The Journal
OF
The Scottish Rock Garden Club

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

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Frontispiece—Douglasbank — General view illustrating curved paths and concealment of path to house

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VOL. IX. PART 1 No. 34—April 1964

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Editor's Notes

IN THESE notes it has become usual to say something about the weather experienced since the issue of the last *Journal*; but what can be said about the strange weather which has been our lot since last September? At that time we were having an unusually prolonged wet spell in East Scotland which lasted right through late summer and autumn till the end of November. After that, except for the odd wet days, December was really not too bad and January and February gave us long spells of wonderful weather with temperatures that seemed almost summer-like.

Some unexpected results of these unseasonal conditions are apparent in the garden. It was only to be expected that the long wet spell in late summer would mean a lack of ripening in woody plants, and it was indeed fortunate that we had no repetition of last winter's severity. What has proved surprising is that though many presumed that the abnormally mild winter would mean that things would be earlier than usual, this has not invariably been the case. The most outstanding example which comes to mind is that of the winter heaths, varieties of *Erica carnea*, which have only recently come into flower after standing still for more than two months. *Rhododendron* x *praecox* over the years has nearly always showed colour at the beginning of March, sometimes being in flower by then, but this year in mid-March, except for an odd bloom here and there, the main flush of flower would appear to be quite some time off. This has been remarked on by several of our students who look to see it in full flower before they go down for Easter vacation.

A comparison with the records of past years reveals that quite a number of plants—both hard-wooded and soft-wooded—have been later in coming into flower than usual. It would seem that this must be chiefly due to insufficient vernalisation.

Another unforeseen occurrence has been the number of plants which after coming through last winter's severity successfully have died out completely. Unless this has been a result of last winter's weakening effects it seems as if this can only be due to the excessive wetness of last year and the resultant water-laden soft growths of plants not naturally able to withstand such conditions. At least one group of plants, however, seem to have thrived on the combination

of wet summer and mild winter in this part of the country. Rhododendrons have never looked more promising or carried a better set of flower buds.

Although the late Mr. W. C. Buchanan is mentioned more than once in the following pages we feel that no apology is needed for a brief mention here. We have judged with him, talked and gone round gardens with him, and many a time shared a meal with him. In each of these experiences he always proved himself a most delightful companion and an unfailing fountain of knowledge and wisdom. No one could know him without acquiring a very warm regard for him and a deep respect for his wide knowledge and fine character. The whole world of plantsmen has suffered a great loss by his passing.

Those members of the Club who attended either the 1951 or the 1961 International Conference will surely remember that very friendly and happy octogenarian from far-off San Francisco, Mr. Robert Saxe. Mr. Saxe endeared himself to all whom he met at the Conference, and that must have been nearly all who attended, by his unfailing cheerfulness and warm friendliness. Who could forget the occasion when at Edinburgh in 1961 he stood up in a meeting to make a comment and brought the house down with his opening sentence ?

It is grand to know that Mr. Saxe carries his years as lightly as ever. We received recently from a kind but unnamed friend in America a copy of last summer's Journal of the Californian Horticultural Society and in it to our immense pleasure we found a most delightful article by our friend Robert Saxe on "Growing Rock Plants in Containers." It is a very sound article, as one would expect, and full of enthusiasm and encouragement. This Californian Horticultural Society by the way seems, by the contents of its Journal, as if it could more rightly be called a rock garden society. We look forward to meeting you again in 1973, Mr. Saxe.

This year's Discussion Weekend on 10th and 11th October is again to be set in Pitlochry. Other than the weekend held at Aberdeen, Pitlochry is the farthest north that the Club has ventured with a discussion weekend and local members wondered what the attendance might be when they first organised a weekend there. The response was so unexpectedly satisfying that Perthshire members have had no qualms in undertaking another for October.

This week-end in October at Pitlochry will see the inauguration of the W. C. Buchanan Memorial Lecture, which in this instance will be

delivered by Mr. E. B. Anderson, a warm friend and admirer of "W.C.B." Pitlochry itself is a charming setting for such a meeting, with the added advantage of several interesting gardens belonging to keen Club members being within easy reach in the town and district.

Your editor, as *Journal* time draws near again, often develops a sympathetic understanding for what are the probable feelings of a broody hen trying to hatch out chickens from china eggs, or of the children of Israel condemned to make bricks without straw.

He has to write pleading letters to various members asking for contributions with which to try to build up a *Journal.* Often he may get quite a lot of promises, many of which do not materialise, but by the time he finally realises that they are not going to it is nearly too late to do much about trying elsewhere.

This time we are happy to say that thanks to several new contributors to the *Journal* and also to the return of some regular contributors of former years we have had much less anxiety in getting the current issue together. We are extremely grateful to all those who have this year contributed to make the *Journal* what it is. We have always maintained that it is not the editor who makes the *Journal* but the members themselves ; an active and healthy Club should mean a lively and interesting *Journal.* We would plead with those who have at any time contributed to the *Journal* not to drop out, and to those who so far have not, to make a start even if only in a small way.

We also record our thanks to those many members who write us so many interesting and friendly letters. This is in the true Club spirit. We apologise that circumstances often conspire to make it physically impossible to reply to each correspondent. This denotes no lack of appreciation and we hope this apparent neglect will be forgiven and will not prevent members from writing whenever they feel they have something to ask or tell.

St. Andrews, *mid-March* 1964.

The Journal

MEMBERS will notice a change in the type set-up of this issue of the *Journal.* While there are ten lines or so less per page, we feel that members may consider that this is compensated by an increased readability in the slightly more open spacing. We will be glad to have the opinions of members concerning the change.

The Seed Exchange

ALL CLUB members will wish to join together in expressing their most grateful thanks to Mrs. B. B. Cormack on the occasion of her retiral from the post of Honorary Seed Distribution Manager. A tremendous amount of thought and energy, and time, is involved in the arduous work of maintaining and extending the high standard attained in the Club's deservedly popular Seed Exchange Scheme.

This magnificent work, so popular with our more distant and overseas members in particular, has only been made possible by the loyal and self-sacrificing enthusiasm of the Honorary Manager and her willing team of industrious helpers who have so generously given up a vast amount of their free time throughout the whole winter season. With our grateful thanks to Mrs. Cormack for what she has done, and done so well, we express our thanks to Miss J. C. Halley for volunteering to carry on the work and wish her every success in it.

Dwarf Conifers

WHEN THIS issue of the *Journal* reaches members 'Dwarf Conifers' by Mr. H. G. Hillier will already be available on sale. For all who are interested in dwarf conifers—and surely this means a large proportion of our members—this should prove a most helpful and useful booklet. Illustrated with 25 black and white photographs, it is obtainable from the Club Treasurer, Mr. D. Elder, Jessamine, 37 Kirkhill Road, Penicuik, at a cost of 10/6.

North Berwick Show

SINCE THE publication of the Show Schedule in the *Year Book*, Mrs. Nancie Porter has presented the WELLSTANLAW CUP for : "An arrangement of Flowers and Foliage cut from the rock garden, plants grown by the exhibitor"—(Class 52 in the North Berwick Show). This Cup to be held by the winner for one year.

Mansfield's Alpines in Colour and Cultivation

AN OVERSEAS MEMBER has asked the Treasurer if he can obtain for him a copy of the above. Will any member with a copy to dispose of please contact Mr. Elder, stating the price expected.

Discussion Week-end

FISHER'S HOTEL, PITLOCHRY

10th-11th OCTOBER 1964

PROGRAMME

Saturday 10th :

2.30 p.m.	Opening Address
2.40 p.m.	W. C. Buchanan Memorial Lecture "Dwarf Bulbs for the Rock Garden" : E. B. Anderson, Esq., M.Sc., Cheltenham
4.00 p.m.	Afternoon Tea
5.00 p.m.	"Plant Pictures in the Alps" : Stewart Mitchell, Esq., Dundee
7.00 p.m.	Dinner
8.15 p.m.	"Discussion on Propagation" : Opened by Miss E. M. H. King, Dalbeattie

Sunday 11th :

10.15 a.m.	"Some Rare and Unusual Plants for the Enthusiast" : Alfred Evans, Esq., Edinburgh
11.30 a.m.	Break
1.00 p.m.	Lunch
2.30 p.m.	"Alpines Wild and in Bondage" : G. D. Smith, Esq., Harlow Car

SUNDAY MORNING BREAK

During this time visits to some local gardens will be arranged for those who care to visit them.

RESERVATION FORMS

These may be obtained from Mrs. T. A. Stuart, Millglen, Baledmund Road, Pitlochry, and should be completed and returned to her accompanied by the appropriate cheque as early as possible.

N.B.—All accommodation in Fisher's Hotel has been reserved for the S.R.G.C. Week-end. When all rooms are booked, no further bookings will be accepted.

Those who wish hotel accommodation before and/or after the official week-end (i.e. other than Saturday night) should state their requirements on the reservation form and the accommodation will be booked for them by us. Such extra accommodation will be paid for direct to the hotel by the person concerned.

As single rooms and seating accommodation are limited, early booking would be appreciated.

We would be most grateful to any member who could spare a plant "Rare or Difficult," for sale or auction to augment the funds.

International Horticultural Exhibition Vienna 1964

LAST YEAR'S Exhibition at Hamburg set a standard that one would have thought would be very hard to emulate. This year, however, the International Horticultural Exhibition—Vienna 1964 sets out not to emulate but to surpass it.

Vienna has, of course, long been famous for its arts and its beauty, and its gardening history goes back to the early Middle Ages and the heyday of the monasteries with their medicinal and herbal gardens. One at least of these monastery gardens has developed in modern times into an extremely up-to-date horticultural college carrying on specialised research, while another runs an extensive vegetable garden on most modern scientific lines. This year the city sets out to uphold its proud record with a horticultural exhibition, running from 16th April till 11th October, which will be the largest ever organised in Europe to date.

The list of materials used in the layout of the exhibition is impressive in its magnitude—1½ million flower bulbs, 3 tons narcissi bulbs, 30,000 deciduous and 42,000 conifer trees, 70,000 heaths and heathers and 10,000 rhododendrons, 200,000 roses and 500,000 other flowering shrubs, and so on. In the "Gardens of the Nations" countries from every quarter of the world are represented either by national or individual exhibits or both. In addition to shrub garden, heath garden, rhododendron, etc., there will be displays of alpines and small shrubs, roses, dahlias—in fact practically everything one can think of in connection with horticulture including fruit and vegetables, machinery and equipment.

Those who wish further information should apply to "Bundesverband der Erwerbsgartner Osterreichs, Mittersteig 22, Wien 5, Austria."

Seed Distribution 1963-64

DURING last summer and autumn about 150 members harvested seed and sent it for use in the Seed Distribution. Now thousands of packets have been sent all over the world to more than 525 members, including our Honorary Member, H.M. the King of Sweden, and our generous donors must be pleased to know that they are helping to beautify and to add interest to so many gardens.

Nearly two-thirds of the Overseas Members ordered seed and this year there was an increase in the number of requests from Home Members. An encouraging feature this year has been the interest in the "Beginners' Collection."

When this season ends the office of Honorary Seed Distribution Manager will be undertaken by Miss Halley of Dundee. I would like to take this opportunity to thank, most sincerely, all who have helped with the organisation of the Seed Distribution, the donors of seed and the small band of helpers who spent many hours sorting and packeting seed and dispatching orders, and Dr. Henry Tod who corrected the Seed List. I would also like to thank the many members who have written interesting and appreciative letters.

I hope that Miss Halley will find her duties as interesting and rewarding as I have done.

She tells me that the arrangements for next season's Distribution will be the same as in previous years. All communications regarding the 1964-65 Distribution should be sent to Miss J. A. Halley, 12 Abercrombie Street, Barnhill, Dundee, and all seeds or lists of "seed to follow" must reach her NOT LATER THAN 1ST NOVEMBER 1964. Full details will be given in the September *Journal.*

B. B. C.

Have You Your 1964 Member's Card

IF NOT, it may be that you have forgotten to pay your Subscription. The Treasurer would be happy to receive it at your early convenience.

If it should be that you do not intend to renew your Membership, please let him know. He will amend his records and you will not then be troubled with further correspondence.

Obituary

William Cullen Buchanan

WE RECORD with the deepest regret the death of "Willie" Buchanan on 12th September 1963. He was a very early member of the Club and had been a notable grower and plantsman for many years by the time that the Club was formed. He was one of the original raisers of the seed sent back by George Forrest and when he died he had been raising and growing rare plants for over 60 years.

Willie was unusual in a number of ways ; he was a retired farmer and, even less common, a farmer who was a brilliant horticulturalist. He had contacts all over the world who sent him seeds and plants in the certain knowledge that if anyone could raise or grow them, *he* could. His farm with its wonderful garden was taken over for building and he started afresh in his corner site in Bearsden and that garden held plants that were probably in cultivation nowhere else. Visitors to his garden never went away empty-handed—he was unbelievably generous with his plants—and for many years the Plant Sales at the Glasgow meetings of the Club were very largely supplied by him.

His knowledge of plants was encyclopaedic—there was hardly a plant that one could mention that he had not grown, and usually he had the odd "tip" to impart about it. Above all he was a plantsman ; he knew and loved his plants and they seemed to respond, for to him "it was nae bother" to grow plants that we poor mortals struggled —and too often failed—to keep.

His like are far too few ; generous, quiet, unassuming, gentle and as helpful to the veriest novice as to the so-called expert, and we miss him sadly. He was a mainstay of the Club in the West of Scotland, and the East knew him best as a most outstanding—and strict—Judge. He was a well-known and highly respected figure in the Botanic Gardens of Britain and a number of plants were sent to him to grow and propagate lest they be lost.

Perhaps the greatest tragedy was that he could seldom be persuaded to write down his plant lore—if he had had a fluent pen, he could have written a book which could have replaced "Farrer", "Sampson Clay" and most of the others as well—and single-handed at that !

The Club has decided to establish a Memorial Lecture and has appealed for contributions from the members to finance it. This lecture is to be given at each of our "Week-ends" in memory of

"Willie" and will be by true and knowledgeable plantsmen on the subject of growing plants—it is little enough we can do, but that, surely, is the most appropriate memorial we can have.

HENRY TOD, *President.*

Help the Seed Distribution Manager

By sending seed or list of "seed to follow" as early as possible. It is disappointing when seed arrives too late to be included in the Seed List and so may deprive members of something that they particularly want to acquire.

By sending CLEAN seed in suitable envelopes. Pay packet size is good. Ordinary envelopes are seldom "seed proof". Don't seal up very small packets with sellotape. They are so difficult to open without spilling seed. Self-seal envelopes are not good, as precious seed may stick to the seal.

By naming seed correctly. "Viola yellow" or "Dianthus pink" may be charming plants, but unnamed seed is not popular unless it is "wild collected".

By naming seed packets CLEARLY ; block capitals or typewriting is best.

By filling in the Order Form clearly and correctly and giving plenty of alternatives in order of preference. There are often very few packets of some numbers.

By NOT saying "Leave the choice to you. Anything interesting". What may interest the S.D.M. may not interest you or suit your garden.

By sending your order in good time, but not expecting to receive your seeds by return. Orders are sent in strict rotation according to their group. A straightforward order of 18 packets takes an average of 10 to 15 minutes to prepare for dispatch. Multiply that by more than 500 ! Remember that the work is done by voluntary helpers in their spare time.

B. B. C.

Plant Hunting Tour - 1964

THERE WILL be no organised plant-hunting tour going from Newcastle this year, but we understand that a number of members intend going as individuals for a fortnight's tour based on the centres Bohinj and Bovec. This tour leaves Newcastle by plane on 26th June under the auspices of "Messrs. Hunting & Son, Ltd. (Travel Dept.), 30 Melville Street, Newcastle-upon-Tyne," to whom interested members should apply for particulars and bookings.

CLARK MEMORIAL LECTURE 1963

Rocky Mountain Plants and their Habitats

By HENRY TOD

WHEN Dr. Worth invited me to join his 1962 trip to the Rocky Mountains and the Great Basin to collect seed, I thought it might be of interest to investigate as far as I could the soils and the habitats of the plants we collected. This is a short report of what information I was able to gather.

The Rocky Mountains are a great jumbled mass of ranges, some running at various angles to each other, some parallel and varying in width from about twenty-five miles at the narrowest to about two hundred miles in the wide parts. Basically they are a series of ranges thrust up from a high plateau so that the base line is somewhere about the 6-8000 ft. level, and the peaks rise from that. It is rather disconcerting to discover that the main road passes cross the ranges at anything up to 10,000 ft. and that a scramble of fifty to five hundred feet brings one up to the alpine areas below the largely barren and very steep rocky "tops". In many places the ranges enclose fairly large plains and the Great Basin is one of the largest, lying at a level of 6000-7500 ft. This is largely a desert area of very low rainfall, and some extremely interesting and nearly impossible plants grow there.

The term "Rocky" does not refer primarily to great jagged peaks as one assumes, but to the huge "Rock-slides" of boulders which have broken off from the peaks themselves by physical weathering, which is extreme in this area. In the strict sense these are scree-slopes, but as the rock fragments range from the size of a man's head to that of a double-decker bus or even larger, the term "scree" as we think of it in Europe seems rather inappropriate. Our main collecting grounds were on the lower, flatter portions of these slopes, or on more or less stabilized areas of material of a size more approximating to our ideas of a scree. The plants only rarely occur in "drifts"—normally they are well scattered and to collect a reasonable amount of seed may take quite a considerable time and involve quite a fair amount of searching.

The massif of the Rockies is composed of great masses of rock which have risen in some of the great uplifts. In later geological time, great beds of sedimentary material have been laid down, forming massive limestones which have in their turn been subject to uplift,

giving ranges like the Big Horn Mountains in Wyoming. In some places great rivers have cut their way down through the limestone, exposing the underlying granites and an area in the Powder River Pass and an alp-like area at the head of Crazy Woman Canyon are such exposed sites. These form a big "patch" of acid, largely granitic, sand, scree and boulders between the two parts of the limestone range to the north and the south. Towards the north end of the Big Horn Mountains there is a whole area, Bald Ridge and Baldy Pass, capped with fossil coral between Bald Mountain and Medicine Mountain, which are both of normal limestone. The latter, I have been told recently by friends in Wyoming, has a cap of limy clay with broken limestone held by perma-frost to a depth of several score or more feet, so that the true mountain is a hundred feet or so lower than its present "top".

