

# The Journal OF The Scottish Rock Garden Club

Editor—J. L. MOWAT, University Botanic Gardens, St. Andrews



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*Frontispiece*—*Ligularia macrophylla*, Jardin Alpin du Lautaret  
(See page 281)

# The Journal

OF

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## Editor's Notes

ALL CLUB members will wish to assure the new President—Dr. James Davidson—of their very good wishes and their loyal support for him in his efforts to make his term of office a term of successful progress in all the Club's many activities. Dr. Davidson is well known to most, if not all, members as an outstanding plantsman and as a very successful exhibitor at Club Shows. In many parts of the country he is also known as a most willing and accomplished lecturer to Group meetings. He is also an unfailingly willing writer for the pages of our *Journals*, and his contributions, whether on the subject of plant-hunting holidays or on the cultivation of some of the rarer rock plants, are eagerly welcomed by members. Mrs. Davidson is an equally keen participant in all forms of activity, and has lately taken over from her husband the responsibility for the Slide Library.

As we write these notes it has been announced over the wireless that the major part of the country is in the grip of the worst blizzard experienced in living memory. Truly March has come in like a lion, so we must all hope that it continues to adhere to the old saying and 'goes out like a lamb.' But in the meantime the first of this season's Club Shows is due in ten days' time, and from past experience we have no doubt but that when the day of the Show comes there will be some attractive plants on show. Little wonder, then, that some people seem to regard good plantsmen almost as miracle workers and accept it for granted that they should be able to accomplish the apparently impossible.

Members will see from the programme arranged for this year's Discussion Weekend at Dunblane on 9th-10th October that it promises to be almost as interesting as that of 1964 at Pitlochry. A new venture to be tried out at Dunblane is to be the holding of a small Show. It has often been remarked among members of the Club that, while a more than ample coverage exists for all rock plants flowering in spring and early summer, there is little opportunity—apart from the Show in North Berwick in early September—of seeing late autumn flowering plants and plants with coloured autumn foliage or decorative fruits.

This lack of opportunity acts particularly harshly on the species and hybrids of the many late-autumn flowering Asiatic gentians. This is very evident in the analysis of George Forrest Medal awards to be

found later in these pages. It will be seen that, out of the large number of beautiful species and hybrids in cultivation today, only two gentians have received Forrest Medals—and these two at North Berwick. This new Show to be held during Dunblane Discussion Weekend is an attempt to meet this want and provide an opportunity for these attractive plants to be seen on the show bench. Its success or failure will depend entirely on the response of Club members and the extent to which they come forward with entries.

We cannot complete these notes without expressing our deep sense of gratitude to all those who have contributed to these pages. Readers will see that we have received very interesting contributions from several of our American fellow-members ; these we find most delightful, and for them we record grateful thanks. We would end by saying to members either at home or overseas—“Go thou and do likewise.” St. Andrews, *March 1965*.

## Seed Distribution 1964-65

THIS YEAR there were over 160 donors of seed, and I am sure the 500 or so recipients will wish me to thank them most sincerely for the considerable time and trouble taken by them. My chief lieutenant contrived a digest of the orders and it may be of interest to those who were disappointed that we had 144 requests for one item and 124 for another, with 13 and 6 packets to distribute. In all, about 11,500 packets of seed were sent out.

This represents a considerable amount of hard work for the small band of assistants who typed, packeted seed and made up orders, and without whose help the distribution would be impossible, and on your behalf I would like to thank them most sincerely. One only I must single out—‘my friend Muriel,’ my chief aide, who has put in an incredible amount of time and work during the last four months.

The arrangements for next year will be the same as previous years. Seeds or lists of seeds to follow must reach me **not later than 1st November**.

JOYCE HALLEY,  
16 Abercrombie Street,  
Barnhill, Dundee,  
Scotland.

## Subscriptions

SUBSCRIPTIONS were due on 15th January. If you have not already paid yours, the Treasurer would be glad if you would so so now. Last year he had to send out nearly 600 reminders. This involves quite a lot of work and costs the Club quite a lot of money, both of which could be more profitably utilised otherwise.

D. ELDER

## Discussion Weekend

HOTEL DUNBLANE (THE HYDRO), DUNBLANE  
9th-10th OCTOBER 1965

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### PROGRAMME

Saturday 9th :

- 2.30 p.m. Opening Address
- 2.40 p.m. W. C. Buchanan Memorial Lecture  
"Alpines Without a Rock Garden" :  
Joe Elliott, Esq.
- 4.00 p.m. Afternoon Tea
- 5.00 p.m. "Plants of Interest at Keillour" :  
Major W. G. Knox Finlay, F.L.S.
- 7.00 p.m. Dinner
- 9.00 p.m. Ciné Film of the Garden at Keillour Castle

Sunday 10th :

- 10.15 a.m. "Fact or Fiction ?" :  
Mrs. L. C. Boyd-Harvey
- 11.30 a.m. Break and Visit to Flower Show
- 1.00 p.m. Lunch
- 2.30 p.m. "Memories of Tibet, 1936" :  
Major George Sherriff, O.B.E., V.M.H.
- 4.00 p.m. Tea and Flower Show
- 5.00 p.m. Close down

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### INFORMATION

- (1) HOTEL RESERVATIONS.—All reservations must be made *direct* to the HOTEL DUNBLANE (The Hydro), DUNBLANE, Perthshire. Please inform the Hotel that you are a member of the Scottish Rock Garden Club.

- (2) *Special Conference Charge* : £4 10/- inclusive of service charge.  
Details are as follows : Accommodation and all meals, *including* Saturday lunch, to Sunday afternoon tea.
- (3) There will be a charge for non-resident members of 5/- per day for attendance at lectures. Lunch 11/6 ; Dinner 15/6. Those requiring meals are asked to inform the Hotel Reception Desk in good time.
- (4) The schedule of the Show is published in this number of the *Journal*.

## Late Autumn Show

IT HAS been decided to hold a Show in the autumn which will be some little time later than the North Berwick Show. A number of plants are at times not quite ready for Show purposes at this time, and it was thought that a small Show which will be held in conjunction with the annual Discussion Week-ends would be of value and interest. The first Show is to be held during the Discussion Week-end at Dunblane Hydro on 9th and 10th October 1965. It is hoped that this Show will be supported, particularly by members attending the Discussion Week-end.

## Schedule for Show at Dunblane Discussion Weekend

### SCHEDULE

- |          |        |   |  |
|----------|--------|---|--|
| Class 1. | 3 pans | Gentiana (distinct)                                 |  |
| 2.       | 2 pans | Gentiana (distinct)                                 |  |
| 3.       | 1 pan  | Gentiana  |  |
| 4.       | 2 pans | Rock Plants with silver-grey foliage                |  |
| 5.       | 1 pan  | do. do. do.   |  |
| 6.       | 3 pans | Rock Plants with autumn-tinted foliage              |  |
| 7.       | 2 pans | do. do. do.   |  |
| 8.       | 1 pan  | do. do. do.   |  |
| 9.       | 2 pans | Rock Plants in fruit                                |  |
| 10.      | 1 pan  | do. do.   |  |
| 11.      | 3 pans | any Rock Plant                                      |  |
| 12.      | 1 pan  | do.   |  |
| 13.      | 2 pans | hardy Ferns (distinct) suitable for the Rock Garden |  |
| 14.      | 1 pan  | do. do. do. do.                                     |  |



The WILLIAM BUCHANAN MEDAL will be awarded to the exhibitor gaining the highest number of points in this Show. This medal has been kindly presented by Dr. Henry Tod for annual competition at the Discussion Week-end Shows.

Exhibitors are asked to have their plants at the Hotel Dunblane by mid-day, Saturday 9th October 1965.

## Obituary

ON THE 14th June of last year Mrs. Charlotte B. Jamieson of Newton Mearns, Renfrewshire, died. She was one of our oldest members, having joined the S.R.G.C. in its early years before in 1939 the outbreak of war put a temporary stop to our activities. For many years she was a member of Council, and when the Glasgow and district branch was formed about sixteen years ago she was a most active member of Committee, doing particularly good work publicising the Club and in particular the Glasgow Flower Show. She exhibited periodically and her last and greatest prizes were the winning of the Archibald Cup for the best three plants and a Cultural Award for a pan of *Primula* 'Linda Pope.' Her outstanding personality won her many friends who will mourn her passing. E. D.

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Form for Application for Membership may be obtained from : John Turnbull, Esq., D.S.O., D.F.C., C.A., Secretary, The Royal Caledonian Horticultural Society, 44 Melville Street, Edinburgh, 3.

## Clark Memorial Lecture, 1964 Alpines and Photography

By ROY ELLIOTT

ALPINES and photography go together like strawberries and cream. I have been growing alpines for nearly 20 years, but my interest in photography goes back to my schooldays. These are my sole qualifications for giving this lecture. I do not profess to be an expert in either field—in fact one can truly say of both subjects that increasing knowledge merely increases awareness of one's ignorance.

The only other time I have lectured on this subject was to a group of students at a horticultural college: they wanted advice about making plant photography a profitable sideline, and I told them that if I were young and starting again, and wished to produce good photographs *and* sell them, I would do four things. I would avoid 35 mm. negative in favour of a minimum format size of 2½ ins. square. I would build my own darkroom, for this today is a *sine qua non* for success in black and white photography. Thirdly, I would build up a carefully catalogued collection of glossy, full plate, black and white photos—discarding all but the very best. Finally, when I had mastered black and white photography, I would then—and only then—embark on colour.

Naturally, they did not agree with me, just as you will not agree. But I think I gave them food for thought, and I hope I will do the same for you.

Good photography, it seems to me, demands

Artistry  
Knowledge  
Experience

One must learn to 'see' as the camera sees; the human eye does not need to 'focus'; lenses do; the human eye sees three dimensions; lenses do not; the eye adjusts immediately to sun and shade, whereas film emulsions do so only partially. Finally, the human eye is an all-encompassing 'zoom lens'. The plant photographer needs wide angle, normal and long-focus lenses for efficient results. I am not going to waste time by discussing equipment or cameras, because many of you are interested in plants, and not in photography. But I hope, by showing you slides of alpines, that I shall keep the plant lovers happy and at the same time, by showing both good and bad slides, illustrate various aspects of plant photography.

Let us start then with the key to all photography—artistry. Generally this depends on the photographer, but sometimes on the plant itself. At an A.G.S. show last spring an exhibitor produced a lovely specimen of the Kingdom Ward form of *Pleione humilis*, growing—as pleiones so often do in nature—in a piece of rotting wood. There the artistry was ready made, and only the framing of the picture was needed (illustration fig. 36.). This framing is vital with colour, but less important with black and white, where only a part of the negative need be enlarged.

A slide of E. B. Anderson's hybrid *Cassiope* 'Medusa', with its characteristic twist to the stems, exhibits the elementary fault of camera shake. The tripod is a vital piece of equipment, and since 'clicking the shutter' can jog even a camera on a firm tripod, a cable release should always be used also. How often we blame camera shake on faulty focussing!

Two slides, one of *Primula rubra* lining a rock crevice high on the Bernina Pass and the other of Polunin's diminutive *Fritillaria* P. 5063 demonstrate some of the advantages of a larger format and of the 'professional' type of a camera. The 2½ in. format is five times larger than the 35 mm., which means that a small section comprising only 1/5th of the negative can be enlarged with no more grain showing than the 35 mm. equivalent. An immediate change of camera back can produce both colour and black and white without resetting the camera (H.S. Ektachrome and Ilford F.P.3 have almost the same speed ratings). Finally, as in the case of the fritillary, a magnification of X 2 can be achieved by using the bellows extension and without a special close-up lens. Even so, over-magnification is generally a mistake in photography. The ideal plant photograph shows flower, leaf, habit and size. Extreme close-ups are misleading and uninformative, unless to illustrate such plants as *Orchis* and *Ophrys* species, which are identifiable mainly by flower characteristics.

The exposure meter is an essential piece of equipment for colour photography, where most films are only reliable to  $\pm$  one stop. Those who care to experiment will find that two identical plants in different parts of a garden can register one stop difference at any given time. If no meter is available, one should err on the side of under-exposure, for a dark transparency (often true to colour) is preferable to the thin transparency (invariably untrue to colour) which comes from over-exposure. With black and white negatives these factors are reversed, but are less important in that mistakes can generally be rectified in

the darkroom. Associated with exposure are, of course, the problems of speed, f. stop and depth of field.

Depth of field is one of the most difficult problems for the photographer—especially the 35 mm. enthusiast. With a 'professional' type camera, the precise area of focus can be studied on the ground glass screen. As the iris diaphragm is closed from f.3.5 to f.16 one sees more and more of the subject come into focus. One's normal aim is a low speed (say 1/25th second) and a small aperture (say f.16), giving as much depth of field as possible, but flowers are seldom still, and only a speed of 1/500th will freeze movement. At this speed a wide aperture becomes necessary and depth of field is lost. The problem has two solutions. First, the cumbersome, heavy and unwieldy 'professional' camera, where full movement of lens and film back are possible—or flash. In a few years' time I am sure we will regard a tiny pocket electronic flash as being as vital to plant photography as a meter is today. My own small flash head has a flash duration of only 1/1000th second. It freezes all movement, and is sufficiently bright to enable me to use a stop of f.16 at about three feet distance. Here, clearly, is an answer to our difficulties of depth of field, and I shall return to the other uses of flash later.

Without flash, the closer the camera is to the subject, the more exaggerated the problem of depth of field becomes, but we generally tend to make the problem worse than it is by focussing on the wrong spot. When a subject fills the viewfinder, the focus should be concentrated at 1/3rd of the distance from front to back—not the middle distance, or the foreground.

Many of us like to photograph the wonderful specimen plants that appear at our Shows, and here artistry is severely limited. The best one can do is to carry a three feet square of black or grey velvet to use as a background. To secure a good photograph, this artificial background must be just out of focus, and we must adjust accordingly. For instance, an exposure of 1/25th at f.16 might well show the folds on a grey velvet backcloth, whereas 1/00th at f.8 would merely show a vague grey blur. (See the illustration of *Cyclamen pseud-ibericum*, fig. 37).

Background is vital to good photography, and since we cannot always expect an attractive background to be available, we must do the best we can, either artificially or by positioning the camera. The sky is often a perfect background, but it is surprising how seldom plant photographers use that oldest of gimmicks, the low viewpoint.

One can put a tall pot plant on a wall and take it against a blue sky, being careful to cut out the pot. Occasionally water can be used effectively both as a background and a foreground. But the best arrangement for dealing with pot plants is a 'photography corner'. Mine is in a corner of the garden where we store our peat; the pot is plunged in the peat (suitably top-dressed if necessary) and a few rocks added to the background. A plant with glossy, or hairy leaves, will sometimes give a better photograph if watered or sprayed just before the photo is taken, but this is a gimmick which—like the extreme close-up—should not be overdone. Fig. 38 is an illustration, of a pot of *Campanula zoyisii* plunged in our 'photography corner'.

Another aspect of photography which is seldom used with plants is *contra jour*. Most of us were brought up in the 'sun over the shoulder' school, and much harm it has done us. One of our leading landscape photographers will not take a photo at all unless the sun is in the 180° segment ahead of the camera, and many fine colour photos are taken into the sun. A lens hood is essential, of course, and the meter reading should be taken on the shadows and never into the sun. Sometimes a single sunbeam may penetrate to a flower in semi-shade, which explains the attractive "lighting" in the illustration, fig. 39, of Rear-Admiral J. P. W. Furse's *Onocyclus Iris* F.3405. That is the time to use *contra jour*, especially with a low viewpoint such as can be obtained using a tripod with a removable (and hence reversible) centre post. One more thing about backgrounds. We inevitably make stupid mistakes occasionally, and a good transparency is spoiled by something bright in the background. This can often be 'touched up' or obliterated with a paint brush and a little Indian ink—which can be applied to the glass of a glass-mounted slide.

So much for the background—but what about the foreground? Labels seldom enhance a plant photograph, even if they jog the lecturer's memory. They are best removed, together with the odd bit of straw, leaf or twig. The play of sunshine and shadow which is so vital in black and white photography should serve no less important a function with colour. Colour covers a multitude of sins, but we would take better photos if we bore the rules of black and white photography firmly in mind at all times.

I mentioned the use of the exposure meter in connection with *contra jour* photography; it is equally important with any colour photos. Whenever I mention this point there is always someone who

says 'I have been taking colour photos for 20 years *without* a meter'. What can one reply to this unanswerable statement? I am going to illustrate the importance of the meter in a practical manner by showing two slides of that lovely scarlet climber *Tropaeolum speciosum*. Both are first class photographs, but neither is correct as to colour. One stop 'down' produces a red which is too light: one stop 'up' produces a glamorous scarlet which is too deep. 'Differing judgements serve but to declare . . .' wrote the poet, '. . . the truth lies somewhere, if we knew but where'. Here, of course, it lies between the two, and one should invariably take a high and a low meter reading on any subject, and average between the two. With most colours, the correct exposure gives the correct colour. But with certain shades of blue, our best laid schemes gang aft a-gley.

The trouble lies in a colour which we cannot see, infra-red. Bees can see it, but we cannot. Colour film can see it, and when we photograph certain blues in full sun, the infra-red rays from the sun are apt to impinge on the blue of the flower and give us purple tones. So much research is going into this problem that I am sure it will not be long before a solution is found. In the meantime, do not photograph blue flowers in sunshine, and unless electronic flash is available, use the smallest f stop and the longest exposure that circumstances permit.

A small pocket-sized electronic flash unit costs about £20, but two units are required if one is to take photographs which are indistinguishable from sunlight. Even so, a single flash unit can give excellent results, if a little stark. It can also be used to 'fill in' shadows on sunny days, or to replace the sun on dull days. It constitutes an almost infallible way of taking perfect photos, because a very little experience enables one to dispense with an exposure meter; one soon gets to know the distance from the flash head to the subject which will give a perfect exposure at a given stop—and guide numbers are available for those whose experience does not permit accurate assessment.

I tried for years, to get a really good slide of *Hacquetia epipactis*—one of my favourite flowers. But when I acquired a second flash unit, it was soon obtained. Using a long-focus lens to blur the background, one flash unit mounted on the camera at 3 feet distance from the subject, and a second flash 3 feet above and slightly behind the subject to reflect light off the glossy leaves and petals, an exposure at f.11 produced the right result. The flash duration being 1/1000th of a second, the speed setting of the camera does not matter—unless the flash is being used to 'assist' daylight. In this case the speed and f.

stop are adjusted to daylight conditions in the normal way with an exposure meter, and the distance of flash to subject must be carefully worked out lest either source should predominate. In flower photography the most important use of flash is to freeze movement, and naturally a flash duration of 1/1000th of a second will do this—as my slide of a bee about to alight on *Nomocharis oxypetala* clearly showed. I am most enthusiastic about electronic flash for flower photography. Flash is tomorrow !

Perhaps I should offer a word of apology to my readers if this written report of my lecture is a trifle disjointed and rambling. It is much easier to give a lecture and illustrate every aspect of one's remarks with a colour slide, than it is to put it all on paper, when the mention of the all-important slides would be meaningless.

But perhaps I might end with some comments on the slides themselves. Time and time again we go to lectures when the unfortunate projector operator has to work like a slave (and unpaid at that). First, he has to see if the slides are the correct way up ; then, if he guesses correctly, he has to focus them. This is totally unnecessary. If colour slides are worth showing in public, surely they are worth preserving ? If they are worth preserving, they must be glass mounted. The home viewer with cardboard mounts and a very adequate (for home-viewing) 250 watt projector finds himself in real trouble when he lectures to an audience where a 1000 watt lamp is used to project his slides—and “pops” them in and out like popcorn—in all probability overheating and damaging them in the process.

And when will we remember that film emulsion is *on one side only* of the backing—and that the thickness of the backing is enough to throw the picture out of focus if we do not mount it correctly ? If you consider the problem carefully, the solution is obvious. When we *take* the photo, the emulsion is in front of the backing. When we project the transparency, the same applies. The emulsion must be in front of the backing—that is, the emulsion (dull side) of the transparency must be nearest the lens and the backing (glossy side) nearest the lamp. When we mount our slides in glass holders, we should do so by placing the transparency ‘right way up’ and ‘glossy side up’ in its mounting in front of us, and then place a coloured sticker in the bottom left-hand corner. When boxed ready for projection the slides are inverted, so that when the projectionist lifts a slide out of the box with his right hand, his right thumb covers the colour sticker. In this way the slide will be ‘upside down’ and ‘glossy side to the lamp’ for projection. The projectionist's work will then be almost automatic, and he at least may want to hear you again, even if he is in a minority of one.

## **Pitlochry Discussion Weekend**

**10th-11th OCTOBER 1964**

EVEN THE most critical or exacting Club members present at this Week-end must have admitted that it was just about as excellent as any such function could possibly be. To begin with, the weather over the whole week-end and the setting were perfect for such an occasion and the perfect organisation left nothing to be desired. The programme was excellent ; with a sequence of extremely interesting and delightfully instructive lectures, and in the Sunday morning break the choice of several interesting gardens to visit. (To have visited all the gardens made available would have occupied the full week-end, so members had perforce to decide just what they could fit in.)

The only complaints which might have been made were that a certain slowness in service, which appeared due to lack of staff, was evident and took up a considerable amount of members' free time between lectures, and that such a full programme of uniformly high standard left little leisure for meeting fellow members and indulging in friendly talk. Our ranks thinned considerably shortly after Miss King's talk on Saturday evening and only a hard core continued the sittings into the wee sma' hours.

### **William Buchanan Memorial Lecture**

#### **Dwarf Plants for the Rock Garden**

By E. B. ANDERSON

THE W. C. Buchanan Memorial Lecture was given by Mr. E. B. Anderson, introduced by Dr. Davidson as a very well-known authority on bulbs, as so many members must know. Mr. Anderson said that he felt greatly honoured in giving the first memorial lecture to his well-loved friend of long standing, W. C. Buchanan, and began his lecture by enumerating the requirements for successful bulb-cultivation, following on with pictures and descriptions of a wide range of dwarf bulbs.

“ALTHOUGH I am responsible for the title of my talk, I prefer a rock garden for dwarf bulbs, or alternatively raised beds, for the following reasons.

1. Most bulbs require a period of rest which usually takes place in the summer and this rest is dependent on dry soil conditions



whereas rock plants are then in full growth and require water if the weather is dry.

2. The foliage of bulbs which develops to its maximum after flowering may shade or even smother small rock plants to their detriment and this foliage must not be removed until it has died down.
3. Slugs love to hide under the tufts and mats of rock plants, particularly the carpeters so often recommended, and loss of foliage is a serious matter for bulbs.

