canadensis, Lophiola aurea, Lobelia nutallii, Magnolia virginiana, Mikania scandens, Monotropa uniflora, Narthecium americanum, Nymphaea tuberosa, Orontium aquaticum, Pogonia ophioglossoides, Polygala cruciata, Polygala lutea, Prenanthes alba, Pyrola elliptica, Pyxidanthera barbulata, Rhexia virginica, Rhododendron arborescens, Sabbatia difformis, Sarracenia purpurea, Sisyrinchium angustifolium, Solidago sempervirens, Spiranthes cernua, Tephrosia virginiana, Utricularia cornuta, Utricularia radiata, Vaccinum macrocarpum, Viola primulifolia, Xerophyllum asphodeloides, Xyris flexosa, Yucca smalliana.

REFERENCES

Lutz, Harold J., 1934 : Ecological Relations in the Pitch Pine Plains of Southern New Jersey. Yale University School of Forestry Bulletin No. 38.

Lutz, H. J., 1934 : Concerning a Geological Explanation of the Origin and present Distribution of the New Jersey Pine Barren Vegetation. *Ecology*, Vol. XV, No. 4, October 1934.

Stone, Witmer, 1911 : The Plants of Southern New Jersey. Annual Report of the N.J. State Museum 1910, Trenton.

Book Reviews

" A GUIDE TO THE NAMING OF PLANTS," by David McClintock. 44 pp. Published by The Heather Society, Yew Trees, Horley Row, Horley, Surrey. Price 6/6 (post free).

The author of this booklet, David McClintock, is already well-known as the author of " The Pocket Guide to Wild Flowers," which was followed by a Supplement. Here again he has produced another guide of somewhat different character which will be of interest to the amateur botanist and especially those interested in hardy heathers and their cultivation.

As the title suggests, it deals primarily with the naming of heathers, a subject about which the average rock-gardener knows little. It contains

a considerable amount of interesting information regarding certain botanical and horticultural terms and how the plants are named. This is a good and instructive commentary on the names of our hardy heaths and a valuable part is the copious index. It is a well-produced booklet of moderate cost these days which all lovers of hardy heathers should add to their library.

The Heather Society is to be congratulated on this, the first booklet to be published by the Society.

J. D.

"DWARF CONIFERS," by H. J. Welch. 2nd edition. Faber & Faber, Ltd. Price £4 10s. 0d.

Whatever some pundits may say of dwarf conifers being unsuitable for the rock garden, there is an increasing number of members who, seeing beyond this narrow viewpoint, fully recognise their great value in simulating the mountain scene, even though most forms did not originate in the wild. Dwarf conifer growers will be glad to know that since I reviewed the first edition of the above book in the September 1966 issue, a second revised edition was published in July 1968. It is important to point out that those who desire to increase their knowledge on this subject should make certain that they get this new edition rather than the old one, for unfortunately the same red cover has been used in both cases.

The most noticeable improvement in the new edition is in the reproduction of the photographs, which is apparent in something like sixty cases, and some plants are portrayed in new and better pictures. In view of the inadequacy, especially regarding dwarf conifers, of botanical descriptions alone, this improvement is most welcome. A number of alterations have also been made, including some names and various details in the text. The eminently useful, and indeed unique identification plates, twenty in number, with explanatory notes, which were such a significant feature in the old edition, appear as before. These portray foliage sprays of nearly 200 different forms, and while they cannot be expected to supply an infallible means of identifying every dwarf conifer we may possess, they constitute a valuable guide, and should if properly studied be a considerable deterrent to many of the unwarranted errors which appear only too frequently in many amateurs' collections, nurserymen's stocks and indeed in some botanic gardens. I can honestly say that hardly any of the line drawings which I have seen in horticultural books are as satisfactory as photographs like these, especially arranged as they are in groupings of various members of one genus or species on the same page.

All in all, I would recommend this new edition as a considerable improvement on the previous one, and as a "must" for all those interested in dwarf conifers. No one knows better than I do what continuous and untiring efforts have been put into this work by the author, which he is still pursuing, for, as he himself knows as well as anyone, in such a complex and abstruse subject new findings are continually coming up.

In our gropings for the truth we are still greatly hampered by the welter of confusion in the dwarf conifer sphere which has accumulated over the years. I would therefore exhort all concerned, that is, amateur growers, owners of big estates, botanic gardens, and perhaps above all, nurserymen—especially those who write about these plants—to purchase this book and study it, so that the errors of the past may not bedevil our collections to the same extent as at present. We now have more adequate dwarf conifer literature and it is up to us to make use of it. If we do so, there need not be a spate of ridiculous labels on plants exhibited at the forthcoming Conifer Conference Shows in October 1970.

R. S. C.

New to my Garden

by D. M. MURRAY-LYON

QUITE a time has passed since I last contributed a note on this subject* Perhaps, therefore, for the sake of new members, I had better explain what the title is meant to convey.

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I feel that plant notes which do not say where the garden is, and what the conditions are under which the plants are growing there, lose a great deal of their value. So, for the benefit of those who do not know my garden, I will try and give a short description of it.

It is in Pitlochry in Perthshire, and lies on the northern slopes of Strath Tummel at about 600 ft. above sea level. It is situated on what I am told is an old lateral moraine, and it faces roughly south-west. The soil is poor and gravelly, with lots of rocks and stones of all sizes in it. It is acid and contains little humus of any kind. To try and improve it, tons of peat and as much leaf-mould as I could lay hands on have been added to it. Winters can be severe, and sub-zero frosts are not unknown, and that too sometimes with little or no snow cover. The average rainfall is about 34 inches.

The plants which I now propose trying to describe prefer rather cool and moist conditions, and are suitable for at least partly shaded peat beds, perhaps 'peaty' is the more accurate word.