The Big Horn Range lies parallel to the main ridge, the Continental Divide, which is largely composed of igneous rocks, and accordingly our collecting areas were divided into three distinct sections—the main mountain ranges with acid habitats, the Big Horns with limestone habitats, and the arid-alkaline areas of the Great Basin where the existing limestone soils were further complicated by semi-desert or desert conditions even though still at similar altitudes.

The climatic conditions show very marked differences. The main range and the areas lying to the east are areas of higher rainfall, but probably on average with rather less than, say, the Lothians in Scotland with their 25-27 inches per annum. The part that we worked through to the west of the main range, in the Great Basin, was arid and some was semi-desert or even, in places, real desert. The whole area, both to east and west of the Divide, had a climate of the continental type, cold winters with severe frost and snowfall varying from slight to heavy, and hot, dry summers. Even in the desert areas occasional torrential rain occurs and this can cause "flash-floods" which lead to severe erosion of the soil. These climatic conditions are probably the main reason why so many of the plants from these areas provide serious problems of culture in our climate.

The alkaline-habitat plants can be divided into two groups, those from the eastern limestone region and those from the arid habitats where the alkalinity may be complicated and intensified by high salt concentrations or even strong bases in the soil.

In the first section we have the habitats in the Big Horns, Baldy Pass, Bald Ridge, Medicine Mountain and Bald Mountain (Wyoming).

The altitude here varies from 6000 to 10,000 feet. The soils were gritty with broken limestone in limy clay, but with a fair amount of organic matter incorporated. The soil pH was above 7.2, probably about 7.5-8. On Bald Ridge the soil was an intensely gritty limestone soil with massive fossil coral outcropping. This soil had a high magnesium content. Plants found were *Castilleja, Delphinium alpestre, Dodecatheon uniflorum, Aquilegia jonesii,* a dwarf *Gilia* with a white, globose head of flowers, *Dasiphora (Potentilla) fruticosa, Kelseya uniflora, Boykinia jamesii,* masses (for once) of *Penstemon glaber, P. brandegii* as a crevice plant, and a rigidly saxatile *Viola* which we could not identify.

In and on the sheer walls of Crazy Woman Canyon, of a hard, gritty limestone were great pads of *Petrophytum caespitosus* on the southwest-facing side and *Kelseya uniflora* on the northeast-facing wall. In one area of smooth limestone were *Cheilanthes feeii* and an unidentified fern growing in the crevices.

The second group of habitats had either gritty, limy soils as at Ely, Troy Peak and Soldier Summit, or else of a silty or clay type as at Grant Canyon, Currant-, Little Antelope- and Pancake-Summits (all in Nevada). These were almost all arid or semi-desert sites and at the "Summits" they showed the typical "desert-pavement" phenomenon. The hill at Ely, Nevada, showed the same tendency to "pavement," but Grant Canyon and Troy Peak were too steep for any pavement formation.

Good plants were *Astragalus* spp., *Eritrichium elongatum, Petrophytum, Mentzelia, Aquilegia shockleyi,* and at Ely, *Oenothera caespitosa crinita,* one of the only two known loci for this rare plant which, however, seems to be flourishing and spreading. Another very pleasant plant was *Malvastrum coccineum* and a fine lavender-flowered thistle, both of which were found at Soldier Summit.

The desert sites at the other Summits yielded some very good, very dwarf Erigonums, *Ephedra* spp., various Cacti, more *Eritrichium elongatum,* and at Little Antelope Summit we found the almost legendary *Lepidium nanum,* about which a note appeared in the *Journal.*

A slightly alkaline damp red sand was the medium in which *Primula specuicola* grew in a heavily-shaded narrow canyon off the Colorado River ; it was accompanied by a *Habenaria,* probably *H. hyperborea.*

The acid soils again divide into two, the peat soils and the light, acid loams and sands. These soils are more or less continuous down

the length of the Divide, the pH ranging from 5.8 to 6.6, but the peats are rather more acid at 5.0 to 5.4. The granitic sand at the Powder River Pass gave a new "farthest east" locus for *Primula parryi* and also an odd dwarf lupin, possibly *L. caespitosus*. Other plants there were *Trifolium uniflorum* and *Eritrichium elongatum*, while the near-by alp mentioned above yielded dwarf Alliums in a range of colours from white, through pink to near purple, *Zygadenus*, *Calochortus* and various *Phlox*.

The peat habitats on Beartooth Ridge (Montana) had a pH of 5.0 to 5.4, and were mostly sticky wet peat with sphagnum, though in one or two areas the peat was sandy and drier. In the wet areas were *Penstemon glaber* (in very considerable amounts), *Mertensia alpina* and a very dwarf willow, probably *Salix petrophila* or *S. arctica*, also *Gentiana romanzovii*, which was present in both wet and dry areas. By far the best plant was a delightful dwarf *Kalmia*, *K. microphylla*, two or three inches high with good-sized pink flowers. Dry ledges on the rocks among the peat held *Saxifraga austromontana* and, oddly enough, *Gentiana romanzovii*. The altitude here was between 10,500 and 11,000 feet. At the foot of the slopes above the Mosquito Pass Reservoir in Colorado was another peaty area with *Penstemon whipplei*, *Gentiana elegans* and *Ribes cereum*, and in the peat at the top of the Pass at 14,000 feet at a pH of 5.4 we found *Primula parryi*, here reduced to about 4 inches in height compared with 18 to 24 inches at the Powder River Pass. Along with *P. parryi* grew *P. angustifolia*, a tiny dwarf plant with bright pink flowers, *Saxifraga chrysantha* in several colours from yellow to mahogany, *Sax. flagellaris*, *Sedum rhodanthum* (also in a number of shades), and *Sieversia turbinata*, a good yellow.

The acid sandy-loam or light-loam habitats were mostly on the Passes over the Divide on the central massif. In the Snowy Range in Wyoming, at pH 5.8 to 6.2, we found *Eritrichium argenteum* (a very scarce plant), *Calochortus gunnisonii*, *Astragalus simplex*, *Arnica cordifolia*, *Viola linguaefolia*, and the usual mass of assorted Composites, *Erigeron*, *Cerastium*, *Chrysopsis* and also *Phacelia sericea*, together with the omnipresent *Silene acaulis* and *Campanula rotundifolia*, both usually in very full flower. Oddly enough, at this site we found side by side both forms of the *Silene*, both the cushion form and the mat form, both equally strong and both equally floriferous.

The Monarch Pass, Fremont Pass and Wagon Wheel Gap in Colorado yielded many Penstemons of varying size from a few inches to as many feet, and from white through the blue shades to pink.

These were accompanied by assorted Composites of varying desirability and extreme difficulty of identification. Wagon Wheel Gap at the headwaters of the Rio Grande yielded several Saxifrages in a very dangerous rotten andesitic rock on a cliff face at a pH of 6.6. Below the peat habitat at the summit ridge of Mosquito Pass we came on light loams, some of which were very sandy, the pH values ranging from 6 to 6.5, and a most striking phenomenon was the change of "season" with decreasing altitude. At above the 13,000 foot level it was "spring" with plants coming into bloom, at about 12,000 feet it was "summer" with the same plants in full bloom, and at about 11,000 feet they were in ripe seed. The big-flowered Composite *Rydbergia grandiflora* was one of the most striking examples of this. One of the most desirable plants above the 12,000 foot level was the high-alpine big woolly-headed thistle *Cirsium eriocephalum*, with yellow thistle flowers peeping out of a ball of "wool" about six to eight inches in diameter. There were big pads of the very widely distributed *Eritrichium elongatum* and *Silene acaulis*—the *Eritrichium* occurs on wet sites and in the desert, on rock and on deep soil, in acid or alkaline areas, in extreme heat and equally extreme cold—yet it is definitely difficult to please in cultivation and one wonders why as in the Rockies it is very obviously not in the least "fussy." Both here and on the Hoosier Pass we found good Composites such as *Tragopogon* and *Arnica latifolia*, with Penstemons and *Phacelia*, and the inevitable *Castilleja* in scarlet, orange, yellow and white forms. These latter are parasitic plants and usually grow on the roots of willow or *Artemisia* (sage brush).

One very odd habitat in Wyoming was a small hill of granitic sand and gravel right up against the foot of the limestone Big Horns where we found, growing in extreme dryness and blistering heat—and in full flower in mid-August—the very early spring flowering *Pulsatilla hirsutissima*, which is rather like a taller *P. vernalis*, only less golden in its hairyness. This was accompanied by *Calochortus* in seed, the blue *Lupinus alpestris* and the bright pink *Elephantella* (*Pedicularis*) *groenlandica*—a really strange assortment.

The Red Canyon in Utah had an area where almost all the green pigment of the leaves of the plants was replaced by a curious sky-blue colour. This scarlet soil was weathered from a bright red sandstone, had a pH of 8.4 and a fantastically high magnesium content. The soil colour is due, I understand, to the degree of dispersion of the iron and the particle size of the soil, the iron and copper contents of the soil being quite normal.

Fig. 1—Douglasbank — Conifers giving height and background

On the slopes above the Mosquito Pass Reservoir there were several patches of, I presume, lime-flush where the pH was 7.2. In these small areas we found *Phlox caespitosa condensata*, a very compact cushion-forming sub-species of the rather lax *Phlox caespitosa*, which grew in profusion on the rest of the slopes where the pH was 6.2.

If, as I hope, I am able to return to this area, there are many points which require further investigation beyond the very superficial study which I was able to make on this trip.

Recompense

A member stood at the golden gates,
His face was worn and old.
He merely asked the man of fate
Admission to the fold.
'What have you done,' St. Peter asked,
'To warrant admission here ?'
'I edited a Rock Club Journal on earth
For many and many a year.'
The gates swung sharply open
As St. Peter pressed the bell.
'Come in,' he said, 'and grab a harp,
You've HAD your share of Hell.'

ANON.

Heaven or — ?

The aphids spoiling the Rose bush,
The maggots devouring the fruit,
The click-beetle spreading disaster,
The wire-worm gnawing the root,
The sting of the wasp for hatred,
The blood-sucking spider at play,
One hundred and one carnivorous things
Feeding on writhing prey,
Parasite, Fungus and Tendril
Destroying the things of worth,
One is nearer to Hell in a garden
Than anywhere else on earth.

Peebles Week-end

The Opening Lecture was to have been by W. C. Buchanan. The following address was given by D. Livingstone as a tribute to his memory.

BY THE death of Mr. W. C. Buchanan, affectionately known as Willie to his wide circle of gardening friends, the Club has lost a founder member whose skill in growing rock garden plants and whose knowledge of them had become over many years a legend not only in these islands but abroad as well. Mr. Buchanan, until he retired some 12 years ago, farmed at Garscadden Mains on the outskirts of Glasgow, where he and his forebears had farmed for over 150 years. It is unusual to find a working farmer who takes up gardening as a serious hobby, but then Willie Buchanan was a remarkable man, the like of whom one rarely meets. I once asked him how he came to be interested in rock garden plants and he told me that he caught the bug from his cousin, also a farmer, when he was still in his early twenties. At that time—this would be about 1910 when rock gardening was not so popular as it is now—new and exciting plants were being found by such famous collectors as Forrest, Kingdon Ward and Farrer. This kindled the interest of the young Willie Buchanan in new and rare plants and offered a challenge which he gladly accepted. Thus began an interest which was to last all his lifetime and from which he built up knowledge and skill unsurpassed in his particular field.

He subscribed to Farrer's expedition to the Himalayas in 1913-14, but by the time the seeds reached this country Willie Buchanan had joined the army. His sister, Jessie, sowed the seeds and grew on the plants for him. At the time of his death nearly fifty years after he still had one of these plants in his garden, *Gentiana Farreri*, perhaps the only one that we could say with certainty was the true plant. He had, too, a number of other plants, mainly trees and shrubs, which he had grown for fifty or more years.

Not only was he a very skilled and knowledgeable gardener, but he also had an expert eye for landscaping. I never saw his wonderful garden at his farm, but I can testify that he made a fine job of laying out his garden at Douglasbank, Bearsden. This garden extended to just over half an acre and in it he grew very successfully many hundreds of rock garden plants, trees and shrubs, many of them rare and difficult to grow by ordinary standards but not by his.

This garden attracted visitors from far and near, professional and amateur gardeners alike. He had, too, many correspondents in this

country and abroad with whom he exchanged plants and seeds. Friends who collected plants in the wild often sent them to Willie and he was remarkably successful in establishing them. One instance of this will suffice. Professor Pontecorvo sent him plants last year from the Rockies but they were delayed in transit and arrived rather the worse of wear. In spite of this, and although not very well, he managed to establish a very fair proportion of them. Notable among these plants are an outstanding draba—*Draba crassa*—with blue-grey foliage and large yellow flowers and a fine dwarf creeping willow—*Salix cascadensis* —with inch-long red catkins.

Willie Buchanan was also a highly skilled propagator, as was evident to all who saw his twenty-two garden frames packed with good things raised from seed or cuttings. Willie was no plant snob. He grew species, natural hybrids and garden hybrids, the only criterion being that they should be good garden plants. The result was that one's eye might catch sight of, say, *Cypripedium calceolus* and *Kalmiopsis leechiana* the one minute and the next *Campanula cochlearifolia*, perhaps better known as *pusilla*. I once dared to say to him that this campanula was a pest since it was so invasive. His reply was, "aye, but it's a nice pest."

Willie Buchanan exhibited on rare occasions and then only when he was exhorted to do so. Had he chosen to compete regularly he would have collected without a doubt a goodly number of Forrest Medals. He took a great delight in judging at our Shows and I had the pleasure on a number of occasions of judging with him. Believe me, it was an education to hear him talk about the merits or demerits of the plants on show even on the rare occasions when I felt he was being a bit too severe on the exhibitor. His standards were certainly high and exacting. Willie Buchanan was a man of strong character, methodical in his ways and of tremendous vigour only slightly diminished in the last year or two. He liked nothing better than a good going argument and he could put his views forcibly in his own couthy Scots tongue.

He was kindly and helpful by nature and few if any visitors ever left his garden empty-handed. Two things illustrate this friendliness and generosity. I never visited him, and I tried in the last eight or nine months to see him once a week, or took a visitor to see his garden, but he would say "You'll have a refreshment" and "I canna let you go away without a plant."

We all mourn the loss of a great plantsman and friend. Many of us who were privileged to know Willie Buchanan personally will

never forget this most remarkable man. Fortunately, many who only knew him by name will have an opportunity over the years to see a fine selection of the plants he grew and loved because, at his wish, his many slides, mostly taken by Professor Pontecorvo, are to be donated to the Club's Slide Library.

I have made a selection of these slides for this meeting, not an easy task may I say. All are of plants actually grown in his garden. Had Willie Buchanan been alive and able to give this talk, and how I wish he had, he would no doubt have chosen some slides which I have omitted, but I do know that many I have selected he too would have picked. Please forgive me if I hesitate over names. I have not grown all the plants I shall show ; some I cannot recall having seen in his garden. I intend to say only as much as need be about the plants. The pictures will tell Willie Buchanan's story better than I can. They are a permanent memorial to him.

Our thanks are due to Mr. Andrew Ferguson who took the photographs illustrating this article.

List of Slides shown from W. C. Buchanan's Garden

Allium ostrowskianum
Androsace alpina x obtusifolia
Androsace sarmentosa sherriff's var.
Anemone obtusiloba patula
Aquilegia bertolonii
Arenaria nevadensis
Armeria caespitosa alba
Azorella caespitosa
Bryocarpum hymalaicum
Campanula allionnii alba
Campanula glomerata acaulis
Campanula morettiana alba
Campanula warleyensis
Cassiope " Bearsden "
Cassiope hypnoides
Cassiope wardii
Cedrus libani sargentii pendula
Celmisia argentea
Celmisia ramuloza
Celsia acaulis x verbascum
Colchicum speciosum atropurpurea
Corydalis cashmeriana
Cypripedium calceolus
Cystopteris fragilis regia
Daboecia azorica
Daphne cneorum
Daphne striata alba
Diapensia lapponica
Dicentra peregrina pusilla
Dimorphotheca barberae compacta
Draba dichranoides
Epigaea repens " Compact Form "
Erica carnea " Eileen Porter "
Eryngium glacialis
Gaultheria cuneata
Gentiana ornata
Gentiana pumila
Gentiana stevanagensis
Gentiana veitchiorum alba
Gentiana verna
Harimanella stellariana
Iris histrioides
Kalmiopsis leachiana
Juniperus echinaeformis
Ledum groenlandicum
Leucogenes grandiceps
Lilium kamtchaticum
Lithospermum gastoni
Loiseleuria procumbens
Menziesia ciliicalyx dwarf form
Meconopsis delavayi
Meconopsis grandis alba

Nigritella nigra and natural hybrid
Onosma nanum
Orphanidesia gaultherioides
Oxalis laciniata
Phyllodoce aleutica
Phyllodoce caerulea dark form
Phyllodoce empetriformis
Phyllodoce nipponica
Phyllothamnus erectus
Phyteuma hemisphericum
Phyteuma pauciflorum
Pinus lapponica
Pinus pumila prostrate form
Primula " Linda Pope "
Primula reidii williamsii
Primula reidii Williamsii alba
Rhododendron japonicum
Rhododendron moupinense
Rhododendron nivale
Rhododendron repens
Rhododendron riparium
Rhododendron sargentianum
Saxifraga diapensioides
Saxifraga imbricata
Saxifraga sherriffii
Trillium sessiflorum
Trillium undulatum
Tulipa persica
Viola eugeniae
Viola gracilis

Wild Plants of California and Nevada

By E. B. ANDERSON

ON MY trip to the U.S.A. in 1962 my first sight of some of the native plants of western North America was on June 18 at the native plant garden of the University of California at Berkeley, near San Francisco. Here a collection is being made of all the native plants—woody, annual and perennial—which will grow in that climate. Of particular interest were clumps of *Calochortus luteus* and varieties of *C. venustus* as well as *C. albus* which requires shade and *C. amabilis* which will tolerate more sun, but all the calochorti require perfect drainage. The scarlet *Fritillaria recurva* was growing in leafy soil at the base of shrubs. Several brodiaeas were seen, *B. multiflora* being particularly attractive, but the greatest treat was to see a clump of *B. idamaia* (*coccinea*) with its scarlet and green flowers on 3 ft. stems, and *B. volubilis* with large heads of mauve flowers twining through a bush. Among many other plants I was most impressed by *Allium dichlamydeum*, like a tall *A. ostrowskyanum*. On the journey by car to Reno, Nevada, the next day, where I stayed until July 2, *Eriophyllum lanatum*, castillejas, calyptridium and brodiaeas were wayside plants. A diversion from the road revealed *Cypripedium californicum* mixed with *Lilium pardalinum* and *Adiantum pedatum* growing in a bog, and another diversion revealed hundreds of *Darlingtonia californica* and various mimulus growing in an equally wet place. On the main road I was shown a boulder studded with the rare *Lewisia cantlewii*, a poor thing. More exciting in the pine woods which range all over the country, on a dry bank were mats of

Ceanothus prostratus 9 ft. across bearing many seed pods, alas unripe, and in the same area *Fritillaria recurva* in heavy dry loam, also out of flower. A calochortus, dwarf delphinium and lupins were other inhabitants among the pines.