Good sharp drainage is essential for most bulbs for only if the soil becomes reasonably dry will its temperature rise sufficiently for their maturation and this applies particularly to tulips. Therefore, if your soil is heavy, in addition to incorporating plenty of broken stone, gravel or coarse sand it is advisable to raise the beds above ground level for all sun lovers. In my own garden on a heavy limy loam on a flat site my beds are raised anything up to a foot above ground level and in one instance even higher. On a sandy soil or in regions of low rainfall these precautions are not so necessary ; these recommendations should be interpreted in the light of the conditions in any particular garden.

To give some interest to what would otherwise be bare plots in the summer I plant here and there dwarf shrubs such as daphne, hebe, potentilla, cytisis and genista, particularly ones that may be trimmed if they become too large. Apart from the effect, such small shrubs give shelter to the bulbs growing in their vicinity and also help to dry the ground. For bulbs which require extra 'baking' such as tecophilaea, a piece of glass laid flat upon the site is a great help and is hardly noticeable, this is much better than a cloche as the sun heat penetrates the ground so much better.

There are some bulbs such as anemone, cyclamen, erythronium, galanthus, etc., which require full or partial shade but nevertheless a period of rest which means a drier period. This will be appreciated if one remembers that such bulbs grow in deciduous woodland, which may be quite wet in the spring but dry in the summer from the large amount of water evaporated by the tree roots and the shelter provided by the leafy canopy above. Such beds do not normally require to be raised above ground level.

This leads me to mention that I have obtained excellent results for sun lovers by making small beds on the south side of small deciduous trees such as prunus, malus, sorbus, etc., where they get full sun but are dry in the summer.

In our climate most bulbs may be said to be living under abnormal conditions particularly as regards sun and although like many other plants they are adaptable I compensate for this by regular feeding. My usual procedure is to dress the beds in early winter with a mixture of bone meal and sulphate of potash about 1 oz. of the latter to 15 oz. of the meal, sufficient being dusted on the bed to whiten it. Since we have had several wet summers I now dress in the spring with sulphate of potash mixed with about ten times its bulk of coarse sand in addition. This dressing applies to the sun lovers. The shade beds are dressed in the winter with a dusting of dried blood mixed with moss peat to lighten my heavy soil and to add humus. It is surprising how the slow acting bone-meal does in the course of years improve the quality of the bulbs.

So far the only bulbs I have noticed which definitely dislike lime are one or two of the rare trilliums and possibly *Narcissus cyclamineus*."

Slides of the following were shown growing in Mr. Anderson's own garden :—

*Anemone blanda* 'Radar', the deepest pink to date.

„ „ *scythinica*.

*Allium karataviense*, for foliage.

*akaka*, a better flower than above but not such good foliage.

sp. Furse, a fine head of flower, shown to emphasise - " never throw away an unknown."

*acuminatum*, one of the many good American species.

*Brodiaea ixioides* 'Splendens', one of the best of a neglected genus.

*Cyclamen africanum*, in the open since 1960.

*orbiculatum*.

*cilicium*, a variable species worth raising from seed.

*libanoticum*, in open since 1960 but sheltered under a small tree.

*pseud-ibericum*, the original introduction, hardier than *C. libanoticum*.

*Crocus* (Autumn flowering).

*cartwrightianus albus*.

*goulymii*, a new scented species from Greece likely to be in commerce soon.

*hadriaticus*.

*kotschyanus leucopharynx*.

*medius*.

*niveus*, flowers late and worth a glass when in flower.

*nudiflorus*, a very dark form, a very variable species.

*sativus pallasii*.

*salzmanni*, an excellent species from Spain.

*tournefortii*, flowers remain open in dull weather.

*vallicola*, very rare and difficult even in a cold house.

(Winter-Spring).

*ancyrensis*, now has the ridiculous market name of "Golden Bunch."

*balansae*, attractive because of mahogany back to outer segments.

*biflorus parkinsonii*.

„ *weldeni albus*.

*candidus sub-flavus*.

*chrysanthus*, 'Blue Pearl', 'E. A. Bowles', 'Warley White'.

*dalmaticus*, very vigorous and neglected.

*etruscus*.

*hartmannianus*, rare with deep purple outer segments.

*imperati*, always worth buying as it varies much.

*korolkowi*, attractive graining on outer segments, needs full sun to open.

*olivieri*.

*sieberi* 'Hubert Edelsten', *sieberi atticus* x *heterochromus*.

„ *tricolor*, found only on Mt. Cheemos.

„ *albus*, the rare Bowles' white.

*stellaris*.

*susianus minor*, remains open in dull weather, probably the true wild species.

*tomasinianus* 'Whitewell Purple', *albus*, neither too invasive.

*vernus albus*, a very variable species, all wild forms worth growing.

*veluchensis*.

*Fritillaria acmopetala*, the acme of grace.

*armena*.

*assyriaca*.

*aurea*, a large golden egg probably difficult in the open.

*citrina*.

*conica*.

*involucrata*, for those who like green flowers.

*latifolia*, as variable as *F. meleagris*.

*purdyi*, to show the open bells seen only in some of the American species.

*pyrenaica*, very variable.

„ *lutea*, a very rare unmarked variety collected by  
R. B. Cooke which does not set seed.

*tuntasia*, from Kythnos, a wonderful metallic steel blue.

*tubiformis moggridgei*.

*verticillata*, with leaves ending in tendrils.

*Korolkowia sewerzowii*, a fritillary with a spike of hanging bells.

*Iris histrio aintabensis*, the only form of *I. histrio* likely to be a success  
in the open.

x 'Clarette', an excellent and easy *I. bakeriana* hybrid.

x 'Harmony', another good hybrid *I. histrioides major* x *reticulata*.

Mention was made of the fungus disease, the Ink Spot, which attacks reticulate iris, particularly in a wet season. I recommend lifting every two to three years and destroying any with the inky spots on the bulbs. Am trying dusting the bulbs with PCNB when planting, but too early to report results.

*Muscari ambrosiacum*, a pearly coloured plant with an exquisite  
perfume.

*argeae album*, neat and lovely.

*botryoides album*, equally good.

Time did not permit of the showing of the following :—

*Narcissus* 'Bobby Soxer', a *N. rupicola* hybrid.

*bulbocodium tenuifolius* growing in a crevice.

*cyclamineus*, probably dislikes lime.

*juncifolius*.

'Little Beauty', a good miniature bicolor trumpet.

*pumilus* and Trotter's dwarf varieties of *N. pseudonarcissus*.

'Snipe,' a lovely hybrid of 'N. W. P. Milner' and *cyclamineus*.

*triandrus*.

*tenuior*, a good jonquil hybrid.

'Pease Blossom' *N. juncifolius* x *triandrus albus*.

Mr. Anderson's lecture was followed by a fire of questions such as—  
"Are crocuses left permanently in position, or lifted, or divided?  
Why are *Allium beesianum* leaves always miserable looking? What soil  
is needed for seed of *Iris reticulata*? Does one add fertiliser?" All  
these and many more questions were very helpfully answered by  
Mr. Anderson.

## Plant Pictures from the Alps

By STEWART MITCHELL

MRS. SIMSON HALL, in the chair for this lecture, introduced Mr. Mitchell whose slides and talks have given pleasure to so many members. He described the cameras he used and the range of time over which his slides had been taken.

The pictures shown were taken during several holidays in Switzerland and Northern Italy, between 1957 and 1964. The time of year was always the same, approximately the first fortnight in July. The weather, however, did not remain constant, and late seasons such as in 1962, and early ones such as in 1964 had to be contended with.

The 1957 pictures were taken with a medium-priced range-finder camera—the range-finder being of no use when taking close-ups. After that a single lens reflex camera was used, chiefly for ease and speed of operation. There was really no great difference in the quality of the slides shown, as taken by either camera.

The first slide showed Hanigalp, with Saas Fee at its foot, and the crags where *Androsace argentea* (*A. imbricata*) lives. A close-up of *Androsace argentea* followed. Then, from where the first photograph had been taken, just below the glacier, a picture of *Soldanella alpina* growing out of the snow. Lower down *Primula longiflora*. The only other picture from Saas Fee was of a group of *Primula rubra*.

The scene then changed to Pontresina, with a picture of the path to Val Minor. Next came slides of *Primula integrifolia*, *Soldanella pusilla*, *Ranunculus glacialis*, and *Androsace alpina* (*A. glacialis*).

Pictures taken in the Pontresina area in 1963 then followed, the first a view of St. Moritz and its lakes, from the top of the funicular railway to Muottas Muragl. Some slides taken up there included *Gagea liottardii*, a *Primula viscosa* x *integrifolia* hybrid, a good form of *Ranunculus pyrenaicus*, a wonderful clump of *Loiseleuria procumbens* showing a group of its intensely red buds, a big clump of *Pulsatilla sulphurea*, a lovely purple *Viola calcarata* group, and a very dark red *Silene acaulis*.

A view of Lake Alv from the south then indicated part of a walk to Alp Grum, and the flowers seen on the way, the slides being *Viola biflora*, *Linaria alpina*, *Primula rubra*, *Rhododendron ferruginum*, *Androsace obtusifolia*, and a lovely blue-lobed *Gentiana acaulis*.

The ridge at the top of the Diavolezza, reached by cable-car, was next shown, followed by slides of three of the specialities which grow

there, *Androsace alpina* in a deep pink form, an intensely blue *Eritrichium nanum* (which actually got a burst of applause), and *Geum reptans*.

A general view of a large crag, just outside Pontresina, with *Paradisialia liliastrum* and *Lilium bulbiferum* (*L. croceum*) growing on it was followed up by nearer pictures of both these liliaceous plants.

A photograph of Arosa railway and cable-car station from across the upper Lake introduced the change to this area, the background mountain being the Weisshorn. Pictures taken there were of *Ranunculus alpestris*, *Androsace helvetica*, *Gentiana favratii*, *Dryas octopetala*, *Saxifraga oppositifolia*, and *Campanula cochlearifolia* (*C. pusilla*).

After this the pictures were all taken in various parts of the Dolomites, starting with a fine view of Val Lunga from the meadow at Selva. Plants seen there and illustrated were *Atragene alpina*, *Erica carnea* (in 1962), *Globularia cordifolia*, on a fallen boulder, *Primula farinosa* in a delicate pink colour, *Daphne striata*, and a good form of *Potentilla nitida*.

A trip from the Gardena Pass over the Piz di Cir to the Kedul Tal was then illustrated with a wonderful blue *Gentiana acaulis* and a white *Gentiana verna* found on the way up, with a group of *Soldanella minima* in the Kedul Tal itself.

A walk from Sella Pass back to Selva was illustrated by a view of the Pass from Sasso Lungo, with the Sella Group behind. Another view showed the path lower down, with the Piz di Cir as background. A selection of the plants found on this walk were shown; a lovely group of *Ranunculus seguieri*, a big group of a dark *Gentiana verna*, a wonderfully flowered clump of *Primula minima*, an interesting group of *Crocus albiflorus* (*C. vernus*) taken in 1962, and the delightful *Anemone baldensis*. Further down the path came *Pinguicula alpina*, a royal purple *Gentiana verna*, peculiar to a small area near the path, whilst further down still, on the water course at Plan de Gralba, a colony of *Papaver rhaeticum*, with a close-up of the poppy to follow.

As a souvenir of Corvara were pictures in close-up of *Campanula barbata*, with a white one also, taken in the meadows above the little town. A view from there showed the Queen of the Dolomites, Marmolata, with the dark Padon Ridge in front, the place to be visited next.

The first pictures from the Bindel Weg, reached from the Pordoi Pass, were taken in 1962, when *Anemone vernalis* was perfect, *Douglasia vitaliana* was also in good form, and *Eritrichium nanum* its usual beautiful self. A striking picture, also taken in 1962, showed Mar-

molata from the Bindel Weg, with its companion Grand Vernel more covered with snow than usual. Another visit to the Padon Ridge in 1964, when the north side path was taken, gave us *Chrysanthemum alpinum*, and *Gentiana brachyphylla*, before coming to two slides of the white form of *Androsace alpina* which grows on the steep black shifting screes here.

A jump then to Tre Croci was introduced with a view of Marmolata still prominent when seen from Cristallo, twenty miles away as the crow flies. The first picture here was a close-up of the rich crimson flower of *Rosa alpina* (*R. pendulina*) which grew beside the hotel and was used to decorate the dining-room tables. The Alpine Rose here, *Rhododendron hirsutum*, was a very deep orange in colour. *Anemone trifolia* carpeted the woodlands. This was followed by a group of *Cypripedium calceolus*. A well flowered plant of *Saxifraga caesia* then followed and a lovely pink-edged frilly *Dianthus monspessulanus* was delightful, while the beautiful annual *Gentiana utriculosa* was striking.

Three pictures from the Drei Zinnen were shown, *Rhodothamnus chamaecistus*, *Thlaspi rotundifolia*, and a group with *Silene acaulis* and *Gentiana imbricata* on the Dolomitic rocks. The sample view of the marvellous mountain scenery from here was of the fantastic pinnacles of an offshoot from the Cadini Group.

San Martino di Castrozza was the next place to be visited, starting off with a view from Tognola showing the town midst its woodlands below the towering Cimone de la Pala. A general view of a meadow with hundreds of Martagon Lilies followed, then a close-up of one plant, the background being Colbricon, the granite mountain on the west side of the Cismone Valley. A nice group of *Pyrola rotundifolia* from the woodlands was next shown.

A trip to the Rolle Pass and Cimone de la Pala itself was introduced by a picture of the Matterhorn of the Dolomites, taken from the top station of the chair-lift, and the screes and boulders prospected were pointed out. Two lovely shots of *Eritrichium nanum* looking particularly attractive on Dolomitic rock were shown, and a good plant of *Androsace hausmannii* growing in a crevice.

A visit to Colbricon lakes to find *Saponaria pumilio* produced a picture of the Colbricon Lake itself with its Refugio and the scree beach where *Saponaria* grows, as well as on the rocky outcrops above it. *Pinguicula halleri* and *Pyrola uniflora* were examples of interests on the way there, and two pictures of *Saponaria pumilio* one on the rocks, the other on the scree, finished the exhibition of pictures.

Except, of course, for the fine final slide, taken by Mrs. Mitchell, of her husband busily engaged in an almost prostrate position photographing *Dianthus monspessulans*, with his equipment lying around. This is the sort of picture the natives in the mountains laugh at, and it seems to cause a similar reaction from an audience at home.

Not all the questions put to Mr. Mitchell were technical ones on the subject of cameras and photography ; one was—‘how did he make out that *Viola calcarata* was easy ?’ This was not so easily answered as the technical questions.

## Propagation

By Miss E. KING

For Miss King’s lecture, or discussion as she preferred to call it, on propagation Major-General Murray-Lyon was in the chair. Miss King, true to her word, frequently broke into her talk to invite discussion, in fact stimulated it by advancing questions herself and asking for answers.

“IN A SUBJECT so vast as propagation it is extremely difficult to know where to start. Obviously, in so short a time much must be left out and details cut to a minimum. I thought, therefore, that after quickly establishing the three main methods of propagation we might take it for granted that the simpler forms of all types of reproduction are known to most of you and concentrate on some of the problems and difficulties and maybe do a little gentle debunking. Naturally I must speak on the way I do things, but that does not mean I believe I know best and I assure you I am wide open to being debunked myself.

The three main means of reproduction are by seed, by simple division, and vegetatively. We can dismiss simple division right away, I think, and we must also cut down the vegetative method to a workable size, dismissing layering, grafting, and budding, and propagation by bulbs, rhizomes, and scales, this leaving us with the two most important methods—seeds and cuttings, and of these two, giving the most attention to cuttings because I think these give more trouble to the average propagator. However, it is not always the best nor always a possible means of propagation and so we have to use seed whether we want to or not, which brings me to the first note of controversy.

It has been said repeatedly that continual vegetative propagation



eventually reduces specific plants to a shadow of their former selves and that one must resort to seed for renewed beauty and vigour. I have even said this myself. But I now retreat until someone convinces me of its truth.

★   ★   ★

Where alternative methods of propagation are available we naturally weigh up the pros and cons. Seed has it over cuttings in ease of propagation and in a far greater yield ; but it usually takes far longer for a seedling to grow into a sizeable plant, while there is the ever-present danger of the inevitable avalanche of uncontrolled crosses of all degrees of undesirability. This would be no danger at all if all unworthy crosses were rigorously destroyed, but how many of you would agree to that ? You all hate to destroy your very own plants, no matter how ugly.

Please do not mistake me. I am in favour of quite a few cultivars and cherish a few of my own, but I do feel, quite intensely, that before a hybrid can be acceptable it must in some fashion transcend the beauty of either of its parents and in so doing should not sacrifice any specific characteristic such as special perfume or leaf colour.

Quite a number of species, even with uncontrolled pollination, can be trusted to come true to type. It is impossible to give a list of names here but as a general rule those that bloom exceptionally early or exceptionally late or those grown in complete isolation from their kind are safe. (This does not apply to hybrids, which should always be propagated vegetatively). Also particularly among the alpines are those that no matter what they throw all their progeny are beautiful. I think at the moment of *Anemone pulsatilla* and the little cyclamen, while there is also the plant that is so dull in its pure state—*Saponaria ocymoides* for instance—that almost anything would be better. A few words here about pulsatilla seedlings ! Anyone having difficulty with ‘damping off’ should sow the seed in a pan or box of sifted and weathered ash, leaving them to grow until ready to be moved—that is, not pricking them out in their early stages—but thinning out to leave the remainder plenty of room and discarding the thinnings.

Seed of rhododendrons is easy and effective if sown on pure, finely sifted peat in a 3 in. or 4 in. pan to each species and over-wintered in an ordinary cold frame.

I have brought a few slides and specimens of hybrids and, where I could get them, their parents for your judgement. These have been in the main deliberate crosses and chosen out of thousands as the best.

I would like to know if you think all of them were really necessary.  
Slides—*Rh. augustinii*—"Blue Tit"—(*impeditum* other parent).

- *campylocarpum*—"Penjerrick" (other parent—*elatum griffithianum*).
- *williamsianum* x *orbiculare*—offspring "Temple Belle".
- *cinnabarinum roylei* } other parent—"Royal Flush"
- "Lady Chamberlain" } (orange form).
- "Elizabeth" } *forrestii repens* x *griersonianum*.
- "Vanessa" }
- *concatenans* } other parent—*yunnanense*.
- "Alison Johnstone" }
- *ciliatum* x *racemosum*—offspring "Racil".
- *chryseum*.

I believe uniform success in propagation by stem cuttings depends on the understanding of two basic principles. First, the rooting material is all important, and secondly, there is an optimum time for taking all cuttings which is **not** governed by the calendar.

The rooting medium should be sufficiently absorbent to be able to avoid excessive watering yet porous enough to prevent water-logging. It should also contain sufficient sharply gritty material to cause the abrasions so helpful in inducing root growth. The ideal medium for the first is peat and for grit nothing I know is sharper than ground pumice (No. 4 grade) which has the added advantage of being sterile and which can be used over and over again. A mixture of three parts pumice to one of finely sifted peat is the standard for the majority of cuttings—and a warning—too great a proportion of peat will cause water-logging.

For those plants which require dry-frame conditions—mostly grey- and silver-leaved subjects—one extra part of pumice is desirable. (It does not matter that the plants in question are not normally peat-lovers; the peat in the mixture is there simply to hold the moisture so necessary).

\* \* \*

There is no set time when it is best to take a cutting of any particular plant; the time to do so is when it is ready and this may vary enormously from year to year, depending largely on weather conditions. With experience it becomes possible to judge the ripeness of a subject more or less automatically, but even without experience a little knowledge can go quite a long way.

Cuttings of evergreen shrubs including rhododendrons, from the dwarfs to the mediums, should be taken as soon as the new wood feels

firm but not rigid to the touch. It should be sufficiently pliable to allow a gentle bending back and forth without breaking and should spring back naturally to its original position. This could start as early as the beginning of July or not be possible until September, although I dislike such a late timing, being pretty certain that the yield will not be so high. In any case I like to get my rhododendrons rooted and potted up and put in their winter quarters before winter starts.

The current theory that the more dwarf the rhododendron the later its cuttings should be taken, even up to December, is one I feel strongly should at least be brought into proper perspective. Of course it is possible to take cuttings as late as this, and not only of dwarf rhododendrons, but such cuttings need heat and some form of housing other than a cold frame; the rooting process will take very much longer and many will just sit and make no move until the following spring, many will not root at all, and it is a policy of the desperate—of someone who badly needs some plants that have not been taken earlier. The sooner one is able to take the dwarfs the quicker the rooting and the better the plant.

#### SHORT BREAK FOR DISCUSSION

There is a point on which I would very much like other opinions. I have long been interested in this question of maximum light for the cuttings frame. This year I tried the experiment of cutting out all light from the time the cuttings were set in a 5 ft. × 4 ft. concrete frame with glass light on 29th July.

I had a most varied mixture of material—something I would not normally do—Rhododendrons *valentinianum* and *ciliatum* for bristly and hairy stems—*Rh. thomsonii* to represent the larger ones, large sappy growths of *Lithospermum diffusum*; a row of *Ceanothus* v. “Edinburgh”; a number of brooms, *C. kewensis* and *C. lydia*; some too-soft cuttings of *Cornus alba variegata*; hydrangeas, callistemon. All the brooms hated the dark because I kept conditions *too* dark. The leaves of the cornus moulded. The rhododendrons showed no outward sign of dislike but refused to root; for them I had created winter conditions, which always slows up rooting. The surprise came with the ceanothus, the lithospermums, and the callistemons. Within a fortnight all ceanothus had calloused and broken the callouses, and on 24th August I potted the plants up. Their roots were so long I had difficulty in getting them out of the frame and into long toms. (Sample specimens). Lithospermums were all rooted and potted the same

time. They had remained beautifully fresh and green, whereas another batch in a conventional frame had lost their bright colour. Callistemon I never expected to root at all ; the cuttings were tip ones and rather soft. One or two began to shed their leaves ; the rest are healthy, strong young plants.”

Hormones, Artificial wounding, Some difficult plants *Linum Gemmell's Hybrid*, *Cytisus kewensis*, *Genista lydia*.

Miss King after answering a spate of further questions was warmly thanked for her most interesting and helpful lecture.

## Some Rare and Unusual Plants for the Enthusiast

By A. EVANS

THE CHAIR at Mr. Evans' lecture on Saturday morning was occupied by Mr. W. H. Laycock, who expressed his pleasure in being present among so many friends and the honour he felt in being asked to introduce the speaker, which he did most gracefully with some well-chosen words.