Four Trilliums (Liliaceae) from North America which like the same conditions as the better known *Trillium grandiflorum* are *T. undulatum*, *T. erectum*, *T. stylosum* and *T. luteum*. A cool, moist but well drained, humusy soil in partial shade will satisfy them all.

Trillium undulatum (syn. *pictum*) is an attractive little thing with pointed oval leaves. The flowers, carried on four- or five-inch stems, tend to look upwards unlike most trillium flowers. They are white, splashed inside with crimson. The leaves are copper-coloured.

Trillium erectum, about twice the size of *T. undulatum*, is perhaps not quite so attractive, but I think Farrer was a bit hard on it when he described it as ugly. The flowers are a deep red and of good size.

T. stylosum is about ten inches high, with most pleasing rose-coloured flowers.

* See S.R.G.C. Journal for April, 1963

T. luteum has attractive leaves of dark green with a mottling of pale green ; they are six inches or so high. According to Samson Clay there is a form with large "really yellow" flowers. The form I have, however, has rather squinny greenish-yellow flowers. All four species were raised from seed and took four or five years to flower.

Another Trillium, coming not from America but from the Kamchatka Peninsula, is *T. camtschaticum.* It has typical trillium leaves about six inches high at flowering time ; by the time the seeds are ripe, however, the stems are probably double that height. The flowers are a good clear white. They are said to be flushed with violet sometimes, but in the form I have they are not. The same conditions as for the American species suit it.

Next are two members of the Ranunculus family which I grow close beside the trilliums ; both are North Americans. *Anemonella thalictroides* I got from one of our members in U.S.A. It is a small dainty plant about four inches high with pure white flowers reminiscent of an anemone. As the specific name suggests, its leaves resemble those of a Thalictrum. Rather like the Anemonella, but a little smaller, is *Isopyrum thalictroides.* It too has dainty white anemone-like flowers. Both of these usually flower in April. They are 'good doers', and easily increased by division after flowering.

Erigenia bulbosa (Umbelliferae) is a native of Canada and U.S.A. It is quite tiny with ferny leaves and white flowers produced in April, not showy but attractive in a quiet way. I grow it amongst dwarf rhododendrons, and it disappears below ground soon after flowering.

Next are two members of the Liliaceae—*Erythronium* 'Pagoda' and *E. grandiflorum. E* 'Pagoda', a *tuolumnense* hybrid, has the same dark green leaves as the species. The flowers, however, are a little larger and a paler, softer yellow. They are borne two or three to a stem which is stout and up to eighteen inches in length. It requires the same conditions as the type *E. tuolumnense*, i.e. planted four inches deep in leafy soil in part shade.

E. grandiflorum (syn. *giganteum*) is a native of the mountains of north-western U.S.A. where it is known as the Glacier Lily. It is still rare in this country ; my bulbs came from one of our Seattle members. It is a lovely plant with dark green unmottled leaves and large golden-yellow flowers. The flowers are said to be sometimes three to a stem ; mine, however, have not so far produced more than two per stem, but of course they are still smallish bulbs. They require the same conditions as most Erythroniums—moist, humusy soil, but

well-drained.

Asplenium septentrionale is a neat and hardy little fern which is to be found from the Apennines to Norway, including Scotland, where it gets as high as 3,000 feet. It is rhizomatous and has leathery forked fronds two to three inches high. In the wild it is usually in acid soil in rock crevices, which gives a clue as to where to put it in the garden. It does not seem to mind full sun so long as its roots do not get parched.

The Discussion Weekend, 1969

THE 1969 DISCUSSION WEEKEND was again held at Dunblane on October 18th and 19th and was, as before, excellently organised and run by Mrs. Spiller, the Group Convener for Stirling, and her team, to whom our thanks are due for all the work they put into it. We are also grateful to the Hotel for their helpfulness and co-operation.

The William C. Buchanan Memorial Lecture was given by Major-General D. M. Murray-Lyon, who took as his subject "Alpines in the Wild and in the Garden", discussing how alpines settled down in cultivation and illustrated by very good slides, mostly by the late Mr. Stewart Mitchell of the same plant in both sites.

Mr. James Aitken of Perth showed us superb slides of Scottish Mountain Plants, discussing them and their habitats in a most interesting talk which related them to the various areas and levels where they grew. In the evening Mr. R. S. Masterton of Cluny House, Aberfeldy, showed us and described slides of a year in his garden, showing its development over some twenty years or so from more or less a wilderness into a singularly beautiful garden of really fine plants, shrubs and trees.

On the Sunday morning Miss Valerie Finnis of the Waterperry School of Horticulture gave a talk entitled "Rock Plants without a Rock Garden", in which she discussed the various ways, such as raised beds, dry walls and the like, in which rock plants could be grown most successfully. This talk was illustrated by her own magnificent colour photographs for which she is so justly famous, and the meeting was closed by a talk by Mrs. Stuart of Pitlochry, who showed us how she and her husband have developed a very fine garden from a complete jungle which covered what had been, in years gone by, a

ADVANCE NOTICE

4th International Rock Garden Plant Conference 1971

(Organised by the Alpine Garden Society and the Scottish Rock Garden Club)

The Lounge Hall, Parliament Street, Harrogate
Wednesday 21st April to Sunday 25th April 1971

Wednesday 21st	(evening) Reception and Official Opening of the Conference.
Thursday 22nd	Conference Show opens. Lectures. Visit to Valley Gardens.
Friday 23rd	Conference Show. Lectures. Outing to Harlow Car.
Saturday 24th	Conference Show — final day. Lectures. Official Dinner.
Sunday 25th	Lectures. Conference closes.

The Conference Show is being held in conjunction with the North of England Horticultural Society's Spring Show in the Valley Gardens.

There will be a pre-Conference English Tour, starting in London on Saturday, April 17th, visiting Wisley, Kew, Savill Garden, Waterperry, Broadwell Nursery, Members' gardens in Birmingham and Ness Botanic Garden.