My first sight of the Reno desert the next day upset all my ideas of what a desert was like, for instead of cacti there were miles of grey sagebrush, *Artemisia tridentata* and *Chrysothamnus nauseosus*, but in the gaps between the bushes beautiful annuals and biennials such as *Oenothera deltoidea, Abronia crux-maltis*, a white argemone, etc. Here it should be mentioned that Reno lies at 4000 ft. and that the vegetation in these arid and semi-arid regions which stretch to the flanks of the great Sierra Nevada depend on winter rain and snow which is sufficient for annuals to complete their life history and the perennials to flower and seed, after which they die down to some form of fleshy rootstock such as one finds in Leucocrinum, Astragalus, Lewisia and *Viola beckwithii*, or are protected from complete dessication by deep roots and reduced leaf surface as in the phloxes. When the rain or snow fall is light the show of flowers is much reduced.

My first sight of hundreds of little tufts of *Phlox hoodii*, so full of flower that no leaves were visible, will always remain in my memory. They were growing on the shoulder of a flat mountain in apparently nothing but broken rock, the colours were pure white or lilac-tinged, scattered among these were the 2 to 3 in. upright growths of the long-tubed *P. stansburyi* with more starry flowers in shades of pink and lilac. I saw this phlox in many places, sometimes taller when it grew through a low bush, and although it never made a show like *P. hoodii* it was always most attractive. Other tufted phloxes met with were *P. caespitosa pulvinata* and *diffusa sub-carinata*. Another phlox seen in the open glades among pines was much like *P. douglasii* with individual plants 1 to 2 ft. across and covered with blossom in shades of lilac.

Growing with *P. hoodii* was *Lewisia rediviva* which in Nevada has glistening white flowers. *Lewisia pygmaea* with its little pink flowers dotting a damp meadow only made an effect because of the numbers.

The parasitic castillejas were numerous and striking, the colours varying from lemon through orange and salmon to true scarlet. In the garden almost impossible Dr. Worth suggests scattering the seed abroad in the rock garden in the hope that a seedling or two will meet a suitable host. Plants which with us are rather despised are the eriogonums, but in the Nevada and Californian mountains they flower with the utmost profusion from the silvery-leaved dwarfs *E. ovalifolium*

and *E. caespitosum* to the taller but still attractive *E. umbellatum*, with white, yellow or pink flowers.

In most areas one saw Pussy Paws, *Calyptridium umbellatum* with fleshy leaves and balls of flower varying from dirty white to a charming pink.

One would expect to see penstemons and the one that gave me the greatest pleasure was masses of the carmine *P. newberryi* in the crevices of granite cliffs and on granite screes, also seen were the taller blue *P. speciosus* and *azureus*.

Calochorti, possibly *C. nuttallii* and variants of *C. venustus*, occurred in many places but scattered as single plants in ground so hot that one could hardy bear one's hand on it. The charming dwarf cat's ear *C. caeruleus* grew in considerable shade in the sandy soil of pine woods, and in similar places the pale yellow *Brodiaea ixioides* was common.

There are many dwarf delphiniums which die down to a resting crown after seeding, such as the indigo *D. andersonii* and the bright blue *D. pauciflorum* and the exquisite *Viola beckwithii* does the same.

One road was lined with *Sphaeralcea ambigua* with orange mallow-like flowers, and another with the large yellow stars of the night-blooming *Mentzelia laevicaulis*. Composites from the large sun-flower-like wyethia and the neater *Balsamorhiza hookeri* to little asters and erigerons were common.

The edges of some lakes were blue with *Iris missouriensis* and in similar wet places were seen *Habenaria leucostachys, Veratrum album, Aquilegia truncata, Caltha howellii* and a blue delphinium.

Lupins of all sizes abounded and one wood was as blue with them as an English wood in blue bell time.

At 11,000 ft. on the White Mts., where conditions are of great severity, draba, townsendia, potentilla, astragalus, haplopappus and phlox were as tight as aretian androsaces, and in another place on a huge boulder *Petrophytum caespitosum* could not be dented by hand.

The only dodecatheon seen was *D. alpinum* which coloured a damp meadow at about 9000 ft. west of the Tioga pass over the Sierra Nevada. Returning over the Sonora Pass (from a visit to the famous Yosemite Falls) at 9600 ft. in ground still wet from the melting snow there occurred quantities of the exquisite *Anemone drummondii*, which is best likened to a miniature *Pulsatilla alpina*. In similar conditions grew the little Steer's Head, *Dicentra uniflora*, which after flowering ripens its seed with extraordinary rapidity and then dies down to little tubers.

Not until one reached alpine heights did one see *Kalmia polifolia, Phyllodoce breweri* and *Vaccinium caespitosum* in damp, peaty ground.

Deserts, arid hills, lakes and snow-capped mountains each had their distinct flora, of which the above is merely a rough survey, but will give some idea of the many plants of interest to be seen, of which many not yet introduced may be possible to grow in our rock gardens or alpine houses.

To cope with our dull and often wet summers, so different from the rainless four to six months of the areas I visited, drainage and yet more drainage will, I am sure, be the only answer.

My Garden in Atholl

By Major-General D. M. MURRAY-LYON

MAJOR-GENERAL MURRAY-LYON's garden is very well-known to many Club members and its fame known by reputation to many more. A talk by "the General" is looked forward to with keen anticipation by all those who have had the privilege of hearing him give a lecture in that inimitably bright and racy style which fixes a point in the hearer's mind before he has realised it. The garden and its plants have gained a well-deserved reputation as an outstanding collection of interesting and uncommon plants, some of which are the last one would expect to find flourishing in Perthshire. These successes can only be the result of skilful and careful siting and of making the best use of every aspect and each bit of cunningly contrived shelter.

Much use has been made of retaining walls or dykes in which all sorts of plants considered to be of doubtful hardiness flourish and appear to be perfectly safely established. This lecture was graphically descriptive of the garden, its layout, and the plants it contained.

A collection of exceedingly fine colour transparencies fully illustrated the garden and its interesting contents, and made many of us think that we would have to revise our ideas on hardiness. For those members attending the Weekend who live too far from Pitlochry to have had a chance to see the garden at Ardcuil the lecture must have come as a revelation of what an absorbing love of plants and careful thought to their wants can achieve.

Postscript—

WALLS—AN ADVANTAGE

EXTRACT from a Group Convener's letter after a visit to my garden with some of her group :—

"I think it was the ease of examining plants high up on walls which they found most impressive."

Perthshire.

M-L.

"The Ericaceae is the most worthwhile Family of Flowering Plants"

By Miss E. M. H. KING

MISS KING started off on her very delightful paper with the intention of making it so provocative that it would stimulate discussion, but she made her case so perfectly and completely that there was little room left for anything but complete agreement. Her introduction was by way of a quotation from a book on *Flowering Plants* by Dr. John Hutchinson which went as follows—"The decorative value of the *Ericaceae* in horticulture is very considerable and our gardens would not be so beautiful without the inclusion of its genera."

Miss King went a step further and set out to prove that 'no family gives us so many worthwhile plants in such variety, none so disease and pest resistant, none so immune to extremes of temperature, and none that cater so well for all possible horticultural needs. There are plants for the purist, the hybridist, the lover of difficult plants, or the one who likes everything made easy.'

Next came a few brief notes on the general cultivation of the family, claiming that its members did not all insist on peat so long as they always had plenty of moisture at their roots and a soil at least neutral. The family could supply beauty of form, of flower, fruit, leaf, bark, and perfume—"You name it, *Ericaceae* has it."

Miss King then continued to press the claims of *Ericaceae* with the aid of many beautiful slides, beginning with some of massed Kurume Azaleas such as may be seen in vast sheets of blazing colour in many of our larger gardens which open to the public. After showing several slides of various types of hybrid azaleas, and a typical hybrid rhododendron of the more accepted form, Miss King passed on to species, beginning with *Rr. racemosum, fastigiatum, microleucum, pemakoense,* and x *chamaethomsonii,* continuing with *R. sargentianum* as a specimen plant and giving a few words on peat walls and the species suitable for them. Then followed *Rr. hanceanum nanum, wardii, fragrantissimum, decorum,* and other outstanding species and hybrids before passing on to spp. of *Cassiope, Phyllodoce, Menziesia, Gaultheria,* and the bi-generic x *Gaulthettya wisleyensis.* The vast array of heaths and heathers was represented by variety "August Beauty," and then came *Harrimonella, Leiophyllum buxifolium, Arcterica nana,* and *Pieris.*

Miss King ended as she had begun by re-emphasising that the *Ericaceae* are the most worthwhile family of flowering plants—"Why grow any other ?"—and left us with very little to say except to put a humble plea for the admission of some of our own particular favourites in other families.

Wanderings in Slovenia

By G. E. BARRETT

WHEN MORE than thirty years ago I acquired a copy of Dr. Julius Kugy's book 'Alpine Pilgrimage' I was fascinated by the description and photographs of the strangely named mountains which I found within its pages and, although I hardly expected to see them in reality, I never quite forgot them.

With the coming of easier travel this interest was revived and was stimulated by occasional articles such as those by Mrs. C. E. Davidson and Mrs. B. B. Cormack which appeared in the April 1959 edition of the *Journal.** When, therefore, in 1962 I discovered a travel agency advertising 'free-lance' holidays in this area I didn't hesitate. So enjoyable was the holiday that my wife and I spent on this occasion that we went again in 1963, and it is of the combination of our travels on these two visits that I propose to write. Slovenia, of course, is the province of Jugoslavia situated in the extreme north-west of the country and therefore most easily accessible from Britain which, besides containing Jugoslavia's highest mountains, also possesses a wealth of beautiful scenery and an interesting and extensive flora.

Our particular travel arrangements forced us to spend our first three nights at the well-known tourist resort of Bled. This was no hardship, however, as Bled with its jewel of a lake is a most beautiful and pleasant spot. It is, however, rather too far from the mountains to be used as a base for serious plant hunting, but it makes a very good jumping-off point and is also a wonderfully peaceful place in which to spend a quiet day before starting the long homeward journey.

Apart from the usual tourist attractions of the island on the lake (reached by the distinctive local style rowing boats known as 'Plitvica') and the beautifully preserved castle perched on top of its steep crag, a visit to which is well worth the short steep climb needed to reach it, there are a number of attractive walks in the vicinity. One of the best of these is along the Vintgar Gorge where planks supported on iron stanchions driven into the cliffs enable one to follow the course of the river through its narrow cleft with the water rushing close below turbulent but clear enough to allow the many large trout and other fish which inhabit it to be clearly seen. There are flowers here, too, some interesting campanulas, but best of all many plants of *Cephalanthera rubra* and *Cephalanthera alba.*

**The Julian Alps*—1958, by C. E. Davidson and B. B. Cormack.

Our first real expedition, however, was to the Crna Prst, a mountain well known for its beautiful flowers which has a special chapter in Dr. Kugy's book where it is written of with obvious affection and which is also referred to in 'Plant Hunting in Europe,' by the late Dr. Roger Smith.

Before eight o'clock in the morning we were on our way to Bohinj Bistrica in one of the local buses which are comfortable, efficient and cheap. Even so, as we plodded up the road from the village on the first stage of our climb it was already rather too hot for comfort. This road, which was not shown on my map, while making a rather lengthy detour did provide an easy way up the lower slopes through delightful flower-decked hay meadows with Swallow-tail butterflies circling overhead, until the start of the real path to the Crna Prst was reached near a small hut with typical wooden shingle roof standing in a showy bed of *Buphthalmum salicifolium*. After a long rather steep climb through woods where plants of *Anemone trifolia, Veratrum album, Daphne mezereum, Helleborus niger, Aquilegia ensifolia, Lilium martagon, Polygala chamaebuxus, Trollius europaeus*, and various orchids were noted, we were pleased to come out into more open scrub country and to see our first plants of *Rhodothamnus chamaecistus*, an attractive dwarf shrub common throughout the Eastern Alps.

After passing two unoccupied huts (Liscem Alp) surrounded by the nettles and giant docks which so often seem to follow man's occupation even in the remotest parts, our peak came into full view ahead of us and the plants, too, became more interesting. Soon we reached a large patch of snow surrounded by spring flowers and then on up steep zig-zags and across a rocky slope until the ridge was at last reached. Finally along the ridge with good views down both sides and the small mountain hut which had hitherto been out of sight from our direction of approach now fully visible on its coy perch, just below and blending into the final summit pyramid. It is certainly a very spectacular and airy site on the very top of a 6,300 ft. mountain. We were warmly welcomed by the caretaker and his daughter and given a meal. The hut is being enlarged and four workmen busy on this job were staying there, and since the only sleeping accommodation was two outsized bunks one above the other, we were a little apprehensive, the more so when six youths arrived late in the evening to swell the numbers. However, this was not apparently considered good enough for British visitors (we gathered that few foreigners visit the mountain) and the caretaker insisted that we sleep in the room normally

occupied by his daughter while he gave up his bed in the kitchen for his daughter's use and himself took his chance on the communal bunks. For the considerate and special treatment we were later charged a sum equivalent to about two shillings each !

In our unfamiliar surroundings we woke early and when we found that the sky was clear our excitement would not allow us to linger in bed and soon after five o'clock we were out admiring the sunrise. It was cold but very beautiful on the mountain top with range upon range of hills surrounding us, the great massif of Triglav just tipped by the sun and thick white fleecy clouds filling the valleys and occasionally spilling like a wave over some low ridge. We explored the summit and were delighted to find large numbers of *Geranium argenteum* looking exactly like the one on the rock garden at home (this plant which we had not previously seen growing wild we had searched for on Monte Baldo on an earlier holiday without success). There was also an Allium with large yellowish flowers (not then fully open) which was possibly *Allium victorialis.* We saw it nowhere else on our travels. There were a few flowers of *Lilium carniolicum* in the hut, but we did not discover the growing plants.

After breakfast, which included Turkish coffee (this was refreshing but too gritty for our tastes) we said goodbye to our kind hosts and set off down the ridge. At the snow patch we lingered to admire the flowers which even at this comparatively low altitude (4,600 ft.) were in profusion. *Pulsatilla alpina* was flowering freely together with *Anemone narcissiflora* and *Anemone nemorosa.* Crocuses and soldanellas bloomed at the edge of the snow and beautiful auriculas with mealy-edged leaves (*Primula auricula* var. *albo-cincta*) flowered in crevices in the stark white boulders. *Anemone narcissiflora* was there, too, as were *Androsace villosa, Primula elatior* and *Linum alpinum.* It was a lovely spot which we were loathe to leave but we still had a long way to go, so it was down again through regions of *Globularia cordifolia, Dryas octopetala* and *Atragene alpina* where the cuckoo greeted us with his familiar call (at home he had already left), then down through the woods with the paths made slippery with rain that had fallen in the night and which had brought out great numbers of slow-moving black salamanders, and then finally back through the hay meadows to Bohinj Bistrica for the bus to Bled.

A longer expedition was made to Triglav itself. After an early morning bus journey from Bled to Lake Bohinj we walked up past the Savica Hut (which stands at the end of the motor road) and then by

a wide path up many steep zig-zags through the woods to the Dom na Komni perched on its steep cliff high above the lake. Pressing on upwards through heavy rain we reached the Seven Lakes Hut and decided to spend the night there. It was rather cold but the accommodation was good, a separate room, a bunk each, and even wash-basins this time ! The Hut is situated in a lovely hollow just beside the Twin Lakes (see fig. 9).

Next day, after crossing some rather icy slopes, we managed to reach a spot some way above the Veliko Lake, but it was a "late season" and there was far too much snow for us to go further. There were interesting flowers on our way back to the hut, *Sedum roseum* just starting to send up its curious shoots. *Crocus vernus*, *Gentiana clusii*, *Gentiana terglouensis*, *Soldanella pusilla*, *Petrocallis pyrenaica*, and the very attractive yellow-flowered *Alyssum ovirense*.

After lunch at the hut we went back by a different path to the Dom na Komni. A long steep descent brought us to the Black Lake, its deep black water lying menacingly below steep cliffs. *Lilium carniolicum* has its home hereabouts, but we saw no flowers. In the woods above, however, *Cyclamen europaeum* was growing and *Atragene alpina* was at its very best. From this lake a steep path descends to Lake Bohinj, but we took a higher route round the edge of the plateau to the Dom na Komni which we reached just as a heavy thunderstorm broke.

It was quite an experience later lying in our bunks in a building largely constructed of wood perched high up on the edge of a very steep cliff and watching the almost constant succession of lightning flashes round us and listening to the reverberations of the thunder as it rolled round the surrounding mountains. The next morning we explored the plateau of the Komna. It is a wonderful place for flowers. *Pulsatilla alpina* and *Ranunculus traunfellneri* were particularly good and we also found *Gentiana acaulis*, *Rhodothamnus chamaecistus*, *Rhododendron hirsutum*, *Primula auricula albo-cincta*, *Polygala chamaebuxus* and, of course, *Dryas octopetala* in great quantity. Soon a very thick mist came down, however, and made conditions hopeless for photography, so in the afternoon we decided to go down. Rain began as we hurried down the zig-zags, but after a meal at the Savica Hut we decided to visit the Slap Savica, the source of the Sava river. It was most impressive, a great jet of water thundering down from a hole in a vertical cliff face into a deep green pool at the bottom of a narrow gorge. We walked on down to the Hotel Zlatorog at the end of Lake

Bohinj and here we were well received in spite of muddy boots and our wet state and given a well furnished room with plenty of hot water and later a marvellous meal. Afterwards when we came to ask for our bill we found the prices most reasonable. It is an hotel much to be recommended and in a most beautiful setting, ideal for a quiet holiday, but unfortunately rather too low down for the best alpine flowers.

