

**The Journal**  
**OF**  
**The Scottish**  
**Rock Garden Club**



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*Photo.—A. E. Cook.*

**Fig. 1.**—*Lysichiton* Swamp (see page 63).

# The Journal OF The Scottish Rock Garden Club

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

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## Editor's Notes

AT THIS time last year (end of February) one of the chief worries for most rock garden enthusiasts was an extremely unseasonable warmth and a decided shortage of rain. Surely, however, no single one of us, either in Britain or in America, can complain on that score this year.

Since the first day of the New Year, ushered in with the keenest frost since 21st February 1955, we have had a succession of keen frosts and considerable snowfalls—would that it had been the other way round and the snow had come first each time to protect our plants—which have thoroughly checked that untimely growth so evident in our gardens at the end of last year. These heavy snows should surely have ensured that our reservoirs are amply supplied against any demands the summer months may bring.

Not for many years has the country had such a succession of snow coverings, and our gardens and plants ought to benefit greatly in the next few months should we be fortunate enough to have a good summer. Judging by letters recently received from American and Canadian member friends, they seem to be experiencing similar severe winter conditions: we hope that there too these wintry conditions may be followed by a genial spring and a good summer.

An unforeseen falling-off in contributions, followed at a late hour by the cancellation (due to illness, bereavement, and other unavoidable occurrences) of promised articles, induced the need for a last-minute appeal by the editor to various members for their support. To all those who at short notice rallied round so nobly we wish to extend on our own behalf and on behalf of the Club as a whole our unstinted gratitude and thanks.

The assembling of material for the Spring *Journal* is not usually so difficult as it is for our September issue. While active members are often quite willing to give time and thought to the Club *Journal* during winter evenings when they cannot get out in the garden among their plants, they are quite understandably very loth to spare time for writing when the show season is on and their gardens are crying out for attention. Who wants to sit down and write about plants when those same plants are there in the garden to be seen and admired in the height of their beauty?

At the same time we cannot help feeling that this is just the time for members to be taking notes which will provide the framework of an article that can be written up while still fresh in the memory at some time when the demands of the garden ease up a little. Things that happen in April, May, or June have surely lost their freshness if not committed to paper until the following December. Or is it sometimes a case of "Distance lends enchantment . . ." ? Whichever point of view one takes, we would appeal to all who have something to contribute to the instruction or pleasure of their fellow-members to send their material without delay and without constant importuning. Probably only the editor can fully realise how much appreciation

their efforts receive from members so situated as to be deprived of the more active participation in such Club affairs as attendance at our various shows and the friendly discussion and intercourse to be met with at group activities.

Also available equally to all members is the Seed Distribution, which is proving itself increasingly popular each year with both beginners and 'old hands' alike. As is said on a later page, the Seed Distribution involves an enormous amount of arduous and concentrated work and organisation on the part of its Manager—Mrs. Davidson—and her body of volunteer helpers. The thanks of us all are due to her and to them for all they do in this great work for the Club. Members should read carefully the announcement on page 6 concerning new arrangements to come into force this year with regard to Seed Distribution.

The range of interest and variety available to group meetings in all parts of the country should be greatly extended by the extensive Slide Library now built up and catalogued by Dr. James Davidson. In addition to many slides generously donated by members from duplicates in their own collections, Dr. Davidson has purchased a number carefully selected by him for their suitability in illustrating lectures on aspects of rock gardening. Four hundred colour slides available on hire to Club speakers for use at group meetings are now listed—a great piece of work in the short time since the scheme was inaugurated.

The Discussion Week-ends, the first of which was held last March in Edinburgh, have proved themselves popular and been an unqualified success. Although not all members are able to take an active part in them—the more distantly situated having to be content with the reports in the *Journal*—all that we hear of the two held last year emphasises that they were greatly enjoyed by those who were present. The next is due to be held in Perth in October and members will see for themselves on page 7 what an attractive programme has been arranged.

A number of members of the Club have developed their interests to an extent where they have ultimately come to specialise in certain groups of plants (e.g., primulas, dwarf conifers, succulents, saxifrages, etc.). Quite naturally this has led them to a desire for closer contacts within the Club with like-minded members with whom they can compare notes and discuss the problems and progress of their chosen branch of rock-gardening. At least one member has mooted the idea of forming a 'primula group.' Such a development could have the added advantage of ensuring the best possible collective efforts being provided towards the preservation and increase of rarer and more difficult plants normally liable to disappear after a short time in cultivation. We feel that the pages of the *Journal* provide an ideal medium for the airing and discussion of such suggestions and will welcome the comments of members in our next issue.

With the near approach of the Club's show season again, we hear all the usual laments about the fickleness of the weather and how it

has upset the flowering season of plants earmarked for exhibition at our various shows. Strange it is that we never seem to hear an equal number of reports of plants which otherwise would have been either too early or too late coming in just right ; and yet the vagaries of plants and weather should work equally well both ways.

Can it be that when things go wrong we blame natural causes while when they go right we assume unearned credit to ourselves ? I wonder ! Be that as it may, we have no doubt but that that faithful band of regular exhibitors will again produce that array of interesting and beautiful plants which we have come to anticipate on our show benches each year. A constant regret of the Club's office-bearers and officials is that more members do not take part, in however a small a way, in the thrills and enjoyment of 'showing' ; those who have never taken an active part cannot know how much fun they are missing.

One of the Club's most formidable items of expenditure is now the cost of postages on publications. The postage bill for the recent *Year Book* alone amounted to £70, so that on our three publications (apart from all other correspondence costs) the annual charge to be met is over £200. When one adds to this the day-to-day charges incurred by Club officials in their various duties, the over-all total is almost alarming.

Club members will be interested to learn that our President—Major-General Murray-Lyon—has returned 'home' to Perthshire after his sojourn of six or seven years in Edinburgh. His address is now—"Ardcuil, Pitlochry, Perthshire"—again, and letters to him henceforth should be so addressed.

*April 1958.*

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STOP PRESS — See page 38 — Editor

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## Obituary

### JOHN ADAMSON

MR. J. ADAMSON, of the firm of Longmuir & Adamson, Holywood, Dumfries, passed away on 1st November following a shock sustained while on holiday.

An old 'Kewite,' he left Kew for "Price" of Cheltenham and while there he was the first person to exhibit *Primula florindae* and *Pleione pricei* at London and Chelsea. Later he went to Oliver & Hunter, of Moniaive, Dumfriesshire, and in 1940 commenced with Mr. Longmuir in business as landscape gardeners and alpine specialists.

A regular exhibitor at S.R.G.C. Shows and Highland Show, etc., he specialised in primulas, shrubs, alpines and herbaceous plants. As exhibitor or judge his services were always appreciated.

*Contributed*

## Club Christmas Cards

MEMBERS will note that there are this year no colour plates in this April issue of the *Journal*. The intention is to have them instead in the September number, which will also contain particulars regarding the Club Christmas Card to be made from them. By this arrangement in bringing the colour plates and details nearer the Christmas season it is hoped that there may be a better response from members.

## Seed Distribution

ONE HUNDRED and thirty members sent seed for distribution last Autumn—a considerable increase on the preceding year. I should like to take this opportunity of thanking all donors for the care and trouble expended on the laborious work of collecting, cleaning and dispatching seed. May I express the hope that they will continue to do so? Many letters are received every year from all over the world expressing deep appreciation of this Club service.

My grateful thanks are also due to members in Edinburgh, Midlothian and Peeblesshire who—many for the third year in succession—have given invaluable help in sorting, packeting and distribution of seed. Without their help, this would be an impossible task.

At the time of writing, there has been some increase over last year in the number of members who have applied for seed, but as applications are still coming in the final figure is not yet known. It has been reported that Home members in the more distant parts of the country have not been given sufficient time to make application before the closing date. Will they please accept my apologies and regrets?

### IMPORTANT NOTICE

In order that they may be in the hands of members by mid-December, **Seed Lists will no longer be issued with the *Year Books***. Every member who has donated seed—or who has intimated his or her intention of doing so—by 31st October 1958, will receive a copy of the Seed List. Other members may obtain copies by application, and instructions for applying will be given in the *Autumn Journal*. It is hoped that this new arrangement will be of benefit to members, giving them nearly a month longer to study the list and make application. It should also ensure the early distribution of seed.

A number of members have asked for information on “best sellers” for distribution. Demand varies very greatly from year to year, but the following are invariably “sold out” long before demand is satisfied: Rare alpiners; Cyclamen; Dwarf shrubs, especially *Andromeda*, *Arctica*, *Phyllodoce*, etc. A larger supply of these would therefore be very acceptable.

C. E. DAVISON



## Discussion Week-end

SALUTATION HOTEL, SOUTH STREET, PERTH

(Phone—Perth 836)

SATURDAY 25th and SUNDAY 26th OCTOBER 1958

### PROGRAMME

*Lecturers :*

H. R. FLETCHER, Esq., D.S.c., F.R.S.E.

*Subject :* The Rock Garden in the Royal Botanic Garden, Edinburgh.

C. H. HAMMER, Esq., President, Alpine Garden Society.

*Subject :* Spain—the Pyrenees and Beyond.

DAVID LIVINGSTONE, Esq.

*Subject :* Primulas for the Rock Garden.

STEWART MITCHELL, Esq.

*Subject :* Alpines in their Native Habitats.

In addition there will be a "Discussion Period"—details later.

For those who are able to attend at 11 a.m. on Saturday 25th, a visit to Keillour Castle Gardens, by kind permission of Major and Mrs. W. G. Knox Finlay, has been arranged. Transport from the hotel is being arranged at 3/- per head.

### Hotel Charges, etc.

Full Board and Accommodation : 2 p.m. 25th to 5 p.m. 26th, £2 15s 0d. Non-residents who wish to attend on either or both days will be charged 12s 6d. (This payment will include afternoon tea on Saturday and Sunday, but other meals will be charged as follows : Lunch, 8/6d ; Dinner, 10/6d.

Reservation forms may be obtained on application to Mr. Robert G. Dow, 9 Myrtle Road, Scone, Perthshire. These should be forwarded with cheque in payment **before 20th September.**

## ALPINE FLOWER TOUR

JUNE 28th - JULY 12th, 1958

Our annual flower tour will this year go to La Grave, in the Dauphine area ; it will again be conducted by Mr. R. S. Corley, member of the Alpine Garden Society and the Scottish Rock Garden Club. Cost: £42 18s.

*Details of this and other Spring Flower Tours from :*

**ERNA LOW TRAVEL SERVICE LTD.,**  
47 OLD BROMPTON ROAD      LONDON, S.W. 7.

## New to my garden—Part 3

By D. M. MURRAY-LYON

PARTS 1 and 2 appeared in the *Journals* of April 1956 and 1957 respectively. First I shall describe some bulbs and corms.

*Iris vartani* v. *alba* (Iridaceae) is a native of Palestine and belongs to the Reticulata section. It is like a white *I. reticulata*, and has a creamy yellow crest. I believe it is quite hardy in well-drained soil, but as it flowers in December it is probably better grown under glass to shelter it from inclement weather.

*Narcissus* x "Nylon" (*N. bulbocodium* ssp. *romieuxii* x *N. b. v. foliosus*) is said to be the first narcissus to flower, and certainly mine were in flower this winter in December. It has the typical bulbocodium 'grass' and the flowers are carried more or less horizontally or tipped slightly upwards. The creamy-white flowers of the "Hoop petticoat" are carried on four-inch stems and are very attractive. They are said to be sweetly scented though I cannot say it was noticeable in mine. It does well in any decent well-drained soil and is said to increase rapidly, though I have not had it long enough to confirm this.

*Tecophilaea cyanocrocus* (Amaryllidaceae) comes from Chile, and, unless you have a very warm sheltered dry border, it had better be kept in the alpine house or frame. As its name implies, it looks rather like a blue crocus, a good gentian blue too. The flowers, on three-inch stems, come out in March or April.

Four cyclamen which are flowering for me for the first time just now, December 1957, are *Cyclamen* x "Atkinsii" and its varieties *album* and *roseum*, and *Cyclamen hiemale*. These have until lately commonly been considered species, although *C. x "Atkinsii"* has sometimes been described as a hybrid—*C. coum* x *C. vernalum* (syn. *C. ibericum*). Now I understand botanists say they, and also *C. coum*, are merely forms of *C. orbiculatum*. However the botanists may classify them, they are most attractive, free-flowering little plants.

*C. x "Atkinsii"* is rather like the better known *C. coum*, except that the rounded leaves have a varying amount of silver-grey marbling on them, and the flowers are possibly sometimes a little larger. The type plant has flowers of carmine-red, and the other two varieties white and pale pink respectively, each with a red base to the petals. *C. hiemale* is similar, but the flowers are perhaps a little more dumpy, with crimson-violet spots at the base of the petals. In both cases the leaves appear about a month or more before the flowers. They are quite hardy and do well in any reasonably well-drained soil to which some leafmould has been added. Some people recommend lime, but this is not necessary. All four have the roots coming out of the lower surface of the corm. In planting cyclamen this is a point one has to think about, for in the case of *C. neapolitanum* the roots grow out of the upper surface of the corm. At the time of writing (23rd December) the flowers on the plants out-of-doors are just beginning

to colour, while those in the alpine house are fully open. They are quite easy to raise from seed, which is best sown while fresh. They usually start to flower when two years old.

Two other plants also in flower just now are heathers. *Calluna vulgaris* v. "elegantissima" comes from Portugal and is said to be doubtfully hardy. It was in flower when I got it in October, and still is now in December in the alpine house. It is light and dainty in habit, about nine inches in height, and its flowers are a soft lilac-pink. The other, *Erica carnea* v. "Eileen Porter," is said to have the longest flowering period of any of the winter-flowering heaths—October-April. The flowers start pale pink and gradually deepen to almost ruby-red. It is compact and, I am told, slow-growing, though I have not had it long enough to confirm that. Both of these will probably propagate from cuttings as easily as other heathers.

Next a plant for the Peat Border—*Viola yakusimana*, a tiny woodlander from Japan. It is probably the smallest of all the violas. It forms a low mat of tiny, dark, glossy, kidney-shaped leaves, hugging the ground and no more than an inch in height. Its flowers are proportionately tiny, the upper petals white and the lower ones veined with violet. It has a long flowering period starting in May, and is easily propagated by division.

A plant requiring similar conditions to the last, with perhaps rather more sun, is *Cyananthus lobatus* v. *albus*, from the Himalayas. This has the same rather sprawly habit as the more common blue type. The flowers are pure white, about an inch across and very attractive. It is not so robust as the type and, as is so often the case with albinos, the green of the leaves is of a much paler shade. Pre-flowering cuttings in June or July strike easily in peat and sand in shade. I have not raised the white form from seed, but the blue is not difficult if sown in February. The difficulty is to get good seed as it ripens so late. It helps to cut open and remove most of the calyx which otherwise is apt to hold the moisture and cause rotting of the whole seed-head. This applies to all cyananthus and autumn-flowering gentians.

Another woodlander which will be happy in the part shade of a dwarf rhododendron or similar position in the peat border is *Romanzoffia unalaschkensis* v. *glabriusula* (see Fig. 2). Its looks might suggest that it was a saxifrage, but it belongs to the Hydrophyllaceae. It comes from Alaska, Western Canada, and Eastern Siberia, so there should be no doubt of its hardiness. The leaves are round and scalloped. In April white, open bell-shaped flowers are borne in racemes on four- or five-inch stems. The roots are rather woody, something like those of *Anemone nemorosa*, and would probably divide successfully as growth starts in springs as do those of the anemone. It is easily raised from seed. Some of my plants have died back, while others have still retained their leaves in December.

*Gentiana bellidifolia* from New Zealand, like so many plants from there, has white flowers. These are carried in umbels of four or five on erect stems up to four inches high and much resemble those of

*G. saxosa*. The dark green leaves are spatulate and curved back at the edge, and the time of flowering is July-September. Rich scree or other well-drained positions will suit it. Propagate from seed in spring or cuttings in July or August.

*Erysimum capitatum* (Cruciferae)—Western U.S.A., including California. This mountain wallflower has rather downy leaves on erect stems of four inches or so, at the ends of which open large heads of flowers in May. These are creamy white and pleasantly scented. It is easy in any decent, well-drained soil, just as easy as the better known *E. linifolium* which it much resembles. It comes easily from spring-sown seed.

*Geum rossii* (Rosaceae)—N.W. America. Coming from as far north as Alaska there is no doubt about its hardiness, and it is not fastidious about soil or situation. Its fern-like leaves which are dark fastidious about soil or situation. Its fern-like leaves, which are dark green and glossy, are arranged in a tuft from which arise six- to nine-inch stems bearing quite large yellow flowers. It is free-flowering over quite a longish period in late summer. Propagation is by seed or division.

I finish up with three scree plants, the first, chiefly of value as a silver-grey foliage plant, being *Santolina incana* v. *nana* (syn. *S. chamaecyparissus* v. *nana*)—(Compositae). This is a miniature form of the better known *S. incana* from the Mediterranean Region. It has the same silver-grey, finely-divided leaves, but is much smaller, being only about six inches high. The clusters of small globular yellow flowers are produced in June-August but are not really of great importance. It is a neat and attractive plant and quite easy in scree. Cuttings strike easily in summer.

The next two are *Oxalis* species (Geraniaceae). One is *O. inops*, and the other is one I got from a friend as *Oxalis* sp. "Cherry Ingram," as it was said to have been introduced by Captain Collingwood Ingram. To me they look so alike that I doubt if they are different species. Being South Africans and doubtfully hardy they are planted in sharp scree with their roots under stones. They came safely through last winter (1956-57), but of course that was not a severe test. They have the usual trefoil leaves which grow in tufts two inches high. The flowers, held just clear of the leaves, are a good pink with a white central ring and a yellow eye, and are produced for a longish period in late summer.

All the plants I have described are growing in an Edinburgh garden and are obtainable from nurseries, or have been offered in our Club Seed List.

## “B. I. O.”

By HENRY TOD

A YEAR or two ago I was standing with a friend—and discussing one of the plants which he was showing. It was *Delphinium brunonianum*, and I was admiring it. He said: “Now do you *really* like it? Personally I think it is B.I.O. I know it is difficult, but I can’t really like it; I think it is an ugly brute.” I asked him what B.I.O. was and he replied “Of Botanical Interest Only.” Actually I did not agree, as I liked the plant, but his idea stuck in my mind. He is a lot more honest to himself than many others are; he admitted that he thought it ugly and only grew it as it provided a challenge to his horticultural skill.

Since then it has often struck me how many plants we grow and enthuse about are really B.I.O., and we persuade ourselves that they are visions of loveliness when really they are rather dull and dowdy and their sole virtue as specimens is their difficulty of culture. Ideas of beauty and attractiveness vary widely; for example I find *Saussurea stella* really attractive, while many think it just plainly uninteresting and dull; but in addition to beauty there is also oddness or unusualness, and these may be just as attractive as lovely colour or form.

Where the B.I.O. concept tends to come in is in some of the real miffs and mimps that we all at one time or another try to grow—and sometimes succeed. Very often these are really rather uninteresting plants and yet too frequently one finds that many of the “experts” will collect around these when they are on the show bench, and dismiss with a mere glance perfectly grown and flowered plants which are really a much more practical proposition. It was for that reason that the “New, Rare, or Difficult” classes were devised and introduced into the Show Schedules of the S.R.G.C. and conversely the classes for “Rock Plants of Easy Culture.”

Now here is where the really ridiculous position arises. Several fine entries in the latter class have virtually had to be disqualified as the exhibitors, ignoring the whole idea of the class, had entered (fairly) “new” and (definitely) “difficult” plants such as Petiolarid Primulas for it.

I will grant that there are gardens where Petiolarids grow like (or perhaps better than!) cabbages and also gardeners who can make them do so. Surely, however, it is obvious that such an entry is in flat denial of well-known facts, and quite evidently in contradiction to the idea of the class, which is to give a chance to those gardeners who do not grow the more difficult type of plant.

Now I think that the underlying idea of such an entry is the final development of the denial of my friend’s doctrine of B.I.O. I imagine that this idea on the exhibitor’s part is entirely subconscious—I should be much surprised if it were conscious—and perhaps it is a form of gardening snobbery!

Do not think that I am suggesting that Petiolarid Primulas and other such lovely plants are B.I.O.—nothing could be further from my mind—but I frankly admit that in the past I have grown—and showed—some plants that were definitely B.I.O. One example was a *Cremanthodium* which was uncannily like a Hawkbit that drooped its head, though it did have the merit of a lovely scent. Now I will definitely continue to grow (if I can) and show such plants for the sheer joy of trying to “beat Nature” as it were, but I hope I will *not* extol their peerless beauty—if they do not possess it.

There are a few frank and downright souls among the Nurserymen who state bluntly that they do not stock “Collectors Oddities or Botanical Curiosities.” I know one or two who offer new plants under Collectors’ Numbers very honestly as “as yet unflowered here” —and if, when they flower, they prove to be poor things, they scrap them ; but also there are a number who do not do so, and keep them on their lists—and it was the same when Farrer wrote his books. He has a number of typical and pungent comments on this point.

The converse holds true too. We all of us, with very few exceptions, tend to neglect many of the really good reliable plants which are the stand-by of our earlier years as we gain in knowledge and skill. Many of course must be omitted for they are too invasive to be grown beside finer plants as they will swamp them if they are not watched carefully. The best example is of course our old friend—or foe—arabis, and there are many like it.

At the same time I would recommend the following to some readers (who, incidentally, may get a shock). Take a pan and wedge several good-sized stones in it. Fill compost into the crevices and plant a few rosettes of London Pride (*Sax. umbrosa*) in them. Leave them to grow on in the ash-plunge, and then look at it *objectively*. If you are not impressed by the light feathery sprays of pink flowers rising above tight hard rosettes lining the cracks in the rocks, I will be surprised. *Saxifraga umbrosa* is a rock plant and was never meant to grow as great carpets on shady beds or in a thin line as an edging plant.

There are a number of other plants to be re-discovered—can you find any ?

H. T.

## NATIONAL AURICULA AND PRIMULA SOCIETY

The Society's *Year Book* will be available March 30th and will contain articles by growers specialising in the culture of these plants as well as the Primrose and Polyanthus, a COLOURED PLATE of Premier Auricula “Lady Daresbury,” from a painting by Alan Coupe, will be a feature of the issue.

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## Beginner's Luck

By "PIERRE"

"OH ! GOOD SIR" cry'd the niece, "burn 'em with the rest, I beseech you, for should my uncle get cured of his Knight-errant frenzy, and betake himself to the reading of these books, we should have him turn shepherd, and so wander through the woods and fields ; nay, and what would be worse yet, turn poet, which they say is a catching and incurable disease."—*Cervantes*.

I got over poetry and the other childish ailments at an early age. It is in my declining years that I have been stricken with the *enfermedad incurable y pegadiza* of rock-gardening. That I caught it surprised and still surprises me, because I had lived for many years beside my mother's beautifully laid out rock garden and escaped infection, so that I had never a thought but that I was immune. Indeed, when my mother dragged me from my book into her garden to see some inexpressibly beautiful little alpine flower, I would glance at it with a civil sneer, or cry—"That thing !"—with a mixture of incredulity and scorn.

But in due course came the day when my mother was no longer able to labour in her rock garden. About the same time I and my family moved into a new house, and when my mother came to see it and its garden, she remarked with a casualness which concealed the subtle guile : "Why don't you build a rock garden in that corner ? You can have the stones from my garden, and I'll tell you how to build it." And so, innocently, unsuspectingly, to please my mother, I arranged for the transport of tons of rock, and then labouring under my mother's order I built the rock garden. In this way, my mother enjoyed a great deal of vicarious gardening, and in this way I caught the incurable disease.

It was my wife, however, who made its onset more virulent, for as a birthday present she paid a subscription for me to the Club. When I attended the first meeting in Glasgow, and saw the serried ranks of addicts, I said to myself : "Ah, yes ! All first meetings are like that. We'll see how many remain faithful in a month or two." But behold ! each meeting was the same. Even in the bitter depths of winter it was difficult to find a seat in Rosalind's Arden.