A post-Conference Tour will leave Harrogate on Monday, April 26th for Scotland, visiting the following gardens: Kilbryde, Edinburgh Botanic Garden, Keillour Castle and others in Scotland.

Full details of the Conference Programme together with costs and application forms will be included in the September AGS Bulletin/Autumn SRGC Journal.* Sufficient accommodation in Harrogate has been reserved for the Conference and Members are asked not to apply for accommodation until they receive the special booking forms inserted in the respective Bulletin/Journal.

* Overseas Members of the Alpine Garden Society will receive this information with the June Bulletin. Overseas Members of the Scottish Rock Garden Club (who are not already Members of the AGS) will have their information sent separately by surface mail in June.

LECTURES: At the time of printing the following well-known speakers had agreed to address the Conference:
Professor W. R. Philipson of New Zealand; H. Lincoln Foster, Margaret Williams and Wayne Roderick of the United States of America; Will Ingwersen will give a demonstration on rock garden construction; Eliot Hodgkin will speak on Japanese Alpines; J. B. Aitken on Scottish Mountain Plants; Professor G. Pontecorvo on Plants of the Andes in Northern Peru; Oleg Polunin on Himalayan Alpines.

A new feature of the Conference will be a series of symposia on specialised subjects: Brian Mathew and C. D. Brickell will discuss Crocus and Colchicum; E. B. Anderson and W. K. Aslet will consider Bulb Frames; Professor Morel, Anthony Huxley and Ivor Barton will talk on Ground Orchids; A. Hamilton and Anthony Huxley will discuss Spanish Rock Plants; Admiral Paul Furse will lead a discussion on 'A Decade of New Plants', and Dr. Henry Tod, Dr. Jack Elliott, J. D. Crosland and H. Esslemont will discuss 'Exhibiting and Judging at Shows'.

SCHEDULE FOR THE INTERNATIONAL ROCK GARDEN PLANT SHOW

organised jointly by the **ALPINE GARDEN SOCIETY** and **THE SCOTTISH ROCK GARDEN CLUB** to be held in conjunction with **THE NORTH OF ENGLAND HORTICULTURAL SOCIETY'S SPRING SHOW** in the Valley Gardens, Harrogate

on:

Thursday, April 22nd, 1971	from 11 a.m. to 8 p.m.
Friday, April 23rd, 1971	from 10 a.m. to 9 p.m.
Saturday, April 24th, 1971	from 10 a.m. to 5 p.m.

ENTRANCE FEES. No entrance fees are chargeable to Members of the Alpine Garden Society, Scottish Rock Garden Club or North of England Horticultural Society. Amateurs who are not Members may exhibit in the Open Section only, subject to an entrance fee of 25p (5/-) for each class.

ENTRIES together with entrance fees where applicable, to be received by: Hon. Assistant Show Secretary, Mrs. K. N. Dryden, Berries, 30 Sheering Lower Road, Sawbridgeworth, Herts., not later than Wednesday, April 14th, 1971.

STAGING OF EXHIBITS. Exhibits may be staged between 12 noon and 9.00 p.m. on April 21st and between 7.30 a.m. and 8.45 a.m. on April 22nd. Full instructions for staging will be sent when entries are acknowledged.

JUDGING will commence promptly at 9 a.m. on April 22nd. The competition area of the Marquee will be cleared 10 minutes prior to this time.

REMOVAL OF EXHIBITS. All exhibits, personal property, etc., must be removed from the Garden at the close of the Show on April 24th. Or, in the case of those exhibitors remaining on for the Conference, to the Park's compound in the Gardens. Will all exhibitors desiring to use this facility, please state so when sending in their entries.

OPEN SECTION (L). Open to ALL Members of the Alpine Garden Society, the Scottish Rock Garden Club and the North of England Horticultural Society.

PAN SIZE NOT TO EXCEED 30.5 CM (12 INS.) IN DIAMETER

CLASS

1. A COLLECTION OF ALPINE PLANTS, staged as a rock or peat garden. Water may be used as part of the exhibit, which should not exceed 3.048 m. x 1.524 m. (10 ft. x 5 ft.) overall. Exhibitors must notify the Show Secretary if they require floor space or tabling at least four weeks before the closing date for entries i.e. March 14th, 1971.

2. BOTANICAL CLASS. A collection of rock plants of any one genus to be judged on botanical interest rather than floral display. No restriction will be placed on the size of the exhibit, other than that the depth should not exceed 1.371 m. (4 ft. 6 ins.). Exhibitors must notify the Show Secretary of space required at least two weeks before the closing date for entries i.e. April 1st, 1971.

3. GEOGRAPHICAL CLASS. A collection of rock plants from any one continent (continent to be stated). No restriction will be placed on the size of the exhibit, other than that the depth should not exceed 1.371 m. (4 ft. 6 ins.). Exhibitors must notify the Show Secretary of space required at least two weeks before the closing date for entries i.e. April 1st, 1971.
4. 6 pans rock plants, distinct, not more than two of any one genus.
5. 3 pans rock plants, distinct genera.
6. 1 pan rock plant in flower.
7. 3 pans rock plants, distinct, endemic to the American Continent.
8. 3 pans rock plants, distinct, endemic to New Zealand.
9. 3 pans Saxifraga, distinct.
10. 1 pan Saxifraga.