We were up early next day to catch the 7.50 a.m. bus to Bled and thence to the village of Kranjska Gora (see fig. 10), which we reached about twelve o'clock. Here we stayed some two and a half miles outside the village at the Hotel Erika. This hotel stands in large grounds near an attractive mountain stream which comes down from the great peak Razor. It even has its own small hay meadows where interesting flowers grow and where the leaves of *Colchicum autumnale* are particularly noticeable. In front of the hotel were some cultivated paeonies. The paeony seems to be a favourite garden flower hereabouts. We saw them offered for sale in the only nursery we came across, but they were not comparable with garden paeonies grown in Britain.

Our favourite walk here was up the path beside the river, which starts from the road bridge just below the hotel and leads up to the Krnici Hut and then beyond this gives easy access to the scree and boulder slopes higher up. It was very peaceful here with the great peaks of Skrlatica and Razor dreaming in the sun, although once the peace was shattered by a loud roar and we looked up to see a snow avalanche pouring from shelf to shelf high above. The flowers here were beautiful, *Gentiana acaulis* in especially good form, *Cyclamen europaeum* even in the stones of the paths, dainty white *Ranunculus alpestris* and *Helleborus niger* still flowering actually in the snow. It was the discovery of *Cypripedium calceolus* which pleased us most ; this always seems such an exotic plant to be growing on the wild mountain sides. Lower down were masses of delightfully scented fringed pinks, *Platanthera bifolia, Pyrola rotundifolia, Pyrola uniflora, Silene alpestris, Primula farinosa* growing in the woods on very long stems, *Genista sagittalis* and the even more curious *Genista radiata.*

One day we walked up to the Vrisic Pass. On the way we passed a small chapel standing in its own grounds quite isolated from habitation. It was well kept and was probably a memorial chapel, but we were unable to discover its history.

Short cuts and pleasant paths cut off the big 'hairpins' of the road. In the woods here we came across a plant of *Vinca minor* with attractive

blue flowers. A piece of this was brought home and has spread and flowered well.

At the top of the pass are two Mountain Huts (there is also another one not far away on the Kranjska Gora side). One of these huts, the Postarska Koca, lies some way from the road and is very new-looking and attractive. We found it beautifully clean and neat inside also ; the cook was even dressed in immaculate white coat and hat ! The flowers on the pass are very good—*Potentilla nitida*, *Potentilla clusiana*, *Silene acaulis* (including a white form), *Alyssum ovirence*, *Thlaspi rotundifolia*, *Hutchinsia alpina*, *Ranunculus alpestris*, *Leontopodium alpinum* (very dwarf) and *Gentiana acaulis*. It is a very attractive place with its great white jagged dolomite-like cliffs and the road winding down to the deep trench of the Trenta valley a long way below.

We also took advantage of the local railway to visit neighbouring valleys. This railway is only a local spur. The little train rattles and clanks slowly along, the carriages have hard wooden seats, and there is much smoke from the small engine which uses lignite as fuel, but all this is forgotten in viewing the wonderful scenery through which the line passes and in any case the journeys are short. The most interesting of these valleys was the Planica. Soon after leaving Ratece we came across a huge wooden structure rising high above the trees near the edge of the road. This is the famous ski-jump where in winter competitons of world class are held. This part of the valley is level and well wooded, but there are good views of the mountain walls on either side. Closing the head of the valley is Mount Jalovec (Jalouc) (see fig. 11), a famous mountain mentioned in Alpine Pilgrimage and featured in the June 1937 *Bulletin* of the Alpine Garden Society. The distinctively shaped Tamar Hut stands at the end of the valley on a lovely green meadow. Being near the Italian frontier there is a military post beside the hut with an armed sentry outside. Some of the soldiers were in fact in the Hut having their morning coffee break. However, no one worried us even when we took pictures of the Hut and a small chapel nearby.

After lunch we pushed on up rough paths beyond the Hut and over some snow patches. There were many campanulas on the rocks all looking very similar in the absence of flowers. We collected one or two and were lucky enough to have *Campanula zoysii* amongst them, although mostly they were *Campanula cochleariifolia*. A very interesting find was *Saxifraga burseriana* which was growing on the flat tops of very large boulders. I had no idea that it was to be found in this district.

There are a number of streams flowing down from the mountains, but there is no river flowing along the valley bed. The water flows underground and comes out in a marsh near Ratece. On another occasion we sampled the chair-lift at Kranjska Gora which operates on the outskirts of the village. This takes one up in two long stages to a point about 5,000 ft. up on the Vitranc. On the way up there are good views across the valley to the Karawanken Mountains and the Wurzen Pass into Austria. From the top the grand peaks above the Pisnica Valley can be seen, but the views here are somewhat spoilt by the tall trees clothing the peak. There is a pleasant restaurant on the top. It would make a good starting off point for a walk across the ridge to the Hut in the Planice Glen. On our second visit to Jugoslavia we came this way again, but this time we went in over the Vrisic Pass and along the Trenta Valley to Bovec. We travelled on the local service bus which daily takes the 5,300 ft. Pass in its stride. It was an extraordinary trip and although it took us six hours to do the journey from Bled to Bovec, which normally takes only three, we wouldn't have missed the trip for anything. It was the National Holiday with flags flying everywhere along the route and our bus ride became something of a picnic outing rather than a scheduled service. After a long wait at Jesenice there was another longish stay at Kranjska Gora, where the passengers got out to stretch their legs and to refresh themselves. I took the opportunity to knock at the door of a house where there were some interesting cacti (Epiphyllums) growing in pots in the window. I had seen them there the year before and knew that they had unusual flowers. This year I had brought some cuttings along as 'swops'. The old lady who came to the door was very spry and alert and in spite of the fact that neither of us could speak the other's language she quickly understood and produced a pair of scissors to snip off some pieces from her plant and an exchange was soon completed with both parties apparently well satisfied. Almost at the top of the Vrisic Pass there was another halt. The driver indicated that this time we had an hour for lunch. He made especially sure that we understood. Both drivers and conductors are usually very helpful. Only once did we meet with any difficulty—when we encountered a learner-conductor. This we thought was unfair to both sides ! Fortunatly he had an experienced man with him who soon sorted things out. In company with most of the rest of the passengers (by this time we were almost a family party) we walked up to the nearby Erjavceva Hut where we were able to purchase a good meal. A short distance further on we stopped again, this time to admire the view before

Fig. 2—Douglasbank — Saxifrage Scree in Foreground

Fig. 3—Douglasbank — Cedrus libani Pendula Sargentii

Fig. 4—Douglasbank — Mixed Border of Rhododendrons on left

Fig. 5—Douglasbank — General View and shrubs forming background to rockwork

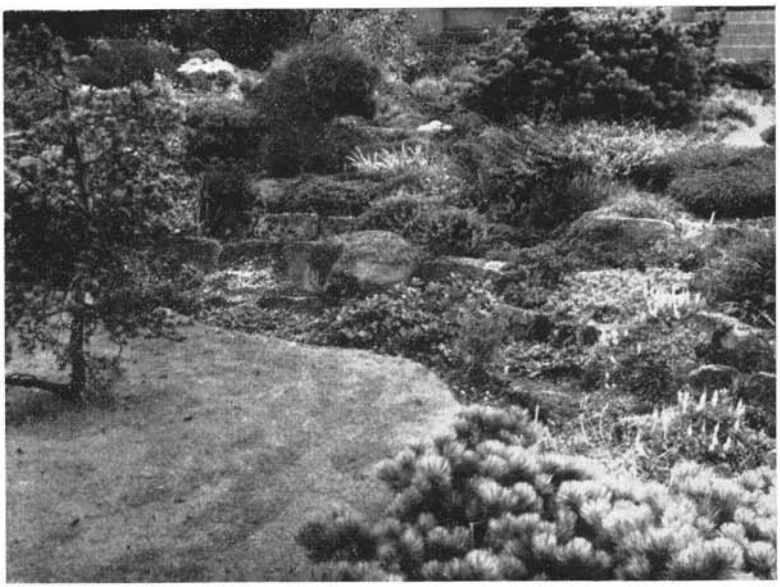


Fig. 6—Douglasbank — Pinus lapponica on left

Fig. 7—Douglasbank — Rockwork, Rhododendrons on right

Fig. 8—Douglasbank — General Collection with Scree in foreground

Fig. 10—Kranjska Gora (see page 30)

Fig. 9—Aljazen Dom on the way to Triglav Mountain
(see page 29)

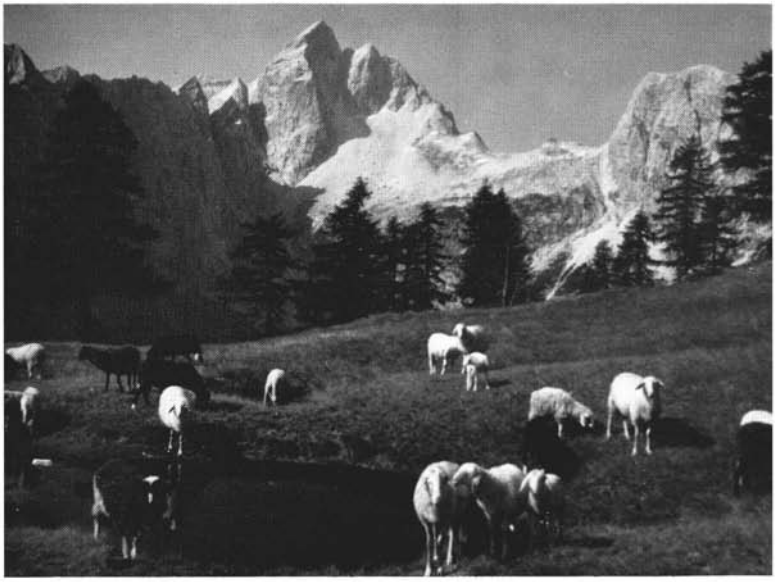
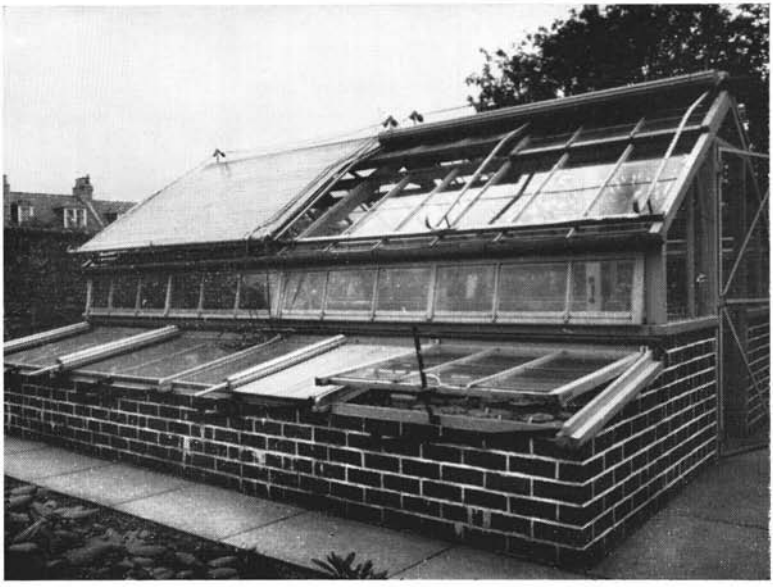


Fig. 11—Jalovec (see page 31)



Photo—H. Esslemont

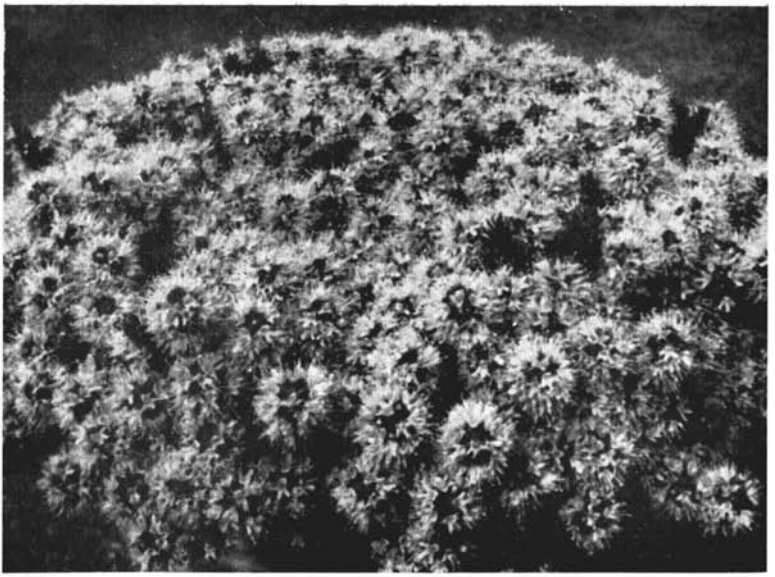
Fig. 12—An all-timber Alpine House (see page 81)

Photo—H. Esslemont

Fig. 13—Pit Frames with Wire Mesh Grilles (see page 82)

Photo—J- Crosland

Fig. 14—Anemone narcissiflora (see page 93)



Photo—H. Esslemont

Fig. 15—Thymus cilicicus (see page 96)

Photo—H. Esslemont

Fig. 16—Campanula morettiana alba, Forrest Medal, North Berwick (see page 96)

beginning the descent on the other side of the Pass. It was a little strange to see large bushes of Laburnum in full flower hanging from the cliffs and to remember that this is a true alpine shrub.

When we were nearing the end of the long series of zig-zags leading down to the Trenta Valley I kept a look-out for the Kugy Statue, which I soon saw standing on an isolated knoll. The driver was persuaded to stop while I took a photograph. The other passengers didn't appear to mind, in fact they seemed to be rather pleased at our interest ! Within a very short time the bus was off the road again and stopped near a small refreshment hut. We were somewhat surprised at this until we found out that the small stream rushing down the hillside nearby was the famous River Soca (Isonzo). This was its source and, climbing up a steep path (with wire ropes in places) we saw the infant stream issuing from a hole in the mountainside. One of the party was a lady who was collecting wild flowers and although we couldn't converse in any other way we managed to hold a conversation consisting of the Latin names of the flowers she had picked. Soon after this we passed the Juliana Alpine Garden. It seemed to be well laid out and well kept, but with not a great deal of colour. There is an excellent book dealing with this garden, but unfortunately it is almost entirely in Serb-Croat.

We finally arrived at the small town of Bovec where we sought out the hotel at which we had booked accommodation some months earlier by post. This hotel (the Golobar), a little way from the main square, proved to be very comfortable and also very reasonably priced. The town was en fete and in the evening we sat in the main square and listened to the music of a military band. We also spent some time chatting to a Serbo-American who was re-visiting his former native land and explaining to him that Scotland is not really part of England.

The next morning we were up early and were soon on our way up the lower slopes of the Rombon. It was already very hot. This is in fact a very hot, dry, limestone country. Once we had passed a pipe with water issuing from it into a trough near the uppermost habitations there were no streams or springs for the rest of the walk. It was steep rough going for the first part with the path climbing up over white limestone boulders and scree, then a long tiring climb through woods from which it was a relief to emerge on to an open shoulder bright with bushes of dwarf gorse. Then a long traverse round and up over another shoulder. Here the cliffs were full of man-made caves. There were many other relics of war amongst these battle-scarred cliffs, gun

emplacements, barbed wire, trenches, stone walls and even the remains of helmets and other smaller debris. It all seemed so out of place in the quiet of the mountains. There were a few flowers here, *Silene acaulis*, *Globularia cordifolia*, *Ranunculus alpestris* and *Pulsatilla alpina*, but they were not in any great numbers. After a scramble over rocks and boulders, many of which were peculiarly contorted by weathering, we eventually reached the summit of the Cuklja (5,500 ft.), a secondary peak of the Rombon. There is a strange stone-built tower on its humped top and a metal container in which to put a record of the ascent. We set off up the final peak of the Rombon over steep rough going, but when we were still some two or three hundred feet from the top a thunderstorm which had been threatening finally arrived and we could see straight streaks of lightning striking the nearby peaks. We were in an exposed situation and bearing in mind Dr. Kugy's gruesome remarks concerning lightning on the Kanin, which mountain was adjoining our own, we decided to retreat. It was very wet on the way down, but fortunately the rain stopped before we reached the upper limit of the woods, although the thunder continued to rumble round the mountains. By the time we emerged on to the lower slopes the sun was shining again. In spite of the storm it was still very hot and only the thought of the water at the bottom kept us going. When finally we reached it we drank copiously and after we had also splashed ourselves we felt much refreshed.

Next day we were tired and it was so hot that we decided to have an easy day and come in to lunch. In the morning we followed a sign-posted route along a road to the village of Pluzna to see a waterfall. It was an interesting walk. The village itself was very picturesque and although its inhabitants were obviously poor there were many flowers in window boxes, pots and other containers. There were too, of course, the usual carnations which in this country are allowed to trail down in long sheets from the upper window boxes. Sometimes old plants have main stems an inch or more thick. In the cultivated plots near the village grew tall maize, potatoes and runner-beans.

The waterfall itself was a disappointment, however, as the stream had been tapped for a small reservoir and was almost dry. In the afternoon we set off to explore the path up the Kanin. This was really a mistake as it was the hottest part of the day and we didn't get very far. The track along which we were walking led straight to an army stores camp with a sentry armed with a machine pistol standing at the gate. We were a little worried by this but kept going and just as we reached the gate we saw that a path led off at right angles round the

barbed wire perimeter of the camp. Further up we crossed a dried up stream bed and found a number of beautiful dark red cyclamen. From what we saw of its lower slopes this walk up to the Kanin (via the Skalarja Hut) should be very interesting. Although the scenery was very attractive and the weather mostly very good, we found the flora of these mountains rather poor except for some fine deep-coloured pinks and good plants of *Cyclamen europaeum.*

On the following day (Sunday) we set out by bus back over the Vrisic Pass to Mojstrana. It was warm and sunny along the Trenta Valley with good views of the rugged peaks high overhead. At one of the halts we saw a little girl dressed in white communion dress. Although some of the churches are closed services are still held in others. Climbing up the long steep zig-zags of the pass we saw many fine plants of *Cephalanthera rubra* and once a giant Camberwell Beauty butterfly soared majestically by. The pass itself is a favourite halting place, and this being the week-end it was crowded with parties from buses, coach outings and cars. We were of course allowed out to join the throng, but this time our bus kept to schedule and we arrived at Mojstrana, our destination, at the appointed time. We had not booked accommodation here and unfortunately we found that the one hotel had been taken over by a coach party. However, the Director himself was kind enough to find a room for us in a private house in the village, indicating that we should have our meals in the hotel dining room. This arrangement worked quite well in spite of the fact that our hostess could speak no other language but Slovenian, not even German, of which many people in the area have some store. It is wonderful what can be done by smiles and sign language ! It was an interesting experience. The house was neat and clean and our bed comfortable. When we eventually came to pay for the room we were told that we must do this at the Tourist Office and there we were charged four shillings each per night, from which the Tourist Office would deduct the local tax for its services, so our hostess would have little recompense for her trouble although she seemed happy enough with the arrangement.