Those of us who know Mr. Evans, and that must be most members, know what a lively enthusiast he is. He spoke of some of the interesting introductions from many parts of the world in comparatively recent years, giving their places of origin and brief notes on their habits, their likes and dislikes, and advice on their cultivation. It could not be called a talk for the plantsman only—it interested all—but the enthusiast for trying out rarities was given a real feast, and Mr. Evans had many questions put to him at the end of his talk. Among the plants illustrated and discussed were the following :—

Adonis brevistyla, Himalaya	Harrimanella stelleriana, N. Asia,
Aethionema oppositifolium, Lebanon	N. America
Anchusa caespitosa, Crete	Incarvillea lutea longiracemosus, W. China
Astragalus monspessulanus, Mediterranean	Iris winogradowii, Caucasus
Azorella caespitosa, Patagonia	Jankaea heldreichii, Greece
Callianthemum rutifolium, Alps	Kelseya uniflora, Montana
Campanula tridentata, Asia Minor	Lithospermum gastonii, W. Pyrenees
Cassiope wardii, S.E. Tibet	Mertensia maritima, Shetland

<i>Chrysanthemum hispanicum</i> sulphureum, Spain	<i>Milligania longifolia</i> , Tasmania
<i>Codonopsis ovata</i> , Himalaya	<i>Orphanidesia gaultherioides</i> , Black Sea
<i>Codonopsis convolvulacea</i> , W. China	<i>Pleione formosana alba</i> , Formosa
<i>Delphinium brunonianum</i> , W. China	<i>Pleione forrestii</i>
<i>Diapensia lapponica</i> , Arctic Alpine	<i>Primula forrestii</i> , Yunnan
<i>Diapensia lapponica</i> , obovata, Japan, Siberia	<i>Primula kingii</i> , Himalaya
<i>Pyxidantha barbulate</i> , Canadian Barrens	<i>Primula pycnoloba</i> , Szechuan
<i>Erinacea anthyllis</i> , Spain, N. Africa	<i>Primula reptans</i> , Kashmir
<i>Gaultheria adenothrix</i> , Japan	<i>Prionotes cerinthoides</i> , Tasmania
<i>Gentianella cuspidata</i> , S. America	<i>Rhodothamnus chamaecistus</i> , Alps
<i>Gentiana kurroo</i> , Himalaya	<i>Salix apoda</i> (female form), Caucasus
<i>Geum elatum</i> S.S.W. red form, Nepal	<i>Saxifraga brunoniana</i> , Himalaya
<i>Harrimanella hypnoides</i> , Arctic	<i>Stellera chamaejasme</i> , Central Asia
	<i>Trillium erectum albiflorum</i> , E. N. America

Needless to say, Mr. Evans was called on to answer a number of questions, after which he was complimented and thanked for his extremely interesting talk.

## Alpines Wild and in Bondage

By G. D. SMITH, Harlow Car.

MRS. B. B. CORMACK was in the chair and introduced Mr. Geoffrey Smith, the speaker at the final lecture of the Week-end at Pitlochry.

One rather sympathised with Mr. Smith over the task set him in having to follow on after such a brilliant array of speakers had, one after another, stolen the thunder all week-end. But one did not need to sympathise—as was very soon evident. Mr. Smith was more than able to hold his own. He attacked his subject with a lively vigour and enthusiasm and an approach that was refreshingly original.

He began by reminding his audience that in a park intended to give pleasure as well as interest to the general public one had to approach rock-gardening in a somewhat different manner to that of the purist. One had to attempt to provide a show of colour and interest to the public throughout the season. To do this he used a succession of colourful, short-lived plants among bright, easily grown carpeting plants and avoided too large a proportion of purely botanically interesting plants, even though there was a very fair distribution of these too throughout the rock-garden.

In spite of his opening remarks his slides soon showed us where his own interests lay. He warned his audience against the 'miniature Matterhorn,' and showed slides taken in Harlow Car and in the Alps. We were shown himself and his team loading stones off the moors and shots of the garden as the work progressed ; we saw *Salix retusa* in the wild at Lautaret and in the scree at Harlow Car, *Primula marginata* in the Maritime Alps and in a rock crevice in the garden, *P. frondosa* in the garden and *P. farinosa* in the wild. The same applied to *Primula rubra*, *Gentiana verna*, *Saxifraga oppositifolia* and its variety *latina*, *Campanula allionii*, *Anemone narcissiflora*, *Clematis alpina* with *Rhodo. ferrugineum* and *Clematis tangutica* with campanulas. In Harlow Car we saw *Cypripedium parviflorus*, in the wild *C. calceolus*, *Cyclamen neapolitanum* and *C. europaeum*, *Papaver rhaeticum* and *P. kernerii* ; *Daphne cneorum*, *Anemone alpina*, *Soldanella alpina* and *Hepatica triloba* cultivated and wild. As he went along Mr. Smith interspersed his talk with cultural hints for some of the more finicky plants and with topical remarks. We saw Alpine Meadows both real and man made, *Rosa pendula*, gentians *acaulis* and *kochiana*, violas *cenisia* and *cornuta*, *Pulsatilla vernalis*, *Primula nutans*, *Bulbocodium vernum* and *Narcissus bulbocodium monophyllus*.

We were also shown slides taken in nature of *Phyteuma comosum*, *Lilium martagon*, *Rhodo. ferrugineum*, *Aquilegia alpina* and *Sedum caucolicum*. Other plants shown were *Dryas octopetala*, *Linaria alpina*, *Lewisia tweedyi*, *Geranium sanguineum lancastricense*, *Phlox adsurgens*, *Tulipa tarda* and *Verbascum pestalozzae*. In their native habitats we saw *Leontopodium alpinum*, *Eritrichium nanum*, and *Trollius europaeus*. Following on slides of *Campanula aucheri* and *Douglasia vitalliana*, Mr. Smith brought his very interesting and enjoyable lecture to a close with a magnificent slide of *Taraxacum officinale* growing at 11,000 ft., our old friend—or enemy—the dandelion.

He was warmly thanked for an exceedingly enjoyable talk, and a general vote of thank to all who had helped in one way or another to the outstanding success of the meeting closed a memorable week-end.

## American Contributions

By DORETTA KLABER  
 Pennsylvania, U.S.A.

OUR EDITOR'S heartrending appeal for more contributions from members jogged my conscience. So I've been thinking that perhaps our newer members might like to hear about some of our distinctly American plants.

Among important garden flowers there are five genera found here and in Canada that with rare exceptions are not found native to other countries. These are lewisia, dodecatheon, penstemon, phlox and polemonium.

### LEWISIAS

Lewisias head the list. They are probably grown as garden flowers more widely in England and Scotland—and perhaps elsewhere in Europe—than they are in this country. We started flower-gardening later than you did and we haven't yet caught up with some of the more unusual plants, even, or perhaps especially, when they are our natives.

*Lewisia rediviva* (see fig. 40), the Bitter-root, state flower of Montana, is the most important deciduous one. It is more easily grown than the evergreen lewisias. Its odd-looking red roots, the size of a little finger, do not anchor it too well, so that frost action may throw it out of the ground in winter. For this reason it is advisable to plant it close to rocks in well-drained soil. In spring it sends up a bunch of cylindrical leaves. These die back and are replaced by pink buds which open into large white or pink flowers. After the blooms fade the leaves reappear and remain for the rest of the growing season.

The evergreen lewisias are in a class by themselves. They make beautiful leathery-leaf rosettes, varying in size from an inch or two to six inches wide, most lying flat on the ground. So that this thick mat doesn't rot in winter, it is essential to plant them either vertically in a wall or among rocks on a slope, with a thick mat of gravel or stone chips under and around the rosettes. The leaves are a soft green, some crimped and edged with red, occasionally spiny, and developing tones of pink or apricot as the season advances. The flowers grow in loose sprays on two- to three-inch stems, and may be pink or apricot, white or rosy-purple, some with a darker stripe down the centre of each petal. Soil should be on the acid side and, at least in this country, part shade is recommended.

*Lewisia tweedyi*, a warm clear apricot, with one-inch wide flowers, is considered the finest species, but it is more difficult than the other evergreens. It should be planted near the top of a wall so that stones can be removed and side-growths pruned. Otherwise, overcrowding may cause rot at the crown. The side growths can be grown on as cuttings.

*Lewisia cotyledon* and its hybrids and the closely related forms *Ll. heckneri* and *howellii* (see fig. 41) are all very fine, easy and hardy, though they do not all bloom the year after seeding. However, they are a pleasure to the eye at all times. *L. columbiana* has narrower leaves than the others in this group, with sprays of pink to purple small flowers—very floriferous and hardy.

I plant lewisia seeds outdoors in a cold frame in winter, usually January or February, so that they get alternate freezing and thawing. They sprout in very early spring and as soon as the weather is settled enough the fleshy little seedlings are transferred to their permanent positions in the garden, so that they get the sharp drainage and surfacing of stone chips that they need.

### DODECATHEONS

Dodecatheon or shooting-star is a member of the primula family and they are sometimes called American cowslips. Their flowers more nearly resemble those of cyclamen, with flared-back petals and somewhat the same colouring. The best known, but not the choicest, is *Dodecatheon media*. It has white or washy-pink flowers and grows about a foot high with long narrow leaves in clumps. Much closer to the hearts of rock-gardeners are *Dd. amethystinum* (see fig. 44) from Pennsylvania and *pauciflorum* and *tetrandrum* from the west. They are lower and more compact than *D. media* and the colouring is deeper and more jewel-like. Because they disappear after blooming, their positions should be marked. They are perfectly hardy if grown in woodland type soil in partial shade or on or in a wall. I grow them from seed and am always amazed to find what comparatively large plants are produced from such tiny buds and small roots.

### PENSTEMONS

Penstemons are legion and vary widely. Some are easy, others difficult ; some are ordinary, others outstanding ; many are tall while others may be creepers or small shrubs ; some are herbaceous, others evergreen. The eastern species are not rock garden subjects, but the



west is full of fine species, many of them low creeping shrubs with flowers in fine blues, pinks, reds, lavenders, purples and whites. They are not always easy in the east, sometimes taking years before they consent to bloom. I have had *P. fruticosa* on a wall for years, where it makes a low shrub and blooms with big purple flowers. It loses some wood each year but always revives. *P. davidsonii* has prostrate branches, spreading by underground roots, with neat small pale leaves, and flowers variable in colour, that can hide the plant by their multitudes. *P. pinifolius* is a small plant with needle-like leaves and red flowers. I find it slow to come in to bloom. *P. procerus* is an upright form, mine being six to eight inches high with tiers of small but pleasing blue flowers. *P. rupicola* is considered one of the best, a creeper with glaucous small leathery leaves and prolific bloom in deep pink or red. I have still to see it in flower.

Another group, herbaceous perennials, is headed by *P. johnsonae* (Flathead Lake) (see fig. 43). In its best form it is about eight inches high with coral-coloured flowers. The leaves make 4-inch clumps which can be divided about every second year.

Some people have trouble growing penstemons from seed, but with the outdoor winter planting that all my rock-plant seeds get, I have no difficulty.

## PHLOX

This genera comes in all sizes, but the tall border varieties do not concern us here. Rock-garden and woodland species abound.

*Phlox subulata* in its many forms and varieties is perhaps the most popular of all. Not a grocery store, hardware store, roadside stand, that does not have baskets of pink, lavender, red, white and purple ones for sale. The hybrids have long since eclipsed the original plants and have many beautiful forms. Less invasive than most is the old hybrid "Vivid" and the smaller form *P.s. Britonii* (see fig. 45), a real pet, while self-sown seedlings will come up in any sunny rock-garden and are worth saving to see what you have. You may find an outstanding hybrid.

*P. nivalis* is close to *subulata*, with named varieties such as the fine pink "Camla". These plants are somewhat taller and looser in habit, but still have needle-like leaves.

The woodland phloxes are entirely different, with large normal leaves. *P. stolonifera* is a splendid ground cover but needs space to do just that, where it will not smother weaker plants. It has big lavender

flowers on eight-inch stems, an especially fine form being "Blue Ridge". There is a deep pink variety too, not quite so good to my mind.

*P. divaricata* will grow in sun or shade and seed itself around. It is a fine companion for bulbs, starting with the daffodils and keeping on through tulip time. Its lavender to purplish or white flowers are not quite so fine as *P. stolonifera* but very good indeed, and in general it is a more useful plant. Its mats do not creep, and it is easily pulled out if it comes up too prolifically. As the basal leaves are not very conspicuous after it dies down, "helpers" frequently may weed it out.

*Phlox procumbens (amoena)* is about four inches high with glossy leaves and deep pink flowers. It prefers part shade. The prize of the woodland group is *P. adsurgens*. It is a creeping plant with rose to salmon flowers with a white eye. Native to the west, it does not take kindly to eastern conditions. It needs shade and an acid soil, which I tried to give it, but I only had a glimpse of it before it disappeared. It is not easy to get in this part of the country, but is one of the "musts" on my list.

#### POLEMONIUMS

Phlox is a member of the polemoniaceae but bears little resemblance to the polemoniums or Jacob's-ladders. There are tall polemoniums of European origin, but I think all the rock-garden subjects are "ours".

*Polemonium reptans* is a pleasant plant suitable for woodland or other shady position, but its 8 inches to a foot creeping plants are hardly rock-garden subjects. The leaflets of its flat compound leaves form the "ladders", and it has soft blue or white flowers with yellow stamens.

Our western mountain polemoniums are much more attractive, with tiny leaflets, not always in ladders, but curled or whorled around the stems. Many of them have blue flowers, and these are the most endearing, but *P. mellitum* is cream-coloured and *P. brandegii* straw yellow. Blue *P. pulcherrimum* (see fig. 42) is my favourite, hardy and permanent in partial shade in well-drained soil. It runs gently underground and then erupts in new shoots near the parent plant. *P. delicatum*, somewhat larger, and *P. viscosum*, sticky and small, are two other good blue-flowered species. All of these plants come readily from seed.



Fig. 40—*Lewisia rediviva*. (actual size)—Bitter-root (See page 231)

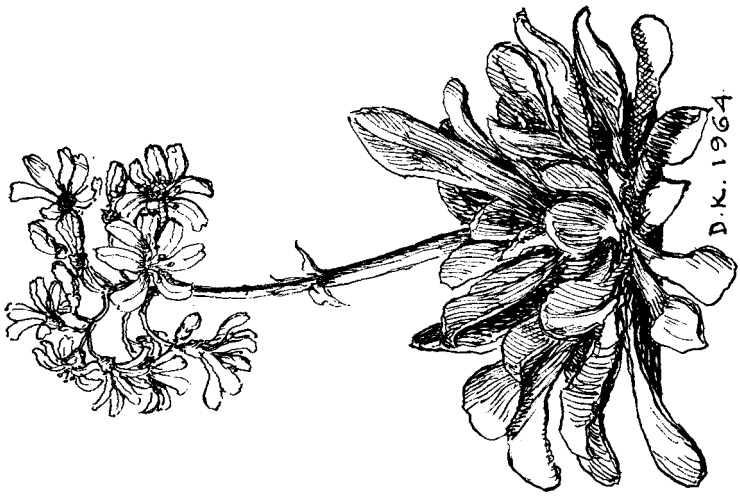


Fig. 41—*Lewisia howellii* (size reduced by  $\frac{1}{3}$ )  
(See page 232)



Fig. 42—*Polemonium pulcherrimum* (nat. size)  
Alpine Jacobs Ladder (See page 234)



Fig. 43—*Penstemon johnsonae* ( $\frac{1}{2}$  nat. size) (See page 233)



Fig. 44—  
*Dodecatheon amethystinum*  
(actual size, leaves enlarge later)  
Shooting Star  
(See page 232)



Fig. 45—*Phlox subulate brittonii* (nat. size)  
(See page 233)

## Our Shows

By "EXHIBITOR"

THE EXCELLENT article under the above title in the *Journal* of April 1964 demands a reply if only to show that there is another point of view and to make some, I hope, constructive suggestions for increasing the number of exhibitors at future Shows.

First of all, may I start by paying a warm tribute to Show Secretaries in general. They are the most devoted, hard-working and long-suffering members of our Club, with the possible exception of the Seed Distribution Manager and, of course, the Editor of this *Journal*. They deserve the greatest possible support from us more passive members, for without its Shows the Club would be but a ghost.

Now let us examine some of the reasons why more members do not stage exhibits. In the first place we must face the fact that at least 50% of members, probably many more, never have and never will exhibit. They do not join the S.R.G.C. with this in view and do not see why they should be dragooned into doing so. Perhaps 15% are regular exhibitors—it would be interesting to know exactly how many—and another 15% are on the fringe and may be induced to become such if they are suitably approached and encouraged. It is this fringe that we have to get at.

One of the basic reasons for not showing, rather skated over by "Show Secretary", is the difficulty of getting plants to Shows at a distance and recovering them in good condition afterwards. This problem is catered for in the *Year Book*, he says (see Show Notes and Rule No. 1), but few people who have tried to pack and despatch a number of 9 in. pans, let alone larger ones, of precious rock plants to arrive in good condition at a destination, perhaps 150 miles away, on the correct date, and recover them afterwards by the same method, will probably attempt it again. The alternative of taking them oneself and spending two or three nights in a hotel before collecting them at the end of the Show can be so expensive as to be prohibitive.

Another factor, which I feel sure acts as a deterrent though I cannot prove it, is the practice of holding the same Shows on approximately the same dates every year. The result is that the same people dig up the same plants and get mighty tired of it, and the judges in some cases know the owner of the plant without even having to turn up the card. Perhaps the public, who pay to come in, also tire of

seeing the same plants year after year. Show Secretaries advance all sorts of reasons for not changing the dates—the Show date is arranged to coincide with the time of year when the maximum number of plants may be expected in the rock garden ; the Hall is not available or the Show would clash with other fixtures at a different time of year. Alternatively, a change of date may be inconvenient to the Secretary, and since he is the man who carries all the burden one can understand this point of view. The main objection to any material change of dates, however, is that the Schedule would require complete revision, a lengthy and difficult task. All the same, there is something to be said for a slight change, say a couple of weeks later than at present.

Judging is always a problem, but obvious injustice will do more than anything else to deter new exhibitors from ever showing again. A reliable judge needs infinite experience. In addition, he must be able and prepared to give up one, perhaps two days for the journeys each way and for the job itself. This alone must rule out a number of otherwise competent judges. This problem is already being tackled by the Council.

Finally, there is the psychological factor. People are reluctant to exhibit, thinking they have nothing worth putting on the show bench yet how many of them when visiting a Show remark : “Well, I’ve got a much better plant than that” ? Others are afraid of digging up precious plants for fear of losing them on replanting.

What can be done to overcome these difficulties ? Transporting plants to distant Shows will always be a problem and the only practicable solution is to share the work with a fellow exhibitor. He, or she, takes the plants to the Show and stages them. You collect them at the end and drive them home. This does at least halve the expense. Distant Shows will of course be out if you cannot find another exhibitor close to your home.

The possibility of changing the dates of Shows is one that can only be settled by Secretaries themselves. No-one, who is not prepared to take on the job himself, is in a position to criticise, but a small change is worth the trial and this, I understand, is now being attempted.

As regards the finding of new exhibitors there are several possibilities. In this part of Scotland we were faced, for various reasons, with a serious reduction in the number of exhibits in 1964, and it was feared that the Show would be a failure. Various measures were, therefore, adopted to encourage new exhibitors, as a result of which



there were a hundred more plants on show than ever before and the quality was also of a high standard. These measures included :—

- (a) Stimulation by circular.
- (b) Arranging for a professional with a large rock garden to give a demonstration of lifting plants from the open ground, potting them up and preparing them for show.
- (c) Lectures on the above, the niceties of showing, and what the judges look for ; this can be combined with a judging competition.
- (d) Visiting reluctant members' gardens and advising them about plants to exhibit.
- (e) In one case (with the absent owner's permission) digging up a plant in his garden, showing it and taking him back a first prize ! He had never shown before, but will I hope do so in future. Incidentally his gardener, who knew nothing of the plan, arrived next morning, saw the empty place and accused the "daily" of stealing the plant !

To conclude, I feel that the Group Convener has a part to play in all this and can do a lot to encourage the regular members to take that little extra trouble which is necessary to make the local Show an outstanding success.

## Notes for Novices

### COLOUR EARLY IN THE YEAR

By K. S. HALL

WRITING on a February morning when a slight thaw has dispersed the covering of snow and softened the top inch of frozen soil in the garden, one feels at least a hint of the first promise of Spring, for a blackbird is trying out a few uncertain notes and a great tit 'saws' in the almond tree.

By the time this appears in print Spring will be here in its glory, the garden will be bursting into leaf and bloom and each day will bring some new surprise, but the soft colouring of the early months of the year, picked out with occasional brighter splashes, has a charm for the gardener, the charm of a Whistler against the Van Gogh of summer.

In the rock garden the basis of this colour is the background of evergreen plants, which may vary from silver-grey through gold and bronze to deep glossy greens. The dwarf conifers in their wide range of shades can give an architectural dignity to the smallest rock garden and the following evergreens will give character and variety on the bleakest days.

Of silver plants, which generally prefer a sunny situation, one can suggest *Chrysanthemum densum amami* (haradjani), a carpeter with leaves of delicate silver filigree which is deceptively hardy.

*Celmisia spectabilis argentea* (fig. 46), from New Zealand, has a cluster of 6 in. silver sword-like leaves which contrast in form with many of the evergreens. It is even more beautiful when it sends up its white 'daisy' flowers in summer.

*Euryops evansii*, a compact and brilliantly silver shrub covered later with golden daisies (see p. 158, S.R.G.C. *Journal*, Sept. 1964).

*Saxifraga cochlearis minor* is but one of the silver saxifrages. It consists of a clump of tiny silvery rosettes, having sprays of white flowers in early summer.

*Hebe pageana*, a low-growing shrub, more grey-green than silver, which throws up the colour of the spring bulbs and later covers itself with white flowers.

Golden foliage is perhaps less common at this time of year, but one plant must be included :

*Saxifrage* x "Cloth of Gold" makes a patch of vivid gold rosettes in a well-drained spot.

*Calluna vulgaris aurea* and *C. v.* "Ruth Sparkes" are two heathers whose charm lies in their golden foliage. Although this tones down considerably in winter, it remains a valuable colour contrast.

One of the most attractive plants in the copper-bronze range of foliage is *Schizocodon macrophylla*. In a sandy, peaty soil with some shade this will spread its mat of glossy, deep reddish leaves which will later be crowned with fringed, pink flowers on 4 in. stems.

*Gaultheria procumbens* is another peat lover. Growing about 3 inches high, it forms a carpet of leaves the colour of copper beech, and retains its bright red berries through the winter.

A wonderful splash of copper-red which glows vividly in the winter sunshine may be obtained by planting *Calluna vulgaris cuprea*. Neither this form nor *C. v. aurea* give a generous display of flowers, but they are worthy of a place in any garden for their rich winter colour.