At that first meeting I bought six tickets for the draw and won three prizes. This extraordinary piece of beginner's luck caused such inflammation of the gambler's instinct in me that I am sure that by the end of the season those plants had cost me dear indeed. But it was the lectures on *Propagation* that sent me off at a canter on my Rozinante. I eagerly applied for seed under the seed distribution scheme, and then set about making some strong wooden seed boxes. I made them 2 ft. × 1 ft., and that was my first mistake : because after I had sowed a box with *Papaver alpinum*, *Meconopsis grandis*, and *Parnassia nubicola*, I of course discovered that I had no tub big enough

to soak the box. So I watered from above, and the result of that, as I discovered in due course, was to wash all the seed to one end of the box. I got plenty of poppies but nothing else.

So I scrapped the rest of my beautiful seed boxes and sowed the other seeds in pans. My second mistake was that in most of my pans I sowed two kinds of seed, and thus when *Silene compacta* came up like solid turf I had some difficulty in removing the seedlings without disturbing the other half of the pan where nothing so far showed. Incidentally, after putting a few plants of *Silene compacta* into my rock garden, I made a solid row with the remainder of my seedlings in front of the herbaceous border, without having the least idea of what the plant would be like. It proved to be a very pleasant plant, with solid heads of small red campion flowers, certainly a much more showy plant than *Silene schafta*.

All in all my success with propagation from seed was not staggering. As well as the *Silene*, I got ample supplies of *Polemonium cashmirianum* (only mildly interesting), *Papaver alpinum*, *Campanula latifolia macrantha* (which has not so far flowered), *Anemone magellanica*, *Aquilegia bertolinii*, and polyanthus. I got a few healthy plants of *Aethionema schistosum*, *Arenaria purpurascens*, and *Arenaria ledebouriana*. But so far nothing has shown in my pans of *Dryas octopetala*, *Sisyrinchium grandiflorum*, *Synthyris reniformis*, *Aster linosyris*, *Allium karataviense*, *Antennaria dioica*, *Raoulia glabra*, and curiously enough, *Alyssum saxatile citrinum*.

My success with seed was thus not remarkable, but it was sufficient to whet my appetite for other methods of propagation. Root division I brushed aside as too easy and too obvious to be interesting, and so I made preparation for taking cuttings. One evening, from bale boards, I made a propagation frame size 3 ft.  $\times$  2 ft. It is just a bottomless box about 14 ins. deep with projecting flanges on three sides of the top. The cover is merely four pieces of cloche glass size 2 ft.  $\times$  1 ft. which I lay within the flanges overlapping each other. This seems to work very well, and even when I have forgotten to turn the glass I have seldom seen damage from drips. This, however, may be because I have not so far attempted anything very difficult.

Inside the box I put a few inches of rubble, and then a couple of inches of ordinary garden soil, and then four inches of sharp sand. I did not begin with alpines, because truth to tell I did not believe in this extraordinary miracle whereby little snippets of shoots would grow into new plants. I began with garden pinks, chrysanthemums, and geraniums, dipping the cuttings in Seradix powder. But when I saw how speedily these cuttings rooted (apart from a few cuttings of geranium which rotted from excess of moisture), I dug my spurs into Rozinante and galumphed away looking for other things to propagate. I soon had a little forest of *Clematis montana*, but "Nellie Moser," that voluptuous female, I found more difficult. I am trying again with shorter cuttings. Then my wife (without asking permission) filled a



vase with flowers of *Iberis sempervirens*. They stayed in the vase for a week or two, and when at last they began to fade, I took cuttings from the non-flowering shoots and these rooted in no time. Next I discovered to my delight that *Helianthemum* cuttings root with no difficulty, and *Lithospermum* with little difficulty. I went on to *Achillea*, *Crassula sarcocaulis*, *Cytisus*, *Gypsophila*, and *Linum narbonneense*.

All these were simple beginner's successes, although they seem miraculous to me. Next year, when some of this year's purchases produce cuttings, I promise myself much fun. But a problem begins to loom upon the horizon. What shall I do with my vast output of propagations? Shall I convert the whole of my quarter-acre garden into one vast rock garden? Already I am tearing up square yards of *Ajuga reptans* and *Cerastium tomentosum* from the dog's breakfast rockery which some previous owner deposited beside our house. But another solution tempts me. I think the idea seeded with the most spectacular result of my propagating frame. At the May holiday I went off on my bicycle, and as I went I plucked here and there a wild flower: *Geranium sylvaticum*, *Caltha palustris*, vetches and pansies, etc. It was a hot day, and when I got home my wild flowers were a little green mess in my handlebars basket. But I stuck them in my propagating frame and watered them, and next morning to my amazement they were bolt upright in lovely flower. In due course at least one of them rooted.

It was this experience on top of others that made me begin to wonder uneasily if there is not a taint of sadism in the rock-gardener's heart. I confess that I bring back from my holidays the odd clump of thyme and stonecrop, *Antennaria*, or *Arctostaphylos*, and plant them in my garden without too much remorse. But I still remember with horror the dreadful occasion when in a sudden irresistible gust of desire, I uprooted *Parnassia palustris* from the close sea turf, feeling like Tarquin when with ravishing strides he stole to Lucrece's bedchamber. And then too, when I am reading Collins' charming 'Pocket Guide to Wildflowers,' I confess to an uneasy twitch of conscience when, for example, I read under *Sisyrinchium angustifolium*: "*Habitat*: local in damp grassy places in W. Ireland; elsewhere a very occasional escape." A very occasional escape! An escape from imprisonment! Why not help the escapes to be more frequent? So the great idea slowly rooted in my mind. What fun it will be to set free *Sisyrinchium angustifolium* in damp grassy places at Dippin, *Allium moly* in the hedgerows at Brodick, and a clump of *Thymus herba-barona* at the summit of the Lamdash-Brodick road! What fun it will be when this hint of mine spreads like *Cymbalaria muralis*, and the vast Secret Escape Club springs up all over the British Isles. What fun when wondering botanists report strange additions to the flora of Ben Lawers, and how they have seen the great plume of Tumbling Waters cataracting from the rock-crannies of Cir Mhor!

## Some Notes on the Flora of the Lyngen Peninsula, North Norway

By B. and A.G.

THE FOLLOWING notes are based on the experiences of six summers spent in the far north of Norway. The object of our visits has always been mountaineering mixed with a little geology, with no special thought of botany, but since we are both interested in flowers we naturally took notice of them in our less preoccupied moments ; but we were content to leave it at that. It will therefore be clear that what we are about to record must be regarded as no more than a cursory description of some of the plants that have impressed us for one reason or another.

The Lyngen Peninsula lies a little over 200 miles north of the Arctic Circle and in roughly the same latitude as South Greenland. Without the influence of the Gulf Stream flowing northwards only 30 or 40 miles from the coast, the climate would be Arctic indeed. As things are, the weather in summer is little different from what we are used to in the Scottish Highlands. But there is one important difference : the sun is above the horizon from about the middle of May until the end of July, so that a wet day seems to last an awfully long time. On the other hand, during a long spell of fine weather, it is an unforgettable experience to see the sun going round and round in the heavens, day after day, as though determined to go on shining for ever and ever. This must be very stimulating for the plants, too, and they show their appreciation by a surprisingly vigorous growth as soon as the melting of the snow lets in the light to their winter dormitories.

In its physical features the country is very like our own in some respect but very different in others. The marks of the Ice Age are still plainly visible and the forces of Nature are still at work rubbing off all the sharp corners ; and since the mountains are high and bulky Nature has not yet had time to erase more than a few of their rugged features. The terrain is varied, consisting of a high central region of igneous rocks supporting an ice-cap and a considerable number of glaciers, and a lower, flanking region of sedimentary rocks, including limestone, which is more or less deeply covered with glacial drift and alluvium. In the areas occupied by the sedimentary rocks the vegetation is luxuriant in the lower parts, and the hill slopes are covered by thick, almost continuous, forests of deciduous trees. The igneous field is a sterile region of glaciers drained by foaming torrents ; a region of mud-flats, awe-inspiring crags and scree-slopes, and mounds of boulders of all shapes and sizes thrown together in utmost confusion. Here there are no trees, and the plants more adapted for life in such surroundings have to rely chiefly on the grit and sand and splintered rock which the glacier unstintingly serves up to them. But in no matter how unpromising a place a handful of earth has somehow or other managed to collect, one can nearly always find

some plant happily installed and flowering as much as its size will let it.

Between the two extremes of luxuriance and sterility there is a sort of middle-zone of grass and heathland which in its typical development supports a close intergrowth of berry-plants and dwarf shrubs such as juniper, birch and willow. This zone often descends into the forests and provides a habitat for well-nigh impenetrable formations of scrub birch. The birch is pre-eminently the tree of the forest zone, all other species such as alder and rowan being hopelessly outnumbered. The conifers are represented only by a few widely scattered, sparse colonies of pine, the Norwegian equivalent of our Caledonian pine. It appears to prefer open spaces on old sandy moraines, for we have scarcely ever seen it in any other situation, and seems to be happiest when partially protected by birch. A few of them are comparatively tall and slim, but short, domed forms are more common. Their needles are short, giving them a bristly appearance. Some of the small ones, less than a foot high but showing all the features of an adult tree, appealed to us in a way that is rather difficult to express. Perhaps we were moved by the contrast between the perkiness of these little trees and the bleached, deformed, and stunted appearance of the majority of their predecessors standing like ruined monuments to the everlasting war with the elements. Cones were plentiful on the older trees; even those reduced to little more than a barkless stump had at least one; but the number of obviously very young trees was generally far out of proportion to the total number present.\*

Taking first the plants of the low ground and forests, *Andromeda polifolia* was indeed a sight in early July, a pink mistiness almost entirely covering large areas of black, peaty ground which in August is swarming with parties of local inhabitants in search of cloudberry, or perhaps *gathering* cloudberry is more correct, for their number is legion in a good year. In the woods Dwarf Cornel grows literally by the acre, frequently in the company of the Blaeberry, and it often reaches up to the middle zone. The open spaces in the woods are often swamps and wet spots, fed by springs which continue to flow long after the surface streamlets have dried up. The wet spots are sometimes veritable gardens of *Sax. aizoides*, Grass of Parnassus, and blue *Pinguicula*. Next to the true bog-dwellers, *Sax. aizoides* is perhaps the plant most associated with water and wet places, and there is certainly plenty of water everywhere. It is a common sight to see in the woods amazing concentrations of *Sax. aizoides* in three colours, yellow, bronze, and red, growing so tightly that the stems form cushions sometimes as much as 10 feet across. It is not content to stay in the woods, but climbs out and up to heights of at least 4,500 feet to wherever there is enough water to satisfy its craving. The denser woods are often brilliantly lit by masses of *Viola biflora* and Globe

\*[Footnote: A seedling of one of these trees was born in captivity 18 years ago and planted in a garden. It is now a sturdy treelet three feet high].

Flower, and liberally sprinkled with *Trientalis* and *Pyrola*; mossy boulders are festooned with strings of *Linnaea borealis*. It can be all very fairy-like, but too often these lower woods are jungles of tall ferns, Geranium, Meadow Sweet, and other monstrosities growing shoulder-high, often on the tops of cunningly concealed boulders with rifts of hidden depth between. Fallen trees and juniper bushes add to the horrors. It is then that one is only too thankful to win free and step out on to the open heathland above.

The middle zone is the Paradise of the Blaeberry, which covers wide tracts and fruits prolifically. But its claim to complete dominion is successfully disputed by such plants as *Menziesia*, *Cassiope tetragona* and a number of other berry plants, one of which, the Cowberry, deserves special mention. Under its Norwegian name "tyttebaer," the Cowberry is found as a preserve in almost every Norwegian larder. It has a tart, refreshing flavour and goes well with nearly everything, but especially with meats. The winter snow is still melting early in July and below the snow-wreaths clinging to the bases of the crags are often to be found tongues of soft ground covered with a thin film of water. Here we have the flower-gardens all over again with *Sax. aizoides* of course occupying the best seats in the front row, but no, without competition from *Sax. stellaris*, Rose-root, white Pinguicula, and even Moss Campion.

On the bare, earthy places of the heathland, which is after all largely composed of morainic materials, we have the first appearance of the plants that become bigger and better on the turfy ridges and in the stony chaos of glacier basins higher up—Moss Campion, Creeping Azalea (including a few white-flowered ones), *Dryas*, *Diapensia lapponica*, *Cassiope hypnoides*. The Purple Saxifrage does not as a rule appear in force until the ground becomes stonier.

Moss Campion grows almost everywhere and anywhere; it can be seen in running water, clinging to a stone in the middle of a swamp, or hanging out of a minute crevice in the smooth face of a boulder. Its colour varies from white to deep rose and the breadth of its petals is sometimes large enough to give the flower a button-like appearance. It flowers profusely to the extent that the tufts sometimes cannot be seen except from a kneeling position. These tufts frequently exceed one foot in diameter, and on one occasion when we were crossing the gravel-flats below a glacier we found the tufts so large and closely spaced that we could scarcely avoid stepping on them.

Creeping Azalea peeps forth from the midst of other plants as it does in Scotland, but it is at its best when it has the ground to itself in places where the stones lie thickest and the going is at its most toilsome. One would have to be exhausted to the point of semi-consciousness not to be thrilled by its vivid splashes of pink on the dull background of the rocks. There is a similar lightening of the spirit when *Dryas* comes into view. The flowers are very large and very creamy, and held proudly above compact domes of small leaves.

It rarely forms large masses, but presumably the domes are interconnected by woody parts running about in the fine rock dust and chips that seem to suit *Dryas* best.

*Diapensia lapponica* and *Cassiope hypnoides* makes a less clamorous appeal but they are nevertheless memorable when seen growing in colonies. *Diapensia* seldom comes below 1000 feet except where the outwash-plains of the glaciers extend down to that level. We generally found it in morainic soils full of finely divided fragments of flakey minerals such as chlorite and talc and more or less enriched by humus derived from its own dead leaves and those of chance neighbours, but we also found it growing in minute patches of earth adhering to bare faces of igneous rock. The healthiest looking plants were the small ones ; the larger clumps seemed prone to decay in patches. We rarely, if ever, saw *Diapensia* growing in siliceous soils derived from the sedimentary rocks, but it may not be so particular in other districts. *Cassiope hypnoides* seemed to have no particular preference in the matter of soil but is possibly less easy-going when it comes to choosing a site. It impressed us most on occasions when as we plugged up a slope our eyes came level with the flat top of a turfy bulge, and there it was, in hundreds of little white blobs on invisible stalks, close to the ground.

*Ranunculus glacialis* has a reputation for high climbing in the Alps and its representatives in Lyngen are no less inspiring. Occasionally when conditions are to its liking it will condescend to nod distantly to members of the lower classes but nothing seems able to tempt it down below about 2000 feet. On the higher ridges, where earthy patches look as though they would never lose that oozy sheen which follows the melting of the snow, *R. glacialis* is quite often the only flower in sight unless it be the dainty little *R. nivalis*. This modest yellow-flowered plant has the same habit as *R. glacialis* of poking its stalks up between the flat stones that characterize the favourite habitats of them both. In similar conditions but generally at much lower altitudes we often come across the minute *R. pygmaeus* tucked away in a cranny of a partially dry watercourse. We might never have noticed it if our eyes had not been so near the earth as we breasted the steep ground.

The last plant we shall mention particularly is *Viscaria alpina*. This plant forced itself on our attention for two reasons besides the very obvious one that it has such a beautifully red flower. The first reason was its comparative rareness, for we saw it in very few places. The second reason was that whenever our wobbling course over the boulder-fields brought us to its lurking place we always found it growing in a loosely connected group of not more than four or five plants, with several feet of space separating them from each other. This stand-offish attitude never failed to intrigue us : is it possible they are not on speaking terms with each other ?

Below is appended a list—more or less complete—of the plants that enlivened our journeys up and down the mountains and through the long stony valleys.

Alchemilla alpina	Lycopodium alpinum
"    glomerulans	"    selago
Andromeda polifolia	Melampyrum pratense
Antennaria alpina	Menyanthes trifoliata
"    carpathica	Mulgedium alpinum
Arabis petraea	Myosotis frigida
Arctostaphylos alpina	"    sylvatica
"    uva-ursi	Narthecium ossifragum
Arenaria norvegica	Oxyria digyna
Asplenium viride	Oxytropis lapponica
Astragalus alpinus	Parnassia palustris
Bartsia alpina	Pedicularis hirsuta
Betula nana	"    lapponica
Calluna vulgaris	"    sceptrum carolinum
Caltha palustris	Phyllodoce caerulea
Campanula rotundifolia	Pinguicula alpina
"    uniflora	"    vulgaris
Cassiope hypnoides	Polygonum viviparum
"    tetragona (see fig. 3)	Polystichum lonchitis
Cerastium alpinum	Potentilla anserina
Chrysanthemum leucanthemum	"    erecta
Cirsium (Cnicus) heterophyllum	"    nivea
Cornus (Chamaepericlymenum)	Pyrola minor
suecica	"    norvegica
Cryptogramma crispa	Ranunculus ficaria
Draba alpina	"    glacialis
Diapensia lapponica	"    nivalis
Drosera rotundifolia	"    pygmaeus
Dryas octopetala	Rhododendron lapponicum
Empetrum nigrum	Rubus chamaemorus
Epilobium angustifolium	Salix glauca
Erica tetralix (see fig. 4)	"    herbacea
Erigeron uniflorus	"    lanata
Eriophorum angustifolium	"    reticulata
Euphrasia frigida	Saxifraga aizoides (fig. 5)
Gentiana campestris	"    caespitosa
"    nivalis	"    cernua
Geranium sylvaticum	"    nivalis
Gnaphalium supinum	"    oppositifolia (see fig. 6)
Gymnadenia conopsea	"    stellaris
Hieracium alpinum	Sedum roseum
Juniperus communis	Sibbaldia procumbens
Koenigia islandica	Silene acaulis (see fig. 7)
Linnaea borealis	"    cucubalus
Loiseleuria procumbens	Spiraea ulmaria

Stellaria nemorum	Vaccinium vitis-idaea
Trientalis europaea	Veronica alpina
Trollius europaeus	Viola biflora
Vaccinium myrtillus	Viscaria alpina
„ uliginosum	Woodsia alpina

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## The Still-room

Great-grandmother was wise and knew  
     how to use herbs and where they grew ;  
 Some wayside plants that we despise  
     were really precious in her eyes—  
 For like the good Hippocrates  
     she valued them as remedies.  
 Oh how I loved to look inside the room  
     where all her herbs were dried ;  
 Or see her deftly flavouring food  
     in ways unusual but good.

Neighbours would come with various ills  
     to ask for ointment, potions, pills  
 —the toilet water that she used—  
     ('twas only elder flowers infused) :  
 some Colchicum for gout or pain—  
     Comfrey for poulticing a sprain :  
 For sleeplessness and nervous fears,  
     some Linden tea ; “Our Lady’s Tears”<sup>\*</sup>  
 for heart affections—maybe rue  
     for strength’ning blood vessels too.  
 She’d tell them apple tea was best  
     when fever rashes were suppressed ;  
 And dittany a splendid thing  
     to use as tonic tea in spring.

Sweet names I heard and can’t forget  
     —like Bergamot, and Alkanet—  
 Costmary, Lovage, Balm, Chervil,  
     Basil, Sweet Cecily, and Dill—  
 Verbena, Hyssop, Carraway,  
     Anise, Angelica, and Bay.  
 Recalling them I seem to see  
     Great-Grannie making pot pourri,  
 And catch the scent of herbs once more,  
     that lingers round a long-closed door.

<sup>\*</sup>Lily of the Valley.

## The Lecture, or A Winter's Evening

By "LOCUM TENENS"

WE SET forth, my wife and I, to drive some 20 miles to a country house where she was to lecture about Alpines to a local gathering of S.R.G.C. members.

This was to be illustrated by slides, of which she had a very nice collection. My job was to be the mechanic in charge of setting up the screen, fixing the magic lantern, and showing the slides at the right moment, all of which tasks I felt eminently capable of performing.

On the other hand, I was worried about the lecture itself, since my wife had had little experience of such things, whereas in the past, before I became mixed up with gardening (even to the minor degree to which I now aspire), I had often been concerned with lecturing and listening to lectures. In fact, I reckoned that I was quite an expert on the subject.

However, as I have said, we set forth. In the car we had, in addition to ourselves, the screen (a folding affair), the lantern in its own suitcase (bought by me about 25 years ago for £2 all complete), the slides, and presumably my wife's notes on what she was going to say. At the last moment too I had added a billiard cue (one of our last four), because all good lecturers use billiard cues to point out items of interest on the screen.

On the way to the party I felt an urge to give my wife a little instruction on the art of lecturing. First of all, I said, "you must not be nervous." I went on to recommend that she should learn by heart the opening sentence or two, or she might otherwise be tongue-tied. She should also memorise the closing peroration, or she might otherwise be unable to stop, and nothing could be worse than that. Then there was the importance of not saying "er" or "and" too often. I enlarged too on the avoidance of mannerisms, such as walking up and down the platform chucking a piece of chalk up in the air and catching it again. In those circumstances the audience would be far more interested in speculating whether she would drop the chalk than in what she was saying. Finally, I pointed out that if she turned her back on the audience to look at the picture on the screen no-one would hear what she was saying. With all that advice I thought that perhaps she might make a success of it, but I did impress on her that very few people can listen with enjoyment to any lecture lasting more than twenty minutes.

We arrived safely. Our hostess, quite charming, showed us into a big room which contained a lot of chairs and a small platform at one end. I started crawling about round the edges of the room looking for wall plugs, which I had difficulty in finding, though I did come across quite a number of other things which I feel sure were not intended ever to be seen by the likes of me. In the end, however, I did find a wall plug and in due course rigged everything up.



Of the lecture itself I will say little. My wife's opening sentence began—"Er, and"—and the audience loved it, and continued to love it for nearly an hour. I must admit that I, too, was highly entertained. She walked up and down the platform twirling the billiard cue in her hand and we were fascinated, until she dropped it. At the same time it began to dawn on me that the audience had not even been noticing the billiard cue but were listening with both ears to what was being said. Even though she turned her back on us now and then we could still hear every word. When the slides were finished (and never once had I wanted to put one in upside down to liven things up) there was an interval and we all had a cup of tea. Then came questions, really good ones, which were many and varied, and so the party came gently to an end.

On the way home my wife drove and I sat in the corner feeling a trifle shamefaced about my former rather superior attitude. Arrived back, I unloaded the car and then at peace in front of the fire it was clear that I had been forgiven and all was well. At least I thought so until I remembered that I had left behind the billiard cue which my wife had discarded onto the floor of the platform.

I think that there must surely be a moral to this story, perhaps more than one, but it will have served its purpose if it emphasizes that a really entertaining evening can be had without any intervention from experts, which is just as it should be.

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## Helleborus niger

*(The Christmas Rose)*

By ELLEN PAGE HAYDON

'Tis said an angel changed a maiden's tears,  
 Falling on winter earth, to blossoms rare.  
 She, having no offering for the Babe, her Lord,  
 Wept, for a gift that to Him she might bear.  
 Snowy and pure sprang flowers about her feet,  
 Well fit to mingle with the gold of Kings ;  
 The frankincense and myrrh, not half so sweet  
 As that fair offering the maiden brings.  
 Then from his bed the Babe looked up and smiled  
 To greet the homage of a little child.  
 So as His time comes round we find them there,  
 The snow-white flowers in the frosty air,  
 A miracle of life that all may see  
 The symbol of our Lord's Nativity.

## The Genus—Cassiope

By R. B. COOKE

THE CASSIOPES are fascinating small evergreen shrubs which inhabit the arctic and mountain regions of the Northern Hemisphere. The nine species in cultivation, including *C. stelleriana* and *C. hypnoides* which are sometimes given the generic name of *Harrimanella*, can mostly be grown very successfully in our lowland gardens in Scotland and Northern England. To do this it must be remembered that they are ericaceous shrubs which hate a limy soil, hot dry conditions, and stagnant moisture, and also that a smoky atmosphere is detrimental to their well-being. In the south of England their cultivation is not quite so easy and in that area an open glade among trees, deciduous for preference, seems to give the best conditions, as here the air is kept cooler and moister during the warmer months.