11. 3 pans Asiatic Primula (incl. hybrids), distinct.
12. 1 pan Asiatic Primula (incl. hybrids).
13. 3 pans Primula other than Asiatic (incl. hybrids) distinct.
14. 1 pan Primula other than Asiatic (incl. hybrids).
15. 3 pans Primulaceae, distinct.
16. 1 pan Primulaceae.
17. 3 pans Androsace, distinct.
18. 1 pan Androsace.
19. 2 pans Gentiana, distinct.
20. 1 pan Gentiana.
21. 3 pans Sempervivum, distinct.
22. 1 pan Sempervivum.
23. 3 pans bulbous plants, distinct (other than Orchidaceae).
24. 1 pan bulbous plant (other than Orchidaceae).
25. 3 pans Orchidaceae, distinct.
26. 1 pan Orchidaceae, other than Pleione.
27. 1 pan Pleione.
28. 3 pans Ericaceae, distinct, other than Rhododendron.
29. 1 pan Ericaceae other than Rhododendron.
30. 3 pans dwarf Rhododendron, distinct.
31. 1 pan dwarf Rhododendron.
32. 3 pans dwarf shrubs, distinct, other than Rhododendron or Conifers.
33. 1 pan dwarf shrub, other than Rhododendron or Conifer.
34. 3 pans dwarf Conifers, distinct.
35. 1 pan dwarf Conifer.
36. 3 pans rock plants to be judged for coloured foliage and group effect.
37. 1 pan rock plant with silver grey foliage.
38. 1 pan containing more than one variety of rock plant.
39. An Arrangement of cut flowers of alpine plants, (incl. dwarf shrubs), grown by the exhibitor, to be judged for quality, delicacy and arrangement. Drapes and accessories may be used. The entries will be staged in bays with a frontage of 61 cm (24 ins.).

OPEN SECTION (S)

PAN SIZE NOT TO EXCEED 16.5 CM (6½ ins.) IN DIAMETER

CLASS

40. 6 pans rock plants, distinct, not more than two of any one genus.
41. 3 pans rock plants, distinct genera.
42. 1 pan rock plant in flower.
43. 1 pan Androsace.
44. 3 pans Primula (incl. hybrids) other than Asiatic, distinct.
45. 1 pan Primula (incl. hybrids) other than Asiatic.
46. 3 pans Asiatic Primula (incl. hybrids), distinct.
47. 1 pan Asiatic Primula (incl. hybrids).
48. 3 pans bulbous plants, distinct.
49. 1 pan bulbous plant.
50. 3 pans Orchidaceae, distinct, other than Pleione.
51. 3 pans Pleione, distinct.
52. 1 pan Gentiana.
53. 1 pan Ericaceae.
54. 3 pans dwarf shrubs, distinct, other than Conifer.
55. 1 pan Dwarf conifer.
56. 3 pans rock plants, to be judged for foliage and group effect.
57. 6 pans rock plants, distinct, raised from seed by the exhibitor. Date of sowing to be stated.
58. 3 pans rock plants, distinct, raised from seed by the exhibitor. Date of sowing to be stated.
59. 1 pan rock plant raised from seed by the exhibitor. Date of sowing to be stated.
60. 6 pans rock plants, distinct, new or rare in cultivation.
61. 3 pans rock plants, distinct, new or rare in cultivation.
62. 1 pan rock plant, new or rare in cultivation.

SECTION TWO. Open only to **AMATEUR** Members of the Alpine Garden Society and the Scottish Rock Garden Club, who have not been awarded their Silver Merit Medal in the former, or won more than 25 first prizes at shows run under the auspices of either Society prior to January 1st, 1971.

PAN SIZE NOT TO EXCEED 21.85 CM (9 ins.) IN DIAMETER

CLASS

63. 6 pans rock plants, distinct, not more than two of any one genus.
64. 3 pans rock plants, distinct genera.
65. 1 pan rock plant in flower.
66. 1 pan rock plant native to Japan.
67. 1 pan rock plant native to New Zealand.
68. 1 pan rock plant new or rare in cultivation.
69. 1 pan Anemone or Pulsatilla.
70. 1 pan Diapensiaceae.
71. 3 pans Ericaceae, distinct, other than Rhododendron.
72. 1 pan Ericaceae, other than Rhododendron.
73. 1 pan dwarf Rhododendron.
74. 1 pan dwarf shrub other than Rhododendron or conifer.
75. 1 pan Orchidaceae other than Pleione.
76. 1 pan Pleione.
77. 1 pan Asiatic Primula (incl. hybrids).
78. 1 pan European Primula (incl. hybrids).
79. 1 pan Cyclamen.

SECTION THREE. Open only to **AMATEUR** Members of the Alpine Garden Society and the Scottish Rock Garden Club, who have not been awarded their Bronze Medal in the former, or won more than ten first prizes at Shows run under the auspices of either Society prior to January 1st, 1971.

SIZE OF PAN NOT TO EXCEED 16.5 CMS. (6½ ins.) IN DIAMETER

CLASS

80. 3 pans rock plants, distinct.
81. 3 pans rock plants, distinct, raised from seed by the exhibitor. Date of sowing to be stated.
82. 1 pan rock plant in flower.
83. 3 pans rock plants, distinct, with silver-grey foliage.
84. 1 pan Androsace.
85. 1 pan Pleione.
86. 3 pans Primula, distinct (incl. hybrids).
87. 1 pan Primula (incl. hybrids).
88. 1 pan Primula species.
89. 3 pans bulbous plants, distinct.
90. 1 pan Sempervivum.
91. 1 pan dwarf Tulipa.
92. 1 pan dwarf shrub other than Rhododendron or conifer.
93. 1 pan Ranunculaceae.
94. 1 pan Lewisia.
95. 3 pans Ericaceae, distinct.
96. 1 pan Ericaceae.
97. 1 pan Saxifraga.
98. 1 pan Cyclamen.
99. 1 pan Diapensiaceae.
100. 1 pan dwarf conifer.

ARTISTIC SECTION. To be staged in the Lounge Hall, Parliament Street, Harrogate. Open to Amateur Photographers and Artists, who are Members of the Alpine Garden Society or the Scottish Rock Garden Club.