True greens are too numerous to list, but many of the common

alpines are evergreen. The mossy saxifrages, the encrusted ones with their silver-edged rosettes, helianthemums, lewisias and sempervivums for sunny spots, ericas and dwarf rhododendrons for peat beds, all help to form a background for early flowers of which the following are easy and worth growing.

*Erica carnea* can be seen cascading down sun-baked rocks in the Alps when the snow melts in March, but here it blooms earlier. There are many garden forms, of which the following is a selection. *Erica carnea* "Eileen Porter" (pink), *E. c.* "King George" (deep pink), *E. c.* "Ruby Glow" (rich pink as its name implies), *E. c.* "Springwood" (white, free flowering and a wonderful ground coverer), *E. c.* "Silberschmeltz" (white, a fairly new introduction which flowers profusely over a long period), and the hybrid *Erica* x "George Rendall" (12-15 inches tall with purple flowers).

From January onwards dwarf bulbs are the chief joy of the rock garden. Provided they are in a well-drained, sunny position and are not overgrown by other plants, they should continue from year to year. Amongst the earliest are :

*Crocus laevigatus* ; under 3 inches in height and having white petals with purple feathering, this exquisite crocus hails from Greece, yet it will stand up bravely to frost and snow.

*Iris histrioides major* ; that such a delicate flower from Asia Minor should bloom through the snow in a Scottish garden is a never-failing source of wonder. But flower it does and increases year by year if top-dressed with bone meal and a sprinkling of sulphate of potash.

*Scilla* x "Tubergeniana" ; The pale blue flowers with a deeper line on the segments are often out in January. They are apt to be nipped by birds and may need some protection.

*Ipheion uniflorum* is yet another name for *Triteleia*, *Milla* or *Brodiaea uniflora*, but whatever the name this charming star-shaped flower, white or the palest of blues, is well worth growing as it blooms on and off for two months and increases year by year.

*Cyclamen orbiculatum* and its variety *coum* are often grown in the alpine house where their charms are more easily seen, but these early dwarf cyclamen are perfectly hardy. They may be increased by seed and are very attractive when massed.

*Eranthis* x "Tubergeniana" ; this and its variety "Guinea Gold" are less inclined to ramp than the better known *E. hyemalis*, the winter aconite. The latter should be avoided in the rock garden, though it is charming when naturalised in grass.

These few early bulbs are followed in rapid succession through February by others. *Crocus chrysanthus*, which originated in Greece and Asia Minor, has produced a large variety of attractive forms, all easy to grow and suitable for the rock garden. Amongst them are 'E. A. Bowles' (deep yellow with bronze at the base), 'Moonlight' (a lovely pale yellow which blends well with *Iris histrioides*), Blue 'Pearl' (a particularly dainty form) and 'Zwanenberg' (a deep yellow, almost orange, with mahogany outside).

*Crocus tomasinianus* is another charming early species, silvery-mauve within, deeper mauve outside, with several named varieties of deeper colour. It has a habit of spreading and should not be planted among very choice alpiners, but it well deserves a place in a wilder part of the garden or under deciduous shrubs.

One more *Iris* must be mentioned in any account of early bulbs ; this is *Iris reticulata*, which flowers in February. Its deep velvety purple falls have rich gold markings and the narrow angular leaves stand stiffly up around the flower stem. There are various named forms mostly more expensive than the type and for a beginner no more desirable.

These plants are all easily obtainable in Britain and a selection of them, even in a small rock garden, would help to refute the remark one so often hears : "A rock garden is only interesting in the spring."

Anyone wishing to know more about bulbs is recommended to read "Dwarf Bulbs for the Rock Garden" by E. B. Anderson (Nelson & Sons, 18/-) ; "Collins Guide to Bulbs" by Patrick Synge (Collins, 30/-).

"A Handbook for Beginners." Our sister society, the Alpine Garden Society, devoted the whole of its *Bulletin* for March 1964 to helping its less experienced members. The articles in it cover a very wide range from Rock Garden construction, Dry Walls Pavements and Troughs, through plants for different times of year to Propagation. Photography and Alpine Pilgrimages. The articles are written by well-known rock gardeners, many of them members of our own Club, and are packed with useful information made even more interesting by charming line drawings. We congratulate the A.G.S. on this excellent Handbook, which may be ordered from The Secretary, A.G.S., 58 Denison House, Vauxhall Bridge Road, London, S.W.1, price 5/-.

## Lewisias

By B. and A. GIBSON

WE WRITE with great diffidence about our experience with these, to our mind, very beautiful and fascinating plants. We first got to know them over 30 years ago in gardens in Morayshire. They were not well known at that time (at least to us), and they had started to self sow and seed about in the conditions of dry sandy well-drained banks and such places. Also of course in vertical walls in the rock garden. But the rainfall there is in the region of 30 ins. or so per annum. We were given pinches of seed and a few 'babies,' to try, and try them we did, here, and have done ever since, with varying successes. But our rainfall is in the region of 70 ins. per annum and our soil is naturally retentive of moisture and not porous and freely drained. We have had some occasional smashing successes and, more often than not, failures galore. For one point only, most of the tribe interbreed if they are even in sight of each other, let alone so far removed that an eident bee or some other flying creature deliberately carries the pollen from one so called species to another. They, or most of them, seem to be made just that way. Promiscuous !

Well do we remember sharing an argument with our late very great friend Willie Buchanan, whose name will be so well known to members, on occasions when he was here, or we were at Douglas Bank, Bearsden, with him. He had no use or time for *Lewisias* at all, despite the perfection with which he grew and propagated so many more and much more difficult plants. Be that as it may, this seemed a prejudice on the part of a very discerning man of many plants, no doubt, and one of the few on which we agreed to differ.

My point in the above may tend to get lost, but it is of course in praise of *Lewisias* despite their notorious immorality in their private lives, and to go on to add a recipe which we have found fairly rewarding here, in our heavy rainfall area.

We use 4- or 5-ply cut turf, stacked of course to prevent the renewal of grass, sourock, or other such roots, and put this on the top of any dry stone dyke. Allow those turfs to settle and tweak out any emergence of grass or other roots, and then prick out the *Lewisia* seedlings straight from the seed pan, using an ordinary pocket knife to prod the holes. They work best, we find, on a wall facing west. To try the experiment on a south facing wall, even with our limited sunshine, is to invite too much drying out before the roots have got away

well enough to give anchorage and the small amount of moisture needed. In conditions such as I describe, ordinary watering with a can is of no use, because the water simply skites off and does not percolate. We have had more success in this way than ever we had with laborious prick-outs into boxes, or even small whalehide pots. With those latter methods the death roll through damping off is usually daunting even before one rescues the survivors in an attempt to put them in their permanent quarters. They hate anything like sun scorch as babies, but they will take all the sun you can give them after they have grown up and got anchored a bit. Much like many humans ! Once properly established, some of them can be quite long-lived.

## **Jasper National Park**

By ROBERT M. SENIOR

JASPER NATIONAL PARK, in the Province of Alberta, Canada, has some of the most delightful scenery in North America. Snow-capped mountains, glaciers, heavily forested lowlands, turbulent rivers, and innumerable lakes, present the traveller with an ever changing panorama.

Travellers visiting the Park can take the transcontinental Canadian National Railroad that stops at the little town of Jasper, which is about three miles from the charming Jasper Park Lodge, with its beautiful gardens and first class accommodation. However, the largest number of visitors travel by automobile. For those coming from eastern Canada, and going by rail or plane to Calgary, an excellent plan is to rent a car at that town : thence driving westward for about fifty miles, the traveller enters Banff National Park. Still proceeding in a westerly direction through this Park, he arrives at Lake Louise, and over an excellent paved road he turns northward to the adjacent Jasper National Park. On this part of the trip, from Lake Louise to the town of Jasper—a distance of about 150 miles—the scenery is magnificent.

If the visitor desires to study the flora of this region, he might secure a book of about 400 pages, published a few years ago by Professor B. H. Gross of the University of Alberta, entitled "The Flora of Alberta". The price is ten dollars and it is published by the University of Toronto Press, Toronto, Canada.

On several occasions we have visited the Park, always making our headquarters near the town of Jasper, where in addition to the above-mentioned Lodge, there are several smaller hotels and motels. The altitude of Jasper is about 4000 ft., and from here one can take numerous side trips—on horseback, walking, or by automobile.

The turbulent Athabasca river flows past the town, and an endless variety of plants grows along its banks. On one occasion we followed the river downstream for a few miles : at one place, about a few hundred feet from the river, we explored a damp meadow, covered with the annual *Gentian crinata*, and Arnicas—probably *A. fulgens*—a delightful combination of yellow and dark violet flowers.

Much of the country around Jasper is heavily wooded, and in these forests we find such plants as *Pyrola secunda*, *Linnaea borealis* var. *americana*, *Maianthemum canadense*, *Smilacina stellata*, and very rarely, *Cypripedium montanum* : in some damp spot we may come across *Habenaria dilatata*.

If you chance to find some tiny brook, you may see along its shores such plants as the delicate *Primula mistassinica*, *Parnassia parviflora*, the sticky *Tofieldia glutinosa*, *Dodecatheon radicum*, and “Ladies Tresses”.

Probably the most delightful automobile trip from Jasper is to Mt. Edith Cavell. There is a continuous ascent for about nine miles, with many curves and switchbacks. On the way up one has numerous opportunities to stop and explore for plants. Finally, at the end of the road, we arrive at the foot of a huge glacier, where the banks of a rushing stream issuing from the base of the glacier are lined with masses of low-growing rose-purple “Fireweeds”—probably *Epilobium latifolium*. At an earlier geologic period the glacier must have been even more extensive and, before retreating, left enormous mounds of rocks and boulders and here, in due course, soil found lodgement in the crevices and such plants as *Luetkia pectinata*, *Empetrum nigrum*, *Cassiope mertensiana* and *Phyllodoce empetriformis* took root. Here too we found *Campanula lasiocarpa*, with the erect flower sometimes less than two inches high.

We have mentioned but a few of the excursions that we have taken in the Park. The visitor could well spend a week or two, taking a different trip every day : and if he is hardy enough, he can, as we have done, take pack trips lasting several days, thus visiting wild and virtually unexplored regions. (see figs. 47 and 48)

## More about Dwarf Conifers

By R. F. WATSON

THERE IS no doubt that the interest in dwarf conifers is increasing, and I notice from the Club Show Reports that they are well represented, though perhaps the range could be widened. Mr. Hillier, in his valuable book notes many rare and less familiar forms which would increase the interest of gardens and the show benches. Opinions differ about their worthiness to associate with genuine alpiners, but there is no doubt that they do create the effect of the stunted trees of the high mountains, which effect could not be otherwise achieved. While this view may not be held by the purist I feel that most of us garden for effect and dwarf conifers do help us to create the effect we have in mind of some choice little bit of alpine scenery. I have for many years been a dwarf conifer "addict" meaning by this fond of true dwarf conifers, as opposed to the artificially dwarfed specimens of the "Bonsai" cult, so it may be of interest to note some of the less well known forms which over the years have been acquired, and which give great interest. To a collector there are always some forms which are too young as yet to adequately describe, so I have confined these notes to those which can be said to be of sufficient size and age to show their true characters, though some are not as yet mature.

*Cedrus deodora* 'Nana.' Of this very rare form I have a fairly young grafted plant with the general habit of var. *Pendula*, but much slower-growing, and with shorter leaves. It seems essential with this form to support the main stem in its youth to get a more shapely specimen.

*Cedrus libani* 'Aurea Prostrata.' My specimen of this is obviously a grafted side-branch and has been in my possession about nine years. So far it has grown slowly, without any attempt at putting up a leader, and has made a fan-shaped plant about two feet across, of arching, gnarled branches, with bright yellow needle-like foliage the year round.

*Chamaecyparis lawsoniana* 'Caudata.' This slow-growing form does not show its true character as a young plant, and only after some years does it produce the elongated "mouse tail" branchlet tips which are the feature of this form and make it a very distinct dwarf conifer.

*Chamaecyparis lawsoniana* 'Filiformis Compacta.' A curious dwarf form of the Lawson's Cypress, which makes a mop-like head of thin grey-green branchlets, with adpressed scale-like foliage. As a young



plant the main stem needs some support until it gets strong enough to hold up the head of branchlets, or a shapeless semi-prostrate mass will be the result.

*Chamaecyparis lawsoniana* 'Tilgate Var.' A little known Lawson form, perhaps not one of the most distinct, being best described as a looser-growing Forsteckensis, making a fairly dense bush of crowded branch-lets with dense clusters of short tip shoots grey-green in colour.

*Chamaecyparis lawsoniana* 'Wisselii Nana.' Mr. Hillier comments that if this form remains constant it is a gem. I must have been unlucky, as my plant remained dwarf for several years, suddenly put up a strong leading shoot, and is reverting to the type plant which, though an attractive and distinct form, is in no way a dwarf. It will be interesting to see what happens to other specimens in collections under this name.

*Chamaecyparis obtusa* 'Filicoides Compacta.' Hornibrook does not record this compact form of the "Fern Spray" Cypress, though he does record the type. This compact form is much more suited to the rock garden as it is slow-growing and upright, whereas the type is spreading in habit. The smaller branchlet sprays are typically fern-like and attractive, but the plant should be placed in a sheltered position as it is very susceptible to cold spring winds.

*Chamaecyparis obtusa* 'Tsatsumi.' This form is very uncommon and seems near to the better known 'Coralliformis,' but forming a much denser, tighter plant, with similar twisted cord-like branchlets and deep green scale-like foliage, and altogether a smaller plant.

*Chamaecyparis obtusa* 'Rigida.' I do not know the origin of this very distinct form, which departs from the usual habit of the Obtusa by growing into a stiff, rigid, narrow pyramidal bush of deep green foliage and quite slow-growing. It is still rare, but is in cultivation in Britain.

*Chamaecyparis pisifera* 'Filifera Nana.' There are several forms of *Ch. pisifera* with cord-like branches and adpressed foliage which are usually rather free-growing, but this Nana form is very dwarf and slow, making a dense mound and suitable for quite small rock gardens.

*Cryptomeria japonica* 'Monstrosa Nana.' There is much doubt about the true plant, which should bear this name, and I have seen several specimens making a claim to it. My plant, purchased some years ago, fits Mr. Hillier's description, with gnarled branches which bear short terminal branchlets and curious moss-like growths all along the main branches, and does have a "monstrous" or freakish look, which would justify the name.

*Cryptomeria japonica* 'Spiralis Elongata.' Hornibrook mentions a second form of *C. spiralis* without describing the plant, and this form, rare in cultivation, is quite distinct from the usual one which Mr. Hillier calls "Granny's Ringlets." With much more slender branches, with the same curious spiral arrangement of the foliage, which is bright and green. Propagated from cuttings, the main stem should be trained upright to make a shapely plant.

*Cupressus macrocarpa* 'Minima.' Dwarf forms of *Cupressus macrocarpa* are rare, and though several have arisen from time to time in seed beds and remained dwarf, with juvenile foliage for some time, they usually revert to type. This form, originating in the U.S.A., seems more constant, as my plant, about seven years of age (in a pot), has made a slow-growing bush about nine by seven inches, with deep green, scale-like foliage. I understand that this interesting form is to be known as "Nisbet's Dwarf" under the new Code of Nomenclature.

*Juniper communis* 'Echinaeformis.' This rare form is still the most desired dwarf Juniper and a good specimen will always tell on the show bench. It is very slow-growing, making a dwarf mound of grey-green tiny foliage quite spiny and hard to the touch. It is usually seen as a pot specimen and is best grown thus, as it is none too hardy in cold districts, being very susceptible to cold winds. Its rarity is due to the fact that it is extremely difficult to propagate from cuttings.

*Picea abies* 'Capitata.' Many of the dwarf forms of *Picea abies* do not show their true characteristics as young plants, but this form is easily recognized. It forms a broad pyramid of thick branches and foliage and these branches are tipped with capitate clusters of short shoots which are apparent in quite young plants.

*Picea abies* 'Echinaeformis.' This form is quite rare and not often found true in collections, the plant often found bearing the name being *P. abies* 'Gregoryana.' The true plant is quite unlike this, making a slow-growing rounded bush with long needle-like leaves, widely spaced on the branchlets and very prickly, and is not such a dense looking plant as 'Gregoryana.'

*Picea abies* 'Humilis.' Another rare form, often represented in collections by the versatile 'Gregoryana.' The true plant is close to var. *Pygmaea* and may be likened to an even smaller, closer growing form of it, forming a tight extremely slow-growing cushion. In fact, it is now considered by some experts to be the product of propagating low-growing short shoots of var. 'Pygmaea.'

*Picea glauca* 'Echinaeformis.' Hornibrook wrote that on occasion this plant has been supplied for the equally rare *Picea abies echinaeformis*, but one could count himself very fortunate to obtain it in this way. It grows into a dense, dwarf, very slow-growing bush with glaucous blue-grey foliage. My specimen of this, about 25 years of age, is about 18 inches tall and 20 inches across and would be suitable for the small rock garden or pot culture.

*Pinus densiflora* 'Umbraculifera.' This dwarf form of the Japanese Red Pine is slow-growing enough for rock garden planting, making a dense rounded tree of light green twisted foliage, and is particularly hardy. It is reputed to bear minute cones at an early age, but I cannot bear this out as my plant, at ten years of age, has produced none yet.

*Pinus thunbergii* 'Variegata.' I have a young grafted plant of this curious form, the only variegated pine I have ever seen. It is slowly forming a head of several short branches, with fairly long needles of deep green and golden yellow. Time will tell if it intends to remain dwarf, but in any case it is a very interesting plant.

*Pinus nigra* 'Pygmaea.' Of this very slow-growing form there are two distinct varieties, one that remains deep green all the year round, which form I have, and one that turns yellow in winter which, from correspondence with a dwarf conifer friend, he has recently purchased. Though the needles are quite long, it is extremely slow-growing and suitable for the very small rock garden.

*Sequoiadendron* 'Gigantea Pygmaea.' The 'Big Tree' of California, reputed to be the largest growing of all conifers, has produced one dwarf form, and though not a real pygmy it is a most interesting slow-growing tree. It forms a densely branched pyramid of branches with adpressed foliage. My plant, ten years of age, is about two feet in height (on its own roots), but is now tending to increase its annual growth rate and will in time get rather large.

*Sequoia sempervirens* 'Adpressa.' So far my specimen of this interesting plant is keeping dwarf, with a branchlet formation exactly as Mr. Hillier describes—some erect, some pendulous, and the lowest ones prostrate, with white tips which has earned it the synonym *Albo spica*. It is a very attractive and uncommon dwarf conifer and always draws attention.

*Sequoia sempervirens* 'Prostrata' (Cantab.). There is a fine old specimen of this remarkable plant in the Royal Botanic Gardens, Edinburgh, which has spread widely over and among large rocks. It is usually seen as a pot plant in amateur collections and is admirable for this purpose, as the primary branches grow almost prostrate and

the secondary branchlets become pendulous and are clothed with broad, glaucous, grey-green foliage.

*Taxus baccata* 'Argentea Minor.' There are several dwarf forms of the Yew which are suited to small rock gardens. This uncommon form makes a slow-growing, flat-topped bush with silver-edged, dark green, narrow foliage. Also suitable for pot culture.

*Taxus baccata* 'Decora.' This curious form is one of the slowest growing of all the yews, making a dense, congested hummock of short arching branches with deep green, twisted, sickle-shaped leaves. It is rare, as cuttings are difficult to strike and, when successful, are extremely slow-growing.

*Thuja occidentalis* 'Caespitosa.' I have only a young plant of this rare form of the N. American *Arbor vitae* which is, without any doubt, the smallest dwarf form, making a flat-topped cushion. Hornibrook recorded a specimen at Glasnevin, of thirty years of age, as twelve inches tall and twenty inches across. This is indeed a very slow-growth rate for a *Thuja*, even a dwarf form, as most are not of the dwarfest character.

*Thuja occidentalis* 'Holmstrupensis.' This would seem to be a more recent introduction to British culture and, judging from a fairly old specimen I have seen, would appear to be slower growing than most forms which come under the heading of "Globosa," a name which covers several forms very similar in character. This form makes a very dense-growing pyramid or cone, with rich apple-green foliage, turning slightly brown in winter.

*Thuja occidentalis* 'Albo Spica.' While I appreciate that not everyone likes variegated plants, they do brighten the garden, especially in winter, and this form has clean white conspicuous markings. It is perhaps not too dwarf, but would make a striking plant for a large rock garden or a background plant for a smaller one.

*Tsuga canadensis* 'Hussii.' The very dwarf forms of the N. American "Hemlocks" are very rare in British cultivation and are most desirable subjects for rock gardens, miniature gardens in troughs or sinks, or as pot-grown specimens. There are several forms recorded, but this is the only form that has come into my possession and it is a real treasure, making a tight ball of short, twiggy branches, with dark green crowded foliage and extremely slow-growing. All these dwarf forms of *Tsuga canadensis* must be assiduously sought for, as they are real "collectors pieces" which would add lustre to any collection of dwarf conifers.

## Redwood Trails

By PAULINE CROXTON

OUR FIRST twelve years in California were spent in the San Francisco Bay area. The woodlands of the coast redwoods being within easy reach by bus or car were a favourite place to go during week-ends and holidays. There are a number of good viewpoints from the ridges of the coastal range. Looking westward one can see wooded basins, ridges and valleys, with the Pacific Ocean on the horizon, but on a typical summer day it is likely that from the sunny spot you were standing on before you there would stretch a sea of foggy clouds with streamers reaching up through the canyons and banks of fog rolling over the ridges.

There are a number of parks in the redwood region. A good thing, in view of the heavy demand for redwood as a building material. The California Redwoods State Park, fondly called by its old name "Big Basin" by many old timers, has an extensive trail system. There is a choice of many walks. Short circles near "Government Center", a "nature trail" where various woodland plants and trees are pointed out. But one of my favourites was rather a long hike leading to a series of lovely waterfalls. The woodland plants we saw growing and blooming along these trails might make a good subject to tell you about.