In the wild some of them reach a height of about a foot, but in our gardens half of this is about the usual. The colour of their flowers is generally white, but it can be white tinged with pink, pale pink, or pink; plants bearing pink flowers do not appear however to be in cultivation. While they like a soil rich in peat and leaf-mould, a very acid one does not seem to give as good results as a moderately acid one, say of a pH between 5 and 6. Unseasonably mild weather in early Spring will start some of them into growth too soon and when this happens late Spring frosts may cause the loss of their flower buds. With me, in my hillside garden in Northumberland, it is usually only a percentage of the buds which are killed, but in a valley garden this trouble might be more serious. Good drainage I have found to be very important and the plants which flower best are in raised beds. Even in Scotland some shade is generally desirable during the middle of the day, as this helps to prevent them from getting too dry, but they are not plants to grow under trees. Now and then I have had self-sown seedlings of *stelleriana* and *lycopodioides*.

The following is a short list of the species in cultivation together with their main varieties and hybrids; the names of some of those still to be introduced, or reintroduced, are also included. In making up this list I am very much indebted to Miss W. Muirhead for the help she has given me, but any opinions as to their garden value, or cultivation, are entirely my own. I am also much indebted to Dr. W. A. Clark for the beautiful photographs he has taken of some of my plants.

*C. ericoides* : Dwarf and heath-like, not in cultivation.

*C. fastigiata* : Very adaptable to garden conditions and has done very well with me. One Bhutan form from L and S seed is a fine plant with more silvery sheaths to its leaves. Another has larger leaves less closely adpressed to their stems and so appearing to have thicker shoots. Another L. and S. form, No. 17451, is a lovely dwarf with flowers large for its size. F.C.C. 1865.

*C. "Edinburgh"* : This is a very handsome hybrid obviously having *fastigiata* as one of its parents. It does very well at the Edinburgh Botanic Garden and for some years has been greatly admired there by those who are interested in these shrubs. Recently when shown from these gardens it was given an Award of Merit in London. It flowers freely up its long stems, which are not so closely packed together as those of *fastigiata* and so its flowers are shown to better advantage.

*C. hypnoides* : This is the despair of many gardeners. It is a charming, very small moss-like plant with white bells from the ends of its shoots. In nature it requires a snow covering in winter, but not a thick one, so that it can make an early start. Last year I saw it in Norway west of Bergen where, at the end of June, snow showers were not infrequent and snow drifts not far off. In my garden in the past it has done best in a shady frame, but it is now being tried in the open again. In N. America it is to be found as far south as in the mountains of New Hampshire and Maine. Surely specimens from these areas would be more amenable to cultivation. F.C.C. 1865.

*C. lycopodioides* : From Japan this is one of the easiest to cultivate and, if it is not allowed to get too dry, will succeed in full sun and will flower so freely that its foliage will be almost hidden (Fig. 8). A.M. 1937. Alaskan plants, on the other hand, have only just lived here and no more.

*Var. laxa* : This is a more slender plant which does not seem to be anything like so free-flowering.

*Var. major* : The flowers of this are only slightly larger than the type and not so freely produced.

*C. mertensiana* : Confined to N. America from California to Alaska. Does well in cultivation. A.M. 1927.

*Var. californica* : From herbarium specimens this appears to be a superior variety. It does not seem to be grown in this country.

*Var. gracile* : A good variety which perhaps is more free-flowering.

*C. myosuroides* : Not in cultivation. This has been collected by George Forrest, Kingdon Ward, and Rock, and from their herbarium specimens it looks to be a charming cushion plant with large flowers. It is to be hoped that some day this native of Upper Burma and W. Yunnan will be successfully introduced.

*C. palpebrata* : This is another species which awaits introduction. It is a lovely little moss-like plant which is to be found on the Burma-Chinese frontier.

*C. pectinata* : This plant is more or less intermediate between *fastigiata* and *Wardii*. It is a fine species which does not seem to have been successfully introduced. It is a native of Upper Burma and S.E. Tibet.

*C. redowskii* : A Siberian plant which is not in cultivation in this country. It does not seem to be of much garden value but it is of great botanical interest on account of its leaves being tubular.

*C. saximontana* : This is confined to the Rocky Mountains in N. America and the plant in general cultivation here as "*tetragona*" is this species. For one thing it has longer, narrower leaves than *tetragona* of the arctic regions. It is easy to grow and is a good rock garden shrub.

*C. selaginoides* : This also does well in our gardens and flowers very freely, especially when young. L. and S. 13284 is a good form. In the wild it crosses freely with some associated species such as *fastigiata*. A.M. in 1928.

*C. stelleriana* : This is found from Japan to Alaska and British Columbia. The forms from each end of its range are rather different. Both do well with me and usually flower twice in the year. The Japanese plant was given an A.M. in 1937.

*C. tetragona* : As already stated, this species has a circumpolar distribution and it even endures the rigours of the Spitzbergen climate. In cultivation it has been so mixed up with *saximontana* that it is difficult to say how it does. It should succeed from its southern limits in Norway and N. America. (See Fig. 3).

*C. wardii* : This is a native of S.E. Tibet. I have two forms, one collected by Messrs. Ludlow, Sherriff and Taylor in 1938, and the other is L. and S. 13239. The former has done the better. Its branches eventually become more decumbent than the latter, it does not sucker so freely and it is not quite so conspicuously hairy (Fig. 9). A.M. 1949. The two following hybrids had the 1938 form as their seed parent.

"Muirhead" : (*wardii* x *lycopodioides*) after Miss W. Muirhead. As this is a purely garden hybrid and its parents do not meet in nature, it was given the above name and not *muirheadae*. It seems to be remarkable that two plants with such different leaf shapes should have crossed, for *wardii* has its leaves split up the back by a deep groove and *lycopodioides* lacks this character. "Muirhead" has the groove for about  $\frac{3}{4}$  or a little more, of the length of its leaves. Its slender shoots are more or less erect and its other characters are like those of *wardii* very much modified. A.M. 1953.

*Wardii* x *fastigiata* (*large form*) : This hybrid does occur in nature and Dr. George Taylor collected material in S.E. Tibet in 1938 which matches my garden hybrid. This hybrid promises to be a good garden plant (Fig. 10).

## American Primrose Society

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## A few *Violas* for the Rock Garden

By C. E. DAVIDSON

THESE NOTES were originally entitled 'Genus Neglectus,' but there has been such an enormous demand for *Viola* seed in the recent Club distribution that this heading became ridiculous, and had to be changed. The *Viola* deserves to be highly esteemed by rock-gardeners, for it has a wonderfully wide colour range, and the members of its family vary in size from minute species, really suitable for miniature gardens, to large robust growers which give an astonishing display of colour in a dark, damp spot.

The species listed below are not numerous, but, with one exception, they grow—or have grown—in this garden. So great is their charm that, despite set-backs, one is tempted to try to achieve a comprehensive collection.

*Viola cornuta* has a wide distribution in the Pyrenees, where it takes the place of *V. calcarata* in the Alps. It is a pleasant sight in high alpine meadows, but lacks the variety of colour found in *V. calcarata*. To fill the afore-mentioned dull, damp spot all too common in most gardens, I can think of nothing to equal *V. cornuta*—except *V. cornuta alba*, which is even more hearty. Both grow eight or nine inches high in cultivation, will put up with any sort of soil and conditions, and seem to revel in dense shade, where they look like a cloud of mauve and white butterflies, although, of course, no butterfly in its senses would remain in such a place for a moment.

*Viola lutea*: Everyone knows the little mountain pansy of Britain, with flowers—often bi-coloured—ranging from pale yellow to violet and purple. The best way to acquire it is to collect wild forms, or seed of wild forms. Although perennial, it appears to be short-lived in the garden, but once established it seeds about delightfully on paths and between paving stones, and is a joy for ever.

*Viola arenaria rosea* was given to us under this name, but I am told it is a doubtful one. At any rate, it is a delightful plant, and appears to be akin to the Wood Violet, *V. riviniana*. The leaves are deeply cordate, the flowers being a dark lilac-pink. This, too, should be given space where it may seed freely.

*Viola calcarata*: All who have visited the Central Alps of Europe in summer must be familiar with this *Viola*. It grows in short turf at 6,000 to 7,000 ft., in myriads—large, well-rounded flowers in every shade, from cream to lavender-blue. We have collected plants and brought them home, but have not had much success with them. Good drainage, full sun—and slug bait—are probably essential.

*Viola cenisia*: Higher, in screes at 8,000 ft. and upwards, this lovely *Viola* can be found, but always on limestone, in our experience. It has the unmistakably aristocratic look of the high alpine, and when

compared with *V. calcarata*, which one admired so much in the meadow below, it makes the latter look a trifle plebeian and almost blowsy ! The long-spurred flowers are soft lavender-mauve, and have purple lines radiating from the eye, which remind one forcibly of long, dark eye-lashes. In cultivation it is not easy. A trough, with ample water in dry weather, would probably give it the best chance of survival.

*Viola aetolica* from S.E. Europe is another plant suitable for the scree. It is neat and small, with flowers of a delicious, rich yellow. It is an annual, or at least short-lived, but is easily kept going from seed.

*Viola elegantula (bosniaca)*, also from S.E. Europe, is a very desirable plant for the rock garden. The foliage is evergreen, and the flowers are a most unusual colour which can only be described as warm red-violet. There is a magnificent colony of *V. bosniaca* in the Botanic Garden at Lautaret, where it has seeded down from the rock-work on to a path, and makes a brave show of colour.

*Viola jooi* (pronounced 'yo-oh-i,' we are told) is a native of Transylvania. The scented flowers are mauve, with violet markings, and have short, blunt spurs. It is quite easy to grow, but being no more than two inches high, is particularly suitable for sink or trough.

*Viola yakushimana*—spelt with an "h" by our Japanese member, and he should know ! This fascinating little plant attains the giddy height of  $\frac{3}{4}$  of an inch. The tiny leaves are kidney-shaped and the equally tiny flowers are white, veined with violet. Here is the perfect plant for the smallest miniature garden ! It also makes a good pot plant. Out of doors it does well in cool scree, but is rather lost in such surroundings, and can be seen better in a trough, where it should have some protection from hot sun.

*Viola delphinantha* : This almost legendary viola is said to inhabit crevices of limestone rocks on Mt. Olympus in Greece, and certain ranges in the Balkans. Every alpine enthusiast longs to possess it—but how does one acquire it ? Described by a friend, who once had a plant, as a little shrublet 3 ins. in height, with small, narrow leaves not in the least like those of a viola, and large, rose-pink flowers with long, delicate spurs, it sounds infinitely desirable—worth any amount of toil and trouble to find.

These are but a very few of this lovely family, which contains no poor relations. And slugs ? It cannot be denied that, except for robust species which can be relied upon to look after themselves, constant vigilance is necessary. Another way of dealing with the problem would be to follow Mr. Clarence Elliott's advice on how to keep *Campanula zoysii*, i.e., "to have it in such quantity that the most gargantuan slug comes over all bilious at the mere sight of our beds."

## Easy Propagation

### SOME TIPS AND IDEAS

By D. M. MURRAY-LYON

FIRST A warning. This is not written by an expert, nor for experts, so if you are one, please turn over to the next article.

Alpines and other Rock Garden plants are, many of them, quite long-lived ; others only live for a year or two. In any case, at a certain age they begin to deteriorate and do not flower so well or so freely. It is better as soon as this happens to replace them with young plants. You can, of course, buy your replacements, but you can propagate many of them quite easily yourself.

When I have asked some of our members if they make much use of the Seed Exchange, or if they strike many cuttings, the answer has often been no, because they have no greenhouse, or frame, or that they have not the time. That really is no bar to doing a little propagating. Most rock garden plants are quite easy to propagate, and if you only require a few plants no frames or special appliances are necessary. Later on in this article I will suggest a few ways of making do with what appliances you have.

The commonest form of propagation in nature is, I suppose, seed. For many species this is probably as easy a method as any. It has its limitations, however. For one thing, seed from a good form of a plant, one of a specially good colour, for example, may or may not produce as good a form. At best, only a small proportion is likely to be up to standard. In the case of hybrids, many do not produce seed at all, and if they do, the resultant plants may be a very mixed bag indeed. In these cases, therefore, if you wish to be sure of getting an identical plant you must propagate by vegetative methods ; these are Division, Layering, and Cuttings.

**DIVISION.** This is the simplest ; you merely pull the plant to pieces with the least possible damage to roots and shoots. Except for fleshy roots a knife is neither necessary nor desirable. Two small garden forks inserted back to back into the clump to be divided act as useful levers.

Easy plants may be divided at almost any time of the year, but there are two good seasons for it. One is March/April when the roots are becoming active. The other is August/September when the heat of the summer (if we have any) is over and there is still time for the roots to get a grip before winter stops growth.

Divisions may be planted straight away in their permanent quarters if precautions are taken to prevent them from getting dried out. Such precautions include covering them with a pot or box, or shading with evergreen branches for a few days, and syringing with water. If you know the reason, it is easier to find the remedy. A plant loses water

by evaporation and transpiration through its leaves, and until the roots are at least partly re-established this water is not fully replaced. If the plant is a very leafy one, transpiration may be decreased by the removal of some of the leaves, or by cutting some of them short.

**LAYERING.** In its simplest form this merely consists of bringing a shoot into contact with the soil and keeping it there. Many plants layer themselves in nature. Layering is chiefly used for prostrate plants and for those whose branches are easily brought down to ground level. It is used a lot for propagating shrubs.

There are various refinements which make rooting both surer and quicker. One is to scratch the outer surface of the bark on the under-side of the branch where it will be in contact with the soil. In the case of a larger and more woody branch, a cut with a sharp knife part way through and on a slant may be made on the under-side. Scrape a small hollow in the soil where the layer will come, and fill it with sand and peat in equal parts. The layer should be held in position by a peg of wood or wire, a large hairpin does for a small layer. This peg must be above, i.e. on the plant side, of the treated portion of the shoot. This causes constriction, and reduction in the flow of sap, and so encourages the production of roots. A stone may be used instead of, or in addition to, a peg. It has the additional advantage of helping to keep the layer damp. In the case of upright growing plants keep the top of the layer upright by staking. The woodier the shoot the longer it takes to root as a rule. For shrubs it is possibly best to allow about 15 months, i.e. early summer one year till late summer the next.

It causes less of a check to your new plant and it will lift better if you cut through the shoot joining it to its parent about a month before you intend moving the layer.

In the case of some hard-wooded plants layers are difficult to root ; *Acantholimon* is an example. In such cases a Heel Layer is worth trying. Select a branch and partly tear it off, but leave it hinged on to the parent plant. Peg down with the hinge open.

What is sometimes described as 'Mound Layering' is an easy way of increasing plants which grow in the form of a mound or cushion, things like *Kabschia saxifrages*, *Dianthi*, *Ericae*, etc. You pour into the cushion a fine sandy, peaty mixture and work it well down amongst the branches till you have a sort of mound with the tips of the shoots sticking out. Water the mixture well in and leave for some months. You can then divide the plant into a number of rooted pieces.

**CUTTINGS.** I suppose everyone has tried taking cuttings and knows to cut just below a node, or else to pull off a small shoot with a heel of the parent stem attached. The heel is essential in the case of hollow- or pithy-stemmed plants. Many people, however, never seem to have tried to make a Root or a Leaf Cutting.

**ROOT CUTTINGS.** These are used by nature herself. If you are troubled with Bishop's Weed (Ground Elder) or couch grass, and tear them



out leaving some of the roots behind, you know what happens if you just dig it over. *Primula denticulata* reacts in the same way. We can take advantage of this power inherent in the roots of certain plants for purposes of propagation. It seems to be plants with fleshy roots which respond best. *Morisia monantha* (*hypogaea*) was the first plant on which I tried my hand at making root cuttings and I got 100 per cent. strike. Roots, down to eighth of an inch diameter, say half as thick as an ordinary lead pencil, are cut into lengths of about an inch. The thinner pieces should be a little longer to make up for less girth, because the root has to live on itself until it has produced leaves.

A very important point to note is which is the 'top' end of the piece of root; it is NOT necessarily the thicker end. If you plant the root upside down, it may not grow. To avoid doing that, cut the top straight across and the lower end on the slant. Cut off any small fibrous roots, they will only rot and possibly the decay might spread into the main root. Insert your cuttings upright in a previously prepared pot. The pot should contain a sandy compost with an inch of pure sand on top. The cuttings are inserted so that the top of the cutting is flush with the top of the sand. The bottom of the cutting will then be roughly level with the bottom of the layer of sand.

Root cuttings of plants whose roots tend to grow horizontally and close to the surface of the soil, some primulas for example, may be laid flat, and just covered with soil or sand and peat. Many Primulas, Phloxes, Campanulas, Dianthus, Geraniums, Mertensias, *Weldenia candida*, and other plants may be propagated in this way.

The cuttings are ready for moving on when they have produced three or four leaves, which should probably be in two or three months. The best time for taking root cuttings of most plants is summer—June/September.

**LEAF CUTTINGS.** These are the last kind of cuttings I wish to discuss. It is of much less general application than the other kinds of cutting. The only rock plants I personally know of which grow from leaf cuttings are Haberleas, Ramondas, Petiolarid Primulas, Sedums and, I believe, Pinguiculas, though I have not actually tried the last-named.

Sedums are the easiest of all. If a blackbird tears up and scatters, say, a clump of Stonecrop, you will find almost every single leaf producing roots and growing where it lies on bed or path. The others are not quite so co-operative, but it is not really a difficult operation if you carry it out carefully. This method of taking cuttings is most useful in the case of Ramondas and Haberleas which are slow and not too easy from seed.

The leaf, which should be fully developed and 'ripe,' should be carefully taken off with a sideways rather more than a downwards pull. Care must be taken to get the whole of the part of the leaf stalk which clasps the stem of the plant without injuring it. If you have taken

the leaf off properly you will, if you examine it carefully, find a minute bud on the inner side of that clasping part of the leaf stalk or petiole. This bud is the essential item. If you tear off the leaf carelessly and destroy the bud, or leave it on the parent plant, the leaf may root, but there will be no shoot, and so no new plant.

The leaves are inserted in a mixture of equal parts peat and sand and kept shaded. They are best held in position with a hairpin, as a very short length of stem is inserted in the soil. The bud should be only just covered with peat and sand.

In the April 1956 number of our *Journal*, on page 73, Mrs. Boyd-Harvey suggested that the leaf should be cut off altogether, leaving only the petiole. I believe she has found this successful; in fact, she claims better results that way than with the leaf retained.

**HORMONES.** Opinion is still divided as to the extent to which the use of Synthetic Rooting Hormones is advantageous. It is, however, pretty generally agreed that in many cases it increases the percentage of cuttings which strike, and that it also increases the size and quantity of roots produced on individual cuttings. These synthetic hormones can be obtained in either liquid or powder form, and should be used strictly in accordance with the instructions issued with them. Do NOT give a little extra to make sure; it will probably prove fatal. The powder is probably safer than the liquid.

The commonest use of these is on cuttings, but the liquid form painted on to a layer, or the powder dusted on to the layer after damping it, does sometimes help in the case of slow or difficult rooters. The two best known and most easily obtained trade preparations of these synthetic rooting hormones are Hortomone A (liquid) and Seradix B (powder). Root formation in divisions by transplanting is stimulated, and establishment hastened by watering with Hortomone of the strength suitable for soft cuttings, or 'used' liquid Hortomone may be employed.

Anyone using, and especially if experimenting with, these synthetic hormones should keep in mind the fact that they encourage 'Root' formation. They not only do NOT encourage the growth of buds and leaves, but actually discourage it. They must therefore not be allowed to get on to any part of a plant other than that on which you wish roots to grow. In the case of root cuttings we wish to encourage the growth of leaves, so do NOT use root-promoting synthetic hormones.

**SEED.** In nature the seed of alpine is sown as soon as ripe when the capsule opens. In some species they germinate at once, grow quickly during the heat of the summer, and then rest under the snow during the winter.

The seed of other species, probably mostly the late flowerers, lies dormant under the snow until spring. Many will do the same in our gardens if left to themselves. Our winters, however, are very different,



*Photo.—R. B. G., Edin.*

Fig. 2.—*Romanzoffia unalaschkensis* (see page 9).



*Photo.—R. B. Cooke.*

Fig. 3—*Cassiope tetragona* at Advent Bay, Spitzbergen (see pp. 20 and 26).



*Photo.—D. Wilkie.*

Fig. 4.—*Erica tetralix* (see page 20).



*Photo.—D. Wilkie.*

Fig. 5.—*Saxifraga aizoides* (see page 20).



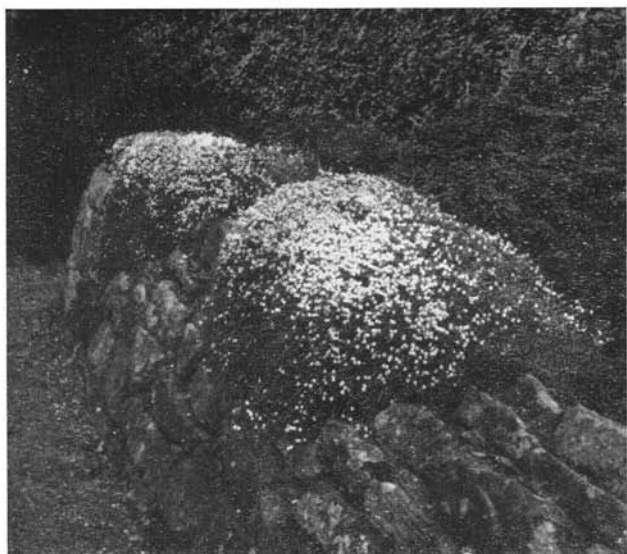
*Photo.—D. Wilkie.*

Fig. 6.—*Saxifraga oppositifolia* (see page 20).



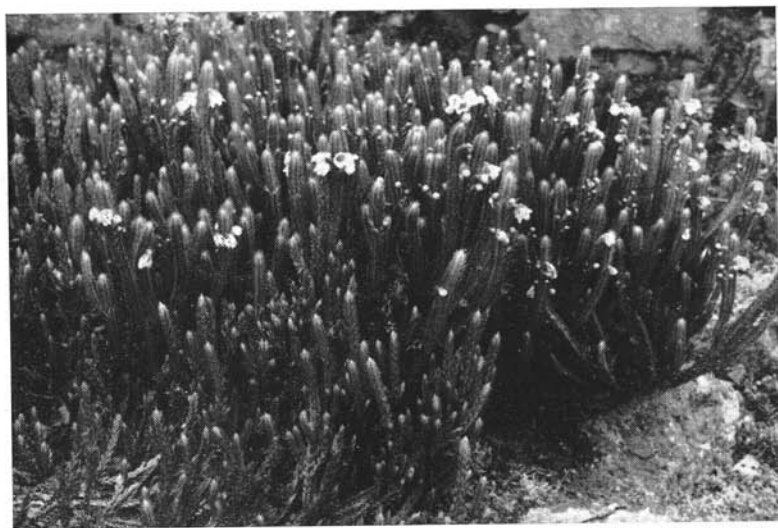
*Photo.—D. Wilkie.*

Fig. 7.—*Silene acaulis*, Ben Lawers (see page 20).



*Photo.—W. A. Clark.*

Fig. 8—*Cassiope lycopodioides* (see page 25).



*Photo.—W. A. Clark.*

Fig. 9.—*Cassiope wardii* (see page 26).

frost and thaw alternating, so that the seed may easily make a false start and the seedlings suffer accordingly.

In the case, therefore, of less common and possibly more difficult plants, a wise precaution might be to pot up a few of the self-sown seedlings, in the case of early germinators, and winter them in a frame if you wish to be sure of having them in the spring. In the case of late flowerers of similar character, harvest the seed and sow in January/February.

As a lot has been written before about the technique of seed sowing, and as instructions are available on request from the Seed Distribution Manager, I do not propose going into details here. Remember, however, you very often get much more seed in a packet than you really want. Don't sow it all in one small pot; give some away, and what you keep sow very thinly.

There are a few points about which I would just remind beginners in the art. One is that most alpine seeds germinate better if allowed to get frozen; put them in the 'frig' for two or three days if the weather does not oblige. They don't take up much room if put on wet blotting paper in saucers piled one on top of another. Snow is also said to have a beneficial effect.

Seed of plants whose seedlings are known to be tricky to transplant should be sown very thinly in pots, or even singly in small pots. Then instead of having to prick them out, the whole potful is just tapped out without disturbance of the roots and planted complete as it is.