CLASS

101. 6 Photographs of alpine plants in their natural habitat.
102. 3 Photographs as in Class 101.
103. 6 Photographs of Alpine plants in cultivation.
104. 3 Photographs as in Class 103.
105. 3 Paintings of alpine plants for effect.
106. 1 Painting of an alpine plant for effect.
107. 3 Paintings of alpine plants showing botanical accuracy.
108. 1 Painting of an alpine plant showing botanical accuracy.

(See over for notes on Artistic Section and to whom entries should be sent).

ARTISTIC SECTION

Photographs should show the whole plant (i.e. flower, leaf and habit) and indicate "natural habitat" conditions where required by the Schedule. Thereafter they will be judged by normal photographic standards.

Photographs must be the result of exposure by the exhibitor, but subsequent development may be carried out professionally.

Photographs must be of not less than half-plate size and must be mounted. Enlargements from smaller sizes are permitted. Paintings must not exceed 12 ins. x 8 ins. (or, if framed, 15 ins. x 10 ins. overall).

The name and address of the Exhibitor (and, in the case of photographs, the place where the photograph was taken) should appear on the reverse of each photograph or painting. The name of the plant should appear on the front. The joint conference committee will not be responsible for breakage or damage.

Members wishing to exhibit should advise Mrs. E. Burton, 32 Almsford Avenue, Harrogate, Yorkshire, as early as possible, the actual exhibits should be received by her not later than April 14th. They will be returned to sender as soon as possible after the Show. Exhibitors who prefer to do as may bring their exhibits direct to the Hall during the hours prescribed for the staging of plants, provided the entries have been received not later than April 14th.

Any Member of the Alpine Garden Society or the Scottish Rock Garden Club wishing to stage an educational or artistic exhibit not catered for in the Main Schedule and not to be included in the competitive classes is requested to submit details, together with approximate amount of space required, not later than March 1st, 1971.

PRIZES AND PRIZE MONEY

PRIZE MONEY — the rates of cash prizes to be awarded at the Conference Show are as follows:—

	1st	2nd	3rd
6 pan classes	£2.00 (£2)	£1.50 (30/-)	£1.00 (£1)
3 pan classes	£1.00 (£1)	75p (15/-)	50p (10/-)
2 pan classes	50p (10/-)	37½p (7/6)	25p (5/-)
1 pan class	25p (5/-)	20p (4/-)	15p (3/-)
Flower Arrangement	£2.00 (£2)	£1.50 (30/-)	£1.00 (£1)
Class 1	£5.00 (£5)	£3.00 (£3)	£1.00 (£1)
Class 2	£3.00 (£3)	£2.00 (£2)	£1.00 (£1)
Class 3	£3.00 (£3)	£2.00 (£2)	£1.00 (£1)
Artistic Section			
Classes 101 and 103	£1.00 (£1)	75p (15/-)	50p (10/-)
Classes 102, 104, 105 and 107	75p (15/-)	50p (10/-)	25p (5/-)
Classes 106 and 108	50p (10/-)	37½p (7/6)	15p (3/-)

All prize monies will be paid by cheque as quickly as possible at the end of the Conference.

It is hoped that apart from monetary awards it will be possible to offer valuable prizes for many of the special classes or non-competitive entries. These, together with special awards for the highest aggregate points in Sections 1, 2 and 3, will be announced later. Points will be awarded as follows:—

	1st	2nd	3rd
Open classes	18	12	6
3 pan classes	9	6	3
2 pan classes	6	4	2
1 pan class	3	2	1
Classes 1, 2, 3	24	18	12
Flower arrangement	9	6	3

As the Show notes and regulations of both the AGS and SRGC differ in only minor details, exhibitors of either the AGS or the SRGC may plan their exhibits using their own regulations, other than that covering ownership of exhibits. This shall read:

All specimens exhibited in competition for prizes must be the bona fide property of the exhibitor, and on the first day of the show all plants, except those of annual duration, must have been in his possession for at least three months. Any prize obtained contrary to this regulation will be forfeited.

Full Show notes and regulations covering the Conference Show will appear in the 1971 Year Books of the AGS and SRGC.

The Hon. Show Secretary S. E. Lilley, 133, Monmouth Drive, Sutton Coldfield, Warwickshire, reserves the right to alter times or dates.

small village : this involved the demolition of ruined cottages and the restoration of control of an old mill-lade which now forms a fascinating feature of bog and water gardens.

A small Show was also held which was extremely successful, exhibits coming from as far afield as Northern Ireland, Northumberland, East Perthshire, Edinburgh and Kirkcudbright. The W. C. Buchanan Memorial Medal was won by Mr. J. B. Duff of Glenfarg, the runner-up being Mrs. K. S. Hall of Edinburgh—the margin between them being only half a point !

The number of entries in most of the classes was very good and the competition was close. The exhibits in the dwarf conifer classes were particularly good, probably the best we have seen this season in any Show. The Gentians bore out once more the impression that the distinction between species and hybrid is very rapidly disappearing owing to extensive cross-fertilisation in gardens and the raising of plants mainly from garden seed. This does not, naturally, affect the beauty of the plants, but it renders any clear distinction in Shows with "species" and "hybrid" classes extremely difficult or, in some cases, impossible. The classes for rock garden ferns also were notably good, as were those for plants showing autumn colour. Heaths and cyclamen were good, as were the autumn-flowering bulbs, but the "in fruit" classes were disappointingly "thin" in numbers of entries. In the class for cyclamen, a very fine plant of *Cyclamen neapolitanum album* shown by Miss Sanderson of Belford was awarded a Certificate of Merit, and another was awarded to a perfect cushion of *Raoulia mammillaris* shown by Mr. Duff in the class for "silvers".

An interesting contrast was shown between two entries of *Saxifraga fortunei* ; the one was the normal, rather robust plant, while the other was what might be called "*ssp. nana*", for it was a perfect miniature about two to three inches in maximum height. All the parts except the flowers were reduced quite proportionately in size, though the flowers were reduced rather less, making a very striking plant—it was exhibited by Mrs. Cormack of Corstorphine, and it will be interesting to see if it retains its dwarf stature as the years go by.