When one starts out from the usually crowded park centre into the forest along a wide trail with stands of huckleberry among the undergrowth and climbs up out of the basin to the big fire trail that runs along the ridge and that we have to cross to go down again, one cannot help but notice the impact of the crowds on and near the park centre. The mosses, ferns and woodland plants grow so much more luxuriously the farther away one gets from the crowd. Mosses are at their best on damp days. You see velvety green carpets and other types of moss looking like tiny fern leaves growing against the side of trees and rocks. Lichens provide different colours again as well as various fungi and toadstools. You come upon stands of horsetail (*Equisetum*) here and there, usually in a lighter sunny spot, bright with the green vertical stems giving a characteristic touch to the wet places they grow in. In many places the forest floor is covered with the shade-loving *Oxalis oregana* with its pink flowers and leaves that close themselves tightly wherever the sun warms them. A tiny

yellow wood violet makes carpets. There are Trilliums and Solomons Seal (*Smilacina*). The last you can often smell before you see it. Sweet Bedstraw (*Galium*) of course grows everywhere and it has fooled me a number of times when I caught a whiff of some drying sprigs and went around looking for the flower that had that fragrance. In early spring the Milkmaids (*Dentaria integrifolia*) are blooming all around. Iris grow in many places too. The flowers are most delicate looking with lovely colour tones in blue and white or cream, but there are also many less attractive smoky-coloured iris. At the edge of clearings and along water courses you find the Western Azaleas (*Rhododendron occidentale*), the fragrant flowers usually creamy yellow with darker tones but sometimes quite pink. The trail goes up and down but gradually it climbs higher, leaving the redwoods and you will see more broad-leaved trees in a more open woodland until you move on a slope covered with a more chaparral-like vegetation. Shrubs with bright lemon yellow poppy-like flowers catch the eye. They are the bush poppies (*Dendromecon rigida*). During May they can be a lovely sight, a mass of yellow flowers. As far as I know this plant cannot be moved, but it is one of those California natives that can be grown from seed if one knows how. The great number of seedlings of native plants appearing after a fire give an indication of their needs. Often one can obtain good germination by dropping the seeds in boiling water, letting them cool in the water. The use of spagnum as a sowing medium and various sizes of peat pots for potting on have helped to eliminate root disturbance almost completely. Ceanothus is found on this slope too. But now we are entering the forest again. The trail follows a small creek. The going gets steeper down into a canyon where the water drops in cataracts and falls from a number of ledges. In this more remote area you see banks of *Adiantum pedatum*. Standing at the foot of a waterfall you look up at masses of delicate fronds, moist with the fine spray of falling water. On the banks of the creek and growing on tiny islands lovely clumps of ferns are growing. Lady-fern (*Athyrium felix-femina*), Western Swordfern (*Polystichum*), Coast Woodfern (*Dryopteris*), Bracken, Woodwardia and undoubtedly a great many others I cannot name. (See figs. 49 and 57).

The woods are wilder here. The undergrowth more luxurious. There are some fine stands of the red-flowered *Clintonia andrewsiana*. The leaf arrangement always reminds me of a mottled version of *Phalaenopsis* leaves. It may be incongruous to compare a lily with an orchid, and I hope the experts will excuse me, but that is how they



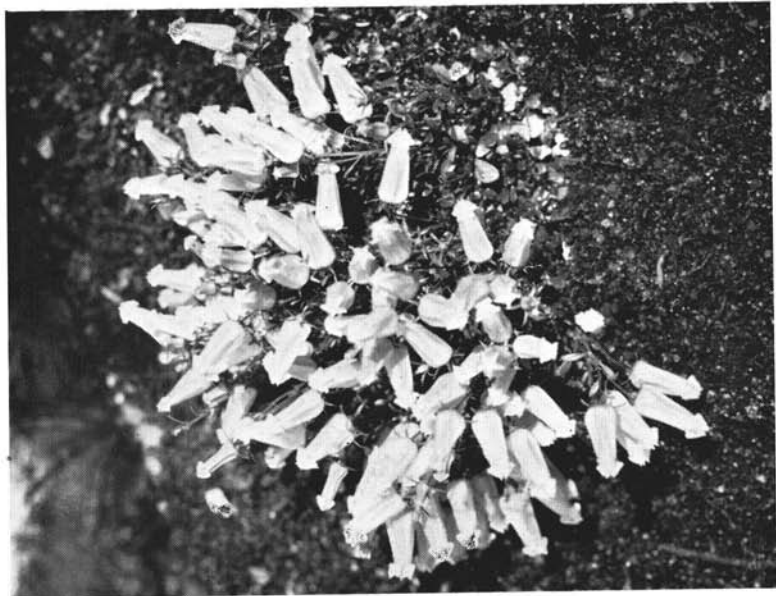
Photo—Roy Elliott

Fig. 36—*Pleione humilis* (See page 211)



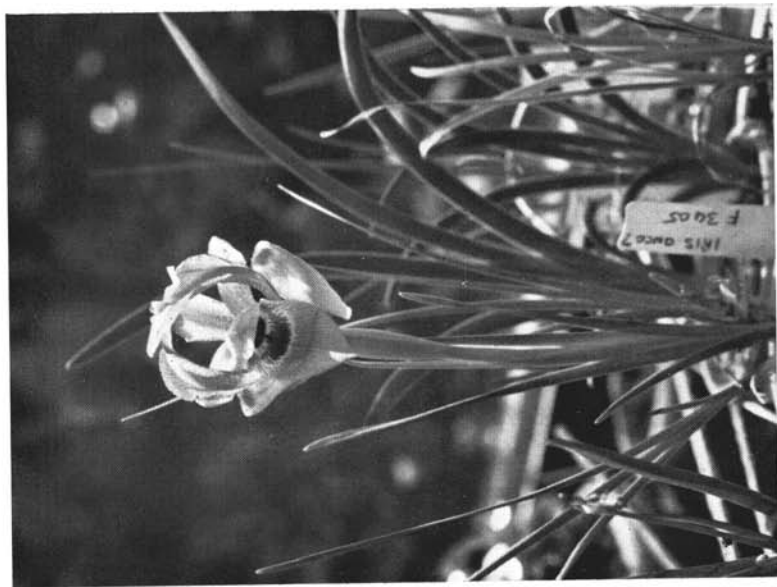
Photo—Roy Elliott

Fig. 37—*Cyclamen pseud-ibericum*, with grey back cloth (See page 212)



Photo—Roy Elliott

Fig. 38—*Campanula zoysii* (See page 213)



Photo—Roy Elliott

Fig. 39—*Iris* sp.-F.3405 (See page 213)





*Photo—R. M. Senior*

Fig. 47—Maligne Lake, Jasper National Park (See page 242)



*Photo—R. M. Senior*

Fig. 48—Glacier at Lake Louise, Jasper National Park (See page 243)



Photo—K. S. Hall  
Fig. 46—*Celmisia spectabilis argentea* (See page 238)



Photo—P. Croxton  
Fig. 50—In California State Park  
(See page 250)



*Photo—J. R. A.*

**Fig 51—An Unusual Daffodil** (See page 282)



*Photo—P. Croxton*

**Fig. 57—Waterfall in California State Park**  
(See page 250)



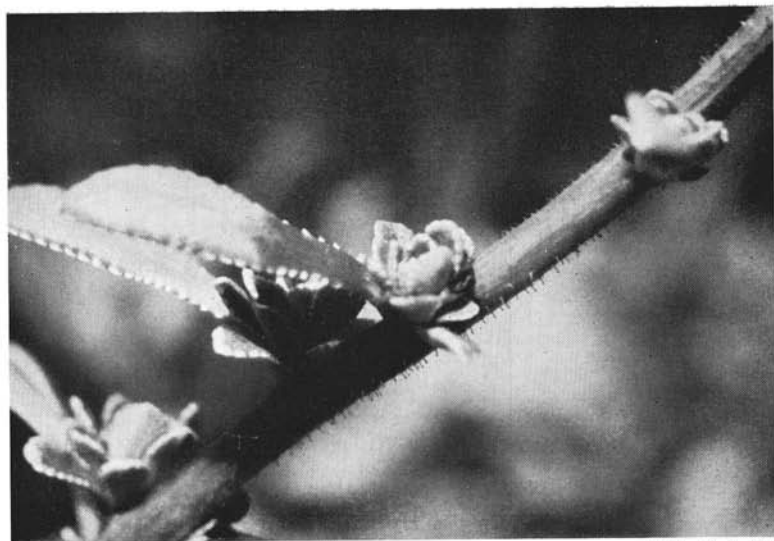
*Photo—P. Croxton*

Fig. 49—*Adiantum pedatum* (See page 250)



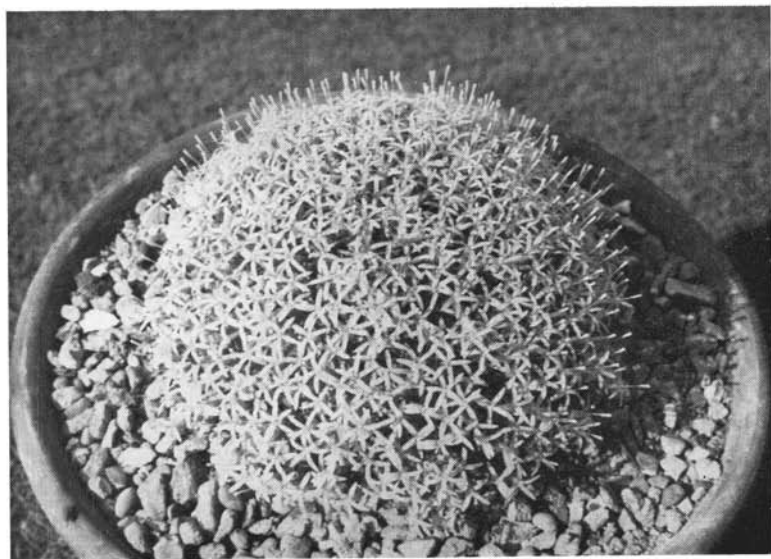
*Photo—K. S. Hall*

Fig. 52—*Saxifraga longifolia* (See page 282)



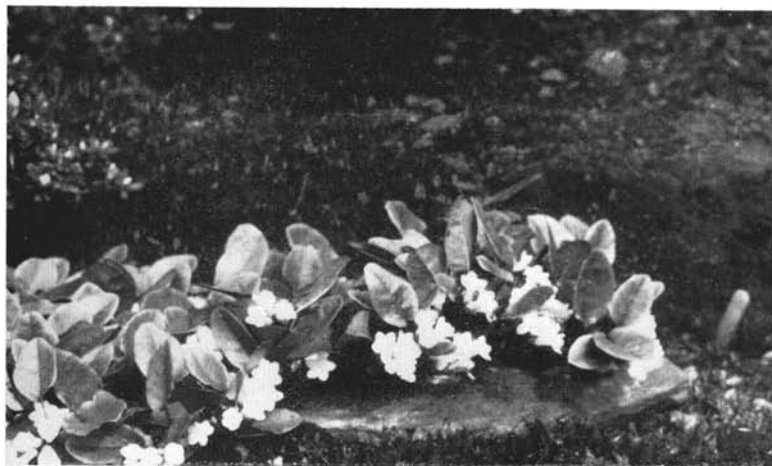
*Photo—K. S. Hall*

Fig. 53—A curious Saxifrage (See page 282)



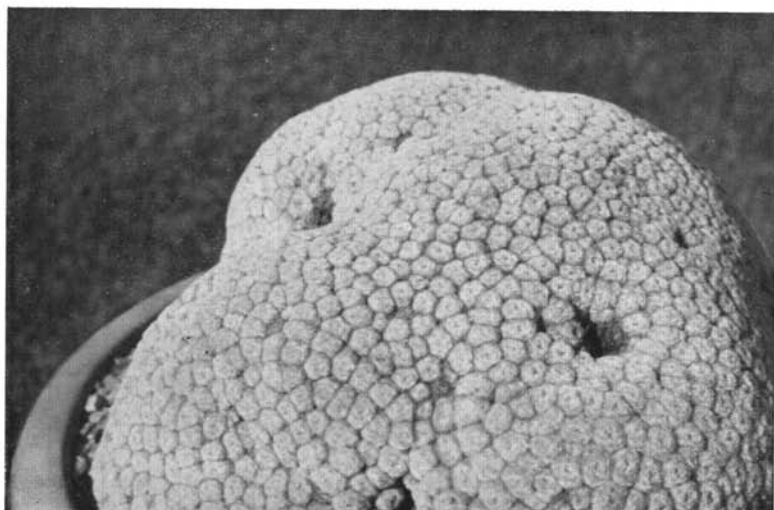
*Photo—H. Esslemont*

Fig. 54—*Diosphaera asperuloides* (See page 151)



*Photo—H. D. Slack*

Fig. 55—*Epigaea repens* (See page 173)  
Forrest Medal, Glasgow, 1964



*Photo—H. Esslemont*

Fig. 56 — *Raoulia eximia*, Forrest Medal, North Berwick, 1964

did strike me. Later on the Clintonias bear berries on the flower stems of a delicate porcelain blue colour, which is why they got their common name "Bluebead Lily". The trail goes down and down past more waterfalls, fern grottos and sweeping curtains of the California Hazelnut. Finally, it brings us to the main tributary, Waddell Creek, and here we start back up following Waddell Creek trail. We have to cross over a number of times and then it is an almost continuous uphill with many beautiful spots that just ask for a rest to be enjoyed there. Then after crossing the fire trail on the last ridge before dropping down into the basin where the park centre is located, the atmosphere changes with the many noises coming up muted through the woods from there. Noises from the activities of many people—picnickers, campers, children at play. They are happy noises. The parks were created to save these woodlands for people to enjoy and we who love especially the more quiet woodland trails are thankful for them too.

### MEASUREMENTS

IN 1956 I brought from Rockcliffe a wild Orchid given to me by a friend from the boggy field which formed part of her property. I planted it at the margin of our small artificial pond, and since then it has multiplied, appearing in four different places. Naturally, therefore, I was particularly interested in the Review by Raoul Michel May, "Wild Orchids in France," which is printed in S.R.G.C. Vol. VII, Part 4 (Report of 1961 Conference). Although for twenty years or more my work entailed almost thinking in terms of millimetres, nevertheless I found the reading of the Review taxed my brain somewhat, trying to visualise "lobes of up to six cms. in length" and "flowering stalks of ten to thirty cms. high." If and when Britain switches over to the metric system, doubtless we housewives will be inundated with helpful tables of "equivalent values" in place of (or in addition to) the ubiquitous free coupons. But meantime perhaps the following very approximate conversion table may help those non-experts who want to interpret botanical descriptions and interesting details (as in the Review mentioned) with real understanding.

<i>Millimetre</i>	<i>Equal in Inch Approximately</i>	<i>Centimetre</i>
1 mm.	One-twentyfourth	
3 mm.	One-eighth	
5 mm.	Three-sixteenth	
6 mm.	One-quarter	
10 mm.	Three-eighth	1 cm.
12½ mm.	One-half	1½ cm. (1.25)
25 mm.	One inch	2½ cm. (2.5)
100 mm.	Four inch	10 cm.
150 mm.	Six inch	15 cm.
300 mm.	Twelve inch (1 foot)	30 cm. "CIRTEM"

## Random Notes on Plant Collecting

By DAVID LIVINGSTONE

DURING THE past few years my wife and I have spent our summer holiday on the Continent. We always leave this country by air around the 9th or 10th June and return some sixteen days later. The first half of the holiday we spend at a place of her choice and the second at a mountain village of my choosing. Our main intention is to have a restful holiday and even in the mountains plant collecting is secondary. The arrangement works beautifully and I recommend it to those who have not tried it.

In 1963 we spent 8 days at Riva on Lake Garda and then moved on to Selva in the South Tyrol, where a party of members made their headquarters three weeks later. A report of their sojourn there appeared in *Journal No. 34*.

Selva is a delightful village at a height of just over 5000 ft., with many reasonably easy walks and wonderful scenery all around. There is a considerable amount of building construction being carried on, as is the case in many of these mountain villages, but the architecture is varied and of pleasing design. In June the main tourist season has not begun and for this reason the teleferiques were not in operation. This was a limiting factor on the heights to which we could ascend, but on the other hand I think the alpine meadows were at their best and in any event there were many interesting plants to be found within 15-30 minutes walk from the hotel.

I will make no attempt to describe all the plants we found, but confine myself to those I liked particularly. It was obvious from the leaf evidence that in the spring the meadows in the village had been a mass of crocus flowers, presumably *C. vernus*, and that in the previous autumn the whole area had been ablaze with *Colchicum autumnale*. It was an easy matter to collect bulbs of both, as all one had to do was to go to a site where foundations were being prepared for building and there they were lying exposed. I suppose the builders thought I was a "head" case. One crocus flowered this spring. It had a white flower with purple staining at the bottom of the petals. As I write towards the end of August four of the colchicums are in bloom. They are much smaller than purchased *C. autumnale*, but this is perhaps because they have not yet attained their full strength.

Behind our hotel, Posta al Cervo, there was a pleasant walk along an ascending footpath at the edge of a wood. Along it there were



numerous *Clematis alpina* with beautiful blue nodding flowers. Its stems twined about in small trees or shrubs usually only to a height of a foot or two, but one specimen we saw must have been about 8 ft. high. This clematis is difficult to collect with a decent root, but it can be brought back and established with care. The smaller the plant the more easily can it be collected and established. At the edge of this path too there were many of the intriguing *Pyrola uniflora* with little white flowers. It appeared to be growing in little else than spongy moss and decayed pine or spruce needles. It has very fine white hair-like roots and it too is difficult to collect and even more difficult to establish. I have succeeded in keeping one alive for just over two years, but even now it has only one stem and is but one inch high. This one was collected at Seefeldt in Austria, another delightful mountain village. At the end of the path there is an open meadow and in the short turf sloping down to the south from the wood there were many very dwarf specimens of *Daphne cneorum* covered with the most beautiful clear pink flowers which scented the warm air. They could not have been more than two inches high, including the flower clusters. The fleshy roots are long and therefore difficult to extract without injury. Despite the care with which I lifted two or three they died after two months or so at home.

This daphne was to be found in several other places near the village, always in much the same conditions, but the taller *D. striata*, which I do not find nearly so attractive, seemed happiest in sparse woodland off the Val Lunga. I regret to say I had no success with this either. However, I shall never forget finding a patch of this daphne in the Val Kedul (I hope the spelling is correct). It was about 9 ft. long and 3 ft. wide and in full flower. The morning had been wet and the air was warm and heavy with the scent from the many flowers. This was an earthly paradise and to add to my joy *Soldanella minima* with countless little white bells deeply fringed was everywhere. It was easily collected and established, but it does not bloom for me with the same abandon as it does amongst its native moss. In this same area I saw the most beautiful *Primula auricula* growing in a chalky pocket in a cliff face, not high but almost perpendicular. I reached it quite easily, put one in my jacket pocket and settled the others back into the cliff. Then I looked to see how I was going to get back down and my heart came into my mouth. With much care and not a few slips and scares I made it safely. My primula was well worth the trouble, because it turned out to be not *P. auricula* itself but a strictly local form *Balbisii* which has no farina on its leaves or flower stem and the

flowers have no scent. What it lacks in those respects is more than made up by the intensity of its yellow flowers. This plant proved not difficult to establish and it had two trusses of flower this spring.

Not far away on a large boulder subsisting on chalk dust, or so it seemed, and decayed vegetable matter in little hollows in the rock were two saxifrages which flowered after I brought them home and which flowered again this spring. They were *S. caesia*, which looks like a small silver saxifrage but is in fact a kabschia, and the hybrid *S. tyrolensis*, which has *caesia* as one of its parents. Search as I could I was unable to find the other parent, *S. squarrosa*, but it must have been somewhere around. These saxifrages are not so showy as some of their better known brethren, but they are dainty and have a quiet charm which I find attractive.

In the Val Lunga within fifteen minutes' walk from our hotel and only twenty or thirty yards from the path we found *Rhodothamnus chamaecistus* with much bigger flowers than it has produced for me in cultivation. It was growing in sparse woodland in a peaty substance over-laying pretty rough lime stone. As seen there in the wild this is indeed a magnificent shrub. It is of course a fine shrub for the rock garden or alpine house, but it has proved a bit temperamental with me. I have never tried limestome in the compost and I now wonder what the result might be.

We went by public bus one day to the Sella Pass for an hour or two, but it was cold and wet most of the time. Still, we found some interesting plants which we had not seen elsewhere. *Draba aizoides* and *D. tomentosa* were both growing in very rough limestone scree and both were in full flower. The former has yellow blossoms and the latter white. They survived the journey home, but they slowly pined away. Perhaps I was too kind to them after the barren desolation of their habitat! *Primula longiflora* was growing in the same area in small quantities, as was *Anemone vernalis* which, I think, looks so dowdy and unattractive in the wild.

Growing out of cracks in the huge rocks which were everywhere, just as though tossed down by some giant, was a phyteuma which I have been unable to identify. I tried for a time to pry one from its crack with a stout pen-knife but nothing short of splitting the rock would have got it out whole. However, my wife found one growing in rough scree and by dint of lifting off successive layers of stone I got it out with the root more or less intact. It has established and flowered but as yet no name. Were that it had been *P. comosum*, which of

course grows in the area but which I did not find although I was looking for it particularly. Nor was I any more successful in my search for *Eritrichium nanum*. Neither plant would be in flower in the third week of June or I might have been luckier.

My luck was not out completely, however. We sought shelter from the rain on the leeward side of one of the huge rocks already referred to and there at our feet was a white *Soldanella* growing amongst *S. alpina*. The habit and size indicated a white form of *Alpina*. *S. minima* was also in flower here and among them was what appeared to be a hybrid between *alpina* and *minima*. It was slightly larger in leaf and in height than *minima* and its flower, larger than *minima*'s, was white with a blue band inside the flower. Both plants are alive, but the second described has not made much growth nor has it flowered. This is a pity because I am most anxious to see what the flower is like in cultivation. These then are a few of the plants seen at Selva and district in the third week of June 1963.

This year the first part of our holiday was spent at Baveno on Lake Maggiore and the second at Verbier in the Valais, Switzerland. We were indebted to Professor Pontecorvo for recommending Verbier, which is at a height of 4600 ft. On a clear day it is possible from the village to see the mountain ranges of Mont Blanc and Grand Combin with their snow-capped tops. Again there were easy walks among the alpine meadows which were ablaze with colour, but so far as I could find there were none of the rarer plants in the immediate vicinity of the village. One of the meadow plants, though, I had not seen before and it is well worth noting. It is the so-called alpine lily, *Paradisea liliastrum* with glorious snow-white cups.

Again we were too early for the chair-lifts which were not in operation until about the middle of our stay at Verbier, Sunday 21st June. As noted earlier, plant collecting is secondary on our holiday and we made no attempt to scale the heights on foot. Monday 22nd June was warm and bright and we decided to ascend to Les Attelas (height 8800 ft.) by chair-lift and telecabine after lunch, giving ourselves about 2½ hours at the summit. Within minutes of arriving at the summit we had found clumps of primulas growing in the crevices of the rocks. I think they were *P. rubra*, but I have never before seen this species growing in such large clumps with such tiny leaf rosettes. They were covered with small reddish-purple flowers with comparatively large tubes. So small indeed were the flowers that they resembled more than anything in shape and size the blossoms of *Dionysia curviflora*.