**BLOCKING** is another way of giving seedlings a better chance of getting away to a good start when planted out. We suppose the seedlings to have been pricked out, then a week or ten days before planting-out take a knife and cut the soil between the plants so that each is in its own 'Block.' This cutting of the roots causes them to branch and form a good ball which lifts well.

#### **MYCORRHIZAL ASSOCIATION.**

To obtain their food from the soil many ericaceous and coniferous plants require the help of microscopic fungi which live in and around their roots. To ensure this essential mycorrhizal association, a handful of peaty soil or leaf mould from around the roots of a rhododendron or other ericaceous plant should be mixed in with the seed compost. It is also advisable to add it to the compost used for cuttings.

#### **MAKESHIFTS, ETC.**

Now I shall mention and try to explain some of the makeshifts which can be improvised to take the place of more ambitious equipment.

#### *Substitutes for Frames.*

An ordinary wooden box, say 18 inches  $\times$  12 inches, but size is immaterial, with its bottom knocked out, is one. It should be sunk in the ground so that it is tilted forward sufficiently to run off the

water from the sheet of glass with which it should be covered. A large pot, say 10 or 12 inches, can be used in the same way. The glass can be fixed with wire to prevent its being blown off. Don't use string ; it will gradually be chafed away and then the wind will lift the glass right off and smash it one windy night. Other substitutes are jam jars upside down or lantern cloches standing on a prepared seed bed out of doors. Neither rain nor the swish of a large-rosed watering-can washes away the seeds, but the water seeps into them from the edges.

For people with not much time to spare this is a useful way to raise seeds or cuttings, for there is much less danger of their drying out quickly. Another advantage is that careless watering by a heavy-handed non-gardening friend in your absence is not likely to do any damage.

As each lot of seedlings is ready for it, its own 'frame' can be removed ; it does not have to wait for the rest.

Another labour-saving method is to sow your seed (very thinly) in  $2\frac{1}{2}$  inch pots and sink these in sand in a large pot. The larger pot is then stood in a saucer or plate which is kept full of water. The water level should not come up to the level of the small pots, of course ; its job is to keep the sand wet. If your soil mixture contains a good proportion of vermiculite, up to half, perhaps, it is a further insurance against drying out. If the water used has sufficient permanganate of potash added to make it a deep pink, it helps to discourage damping off. Vermiculite should, of course, be well soaked before mixing into the compost.

Another lazy method is one I have read about but not yet tried myself. It consists of sowing the seed on ordinary building bricks which you can then stand in a vessel or tray containing about a couple of inches of water.

For striking cuttings one of the easiest methods I have seen is just to stick them close to the edge of the stone flags of a path. Of course, you must have the flagged path and in a place not too hot and sunny. The flags, of course, conserve moisture and the roots will tend to grow in under them.

#### *Polythene :*

This comparatively new material is wonderful stuff for gardeners.

If you put your pot or box of seeds or cuttings right inside a polythene bag and tie the end up, it will retain its moisture indefinitely. It also helps to stabilise the temperature, which helps germination, or rooting in the case of cuttings.

There is, however, one thing which must be carefully watched, and personally I had to find it out for myself the hard way. It has not been sufficiently stressed, or even mentioned, in articles I have read on the use of polythene. This important point is that the soil must be



at the correct degree of moisture. The first time that I tried cuttings in a polythene bag I used the usual technique. I prepared the pots, put in the cuttings and then stood the pots in a few inches of water to soak. After allowing them to drip for a quarter of an hour or so, I put them in the bag. Result—Damping off! Of course, they were WET, not moist, and they stayed WET.

I now have success by steeping the empty pots in water and then letting them drip till they are still moist, but not wet. Then I mix up my soil and get it to the right degree of moisture by sprinkling with water and mixing it. The test for the correct degree of dampness is the old one of squeezing a handful; it should when right retain the imprint of the hand for a second or so before falling apart.

I have seen some people using polythene by tying a sheet of it over the top of a pot or box. I cannot believe that it is nearly so effective as totally enclosing; there must be some evaporation from the body of the pot or box.

I hope that any of our members who have tried other methods, or who have criticisms or suggestions to make, will send them along to the Editor. Those wishing to go more deeply into this question of propagation should get "Propagation of Alpines" by L. C. Hills.

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## To a Rock Garden in Winter

Sleep deeply, Little Things!  
 Soft as an angel's wings  
 Your blankets fall.  
 Safe in your earthly beds,  
 Great stones above your heads  
 God over all.

Fearing no wintry blast,  
 Covered till Cold is past  
 With Heaven's own care.  
 Waiting the time to rise,  
 When Spring with kinder skies  
 Clothes you so fair.

Wake, wake thee, Little Things!  
 When again Robin sings,  
 And warm the sun.  
 Lift up your brave, small heads,  
 From out your cold, dark beds,  
 Bloom time begin!

ELLEN PAGE HAYDON

## Campanulas for the Rock Garden—Part 3

By STEWART MITCHELL

SOME PEOPLE frown upon hybrids of all kinds. Others again are interested in their novelty. It is remarkable, too, how gleefully plant hunters record natural hybrids and relate how many hours they spent looking for them in places where two species of a family bloom near each other. So there must be something in it. The grouping in gardens of species from widely separated natural habitats gives further rise to hybrids without the intervention of humans. Indeed, most of the hybrids of *Campanulas* we learn about are products of chance rather than the work of the hybridist, although there are of course man-made hybrids too. There does appear to be some limitation on the range of species which set seed with the pollen of other species, so hybrid *Campanulas* are not in such numbers as one might reasonably expect.

The diversity of the family is really sufficient for the average gardener, but some combinations have produced plants which are distinctive and lovely. A fairly general peculiarity of hybrid *Campanulas* is the yellowish tinge in their foliage. Some, particularly when the foliage is young, are definitely of a clear yellow colour. I have not come across a scientific explanation for this, although it is consistent enough for there to be one.

*Campanula carpatica*, variable from seed in any case, has produced many good hybrids, as one might expect, and in my small selection quite a number have *carpatica* as one of their parents. It has been in gardens for much longer than many of the others.

The first two on my list are apparently nursery names and are noted as *Campanula carpatica* "Craven Bells" and *C. carpatica* "Ditton Blue." The first has rich violet flowers with pointed, widely reflexed lobes, quite an attractive variation. The other parent is not seemingly known, and while the name suggested that Farrer might mention it, I could find no reference by him. "Ditton Blue" remains a mystery to me, but it has a better claim to the blue part of its name than many *Campanulas*.

*C. pseudo-raineri* (*C. carpatica turbinata* x *C. raineri*) is a real charmer with full size pale blue *turbinata* bells sitting upright on very short stems. It runs a bit like *raineri* and has the same softly hairy, greyish foliage. I have not grown *raineri* but doubt if it could be as good as this hybrid.

*C. pulloides* and *C. pulloides* "G. F. Wilson" may be best taken together, the first being said to be *C. turbinata* x *C. pulla* and the other to be the reverse cross. These are examples of good hybrids as I would call them, having produced a fine combination, for they have the dark purple flowers of *pulla*, the plant generally intermediate in size, with the bells fine and wide. It gives two good shows per annum,

as of course many of them will if the first blooms are cut off when faded.

*C. x stansfieldii* (*C. carpatica* x *C. tommasiniana*, or the reverse) is a distinctive campanula with beautifully proportioned bells of a good violet colour. Farrer calls it "a gift from Heaven" and most of us will agree. In scree it does not exceed four inches in height, its pale foliage harmonising well with its flowers. It is a choice and easy plant, a fine combination.

*C. x tymonsii* (*C. pyramidalis* x *C. carpatica*) is another I would term choice; its parentage is given thus, but that these two could produce this miniature beauty is almost unbelievable. I have not found it too permanent, and the distant relationship of its parents is blamed. It has a neat habit, four to five inches tall, and wide open bells of pale blue.

*C. x warleyensis* (*C. cochlearifolia* x *carpatica*) is an interesting "double" of four to five inches, for it has two and often three bells with frilly edges one inside the other. It is likened to ballet dancers, skirts. Some confusion seems to exist with *C. x haylodgensis*, which some say is similar, and others give quite different descriptions. I have been unable to unravel this. Farrer says it is "not ugly"—so you can take that as being something like a Scotsman's "not bad"—for it is an excellent easy plant.

One of these *carpatica* hybrids is given as a parent of *C. x* "Norman Grove," the cross being said to be *isophylla* x *stansfieldii*. This is a fine hybrid, neater than *x stansfieldii*, with paler and smaller flowers, lobes not so sharp, and paler foliage too. It is the clearest of yellows when the new foliage comes up in Spring.

*C. x hallii* (*C. cochlearifolia* x *portenschlagiana*) is a dainty thing with wide-mouthed little white drooping cups on two- to three-inch stems. Much like its smaller parent for habit, one wonders why it should always be white.

*C. x* "R. B. Loder" is possibly not a hybrid but only a seedling form or sport with double flowers from seed of *C. cochlearifolia* "Miss Willmott." Otherwise it is an unknown cross with this pale blue "Fairy Thimble." It is quite attractive in its own way, the shape of its drooping bells reminding me in some way of "Jerry" helmets. They are about the same colour and size as the suggested parents. *C. x* "Lynchmere" (*C. elatines* x *C. rotundifolia*) is a fairly recent introduction which makes a nice combination of hairy, greyish-looking foliage and rich purple bells of good *rotundifolia* shape. It grows to seven or eight inches tall and flops as one would expect. Perhaps I grew it too soft, for I have failed to keep it over its first winter. It got an Award of Merit in 1948.

*C. x rotarvatica* (*C. rotundifolia* x *C. arvatica*) takes the size of its second parent, with neat starry flowers, not quite as good as *arvatica*'s

but more numerous. It is inclined to run, and much easier to grow than *arvatica*, making nice mats. An Award of Merit plant of 1935, it is a first-rate plant.

*C. x kewensis* (*C. excisa* x *C. arvatica*) is another delightful runner said to have originated as a chance seedling at Kew. In scree it can run too much and its thin three-inch stems with dainty violet bells appear far from the original planting space. The little pointed lobes of the bells seem to come from *excisa*. In a crevice most of these running beauties would be confined and their display of flowers concentrated.

*C. x wockii* (*C. pulla* x *C. waldsteiniana*) has violet-blue bells paler than one would expect from any *Campanula* with *pulla* blood. Its hanging bells in profusion make a fine display from such a small plant of three to four inches in height. The bells are neatly shaped, intermediate between those of its parents. I find it will grow taller in richer soil.

This, then, is my small selection of hybrids, each with some distinction of its own making it worthy of a place with my collection of species.

I do not claim my article to be entirely original, for much of the information an amateur gardener picks up from many sources is digested and its origin forgotten. I would like to say, however, that Farrer's "English Rock Garden" deals well by the family, and Samson Clay in his complementary volume "The Present Day Rock Garden" adds some more. The greatest delight, however, has been the more recent publication, "Campanulas," by H. Clifford Crook.

## THE SOCIÉTÉ DES AMATEURS DE JARDINS ALPINS

TOO LATE for publication in full in this issue of the *Journal* we have received an exceedingly interesting article concerning our sister society in France. The objects of the Société des Amateurs de Jardins Alpains, founded in 1951, are very similar to those of the S.R.G.C. and it carries out a most ambitious programme of lecture and discussion meetings during the winter months, with excursions to public and private rock gardens and alpine plant regions during Spring and Summer.

A most cordial invitation is extended to interested members of the S.R.G.C. to join members of the S.A.J.A. in a Whitsuntide excursion to the Mont-Dore in the Auvergne Mountains. Requests for detailed information should be addressed to : Mr. Fernand Mounier, General Secretary, S.A.J.A., 1 Rue Thénard, Paris Ve, France.

Editor.

## Some new *Meconopses*

By K. S. H.

THE EXPEDITION of Stainton, Sykes and Williams to Nepal in 1954 has added a number of new and attractive meconopses to those already in cultivation. It is not unlikely that these will become cross-fertilised in gardens and will cease to come true to type, but it may be of interest to record a few notes on some of the plants grown from the original seed.

In October 1955 specimens of ten numbers were planted in a semi-shaded bed of rich soil. There is running water about 2 ft. below the surface which keeps the soil cool, but good drainage trenches were made to prevent it becoming waterlogged.

The necks of the plants were protected by a layer of coarse sand and open-ended cloches were placed over the plants to protect their hairy crowns from overhead damp in winter. In the Spring of 1956 the cloches were removed and the basal rosettes began to grow.

By the summer some of the rosettes were nearly two feet in diameter and no two varieties were quite the same in form or colour. With the leaves densely covered in gold or silver hairs they made a very beautiful feature in the garden even when not in flower.

Any rotted basal leaves were removed in Autumn and a layer of sand was spread under the rosettes. Large open cloches were again put over them, but they were given no protection from frost. Some of the leaves had slightly blackened edges after a cold wind, but otherwise all the plants were perfectly hardy.

In the Spring of 1957 flower stems grew rapidly on eight of the ten numbers. Of these two have leaves of the *M. regia* type.

*SSW 8951* was about 2 ft. tall with flowers of pale lemon yellow and was the first to flower in May.

*SSW 4627* was a particularly handsome plant. Its basal leaves of grey-green were 18 inches long and densely covered with silver hairs, as were the flower buds growing in clusters up the stem, from the leaf axils. The flowers of pale yellow were large and of a beautiful form. The plant grew to 5 ft., the first flower opening on 27th June and the last in December.

The remaining six had leaves of the *M. nepalensis* type; of these *SSW 8480* had poor flowers shading from pale to deep pink and did not appear to be worth growing again.

*SSW 8459* was a very good pink, flowering freely from early June. The leaves were covered with gold hairs and the plant stood about 4 ft.

*SSW 8648* had yellow flowers opening from late June onwards. The basal leaves were 18 inches long and covered with silver hairs; the stem grew to 5 ft.

The other three plants of the *M. nepalensis* type had flowers of a wonderful bright mahogany red ; they were :

*SSW 8479* with basal leaves 15 ins. long and stem of  $5\frac{1}{2}$  ft. It had stem, leaf and bud covered with rusty gold hairs which set off the rich red of the flowers. The first bud opened on 30th May.

*SSW 8481* opened a week later and was similar but the hairs were of a paler gold.

*SSW 8461* grew to almost 7 ft. and was similar to the other two in colour. It flowered from mid-June.

The shorter-stemmed varieties were more showy in that they had more flowers out at the same time. The very tall yellows and reds opened only a few flowers at one time, but the colouring of these blooms and the beauty of the foliage made up for this. They will undoubtedly be a great asset in any garden where there is room to grow a group of them in suitable surroundings.

*Edinburgh.*



## The Alpine Garden Society

offers its Members benefits which it regards as complementary to, and in no way competitive with, the benefits offered by the Scottish Rock Garden Club.

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## A Selection of Dwarf Shrubs—Part VI

By A. EVANS

*Pachistima* (Celastraceae). Many plants are grown for the interest they provide, and the two species of *Pachistima* which make up the genus can be considered interesting. They are both natives of North America and they are dwarf, reasonably hardy, evergreen shrubs. The soil condition most suited to them seems to be an open one in which humus and moisture are plentiful. They are ideal plants for adding an unusual touch to the Rock Garden.

*Pachistima canbyi* is the more dwarf-growing species which, if conditions are suitable, will spread by self layering. It has a neat habit and very seldom exceeds four inches in height, while during the flowering period, which extends throughout the summer, there are always numerous small greenish flowers to be seen. In keeping with the flowers, the leaves are minute and narrow, but they are in sufficient numbers to clothe the shrub successfully with well-balanced foliage. *Pachistima myrsinites* is taller and stronger-growing than *P. canbyi* and will grow to at least three times its height. The leaves are much broader and are oblong rather than lanceolate and in contrast are a brighter shade of green. Branches spring from the base so that the shrub remains compact and fully covered with foliage, while the flowers, which are fairly small and tinged red, can be found on the plant in early summer.

*Pachysandra* (Buxaceae). There are very few species in this genus and, alas, not one of them can be considered beautiful. Despite this, however, these plants can be interesting and indeed valuable for their ability to grow and flower in dense shade. Even beneath the heavy canopy of evergreen shrubs *Pachysandra*, once established, will provide a complete ground cover. The area in which it is planted is colonised by means of underground shoots, and these will spread rapidly and more effectively where the soil is loose. Ample moisture must be available during the summer months. Propagation is carried out by dividing the larger clumps in spring or autumn, although early autumn is recommended as the better period.

*Pachysandra terminalis* is perhaps the most widely grown in this country and small plants will speedily form thick mats of dark green foliage capable of competing with most weeds. Shoots rarely exceed six inches in height and the glabrous leaves form rings round the stem so that they resemble the spokes of an umbrella. In shape the leaf is broadest above the middle and tapers gradually to the base, while the apex is coarsely toothed. This Japanese species flowers in April when the small, inconspicuous, greenish flowers are produced in terminal panicles. *Pachysandra terminalis* is first and foremost a foliage plant for shady sites and in such difficult situations fulfils a need. *Pachysandra terminalis* var. *variegata* is a brighter more colourful

variety with variegated leaves and spreads almost as rapidly as the species.

*Penstemon* (Scrophulariaceae). There must be few rock gardeners who do not know and grow at least one dwarf species of *Penstemon*. This genus is almost entirely confined to North America but fortunately a large number of them are amenable to cultivation in Great Britain. In their native habitats they frequent the warm sunnier slopes and some effort must be made to copy these conditions in our gardens if they are to be cultivated successfully. Not all are completely hardy in these Islands and some are short-lived plants, but by seed sowing and vegetative propagation it is not difficult to retain in cultivation these less hardy species. On the other hand, there are many varied and colourful *Penstemons* which appear suited to our climate and rarely succumb to average winter conditions. A site facing the sun, a soil that is not too rich, and some shelter from the fiercest winds should give satisfactory results. Of the species and varieties listed here none can be said to be difficult and all are colourful and invaluable in their flowering season. To maintain vigour in the groups it is advisable to replace with young plants every four or five years.

*Penstemon barrettae* is one of the stronger-growing species in this selection and it is guaranteed to give satisfaction to all who admire a flowering plant. During May and June this shrubby species with broad, thick, dark green leaves is producing numerous spikes of large purplish flowers. Little or no foliage is visible at this time and the ultimate height of this plant is nine to twelve inches. *Penstemon diffusus* will also reach twelve inches in height, but it does not bloom quite so freely. The flowers, however, are larger and they may vary from pink to purple, depending on the form grown, while the leaves are broader and longer and have a much softer texture. *Penstemon fruticosus*, a widely grown plant, has an erect habit of growth and is one of the more hardy species. It naturally develops into a compact bush and, during the summer, produces spikes of large open-mouthed flowers. These flowers may vary from medium to light purple and are supported on the stems by well-proportioned narrow foliage.

*Penstemon menziesii* is a dwarf, close-growing plant with dark green leaves. This species has the distinctive habit of forming little mounds of closely-knit branches and remains tidy and well clothed throughout its lifetime. It is an extremely useful plant for associating with rocks, as the branches will follow the contour of the boulders. There it seems to enjoy the reflected warmth and, although colourful June is its flowering month, it possesses these qualities which make it outstanding amongst others. The shade of the petals is a bright violet purple and even small plants will smother themselves with flowers. There is a fine-leaved variety of this species, namely *Penstemon menziesii* var. *microphyllus*, which has softer-coloured flowers and altogether makes a very neat shrublet.



*Penstemon micranthus* has small purplish lilac flowers produced in abundance on six- to nine-inch elongated spikes. The flowers are narrow funnel-shaped and yet are so numerous that they form tight clusters at intervals on the stem. The leaves tend to be long and strap-like, glabrous, and slightly glaucous, with entire margins.

*Penstemon newberryi* is a very brightly-coloured species which in form is very similar to *P. menziesii*. It grows to a larger size but still retains that rounded habit. Glaucous foliage is an added attraction, and the elliptic to ovate leaves have slightly-toothed margins. During July this species becomes a beacon lit by its bright rosy-purple flowers. A variety, *P. newberryi* var. *erectus*, is a selected form with short upright branches not normally found in the species.

*Penstemon scouleri*, although the last in this exceedingly short list, is by no means an also ran but is in the forefront of the genus. The comparatively large flowers are rose-purple and are gathered in a tight spike. Twelve inches is the approximate ultimate height of this plant, and the shoots are amply furnished with narrow bright green foliage with serrated margins. *Penstemon scouleri* var. *albus* is without doubt an exceptionally decorative variety with brilliant white flowers. Like all other Penstemons it enjoys good drainage and maximum sunlight and can be recommended as a plant for the top of a low retaining wall. There the shoots can arch over and hang down the face of the stone where the extra reflected heat in summer will aid the ripening of the shoots.

*Polygala* (Polygalaceae). Although the species of *Polygala* are numbered by the hundred, not many are suitable for growing in the rock garden. In fact only two shrubby species are listed here. These are fairly widely cultivated and respond reasonably well to the attention given them by most gardeners. A well-cultivated open soil with a high humus content, but not one which becomes dry in summer, seems to suit them best. They spread by sucker shoots and these appear to enjoy the freedom allowed by this not too firm medium. Propagation is a simple operation and small plants may be obtained by dividing the existing clumps. Mid-spring and early autumn are the best times for increasing stocks by this method, but care must be taken to see that these small divisions are not allowed to dry out before they become re-established.

*Polygala chamaebuxus* is a popular plant and fortunately is not difficult to grow. It is native to the mountains of Central Europe, where it has a wide distribution. *Polygala chamaebuxus* can hardly be termed a tall shrub, for its stature rarely exceeds six inches, and this dwarf, close-growing habit, coupled with its unusual flowers, appeals to the rock gardener. The blooms closely resemble the pea flower in shape and are creamy white with a yellow tip to the keel. They appear in the axils of the evergreen, lanceolate, soft leathery leaves, and occasionally tend to be hidden by the foliage.

*Polygala vayredae* is very similar to the previously mentioned species except that here the flowers are reddish-purple with a yellow keel; also the leaves are narrower and, overall, this is a slightly smaller plant. Once established, both these species will form close-growing clumps successfully colonising a small pocket in the rock garden.

*Polygonum* (Polygonaceae). Gardeners are not to be blamed for fighting shy of any plant which bears the generic name *Polygonum*, for there are many rampant-growing plants and obnoxious weeds included in it. On the other hand, it hardly seems fair to banish all *Polygonums* from the garden without first of all finding out something about them, for there are quite a few which are decorative and attractive, and at least a couple are suitable for growing in the rock garden. Neither need menace other plants, for they can be pruned and kept within bounds with the minimum of attention and, what is more, they are not in need of rich soil in which to grow. In fact once established they will produce more flowers where the soil is decidedly poor.

*Polygonum affine* has a long flowering season, starting in August and continuing throughout the following months into December. These flowers are borne in dense spikes nine inches high and at the outset are shaded light pink. As the flowers age, however, the colour deepens until they become rosy-red and finally turn light brown. By the end of October all three stages are evident on the plants and the combinations of these shades and colours has much to commend it. *Polygonum affine* forms a compact mat and should be planted in full sun in an exposed position. There the green leaves will also change to red in late autumn, so that the whole plant becomes an extremely colourful feature in the garden. This perennial is deciduous and completely hardy. *Polygonum vacciniifolium*, unlike the previous species, will grow and flower reasonably well on a north-facing mound, although the sunnier aspect is to be preferred. Its sprawling habit makes it ideal for covering a rock face—a problem often confronting gardeners. In such a situation the almost upright growing spikes, three inches in length, are seen to their best advantage as they curve outwards and upwards away from the trailing stems. *Polygonum vacciniifolium* is a hardy species with small ovate leaves and minute rosy-pink flowers which are in full bloom in late summer. It may be necessary to prune this plant severely in spring to prevent the closely-knit shoots from smothering slower growing neighbours.

*Potentilla* (Rosaceae). The majority of plants listed under this name are herbaceous and many of them are first-rate rock garden plants, but in addition to these there are a few shrubby species of small stature well worth accommodating in a similar home. All the species are sun lovers and will only flourish satisfactorily when they are planted in the open. A medium light soil where there is sufficient moisture to encourage young growth on which the large flowers are borne is what they enjoy.