HENRY TOD

Show Reports

ABERDEEN

NOT surprisingly, our Show Secretary, Mr. J. Pole, must have surveyed the weather preceding the Show with many misgivings. However, on the day, whilst the entries were down, the quality was well up to the high standard we have come to expect from the Aberdeen area members.

The Forrest Medal for the best plant exhibited at the Show was won by Mr. J. Crosland, Torphins (fig. 25). The plant being that high altitude New Zealander—*Raoulia eximea*, which presents problems to keep in good health. The plant exhibited was in excellent condition.

Mr. Crosland also secured the Walker of Portlethan Trophy for most points in Section I.

The Aberdeen Bronze Medal for the six pan class was won by Mr. H. Esslemont and the Club Bronze Medal for the most points in Section II by Miss J. Kelly.

The judges, Messrs. Mowat, Lawson and Sutherland, were impressed by the outstanding condition of a number of plants and awarded Certificates of Merit to Mr. H. Esslemont for *Draba mollissima* together with *Trillium rivale*. A Certificate was also awarded to the Cruickshank Garden for a plant of *Phyllodoce caerulia*. An outstanding piece of culture gained a Certificate for Miss Brenda Gibson for that most difficult of a difficult genus, *Raoulia buchananii*.

Plants which attracted attention on the show benches were *Androsace ciliata*, shown by Mr. H. Esslemont in his winning three pan exhibit, a pan of *Cassiope* 'Badenoch' and two pans of *Hepatica* Ballard Form. Plants grown from seed by the exhibitor showed considerable skill, including *Androsace imbricata* (Esslemont), *Crocus scandicus* (Crosland) and *Schizocodon soldanoides* (Mrs. Dyas).

Plants with silver-grey foliage and cushion plants contained some excellent examples of growing skill and included *Androsace imbricata* and *A. pyrenaica*, *Raoulia mammillaris*, *Pygmea thompsonii* and *Convolvulus nitidus*.

An excellent plant of *Pulsatilla vulgaris* took the honours in Class 11, whilst a plant of *Vaccinium nummularia* gained a first in Class 17. Miniature conifers were well to the fore and showed little evidence of

the low temperatures and searing winds in the weeks before the Show. Rhododendrons, however, were not presented in their usual numbers, being perhaps affected by the lateness of the season and weather. An unnamed pink hybrid took the Class, with *R. hanceanum* var. *nanum* runner-up for Miss B. Gibson and Mr. A. Reid respectively.

The class for dwarf shrubs was well supported. The winning plants being *Helichrysum coralloides* with a well berried *Ilex crenata* var. *Mariesii* runner-up. We trust that this latter fact will be noted as from time to time we have seen assertions, sometimes from authorities, that this plant neither flowers nor sets fruit in captivity or should it be cultivation.

A good showing from the bulb classes brought prizes to many members not previously noted at Shows and we trust that their successes will encourage them to exhibit in future Shows and in additional classes.

Pleiones were well represented with examples of *P. pogonioides*, *P. formosana* and *P. pricei*. Primulas were also to be seen with *Primula petiolaris* taking a first in the Asiatic class with a very well flowered *Primula* Aureata Form, runner-up. *Primula allionii*, *P.* 'Linda Pope' and *P. marginata* figured prominently in other classes.

A six-inch pan of *Androsace imbricata* was shown in tight bud. A few days of sunshine or even better temperature and it may well have caught the judges' eye for even higher honours.

Saxifrages had obviously been affected by the long cold spell, but several examples of *Saxifraga grisebachii* were well flowered.

Lewisia too had been retarded for the same reason and only a few hours' sunshine would have resulted in a more colourful display from the many excellent examples shown of these plants.

Many interesting and well-grown plants were shown in Section II and if presentation is a guide, the exhibitors in this section may well give members of the 'old guard' in Section I considerable competition in future years.

Our grateful thanks are advanced for the colourful stands set up by the Cruickshank Garden, Messrs. J. Drake from Inshriach, and Mrs. McMurtrie, which assisted in providing a good deal of interest both to members and visitors to the Show. This, in spite of the extreme lateness of the season and the work setting up a stand involves.

S.R.G.C. AUTUMN SHOW, 1969

THIS WAS a new venture for the Club as it was organised as a joint effort of all of the surrounding County Groups who were interested, under the control of Mrs. Tweedie of North Berwick, who was the Show Secretary. The Show was held in the Old Town Hall of Musselburgh, Midlothian, and here our most sincere thanks must be paid to the Burgh Officials of Musselburgh who were outstandingly helpful, friendly and co-operative.

While less entries were received than were hoped for, it was a larger Show than any of the recent ones in East Lothian, the adjacent county, for it was an excellent centre and easy of access. We had a very good co-operative exhibit from the North Northumberland Group and a very strong entry from competitors in Roxburghshire as well as from nearer counties. The Edinburgh, Midlothian and West Lothian combined Group, the Stirling Group and the East Lothian Group also helped with generous financial support from their Group funds—this was much appreciated. The Burgh Gardener decorated the platform for us and the Musselburgh Floral Art Club filled the foyer with some very beautiful floral decorations.