One of the clumps has established and while it is bigger than it was in the wild, it is still much smaller than *P. rubra* collected at Kleine Schiedegg some years before. Another primula near at hand had large reddish flowers and I think it may be a variant of *P. rubra*. It too has established and should flower with me next spring. Perhaps then Dr. H. R. Fletcher may be able to tell me definitely what I have got.

While I was investigating the primulas my wife had wandered on out of sight. When I eventually found her she had seated herself on a rock because, she said, she had found something she had never seen before and she was afraid she would not have been able to find it again had she gone on. Nor had I ever seen it wild before. There at her feet was a whole colony of *Androsace glacialis (alpina)*. Each little plant, tight in growth and only about half an inch high, was absolutely covered by its clear pink flowers. Here was a find indeed. No wonder Farrer and Clarence Elliot waxed eloquent about this species! Greater joy still, I found a white form of it nearby. Both forms are alive in my garden now and each has a few blossoms, but the growth is more lax and the pink is not so good. Hope springs eternal and I shall reserve judgment until next spring. In the same area was *Gentiana imbricata*, which was in bud and which obligingly gave me ten of its dark blue, white-eyed flowers a fortnight or so after coming home. The small mossy saxifrages *S. moschata* and *S. aspera* were collected here too, and again they flowered after being potted up. I doubt whether they have any place in the rock garden, but they are interesting little plants. Another saxifrage, *S. androsacea*, was in full flower. Pure milky white blossoms borne singly on two-inch stems above rosettes of tongue-shaped leaves gave this species a rare charm in my eyes. I was told that it was biennial or at best monocarpic, but I am glad to say that both my plants are growing on beautifully after flowering. *Androsace obtusifolia* was also in full flower, but as I had it already I did not collect any. Yet another white flower, *Chrysanthemum alpinum*, looked wonderful on the mountain top with its large daisy-like flowers on four- or five-inch stems. I find it disappointing in the garden: it grows lax and looks quite ordinary. These then were some of the plants on the exposed summit. They were growing amongst short grass in peat which was full of small pieces of mica schist. At home I have no schist so I have given them a compost of peat, soil and granite chips. Time will tell whether this is right for them.

We intended to walk to the Lac des Veaux some four or five hundred feet below the summit, but we could not find a path. However, we

slithered down as best we could, tramping through melting snow and running water in the general direction of the lake, but small cliffs which we thought too perilous to descend prevented us from reaching it. We were then faced with the task of climbing back up this north-facing slope which was wet, sopping wet, from the melting snow which was still much in evidence in hollows. Panting and peching, two steps forward, one step back, we stopped to draw breath. And there was magnificent reward for our labour. Hundreds of *Ranunculus glacialis* in full flower and vigour were all around us. The big white buttercups were about the size of half-a-crown. What a glorious sight ! I took two which are alive and well, but whether I shall be able to flower them is another matter. Even if I do, I doubt whether I shall match the splendour of Mother Nature.

These are some of the plants seen and collected during my last two summer holidays on which, may I remind you, plant collecting was a secondary matter, but which was nevertheless enjoyable and satisfying.

For those who are interested, our hotel at Verbier was the Grand Combin. It is situated in the village in its own grounds. It is very comfortable, has good public rooms and the food was excellent.

May I remind readers that plants may not be brought into this country except under licence. Those resident in Scotland should apply to The Department of Agriculture and Fisheries, Broomhouse Drive, Edinburgh, giving a note of the country to be visited, dates of departure and return, and the name of the airport or seaport at which you will land on return.

#### GARDENER'S GOLD—THE CROCUS

Candle flame-like on a wintry morning  
 Richly lighting the carpeting snow  
 Opening bravely, the white scene adorning,  
 Chalice opulent, widely aglow,  
 Unfolding, spreading, gaily abandoning,  
 Scattering largesse, enriching the show.

JEAN ARRÉ

## New to my garden, Part VI

By D. M. MURRAY-LYON

I SHALL start this Part with two plants seldom seen in gardens though quite easy to grow and flower. *Bupleurum angulosum* is happy in moist but well-drained humusy soil in full sun. It belongs to the Umbelliferae, a family which does not produce many rock garden plants. This one, however, is I think suitable and attractive, and it certainly seems to catch the eye of any visitors who are 'flower arrangers.' From a bunch of shiny green laceolate leaves, narrow and four or five inches long, arise in July or August stems of a foot or so each bearing an umbel of greenish yellow saucer-shaped flowers.

*Campanula glomerata* var. *acaulis* is a compact dwarf form of *C. glomerata*, the flower stems being about 5 or 6 inches tall. Each angular stem carries a bunch of violet-blue flowers in late summer. While perhaps not wildly exciting, it is quite attractive, very easily pleased, and easy to raise from seed. It requires the same treatment as the *Bupleurum* alongside of which it is growing. It is widely spread throughout Europe, including Scotland.

I will now try to describe two other campanulas of quite different character and requiring quite different conditions.

*Campanula piperi* comes from the Olympic Mountains in the North West of U.S.A., where it grows in crevices in the granitic rocks. It is, I believe, a comparatively rare plant even in the wild. It is quite prostrate, and the small, glossy, spatulate leaves are sharply toothed, and form tufts from which arise short, wiry flower stems. Each stem carries usually one, but sometimes two flowers. The flowers are wide open stars of a darkish slatey blue with scarlet-crimson anthers. It has the reputation of being difficult in cultivation, but I have not found it so here to date—just luck, perhaps. My plants were raised from S.R.G.C. seed in 1962 and flowered in August 1963 and '64. They are growing in full sun in sharp scree containing a big percentage of boiler-ash. I have divided it successfully both in spring and late summer. It received an Award of Merit in 1932.

*Campanula ramosissima* (Syn. *C. drabaefolia*) comes from Asia Minor and is an annual. It grows as an open bush 9 or 10 inches high. The flowers, one to a stem, are quite large, violet-blue in colour with a white zone at the centre. I raised it from seed in 1963 and it flowered that summer. Self-sown seedlings flowered in 1964. It is a neat, dainty plant and worth its place in the scree or alpine meadow.

*Androsace x aretioides* has *Aa. alpina* and *obtusifolia* as parents and is frequently found in the wild in Switzerland and Austria. It takes after *A. alpina* rather more than after its other parent, although its neat tufts are a little looser than those of *A. alpina*. After three years my plant is between 3 and 4 inches across. The flowers are carried on inch-long stems just clear of the leaves, and they are rose-pink with a small yellow eye. It is growing in the same scree alongside *Campanula piperi* described above. A plant of it grown on the northern slopes of the Cairngorms got the Award of Merit in June 1963, that gives an idea of its hardiness. It could no doubt be propagated by cuttings, though I have not personally tried it as yet.

*Dianthus superbus* is not an alpine, but an inhabitant of the sub-alpine meadows of central and southern Europe, as its rather loose straggly habit suggests. It is also found in Asia, including Japan. In spite of its somewhat untidy growth there is something very attractive about it. It is particularly effective growing in a wall, although it will do equally well in a rather poor scree. The flowers are large with slashed and fringed petals of mauve or mauvey-pink with green spots near their bases. The flowers have a strong but pleasantly intriguing perfume. Light shade is sometimes prescribed for this plant, but here 600 ft. up in Perthshire it has no objection to full sun. It is easily raised from seed.

Another plant which looks well sprawling down the face of a wall is *Euphorbia myrsinites*. Although a native of southern Europe it seems to be cast-iron hardy. The succulent leaves are blue-grey, and the flower heads yellow. A rich soil will make it gross, poor sandy stuff is good for its figure. It is easy from seed, and soft cuttings in July/August strike readily.

Another plant which requires similar treatment to the last is *Euryops evansii* from the Drakensburg Mountains in South Africa. It is a dwarf shrub belonging to the Compositae and about 8 or 9 ins. high. Its upright stems are well clothed in small silver-grey leaves, and its yellow daisy-like flowers are canary-yellow. Altogether it is a most attractive plant. It seems to be really hardy, too, certainly it never turned a hair in the very severe winter of 1962-63. Propagate by cuttings or use the suckers which it sometimes produces.

Growing cheek by jowl with *Euryops* is *Alyssum ovirens* (Syn. *A. wulfenianum*) from the Alps of Ovit in Corinthia. It is probably at its best flopping down a rock face or over a rock ledge. It is a less obstreperous and a more refined plant than *Alyssum saxatile*. The

fleshy, rounded leaves have a slightly silvery sheen. The pale yellow flowers are produced freely over a long period in large bunches loose enough to show up the individual flowers. Cuttings strike easily.

Also growing in a south-facing wall with good well-drained soil for their roots are two Hebes. *Hebe lycopodioides* is one of the New Zealand Whipcord or Stag's Horn Moss 'Veronicas' to use the old name. It is a neat little erect shrub of about eight inches. The branches are closely covered with scale-like leaves of a yellowish green. It is attractive as a foliage plant, whether the clusters of white flowers at the ends of the shoots are an additional attraction or the reverse is a matter of opinion. It is easy in any well-drained soil in full sun, and cuttings strike without difficulty.

*Hebe* 'Carl Teschner' is a hybrid between *H. ellipticum* and *H. pimelioides* and a very attractive shrub which was given an Award of Merit last year. Unlike so many New Zealand plants, most of which seem to have white flowers, this has flowers of bright violet-blue. The flowers are freely produced, too, in spikes of eight or more. The Hebes belong to the family Scrophulariaceae. Propagate by cuttings or layers.

Next we will visit the Peat Beds. The first plant is another member of Scrophulariaceae, and a New Zealander again.

*Ourisia caespitosa* var. *gracilis* forms a ground-hugging close mat with small shiny green leaves. From this mat arise numerous thin, wiry stems each bearing a single white flower, most graceful and attractive. It is growing amongst dwarf ericaceae in full sun, except for a couple of hours around mid-day when it gets some dappled shade. Increase by division is easy.

*Isopyrum thalictroides* (Ranunculaceae). Farrer's description is probably better than anything I can say, so I quote: "In the woods of Switzerland and Central Europe dwells pretty little *Isopyrum thalictroides*, with dainty bright green thalictroid foliage a few inches high in early spring, and pearly stars of blossom—a delightful plant for any light woodland corner, where it rejoices in March and then gets promptly out of the way again until next year."

Two heathers new to my garden are *Calluna vulgaris* 'Corry's White' and *C. v.* 'Robert Chapman.' The former is a very tiny neat white heather under three inches high. The latter is notable chiefly as a foliage plant with the colour varying through the months—gold, bronze, orange and flame. It grows to a height of 18 inches and a good clump of it is really striking. The flowers are a soft purple.



To finish up with I wish to mention a rather dangerous ramper, but a very showy and attractive one.

*Acaena microphylla depressa* (Rosaceae) is probably the best of its family with brilliantly coloured ruby burrs in late summer. It is quite prostrate and its rose-like leaves are grey with a bronze tinge. On stone steps, or any other well-drained sunny spot, where it cannot over-run and strangle its smaller neighbours, it is excellent for cheering up a dull autumn day.

## Tiffany Meadows

By SALLIE D. ALLEN  
Seattle, Washington, U.S.A.

THOSE OF us in Seattle who dearly love the mountains feel indeed fortunate to be within a few hours drive of alpine heights where we can camp, fish, hike and explore our varied and interesting flora. Except in our National Parks, we are able to collect plants and bring them into our gardens in the hope of discovering the horticultural needs of many desirable subjects not available to us through nursery sources. The most popular trip for tourists and natives alike is to our glorious Mt. Rainier, elevation 14,408 ft., 80 miles to the south of us, whose spectacular snowy countenance never ceases to thrill us. An equal distance to the north, close to the Canadian border, we can visit Mt. Baker, elevation 10,750 ft., well-known skiing centre in winter, though in summer its snow-capped beauty is as appealing to me as the more publicized Mt. Rainier. In between these two major mountains is a section of the Cascade range where many intriguing Forest Service roads penetrate the wilderness of both the eastern and western slopes. These provide many other trips of interest, even though a number of them do not reach the higher elevations.

When the children were small we explored every road into the mountains on the western side within a day's round trip from home. The year they were ages two and four we ventured further afield to the eastern slope of the Cascades, spending the night in motels and exploring the roads by day. For years my husband had tried to persuade me to camp in this very different country, however my fear of rattlesnakes dampened my usually adventurous spirit. I must confess that since then we have roamed and camped east of the mountains

many times and never once have I seen the feared snakes, though I do treat the area with considerable caution and respect.

The following year we took the children camping for the first time, spending our entire two weeks vacation in the wilds. The first week we planned to spend in the Tiffany Meadows, an area we knew nothing about except it was high country, well east of the main backbone of the Cascades. This choice was made partly because we had never been there and partly because of my growing interest in the Genus *Cassiope*. From pressed specimens in the University of Washington Herbarium, I had discovered that *Cassiope tetragona* var. *saximontana* (often referred to as *C. saximontana*) was known from three stations in Washington, at high elevations of Tiffany, Rock and Birch Mountains. Tiffany and Rock Mts. are quite close together with a connecting ridge, both about 8000 ft. in height. The two camp sites listed were Tiffany Meadows, elevation 6200 ft. and Tiffany Springs, 6800 ft. Trails were well marked on our maps, none more than two miles in length to the top of the mountains. I had exact locations where herbarium specimens of the *Cassiope* had been collected previously, so could foresee no great problem in locating the desired plant.

The following notes are a composite of this and two other trips, the last one in September 1963. The plants I mention are by no means all of the desirable ones to be found, but for some reason particularly stand out in my memory. I shall err toward the Ericaceae family, because of my special interest in this fascinating group of plants, and because they do the best under the garden conditions which I have to offer them.

From our home in a suburban north-end area of Seattle it is a steady continuous six hour trip to the Tiffany Meadows. We prefer to go by way of Stevens Pass rather than Snoqualmie Pass, because the scenery is more rugged and beautiful to us. On the western slope of the pass the dark green of coniferous forest is broken only by rock and by different shades of green of deciduous trees, the underbrush predominantly *Gaultheria shallon*, ferns in variety, and sub-shrubs of various kinds. The overall impression is that of a cool, moist green which is especially impressive and welcome after a trip to eastern Washington. After crossing the summit of Stevens Pass going east, the Douglas Fir, Cedar and Hemlock give way to Ponderosa Pine, the underbrush is no longer present. In early spring the ground is alive with our lovely yellow *Erythronium*, *E. grandiflorum*, though in mid-July there is no evidence of their existence. Away from the

mountains the pine gives way to cultivated orchard country, where peaches, apples and pears are grown commercially. And beyond the orchards roll the barren brown hills. The weather is often clear and uncomfortably warm. Just short of the city of Wenatchee we turned north on the long hot drive past Lake Chelan to the little town of Winthrop in the Methow Valley. Perishable supplies are obtained at Winthrop before driving still further north and to the east on a good dirt road, winding its way up into the mountains.

As we gained altitude the trees were predominantly *Pinus contorta* and *Picea engelmanni*, under which *Arctostaphylos uva-ursi* or *Juniperus communis* grow. There is such a variation in form and colour of the Juniper, some open, sprawling or almost upright, while others make tight compact mats ; colour variation can be brownish, green, or with a bluish cast. Very seldom have we seen any small enough to collect because the stands can be twenty or thirty feet across. This time, however, we found a small seedling about six inches across, dense in habit and the bluish colour we so admire. It has maintained its colour and habit in the garden and has happily proved to be extremely slow growing.

The first glimpse of Tiffany Mountain would have been a disappointment to anyone expecting a spectacular glaciated peak, as there was no snow and no rugged rock formations. However, to us it looked quite intriguing and we were eager to explore the alpine slopes. We passed the Freezeout Ridge trail marker, the shortest route to the top of the mountain, which would be our first major hike of exploration. But first we must find a place to set up camp. The only two camp sites several miles beyond were already occupied, so we made camp beside a chatty little stream which cheerfully dashes this way and that through Tiffany Meadows. Our stove was a ring of rocks and our table was an ancient and honourable large suitcase which holds all the family clothing on our camping trips. I much prefer cooking over a wood fire to using our gas camp stove, so the metal rack from it was placed on the rocks, giving me an adequate make-shift stove. A fire was going shortly and while my husband and children were putting up the tent and establishing camp, I had chicken frying, fresh string beans cooking, a large vegetable salad in the making. The smell of food and fresh coffee perking were indeed tempting in the glorious mountain air.

Everywhere in the meadows were mounds of *Potentilla fruticosa* in bloom regardless of whether it was July, August or September,

beneath which *P. procumbens* spread its vine-like blue-grey foliage, looking much like a wild strawberry. A vivid red *Castilleja* species could be seen in splashes across the meadow which was perhaps a half mile in length. Under the Lodgepole Pine (*Pinus contorta*) close to our camp were continuous carpets of *Vaccinium scoparium*, the tiny alpine huckleberry. In summer the elfin pink bells are a delight to those who will look closely enough, and in the fall the small red fruit are sweet and tempting. After considerable searching, a small isolated plant was found and is now growing quite happily at the edge of stone steps leading into the upper portion of my Heather Garden.

We were up early the next morning, had breakfast, packed a lunch and drove to the Freezeout Ridge trail marker. There we parked the car and began our hike up through the rather open forest. Within about a half mile we were out on an open ridge which was gently sloping on either side. A small cream-coloured *Eriogonum* bloomed everywhere, accented by the cheery little bright yellow *Erigeron aureus*. This delightful composite formed neat small clumps consisting of densely packed spoon-shaped leaves; the flowers perhaps 3-4 ins. across were on 1 to 3 in. scapes. I have transplanted this to my garden several times; however, the slugs have done away with it in short order. Friends have succeeded with it, as I have seen it in a very sunny rock garden growing quite happily in a basic scree mixture. It is definitely of garden merit and would be worth any effort to establish.

As we looked toward the mountain we saw occasional clusters of trees and small jumbles of rock which were the only break in the gradual upward-sloping grassland. We explored each irregularity as we came to it and my hope of finding *Cassiope tetragona* var. *saximontana* diminished as it was truly an unlikely looking situation for Cassiope. We saw an occasional sad specimen of *Phyllodoce empetri-formis* well browsed by the cattle ranging the high country in small herds during the summer. The tinkle of the cowbells in the distance and our voices were the only sounds to break the stillness of the morning. We were making our way very slowly as the children were small and tired quickly, and finally stopped entirely in the shade of a small clump of trees to have our lunch. The trail ahead appeared very steep with many switchbacks to the interesting looking rocky top. I would judge it only about a half mile distance, but realized regretfully that the children would never manage to reach the top, and we would probably be lucky if they could make it back to the car.

My husband, realizing my disappointment at not finding my Cassiope, encouraged me to go on while he stayed with the children.

I welcomed the opportunity, foolishly thinking I could reach the summit of the mountain and return within the hour. However, the trail was far steeper than it looked from below and it was necessary to stop many times to catch my breath. In bloom was *Erigeron compositus*, one of my favourite alpine plants, even though I am unable to grow it successfully in my garden. It has attractive dissected tomentose foliage growing in tight little cushions, the white daisy flowers on inch scapes. With it grew *Saxifraga bronchialis* var. *austromontana* and *S. tolmiei* with its minute sedum-like leaves. The former is grown with considerable success here ; however, the difficult little *S. tolmiei* has never been cultivated as far as I know, although many of us have attempted it a number of times.

An hour passed entirely too quickly and I had still not reached my destination. It is always with considerable regret that one must turn back short of a goal, but in this case it would be hard to judge how much longer it would take. Instead of retracing my steps I returned by walking straight down ; it was steep but not dangerous. The entire slope I found was covered with *Dryas octopetala* in seed, a pleasant find as I had never come across it in the wild before. It was impossible to find plants small enough to collect among the three and four foot mats. The few rooted pieces I managed to extract did not establish in the garden, due mainly to my carelessness, I am sure.

Before reaching my family I noted a large jumble of rock some distance to my right that I felt should be explored. It was not an outcrop but rock that had fallen from the top of the mountain and lodged on the steep slope. *Aquilegia flavescens* was in bloom in the moss at the foot of a rock, looking like a nice yellow garden columbine, the foliage and flower not at all dwarfed by the high altitude. As I was absorbed in digging a seedling *Aquilegia*, I failed to note the dark green dense clumps growing nearby. When I became aware of them I was astounded to discover *Cassiope tetragona* var. *saximontana* ! They were past bloom but no less precious, as there were but a half dozen large plants. It has been my experience with *Cassiope* that it is very difficult to find plants small enough to collect. Here around each plant were dozens of little clumps 1½ ins. tall and as wide, easily extracted from the damp moss.

*Cassiope tetragona* var. *saximontana* in habit can be compared to *C. fastigiata* by being stiffly upright, the branches distinctly four-ranked and about the same size. The closely imbricated leaves have a deep groove up the back. Here the resemblance ends. The foliage

is a distinctive dark forest green, much darker than the rest of the genus with the exception perhaps of *C. tetragona* itself. However, my *C. tetragona*, collected for me in interior Alaska, barely exists in my garden, so no worthwhile comparison can be made. *C. t.* var. *saximontana* is difficult to establish in the garden but not nearly as obstinate as the species. So far the flowers have been few and disappointingly small ; however, the contrast of the pearly white bells against the dark green foliage is not without charm.

Having collected my prize, I happily returned to the family who were more than willing to return to camp. The children, who had been too tired to take another step up the mountain several hours before, led such a pace down that we returned to the car quite out of breath and in record time.

As soon as we reached camp the plants were removed from the plastic bags used for collecting and placed individually in make-shift containers fashioned out of aluminium foil, watered and located in a shady protected spot for the duration of our stay. I have never had any real success collecting plants bare rooted. It seems to me that the more natural soil that can be dug with each plant the better, as it will minimize the shock of transplanting.

From our camp we could view the more rugged north face of Tiffany Mt. and the Freezeout Ridge extending to the west. As we finished a late dinner we heard rumblings coming from the south and distant flashes of light shone in the clear sky. The storm approached quickly, the sky blackening ominously, the lightning frequent and the thunder deafening. We dashed to the tent, snatching anything needing protection as we went, just in time to avoid a drenching downpour and a sudden wind that we feared would blow the tent away. The storm raged for several hours, the lightning continuously illuminating our meadow, the thunder following so closely that it was a frightening experience. Susie, our eldest, is always profusely verbal in expressing her fear. Denny (no less frightened) in his typical manner clung to my hand, cuddled down in his sleeping bag, closed his eyes as tightly as possible, and went to sleep. Wind, rain, thunder and lightning passed away as suddenly as they had come, leaving in their place a bright moon and bitter cold.