*Potentilla fruticosa* var. *grandiflora* has flowers which measure one distribution ranging over the whole of the northern hemisphere.

Consequently it varies considerably in its habit of growth and size of flower and so has been divided into a number of varieties ; naturally not all are fine forms but some have admirable qualities. It is a deciduous shrub with numerous sucker shoots and old twiggy branches. As the bush becomes congested with branches so the number of flowers increase, but in so doing diminish in size. Conversely, when the plants are young and there are fewer shoots the flower size is appreciably larger. A form of judicious pruning should therefore be practised to strike a balance between size and quantity of bloom. This thinning operation should be done in early spring and consists of cutting out some of the older twiggy shoots, making room for the development of the young vigorous growths. The flowers in all the varieties are yellow and the plants are in bloom all summer.

*Potentilla fruticosa* var. *arbuscula* is a variety from the orient and combines large flowers with a dwarf-growing habit. The arching branches, which tend to be prostrate rather than upright, ensure that the bush remains low and compact and furnished with leaves and flowers to ground level. The individual flowers are amongst the largest in this aggregate of plants and are bright yellow in colour.

*Potentilla fruticosa* var. *grandiflora* has flowers which measure one inch across, and in addition the leaves have large handsome papery brown stipules surrounding the stems. Here the growing habit is inclined to be upright and the shrub may eventually reach four feet.

*Potentilla glabra* is similar to *Potentilla fruticosa* in many ways and when not in flower they are difficult to tell apart, the main difference being in the colour of the flowers. In this instance they are white, but on the whole *Potentilla glabra* is a less vigorous plant. The flowering period lasts from June until August. It is native to North China and Siberia and is completely hardy.

*Potentilla glabra* var. *mandshurica* is a low-growing variety of great merit which flowers profusely and is further enhanced by having silvery-grey foliage.

*Potentilla nitida* with its trailing perennial branches will spread over the surface of the soil forming a silvery-grey carpet. This is a plant which is shy to flower, but even where only a few flowers are produced they are of such merit that the plant is worthy of the space allocated to it. The colour of the flowers may vary from light pink to deep rose according to the form available. It is essential that this species be given a sunny position, preferably where its branches can trail over a rock face, or planted in a scree—a limestone one if possible. *Potentilla nitida* should be left to develop naturally and no attempt should be made to curb the spread of its branches. Rather, it is better to choose a site where its spreading habit will not interfere with anything precious than to prune away its young shoots. It grows wild in the limestone screes of the Dolomites, where it is to be found in all its colour range.

## Winter flowers for the Rock Garden

By "WINTER GREEN"

I PROPOSE making winter rather an elastic and inclusive term, taking in the six months October to March, both inclusive. These months, especially the first four, are often written off as a more or less barren time for the rock garden. I disagree, and will try to demonstrate that this is by no means the case; so much so, in fact, that I shall have to be rather selective in the plants I pick for mention, otherwise I shall much exceed the space the editor is likely to allow me.

I grow the plants I am about to describe in Edinburgh, from which you will be able to assess their hardiness to some extent. Most people seem to go in for spring-flowering bulbs, but autumn and winter flowering ones are much less in evidence as a rule, I shall, therefore, start off with some of these autumn flowering bulbs, and bulbs should be taken to include corms and tubers.

First some autumn crocuses, NOT colchicums, with which they are frequently confused. *Cc. zonatus*, *speciosus*, *medius* and *longiflorus* usually come into flower in that order. The first probably starts in September, and the last goes on into December, though the time of flowering of course varies to some extent according to the weather. Most produce their flowers on three- or four-inch stems before the leaves appear. They are rather apt to get blown over in stormy weather, so it is an advantage to plant them under some light twiggy carpeting plant which can then act as a support. *C. medius*, however, is the exception, and leaves and flowers develop together, and being a lower plant it is capable of standing up on its own. Its flowers are lavender, with scarlet-orange stamens, a really lovely flower—especially when wide open in the sun. *Cc. longiflorus* and *zonatus* are both lavender in colour, the former sweetly scented and having bright scarlet stamens. *C. speciosus* has very large, goblet-shaped flowers which range in colour from white to deep blue, perhaps the most beautiful of all the autumn crocuses. Many others may be found in catalogues. All are easily grown in any reasonable, well-drained soil, preferably in full sun. To ensure good results they, and other autumn-flowering bulbs, are best planted in May or early June.

The colchicums, especially the large hybrids, are not really very suitable for the rock garden. Apart from anything else, their 'cabbagey' leaves in summer are apt to swamp their neighbours. *C. autumnale album* (see Fig. 12) and *C. aggripinum*—chequered purple, are however perhaps worth considering, being dwarfer and tidier. They are really September flowering, but often continue into October.

*Sternbergia lutea* is another October flowerer, and not seen as often as it deserves. The leaves are dark green and strap-like and four or five inches long. The flowers are rather like large shapely golden-yellow crocuses, and stand six or seven inches high. It requires a

good baking in summer, and so should be given scree conditions in full sun with a large stone to the north of it to absorb and pass on the sun's heat. Plant four or five inches deep, with some good feeding—"Cow," bonemeal, or compost—a few inches below the bulb, which is best surrounded with sharp sand.

The hardy cyclamen flower in turn throughout the whole period we are considering. *C. europaeum*, which has sweetly-scented crimson flowers, is really an August-September flowerer, but it often continues into October, as does *C. neapolitanum* (see Fig. 13), which has flowers of different shades of pink; there is also a very lovely white form. The leaves of both these cyclamen are marbled with silver, particularly *C. neapolitanum*, which would really be worth its place as a foliage plant even if it never flowered. *Cyclamen hiemale*, from Turkey, may start to flower in December, but it is more likely to do so in January-February, so we will hold it over for that period.

*Leucojum autumnale* is a neat and attractive little plant of only six inches, with rush-like leaves and pretty pendant bells of white flushed with pink. It is quite hardy in scree.

Another plant for scree, in the warmest corner you have, is *Oxalis lobata*. Do not be alarmed if its clover-like leaves disappear about June; they will reappear with its golden flowers in September. It is quite dwarf, being only about three inches high.

Two sedums which are very colourful at this time are *Ss. caucolicum* and *pluricaule (ewersii)*. The former is fairly well-known, but not the latter, which was recommended for an Award of Merit from the R.H.S. in September 1957 (subject to verification of the name). It is rather like *S. caucolicum*, with the same glaucous leaves. It does not, however, have the rather bare centre *caucolicum* has, as its prostrate stems have side branches coming off all the way along, each with a terminal bunch of bright cerise-red flowers. They are both happy in scree.

An attractive group of plants far too seldom seen consists of various species of *Cyananthus* (Campanulaceae). *C. lobatus* is only three or four inches high, but its more or less prostrate branches cover a diameter of twelve inches. It produces deep blue, large, open flowers over quite a long period well into October. The variety *insignis* is stronger growing and has flowers of a more vivid blue. Rather smaller and daintier, and with flowers of a lighter blue is *C. integer* which does best in richish scree, whereas *C. lobatus* prefers what I might describe as dwarf rhododendron conditions. Then there is *C. sheriffii*, rather like *integer*, but with grey foliage and pale blue flowers. It has the reputation of not being too hardy, but I have grown it in scree for years without ever covering it in winter.

Primula flowers are by no means common in autumn, but you can have quite a good show of them if you grow the late-flowering form of *Primula capitata*; this does well in any decent soil in sun. Actually I grow it in my Asiatic gentian bed. I do not propose going into details

about these autumn gentians ; they would require a long article to themselves.

Everyone, I suppose, knows what *G. sino-ornata* requires, and the others, species and hybrids, require the same conditions. These are a damp humusy soil, but well drained, full sun in most parts of Scotland and, I understand, part shade in the hotter parts of the south of England. The catalogue of any nurseryman specialising in these gentians will give you a choice of a dozen or more species and hybrids.

A saxifrage requiring similar conditions to the Asiatic gentians is *Saxifraga strigosa*, a native of the Himalayas. This is a free-flowering plant about three or four inches high with starry flowers of deep yellow, a nice combination with the blues of the gentians. It is quite hardy, and is easy from seed, but not long-lived.

*Pratia angulata* var. *treadwelli* (Campanulaceae) comes from South Island, New Zealand, and requires a cool soil with some humus in it. I find it does well in a north-facing wall where it gets the late afternoon sun. It has intriguing white flowers rather like lobelia earlier in the summer, and in the autumn purplish-red berries with the flowers still continuing. It is decorative right up to the first hard frost. It is a trailer and roots wherever it touches the ground, and dies right back in winter.

*Parochetus communis* (Leguminosae) is found both on the Himalayas and on the mountains of Kenya. It has leaves like clover and solitary pea flowers of a brilliant sky-blue. The plant is a crawler, rooting as it goes, and is only about three inches in height. Do not put it too near anything really small and precious or it may smother it, but it is a very lovely thing. It usually starts to flower towards the end of September, and carries on until cut back by hard frost. The conditions which suit it best are not too easy to provide—plenty of moisture in summer and fairly dry in winter. A position near the foot of a bank, with a good big rock to get its roots under, and where it can spread out on the flat in the summer, is about the best I can suggest. It is advisable always to keep a small piece in reserve in a cold frame during the winter, in case a zero frost is too much for it. As it layers itself, propagation is no trouble. It makes a very attractive alpine house plant too if grown in a mixture containing plenty of humus.

*Campanulas*. A number of campanulas have a second flowering period in October/November, especially if they are cut back as soon as the early lot of flowers fade. Among those I find giving the best display at this time are *C. garganica* and its variety W. H. Payne, and *C. poscharskyana*, which is like a stronger growing form of *C. garganica* and most attractive when covered with its sky-blue flowers. It must be carefully sited, however, for it is a very strong grower and quite capable of covering an area two feet square or more. It does well in a wall, up which it climbs clinging tightly to it.

Three shrubs which give a good show from late September till cut by frost are two *Ceratostigmas*, *C. plumbaginoides*, and *C. Willmott-*

*ianum*, and *Zauschneria californica*. *Ceratostigma plumbaginoides* is about a foot high and its leaves are heavily suffused with red, that combined with plumbago-like heads of sky-blue flowers makes it a most attractive feature. It dies down in winter and is happy in a rich scree mixture, or sandy bank in full sun. *C. Willmottianum* is a larger, looser-growing shrub up to two feet in height and as much or more in spread. Its flowers are similar to those of *C. plumbaginoides*. It should be planted in light, well-drained soil in a position sheltered from cold winds. In a hard winter it may be cut back to ground level in the same way as a fuchsia, but it usually breaks away again all right.

The third shrub is *Zauschneria californica*, whose sprays of tubular flowers give a real blaze of scarlet. It is not reliably hardy in a very severe winter, so it is wise to strike a few cuttings about June and keep them in a frame in case of loss. Scree conditions and shelter from cold winds is what it requires.

Winter-flowering heaths are so well-known that it is really not necessary to say very much about them.

By selecting early and late flowering varieties of *Erica carnea* it is possible to have them in flower from October to April, and they are cast-iron hardy. A comparatively new variety with a six months long flowering period is *E. carnea* 'Eileen Porter.' The flowers, starting in October, change gradually from rose-pink to almost ruby. *Erica carnea*, unlike most heathers, will thrive in a limy soil. Rather taller but not quite so hardy, but only likely to be badly cut in very severe winters, is *Erica mediterranea* and its varieties. *E. mediterranea* 'Brightness' is one of the best and has rose-red flowers in January-April. It makes a shapely bush up to three feet high and about as wide. *E. darleyensis* (*carnea* x *mediterranea*), pink, and its white form, grow to eighteen inches high and flower right through the winter from November onwards despite the weather.

If you have room for a taller heather try *E. arborea* var. *alpina*; it grows usually to about four feet, but it may go up to six feet in time. Give it a place sheltered from cold winds, but in full sun to ensure ripening of the wood it should then stand up to anything except a sub-zero frost, and even then it will probably shoot from the roots again. Incidentally, never pull out, or even cut hard back, an apparently dead shrub after a really severe frost. Wait till the end of May or even into June. In the meantime merely gradually cut back the shoots as far as they are quite obviously dead.

Some of the Callunas (Heather in Scotland, Ling in England) are late flowerers, and four good ones are: *alporti*, deep crimson, 'H. E. Beale,' double silvery pink, and *serlei*, white; these are one and a half to two feet in height. The fourth and latest of all to flower is *C. hymemalis*, with pinky-lilac flowers about Christmas time. It is only about nine inches high.

A snowdrop usually flowering in December is *Galanthus byzantinus*. It has pretty, white and green flowers on four-inch stems and does well

under the same conditions as most snowdrops seem to like, namely a cool soil and partial shade.

That, we may say, takes us up to the end of the year.

During the first three months of the year the times of flowering are probably more variable than at any other time, depending on the kind of weather we have.

I shall take January and February together and mention some plants which normally flower during those months. In a hard winter, of course, some of them may hold back their display till March.

We shall start the year with some of the less well-known crocus species. Probably the earliest to flower will be *Crocus imperati* from the Italian mountains. Its buds are buff coloured with purple feathering, and open to show a violet interior. The flowers are large for a species. Almost as early is *C. korolkowi*—chrome yellow; a little later comes *C. sieberi*—lavender with a golden yellow throat. Then there are four dwarf and very neat and attractive yellows of various shades: *C. ancyrensis*—tangerine and very floriferous; *C. balansae*—outside bronze and inside orange-buff; *C. susianus*—mahogany outside and golden inside; then possibly the neatest and most brilliant of all, *C. olivieri* (Syn. *suterianus*) with small, round, goblet-shaped flowers of glowing yellow. A study of the catalogue of any firm supplying crocus species will show many others, including the very numerous and attractive tribe of *chrysanthus* hybrids.

*Cyclamen hiemale* mentioned amongst the December flowers is in full bloom during this period. It is very similar to *C. coum*, which will be the next to be described, except that its leaves are marbled with silver. *C. coum* from Greece and Asia Minor has round, shiny, dark green leaves, reddish purple on the underside. The flowers are rather dumpy, and in the type crimson, approaching magenta. For those to whom this colour does not appeal, there are white and rose-pink forms which have crimson staining at the base of the flowers. They are very hardy, as is *C. hiemale*. They are said to require lime, but I grow them successfully without it in an average sort of alpine mixture containing some leaf mould. If you live in the north, don't believe those who say they require shade. They are very free-flowering and very good value.

*Ranunculus calandrinoides* comes from the Atlas Mountains of North Africa, but it is quite hardy if grown in scree or other well-drained position. It does like a bit of rich feeding though, even cow manure, but do not put this in contact with the roots, which are best surrounded by sandy gravelly soil; put it two or three inches down. Planted against a south-facing stone will give it extra heat to ensure ripening. It very often flowers earlier than this, even in November last year (1957). Its leaves are spear-shaped and rather grey. The flowers are white, or slightly flushed with pink, and may be up to two inches in diameter. They are borne in twos or threes on stiff



stems of four or five inches. Some forms have rather narrow squinky petals, so if possible buy them in flower.

Now for some irises ; first *Iris histrioides major*, with large flowers of "sapphire and turquoise" with a golden crest borne on three- or four-inch stems before the leaves develop, is a real beauty. It comes from Asia Minor, is perfectly hardy, and does well in any reasonable soil. *I. danfordiae*, which flowers about the same time, is slightly smaller and has bright yellow flowers. It belongs to the same section as the better-known *I. reticulata*, and needs the same conditions, namely rich scree. A comparatively little-known iris is *I. winogradowii*, which is perhaps most easily described as looking like a pale yellow *Iris histrioides*. It comes from the Caucasus and is quite hardy in well-drained soil.

*Galanthus elwesii* is a tall early snowdrop with large flowers, four or five of them from one bulb. A snowdrop for a dry position, which the others dislike, is *G. olgae*, its flowers are pure white with no green on them.

The Winter Aconites or *Eranthis* are easy-going, accommodating plants for a dampish shady position, under deciduous shrubs for example, or amongst dwarf rhododendrons. Their golden yellow flowers, rather like large buttercups on short stalks, are surrounded by a green ruff and make a brave show. There are two species—*hyemalis* and *cilicica*—and a hybrid between them called *tubergenii* ; they are all three good, but the flowers of the hybrid being sterile last longer than the others. The two species self-seed themselves freely.

Some of the early primulas may come into flower any time after the New Year starts. Some of the *Petiolaris* section are usually first, e.g. *Pp. edgeworthii* (mauve), *edgeworthii alba* (cream), "*Pandora*," a hybrid with mauve or mauvey-pink flowers ; and—perhaps the best of the lot—*P. bhutanica*.\* This has sharply-toothed leaves covered in white farins. It is a lovely plant even when without the flowers, of pale blue with a white eye, which are very freely produced over a long period.

Probably the easiest of the *Petiolarids*, a not-so-easy clan, is *P. gracilipes*, a compact plant with pinky-mauve flowers. All of these need the same conditions, namely an open soil with plenty of peat and/or leaf mould and which is never allowed to become dry, and shade but NOT drip. They do not like too much rain in the winter, so they should be sited under the overhang of a rock ; or, if you do not object to glass, give them a pane over them. For the benefit of those who do not know them, these *Petiolarid* primulas are about the size of primroses, but they have more attractive foliage, most of them.

Another two primulas which bloom in the first three months of the year are *Pp. clarkei* and *rosea*. *P. clarkei* belongs to the *Farinosae*

\*"PUNDITS" have now decided to call this "*P. Whitei*"

section, and is a much easier plant to grow than the Petiolarids, and is very free-flowering. It is small and neat and grows in a low rosette of round leaves hugging the ground. The flowers, of a good pink, deep and bright, are large for the size of the plant, and are carried on inch or inch-and-a-half stems. It got an Award of Merit as long ago as 1939, so it is surprising that it is not better known. It needs a cool soil with plenty of humus in it, and at least part shade. It does very well with me in a north wall.

If you have a wet spot and want a startling splash of colour, then plant a group of *Primula rosea*. It will do in drier positions too if you give it good, rich, moisture-holding soil. It has tough dark green leaves and flowers of rose-pink on four-inch stems. The intensity of colour varies in different forms, being at its deepest in one called var. "Micia Visser de Geer," which in some catalogues is simplified into "splendens."

This is the season too for *Kabschia Saxifrages*, which form tight cushions of leaves which may be green, grey, or silvery. They are most attractive even when not in flower. The flowers, on short stems, are large for the size of the plant, and in most varieties freely produced. They like a gritty soil, and are said to be "lime lovers" or, as I prefer to put it, they are lime tolerant, for I grow them satisfactorily in a slightly acid soil. They must not get their roots burnt up in summer; a south-east or south-west aspect, and a stone for local shade over the roots, should guard against that.

Almost any alpine catalogue will give you a choice of a dozen or two different species and varieties. I shall therefore only mention a few of what I consider good reliable kinds, and which are favourites of mine.

*Saxifraga burseriana* and its varieties 'Gloria' and *crenata* are all white, the last named most attractive with its crimped petals. Others are *S.S.* 'Cranbourne'—clear pink, 'Jenkinsii'—pale pink with a deeper coloured eye, 'Faldonside'—a good yellow, and 'Delia'—crimson-purple. Lastly, one of the smallest and neatest, *S. caesia*, a silvery-grey cushion not an inch high with dainty white flowers.

All the *Kabschias* take easily from cuttings in May or June, and grow fairly quickly if given a slightly richer soil in the early stages.

Some of these saxifrages may not be in flower till March, but a definite March flowerer is our native *Saxifraga oppositifolia*. It is not a "lime lover." Give it some peat in its soil and not too hot a position. It forms a mat a foot or two across and only an inch high and covered with purple flowers. (See Fig. 6).

A quaint old-fashioned looking plant which flowers in March is *Hacquetia* (or *Dondia*) *epipactis* (Umbelliferae). It is only about three inches high, has dark glossy leaves and masses of small yellow flowers in a tight bunch within a wreath of green leaves. It is easy in a dampish spot.

The Anemone family includes a large number of very attractive plants. Most of them flower later on, but a few species are usually in flower in March. *Anemone appenina* and *A. blanda* are somewhat similar to look at, but the first likes shade and the second sun. They both have large daisy-like blue flowers. *A. blanda* has also a white and pink form. They should both be in every garden.

Then there are the *Hepaticas*, or *Anemone hepatica*, according to what is the latest fashion among botanists. *A. hepatica triloba* has dark, three-lobed leaves, and flowers of blue, white or pink, and doubles too if you like them. It is only about three inches high and usually smothered in flowers. Rather larger in all its parts with clear blue flowers is *A. hepatica angulosa* (Syn. *A. transylvanica*). A soil with plenty of humus in it and part shade (possibly full shade in the south) suits all the hepaticas.

A dwarf *Scilla* deserving far more general planting is *S. bifolia*. From between its two, more or less prostrate, red-tinged leaves rise short sprays of deep blue flowers. There are also white and rose-coloured forms—a very easy, reliable, and attractive little plant. *Narcissus asturiensis (minimus)*, a three-inch-high yellow daffodil, or one of the forms of *Narcissus bulbocodium*, planted with *Scilla bifolia* makes a very pleasing combination if you can get them to flower at the same time.

*Chionodoxa luciliae* in blue, white, and pink are also easy and very good value, also *C. sardensis*, prussian blue; they are all about four inches high. They seed very freely, so when you have got all the seedlings you want, cut off the dead flowers and so prevent this broadcast seed sowing.

I shall finish with two Rhododendrons which are perfectly hardy, except for their flowers which unfortunately are frost tender. However, they are both so attractive that I think they would be worth growing even if you only got full value from the flowers every third year. *R. moupinense* grows to two feet in height, or in time a little more perhaps. It has azalea-like flowers which are white with small red spots, and there is also a good pink form which is less common. *R. leucaspis* is a smaller, low-growing shrub with horizontally-growing branches. As a rule it is about twelve inches high, but may be a good deal less, and more in width. Even when not in flower it is an attractive shrub with its leaves covered with fine hairs which catch the light. The flowers, usually in pairs, are large for the size of the plant and pure white. They open out almost flat, displaying protruding chocolate stamens which add greatly to the beauty of the flowers; it is in fact a real gem.

There are two ways of treating these two rhododendrons, depending on where your garden is. I understand that in the south they do best in woodland, in part shade. In the north, however, I think they do best if they are "treated rough." Plant them in the open, exposed to

all the sun and wind going ; they will then grow more compactly, and be tougher. If they can be sheltered from the early morning sun, the flowers may well escape damage from a lightish frost. The idea is to prevent the sun's rays getting on to the flowers until the air has warmed up a bit and "slowly" thawed them out. If you wish to be sure of your flowers you can pot up your plants in September and keep them in a cold frame. Of course, if you have an Alpine house, that is the place in which to really enjoy them ; and where you yourself can avoid the cold wind while doing so !

There are many other flowers which bloom during the winter months, but I hope I have mentioned enough to prove my contention that it is not a dead season in the rock garden.

## The American Rock Garden Society

Probably most members are aware of the existence in the U.S.A. of a Society comparable with our own. Some members may have wished to join this Society, but have been deterred by the apparent difficulty of transmitting their subscription.

We understand that this difficulty is not insuperable. Permission has to be obtained from the Exchange Control in the first place and evidence has to be supplied of the existence of the Society and its membership fees. Having secured sanction, the member obtains a draft from his Bank and forwards it to the Society. In practice it would probably be best first to consult one's Bank, which could supply advice and the appropriate forms.

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 Edgar L. Totten, 238 Sheridan Avenue, Ho-Ho-Kus, N.J., U.S.A.

In addition to its Quarterly Bulletin, the American Society has a Seed Exchange in operation.

## Behind the Seeds

By K. S. H.

(Dedicated, without her permission, to the Honorary Seed Exchange Organiser)

TONIGHT WE will put an extra log on the fire and settle down to a good evening, for today the Club Seed List arrived.

It is a list to make a gardener's head reel and to tie his tongue in knots. Thirteen hundred and seventy-three names—old friends, new friends and more than a few obstinate creatures which have failed to germinate for us in the past. It will take us the best part of an evening to choose the ones we would like to grow this year, and while doing so we might well spare a thought for the vast amount of work which goes on behind the scenes to make this exchange possible.

We would like, even at the risk of spoiling our friendship with her, to take our television camera into the home of the Seed Exchange Organiser and let other members see her at her voluntary and often thankless task.