There are three main valleys accessible from Mojstrana, the Kot, the Krma and the Vrata. All of them are beautiful. In spite of our necessarily late start we managed on the day of our arrival to explore the Kot Valley as far as the Kovenarska Hut. The path led across lovely flowering meadows with the great wall of white peaks, their outlines softened by the haze, standing serene above the dark pine woods clothing their lower slopes.

Near a small hamlet were many of the tall hay-racks with long horizontal slats and little wooden roofs which are so characteristic of the region. Finally, through thin woodland with a rich harvest of wild strawberries until a turn of the road revealed a surprise view of the hut standing in a large open area in beautiful surroundings.

Early next day we set off again. Part of the way was along our route of the day before, but the views were grand and *Cyclamen europaeum* peeped out at us all along the path. Soon, however, we turned off to penetrate the Krma Valley with the track leading for some miles through thick pine woods with many plants of *Cephalanthera rubra* and *Cephalanthera alba*. We also found *Pyrola uniflora*, *Erica carnea* and a variegated form of *Vaccinium vitis-idaea*. After some time we came out on to a large stony area which would no doubt become a stream bed in time of flood and here other interesting plants were growing, *Silene alpestris* and *Pyrola rotundifolia*, common plants of this district, and also large clumps of sweetly smelling *Dianthus sternbergii* with delicately fringed but rather pale flowers and a solitary plant of *Lilium carniolicum*. Now we were climbing the actual mountainside through thickets of Alpenrose, the path becoming much steeper and rougher with wire ropes and iron pegs in a few awkward places. Unfortunately the weather was steadily deteriorating and by the time we had reached the screes and the first large patches of snow a thunderstorm was upon us. I was a little ahead peering through the driving rain in search of some shelter when my wife affirms that she saw a sheet of red flame strike a rock just in front of me, but fortunately I was unaware of this. In these limestone cliffs there are many caves and we were lucky enough to find a long cleft in which we could sit in dryness and comparative comfort and view the stormy scene outside.

When we decided it was time to go down the rain conveniently eased off and we were able to do a little exploring for plants. On the rocks *Potentilla clusiana* and *Campanula zoysii* were growing and in the screes near the cave were *Gentiana acaulis*, *Ranunculus alpestris*, *Rhodothamnus chamaecistus*, *Hutchinsia alpina*, *Soldanella pusilla*, *Pinguicula alpina*, *Pulsatilla alpina* and *Dryas octopetala*. The paths were unpleasantly wet and the rocks slippery, but we got down without mishap and soon the rain ceased altogether and we were able to make a leisurely way back to Mojstrana. By contrast the next morning was bright and sunny and the silvery peaks peeped invitingly above the village roof tops. Our objectives this day were to reach the Aljazev Dom, one of the largest mountain huts, and to explore the Vrata Valley. There is a loose-surfaced road all the way to the hut, but a

mile or two from the centre of the village two bridges over the fine rushing stream which is the extra attraction of this valley are reached and the second of these gives access to a very pleasant path with many orchids growing alongside it which follows the stream and which eventually rejoins the road by another bridge at a point near a Wine House where refreshments can be obtained. From here the famous Pericnik waterfall can be seen. It was quite impressive after the previous day's rain and would obviously repay a closer look. We found a path leading up through the trees which looked promising and after a few minutes climbing we came out right beside the fall where standing in its spray we could see it drop for its full 130 feet and watch it crash with a thunderous roar on the rocks below. It was a dramatic, almost frightening sight. For a while it was necessary to stay on the road, but here too were flowers, many plants of *Cephalanthera rubra*, and growing in bushes almost at the road's edge two beautiful plants of *Lilium croceum*, a plant we had not previously see in Jugoslavia, and also a single plant of *Campanula thyrsoides*, a rather uncommon plant. A signpost with the word "Galleries" indicated another interesting "short-cut," and some way along this path were remarkable overhanging cliffs under which the path led and from which in places cold water dripped continuously. Back on the road again we soon reached the Hut, where we were able to order the lunch for which we were now well ready. Beyond the Hut there are some wonderful views of the tremendous North Face of Triglav on which are many difficult rock climbs. Here we came across an extraordinary monument to the partisans of the last war, consisting of a gigantic piton (such as climbers use to drive into the rocks to safeguard themselves) and spring link (Karabiner), both made of metal and embedded into a huge boulder. It is certainly in a most beautiful and spectacular setting. We followed a mountain stream until it became lost under the snow and then up on to the scree beyond on to the lower slopes of Triglav itself. Here there were many flowers. *Gentiana acaulis, Gentiana terglouensis, Globularia cordifolia, Globularia nudicaule, Ranunculus alpestris, Clematis alpina, Saxifraga squarrosa, Saxifraga caesia, Saxifraga incrustata, Hutchinsia alpina, Rhodothamnus chamaecistus, Dryas octopetala, Thlaspi rotundifolia* (with some almost white forms), *Daphne mezereum, Primula auricula albo-cincta*, and *Campanula zoysii.*

We retraced our route of the morning, even (like true walkers) scorning the kind offer of a lift along the road, and arrived back in Mojstrana late in the evening, tired but content after a wonderful day.

The next morning we moved on via Ljubljana to a new district, the Kamnik Alps, but that is another story and will be told elsewhere !

Notes for Novices

By K. S. HALL

MEMBERSHIP of the S.R.G.C. is drawn, like the plants we try to grow, from a' the airts. Apart from those who live south of the Border and in adjoining islands, the latest *Year Book* shows an Overseas membership of 384, drawn from 22 countries. These range from Papua and New Zealand to Sweden and Finland, from Japan and India to Canada and U.S.A., and from South Africa and Kenya to almost every country in Western Europe.

Many are expert gardeners who enrich our *Journals* with their contributions and our Seed Exchange with collections from their native flora. But there are others scattered around the world, and in Scotland too, who have newly become interested in Rock Gardening but who, having no means of meeting other members for talks and discussions, are at a loss to know how to begin.

One isolated member wrote from the U.S.A. ". . . there must be many like myself who are beginners and alone in their communities. There is no one here who shares my interest, so I have to read how to do things and then try to put what I have read into practice."

For such beginners these notes have been written.

The growing of rock plants is a very personal hobby. Not only do gardeners have a liking for different types of plants, but a plant that will flourish in one garden may pine away in the next. A change of aspect can make all the difference between success and failure and many a temperamental beauty has driven a gardener to despair by its refusal to flower for him. So these notes must inevitably be influenced by personal experience and it is probable that conditions which have proved successful in one corner of Scotland will not suit a garden in Kenya or Kentucky.

Nevertheless, no matter where the garden, the chances of success will be greater if one considers the natural environment of the plants and at the risk of being accused of over-simplification I would divide them into those which like full sun and those which appreciate partial shade.

The sun-lovers come from a warm climate such as the Mediterranean coast or from Alpine regions, above tree level, where the atmosphere is clear and dry and the sun's rays strike undiminished by the humidity of the air. They may, in Nature, stand up to very low winter temperatures, but once frozen they remain dry until the melting

snows provide them with the moisture they require for their brief growth and flowering.

These conditions are well nigh impossible to reproduce in a damper climate, although really good drainage at the roots and around the crowns of the dormant plants will help them to survive.

The plants which flourish in conditions of semi-shade appreciate a moister soil but even they, unless they be bog-plants, will not tolerate static water at their toots. In their natural state moisture is retained in the soil by fallen leaves or other humus, but the surplus water may be drained away by the slope of a hill, absorbed by the trees among which the plants grow, or even evaporated in a drier climate than ours.

Probably the best way of illustrating what is needed in a rock garden is by thinking of it in miniature, in terms of a clay pan or a trough, provided this has a drainage hole at the bottom.

Over the drainage hole we place a layer of an inch or so of crocks and then a thin layer of peat or old leaves to prevent the good soil washing through. Above this the pot is filled with the soil in which the plants are to grow.

There can be no hard and fast rules about the composition of potting soil. Some experts claim to have jealously guarded recipes devised to suit their rarer alpines. However, for the easier plants, a useful basic mixture consists of :

2 parts soil
1 part sand
1 part peat, leafmould or a mixture of these

SOIL.—The ideal soil for this mixture would be well rotted turf where that is obtainable, but for economy's sake one must use what is at hand. A good garden loam, sifted, is suitable, but if to be used for ericaceous plants it must be lime free. If the soil is of a clayey nature one would add more sand to lighten it, if light and sandy a higher proportion of peat or leaf-mould would provide the necessary humus.

SAND.—This should be coarse and sharp. Fine wind-blown sand or builder's sand are unsuitable, but crushed granite or sandstone is excellent. The main purpose of the sand is to keep the soil open and to help drainage.

PEAT OR LEAFMOULD.—This again must be chosen from what is easily available. Here we are fortunate in being able to obtain peat quite cheaply and it has the advantage of being less liable to harbour pests than leafmould. On the other hand it has little or no

feeding value for the plants. If leafmould is used it should be well rotted, preferably two years old, and sifted. The source of the leafmould is of some importance, as trees growing on a calcareous soil will carry the lime into the leaves to the detriment of any lime-hating plants grown in the mould.

This basic soil, with a sprinkle of bone meal worked in, can be used for the easier rock plants. It can be adapted by increasing one of the ingredients, or by the addition of others, to suit most of the plants a beginner is likely to grow, remembering that additional sand or grit promotes better drainage, additional humus helps the retention of moisture. Two adaptations are suggested below :

1. For Plants Which Like a Well-drained Calcareous Soil :

To one part of basic soil add one part of limestone chips (or mortar rubble and grit). This would suit Kabschia saxifrages, *Narcissus* or *Tulipa* species, *Dianthus alpinus*, *Oxalis adenophylla* and small campanulas.

2. For Plants Which Require an Acid Soil :

To one part of basic soil add one part of peat or leafmould and half part sand or grit. This suits all small ericaceous plants, such as cassiope, andromeda and dwarf rhododendrons.

BOOKS.—Each year new gardening books pour from the printing presses. Some are good, some not so good. Many deal with specialised aspects of gardening or with one particular genus, and a beginner might well be puzzled as to which to buy.

Two books which can be thoroughly recommended to anyone starting to make a rock garden are :—

Rock Gardens, by E. B. Anderson. A Penguin Handbook published in conjunction with the Royal Horticultural Society. Price : 5/- paperback ; £1 12s 6d hard covers.

Alpine Gardening, by L. D. Hills. Publishers, Faber & Faber. Price : £1 10s 0d.

(*To be continued*)

The Dolomites — 1963

A SYMPOSIUM[1]

ON 6TH JULY 1963 the Club opened a new chapter in its history, for at 10.30 p.m. on that day 16 members boarded an aeroplane at Newcastle Airport at the start of the first organised group of S.R.G.C. members of any size on an overseas excursion. There were no ceremonies to usher in this new era and, indeed, no outward show of excitement from the sixteen, though it is confidently believed that the self-appointed organiser harboured, under an apparently nonchalant demeanour, grave apprehensions and forebodings of all the dreadful misadventures which could take place in the next fourteen days. In the event, an exceedingly smooth and punctual flight to Basel proved a happy augury, for apart from one or two minor mishaps, which in retrospect, at least, were the source of laughter rather than tears, everything went as trouble-free as could reasonably be hoped.

At the Airport the transfer to the coach was carried out so quickly and efficiently that some of the more sleepy members were scarcely aware of the change and it was only later in the morning when the grander scenery of Austria replaced that of the Swiss industrial zone that consciousness fully returned to all. After lunch and a quick sight-seeing tour of Innsbruck in typical oppressive heat, the Brenner road was taken. Though it is but 25 miles to the frontier the journey was slow, as it seemed as if all Germany was holiday-bound for Italy. After an hour's queue at the Customs we were passed through very quickly, possibly because the driver declared his party to be composed of learned Scottish ladies, a statement which, though largely, was not entirely true in any particular. But whatever the reason we were soon bowling down into Italy as if Rome were the next stop, past vineyards and castle-topped crags and our first glimpse of *Dianthus sylvestris* peppering an outcrop. All of a sudden the bus deviated from the broad highway up a side road skirting a stream and sheltered with pines and larches. At first there was nothing to indicate that we were in the Dolomites but soon an occasional outcrop of pink rock verified the suspicion and then all of an instant the road took a sharp bend to reveal the gigantic glowing crags of Sasso Lungo which were to dominate our landscape for the next twelve days. For six or seven miles the road took us nearer to this wonderful mountain as it appeared

[1]The compiler of these notes wishes to convey his anonymous apologies to those anonymous contributors whose offerings he was unable to work into the body of the text in the few days available for compilation and to those, equally anonymous, whose offerings have been battered into unrecognisable conformity with the general pattern.

to grow in size and splendour and then as we reached our destination it disappeared completely from view hidden by one of its pine-clad outliers which broods over the village of Selva or Wolkenstein in its German equivalent, for in these parts everything is bilingual or even trilingual if one counts the incomprehensible Nadin in which the few thousand indigenous inhabitants of this valley are wont to converse).

The twelve days were spent at the Hotel Osvaldo which lived up to its reputation for excellence of cuisine, service and comfort many times reported by members of the Club and our sister, the Alpine Garden Society. The difficulties which arose, and these were very minor ones, were entirely due to linguistics and the differing conditions of hospitality and accountancy which obtain on the Continent. For instance one of the major achievements was acquiring a hot bath, which has to be ordered in advance from the chambermaid as she is the sole possessor of the key thereto. Granted her approval you are escorted to a room tastefully tiled in black and white where a bath with the water, already run, and a towel the size of a double blanket await you. There you wallow in peace until the water chills a little and you begin a search for the hot tap to prolong the pleasure. As there is a multiplicity of gadgets, all unlabelled, which presumably could scald, freeze, or leave you high and dry, the procedure is an exciting one : perhaps it is worth 3/6d after all.[2]

Another surprise was the account submitted to one lady for the daily libation of tea with which she was wont to sustain herself on the mountains : this proved to be little short of the wine bill for her table companions, who were far from abstemious.

During our stay most of the *loci classici* within hailing distance were visited, but as the flora of this area has already been reported pretty fully by Mr. Stewart Mitchell[3], a new approach is clearly required. This report therefore takes the form of a *pasticcio* compounded of short notes contributed by members. One member possessed a duplicated list of the more interesting plants likely to be found prepared on an earlier visit to the district, and on this she duly marked each sighting. A few, a very few of these records were doubted by some members of the party, but by and large this list, which is reproduced as an appendix as a reminder to members of the party of what they have collectively seen and as a stimulus to other members of the Club who have not yet visited these parts, may be taken as reasonably accurate.

[2]*Note* : This was penned on location : the actual cost was 5/6d !—*Compiler.*
[3]S.R.G.C. *Journal*, No. 24, p. 234 & seq. (April 1959).

As befitted a party of individualists the daily arrangements were fashioned in a very optional manner, and whilst nearly everyone took part in the visits to the important places, it was noticeable that once arrived everyone went their "ain gait" as if wishing to put as large a distance as possible between themselves and the rest of the party. The real reason was in all probability to find something better or quicker than anyone else : indeed it was not uncommon for one of us to refuse to go and look at a new find on the grounds that there must be more somewhere and it is better to find out for oneself : this patrician attitude was applied even to *Eritrichium nanum* himself, and with success !

The first opportunity was taken to visit the Sella pass ; this lies about five miles to the south of Selva by post bus, which takes half an hour with the horn going full blast to cover the distance. The col itself is a ridge slightly crescentic in shape, with a gently undulating crest which joins the crags of the Sella Group to those of Sasso Lungo 1½ miles away. The southern scarp drops steeply for some 2000 ft. and is clothed with a close mantle of grasses and meadow plants, the most interesting of which are *Androsace chamaejasme* and *Gentiana lutea*. The northern slope is rather more gentle and bears a completely different and richer flora, dense mats of *Salix reticulata* intertwined with *Loiseleuria procumbens* and great carpets of *Primula minima* peppered here and there for good measure with *Primula farinosa* and *longiflora* and clumps of *Gentiana verna*. It is, however, the very crest itself which is most remarkable, for at intervals along its course it has been eroded by the elements leaving patches of bare earth up to 200 ft. long and 50 ft. wide which after rain are quagmires and in drought baked and cracked deserts. In these pans and apparently nowhere else grows, in solitary state, *Ranunculus seguieri*, a pure white buttercup which some prefer even to the fabulous *R. glacialis*. Only at the ends of the ridge where the soil becomes a little more stony does this ranunculus gain the company of *Douglasia vitaliana*, *Silene acaulis* and *Linaria alpina*. Just before its leaves its solitary state there appears the most remarkable of these phenomena : in a few consecutive pans, the longest of which was perhaps 40 ft., the ranunculus grows in a series of up to five parallel lines each 2 to 3 ft. from its neighbour and up to 30 ft. long. There is no surface indication as to why this should be so, as the soil appears to be consistent throughout ; it can only be assumed, since the equipment for testing the point was wanting, that the underlying strata of the rocks was the cause, though this unfortunately implies a bedding plane very different from that universally

found in the area, assuming of course that the underlying rock is dolomitic limestone. Perhaps some geologically minded member can throw some light on this enigma.