The sunny morning brought a wondrous sight indeed ! Myriad crystalline raindrops clung to each tree, plant and shrub ; each frozen drop reflecting all colours of the rainbow. The meadow grasses glistened, every blade outlined with frost. The cooking equipment

and cups left out in our haste the evening before had collected the rain and a layer of ice had formed. There was no warmth to the sunshine, but a roaring campfire had hot coffee (made quickly on the gas stove) helped to combat the bitterness of the early morning.

A pleasant day trip is to hike from Tiffany Springs to Tiffany Lake where fishing is supposed to be good, although we had not heard any enthusiastic reports from any of the fishermen we had met. With lunch and fishing gear we drove to Tiffany Springs where we parked the car and began our hike to the lake. It always seems a bit discouraging to begin a hike at a promising elevation only to discover that the trail progresses gently downward, which was the case here. As we approached each bend I hoped that we would find the course taking an upward swing toward alpine heights where the tiny treasures of nature make their home. When it became obvious that this hope would not materialize, I thought—no matter—this was a picnic, a fishing excursion for the rest of the family, and a pleasant walk in the mountains on a delightfully warm sunny day.

Within an easy mile we had reached the lake, really picturesque with rugged mountains (Rock and Tiffany) opposite one another with a high connecting ridge to the south. The outlet to the lake and the upper end of Tiffany Meadows formed the fourth side. We crossed the meadow, finding spongy peat soil in which drifts of *Phyllodoce empetrifomis* and mats of *Kalmia polifolia microphylla* grew in close association. They have both easily adapted themselves to the conditions of my Heather garden where peat moss has been incorporated into the existing rather poor, but well-drained soil. In a situation of partial shade they have bloomed well each year, not requiring the boggy conditions under which they were found in their native habitat. *Kalmia polifolia microphylla* does lose its more prostrate habit, however, tending to grow upright to perhaps 4 ins., compact with less of a tendency to meander.

Despite my previous negative thoughts concerning the elevation I learned that there was indeed much of interest to be seen. There were several attractive small *Vacciniums*, I would judge, although I have been unable to identify them without either flower or fruit, and seedling *Ledum glandulosum* in quantity. The parent plants edged the entire meadow. I am extremely fond of the *Ledums*; however, this species appears to lose its previous year's leaves when the current foliage appears, giving a rather lanky open habit. So far the largest plant, 8 ins. tall, seems to sulk in the garden here, although some tiny

seedlings are coming on quite strongly. *L. glandulosum* appears to be very different from *L. g.* var. *columbianum* from the Oregon Coast, which in foliage looks like a dense small-leaved Rhododendron. Collected plants of the variety *columbianum* also differ by establishing easily in the garden.

We made our way across the spongy ground to the western side of the lake where the family stopped to try their luck at fishing. Susie cast her line a few feet from the shore only to swing immediately her trout pole in a wide arc over her head. Wiggling on the moss and *Kalmia* was the loveliest 10 in. rainbow trout one could possibly imagine. Amid screams of delight and the serious business of extracting said fish and re-baiting the hook, Mama took the opportunity to search the immediate area for interesting plants. Everywhere at the edge of the lake was *Cassiope tetragona* var. *saximontana*, large, small and in between, but unfortunately not in flower. An interesting note is that when this species seeds in the wild it seeds in clumps. I came upon what I thought were ideal-sized plants to collect, only to discover that each clump contained a dozen or so unbranched seedlings.

My husband and children were so beautifully occupied with their fishing success that I began to explore the rock slide to the west of the lake. There was no trail, and for the sake of safety I kept to one side of the slide, climbing a very steep hill. When I ventured as high as possible where the rock formed vertical walls, I was forced to stop, giving me the opportunity to observe the flora in this extremely steep grassland. In bloom was a dainty light pink form of *Penstemon procerus* var. *tolmiei*. The type plant is purple with reddish calyx. Close by were multitudes of dear little nodding onions, probably *Allium cernuum*, 6 ins. in height, ranging in colour from white to deep pink and all shades between. As I sat looking around me I noted a deep blue, rather weedy annual gentian, attractive in its native habitat, but rather nondescript for the garden. Other things past bloom were a fine-leaved *Polemonium*, an *Aquilegia*, probably *A. flavescens*, and quantities of *Saxifraga bronchialis* var. *austromontana* in impossible rock crevices above me. There were a few plants of the extremely interesting *Geum ciliatum*, with nicely dissected downy leaves and curious urn-shaped drooping purple flowers also covered with soft hair. It transplants very well to the garden and thrives in full sun without any special soil mixture.

It seemed that I looked straight down on my family, appearing the size of ants moving at the lake-shore below me. From time to



time I heard squeals of delight which meant another trout had been landed. Upon my return I found a very excited Susie with seven trout to her credit. After our picnic lunch we walked around the lake, occasionally meeting fishermen who had had no luck whatsoever. The pride of one small girl swelled even more and we now have a confirmed fisherman who leaps to the call, "Shall we go on a camping trip to the mountains?"

At the far end of the lake we saw where the trail began, leading to the ridge, branched one going to the summit of Rock Mt., the other to Tiffany. There was no time to further explore as we must return to camp, pack, have an early supper and begin the homeward drive, avoiding the heat of the day in the valleys, by taking advantage of the long cool evening. Thus we turned our backs on the inviting way to the high country, regretfully, but with hopes, dreams and plans for a future holiday trip to Tiffany Meadows.

## George Forrest Medal Plants

By F. CYRIL BARNES and HENRY TOD

### (a) THE PLANTS

In a most informative article<sup>1</sup> Major-General Murray-Lyon tabulated and analysed the awards of the George Forrest Memorial Medal made in the first twenty years of the Club's life. Another ten years have now elapsed during which the number of awards has increased greatly. By 1940 the medal had been gained only 14 times; by the end of 1954, when the figures were last tabulated, the number had risen to 46: it now stands at the end of 1964 at 122. This opportune moment has therefore been seized to bring the schedules up to date, in the hope that the facts will prove of general interest to members and of more particular interest to contenders for future Forrest Medals.

The rule under which the Medal is awarded provides that the Medal "may be awarded to the most meritorious plant or pan of rock plant(s) (one variety) at each Club Show . . ."<sup>2</sup> At a number of Shows during the early 1950s the Medal was not awarded, but a record has survived of the plants adjudged "best in the Show." For completeness sake a list of these is appended, but as they are not "Forest Medal plants",

<sup>1</sup>S.R.G.C. *Journal*, Vol. IV, Pt. 3, No. 16, p. 257.

<sup>2</sup>*Editor's Note*.—"except that it shall not be awarded more than once in any one year to the same species or hybrid."

they have not been accounted for in the schedules or commented on in the text.

The number of families represented has increased during the ten years from 15 to 25, a small increase as there are still some apparent *lacunae*: not a single amaryllid, conifer, crucifer, labiate or legume, to go no further, has made the grade. The number of genera has increased rather more in proportion from 24 to 46, but of the newly-represented genera only one, *Cyclamen*, has gained more than two awards.

Of the families<sup>3</sup> of the newly-represented plants there is little to be said, for all are basically of northern temperate distribution: indeed, all families are represented in the native flora of Britain with one exception, and that latter has long been a colonist. When it comes to the general<sup>4</sup> the picture is changed considerably, for barely half the genera are represented in Europe, let alone the British Isles. But what is more remarkable is what one might call the peripheral distribution of these plants, because they come from New Zealand, Japan, U.S.A., Patagonia, Morocco, South Africa. In other words, almost from everywhere but the two great centres of interest to Alpine Gardeners since they first discovered their hobby—the Alps of Europe and the Sino-Himalaya. This is rather surprising in one way because one of the most-heralded and justifiably lauded plants, a winner in the top-ten on occasion, *Gentiana sino-ornata*, is still if one may so term it “un-Forrested”: how this can come about unless it is that the supporters of North Berwick Show have assumed that it has already won previously that year is beyond comprehension.

Equally remarkable is the change of attitude toward hybrids, natural or man-made: until 1955 not one had been recognised, but in the subsequent ten years 10 awards have been made to hybrids, including three—*Cassiope* “Muirhead”, *Lewisia* “Trevoseana” and *Saxifraga* “Jenkinsii”—which have won the award twice. The family Primulaceae has held on to its overall lead in popularity, increasing its representation from 22 to 43, but Ericaceae is coming on fast with a spurt from 8 to 27, Rhododendrons doing particularly well with 5 awards in the last two years. *Campanula*, *Dianthus* and *Gentiana* have done surprisingly poorly, with only five awards between them in

<sup>3</sup>Campanulaceae, Compositae, Crassulaceae, Gentianaceae, Iridaceae, Orchidaceae, Oxalidaceae, Polemoniaceae, Rosaceae, Rubiaceae.

<sup>4</sup>Anacyelus, Anchusa, Anemone, Asperula, Campanula, Crassula, Crocus, Cyclamen, Cypripedium, Epigaea, Eritrichium, Gentiana, Kelseya, Oxalis, Phlox, Pleione, Raoulia, Schizocodon, Sedum, Veronica (Hebe).

thirty years ; the case of *Gentiana* is remarkable in view of the special suitability of Scottish conditions, for at least the Asiatic species, though it must be admitted the normal Show dates do militate against this genus.

There is a belief that certain plants know their own way to a Show and, indeed, to a Forrest Medal. There is, perhaps, a modicum of truth in this inasmuch as 30 of the awards have gone to a plant which had already received the same accolade, though in previous years. Usually it has been a different specimen, shown by a different exhibitor, and the dates are anything up to eighteen years apart.

Eighteen plants have gained the award twice, four three times, and one, *Androsace imbricata*, no less than five times, though three exhibitors were involved over a period of 13 years.

Though the Awards are widely spread amongst the plants, they are rather less so amongst the exhibitors, as over the years only 48 individuals have been possessors of the award-winning plants. Statistically it would appear that if one is skilful or fortunate enough to win once, then it is likely that one will finish up with three or more Forrest Medals. This, of course, merely emphasises the truism that there are many more superb plants than superb cultivators. What is most encouraging is that, though the record is concerned with the past thirty years, at least 60% of the award winners are not only still with us, but showing regularly : indeed, a goodly proportion are recent recruits to the winning ranks and so stimulated should, it is to be hoped, continue to adorn the show benches for many a long year.

As this Club is concerned with the cultivation of rock-plants rather than that of personalities, it would be perhaps invidious to tabulate the winning exhibitors as fully as has been done in the case of the plants. Even so, to save members with a curious frame of mind a fair amount of trouble and delay, those exhibitors who throughout the years have amassed more than the average of three awards are as follows :—

H. Esslemont	..	..	..	19
J. Drake	..	..	..	13
Mrs. Boyd-Harvey	..	..	..	10
Major and Mrs. Knox Finlay	..	..	..	5
Major and Mrs. Walmsley	..	..	..	5
Mr. and Mrs. J. T. Renton	..	..	..	4
J. Crosland	..	..	..	4

For the record there are also four exhibitors with 3 wins, thirteen

with 2 and twenty-four, who for the most part we are glad to say, are awaiting an early opportunity to add to their first laurels. In spite of Mr. Drake's valiant effort "The Trade" have rather fallen behind, as they have managed only to double their acquisitions whereas the amateurs have trebled theirs. Many conclusions could be drawn from this fact ; let us hope, with reasonable expectation of belief, that the reason is the widening interest and increasing skill of members, which cannot do other than redound to the credit of the Club and be of some value to our members in "The Trade".

*Legend*

A = Aberdeen	E = Edinburgh
Df = Dunfermline	G = Glasgow
Dd = Dundee	P = Penicuik
Dm = Dumfries	Ph = Perth
	NB = North Berwick

## BORAGINACEAE

<i>Anchusa caespitosa</i>	E 62	H. Esslemont
<i>Eritrichium nanum</i>	A 58	H. Esslemont
<i>Mertensia coriacea</i>	G 48	J. Drake

## CAMPANULACEAE

<i>Campanula morettiana alba</i>	NB 63	H. Esslemont
— <i>zoysii</i>	NB 60	Mrs. Boyd-Harvey

## CARYOPHYLLACEAE

<i>Silene hookeri</i>	E 40	Dr. A. O. Curle
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## COMPOSITAE

<i>Anacyclus depressus</i>	E 57	Mrs. R. Tweedie
<i>Raoulia eximea</i>	NB 64	H. Esslemont

## CRASSULACEAE

<i>Crassula sarcocaulis</i>	NB 62	Mr. & Mrs. Baillie
<i>Sedum ewersii</i>	Ph 57	Major-Gen. Murray-Lyon

## DIAPENSIACEAE

<i>Schizocodon soldanelloides alpinus</i>	E 59	H. Esslemont
<i>Shortia galacifolia</i>	E 37	Major Walmsley
— <i>uniflora grandiflora</i>	A 56	H. Esslemont
— — —	Dm 60	Dr. & Mrs. T. R. Stuart

## ERICACEAE

<i>Cassiope lycopodioides (as rigida)</i>	Dm 53	Mrs. D. E. McConnel
— —	Dd 54	J. Drake
— —	D 62	N. Brown
— <i>mertensiana</i>	G 57	J. Drake

—	x “Muirhead”	E	55	Major & Mrs. Knox Finlay
—	x —	A	62	J. Drake
—	selaginoides	E	52	J. Drake
—	—	G	59	W. Urie
Epigaea	asiatica	Dm	56	Major Walmsley
—	repens	G	64	Mrs. Slack
Kalmiopsis	leachiana	E	50	R. B. Cooke
—	—	Ph	53	Major & Mrs. Walmsley
—	—	P	60	J. Archibald
Phyllodoce	empetriformis	Dm	57	King & Paton
—	nipponica	E	46	Major & Mrs. Walmsley
Rhododendron	cephalanthum v.			
	crebreflorum	E	63	Brigadier Hutchinson
—	forrestii v. repens	E	36	Mrs. & Mrs. J. T. Renton
—	hanceanum v.			
	nanum	Ph	61	J. Crosland
—	imperator	G	38	E. Darling
—	keiskei	Dm	58	W. Urie
—	leucaspis	Dm	63	Brigadier Hutchinson
—	ludlowii	Df	64	J. Crosland
—	pemakoense	Dm	64	Brigadier Hutchinson
—	trichostomum v.			
	ledoides	Df	55	Maryfield
—	yakusimanum	A	64	Dr. H. Robertson
Rhodothamnus	chamaecistus	G	47	Major & Mrs. Walmsley
—	—	G	56	J. Archibald

## GENTIANACEAE

Gentiana	gilvostriata	NB	58	Mrs. Cawley
—	x “Inverleith”	NB	56	Mrs. Bell

## GESNERIACEAE

Jankaea	heldreichii	Ph	51	Bannatyne & Jackson
—	—	Df	61	H. Esslemont
Ramonda	pyrenaica (= R. myconii)	Df	59	Maryfield Nurseries

## IRIDACEAE

Crocus	taurii	Dd	58	Major & Mrs. Knox Finlay
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## LILIACEAE

Nomocharis	aperta	E	35	A. Harley
—	—	E	39	A. Harley

## OLEACEAE

Syringa	microphylla	G	53	Bannatyne & Jackson
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## ORCHIDACEAE

Cypripedium	calceolus	A	59	Miss Pape
—	—	Df	62	Mrs. Boyd-Harvey
Pleione	limprichtii	E	60	J. Drake

## OXALIDACEAE

*Oxalis laciniata* Df 58 Mrs. Boyd-Harvey

## PAPAVERACEAE (FUMARIACEAE)

*Corydalis cashmeriana* G 49 Major & Mrs. Knox Finlay

## POLEMONIACEAE

*Phlox triovulata* Df 60 H. Esslemont

## PORTULACACEAE

*Lewisia columbiana rosea* E 54 J. Drake  
 — cotyledon hybrid Ph 63 A. S. Watson  
 — x "Trevoeana" Df 57 Mrs. E. D. Wilson  
 — x — Df 63 H. Esslemont  
 — tweedyi A 55 Colonel Stitt

## PRIMULACEAE

*Androsace ciliata* G 34 Dr. W. Buchanan  
 — imbricata Dm 50 D. Livingstone  
 — — G 58 H. Esslemont  
 — — Ph 59 H. Esslemont  
 — — E 61 H. Esslemont  
 — — A 63 J. Crosland  
 — pyrenaica Dm 52 H. Archibald  
*Cyclamen neapolitanum* NB 57 Mrs. Boyd-Harvey  
 — — NB 61 Mrs. Boyd-Harvey  
 — — album NB 59 Mrs. Boyd-Harvey  
*Dionysia curviflora* G 54 A. D. Reid  
*Douglasia laevigata* G 46 Dr. H. Tod  
 — — E 64 Mrs. Maule  
*Omphalogramma vincaeflora* E 34 Mr. & Mrs. J. T. Renton  
 — — A 50 J. Drake  
*Primula allionii* Dm 54 Mrs. D. E. McConnel  
 — — Dm 62 H. Esslemont  
 — — G 63 H. Esslemont  
 — aureata Dm 49 D. Livingstone  
 — — A 60 Dr. H. Robertson  
 — boothii Dm 51 Longmuir & Adamson  
 — calderiana Dd 64 Dr. & Mrs. T. R. Stuart  
 — cusickiana P 57 K. C. Corsar  
 — dickieana Ph 50 Mr. & Mrs. J. T. Renton  
 — kingii Dd 56 Major Sherriff  
 — x "Linda Pope" Dd 62 Dr. H. Robertson  
 — x "Pandora" P 62 H. Esslemont  
 — reidii G 51 Edrom Nurseries  
 — reptans E 51 R. S. Masterton  
 — — Dd 60 J. Drake  
 — rockii E 53 A. D. Reid  
 — rubra x viscosa A 61 J. Crosland

—	scapigera	G	37	Mr. & Mrs. J. T. Renton
—	sonchifolia	E	49	Major & Mrs. Knox Finlay
—	—	Dm	59	Edrom Nurseries
—	tibetica	A	52	Mrs. Boyd-Harvey
—	wattii	G	52	J. Drake
—	whitei (as bhutanica)	G	50	D. Livingstone
—	—	P	61	H. Esslemont
—	whitei	P	63	W. Dudgeon
Soldanella	montana	G	55	J. Drake
—	—	A	54	J. Drake

## RANUNCULACEAE

Anemone	obtusiloba patula	G	60	J. Drake
Aquilegia	scopulorum	G	40	G. F. Laurie
Paraquilegia	anemonoides	A	51	Mrs. MacDuff Liddell
—	—	E	56	Major & Mrs. Knox Finlay
—	grandiflora	G	39	Mrs. Halley-Brown

## ROSACEAE

Kelseya	uniflora	Dm	55	Dr. H. Tod
—	—	E	58	H. Esslemont

## RUBIACEAE

Asperula	arcadiensis	A	57	H. Esslemont
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## SAXIFRAGACEAE

Saxifraga	aretioides	G	35	E. Darling
—	x "Jenkinsae"	P	58	Mrs. Boyd-Harvey
—	—	P	59	Mrs. Boyd-Harvey
—	lilacina	P	64	H. Esslemont

## SCROPHULARIACEAE

Calceolaria	darwinii	Ph	52	J. Drake
—	—	Df	56	Mrs. Boyd-Harvey
Veronica (Hebe)	tetrasticha	Dm	61	Dr. M. E. Gibson

## THYMELAEACEAE

Daphne	collina	G	61	W. Urie
—	petraea	E	48	H. Archibald

## VIOLACEAE

Viola	delphinantha	G	36	Mrs. Halley-Brown
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## AWARDS TO "BEST PLANT IN SHOW"

Linnaea	borealis	Df	52	Major-Gen. Murray-Lyon
Calceolaria	darwinii	Df	53	A. D. Reid
Saxifraga	"Tumbling Waters"	Df	54	C. J. Halley
Tecophilea	cyanoerocus	P	54	Dr. H. Tod
Dendrobium	monile album	P	55	Dr. H. Tod
Saxifraga	bursariana crenata	P	56	Mrs. Boyd-Harvey
Tunica saxifraga	f.p. Haddington		51	Mrs. Peel
Saussurea	stella		53	Dr. H. Tod
Gentiana	veitchiorum		54	Mrs. Peel
Daphne	arbuscula	Aberdeen	53	Mrs. Cozens-Hardy

## (b) ALPINE HOUSE VERSUS OPEN GROUND

There has been a lot of discussion as to the importance of an alpine house in the production of Forrest-Medal-quality plants and

this seems to be a suitable time to study the importance or otherwise of protected cultivation in the growing of really high-quality show plants.

It is often argued that only those who can afford an alpine house can reach the top levels of exhibits, but this is very much a part-truth. Those exhibitors who concentrate on growing in an alpine house have, in general, a relatively smaller amount of plants to look after than those who work in the open garden. Accordingly they can give more attention to individual plants and hence the condition of those plants will tend to be rather better. At the same time, it must be realised that it is very much easier to grow plants *well* in the open ground and give them a little extra care if it is needed than it is to grow them in pots, for the open soil seldom allows any extreme conditions of wetness or dryness, of very low or very high temperature, and this cannot be said of the alpine house. In the winter of '62-'63 the number of casualties in the alpine houses up and down the country was infinitely greater than in the open garden<sup>5</sup> and most probably the same would be found in a really hot summer. Further, an alpine house is not essential, for one of our most notable exhibitors in the past grew his absolutely superb plants in a series of cold frames of varying quality and uncertain vintage in the small back garden of a Council house.

In my own view (H.T.) the degree of expertise required to grow ideal exhibits in an alpine house is very much higher than in the open ground, the amount of patience and care required is also considerably greater, and it is infinitely easier to make serious mistakes which may nullify years of work when growing in protected cultivation.

Honour where honour is due surely—for if greater skill and care is demanded, should not the award be higher? Another argument often brought forward is that the rare plant which can only be got by “those and such as those” will always take a premier award over a less rare one. In the lists given above it will be seen, on careful perusal, that the number of real rarities gaining Forrest Medals is very small, for most of the plants in it are listed in the Club's Seed Distribution or else available as plants from the Nurserymen at a few shillings. What is often not realised is that the really keen grower may grow a real Show plant for three, five or even nine years without it ever seeing the show bench. Then, when it is at its real peak of perfection it is brought forward—should it not then gain an award?

In the following analysis of open or protected cultivation, a few of the entries are conjecture based on the knowledge of one of us

<sup>5</sup>Personal communications to H.T.