From October to February the life of this home revolves round seeds, and for four whole months the dining room becomes a packing station. This room is the setting for a drama in three acts.

*ACT I*: Time, October (with luck) and November.

The Seed Exchange Organiser is found seated at the table, surrounded by books and parcels. There is a knock at the door and she hurries out to fetch yet more parcels from the postman. She tears them open, scanning the packets inside.

A close-up shows that although most names are written true and clear, some are of new and unknown species, while others reveal picturesque variations of botanical nomenclature. Delving into a pile of volumes the S.E.O. strives to elucidate these names. Then, with a look of desperation, she seizes the unidentifiables and rushes out.

Our camera follows her on a sixteen-mile bus journey to the Royal Botanical Garden where the Experts, in their wisdom, help her to interpret the more unorthodox names.

Back at the "packing station" once more the scene slowly fades out with the S.E.O. shuffling 1373 packets into alphabetical order.

*ACT II*: Time, December-January.

The same setting, but now the S.E.O. is surrounded by a busy chorus of friends who, crouched low over the table, are making up the 1373 varieties into thousands of little packets for you and you and you.

A close-up shows that one is sifting seed to clear it of chaff, another is counting seeds of the rarest species one by one into their envelopes while yet another is double wrapping a pinch of dust-fine grains.

Day after day, week after week, helpers come and helpers go. But for the S.E.O. there is no rest. The sorting must go on.

*ACT III* : Time, January-February.

Enter the postman, who tips a sackful of orders on to the floor. Envelopes are tapped through the typewriter, providing a clatter of background music to a busy scene. The S.E.O. and her minions circle round the table in a kind of ritual dance. Each one clutches an order and chants the numbers thereon in a little thing which goes something like this :

“Ninety-nine and sixty-four,  
Seventeen, eight and a good few more.  
Three-five-six and two-two-one,  
Seventy-three and the order’s done.”

From the thousands of packets ranged upon the table they seize one here, one there. Gradually the tempo increases, the dancers get more and more frenzied, and rush away to have nervous breakdowns. But for the S.E.O. there is no rest. The packaging must go on.

\* \* \* \*

And so, in time, your order reaches you. It may not contain all that you asked for, but a lot of people have worked hard to send it to you and they hope you will get pleasure from it. Above all, the S.E.O. has worked like a galley slave on your behalf, and as we settle before the fire to make up our own list we would suggest a few ways in which her task can be lightened next year.

#### *Collecting Seed :*

1. Try to name the plant correctly. We once raised with pride a pan of *Dianthus Freynii*, only to find it flowering as *D. deltoides*.
2. Be sure the seed is ripe and, as far as possible free of sand and chaff. A kitchen sieve comes in useful.
3. Although all the seed received is listed, the Club really aims to distribute that of plants suitable for the rock garden (including shrubs and bog plants). Large herbaceous plants are not usually suitable and seeds of most of these are readily obtainable from seedsmen.
4. Leaking packages cause wastage of seed. Ordinary envelopes and paper bags are not usually seed-proof. Try shaking your packets and see ! Wages envelopes are cheap and effective, but very fine seed should be wrapped in tissue paper first.
5. If all your seed is not ripe in time to reach the S.E.O. by 31st October, send her a list of what is coming. The Club Seed List must get to the printer in good time.

#### *Ordering Seed :*

1. If you are a beginner content yourself with a few easy varieties. Unless you have a lot of time, six pans will keep you quite busy when it comes to pricking out.
2. Remember the work behind the scenes and only order the number you intend to raise. We have heard of seed being left unsown.
3. Some alpines take two years to germinate, so give yours a chance.

## Rock Plants, Bees, and Seeds

By HENRY TOD, Ph.D.

I WONDER how many rock gardeners are beekeepers? Until my wife got a colony of bees some fourteen years ago I would never have suspected what a help they could be in a rock garden. I think most gardeners feel that seedlings raised from home-grown seed tend to be better than those from bought-in seed, and there is a good deal of sound fact underlying this idea.

After all, if a plant grows reasonably well it must have attained a good nutrient balance with the soil in which it is growing. Further, all its parts must also be in balance with each other and thus with the soil, so that seedlings derived from seed from the plant will have less adjustment to make in their early stages. Another point is that the atmospheric conditions of the parent plant and the seedling are also closer than with imported seed, and finally the seed may be several months fresher.

To return to the bees—we got them mostly for the benefit of our fruit trees, but much more happened than we expected. Our fruit certainly did benefit as we had hoped, but the most astonishing change occurred in the rock garden. Previously we had had a certain number of seed capsules on our plants, but that first season we got a very real surprise. It was a good pollen year, neither too wet nor too dry, and everywhere the seedpods, capsules, berries and the like developed in a way we had never seen before, and the following year we had self-sown seedlings popping up everywhere. From that first year I have never sown one seed of *Primula polyneura*, for example, for seedlings appeared far and wide, and it is now virtually naturalised in the garden.

Since then, barring years when it has been so wet that the seed cannot ripen and moulds in the capsule, we have had excellent seed-yields and it is possible to buy one reasonably expensive plant, or raise one or two from seed, and the next year have enough seed of our own to produce it in numbers large enough for fairly extensive plantings to be made.

Honey-bees will not, however, pollinate *all* plants. There seem to be some which have no interest whatever for them, but fortunately these seem mostly to be frequented by other types of bee, various flies, moths and other insects which “do the job” instead.

All the foregoing apart, bees themselves are a most fascinating study and there is always the possibility of a good honey-year when a big harvest of honey may be obtained, though recently yields have not been any too good.

The organisation of the bee-colony is really wonderful in its efficiency, care, and cleanliness, and as one handles them, the interest and fascination grows. I know of very few people who have had bees and then given them up, for the longer you deal with them the more do they “grow on you.”

## Peat-loving Dwarf Shrubs

By DAVID LIVINGSTONE

THIS IS NOT intended to be an exhaustive treatise on dwarf shrubs which appreciate a peaty soil, but rather some random notes on such shrubs which I have grown personally in pots or in the rock garden during the last twenty-five years. Let me say right away that the majority of the shrubs I shall mention present little difficulty either in pots or outside, if one takes the trouble to meet their basic requirements. They should have a well-drained compost, which is at the same time retentive of moisture. I hesitate to lay down a hard and fast rule as to the exact ingredients of the compost, but one would not go far wrong by using two parts of soil, which should be lime free, two parts of peat, and one part coarse sand, perhaps  $\frac{1}{10}$  inch would be satisfactory. Leaf mould could, of course, be substituted for the peat, and one could experiment with the quantities by decreasing the amount of soil and increasing the peat or leaf mould. The basic thing to remember is that the compost should be rich in humus, gritty and neutral or acid. Those whose soil is naturally chalky would require to make special preparations and would also require to make certain that no lime was washing into that part of the garden in which the shrubs were grown. In the rock garden itself the plants could do without shade of any kind, provided their roots were sheltered from the sun's rays by the proximity of rock. They would also do well in a situation where the sunlight filtered through trees, which should, of course, be far enough away not to cause drips to fall on the shrubs. As some of them are frost tender it might be well to plant them in such a situation that they did not receive the sun's rays early in the morning and, too, in a situation where they would not be exposed to cutting East winds.

The rhododendron genus provides a wide selection of suitable shrubs varying from the very tiny ones such as *R. radicans* to *R. cilipense*, which will grow up to two or three feet.

*R. calostrotum* is an easy and rewarding species. It flowers when quite small and will ultimately grow to about eighteen inches. It has stiff little branches with aromatic grey leaves, buff or brown beneath. It has 2 in. flat, deep rose-crimson flowers, freely borne during April and May.

The next one, *R. camtschaticum*, is a deciduous species, and will flower within three or four years from seed. My plant flowered at three years old and has continued to flower profusely each year since, not only in May but also again in the Autumn, without apparently decreasing the number of flowers in the Spring. It is in a north-facing position, smack against a rock, and this situation seems to suit it ideally. It grows only about six or nine inches high, but spreads slowly laterally. Its flowers are about an inch in diameter and rose crimson in colour.

An uncommon and attractive little rhododendron is *crebreflorum*,



which will slowly grow to some fifteen inches high. It is quite dense in its growth and produces pale pink, honey-scented flowers in April. This is another species which will flower when quite small.

*R. fastigiatum* is compact and upright in its habit, ultimately attaining about two feet. It has numerous slender twiggy growths crowded with tiny, shiny green leaves, and very numerous violet-purple flowers in Spring.

One of the most beautiful of all the dwarf rhododendrons is *forrestii*. It has very large bell-shaped crimson flowers, carried on creeping growths in April, but unfortunately it does not flower in many cases as freely as one would wish. There is, however, a rhododendron which is very similar. The difference, as far as I am aware (I am not a botanist), seems to lie in the colour of the underside of the leaves, but that need not trouble us here. It is *R. repens*, variety 'Rock No. 59174,' and it never fails to give me a number of most glorious crimson flowers. It is always a source of wonder to my neighbours, because the plant, which is not large, almost disappears under the flowers each April.

We will take here a group of rhododendrons belonging to the same section, *Uniflorum*. The first one is *R. imperator*, which makes a dense little plant a few inches high, and is covered every April with numerous  $1\frac{1}{2}$  in. funnel-shaped rose-red flowers. This one, too, flowers within three or four years from seed. I have at the moment a five-year-old plant from seed which is carrying forty-three flower buds. This species appears to have presented some difficulty to the well-known gardening writer, Mr. E. H. M. Cox, but I have grown it for more than twenty years in pots and in the rock garden without finding any difficulty at all, and I would earnestly recommend it for the rock garden or for pots, if it is intended to exhibit. The second one of this section, *R. pemakoense*, is also semi-prostrate in its habit, but will eventually reach eighteen inches or so. Its flowers are rather larger, are just as freely borne, and are pale mauve in colour. An easy and desirable shrub this one. The third of the section I should like to commend is the smallest, *R. pumilum*, the original collection of which was sent home by the great English collector, Mr. Frank Kingdon Ward. His "pink baby," the name which he assigned to it, just about describes it. It is very dwarf, not more than six inches, has tiny leaves and charming little  $\frac{3}{4}$  in. bells of a soft pink. It usually flowers in April or May. There is a prostrate form of it, the seed of which was collected, I believe, by our own well-known Scottish collector, Major George Sherriff, and it is this prostrate form which I am presently growing. It is only an inch or so high and four or five inches through. It began to flower for the first time at three years old from seed. It has not flowered very freely, but I have a few each year. A very delightful little miniature. These last three rhododendrons are frost prone even in the unopened bud stage, and have, on this account, to be so placed that they do not receive the sun's early morning rays.

I have hesitated about including *R. leucaspis* because it flowers in March or early April and its very large milk-white flowers are some-

times nipped by frost. It is such a lovely shrub, however, even if one loses the blossom in the odd year, it is worth having. It flowers when quite young from seed—I have one now with a flower bud and the plant is only a few inches high, but it will ultimately grow to about two feet high. It has brownish hairy leaves which I find attractive.

Another white one, this time with much smaller flowers which are produced in great profusion, is *R. microleucum*, which grows to about one foot high. It is not widely grown, but it should be, and it makes an excellent pot plant. My own figured in my exhibits at Club Shows over a number of years. Its origin seems to be clouded in mystery. One story goes that it was found growing amongst coloured forms of *R. lapponicum* in a Gloucestershire garden.

*R. radicans* is a tiny prostrate shrub which is never likely to exceed much more than four inches, but which spreads slowly sidewise. It is covered in May with fairly large, flat, violet-purple blooms and is suitable for the smallest rock garden or even a miniature garden in a trough. It, too, sometimes erupts into blossom in the Autumn without any apparent detrimental effect on the flower display for the following Spring.

And now to the only yellow one which I am recommending, *R. sargentianum*, which is a dwarf gem of dense habit. It grows slowly to a maximum height of about twelve inches. It never fails each year to produce a fine crop in late April or May of daphne-like half-inch lemon yellow flowers.

On checking over the rhododendrons which I have mentioned so far I find that I have omitted three hybrids which I find to be eminently suitable for the rock garden. The first is *R. x cilpinense*, which is a hybrid between *ciliatum* and *moupinense*. This hybrid has large pinky-white flowers which open early in the year and again in the odd season may be cut by frost. It flowers when quite small but will ultimately grow to something like eighteen to twenty-four inches. I have grown it well in a pot and it makes a very good shrub for the Alpine house.

The second hybrid is *R. x prostigiatum*, a cross, it is thought, between *prostratum* and *fastigiatum*. The second named parent is in doubt. It grows only a few inches high, but spreads fairly rapidly sidewise. It has small blue-tinted leaves, and in April or May it is almost covered with little clusters of church purple flowers. I class this one as one of the best of the dwarf rhododendrons.

The third of the three that I had omitted is *R. 'Pink Drift,'* which is a hybrid between *calostrotum* and *scintillans*. This rhododendron makes a fairly dense bush of up to eighteen inches in height, flowers when quite small, and never seems to fail to give a good crop of blossom. The flowers, as the name indicates, are pink, and again I have no hesitation in recommending it.

There are many other dwarf rhododendrons suitable for the rock garden, but those I have mentioned would certainly form the nucleus of a first-class collection.

(To be continued)

## Eranthis hyemalis

(Winter Aconite)

By ELLEN PAGE HAYDON

What wondrous alchemy created thee,  
 Bright Gold upon the frozen lap of earth ?  
 What hand, whose work we mortals may not see,  
 Stirred the bulb crucible and wrought thy birth ?  
 Who wove and shaped the soft enveloping cloak  
 Drawn close about thy glistening golden heads,  
 Fringed ruffs to grace thy beauty, and who spoke  
 To call thy vanguards forth from snowy beds  
 Of winter ? Flower, blooming so bravely midst the cold and snow,  
 Thou art God's mystery we may not know.

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## Plants and Problems

### CALCEOLARIA DARWINII

SEVERAL members have been growing *Calceolaria darwinii* from seed collected in Patagonia by Mr. David Tweedie. There seems to be little difficulty in bringing up the seedlings and flowering them well, but after that the trouble begins. Those plants which survive the hazards of too much rain, too much drought, sun at the wrong time of day, too many aphids, too much insecticide, too much cossetting in a pan, the strain of ripening seed capsules and so on, seem to flower only in a half-hearted way in their second season. I have noticed this week, after the snow has cleared, that my one remaining plant in its third season has only the faintest sign of life at the tips of its brown branches. I don't know how other members have been getting along, but in Dirleton Mrs. Tweedie and I have come to the conclusion that the plant is best treated as a biennial.

Mr. and Mrs. Tweedie are now in the place where *Calceolaria darwinii* is as common as buttercups and daisies (almost), so the following extracts from letters concerning the conditions from which it suffers in nature may be of interest :—

11th Nov., '57 : "The *Calceolaria darwinii* all look like young plants with none of those tree trunks which ours produced in the garden."

25th Jan., '58 : "We have had a fortnight of searing hot winds and a great many seed heads have been blown away, and other things dried up in bud. Some places look as if they have been covered with a flame gun. Seed has started this week and collecting is very difficult in a gale. It is chiefly *Calceolaria* so far. . . . You remember I thought that *C. darwinii* all looked like this year's plants ? During these hot dry winds all the Cc.s except those in the shelter

of shrubs or fallen logs have had all their leaves burnt, and most of them blown off. Presumably the plants will die, so that may be the answer. *C. biflora* seems to stand up to it better, and the stalks must be more flexible, for you seldom see them decapitated, or the rosette completely burnt up."

If there are any members who feel that *Calceolaria darwinii* is too easy for them to bother about, they might like to try this one :—

23rd Dec., '57 : "I have been very interested by a sticky, pale green, hairy-leaved plant on the range scree which we found on the first day we were up there. I brought some down and heeled them in here at the house. Today one of them is in flower—a small *Calceolaria*, in form like *darwinii*, with the white band across, but a good deal of scarlet instead of dark maroon. It ought to make a smashing alpine house plant and should be the same test of skill, as it will have *darwinii*'s difficulty of sun on wet leaves, etc., etc., and also all the complications of winter wet and rotting collars. Before the flower bud opens it looks rather like a pale woolly bear caterpillar !"

East Lothian.

L. C. BOYD-HARVEY

#### CYPRIPEDIUM PUBESCENS AND C. SPECTABILE (REGINAE)

"THE FLOWER THAT WALKS," the Indians used to call them. Today we call them "Lady's Slippers." Where they once grew in great golden colonies in some secluded woods, seldom visited by picnickers or trampled by grazing cattle, we may still find a very few of these precious wild flowers.

Perhaps the easiest of our North American Orchids to establish in cultivation is the common "Yellow Lady's Slipper"—*Cypripedium pubescens*. It grows in our garden in cool, deep, and porous soil on a thinly-wooded hillside where the sun filters through the foliage of the trees.

The broad, dark green, downy leaves are veined lengthwise. They embrace the eighteen- to twenty-inch long stems. Each stem bears one or rarely two flowers in May or early June. The colour of the twisted sepals and of the lateral petals varies from brownish purple to greenish-yellow. The colour variation of the lips is all the way from pale cream to deep golden yellow. The European counterpart of our "Yellow Lady's Slipper" is *Cypripedium calceolus*.

In rich deep, slightly acid soil at the foot of a north-facing cliff in the wildflower section of our garden grows *Cypripedium spectabile (reginae)*, the "Showy or Queen's Lady's Slipper." This species is indeed a queen of beauty. I believe it is impossible to find a more gorgeous and beautiful flower among the many species of our native wild orchids. The lower lip is about one inch or more long, white, warmly tinged with pink, and ornamented with purplish veins. The sepals are snowy white against the background of dark green leaves.

The short coarse hairs on the stems and leaves of our "Lady's Slippers" often cause a skin irritation similar to that caused by poison ivy on susceptible persons.

The methods by which our wild orchids are pollinated are varied and intricate. Therefore seed is rarely produced. If seed can be obtained, it should be sown in February or March, in the same type of soil as where the mother plant grows. It is a long and drawn-out process to produce orchids from seed. The surest and quickest way is by division in early spring, just before the new growth starts. From four- to six-inch long sections with a dormant shoot are cut off the old root and planted in soil suitable for orchids. We can also divide the underground runners in the fall after the plant is dormant.

Princetown, Iowa.

PETER P. KRIEGER

### CEDRUS LIBANI SARGENTII\*

THE PLANT has been here so long that I have forgotten its early history. It was uprooted in 1939 to make room for onions and remained in some odd corner for six years or so, when it was planted on top of this mound formed of three pieces of tufa.

It has always been admired by visitors, but last year (1956) it got especial attention when, at the presumed age of twenty-five years, it bore its first flowers. These were in the form of gingery-brown cones which grew slowly until they eventually opened their pores and permitted clouds of pollen to escape whenever touched.

This dwarf Cedar of Lebanon grows, in a normal season, about three inches a year, but in wet years, following a dry year, will double this. Its span is now 6-7 ft., but would have been more had it had a less disturbed life. It is a pleasant plant for a mound or bank or wall-top and has a grace not found in any other prostrate conifer. It is named in honour of Professor Sargent of the Arnold Arboretum and, though not common, can be bought from a few tree and shrub specialists.

\*See Figs. 14 and 15.

Maidenhead.

STUART BOOTHMAN

### LYSICHITUM CAMTSCHATCENSE\*

*L. camtschatcense* grows on alder-bottom land, i.e. cold, wet, low-lying swampy areas, consisting of undecomposed humus and water. The horizontal rootstock is stout and massive. Growth commences simultaneously with the flowering of the native alder when, in early March, a purplish-green cylindrical growth, rounded below into the clasping petiole; expanded above into a yellow spathe, slightly hooded or folded, emerges from the cold and wet growing medium. The club-like spadix appears out of the petiole supporting at the apex numerous

four-petalled flowers of greenish cast. Two carpels unite around each seed, which at a later date will be found inbedded in the soft pulp of the spadix.

The leaves, appearing at a much later date, are oblong-ovate in shape from one to one and a half feet wide and up to four feet in height, green in colour and shiny. *Lysichitum*, like the skunk who wanted to visit Coney Island Amusement Park and had but one "scent"—a bad one, does emanate an unpleasant odour on closer acquaintance, but in this respect it is by no means as bad as other Arums. *Lysichitum* is beautiful in nature, makes an excellent subject for bowl decoration. This is the plant which we call "Skunk Cabbage."

\*See Figs. 1 and 11.

Vancouver, B.C.

GEORGE BOVING

## TWO EASY NATIVES

*Hypericum humifusum*, the Trailing St. John's Wort, while lacking the refinement of the heath-like foliage of *H. empetrifolium prostratum*, is an attractive plant, easily grown in sandy soil. In a sunny position it will carry many small starry yellow flowers from early June until September, and even into October. It seeds itself, but does not become a nuisance.

*Sagina nodosa*, Knotted Pearlwort, can be invasive, but is not difficult to keep under control. Grown at the edge of a path or in some unwanted corner, its fresh green basal leaf rosettes make good ground cover for small bulbs in spring, while in summer, for weeks on end, slender stems 2-4 inches high carry relatively large pure white flowers.

Edinburgh.

B. B. C.

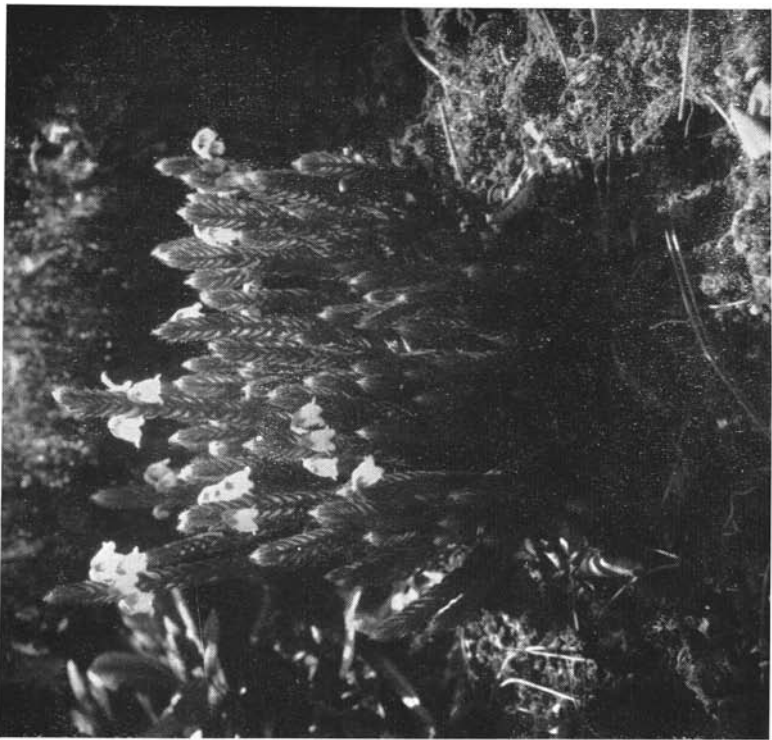
## LEUCOGENES GRANDICEPS

IN THIS garden there is a dry stone retaining wall which for most of its length is six and a half feet high on one side, the N.W. one, and nine to ten inches on the other. It is eighteen inches wide and is double, with its centre filled up with rubble, because when it was built any amount of stone could be had for almost nothing. When the top of this wall was first planted, for each plant one or two of the flat coping-stones were removed and a foot or two of the rubble taken out and replaced by suitable soil and the top stones put back. In this way a plant of *Leucogenes grandiceps*, the New Zealand Edelweiss, was put in sixteen years ago. It has grown well and flowered freely every year and it is now twenty-eight inches across. Even when not in flower its silvery foliage is attractive at all times of the year, and no amount of frost and wind, which it has endured in all these years, has ever done anything to spoil its pleasing appearance; for such a site it has proved to be an ideal alpine. (See Fig. 16).



*Photo.—A. E. Cook.*

Fig. 11.—*Lysichiton camtschatcense* (see page 63).



*Photo.—W. A. Clark.*

Fig. 10.—*Cassiope wardii* x *C. fastigiata* (see page 26).



*Photo.—D. Wilkie.*

Fig. 12.—*Colchicum autumnale* v. *album* (see page 46).



*Photo.—D. Wilkie.*

Fig. 13.—*Cyclamen neapolitanum*, with v. *album* on left (see page 47).