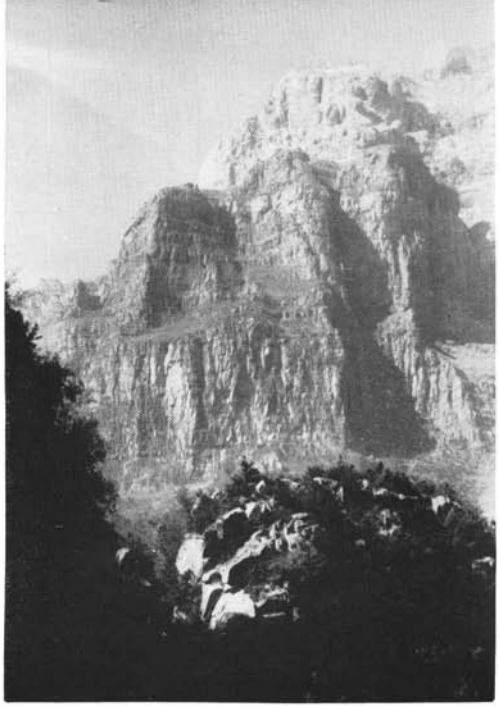
Perhaps the most striking thing about the whole Show was that practically all the exhibits were of what one might call "everyday" rock garden plants, though there were some less well known plants as well. The standard of plants and presentation was extremely good, and in most of the classes we found the judging rather difficult as the competition was really close.

The Forrest Medal was awarded to a fine plant of *Gaultheria cuneata* shown by Mrs. Maule of Balerno. This was fairly covered with its pure white berries and was in excellent condition. The Silver Cup for the best plant in Section II was awarded to a fine pan of *Cotyledon spinosa* shown by Mrs. Short of Old Graden, Kelso—a competitor we have not had the pleasure of welcoming for some years now.

The Peel Trophy for three pans of Gentians was won by Mrs. Cormack of Corstorphine, who also gained the Wellstanlaw Cup for an arrangement of flowers or fruits of rock garden plants.

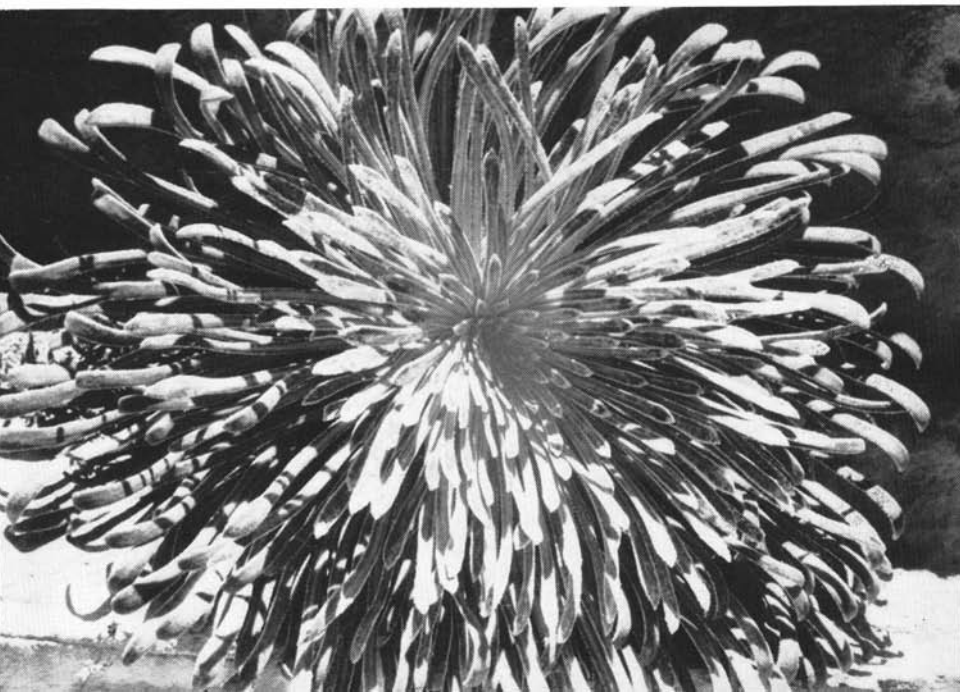
An unusual plant shown for autumn colour was *Corydalis rupestris*, shown by Mrs. Boyd-Harvey. In this the green of the younger lacey leaves changed gradually through a multiplicity of shades to the copper colour of the oldest leaves—a really striking exhibit.

Dwarf shrubs and sub-shrubs nearly dominated the Show, from Astilbes of various species through Gaultherias, heathers and heaths



Photo—C. Graham
Fig. 15—The National Park of Ordesa

Fig. 16—Saxifraga longifolia
Photo—C. Graham



Photo—Henry Tod ▲
Fig. 20—Rock Bank

Fig. 21—Dry Wall ▼
Photo—Henry Tod

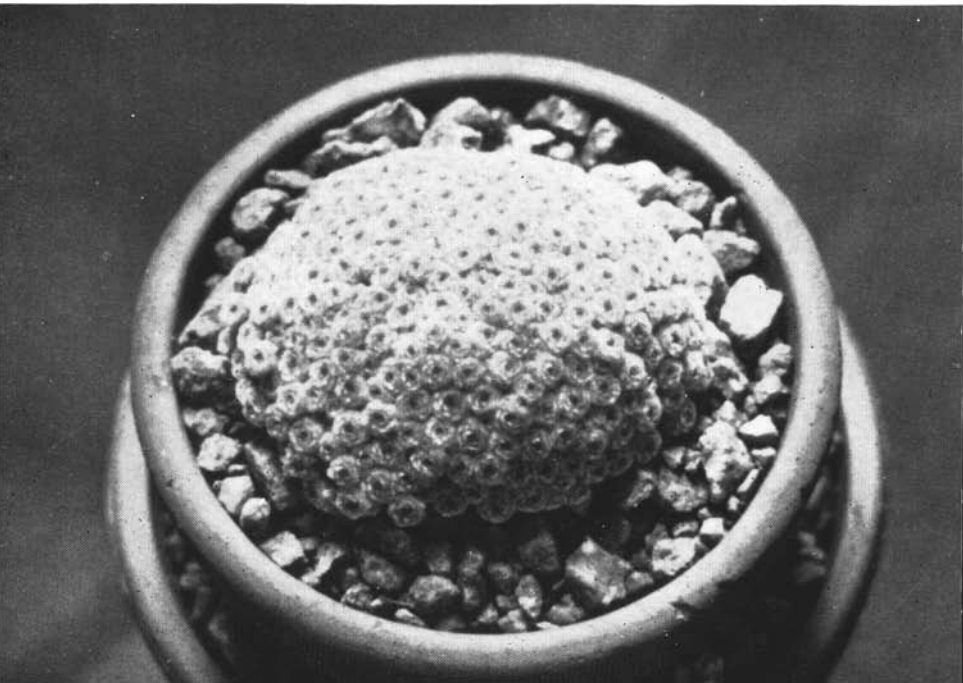
Photo—F. Slack ▲

Fig. 22—Characteristic Pine Barrens, sand, falling away to a bog in the background