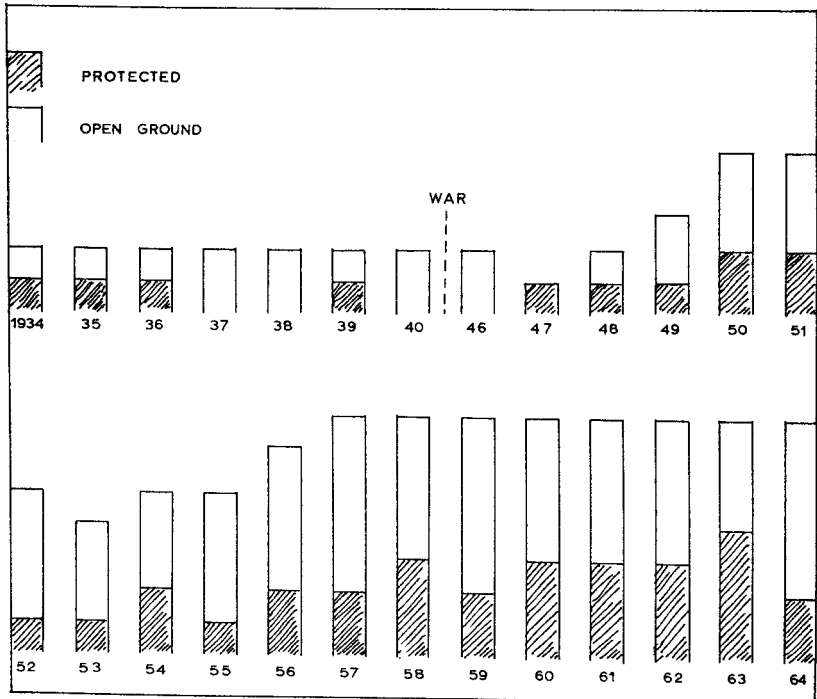


(H.T.) of the methods used by the exhibitors who are now dead or inaccessible, but these are few and far between and mostly relate to early awards.

In the 122 Shows examined, 30 exhibits gaining the Forrest Medal had been grown in the Alpine House or in Frames, i.e. protected cultivation, and 83 in the Open Ground. These are 32% and 68% respectively and show that the open ground plant has better than double the chance of the one grown under protection. In the additional list, i.e. "Best in Show", the figures are six open ground and four protected.

These results are shown in chart below, where the shaded column represents the number of Medals gained each year by protected plants, and the open column those plants grown in the open ground and gaining Medals. The full length of each column represents the total number of Shows in that year at which Forrest Medals were awarded.

It will be seen that the ratio does not change very much from year to year after the year (1950) when the Shows increased to nearly their steady number of eight per year, as at present.



## Viola Delphinantha and its Relatives

By JAMES DAVIDSON

“THIS IS by far the finest alpine I have ever seen”. So wrote Herr Schacht of Munich a number of years ago, and it would appear to be only too true.

I shall never forget our first sight of this beautiful plant in flower high up in a great limestone cliff on Mount Olympus in Thessaly. In the distance it had the appearance of a geranium, but field glasses immediately proved it to be otherwise. We then saw another plant much lower down the cliff, but again we could not reach it because of a deep pool in a stream flowing along the base of the cliff. However, we felt we were within the vicinity and so would probably come across it again. Our hopes were realised when some time afterwards we found a small group more conveniently situated on a narrow ledge of only a moderately high cliff. We could reach it there and even photograph a plant in flower, but not without some difficulty. Apart from the flowers it did not in any way resemble a viola. It had a shrubby growth and rather a low spreading habit with woody stems which looked old and twisted. The leaves were small and narrow and gave the impression of being arranged in whorls along the stems. However, there was no mistaking the large, bright pink flowers, each with a long spur, as belonging to the *Violaceae*.

The very long spur is an outstanding feature of this ancient species, but out of flower it would have been impossible to recognise it as a viola. The roots are usually deeply embedded in the narrow clefts of limestone cliff which make it extremely difficult to remove. This can only occasionally be done after a considerable amount of time. It is a rare plant and we certainly did not find it in any quantity. Apart from Mount Olympus, *Viola delphinantha* also occurs on Chelmos, which is south of the Gulf of Corinth, Athos, and Ali Butusch in Bulgaria near the frontier with Thessaly in northern Greece.

*Viola kosanini* is a close relative in the same group. It again is very rare, and the late Dr. Guiseppi has described how he found it only in one area in Albania a number of years ago, where he saw only a few plants. He describes it as having flowers like *V. delphinantha* and *V. cazorlensis*, but the spur is short and fat.

*Viola cazorlensis*, the third of the group, comes from the Sierra Cazorla in Spain. Why this considerable distance from the Balkans ?

It is similar to *V. delphinantha* and in fact has been described as one of the most beautiful plants in the world. *V. delphinantha* is wholly saxatile on the cliffs, whereas *V. cazorensis* as well as being found on cliffs also occurs on the ground at the foot of the cliffs and in moss. It would appear to be more floriferous than *V. delphinantha* and easier to grow. *V. delphinantha* is a difficult plant ; in fact, it has been said that it is impossible to import it alive to this country, but that was disproved when we returned to Britain with it two years ago.

I have not as yet seen *V. cazorensis* or *V. kosanini*, but they are said to be of great beauty, similar to *V. delphinantha* though varying in difficulty of culture. The three species constitute the sub-section Delphinoidiae of the Violaceae.

The derogatory remarks by the late Reginald Farrer in "The English Rock Garden" regarding *V. delphinantha* are much to be deplored and only go to show how ridiculous it is to pass judgement on a plant which he had obviously never seen !

#### FLOWER PIECE

Snowdrops appear in delicate tenderness  
 'Neath bare branches of o'erhanging trees,  
 Opening again our eyes to Spring's fresh loveliness  
 With promise of coming warmth and summer breeze ;  
 Drooping their heads they bend to Mother Earth,  
 Radiantly white, on slender stems pale green,  
 Or star-like signalling a message of re-birth  
 Proclaiming hope : "Forget the might-have-been !

JEAN ARRÉ

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## Plant Notes

### Gentians in West Surrey

THESE NOTES only apply to my own garden, but I thought they would be of interest to members and perhaps explain a little the difference in quality of southern-grown gentians from those grown in Scottish gardens.

The rate of growth is much slower, and the number of flowers is less. Autumn flowering plants flower earlier, so do not suffer from frost. Higher altitude plants that have a thick snow covering in their natural habitat are the better for a perspex covering during winter.

Conditions such as "will do well in full sun on scree in an open site" do not apply, at least in my garden : I lost three plants the first year through obeying those directions. Open sites and good drainage, yes, but the scree, no. This is because the sun reflecting back off the gravel dressings dries up the leaves and underground the moist conditions become humid and set up root rot, and you quickly have a weak plant which is a prey to all the local pests.

The best site for all gentians is a sunk bed. Choose a site that gets shade at mid-day and dig out a bed about two feet deep, and fill for about one foot with peat and compost and water it well ; that is the base, then you can make the pockets to suit yourself—grit and a few big stones for those that like that mixture.

I grow *Gentiana sino-ornata* in the middle of such a bed. *G. acaulis* 'Maxima' on a sunny side of the bed on a slight slope. 'Inverleith' the same as for *G. sino-ornata*. *G. stragulata* in a gritty pocket, and *G. cachemirica* will have rocks placed for it to tumble over. They are all growing quite well, but require care such as watering in the summer and during day time in spring. But put alongside Scottish-grown plants they would not match up.

I think it is the cool air and ground they need, and that can be given by using sunk beds.

Milford, Surrey.

I. LIMONT

Dear Sir,

I want help ! Are there any members growing valerianas in their gardens ? Where did they get them and which valerianas ? Several years ago I decided to acquire some. It's been easier said than done. There are others but only *V. arizonica* is all of my collection. At times

*V. celtica* is available from the Seed Exchanges, but for some reason the seed never germinated. Why not ? Must the seed be fresh ? Does it lose vitality quickly ? Is it ever collected in the wild ? I do not recall ever seeing an article on valerianas either praising or damning them. They are ignored or are mentioned as part of some mountain's flora ! Are they so easy of culture, they offer no challenge to a gardener ?

I like my little *arizonica*, the fragrance of the small blooms is delicious. Root aphids will attach themselves and cause the plant to wilt. Otherwise, the plant is not demanding.

37605 Lakeville,

VALERIA LAKING

Mt. Clemens, Mich. 48043, U.S.A.

#### SHORT NOTES ABOUT SOME SEEDS OFFERED FOR DISTRIBUTION

*Aloe polyphylla*. This, of course, is *not* a true rock-garden plant, though it is quite certainly the hardiest species of the genus, as well as one of the most striking. Seed offered was collected in the Drakensberg Mountains of Basutoland ; the plant climbs to 6000 and even 7000 ft., where it is submitted, in winter nights, to temperatures down to 14° F. (—10 C.), and under. But it must be remembered that, if Basutoland's summer *can* be wet, winter is very, very dry. A more complete account of *Aloe polyphylla* is due to appear shortly in the Journal of the Royal Horticultural Society, under the pen of Mrs. L. Kofler, who collected the seed.

*Colchicum ? Bowlesianum*. The seed so tentatively named was collected by myself near Lithochoron, at the foot of Mt. Olympus ; corms dug at the same time flowered at Grenoble, at the end of September last, and the flowers did quite agree with *C. Bowlesianum* ; but we must wait until the leaves appear to be sure of the name.

*Ligularia macrophylla*. This plant, raised from seed collected in the Altai Mountains, is not a rock garden plant ; but its massive, glaucous leaves, and its spires of yellow flowers towering to 10 feet or more, make of it a spectacular plant for the edge of a pond or lake ; it needs plenty of moisture (see frontispiece).

*Lupinus stenophyllus*. I thus named a species lupine received from Dr. C. R. Worth without a name ; the seeds were collected at Story, Wyoming. The plant is quite distinct from the common rush of lupines, making a small bush of 2-3 ft., with small, greyish-silky leaflets, and smallish flowers of blue and white, produced in endless succession in summer, as the twigs branch repeatedly. It proved quite hardy at Lautaret, in well-drained soil, neutral.

*Mimulus* ? *Langsdorfii*, *forma*. This, received un-named from Dr. C. R. Worth (No 130-60) who collected it in Utah, is very similar to another yellow *Mimulus* which came, un-named, from the Kittitas Co. in Washington, and has been named by us *M. langsdorfii* ; number 130-60 differs only in being much shorter in stature ; both seed freely. *Polemonium delicatum* and *P. ? pulcherrimum*. The former was received from the Wenatchee Mts. in Washington, under the name of *P. pulchellum*, but the true *P. pulchellum* of Bunge is quite another thing. *P. ? pulcherrimum* was collected by Dr. C. R. Worth in Montana, under No. 111-61, with no name ; it looks very akin to *P. pulcherrimum* as described by Rydberg, and could be a form of it. Both are good, and both are very close to *P. haydenii*.

Grenoble, France.

R. RUFFIER-LANCHE

#### DAFFODIL—FREAK ?

GLANCING casually from the window towards a miniature pool I had made in the previous autumn, my attention was arrested by a single daffodil flowering at the margin. It was not merely its solitary state which attracted me—I realised there was something unusual about it. On closer examination I found the explanation—it had seven petals ! (Photo in black and white sent to the Editor.) Since then (1958) I have seen daffodils with an extra petal in four different situations in the garden, and one flower having eight petals which I 'recorded' by colour transparency. Is this occurrence quite common, and can 'the experts' suggest the explanation ? (fig. 51).

J. R. A.

#### A CURIOUS SAXIFRAGE

THIS Saxifrage was grown from seed collected from *Saxifraga longifolia* 'Tumbling Waters'. Although this variety does not come true from seed, it may produce some interesting hybrids with other forms. When the rosettes were about  $1\frac{1}{2}$  inches across they were planted in a vertical wall.

In the summer of 1964 some of the rosettes sent up sparsely clad flower spikes, poor shadows of the cascade of bloom on the parent. But in addition to the flowers each stem produced, in every leaf axil, a rosette of leaves about the size of a sixpence, which appeared to be identical with the normal basal offsets. These have been removed to a sand frame for propagation. It would be interesting to hear if other members have seen similar rosettes in forms of *S. longifolia*. (See figs 52 and 53).

K. S. HALL

## TWO HARDY ORCHIDS

*Nigritella angustifolia* (Syn. *N. nigra*), the 'Vanilla Orchid', is spread widely over the mountains of Europe at heights of 5000 to 8000 ft. The leaves are small and grass-like and grow in tufts in the alpine turf. The 3 to 5-inch flower stems carry conical spikes crowded with many small flowers of deep red, almost black in fact in some lights, hence the synonym above. The flowers have a distinct scent of vanilla. The tubers are divided like a hand.

*Nigritella angustifolia* var. *rubra* has flowers of a lighter red and is found in the Eastern Alps only. In the Western Alps its place is taken by *N. a.* sub-species *corneliana*, which has rose-coloured flowers. *N. angustifolia* and var. *rubra* have settled down here in a fairly rich acid scree. Some flowered the first year after planting, some not till the following year. *N. a.* s.s.p. *corneliana* has not yet flowered. In spite of the flowers being rather stiff, perhaps, there is something attractive about them. Perhaps this is partly due to snob value.

In nature *Gymnadenia conopsea* is often found growing beside *N. angustifolia* and natural hybrids may be found among them.

★   ★   ★

*Orchis sambucina*. This orchid also has a wide distribution throughout the Alps, and even extends as far as the Caucasus. It is found at heights varying from 1500 to 6000 ft., so it ought to be fairly adaptable. It is larger in all its parts than the Nigritellas, has plain green leaves up to 4 inches in length and 1½ inches wide, and flower stems up to 9 inches high. The flowers are larger and carried in a larger but looser spike, and the colour is primrose yellow. There is also a red form, but it is reputedly rare and I have never seen it. *O. sambucina* is found in rather moister situations than the Nigritellas, and it seems to be settled down here in my Peat Beds. The tubers are usually 2- or 3-lobed, though some, possibly young ones, are long and undivided. A pan of *O. sambucina* received the Award of Merit at the Dundee Show in 1964.

All the orchids described flower here in April/May, but June/July is probably the best time to see them in the Alps.

Perthshire.

M-L.

## VERONICA ARMENA

THIS IS one of the most attractive of all Veronicas suitable for the rock garden and, like most of the Genus, is evergreen. The rootstock is woody, but the long, radiating stems are soft and quite prostrate, and

the leaves, which are branched, and as fine as needles, have a delightful feathery effect. Flowers of bright, pure blue are produced in small clusters over a long period. The plant is said to require a warm, light soil, but it would appear to be indestructably hardy, for it has flourished in this garden (altitude 1000 ft.) for over ten years with no protection, and very little attention.

Peebles-shire.

C. E. D.

#### VERONICA FRUTICANS (syn. *V. saxatilis*)

ALTHOUGH well-known, this plant deserves to be seen more often than it is in the gardens of alpine enthusiasts. Widely distributed through Europe, it occurs only rarely in Scotland, and is limited to a few stations in the Highlands. Many years ago, we found one plant in the Glen Clova district—a straggling, sparsely-flowered, rather dispirited thing, which did not in the least tempt us to commit the unpardonable crime of uprooting a rare Scottish native. Some time later, however, we were given a small plant, and soon realised that we had acquired a treasure. In rich scree, it took kindly to cultivation at once, and has developed into a neat, sturdy bush, five or six inches high. The small, ovate leaves, which are retained through the winter, have a silvery sheen and are very attractive. The numerous flowers, in terminal clusters, are vivid, gentian blue with a noticeable red ring on the white eye. Seed is set in abundance and germinates readily.

Peeblesshire.

C. E. D.

## Group Reports

### EDINBURGH and MIDLOTHIAN

SINCE THE report in the last *Journal* the Joint Groups have enjoyed lectures which covered a larger part of the globe.

Professor W. R. Philipson of New Zealand was in Edinburgh for the Botanical Congress and very kindly gave us a lecture in which he showed some fine slides of the native plants of the Southern Alps in their natural habitat. It was a great privilege to have the chance of learning from so eminent a botanist about these plants which are becoming more and more popular amongst knowledgeable gardeners in this country.

In December Rear-Admiral Paul Furse, R.N., gave us a graphic account of the expedition he made with Mrs. Furse in 1964, across Turkey and Iran into Afghanistan. The latter country, especially its



N.E. corner, is little known to collectors and we were fascinated by the slides and descriptions of the country, the plants and, above all, the people encountered on this adventurous trip.

We were fortunate too, in October, in having a lecture on dwarf bulbs from one of the leading authorities on this subject, Mr. E. B. Anderson. His beautiful slides and expert advice on cultivation gave us both help and pleasure.

The other talks to date have been by members of our own Group, but were certainly no less enjoyable for that. Dr. D. M. Morison opened our eyes to the beauties of the native plants of Sutherland and showed us how closely the vegetation is linked with unusual geological formation of that county. Mr. John Ponton took a tremendous amount of trouble in staging a demonstration of "Propagation". He gave us most interesting and practical advice on growing plants from seed and cuttings. We only hope he will not lose too many customers once we have mastered these skills.

The Group has bought a new screen this winter and is now aiming to purchase a microphone and loud-speaker. To raise money for this a "Coffee Evening", with plant and cake stalls, is being held at Marwood, Whitehouse Road, Barnton, on 18th May, to which members from neighbouring counties will be welcome.

A further series of classes for beginners is planned for the Spring, and in June the Groups look forward to visiting Ascreavie, Kirriemuir, by kind invitation of Major and Mrs. George Sherriff.

K. S. HALL (G.C. Edinburgh)

H. TOD (G.C. Midlothian)

### NORTH NORTHUMBERLAND

ON Tuesday 22nd September forty members met at North Hazelrigg at the kind invitation of Mrs. J. Dodds. There was a showing of members' slides, many of which had been photographs taken at the garden visits and outings. A few illustrated books on alpine were on display. Mrs. Dodds then entertained the members to tea. A collection was taken for the Group fund.

The lectures this past winter have been held in Wooler, which seems popular with the members. On Monday 12th October Mr. E. B. Anderson, V.M.H., Past President of the Alpine Garden Society, gave a talk on "Rock Plants of Interest." Thirty-two members attended. Mr. Anderson showed many colourful slides of alpine in his garden in Gloucestershire, all of which were plants that would

grow in a limy soil, and so it provided quite a different range of plants to those usually shown by our lecturers from Scotland.

On Tuesday 10th November Miss E. M. H. King gave a most interesting and instructive talk on "Ericaceous Plants" and also on "Propagation of More Difficult Plants." Miss King showed many slides of dwarf rhododendrons and of many unusual ericaceous plants, and then she passed on to explain her methods of propagation and her ways of rooting difficult cuttings in peat and ground pumice. The members found this intensely interesting and wished that they could have detained Miss King for a longer time to answer all their problems.

On Tuesday 8th December Mr. C. R. W. Andrew, Dip. L.D., D.H.E., a landscape gardener for Durham County Council, gave an interesting talk on "The Munich Botanic Garden and the Schachen Alpine Garden." Over thirty members were present. Mr. Andrew first showed slides of the Scachen Garden where the students live in a chalet at 3000 ft. He then turned to the Munich Botanic Garden, where he studied under Herr W. Schacht, after his training at Edinburgh. He showed numerous slides of the extensive gardens at all seasons and many were of the methods by which the plants were protected in winter from the very low temperatures.

On Tuesday 23rd March Major Alan Walmsley, M.C., will give a talk, "In Search of Spring Bulbs in the Mediterranean Region." This will be a most interesting lecture and is a subject quite new to the Group.

Four days of garden visits will be arranged in May and June, and it is hoped that an informal visit will be arranged to some gardens in Argyll, as many had to be omitted from the itinerary last year.

The Group Annual Business Meeting will be held on Friday 2nd July at Wooler.

D. C. PAPE, *Group Convener*

## Book Review

"COLLINS GUIDE TO ALPINES," by Anna N. Griffith. Pp. 320, with 188 illustrations in colour from photographs by Valerie Finnis. Published by Collins, St. James's Place, London, 1964. Price 30s.

This is very definitely one of the finest and most comprehensive books on rock-garden plants which it has been my privilege to meet in many years. Though it lists and describes in alphabetical order some 1900 plants, it never becomes that somewhat uninteresting and monotonous catalogue that can be so often the case, but holds the interest all the time so that one is always eager to turn to the next page.

In a brief preface the author explains that for the purpose of the book "alpines" are taken to include those plants generally accepted as suitable for the rock-garden or unheated alpine house, and also certain woodland plants suitable for damp or shady places. Only a very limited number of garden varieties are mentioned—those of outstanding merit. It is explained that in the space available the policy has been to include as many genera as possible so that the reader may at least form some idea of the genus even though it has been impossible to list all, or anything like all, of the known species in that genus. Each genus is represented by species characteristic of the group to which it belongs. The author has endeavoured (successfully) to give a comprehensive coverage to four classes of plants; those which are free flowering and easy, those somewhat difficult which offer a challenge to the keen grower, some fine old favourites once well-known but now scarce, and many of recent introduction which appear likely to prove worth-while additions to our rock gardens.

The introduction begins with a brief account of rock-gardening in its very early days and continues with a note on a few of the collectors whose work has given so much variety to our gardens, and goes on to advise beginners how to learn about plants, how to grow them, and what are the requirements for a rock-garden and its allies the wall-garden, trough-garden, and so on.

The section—"Length of Life"—should help readers to realise that all plants cannot look to the same 'allotted span', and the next section on succession of flowering proves that alpine plants provide colours not only in spring but throughout the year, items being listed for even November, December and January. The several methods of propagation are ably dealt with and then the author tackles that problem we all encounter—the plants' enemies. A brief section on collecting plants is followed by one on plant names which should help those who find names a problem.

The main body of the work—the alphabetical list of plants—is excellent in its thoroughness, with many recent introductions which are still rare mentioned, and brief but varied descriptions, and where considered desirable extra notes added. Slight errors are conspicuous by their very rarity; the only ones noted were where an unfortunate slip of the pen has put *Kelseya* in Compositae instead of Rosaceae and *Fuchsia* in Oenotheraceae, and where one is referred to *Petrophytum caespitosum* and *Hebe bidwillii* only to find them missing. After a very useful Glossary the book ends with an equally helpful list of common names and their latin equivalents, a list of books useful to rock gardeners, and one of sources of plants and seeds—also useful.

It is a very great pity that such an excellent book should be marred by the very bad reproduction of many of the colour illustrations which would obviously have been excellent but for their faulty registration. When one knows the high standard of Miss Valerie Finnis's colour photography, one must feel sympathy that her work has been so maltreated. Apart from this unhappy feature the presentation of the book attains the usual high standard we have come to expect of Collins publications.

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The annual subscription is 3½ dollars, or 10 dollars for three years if paid in advance, and the Secretary, who will send further particulars, is Lawrence Hochheimer, Ridge Farms Road, Norwalk, Connecticut 06850, U.S.A.

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