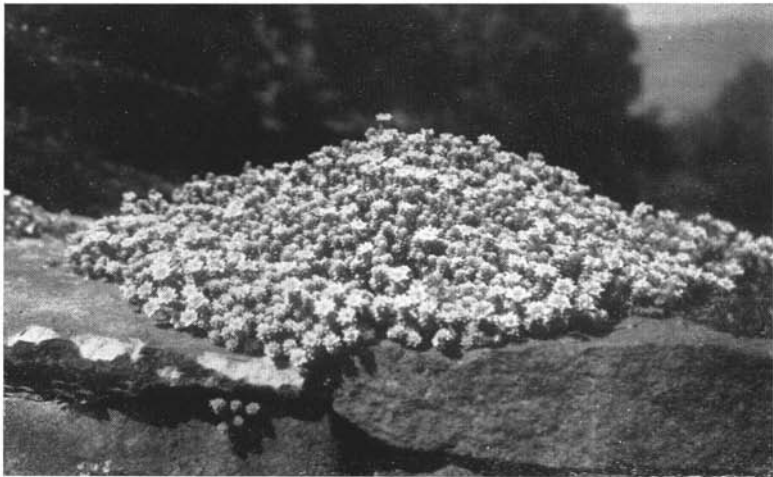
*Photo.—S. Boothman.*

Fig. 14.—*Cedrus libani* var *sargentii* (see page 63).



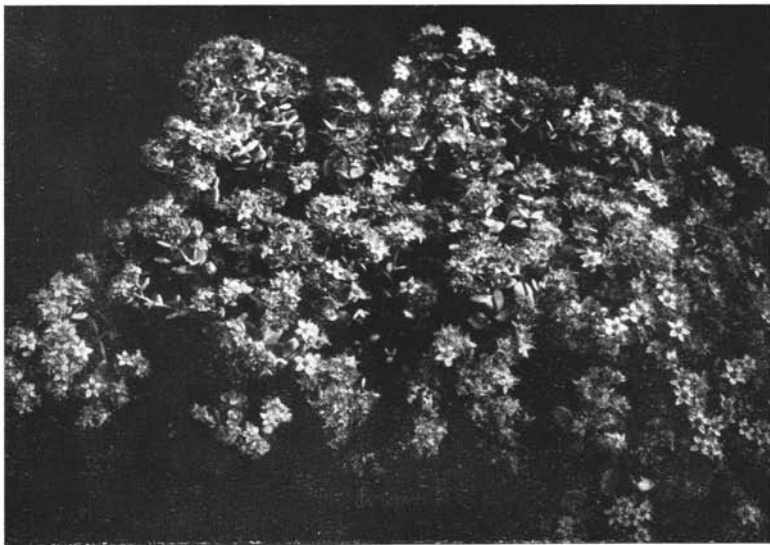
*Photo.—S. Boothman.*

Fig. 15.—*Cedrus libani* v. *sargentii*, showing flowering cones (see page 63).



*Photo.—W. M. Brady.*

Fig. 16—*Leucogenes grandiceps* (see page 64).



*Photo.—S. E. Lilley.*

Fig. 17.—*Sedum ewersii*, at Perth Show (see page 66).

Other plants which have done well on this wall top are *Phlox douglasii*, various species of *Onosma* and *Acantholimon*, *Geranium subcaulescens*, *Anthyllis montana* and a number of others. As the gap between the top stones is only an inch or so, the soil under them is always more or less dry. During a drought nothing much can be done in the way of watering unless the plants are very small, but as the stone is a porous sandstone this seems to give them enough moisture when their roots get down, and also probably into the soil behind the wall.

Northumberland.

R. B. COOKE

### THE PROPAGATION OF MORISIA MONANTHOS

THIS PLANT is usually propagated from root-cuttings, but I have found it easier and quicker to use top-cuttings.

A three- or four-year-old plant, instead of being the pretty little flat rosette which it was in its youth, will have become a gnarled and humped up old mass with many crowns. With a razor blade slice off the whole top just below ground level without disturbing the roots. Press each rosette into a sand-bed and rest a pane of glass on top so that its weight keeps the rosettes in contact with the sand. They will grow roots very readily at any time during summer and autumn, and then may be moved on into pots of very sandy compost.

Meanwhile the old roots left in the ground will have grown some more new crowns. These too may be decapitated and treated in the same way, so that you will soon have more plants than you can possibly use, but there is always the Bring and Buy Sale.

East Lothian.

L. C. BOYD-HARVEY

### OXALIS LACINIATA

THIS BEAUTIFUL blue *Oxalis* from Patagonia is not yet obtainable commercially, but will become available in the very near future, so these notes may be of interest to prospective growers.

Two years ago I was fortunate enough to be given a small box of rhizomes by Mr. David Tweedie, who collected them at the extreme southern tip of the South American mainland, where they were growing at an altitude of only 600 feet in rough, stony ground. The rhizomes looked very grey and lifeless, but after being wrapped overnight in damp moss, they filled out and became apricot yellow in colour. Some of them were planted in rather a rich scree valley, which receives intermittent shade, in association with forms of *Oxalis enneaphylla* and *Calceolaria darwinii*. Others were grown in 3 in. pots filled with a softish mixture of leaf-mould, peat and sand. Mrs. Tweedie planted her specimens in a fierce and arid scree where she also grows *Omphalodes luciliae* and *kabschia saxifrages*.

The leaves appear in March or April. These are palmate, on fine wiry petioles about  $1\frac{1}{2}$  ins. long. Each of the 7-9 leaflets is folded upwards at the midrib and the blades are undulate, but the degree of waviness varies from plant to plant. They are grey-green in colour and the whole effect is delicate and very lace-like. The flowers appear in early summer and continue until September; they are nearly as large as those of *Oxalis enneaphylla* and variable in colour, the most desirable being a deep periwinkle blue veined with purple. Some are silvery lavender veined with purple, and there is a rather dull purplish rose veined with dark red. I do not know how to describe the scent—a mixed posy of primroses, violets and freesias or *Primula cusickiana*?

I have as yet managed to harvest only one capsule of seeds and these have not yet germinated, but vegetative increase is reasonably good. One rhizome has produced fourteen in two years. This was one of the plants growing in soft compost, but those in the scree have been less generous.

The Tweedies and I have taken plants to all the Shows we could manage, and they have appeared in the classes for "New, Rare and Difficult Plants." They are certainly new and rare (there is only the barest mention in "Clay") but they are by no means difficult. Only patience is needed for their cultivation—patience to keep them clear of aphid by daily attention, and patience to wait until they have built up into good large plants. In my opinion they will then be far more beautiful and desirable than either *Paraquilegia anemonoides* or *Aquilegia jonesii*.

East Lothian.

L. C. BOYD-HARVEY

#### EXTRACTS FROM LETTERS RECEIVED FROM MRS. TWEEDIE, NOW IN PATAGONIA

11th Nov., 1957: "*Oxalis laciniata* grows about  $\frac{3}{4}$  in. below the surface in sandy loam and fine leaf mould. The leaf stalks are about 1 in. long here, and there are far more of the straighter leaflets. The straight and curly leaflet plants grow in colonies, never mixed nor even very close to each other. There are millions of flowers in bud, and we have been having hot sunny days and no wind since we arrived, so in another week everything will be covered with flowers. I have already seen enough *Oxalis laciniata* to cover the whole of your garden (and no exaggeration!), but only one or two have been in flower."

20th Nov., 1957: "*Oxalis laciniata* is now in full flower and superb in the sunshine."

25th Jan., 1958: "Some of the *Ox. lac.* are setting seed."

#### SEDUM EWERSII

*Sedum ewersii* (see Fig. 17) was shown on 20th September 1957 at our Perth Show under the name of *S. pluricaule*, and was recommended

by the Joint Rock Garden Plant Committee for an Award of Merit subject to the verification of the name. It has since been decided that the correct name is *S. ewersii*, and the Award of Merit to the plant has been confirmed under that name.

*S. ewersii* is said to be very variable and it is reported as coming from Western Asia and Kashmir. Where this particular form comes from I do not know ; possibly Mr. Jack Drake, from whom I got the plant, could throw some light on this. The plant rather resembles *S. caucicum*, but it does not have the long bare branches of that species, as side branches come off the main stems all the way up. It is very free-flowering, practically every side branch ending in a rosette of four to eight flowers of a deep, almost crimson-pink colour. It is a much better plant than the one I have previously had under the name *S. ewersii*. It is perfectly hardy in a well-drained position in full sun.

I have seen one flourishing in such a position in the garden of our County Representative for South Inverness-shire at Kincaig, which is certainly not noted for the mildness of its winters.

With me it came into flower about the beginning of September, and the flowers lasted well into October. It is easy to propagate from cuttings or by division.

Edinburgh.

M.-L.

*Editor's Note* : The plant illustrated won the Forrest Medal for General and Mrs. Murray-Lyon at the Perth Show.

### TALINUM OKANOGANENSE

THIS CHARMING native of U.S.A. makes an ideal plant for the small trough. Its stem creeps over the stone chips and in winter, when the tiny fleshy leaves have fallen, it looks like a gnarled tree root in miniature. A slow grower, it never seems to get out of hand.

In July and August the plant is covered with delicate white, cup-shaped flowers, about half an inch across, with a boss of yellow stamens. Each flower lasts only a day and there may be several days with none open, followed by a burst of bloom all over the plant. I have tried by careful observation to determine whether this peculiarity is caused by temperature, sunlight, or moisture, but have so far found no reason for it.

It is reputed to prefer a lime-free soil, but I have grown it for several years in a trough with limestone chips and have found it healthy and perfectly hardy. There are usually a number of seedlings around the parent plant.

Edinburgh.

K. S. H.

## EXTRACT FROM LETTER TO EDITOR FROM J. T. WALL

Dear Mr. Mowat,

I had a good trip to the States last November, and enjoyed the "Hustle" very much. November is not a time to visit any country in the W. Hemisphere, if its gardens are one's intent, but circumstance fixed the date. Mid-October would have been better for the fall colour, and there would have been more to see in the gardens.

I did do a little exploring amongst the American flora and was rewarded by quite a few plants common enough out there but to us desirable plants, or even rare treasures to be cosseted and swooned over when some miserable little flower deigns to appear in spite of our efforts. This latter part refers to that illusive and temperamental treasure—*Pyxidanthus barbulator*. Farrer, as no doubt you are aware, writes of this plant as *Diapensia barbulator* (Elly).

I was taken under the able guidance of Mrs. C. J. Allen, a great naturalist and authority on the Pine Barrens flora of New Jersey. It was an anti-climax to all my expectations and ideas of what I was to see. Such desolation had never crossed my mind—stunted scrub, coarse water-logged ruts of grasses, and clumps of *Comptonia*, *Vaccinium*, *Gaultheria*, *Leucothoë*, *Pieris*, etc.; then, on banks raised a foot or so above the surrounding flatness, were colonies of the *Pyxidanthus* camouflaging themselves expertly as clumps of moss, hence the fitting common name of "Pyxie Moss."

After seeing this treasure *in situ*, I have come to the conclusion that we tend to coddle and give too rich a diet to our treasures and they are literally killed by kindness, for the rooting medium that supported these bronze and green, soft velvet cushions, was nothing but a soft white silty sand of a very fine texture and the sparse remains of dying vegetation, and very little of the latter, and there are no tap roots to delve for moisture in what can be scorching arid regions, and cold bleak frozen areas with 20° below—a not unusual occurrence. After satisfying all requirements I was able to bring two pieces home—one for Scotland, and one for the Sassenachs; the former is in the capable hands of W. C. Buchanan and my own still looks well in a shallow pan exposed to all the elements. Should this plant smother itself with its stemless white flowers as in Nature then indeed our visit to New Jersey will have been well rewarded.

Other finds in this area were *Gentiana porphyrio* and *G. crinita*. The latter must have been a glorious spectacle judging from its remains of whitish, foot-high, straw-like stems (a few fortunately with seeds remaining in their big capsules) which had held the large, fringed, glorious deep azure blue flowers in such profusion. Not far away on the edge of water-filled ruts and stagnant pools, the curious pitcher-like growths of *Darlingtonia californica* were admired; they were quite showy in the colourings of brilliant green, bronze, purple and brown rosettes. *Mitchella repens* scrambled everywhere through woodland and shady banks in what seemed to be a larger form than is

generally met with over here. It makes charming patches of colour, if you can find them, with their round small brilliant berries, before the sharp eyes of the birds have marked them down for a meal. I was fortunate in finding a colony that had been hidden by an early fall of red oak leaves. It was here, too, that I was first introduced to that intriguing plant known as the "Rattlesnake Plantain"—*Peramium pubescens* according to illustrations in the Boston Museum. I have not gone into its nomenclature very closely but I notice that Gabrielson in "Western American Alpines" only mentions one species as *P. decipiens*. It forms an attractive rosette of evergreen, white and green leaves, and sends up inconspicuous heads of whitish orchids.

My other worth-while find was a compact dwarf form of *Epigaea repens*, which was growing on a bank midst great swathes of the more usual form. The compactness and modified leaves attracted my attention at once and, should it retain these characteristics in cultivation, it should be worth introducing, because the type can get rather straggly and overpowering. As my visit was a holiday and not a collecting trip, to the Rockies, I was delighted to see and find so much of interest.

Then I had the privilege of seeing the Pine Barrens of New Jersey transformed into a fairyland of flowers by the magic of coloured slides shown by Mrs. Allen, who combines exquisite, delicate photography with her other talents, for she has also a good garden and "conservatory" well packed with house plants that would not disgrace the most blasé expert.

Yours sincerely,

JOHN T. WALL

#### LETTER TO EDITOR FROM ARNOLD O. BRIGDEN

25th January 1958.

Dear Mr. Mowat,

I spent another 2-3 weeks on the alplands of the Great Divide—Canadian Rockies—again in '57, with the annual camp of the Canadian Alpine Club, of which I have been a member for a number of years, not so much a "Climber" as a "Walker." We had to "walk in" from the CNR railway, 18 miles south-west of Jasper, to the location of Camp. Many English "Alpine Club" members attend from year to year, and also members from the great U.S.A.

However, I went "up-on-the-screens," about 8000-9000 feet altitude, from Camp at 6800 altitude. Many snow patches remain in July and August on the north exposure, so one can always find some spring-alpines in mid-summer. The climbing is not difficult but takes some time. We were fortunate in 1957, with a running start of 6880 ft. camp altitude and a railway altitude of 3500 ft. That is to say, we gained an altitude of 3300 ft. "on our way in," on the 18 miles which took all day, well on into the evening before we found "camp." So

at 6800 ft. we were well within the Scree Dwellers, and the Moraine Alpines, and the snow patches.

The best "lady" I found was *Campanula lasiocarpa*. There were a great many *Gentiana glauca*, and *Epilobium latifolium*, the alpine water willow herb which is a favourite of mine, up at these altitudes. (The miniature Fire Weed of St. Paul's Cathedral !)

The question, however, is—"Rock Plants in their natural habitat and how to solve some of the difficulties experienced with these plants under cultivation in Rock Garden conditions."

The "reprints" you saw were in THE ALPINE CLUB OF CANADA'S "The Canadian Alpine Journal." This is *not* a "Plant" Society but a "Climbing" Club !

I appreciate the fact that you do not require a record of a "trip" or "climbing"; nor do you want your "common or garden varieties"—too well known. So all I can do at the moment is to send you a list of those I may have found, and have colour-film records of, which could be made into Black and White. From then on, I suppose, it is a case of pH, or lime, or granite, or scree, or moraine, or the weather.

Will Ingerswien took home *Erigeron aureus*, which maybe is a Canadian. It is like what a gold sovereign used to be—quite good. I think *Romanzoffia sitchensis*, The Mist Maiden, is as happy a lady as you could find anywhere, and *Saxifraga cernua* with its bulbils cosily secreted on its axils where each leaf is attached to the stalk—The Nodding Saxifrage. There were also the Nodding Lychnis, *Lychnis apetala*, like a Chinese lantern, and the curious one, *Physaria didymocarpa* (Cruciferae), the Bladder-Pod; and another one like a "bladder-pod," *Oxytropis podocarpa*, the "Inflated Oxytrope." Besides your *Dryas octopetala*, we have the *Dryas Drummondii*, a yellow fellow, which does not open like *octopetala*. And so we might go on ! Some may be common names to you, others may be strangers.

We visited R. B. Cooke of Corbridge in 1956, and, as you know, Mrs. Walmesley-Carter of Windermere, the Lady with the eighty trough-sinks which she carries around with her, wherever she may go next. A fine show ! We also visited Mrs. Crewdson of Helme Lodge, Kendal, but we have not been to Scotland yet or to Aviemore. We have been on the West Coast of Ireland with Mr. O'Connor of Dublin, Alpinist, in 1956, where we found *G. verna*.

I will make that list, at any rate, of the few colour-films I have—of "Canadians"—or ???—or "Colonials"—elsewhere.

Yours sincerely,

Winnipeg, Canada.

ARNOLD O. BRIGDEN



## Discussion Week-end in Edinburgh, 9th—10th November, 1957

THE OUTSIDER sees a good deal of the game and as one who has played and watched previously at Birmingham and Pendley study week-ends I can offer praise of the excellent organisation and management of the week-end at the Scotia. On economic grounds Pendley appears to score from the Education Authority's backing, without any obvious detriment. Birmingham, no doubt, has an advantage in the rather higher attendance, but Edinburgh had two obvious leads: firstly, in a room which was definitely easy to the eye and to the ear, and secondly, in the general suitability of date. The friendly atmosphere in a rather mixed gathering of people is much the same at any of the week-ends and this, with samples from Southern England to Skye, proved no exception. The programme had possibly a leaning to high level, which is recognised as educationally sound. Commercially the peat vendors should reap some advantage!

GERARD PARKER

### "SOILS"—By HENRY TOD, Ph.D., F.R.S.E.

THE OPENING lecture was given by Dr. Henry Tod on the subject of "Soils," and was illustrated with colour slides demonstrating the various points raised.

Soil is composed of four main substances—mineral matter, organic matter, water, and air. The mineral matter is derived originally from rock, and the various processes of weathering were described, showing the role of temperature, frost, glacial action, water and wind. The influence of plants themselves, especially trees and shrubs, was shown, and also the formation of secondary deposits, producing the sedimentary rocks.

An outline was given of the build-up of organic matter in the soil, and the interdependence and importance of both organic matter and clay was explained. The balance of water and air in the soil was described, with a discussion of the varying abilities of different kinds of soils to hold water. This led on to the effects of drainage and the formation of peat, and finally the speaker made some observations on the soils present in alpine habitats, for example rock crevices and screes.

### "ALPINE PLANT LOCATIONS,"

By GERARD PARKER, Esq.

IN HIS capacity as Hon. Director of Tours for the Alpine Garden Society, Mr. Gerard Parker has familiarised himself with the main stations throughout Europe of Alpine Plants. By his repeated visits

to proved resorts, and the careful recording of a wide range of Alpines in their respective habitats, Mr. Parker has built up a remarkable collection of colour slides. At the Second Edinburgh Discussion Week-end, Mr. Parker gave a fully illustrated survey (124 slides) covering the main areas of European Alpines. This extended from the Cantabrian Mountains in Spain, through the Pyrenees, on to the Italian and Swiss Alps ; concluding with the Dolomites. The overall excellence of the slides precludes the mention of any one particular subject. Mr. Parker has been specially attracted to the occurrence of natural hybrids amongst *Sempervivums*, and also between *Primulae rubra* and *viscosa*. A series of outstanding studies portraying these was greatly appreciated.

D. M. MORISON

#### “ PEAT BEDS ”—By A. EVANS

SPECIALISTS have long cultivated plants in specialised gardens and the Rock Garden and Woodland Garden are but two such types. This relatively new diversion of growing plants in peaty soils is just another effort to group plants which like the same conditions. Naturally the choosing of the site will be determined by the geographical location of the garden, but generally speaking it is better to be constructed in partial shade than in full sunlight. In the former situation the conditions are more temperate and less variable than those existing in an open exposure and in summer tend to remain cooler. What is equally important, during the winter months a bed shaded from the winter's sun will have a continuous cold, unfluctuating temperature, and so be less likely to start the plants into growth prematurely. Rather such situations will tend to encourage slow development and thereby minimise the danger from late frosts.

Adequate drainage is essential ; it is useless trying to practise gardening in soils where water stagnates without first attending to this all-important matter. On the other hand, free drainage may mean that the soil will dry out in summer, and on the east coast, where the rainfall is usually light, this tends to be the case. The incorporating of peat blocks in the bed, by reason of their water-holding abilities, partly solves this problem, but in some gardens it may be necessary to water by artificial means. Furthermore, if the blocks of peat are laid to form walls, they may also provide shelter and a variety of aspects wherein unusual species may be grown. In addition to peat, well-made compost, if forked into the soil at every opportunity, will help to maintain the humus content at a very high level and in so doing aid the conservation of moisture. Compost may be added at any time, but naturally the degree of fineness will depend on the species to be planted. For example, in the case of dwarf plants and those with fine root systems, the particles should be very tiny to enable the planting operation to be carried out correctly by ensuring that the small roots

will be in close contact with the soil. Attention to detail at planting time will be rewarded.

A peat bed will provide the conditions in which a large variety of shrubs and herbaceous plants may be grown. The shrubby species, in addition to supplying colour in the garden, can be used to provide shelter for the dwarf plants growing amongst them. They are, moreover, the permanent feature plants in the garden and impart character to the bed at all seasons. They are the garden's permanent visible inhabitants. The inter-planted herbaceous species may be more fleeting by nature and shorter-lived, but they are usually replaced much more simply, reaching their ultimate height within a few years.

Ultimately it is inevitable that some of the plants may have their surface roots exposed to the air. When this happens it will be advisable to top dress these plants with sieved compost and good top soil, mixed in equal parts, which may be applied either in the Autumn or Spring.

In the accompanying list of the slides used to illustrate the talk it may be observed that no slides were shown of dwarf Rhododendrons, although these plants are ideally suited to this type of gardening. This omission was intentional in view of Mr. Davidson's lecture on "Dwarf Rhododendrons" which was due in the afternoon.

Actaea spicata rubra (fruits)	Meconopsis aculeata
Cassiope 'Edinburgh'	„ gracilipes
„ selaginoides	„ grandis
Clintonia andrewsiana	„ horridula
Corydalis cashmeriana	„ napaulensis
Dodecatheon meadia integri-	„ regia
folium	„ x sarsonsii
Erythronium californicum 'White	„ x sheldonii
Beauty'	Menziesia lasiophylla
Fothergilla major	Orchis elata
„ monticola (Autumn	Phyllodoce aleutica
colour, foliage)	„ caerulea
Gaultheria itoana (fruits)	„ x intermedia 'drum-
„ miqueliana (fruits)	mondii'
„ procumbens	„ x „ 'Fred
x Gaulthetia wisleyensis	Stoker'
Hacquetia epipactis	„ nipponica
Incarvillea delavayi 'Bees Pink'	Phyllothamnus erectus
Leucothoe davisiae	Primula aurantiaca
Lilium brownii	„ bhutanica
„ canadense	„ edgeworthii
„ japonicum	„ japonica 'Postford
„ mackliniae	White'
„ x 'Maxwill'	„ nutans
„ oxypetalum	„ polyneura
„ regale	„ pulverulenta
„ wardii	„ reticulata

Primula sonchifolia	Shortia uniflora
„ viali	„ „ grandiflora
Sanguinaria canadensis flore pleno	„ „ 'Attraction'
Saxifraga strigosa	Synthyris canbyi
Schizocodon macrophyllus	Trillium chloropetalum
„ soldanelloides	„ erectum
Shortia x intertexta	„ sessile

## DISCUSSION PERIOD, SATURDAY, 8 P.M.

By GERARD PARKER

AS A RELIEF from longer periods of listening, a period for discussion is always a sound proposition. so long as the subject can pull in a fair number of members with opinions, and this was the case at 8 p.m. on the Saturday and happy in its timing on the programme. Mrs. J. J. Boyd Harvey ably stated a case against "Too Much Drainage" in effective wording and efficient diagrams and specimen pot plants—an introduction that could have safely launched a brand new gospel. She was not, however, backing a lost cause, for the weight of argument was well on her side. Rather than blame Reginald Farrer, who may have overstressed much drainage, we should, I think, discredit the multitude of disciple writers who should now be due for a check, and the diagrams of the introduction might be used as examples of what not to do. Though some allowance must be made for East 24 and West a hundred and some, it was generally felt that drainage could be cut, and in sinks and troughs quite a lot.