Fig. 23—Pyxidanthera barbulata ▼ *Photo—M. Allen Northup*

Photo—The late Stewart Mitchell ▲ Fig. 24—Primula pedemontana

Fig. 25—Raoulia eximea ▼ Forrest Medal, Aberdeen



to Potentillas and dwarf conifers. Lady Daphne Stewart of Middle Blainslie, Galashiels, showed two new "breaks" in the *Potentilla fruticosa* group, both self-sown seedlings. One, a double yellow, has been called 'Lemon Soufflée' and the other, a strange creamy flower flushed with red, 'Blainslie Rose'. These were young plants and it will be interesting to see how they develop.

Bulbs, corms and tubers were represented by Colchicum and Cyclamen. The former are awkward to show, but were done notably well, and some of the pans of *Cyclamen neapolitanum* and *C.n. album* were really fine.

This Show emphasised that in a few years there will be very few true Gentian species left and even fewer of the true named hybrids. So many are raised from seed that the autumn-flowering gentians are now a truly mongrel lot—but still beautiful in their range of size and shape of trumpet and shades of blue.

The sedums and sempervivums were without exception in fine condition, the sedums being very well flowered ; possibly this was helped by a hot dry summer in these parts.

Gold Medals were awarded to Ponton's Nursery for a display of rock plants, mainly heaths, heathers, dwarf shrubs and gentians—the latter including *G. bellidifolia,* one of the white New Zealand species, oddly absent from the competitive classes, and also to Miss Aitchison's Spindlestone Nursery. This was also a built-up rock garden display with a good range of plants, the most striking being a big plant of *Pratia angulata* in flower and fruit simultaneously, the berries being a rich red colour. The Edrom Nurseries had a stand of rock plants in pots with one particularly good white form of Colchicum. These can at times be rather dingy, but this was a good solid pure white—a most attractive flower.

The Joint Rock-Garden Plant Committee met at the Show under the Chairmanship of Sir George Taylor. Unfortunately there were fewer plants brought forward than usual, and many of them had already had awards. A Cultural Commendation was given to Mr. Harold Esslemont of Aberdeen for a beautifully-grown cushion of *Raoulia buchananii.* This was an almost perfect hemisphere, absolutely even all over.

Altogether this was a "happy" Show ; the "gate" may not have been huge, but there was a good attendance of members and I am sure everyone enjoyed it and, for a first trial of a new type of Show, it was most successful.

HENRY TOD

Obituaries

Major GEORGE KNOX FINLAY, V.M.H., F.L.S.

The announcement of the sudden death of Major Knox Finlay came as a shock to his many friends. He was a great gardener on the grand scale. A year ago, the Royal Horticultural Society, in recognition of his outstanding work as a horticulturist, awarded him the Victoria Medal of Honour.

We, in the Scottish Rock Garden Club, knew him as a genial host and an entertaining garden guide. He had a splendid sense of humour. Many hundreds of us every season have been welcomed to Keillour Castle by Major and Mrs. Knox Finlay. They have ungrudgingly given up their time to us and we have enjoyed the beauty of the place and have appreciated the privilege of seeing the new introductions which have been established in cultivation there. We have lost a very kind friend.

We ask Mrs. Finlay to accept our deepest sympathy in her personal loss.

An appreciation by Sir George Taylor of Major Finlay's work will be published in the September *Journal.*

Mrs. J. HALLY BROWN

The Club has lost by the death of Mrs. J. Hally Brown, of Skelmorlie, Ayrshire, one of its earliest, and in the Club's early days, one of its most active members. Born in America, she was married there in 1909. Mrs. Hally Brown came to Scotland in 1919 and settled at Skelmorlie, where she was to spend the rest of her married life. Throughout her long life she took a keen interest in the affairs of the district and was a generous benefactor, donating the village library, community centre, and other gifts.

From its beginning she was an active member in the Scottish Rock Garden Club, being a member of the original committee, then elected a Vice-President in September 1935 and appointed Hon. Director of Reunions. At Glasgow in May 1936 a fine specimen of *Viola delphinantha* shown by her was successful in gaining the George Forrest Memorial Medal, awarded to the most outstanding plant in the Show. Shortly afterwards she conducted a week's Summer Meet, visiting notable gardens in Wigtownshire, which thirty-five members attended and voted a great success. In May 1938 she organised another Summer Meet—this time to Perthshire and Angus, where during a week members visited a large number of gardens over a wide area.

In 1939 Club activities were brought to a halt by the war, and when they were revived again in 1946 the membership was sadly depleted and many of the most active of pre-war members, among them Mrs. Hally Brown, felt that the time had come when they would have to leave the burden of administration to others.

J. R. M.

Joint Rock-Garden Plant Committee

MUSSELBURGH—19th SEPTEMBER 1969

AWARD FOR EXHIBIT

CERTIFICATE OF CULTURAL COMMENDATION

To H. Esslemont, Esq., 9 Forest Road, Aberdeen, for a well-grown plant of *Raoulia buchananii.*

W. C. Henderson & Son, Ltd., St. Andrews