The Siusi Alp, an enormously extensive upland meadow lying around the 6000 ft. contour and stretching for six miles in each direction is to be enjoyed in a different fashion from the rather intensive manner appropriate to the higher passes. The "funivia" from Artisei terminates on a hillock standing some 500 ft. or so above the basin of this vast saucer. From a distance even as close as 400 yds. the meadows look green, but with a liveliness of colour that grass and foliage by themselves could not imitate. It is only on a closer approach that the overall green begins to dissolve into its constituent parts, just as if one were approaching too closely or with too wide-open eyes, an Impressionist or even Pointillist painting. Firstly the large yellow and golden blobs of Arnica and Anthyllis detach themselves ; a lighter more ethereal shade gradually resolves into the palest blue spires of *Campanula barbata* and finally the subtlest touch of all, the warming pinks and purples of the orchids and the master-stroke to give depth and body to the colour, the dusky dark red drops of nigritella. The parallel may, or may not, be fanciful, but, as was borne out by the behaviour of our party it is clear that the technique of looking at Impressionist masters applies equally well to Alpine meadows, for here was none of the close-up work or for that matter long-distance eyes-half-closed gazing only sheer enjoyment in the ever-changing pattern of colour.

Following the unpremeditated but no doubt fore-ordained clockwise sequence the next mass exodus took place to the north, that is to the vicinity of the Firenze Hut, on what, in the initial stages at least, proved to be the warmest day of the fortnight. The climb through the meadows is at any time a steep and warming one ; this particular morning even the cold-blooded adders found the sun's rays an incentive to wander forth and slither over the boots of anyone traversing the foot-wide path through the meadows. To the west of the Hut, which is in fact a restaurant seating at least 100 with bedrooms over, lies, at a quarter of a mile, a scree which from a distance looks like one of Nature's heaven-sent homes for indigent alpines. In the event it was a great disappointment, for though two of us traversed this scree from end to end, nothing new and little of interest was to be found, at least botanically. What was fascinating was the steep inclination and the fineness of the detritus comprising this scree ; the

lighter of the two managed to traverse with only a minor landslide at each step, whereas the heavier with only a stone differential and far bigger boots dislodged at least half a ton of the most delectable limestone chippings with each step.

It is unfortunate that only two of us made our way in this direction, for the travail of the scree was only to prove to be the purification for the delights that followed. The slightly roundabout route back took us through meadows which were fully the equal of the Siusi Alps in wealth of species but here the meadows though fully clothed, as ever, were more finely modelled : a ridge which in Siusi would extend over a quarter of a mile was here reduced to 50 or 100 yards. This has its effect on the flora which was, by and large, more concentrated. One species, apart from the grasses, would be dominant on one aspect, one shoulder, or one tongue, where conditions were favourable. As a result of this the kaleidoscope changed, things were no longer seen as a multiplicity of coloured dots, but as broad bands or patches of colour. It was, however, worthy of note that *Campanula barbata*, here at least, preferred the south-west aspect and was not to be seen on even the slightest eminence. Any picture you may see of it outlined by the sky is the result of contortionism or pure and simple 'gardening.'

The great find was yet to come. *Aster alpinus* is common wherever you go hereabouts but rarely throws more than half a dozen flowers. But a boulder broke a dream : here it was, the archetypal Aster—sixty-four, sixty-five, sixty-six, sixty-seven flowers, all out, making it one for each year ; can I make as many more ; doubt it ; but try and what better reason than coming back in 2030 A.D. to see how the aster is doing.

Valle Lunga proved to be everybody's pet ; it is so easy and accommodating : a gentle mile walk from the hotel and you are girded on both sides with cliffs as perpendicular as you are likely to find anywhere. From these cliffs descend, on both sides, screes which proved to be happy hunting grounds not only for the merit of the plants but because of the relative ease with which even a well-rooted specimen is lifted from the fine unstable detritus. The ease of approach referred to made this four mile long valley the most visited and revisited area and therefore in some ways the most well-investigated. Perhaps the most important observation arising from this constant watch was a realisation that the eternal hills are anything but so. So far no mention has been made of the weather, which on the whole was cool and bright, in fact ideal conditions. However, as in most

mountainous regions sudden storms, mostly thundery, are frequent and regular. Wolkenstein (which must surely refer to Sasso Lungo the mountain rather than Selva the village nestling at its foot) may be very roughly translated as the "cloud mountain" : and so it was for us nearly every day, either about luncheon or dinner time, the clouds descended from afar like bees returning to their hive, completely obliterating the outlines of the mountain. Then, if sufficient accumulation had been made a short and sharp storm would jettison hail, or an odd spot of rain on the surrounding countryside. The midday efforts were very mild but some at least of the evening storms were severe, indeed, in their intensity. This was evidenced by two things—the state of the vegetation and the state of the screes. It was difficult to find any plants worthy of a close-up photograph because of the damage done by the hail ; even coltsfoot with its leathery leaves had been rent and battered by the onslaught ; perhaps more illustrative of the power of natural forces was the change in what became known, for want of a better term, as the 'big scree.' This was about 200 yards around its fairly stable base, which was skirted by the path : it ascended at an ever-increasing angle up to the cliffs for about 300 wearying yards. On the first visit it presented a neat and tidy aspect with a smooth gravelly surface and neat hummocks of *Saxifraga squarrosa* and *C. caesia.* A few days later after a nocturnal storm the whole aspect was changed. The upper parts of the scree were carved by the deluge into channels three and four feet deep and the onrush of water down this steep declivity had thrown up stones the size of a man's hand at least six feet above the waters where they remained stranded upon boulders of such dimensions that only a flood of Noachian proportions would ease their downhill journey. Even in these dire conditions plants were recognisable if not photogenic. One member with time on his hands extracted, as fully as possible, a one-inch tuft of *Daphne striata* growing in the river bed : its main roots extended 24 inches in one direction and 26 inches in the other !

Ciampinoi is the shoulder of Sasso Lungo which reaches down and prevents a direct view of Sasso Lungo from Selva. It is blessed with a bucket lift, two at a time standing, which accomplished the 2000 ft. lift in twenty minutes instead of the 2 hours breathless exertion by the non-existent path. Two things are worthy of note, the crag 50 ft. high and more across dotted with *Saxifraga aizoon* living up to its name as the 'stone-breaker.' and the unfriendliness of the two species of Rhododendron one to another. The path lies at the foot of a craggy

but well-clothed eminence : on this grew *Rh. hirsutum* ; on the other side of the path where things levelled out a little there were large clumps of *Rh. ferrugineum.* In spite of this proximity there was not a sign of hybridisation, though the two species were within inches let alone bee-distance.

The climax of the tour, though far from the last excursion, was to be the trip to the Pardion Pass, for many varieties beckoned here. It is perhaps unfortunate that, for one reason or another, the party as a whole dallied around the meadows of the pass itself rather than making an outright assault. One of us, more daring than the rest, spent 5/- on the "funivia" to the top of Sasso Pardoi, an ascent of some 2000 ft. without intermediate support. The rest of the party was somewhat heartened to hear that the flora was sparse on top, an occasional lump of *Saxifraga oppositifolia* being the only evidence of plant life. It was a welcome relief to the rest of the party, who were busily employed finding good reasons for not making the journey. In the event Eritrichium was found without difficulty growing on the untypical conglomerate rock in the matrix of which are imbedded rounded pebbles from the size of pea gravel to that of a " sheep's heid." As the matrix erodes these harder rocks become loose in their sockets and prove a danger perhaps less to the scrambler who has but a few feet to fall to a steep grassy bank than to the villagers and passers-by in the valley 2000 ft. below, for the slope is not only steep but steady. It is perhaps worthy of noting that it was on July 16th that Eritrichium was found in full bloom for three days earlier four members had made the same journey without success, the only possible assumption being that due to the lateness of the season it had not then commenced flowering. This observation gives rise to the thought that expeditions such as this one are dependent upon very fine timing, at least for certain species, and the success of any expedition, which must be planned well in advance, is largely a matter of luck. If, however, more information were available on the length of flowering season of some at least of the choicer species year by year, some of the guesswork might be eliminated. Most of the party were glad to settle for Eritrichium only for the day's work, though the more energetic managed *Ranunculus glacilis, Geum reptans* and an aretian androsace which was not collected and therefore remained undiagnosed.

Apart from these highlights in which most of the party partook there were many individual walks productive of happy memories ; one or two of us tried the walk up Val Chedul, the hard way, and so it was but even so rewarding for here were possibly the finest shows of

Soldanellas and certainly the most flourishing and profuse drifts of *Globularia cordifolia*. The path over the ridge and down to the Gardena Pass is, however, not for Sunday afternoon walkers ; it is steep, stony and slippery and set amidst the most incredible space-fiction scenery. It is no place to be alone as one of us found ; a painted sign at the top indicated 2 hours walking to Passo Gardena ; this time it was covered in 34 minutes ! There were also the woods, perhaps unjustly neglected, for they had to offer *Atrogene alpina*, various Pyrolas, *Viola biflora* and other such delights. One of the most remarkable facts about these extensive woods was the uniform straightness of the boles and the extreme rarity of wind-blown trees. Though the weather can be violent in some ways, there seems rarely to be any measurable wind in these parts, a state of affairs that not surprisingly was soon noted by members living on the North-East coast of England.

The final day came and fortunately we were not due to start until after lunch, so this gave us ample opportunity of making sure that the polythene bags and biscuit tins with their precious cargoes were made comfortable for the journey and presentable to H.M. Customs. The return journey was made by a different route shorter in distance but rather longer in time through the hot and heavy valleys, past Bolyano and Merano, and then over the Ofen and Fluela passes in the Engadine, the summit of the latter being reached as the sun set. Though visually exciting the journey was frankly too long, especially as over the two Swiss passes there were lengthy sections where the road had been removed but not replaced in preparation for improvements. We eventually arrived at Basel at 3 a.m. and the plane took off exactly at 4 a.m. About an hour later the sun rose above an interminable cloud cover under which lay France. The first sighting of land was King's Lynn, thenceforward things became clearer and more familiar, culminating in an exciting low-level view of Durham with its castle and cathedral dominating even from this unusual angle. We landed three minutes early to be welcomed by a bright clear morning with a fresh breeze from the North-East, and then some of us at least remembered that for a fortnight there had been nothing to breathe.

As an epilogue we will let the doyenne of the party have the last word. "My impression of this initial Rock Garden Club Tour is mostly of the friendliness of the party ; the organised expeditions to the centres of grandeur and beauty ; the off-days when everyone did as they liked in twos or more—shopped or ranged the meadows for

specimens ; the chatty evenings when the botanical finds were displayed for naming by experts. Our debt to the "*organizionere*" is great indeed."

PLANTS SEEN IN THE DOLOMITES

July 1963

Achillea atrata
Aconitum lycoctonum
— napellus
Alchemilla alpina
Androsace chamaejasme
— helvetica
Anemone baldensis
— hepatica
— sulphurea
— vernalis
Antennaria dioica
Anthyllis montana
Aquilegia atrata
Arabis alpina
Arctostaphylos uva-ursi
Armeria alpina
Arnica montana
Asplenium viride
Aster alpinus
Astragalus alpinus
Atragene alpina

Bartsia alpina
Bellidiastrum michelii
Biscutella laevigata
Botrichium lunatum

Calamintha alpina
Caltha palustris
Campanula barbata
— cochlearifolia
— glomerata
— scheuzeri
Cephalanthera rubra
Cerastium latifolium
Cerinthe alpina
Cirsium acaule
Colchicum autumnale
Convallaria majalis
Crepis aurea
Daphne Cneorum
— mezereon
— striata
Dentaria enneaphylla
Dianthus superbus
— sylvestris
Digitalis lutea
Douglasia vitaliana
Draba aizoides
Dryas octopetala

Echium vulgare
Epilobium alpinum
Epipactis rubra
Erica carnea
Erigeron alpinum
Eriophorum angustifolium
Eritrichium nanum

Gentiana acaulis (agg)
— brachyphylla
— campestris
— lutea
— punctata
— verna
Geum montanum
— reptans
Geranium sylvaticum
Globularia cordifolia
Gymnadenia albida
— conopsea
— odoratissima
Gypsophila repens

Hedysarum obscurum
Helianthemum italicum alpestre
— nummularium
Heliosperma quadrifidum
Hieracium villosum
Hippocrepis comosum
Homogyne alpina
Horminum pyrenaicum
Hutchinsia alpina

Leontopodium alpinum
Lilium croceum
— martagon
Linaria alpina
Lloydia serotina
Loiseleuria procumbens
Lonicera coerulea

Maianthemum bifolium
Minuartia sedoides

Nigritella nigra

Onobrychis viciifolia
Orchis maculata
— globosa

Paedarota bonarota
Papaver alpinum
— rhaeticum
Parnassia palustris
Pedicularis foliosa
— kerneri
— rostrato-spicata
— verticillata
Phaca frigida
Phyteuma comosum
— orbiculare
— scheuzeri
Pinguicula alpina
— grandiflora
— vulgaris
Plantago alpina
Polygala chamaebuxus
Polygonum viviparum
Potentilla aurea
— nitida
Primula auricula balbisii
— elatior
— farinosa

Primula longiflora
— minima
Prunella grandiflora
Pulmonaria angustifolia
Pyrola rotundifolia
— secundiflora
— uniflora

Ranunculus aconitifolius
— glacialis
— pyrenaeus
— seguieri
Rhododendron ferrugineum
— hirsutum
Rhodothamnus chamaecistus

Sagina linnaei
Salix reticulata
Saponaria ocymoides
Saxifraga aizoides
— aizoon
— caesia
— oppositifolia
— squarrosa
Sedum acre
— dasyphyllum
Sempervivum arachnoideum
— montanum
— wulfeni
Senecio doronicum
Silene acaulis
Soldanella alpina
— minima
Sorbus chamaemespilus
Spiraea aruncus

Teucrium montanum
Thalictrum alpinum
Thesium alpinum
Thlaspi rotundifolium
Trifolium alpinum
— badium
Trollius europaeus

Valeriana saxatilis
Veronica aphylla
— beccabunga
— fruticans
— rupestris
Viola biflora

Song of a Novice

Who would not take a hard-boiled Egg,
Salt, toothpick and a crusty roll,
Salami, ham, a chicken leg,
And climb like a goat to feed his soul
On Gentian and Anemone
Plant-hunting with S.R.G.C.

It matters not how hard the rocks
Even when I find them in my shoes
It matters not how damp my socks
Or how it thunders (hardly news
In Wolkenstein). Just let me be
Plant-hunting with S.R.G.C.

I may not find the rarest pink
Though cheerful Dryas lead me on
And the lush Calthas at the brink
Point upwards to Rhododendron
Hirsutum (Hang the quantity !)
Plant-hunting with S.R.G.C.

Since all around the Dolomites
Are dancing in fantastic spires
Whether they catch the morning lights
Or redden in the evening fires
What sun, what air, what flowers, what glee
Plant-hunting with S.R.G.C.

Note : There appears to be no truth in the rumour that Messrs. Hunting & Son, Ltd., who were responsible for the travel arrangements, are contemplating the formation of a subsidiary company to be called Plant-Hunting & Son, Ltd.—*Ed.*

Selva 1963

Let us arise and go now
To search in pastures new
Where rock plants grow profusely
(And there is coffee too !)

For there's always a refugio
Outlined against the sky
And if you only get there
You can tea or coffee buy.

So pack your bag and come along
And join this cheerful crew
And search on scree and rocky face
And you'll find some plants *quite* new !

"Far on the rocks above me
Oh ! What is that I see ?"
"It is an obscure member
Of the genus Arrgeecee" (R.G.C.)

And growing close beside me
In mossy cranny cool
Is the "scabies scrophularia"
But this you may not pull.

And upward ever upward
Moves on the little band
And some of them are wearying
To reach the Promised Land.

"But does the path lead upward,
Lead upward to the end ?"
"Not so," replies the leader,
"It levels out, my friend".

"But are the levels *level*
Or do they upward trend ?"
"Most levels *do* lead upward
They came down in the end."

And at this point they breast the hill
And joyous sight to see
The refugio is near at hand
And there they will get tea !

And what is the burden of this song ?
'Tis very plain to see !
If you would go plant searching
Join the Scottish R.G.C.

Report from the Pacific Northwest

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

WHEN PLANS have been formulated and preparations get under way for a monumental event such as an International Rock Garden Plant Conference, I am certain the diligent workers pause many times to reflect upon the outcome of such an undertaking, and indeed if it is all worth the time, effort and expense. From all reports your Third International Rock Garden Conference was a rewarding experience for all who attended and considered a tremendously successful event. The report of the Conference published jointly by the Scottish Rock Garden Club and the Alpine Garden Society reached many other members in the United Kingdom and overseas who were unable to attend in person, thus enriching their lives through added knowledge of beloved alpine plants and possibly initiating correspondence and friendship between people with special interests in common. The many indirect influences of your Conference will probably never be known ; however, it is concerning one of these indirect influences that I am writing these notes, of how the North-west Unit of the American Rock Garden Society enjoyed your Conference as seen through the eyes and cameras of nine people in England, Scotland and the United States.

It all began in the fall of 1962 when Margaret Williams of Reno, Nevada, mentioned her Conference slides in a letter and asked if I would like to see them. Indeed I would ! Since the officers of the North-west Unit were scheduled to meet to plan the programs and activities for our group for 1963, it occurred to me that a report of your Conference by way of colored slides would make an interesting program. If Mrs. Williams were willing to loan us slides, perhaps other Americans who attended as well as friends in England and Scotland would also let us borrow slides for this purpose. The other officers were enthusiastic about the idea, scheduling my Conference Report for 11 April 1963.

The response to my letters which outlined my plan was absolutely overwhelming ! Those who could not help directly contacted their friends on my behalf and I began hearing from people who were complete strangers to me. By the middle of March so many splendid slides had arrived that it became necessary to call a special meeting of the North-west Unit a week following the scheduled program and to

make my report a two part program. Part I was arranged to follow the schedule of your published Conference Report rather closely, illustrating wherever possible the fine papers published therein, as well as garden tours both botanic and private and prize winning plants in the London and Edinburgh Shows. Since the Americans who attended also visited nurseries and other private gardens, Part II included these, a large group of Wisley too numerous to include more correctly in Part I, and a fine group of slides of important personalities in the alpine gardening world, many of which were taken with the lovely Waterperry Horticultural School as the background.

My friend General Murray-Lyon kindly put me in touch with Mr. Stewart Mitchell, who sent some of the most beautiful plant portraits that I have ever seen (which I shall comment upon in more detail shortly). The General asked me if I would write about our impressions of the Scottish portion of the Conference for the *Journal*, thus this account will attempt to fulfil his request, although I feel most apologetic for not having done so much sooner.

Any remarks I make concerning plants are applicable only to what I know of alpine gardening in our own Pacific North-west because it is difficult to generalize the gardening aptitudes of this vast country where there are such diversified conditions and climate. However, I would venture the guess that the taste, knowledge and ability is as highly cultivated here as anywhere else in the United States.