The second item for discussion, "Are Rock Gardens necessary for the Growing of Alpines?" was introduced by Dr. James Davidson, who effectively put at some length arguments inviting what appeared an obvious answer in the negative. And yet he did not appear to convince the majority that our plants would be too happy in growth or aesthetically placed without some stone association. It may well be that his audience had transcended from the almond pudding and devil's lapful, or that his raised banks required more than moral support. He did, however, give us food for thought and got people talking.

### "ARE ROCK GARDENS NECESSARY FOR THE GROWING OF ALPINES?"

Introduced by Dr. JAMES DAVIDSON

THE ABOVE discussion was opened by a few remarks to the effect that a Rock Garden was not necessary for the growing of Alpine Plants. In fact many rock gardens small or larger appeared to be quite out of place in certain gardens, with regard to the landscape effect. The building of rock gardens with weathered limestone was also severely

criticised as being extremely artificial, especially in localities where there was no such natural stone within many miles of the area. If stone was going to be used, it should be the natural stone of the district conforming with the general surroundings. The building of terraces with flat borders was enlarged upon by the speaker. This, he maintained, was a simple and possibly a less expensive method. Root protection in a flat border could be obtained by the judicious placing of a few stones, well sunk, here and there. These could be supplied for certain plants. The vertical supporting wall of the terrace could be of any height according to the wants of the owner and would be a useful adjunct for the growing of plants which were accustomed to growing in a vertical site.

A certain amount of discussion amongst those present followed.

### “ TOO MUCH DRAINAGE ”

Introduced by L. C. BOYD-HARVEY

WE OBTAIN a great deal of amusement from reading about some of the earlier attempts at rock gardening—the Grotto, with tons of rock housing a few ferns, and the Pocket System, with compartments holding meticulous mixtures to an exact prescription for each different plant. We join with Farrer in deriding the Almond Pudding, the Dog’s Grave, and the Plum Bun.

I wonder whether, when the time comes for the Club to celebrate its Centenary, members will be laughing at those quaint old 20th Century gardeners who used to kill their plants by burying broken bricks and rubble underneath them !

The intention, of course, is admirable. It is noticed by those who study mountains that plants there are kept dry during the long winter by a thick blanket of snow. In lowland gardens, therefore, artificial drought conditions are contrived by burying an underground layer of coarse rubble, which prevents the plants growing over the top of it from becoming waterlogged, however many alternations of snowing and thawing there may be. It is overlooked, however, that on the mountain slopes, when snow melts in Spring, plants are deluged with water, and on the higher mountains which have a permanent snow-cap this continues throughout the Summer. The melted snow water is not necessarily visible on the surface, but may be running through the fine silt to which the roots have penetrated from the rough rocky detritus above. Rain and mist add to the supply of water, and mountain plants receive not only that which falls directly onto them, but also that which runs down to them from higher slopes. All this water, from ice, snow and rain, brings down with it dissolved and suspended nutrients from weathered and crumbling rock, and from decayed lichens, mosses, and the dead ancestors of the plants themselves.

What happens in gardens ? A so-called “scree” is built over the top of buried rubble—first turves, then medium-sized stones, and

finally  $\frac{1}{4}$  in. chips. (This is upside down compared with a genuine mountain scree where silt and finer particles sink, leaving larger fragments and rocks on the surface). Leaf mould, loam and peat are incorporated in niggardly proportions, and unless the local council is unusually tolerant, it is not possible to leave a hose running through it night and day during the drought of spring and early summer. Anyway, water from a hose is just plain water, and leaches out nutrient from the scree mixture into the broken bricks below, far out of reach of plant roots. Plants growing in a garden scree, where a hose is not used, are entirely dependent on any rain which may fall directly onto them. The rubble down below forms an impenetrable barrier to the capillary rise of soil water, so that when the water table is below the rubble layer, the plants will burn up and die.

It is suggested that to guard against both waterlogging and waterstarvation the following points should be considered in rock garden construction :—

1. No disturbance of the subsoil and no buried "Drainage Material."
2. All planting surfaces to be raised above path level, and at sufficient angle to carry off surface water by gravity.
3. Soil to be rich in plant foods and of open gritty texture approximately to the depth of root penetration, but sufficiently consolidated to allow capillary rise of soil water from below.
4. Surface to be covered with stones or chips of only sufficient depth to keep necks dry and to prevent mud splashes.

#### DISCUSSION :

Specimens were shown of plants some of which had been grossly over-watered by being left to stand in a saucer of water for a month, and others which had been deprived of all water for the same period. The over-watered plants in each case appeared to be in far better condition than the unwatered specimens. Mr. Kibble (Berkshire) predicted that the "good" *Helichrysum marginatum* would be dead before Spring came. Miss King (Kirkcudbrightshire) said that, after reading an article in a previous *Journal*, she had watered her specimens of this plant and they had all died. On the other hand, General Murray-Lyon (Edinburgh) and Dr. Davidson (Peeblesshire) both said that they had had sickly specimens which had been kept dry in the alpine house, and after copious watering they had recovered their health in a remarkable way.

Mr. Gerard Parker (Middlesex) suggested that too much emphasis is placed on the drainage layer at the bottom of sinks and troughs. With a good outlet, such a layer is a waste of valuable space.

Dr. Henry Tod (Midlothian) reminded the speaker that because she lives on the dry east coast drought is her chief problem, but good drainage is important on sticky soils in regions of high rainfall.

Mrs. Boyd-Harvey (East Lothian) said that in regions of high rainfall, notably Argyll and Perthshire, many of the gardens are built on sharply sloping ground with rocky outcrops and rapid surface run-off. During dry periods there is constant seepage through the soil of water from higher slopes. These conditions, approximating to those which occur in nature, may partly account for the many famous gardens in Perthshire and the West.

General Murray-Lyon said that in parts of the country with a high water-table, the answer was to raise the beds above ground and water-table level, rather than to excavate and bury drainage material.

Summing up, Dr. Tod agreed that the drainage layer might be unnecessary in the dry coastal area of East Lothian, which has a soil of naturally open texture. Underground drainage could, however, be useful on heavy land in wet districts. Constructional methods had to be varied in accordance with local conditions.

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## Show Reports

### NORTH BERWICK

THE NORTH BERWICK Show was held in the Sun Parlour there on Thursday, 5th September 1957, when there was again a fine selection of well-grown plants on view, although gentians were not as good or as numerous as the year before, when they were really outstanding. The Forrest Medal for the best plant in the Show was awarded to a very fine plant of *Cyclamen neapolitanum album* exhibited by Mrs. Boyd-Harvey, Dirleton, which had more than 100 flowers and buds. Certificates of Merit were awarded to the two plants which were runners-up to the Cyclamen. These were *Myrtus nummularia*, shown by Master Neil Baillie, Longniddry, which was both in flower and berry, and *Oxalis laciniata*, which has pale blue flowers with darker blue veins. This Oxalis, another of a number of well-grown plants exhibited by Mrs. Boyd-Harvey, was introduced only a year or two ago from Patagonia by Mr. David Tweedie and when it is more readily available will be eagerly sought by exhibitors and non-exhibitors alike. Mrs. Boyd-Harvey also won the East Lothian Trophy for three pans of rock plants of different genera with *Gentiana stevenagensis*, *Cyclamen neapolitanum album* and *Pratia angulata* v. *treadwellii*, which was in fruit and flower. The Silver Cup for the best plant in Section II open to those who had not won more than three First Prizes at any Club Shows was won by Mr. Peter Kerr, Gifford, with a well-flowered pan of *Gentiana sino-ornata*. A nicely planted piece of hyper-tufa with a good selection of well-grown little plants won the Logan Home Trophy for the best miniature garden shown by an East Lothian or Berwickshire member for Mr. J. D. Tweedie, Dirleton. The Hon. Miriam Pease, North Berwick, was awarded the Club's Bronze Medal for the most points in Section II. One of her first prizes was gained with a fine specimen of *Sedum cautucolum* which, she told me, had taken an hour and a half to pot up. The plant had been so skilfully potted up that one could not have guessed that it had not spent all its life in the pot in which it was exhibited.

There is no room here to detail all the good plants on show, but some of those that caught the writer's eye were: *Primula scotica* flowering out of season, *Sedum pluricaule* with delightful pale pink flowers, and *Androsace pyrenaica*, a fine cushion plant, all exhibited by our worthy President, Major-General D. M. Murray-Lyon; *Gentiana* "Inverleith," a very fine hybrid raised by Mr. W. G. Mackenzie when he was on the staff of the Royal Botanic Garden, Edinburgh, shown by Miss D. C. Pape; *Veronica bombycina*, a small grey-leaved plant not too easy to grow to the size of plant shown, and *Omphalodes luciliae* with trailing stems and forget-me-not like flowers, both exhibited by Mr. and Mrs. R. Baillie, Longniddry; *Hypericum reptans* in fruit and flower shown by Mrs. Hinton, Cockburnspath, and lastly



two Callunas, *C. vulgaris flore plena*, a truly magnificent double white heather (Mr. G. S. Burrows, Dirleton), and *C. v. Foxii nana*, well-grown and, more to the point, well-flowered (Mrs. More, Gifford).

The trade stands were again an outstanding feature of the Show, all three exhibitors making fine use of the rock garden plants found in flower in the Autumn, backed up by those whose foliage is decorative at any time of the year. Mr. James Robb, Pathhead, Ford, Midlothian, was awarded a Large Gold Medal for a built-up rock garden in the construction of which he had displayed all his usual artistry. Mr. Ponton, Grant Avenue, Colinton, Edinburgh, received a Gold Medal for his built-up rock garden, and Edrom Nurseries, Coldingham, Berwickshire, received a similar award for rock garden plants in pots. The enterprise of all three firms appeared to be rewarded if one were to judge by the number of prospective customers who gathered round the very interesting stands.

Mr. C. W. Sanderson, Hon. Show Secretary, and his Committee are once again to be congratulated on a fine Show and on the arrangements which they made to facilitate the work of the judges.

D. L.

## PERTH

THE DIFFICULT season of 1957 made this a peculiar Show to cater for. The dry conditions in spring and early summer coupled with a few hot weeks forced many of the late summer and autumn flowering Gentians into bud. Thus it was a fairly general experience in this area to find them in flower a full month in advance of the average. Almost the only exception that we noted was in the old *G. sino-ornata*, which kept to its usual time-table. In this respect the Gentian exhibits were a little disappointing. In the same way the wet summer and autumn and lack of sun upset the time-table of many plants that we expect to see in a Show during this period of the year, and it did not help in the classes for autumn colour.

The Forrest Memorial Medal was awarded to the President for *Sedum pluricaule*,\* while the Alexander Caird Trophy, the L. C. Middleton Trophy and the Peel Trophy all went to Major and Mrs. Knox Finlay. The Dundas Quaich was awarded to Miss D. C. Pape, who nobly came a long way from Northumberland, while the Bronze Medal went to Mr. James Rorie of Dundee. Among the six pans of the Caird Trophy were *Meconopsis cookei* and that charming Polygonum species *affine* (Lowndes 1357) that received an Award of Merit.

The classes for Gentians included *Gg. sino-ornata*, which was awarded an FCC for Keillour, two very fine pans of *veitchiorum x stevenagensis* in very fine form, shown by General Murray-Lyon, *x macauleyi*,

\*Now identified as *Sedum Ewersii*.

*x hexa-farreri*, a good specimen of the newer hybrid "Vorna," *ornata*, *farreri*, and *x bernardii*.

Among the Heathers, apart from the popular "Beale" and "Hamilton," one of the most striking plants was the lovely double white *Calluna* found in Germany. This certainly is one of the finest of all double Heaths, and the white is so pure compared to most of the others that soon pass to a greyish-white. In the Composite class there appeared *Erigeron* "Elstead Pink," a plant that requires starvation if it is to be classed as an alpine and not as a rather vigorous sprawler.

Colchicums were well to the fore among the Liliaceae, including the comparatively rare *C. autumnale fl. pl.* in both its white and pink forms.

The Show was a little early for Cyclamen, but Mrs. Boyd Harvey well deserved a cultural commendation for the magnificent specimen of *C. neapolitanum album*, a most striking exhibit.

In Section II there was close competition with all classes except 58 represented. The winner by one point was Mr. J. H. K. Rorie of Dundee. The excellent entries in this section in a difficult season hold promise for future Shows.

In Section III Sir Ramsay and Lady Maitland staged a spectacular autumn colour and fruit exhibit of *Rosae fargesii*, *villosa*, *macropetala*, and *rockii*, along with *Acer dasycarpum* and *A. platanoides*.

Cacti and succulents were well represented in Section IV. Along with a fine specimen of that peculiar Bromeliad, *Fascicularia bicolor*, better known under its old name of *Rhodostachys bicolor* with the inner leaves almost crimson and bright blue flower. The judges had to debate long whether this fine specimen shown by Mrs. E. N. Cox of Gourdie actually belonged to the section or not.

Altogether a most interesting Show at the end of a very difficult season.

P. Cox

## ROYAL HORTICULTURAL SOCIETY

### Joint Rock Garden Plant Committee Awards at Perth Show, 20th September 1957

THE COMMITTEE met at the Scottish Rock Garden Club Show at Perth on 20th September 1957, and the following awards were made:—

#### First Class Certificate :

To *Gentiana sino-ornata*, as a flowering plant for the rock garden Exhibited by Major and Mrs. Knox Finlay.

#### Award of Merit :

To *Polygonum affine* (Donald Lowndes No. 1357)—subject to verification of the name—as a flowering plant for the rock garden. Exhibited by Major and Mrs. Knox Finlay.

To *Sedum pluricaule*—subject to verification of the name—as a flowering plant for the rock garden and Alpine House. Exhibited by Major-General and Mrs. Murray-Lyon.

Note: This plant has now been identified as *Sedum ewersii*. (See Fig. 17).

*Cultural Commendation:*

To Mrs. L. C. Boyd-Harvey for a fine pan of *Cyclamen neapolitanum var. album*.

## Book Reviews

“PRIMULAS,” by A. G. Puttock. Published by John Gifford, Ltd., at 16/-

I am afraid this is a book which I could not recommend without some reservation. In a foreword to the book the author says: “It is not a book for the botanist or the expert in any particular type of primula. It is designed for the amateur gardener who derives such a wealth of enjoyment from his gardening.” That is a very laudable aim, but as there are many primulas mentioned in the book and its appendices which are not available in commerce and which, in fact, have never been in cultivation in this country, the value of the book is considerably diminished for the very people for whom it is intended.

I wish I could agree with the author that “Primula cultivation presents no particular mystery . . . the individual operations do not involve any particular knowledge or skill.” Many of the species mentioned in the book are, in my experience, very difficult to cultivate, although there are many others which do not present any great difficulty. I do agree with the author that it is a help in cultivating primulas, as with other plants, if one can visualise the conditions under which they grow and thrive in their native habitat, but in fact the book gives little information on this point and the ordinary amateur gardener will have some difficulty in finding out those conditions for himself.

There is a useful chapter on pests and diseases of primulas, but there is no note on what I consider to be the arch enemy of primulas, whether cultivated in pots or in the garden. I refer, of course, to the larvae of the vine and raspberry weevils which can completely destroy a large patch of plants in a short space of time by eating away their roots.

There are a number of inconsistencies which are difficult to explain. In a chapter on “Historical and Introductory” we are told that there are 15 species in the Candelabra section, but on reference to Appendix D we find 33 listed there under this section. Again in a note on primulas from America we are told that *P. rusbyi* is in the Section Cuneifolia and that *Pp. angustifolia*, *cusickiana* and *parryi* are in the Section Nivales, but Appendix D lists them all correctly as Section Parryi. One other example of inconsistency will suffice to illustrate this point. It is stated in one part of the book that *P. allionii* “will happily thrive with no sunshine at all,” and in another that it “requires plenty of sunshine.”

The author devotes a chapter to Rock Garden Primulas and he gives details of a suitable compost for the rock garden as three parts made up of mortar and brick dust, sand and coke breeze and small pebbles, one part of leaf mould or peat and one part good loam. I have grave doubts as to the success which would attend an attempt to grow some of the primulas listed in this compost.

In an introduction to primulas which the author considers suitable for the Alpine House, he states that they are not suitable for the rock garden, but in fact in his list he includes both *P. ellisiae* and *P. edgeworthii* which he had already mentioned in a previous chapter as suitable for the Rock Garden. In electing to include *P. clarkii* as suitable for the Alpine House

he states quite rightly that it is perfectly hardy and could therefore be grown outside but because of its small stature might well be swamped by other plants in the open rock garden. He does not, however, apply this criterion to plants which are even smaller and are certainly more difficult to grow, because he lists as Rock Garden Primulas such things as *Pp. minima*, *reptans*, *rockii* and *tenella*.

There are some odd statements in the book. For instance, we are told that the flowering stems of *P. clusiana* grow some 15 ins. in length. I have yet to see this species with flowering stems any longer than 4 or 5 inches. *P. reinii* we are told "is not found in Japan as is the type of a small section which bears its name." This should, in fact, read "is found in Japan and is the type plant of a small section which bears its name." Perhaps the oddest statement of all is "*P. umbratilis* is rarely seen in English gardens but it is more common in Scotland where it can be planted in damp rocky banks on the mountain side." This is a new one on me. I have not heard of any enthusiastic Club member trying to naturalise this not-too-easy species on Ben Lawers!

There is just one other point; I find it odd that, in a book on primulas, no mention is made of the monumental work on the genus by the late Sir William Wright Smith and Dr. H. R. Fletcher of the Royal Botanic Garden, Edinburgh.

There is a good deal of useful information in the book and it is finely illustrated by black and white photographs and a number of coloured ones, and it is therefore with regret that I cannot recommend it without reservation.

DAVID LIVINGSTONE

"MINIATURE ROCK GARDENING IN TROUGHS AND PANS," by Royton E. Heath. (Published by W. H. and L. Collingridge. Pp. 127. Price 35/-)

The author is to be congratulated on this handy and comprehensive little book on a subject which is becoming increasingly popular.

Trough-gardening has a special appeal to the town-dweller and to the not-so-young, who find their backs not as supple as they once were.

If you are lucky enough to possess or can acquire an old stone trough, you are told here how to plant and tend it. Anyone, on the other hand, wishing to make and plant their own troughs will find many methods of construction described in the text and clearly and fully illustrated by very excellent line drawings.

Mr. Heath rightly emphasises throughout the importance of cleanliness and urges the use of permanganate of potash, both in the preparation of the troughs and soil and in the care of cuttings.

The chapter on propagation, giving details of different methods and soils, and also of the construction of cutting frames, should prove a very useful aid to those wishing to do their own propagating, and here again the line drawings are a useful adjunct to the text.

There is a short chapter on Pests and their control which is helpful.

The book is in two parts and Part 2 is concerned with suitable plants for the troughs.

The chapter on dwarf Conifers is full of useful information and gives a very good selection for the trough enthusiast to choose from. The descriptive list of plants, which follows, is a useful guide to the types of plants to grow in troughs, giving as it does the suitability, type, height and spread, soil, position, colour and season, and propagation. This information is set out in column form for handy reference.

The many excellent photographs throughout the book add greatly to its usefulness.

H. M. LOGAN HOME

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## GARDENS UNDER TRUST

This year promises to be a lively one at gardens in the care of the National Trust for Scotland. Public interest has already been focussed on the exciting possibility that the magnificent gardens of Brodick Castle, together with the castle and its contents, may be taken over by the Trust. The property has been offered to the Treasury in lieu of part payment of death duties by the trustees of the late Duchess of Montrose, and the Trust has stated its willingness in principle to accept it from the Treasury. The Trust is now considering ways and means of raising an endowment fund to meet the costs of maintenance and administration. It is likely that a contribution towards the large sum required will be made from the Trust's own Gardens Fund, which has been built up over the past six years to meet just such a contingency.

The visit of Her Majesty the Queen to the Royal Palace of Falkland in Fife on 30th June this year will be the first occasion in more than 300 years that a reigning Sovereign has visited this Royal property. In earlier times Falkland was a favourite hunting residence of the Stuarts, and documents from that period record a considerable royal interest in the care of the garden. In 1456 the gardener's wages were paid, but it was noted that they were undeserved and the man was later dismissed. Later instructions were given that the gardener at Falkland should not be paid unless he worked well and provided the King with fruit. The present layout of the garden—a broad sweep of lawn flanked by colourful borders—was evolved by the Keeper of the Palace, Major Michael Crichton-Stuart, after the land had done service as a potato field during the war.

At Inverewe this year a new restaurant will be opened to meet the needs of an ever-increasing public. Last year more than 25,000 visitors saw this remarkable Highland garden on the coast of Wester Ross.

An additional opening of the garden only has been arranged for Saturday afternoons at Crathes Castle on Deeside this year. Normally the Castle and garden are open on Wednesday and Thursday, and Sunday afternoons. Plants from the Crathes propagating centre will be available to visitors again this year.

Development of the garden at Pitmedden, near Udny, Aberdeenshire, is continuing within the framework of the 17th-century layout completed last year.

Enquiries about the work of the Trust should be addressed to The Secretary, The National Trust for Scotland, 5 Charlotte Square, Edinburgh, 2 (Telephone 34872). The Trust is supported by Membership subscriptions, donations and legacies.

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This section of advertising was introduced to meet the needs of those who only require a small advertisement.

It is suggested that in addition to Trade advertisers it may be useful to Private Members who, for example, are looking for a particular plant.

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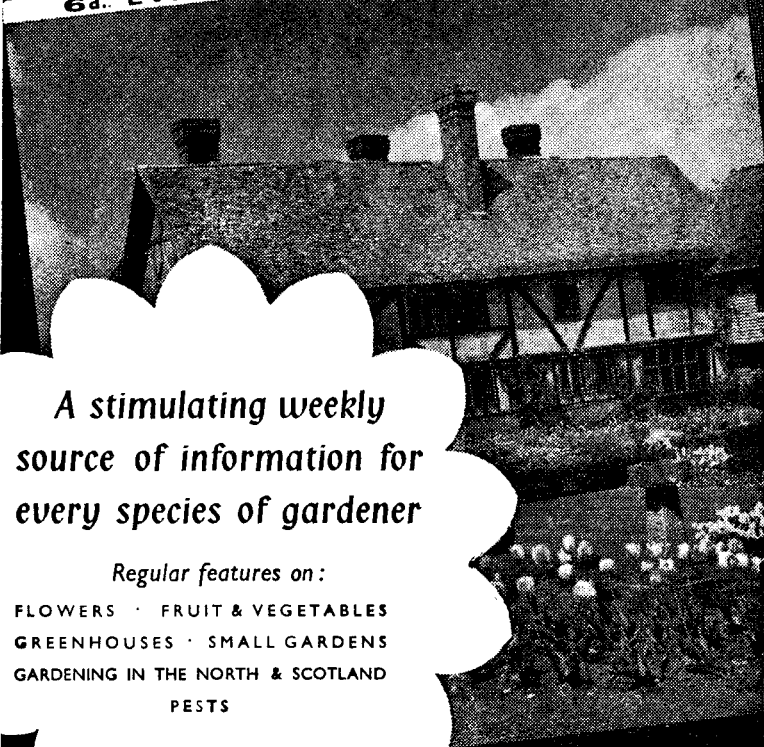
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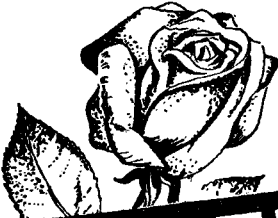
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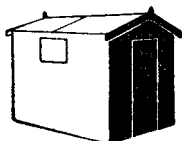


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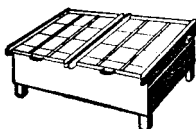
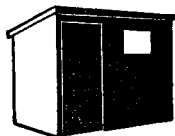


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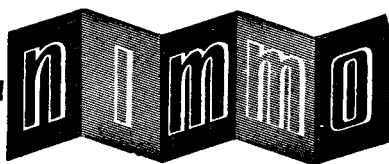


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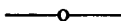
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