The beautiful old homes and castles were of particular interest to us, which you can appreciate when you realize how comparatively young western North America is and a fifty year old house is considered old. We have read of Keillour castle, so were delighted to see slides of it, a close up of the door-step, and the castle glen. An extensive planting of the white form of *Lysichitum camtschatcense* made us aware that our yellow Lysichitum, so widespread in nature in our area, could be used more often to advantage in damp areas in gardens. How often we overlook the possibilities of some of our own native plant material until we are reminded by successful and effective usage elsewhere.

To illustrate the lectures entitled "Has the Rock Garden a Place in the Modern Garden ?", depicting various methods of raising alpines without the use of rock gardens, we had a number of slides of alpine houses in which were examples of extremely rare and difficult plants considered impossible to grow and flower here. We saw such lovely things as *Kelseya uniflora*, our own American native, which when occasionally attempted is grown with mixed emotions as it just exists

with only the memory of its loveliness in the wild in the mind of its frustrated grower. Although the rock gardener is conceding a point by employing this artificial means, he would, however, widen his scope of enjoyment by succeeding with many treasures that will not tolerate our damp Pacific Coast climate. Interesting plants shown in alpine houses were *Eritrichium nanum*, *Pleione formosana alba*, *Jeffersonia dubia*, and in the Wisley alpine house was a most intriguing, unidentified small plant from the Andes with tubular red flowers.

We had numerous slides of troughs to illustrate another method of growing alpines without the use of rock gardens. Although each of these miniature gardens was charming in itself, the history and age of the old stone troughs added considerably to a fuller appreciation. It was noted the extremely choice plant material used which made us realize that this would be a delightful way to keep tiny slow-growing plants and shrubs that might otherwise become lost or overwhelmed in the rock garden proper. Not only would this show them off to advantage, but control of slugs might be simplified on such tasty items as some of the small rare bulbs. Although the stone troughs themselves cannot be obtained here, they did give us "food for thought" in attempting to utilize the idea of recreating a choice miniature garden in relation to the type of container that might be more readily available to us.

Under the title "Three Rare Alpines" were plant portraits of *Anchusa caespitosa*, *Phyteuma comosum* and the provocative little *Calceolaria darwinii*, which were among the outstanding slides sent to me by Mr. Stewart Mitchell. When mailing the slides Mr. Mitchell wrote that although most of them had not been actually taken at the Conference, they were plants mentioned in the Conference Report, thus I used them in various places to illustrate the lectures in which they were mentioned. Understandably time did not permit anything but a brief few notes on the content of these fine lectures; however, I did include any information I could obtain on the individual plants shown. Many of Mr. Mitchell's slides were used to illustrate the lecture "A Decade of Plant Introductions" describing new plants introduced in the past ten to fifteen years as well as some reintroductions. This group was especially rich in rare Asiatic Primula species, completely new or only known by reputation to even the most knowledgable of our Primula experts. They, as well as the rest of us, were thrilled to see the lovely *Primula tsariensis*, *P. griffithii*, *P. aureata*, *P. kingii* and *P. wigramiana*. Mr. Mitchell wrote that all were quite difficult to cultivate, especially my favorites, *P. kingii* and *P. wigramiana*.

Although it is impossible to comment on each plant shown, special note should be made of another plant unknown to us, of what appears to be an extremely desirable little Composite from South Africa, *Euryops evansii.* It was interesting to receive the notation that it had survived your miserable winter last year, which should have been an excellent test of its hardiness.

We received many fine slides of the Edinburgh Show, all of prize winning plants and displays, either completely new to us or known only from alpine gardening literature. To select only a few to remark about makes a choice difficult. However, I cannot pass by the opportunity of commenting on my favorites, Cassiope, not only figuring prominently in both the Edinburgh and London Shows, but in your Conference Report. "The Genus Cassiope" by Sidney E. Lilley is the most comprehensive treatment to date of this fascinating genus, which should be grown much more than it is in the Pacific North-west. Perhaps alpine enthusiasts here have been discouraged by their reputation for being somewhat difficult to cultivate, or by the apparent unpredictable nature of our own native species, *Cassiope mertensia, C. stelleriana,* and the lesser known *C. tetragona* var. *saximontana.* It may simply be that they have not been available to us through nursery sources in the U.S. Whatever the reason, they have been neglected here. With this in mind you can appreciate our delight in seeing many species of Cassiope, and especially nursery displays of *C. fastigiata* in flower on which we noted the extremely reasonable prices. If available here they would command four times that amount. How fortunate you are to have a number of people sufficiently interested in these delightful shrubs to come forth with such lovely hybrids as *C. Randle Cooke, C.* 'Bearsden,' *C.* 'Edinburgh' and the forms of *C.* Muirhead.'

As yet we have been unable to obtain *Vaccinium nummularia.* Seeing it for the first time, our members who specialize in the Ericaceae Family mentally noted it on their "wish list"—I know I did. We saw another member of this interesting family, not well known here, *Rhododendron cephalanthum.*

Since we have long read about the desirability of *Etrichium nanum* as well as its difficulty in cultivation, it was thrilling to see at long last an expertly grown and beautifully flowered plant (for many of us the first time we had ever seen it). I might remark at this point that one of my aims in selecting individual slides was to show our members only things either new to them or known only by reputation, and for this reason avoided any North American plants or others which we

do succeed with here. The slides received made this selection quite easy as they far exceeded my fondest hope. We became acutely aware of how well you grow many species of Gentians, beautiful Primulas and Daphne. The attractive hybrid *Daphne* x *thauma* is unknown to our gardens, and seldom seen are its parents, *D. striata* and *D. petraea.*

Although we do grow a number of New Zealand native plants with considerable success, the fascinating *Helichrysum coralloides* to my knowledge is not cultivated here. It would appear to be even more intriguing than *H. selago* which gives me a great deal of pleasure even though it is not entirely content in my garden. It is rather difficult to imagine either species in bloom, although I would presume *H. coralloides* is grown predominantly for its curious form and habit of growth. I wondered if it flowers in cultivation and if it can be raised from seed.

We were indeed fortunate to have numerous slides of the Royal Botanic Garden in Edinburgh. This was especially interesting to many of us as we had had the pleasure of hearing Dr. Harold Fletcher lecture when he was in Seattle in the Spring of 1961, and had the privilege of meeting him. What made our pictorial visit even more meaningful to me personally is my cherished friendship of long standing with Miss Winsome Muirhead who introduced me to your *Journal,* thus being instrumental in my pleasure of membership in the Scottish Rock Garden Club these past years. We were extremely impressed with the Royal Botanic Garden, where plants were so beautifully placed in relation to one another and to their background, giving an effect of soft mellowness and an ageless quality of well being. The views of the rock garden too had these qualities that I can only describe as a "feeling"—natural age and propriety as if man had had nothing to do with the scheme of things.

In thinking of a scree one often visualizes an unnatural setting with little relationship to the rest of the garden, conceding, however, that it is necessary if one wishes to grow certain alpines which will not exist otherwise. It was a pleasing surprise to find that the scree at Edinburgh did not seem incongruous, but blended well with the surrounding lawns. Taken in this vicinity was a slide of Mr. Will Ingwerson, Mr. Harold Epstein, our A.R.G.S. President, and Mr. Joe Elliott. Seeing pictures of famous personalities in the field of alpine gardening is always of great interest, lending a pleasant personal touch.

Since we have received Jack Drake's fascinating catalogue and looked longingly at its contents, it was interesting to see slides of him, his rock garden, nursery and some of the treasures he grows so successfully. We often find it unbelievable to read descriptions in his catalogue

of native U.S. plants that are impossible for us to obtain except by our own collecting from the wild, or locating a private individual willing to collect for us. Incredible as it may sound, several years ago I received a start of a long desired plant native to the North-east corner of the State of Oregon, from—Scotland ! Aside from our own native plants, Mr. Drake lists many treasures that we long for the opportunity to try, but thus far have not reached us here.

Among the slides taken at Inshriach was a 200-year-old stone trough given to Mr. Drake as a gift. Margaret Williams wrote that she would give anything to have one of these troughs in her own garden, and we heartily agree as we too were completely captivated by the charm of the many trough gardens we saw. Among the plants seen there were magnificent gentians, a lovely red form of *Rhododendron calostrotum*, *Meconopsis simplicifolia*, and a setting of Caltha beneath Birch trees.

We had an all too brief glimpse into the garden of General Murray-Lyon, where we saw his prize-winning *Primula pubescens* 'Rufus,' an interesting planting of Sempervivums, other Primulas, and a view into the gorge. I was delighted to have received a splendid slide of General and Mrs. Murray-Lyon taken with their beautiful garden as background.

Among the several slides we received of Boonslie, we saw the home of Mr. and Mrs. Boyd Harvey and learned that it had been built in 1799. At Inverewe, a name familiar from the pages of the *Journal*, we saw the little known plant from Chatham Island, New Zealand, *Myosotidium hortensia*, and a general view of Inverewe itself.

In the final portion of our two part program under the title of "Famous Personalities in Rock Gardening," we saw other wonderful people, some with Waterperry as background and some photographed in their own lovely gardens, which gave us a much more intimate picture of the Conference. These combined with the beautiful old homes, the countryside, added even more to our knowledge, understanding and appreciation of the United Kingdom, instilling in us the great desire to see one day your country first hand.

For me personally this was one of the most interesting and rewarding experiences of my life. After thinking and reading Conference for close to six months, enjoying the delightful exchange of letters, research on individual plants before unknown to me, and six weeks of having these beautiful slides in my possession, it seemed almost as if I had attended the Conference myself ! When my project was

behind me, it was with considerable regret that the slides had to be packaged and returned to their very generous owners. However, the pleasant memory remains, as do the treasured friendships both old and new. When my Conference Report appeared in the *Bulletin* of the American Rock Garden Society, I sent complimentary copies to non-members of our Society in Scotland and England who had assisted me. In response to the content of our *Bulletin* Mr. Mitchell summed up the comparative rock gardening situation of your country and mine far better than I can by writing the following :

"Rock gardeners seem to be much the same type all over the world, and it is amusing in a way to find them in America striving to grow the new, the rare and the difficult, and in particular their efforts to grow things which require so very different conditions than those that they have readily available. That is exactly what they do here."

Our Club Journal

SOME OF our members may not be fully aware of the actual value of our Club *Journal* or of its wide circulation. Do you know that copies are requested for the reference libraries of universities and botanical institutions in all parts of the world ? Indeed, many of our overseas members have joined the S.R.G.C. because of their desire to receive copies of the *Journal.*

At a Council Meeting in 1958 it was decided that an index should be prepared, and to make a start by covering *Journals* 1 to 19. As this represented a formidable and exacting task, the problem was—who could or would tackle the job ? Mr. W. H. Macgregor, who was present, volunteered and in May 1959 the Index went into circulation.

Since the issue of the Index I personally have discovered that the old back numbers contain answers to almost every query that crops up and, furthermore, provides information not given in many standard works. Recently I acquired several rare plants and, on opening the Index, there they were listed in their alphabetical order.

Our Hon. Editor has informed me that copies of the Index are still available, price 3/- post free, and, to members who have overlooked or have not yet written for a copy, I would advise them to get their order placed before it is too late, as the Index is a must.

Bearsden. A. TODD

Ferns for the Small Rock Garden

By JAMES DAVIDSON

FERNS ARE an asset to any rock garden quite apart from the general interest derived from their propagation and cultivation. They produce variety amongst a collection of high alpine flowering plants, which, when seen in their natural habitats amongst the mountains are frequently associated with ferns. The size of the species must be in proportion to the size of the rock garden. For small gardens there are numerous delightful little ferns which fit in well with their surroundings and add considerable charm. In larger gardens, medium sized species are an additional attraction and there are many eminently suitable species in this category which are readily obtainable. Even the largest types may be seen in very large rock gardens where they greatly add to the landscape effect. Where there is water, what can be more beautiful than a fine specimen of the monstrous Royal Fern (*Osmunda regalis*) growing beside a pool or a stream.

When planting ferns we should of course try to simulate the conditions in which they are found in their natural habitats. They require protection from bright sunshine and strong winds, and are better planted in positions with a northern or easterly aspect or protected from sun behind a rock. Nooks and crevices amongst rocks and walls are of course ideal, especially for the smaller species. Apart from a few exceptions such as the Royal & Marsh ferns which grow in boggy conditions, ferns must be planted where there is good drainage. This is why a well constructed rock garden is eminently suitable for fern culture as well as having a variety of position for planting. They must always of course have moisture and some like more moisture than others. Ferns must never be allowed to dry out. At times, during a very hot dry summer, small ferns growing naturally on cliffs and walls, such as Wall Rue, Scale Fern and Maidenhair Spleenwort, may be seen shrivelling in a very dried-up condition. Eventually they may recover when moister conditions arrive, but occasionally numbers are killed. The more moisture-loving ferns should be planted in the lower parts of the rock garden.

Although ferns on the whole are amongst the easiest of all plants to cultivate, there are of course those which are more difficult, but they are comparatively few. As happens in the case of primulas, meconopses and members of the ericaceae there are some species and varieties which may be grown more easily in certain climates.

Soil is not difficult. A good mixture of ordinary loam, leaf-mould and peat is an all-round necessity. Lime is only added in the case of a few species which grow in limestone or chalk areas, such as the Limestone Polypody, the Scaley Spleenwort or Rust Back Fern and Hart's-tongue. On the other hand, those which grow under boggy conditions require more peat. The Hard Fern will not tolerate lime and this also applies to the Broad Buckler Fern and its varieties. The species to be described are all perfectly hardy and are British natives apart from one—*Blechnum penna marina.* A number of these which grow in Britain are also found in the European Alps and North America.

One of the most interesting features of all amongst ferns is the number of varieties or variations which may occur in a species, many of them being of outstanding beauty. For example, the fronds may be tassellated or crested at their tips or a tassel or crest may be at the end of each pinna of a frond. Such changes of course must be permanent and reappear each year in the growth of new fronds before they can be recognised as definite varieties. Another interesting fact is the continuity of such variation in the offspring from the spores of such varietal plants. By some extraordinary process of reasoning these varietal forms are not recognised by the botanist, who considers them to be monstrosities.

Amongst the smaller species are ferns which really are rock garden gems. They may or may not have varietal forms but none the less are ideal plants for the small alpine garden.

Let us first consider the Spleenworts. Some of our commonest native ferns belong to this genus. The Maidenhair Spleenwort (*Asplenium trichomanes*) is of widespread distribution throughout the world, including North America, Australia and New Zealand. In this country it is found growing from the crevices of rocks and on old walls. In the rock garden it is well placed and easily grown in some crevice. This lovely little thing varies from 2-3 inches in height, but may occasionally reach 10 inches. There is also a very beautiful little crested form, *Asplenium trichomanes cristatum.* The Green Spleenwort (*Asplenium viride*) is very similar to the foregoing, but the frond stems are green instead of black, so it is easily distinguished from the Maidenhair Spleenwort. It also has a world-wide distribution, but being found only in limestone mountainous regions is less common than the Maidenhair Spleenwort. It appears to be slightly more difficult to grow in some gardens, but in others it does very well. It also makes a nice pot plant, as do all the Asplenia. The Black Spleenwort (*A. adiantum-nigrum*) is as a rule somewhat larger than the two previous

species and also different in character. It is quite common throughout Britain and grows in rock crevices, hedgebanks and walls. Everyone must know the Wall Rue (*Asplenium ruta-muraria*) which is so common on old walls and rocks, but here we must be aware as it is difficult to grow in captivity and offers a challenge to the rock gardener. It is more easily grown in a pot. The Sea Spleenwort (*Asplenium marinum*) is almost impossible to grow in the open rock garden and is better left alone.

The Scaly Spleenwort or Rusty Back Fern (*Ceterach officinarum*) which inhabits old walls and limestone rocks is an interesting, comparatively dwarf fern which likes lime amongst its compost. It is easily recognised by the brown scales on the underside of the fronds, which are rather thick and leathery. This fern is of easy cultivation in a crevice or wall in the open or in a pot. The thick fronds last well throughout the year and so it is a pleasant thing to have in the dead winter months.

The Brittle Bladder Fern (*Cystopteris fragilis*) is one of the most beautiful of all the hardy dwarf ferns. Its fronds of a fine delicate texture are very fragile. It must be grown in shade, otherwise the sun will quickly produce browning. The fronds appear early but turn yellow and die sooner than other ferns. However, when it is at the height of its vigour I feel sure that anyone who grows it will realise that it is well worth while. It should be planted at the base of a rock in moist, but not stagnant, fairly heavy soil to which peat and leaf-mould have been added. Of world wide distribution, in mountainous regions, it is common in such areas in Britain. There is also a rare dwarfer and more crisped form called *Cystopteris dickieana.*

Another fern which is found only in non-calcareous scree fully in the open amongst the hills is the Parsley Fern (*Cryptogamma crispa*). Here again we have fronds of a beautiful texture. There are two types of frond—non-fertile and fertile, which produce the spores. It is particularly the non-fertile fronds which have the fine texture. This species is usually taller than *Cystopteris fragilis*, but I have found quite dwarf forms which no doubt are the result of altitude and exposure to wind. Although common in certain areas, it may prove difficult to grow in captivity, but once established it forms very nice little clumps which do not take up too much room. It should be planted in a stony mixture of loam and peat, and the crowns covered with loose shingle or small stones, through which the new fronds will force their way. However, it may be somewhat difficult to establish, but is well worth trying.

Two good ferns for the small rock garden are the Oak and Beech Ferns. The Oak Fern (*Gymnocarpium dryopteris*) has been described as one of the loveliest of our small native ferns. It is certainly a beautiful dwarf of fragile formation and delights in full shade with a good moisture retaining soil. There is also a form called *plumosum* which in my opinion is even finer, the fronds being broader and of a denser formation. This is just as easily grown as the normal type.

The Beech Fern (*Thelypteris phegopteris*), although perhaps slightly taller than the Oak Fern, is another good dwarf. It is recognised by the downward deflection of the lowest pair of pinnae in the opposite direction from the other pinnae of the frond. This species, like the Oak Fern, does well in a shady spot in a good damp leaf-mould soil. The fronds are perhaps more sensitive to weather conditions and might be readily damaged, but I find that there is no damage when it is planted in a good sheltered position. Both the above also occur in North America as far south as Virginia.

The Limestone Polybody (*Gymnocarpum robertianum*), an inhabitant of limestone areas, rather resembles a coarser and larger form of the Oak Fern. This is an easy fern to grow and naturally likes limestone or old mortar amongst its compost.

The Hay-scented Buckler Fern (*Dryopteris aemula*) is a pleasant plant. It is not to be confused with the Hay-scented Fern of North America, so perfectly described by Thoreau, which is quite different. The British or European species is a medium sized fern and is distinct and smaller than the Broad Buckler Fern and other species of *Dryopteris*. It is evergreen and the fronds, especially when they are ageing or even dead, have a scent of new-mown hay. Shade and a good moist, but well-drained peaty soil, are all it requires.

An interesting but difficult fern is the Holly Fern (*Polystichum lonchitis*). This is a true mountain fern, which grows in certain regions at an elevation of between 2000-3000 feet. It is widely distributed amongst the European Alps, but is rare in this country. The fronds are tough and leathery and are evergreen. As already stated it is not easy to grow, especially in the south, and in the vicinity of large towns where it suffers from atmospheric pollution. It appears to appreciate the climate of gardens of some elevation. Again this is a shade lover and likes a well-drained, but moist soil containing peat and leaf-mould.

Coming to a more common and readily grown fern, we have the common Polybody (*Polypodium vulgare*), which is a familiar sight in hedgebanks, tree stumps and rocks. There are number of beautiful

varieties, outstanding amongst which are *Polypodium vulgare* var. *cambricum* or Welsh Polypody, *Polypodium vulgare cornubiense*, and *Polypodium vulgare pulcherrimum*. These varieties are extremely beautiful. Personally, I am very fond of the latter, which is of easy cultivation. Another of extreme beauty and perhaps one of the finest of all hardy ferns is *Polypodium trichomanoides*, which is a sub-variety of *Polypodium vulgare cornubiense*. The fronds are most delicately and finely cut. To see this little fern growing from the base of a rock in the garden is a perfect delight ! There are also crested forms of the Common Polypody which are all worth growing. The fronds of Polypodiums arise from creeping rhizomes which in nature do not bury themselves but hug the ground. Consequently, when planting, care should be taken to plant very close to the surface, but making certain that the fibrous roots are properly embedded in soil. The soil containing leaf-mould or peat should be gritty and easily penetrated by the roots. Another good feature about the Polypodium is the fact that the fronds remain fresh and green throughout the winter and only die down when the new fronds have developed later in the following season.

The Hard Fern (*Blechnum spicant*) is another common native. As its name suggests, it is of extreme hardiness, having very tough fertile and barren fronds. In the wild it grows in acid or peaty soil and thoroughly dislikes lime in any shape or form. A northern aspect where it cannot suffer from drought or too much sun suits it well. Apart from its widespread distribution in Britain and circumpolar regions, it occurs in Western North America from Alaska to California.

An exceedingly pleasant little relative of the above is *Blechnum penna marina*, which used to be well known as *Lomaria alpina*. This has always been a favourite with rock gardeners as it is such a good dwarf, rarely exceeding six inches in height, and frequently less. The fertile fronds are slightly taller than the barren fronds which have neat dark green, rather leathery pinnae. This is not a British native, but hails from southern latitudes between Concepcion and Cape Horn on the west of South America and is common in the Falkland Islands where it no doubt grows in proximity to our old friend *Oxalis enneaphylla*. It also inhabits New Zealand, Tasmania and Tristan da Cunha.

Then there is the familiar Hart's-tongue (*Phyllitis scolopendrium*) which has produced a large number of varieties. The species itself is a good fern, but some of the varieties are perfect, especially when well grown. For example, the fronds may be frilled (*crispum*), crested

(*cristatum*) or broadly crested (*grandiceps*). The Hart's-tongue and some of its varieties may become rather tall for the average rock garden, but even then, when tucked amongst some larger rocks they fit in well with their surroundings and are not out of place. However, some of the broadly crested types are more or less dwarf in character and associate well with the average alpine plant. Sunshine will inhibit the growth and they remain dwarf, whereas if planted in complete shade with plenty of moisture, growth may be quite considerable. On the whole this fern and its varieties are of easy cultivation, but they do like a little lime.

There are of course many other fern species in cultivation such as the Male Fern, the Lady Fern, the Prickly Shield ferns and the Broad Buckler ferns, all with their beautiful varieties. These and many others are good garden plants but are mostly too large for the small rock garden.

Another interesting feature of fern culture is their propagation from spores, as we never know what interesting new variety may appear in addition to the varieties from which the spores are collected. Spore propagation is quite simple. The spores are collected when they become ripe, which may be from June or July onwards into the autumn. Ripeness is indicated by a deep brown or almost black colour in the majority of species. The sori which contain the sporangia from which the spores are dispersed can be seen on the back of the fronds. To collect the spores, take a frond or a piece of frond and lay it on white paper or put it into a white paper bag. Eventually, a dark coloured dust rather resembling snuff will be seen lying free on the paper or in the bag. This dust is composed mainly of spores. The sooner the spores are sown the better. It is quite a good plan to sow them in small pots containing a fine compost composed of loam, peat or leaf-mould and coarse or silver sand. All the components should be finely sieved. Most important of all is to sterilise the compost by pouring boiling water over it. This can also be done by immersing a paper bag full of the compost in boiling water. When the pots are filled with this sterilised mixture sow the spores very thinly on the surface and cover the pot with a piece of glass or attach a polythene bag by a rubber band over the top. The pot is then placed in a saucer of water and put in shade (never direct sunshine) in a greenhouse or frame where it must on no account be allowed to dry out. In time, green scale-like bodies rather resembling liverwort will be seen on the soil surface. These are known as prothalli and it is

from the prothallus that the young fern is produced. When the young ferns reach a reasonable size for handling, they should be transplanted or thinned out.

For those who may become infected with the germ of fern culture, I might say that there is a flourishing Fern Society in Britain, known as the British Pteridological Society, which publishes a journal, *The British Fern Gazette*, and which can be helpful to beginners. The Secretary is Mr. J. W. Dyce, 46 Sedley Rise, Loughton, Essex, from whom further information can be obtained.

It may also be asked where ferns can be obtained. Nowadays, nurseries which specialise in ferns are few and far between, but on reference to the *Gardeners Chronicle*, their recommended list contains two nurseries : Reginald Kaye, Ltd., Silverdale, Carnforth, Lancashire, and Taylor's Nursery, Bracknell, Berks. Both of these nurseries are well known as specialising in ferns.

Finally, with regard to fern nomenclature, botanists appear to be more active in this sphere than they are even in the case of alpine flowering plants. There has been a continual changing of names and many of the old familiar generic and specific names have, alas, disappeared. However, we always have the common English names which the botanist cannot take from us. It is perhaps well to remember what that great American philosopher and naturalist, Thoreau, once wrote : "If you would make acquaintance with ferns, you must forget your botany."

Editor's Note.—For reasons which must be obvious to all thoughtful readers, the author has deliberately refrained from mention of some of our rare native species.

Good Plants from the Badlands

FROM A CORRESPONDENT

TO THE EAST of the whole length of the Rocky Mountains are the plains and prairies ; the lands of the cowboys and Indians and of a great many lovely plants. Some of these are from the level plains and pastures, but the best are from the rocky valleys formed by streams and natural faults.

Towards the southern end of this range the summers are hot and dry and the winters dry and cold, so that the plants from these parts

are hardy to quite hard frosts providing the site is open and the soil very well drained. Most of the plants prefer a lean soil with little humus and the smaller tufty sorts are at home on a scree.

Penstemons are, of course, typical plants of this area. Often in gardens they are a disappointment, being short-lived and going out in a blaze of scarlet (as with *P. torreyii* and *P. eatonii*), or of blue as brilliant as any Gentian, and *Penstemons aridus*, *angustifolius* and *nitidus* will serve as outstanding examples. For the scree there are two beauties : *P. caespitosus* with tiny ovate silvery leaves and a tufted habit, and *P. crandallii* (with *P. taosensis*, its grey-leaved form) with needle leaves. Both grow no more than an inch or so tall and have lavender-blue flowers.

Evening Primroses are among the showiest of plants of these regions. The strong-growing *Oe. macrocarpa* (*Oe. missouriensis*) has long been a border plant with us, but its smaller version, *Oe. oklahomensis* is a grand plant for walls and sunny places, with half the spread of its big brother, narrower leaves and yellow flowers that open from red-spotted buds. The best of this group is undoubtedly *Oe. fremontii*. It is the neatest grower and the flowers that shine out from the silver leaves are of that shade of lemon yellow that blends with everything. All flower unceasingly through the summer until cut back by autumn frosts.

The Evening Primroses need not be yellow : there are pink ones, but they are mainly short-lived, and white ones with flowers four inches across that are definitely tricky in British gardens. *Oe. caespitosa* is of this type and on a hot sunny bank in a sort of sandy clay soil it will make a glorious display—and die. Its cousin, *Oe. macroglottis*, has even larger flowers with a strong sweet fragrance and a running habit which makes it more permanent—if a suitable site can be found.

Asters and Erigerons abound in the prairies, but are no improvement on those in cultivation ; there are some delightful miniature sunflowers that we used to call Actinella, Actinea and Rydbergia, but now seem to be lumped together under the less easy name of Hymenoxys. These, and the newly introduced *Sideranthus spinulosus*, are all lovers of sun and dry gravelly banks and screes, and even if not long-lived do, in their short lives, give a profuse display of golden daisies. Also for screes, but away from the brightest sunshine, are some of the most beautiful cushion Phlox, all with needle leaves and light blue or white flowers. *P. hoodii* is the classic example of the group, which

includes *P. andicola, P. alyssifolia, P. scleranthifolia* and *P. condensata* —all of them desirable.

Amongst the smaller genera are such beauties as the Sand Lily (*Leococrinum montanum*) with its white "asphodels" early in March—quite hardy but very slow to increase and seed never seems to germinate. Much easier to grow are *Lewisia rediviva* and the Dodecatheons. All three die down in early summer and should have a fairly moist soil even when dormant. Two Clematis, of vastly different needs, have given much pleasure in a few gardens in recent years ; *Clematis* (*Atragene*) *tenuiloba* is a shallow-rooted woodlander needing conditions akin to those of our native Wood Anemone. Its height is about 10 ins. and every stem terminates in a glorious blue Anemone-like flower and is followed by silvery plumes of seedheads. The other is *Clematis* (*Viorna*) *scottii rosea.* This time a sun lover needing a deep root-run in rich loam. Like many sun lovers it has silvery-grey leaves, but it needs a year or two to get well established before producing its dusky rose-pink flowers. *Clematis fremontii* also occurs and is dwarf and quaint with nodding bells of white with a lilac stripe. All die down in late summer to reappear the following March.

Some tough Cacti grow in the drier parts of the high plains and Badlands. They are very hardy in dry frosty winters that follow dry sunny autumns which shrivel the flesh and so concentrate the sap. These conditions rarely occur in Britain and in any case they can't be regarded as plants for the Alpine enthusiast.

False Pretences

HE CAME in rather diffidently ; a little man in a cloth cap and a suit that appeared to be slightly too large for him. His one concession to sartorial elegance was a vivid pullover in the colours of a famous football club, worn, somewhat incongruously, with a black tie. He carefully wiped his feet, paid his shilling, and went into the Show.

Through the open door I watched him. He stood for a little looking round, made for a rather colourful Trade stand, gazed at it for a minute, shook his head, and went on to another. After that I lost sight of him, but in ten minutes he reappeared and made slowly for the exit. I felt that something ought to be done, so I called him. "Well, have you seen anything to interest you ?"

"No, Mister," he said. "Ye see, the wife's auld auntie deed yisterday and the funeral's the morn. So, whin Ah saw the notice sayin' Flooer Show, Ah thocht Ah micht get somethin' here for the auld buddy. But there's no' a thing here that wid dae fur a coarp."

I gave him back his shilling. I felt it was only right.

What's in a Name ?

By A. C. SMALL

I SHOULD say at the start that I am no Latin scholar, but just an ordinary gardener who likes to know the names of the plants he grows. We all have friends who ask us the name of some attractive plant and complain that we don't give a simple English name. Some, even of our own members, may feel like that at times, and even in our *Journal* remarks appear showing that some people are not altogether happy with plant names, though they might be surprised to discover how many botanical names they commonly use.

Well then ! Why botanical names ? And, of course, the answer is because they are the only names by which we can be reasonably certain of identifying plants, and surely we want to do that, so that we can order which plants we want and also profit by the experience of others in giving them the correct treatment. It is not enough, for example, to know that a plant is a gentian, we must know if it is an European or an Asian species.

Alpine or rock plants are collected from all over the world ; they are distributed to every place where rock plants are grown and Latin is the universal language in botany. Local names are simply no use where plants are brought from abroad, and even in the case of British plants the situation is very difficult because plants have different names according to the locality, e.g. the common whin is also known as furze and again as gorse. Other plants have many local names quite unknown in other districts. What I call Dusty Miller is *Primula auricula*, but to some folks D.M. is *Artemisia stelleriana*, while by others A.S. is called Old Woman. Very confusing !

Common English names appear to have been given in the past with regard to their herbal properties, i.e. their usefulness to man rather than their appearance. Such names have little significance for gardeners today, and many to my mind are ugly, e.g. fleabane for *Erigeron* and sowbread for *Cyclamen*. Later I hope to say more about this.

The custom of giving Latin and sometimes Greek names began in the Middle Ages when all learned books were written in Latin as the universal language of the scholars and the names were often of Classical gods, goddesses, heroes and so on, two examples being *Andromeda* and *Daphne*. To these were added descriptive phrases or sentences, the whole being cumbersome and difficult to remember.

About the end of the 16th century, Caspar Bauhan of Basel, now in Switzerland, invented the binomial or two-word system for plant names. Then in the 18th century Karl Linne or Carolus Linnaeus, as he is better known, a Swedish botanist, by enormous labour perfected the binomial, or as it came to be called, the Linnaean system, in which all living things, plants and animals, were classified according to a code based on comparison of their reproductive systems. The words consist of first, the Genus (plural Genera) like our surnames, and second, the Species, like our Christian or nick names. A man's name may be John Smith, but in an official register it would appear as Smith, John. Thus *Andromeda polifolia* is the genus *Andromeda*, species *polifolia*, i.e. the Andromeda with polished leaves, (beware of confusing the Latin *poli* (polished) with the Greek *poly*, which means many) and *Daphne rupestris* is the rock-loving Daphne.

Some generic names are descriptive, although the descriptive part of the name is more frequently that of the species. However, *Saxifraga* is the rock-breaker because it often is seen growing in crevices, *Calceolaria* because the flower resembles a shoe, and *Soldanella* because its leaves are like small coins, I suppose the same coins whose initial is so familiar in the middle of L.S.D.

Other names are given to commemorate some person connected in some way with the discovery or introduction of the plant. Thus *Incarvillea* is named after the Jesuit missionary who discovered the plant and *Linnaea* after the great Linnaeus since this little plant was a favourite of his, while *Aubrieta* was named after Charles Aubriet, an artist who accompanied De Tournefort, a notable systematic botanist, to the Near East at the end of the 17th century.

Compared with the number of genera found in our gardens, the number of species is manifold. Few of us but have at least several species of, say, saxifraga, sedum, campanula, dianthus, and many more. In trying to find a way through the apparent maze of names we may find it helpful if we notice that certain specific names or parts of names are common to many genera. Think of the number of Jameses, Johns, and Margarets and Marys there are, combined with different surnames, and even more, think of the big Johns, wee Bettys, fat Bobs and skinny Lizzies.

I find it helpful to group the specific names, taking first some commemorative ones. These can be recognised by the suffixes -ii or ianus if the name of the genus is of the masculine gender. If the Genus is feminine the suffix becomes -iana and if it is neuter it should be -ianum.

Plants are received from many different sources, missionaries, travellers and highly skilled and equipped professional plant hunters, whole expeditions are financed by scientific societies or syndicates of people willing to subscribe the necessary funds, in return for which they share the seeds and plants sent back. Nowadays the fast plane is making it possible to send successfully more growing plants than in the past.

I should like to tell you a little about a few of the people whose names are given to some favourite plants, a few genera and rather more species. The earliest name I have discovered is Gentius, King of Illyria from 180 to 167 B.C. (Illyria, by the way, was on the east coast of the Adriatic, i.e. roughly where Albania is today). Gentius, whose name is recalled in *Gentiana*, was supposed to have been the first to discover the medical uses of this plant, although actually it was known to the Egyptians about 1000 years earlier. Next we jump to the 16th century Netherlands, where at Leyden Professor Clusius founded the bulb industry. Some of his plants he obtained from Sir Francis Drake. He is now remembered by *Gentiana* and *soldanella* sp. *clusii*. Another 16th century Netherlander was de l'Obel, whose name has been given to *Lobelia*. Pass on now 200 years and we come to Sir Joseph Banks, who accompanied Captain Cook to New Zealand and Australia. So many plants were brought to the beach off which their ships lay that it was called Botany Bay. The genus *Banksia* is named after him.

About the end of the 18th century was the time when the demand for plants began in earnest. The internecine wars were over and large estates were laid out with gardens where skilled gardeners were in charge. Professor Nuttall of Lancashire, and David Douglas, a Scot, were both in western America (*Anemone nuttalliana* and the genus *Douglasia* speak of them). Later, Douglas went to the South Seas and died tragically in the Sandwich Island, gored by a wild bull in a pit trap into which both had fallen. Then there were the two Hookers, father and son, successively directors of Kew. Sir William was Professor of Botany at Glasgow University for 20 years and regularly walked the 22 miles from Helensburgh each Sunday to be ready for his 8 a.m. class on Mondays. His son, Sir Joseph, went to Glasgow High School and University. He travelled in the South polar regions and later in the Himalayas, where the rhododendrons seemed to have a special attraction for him. The genera *Aconitum* and *Cortea* have species named *hookerii*. A companion to Sir Joseph in the Himalayas was Dr. Thomas Thomson, superintendent of Calcutta Botanical Garden, whose name is given to *Rhodo. thomsonii*.

Attention was now focussed on China, where one of the pioneers was Robert Fortune, remembered by *Saxifraga fortunii*. He collected for the Royal Horticultural Society and introduced the tea plant to India. I have already mentioned d'Incarville and should now speak of another French missionary, the Abbe Delavay, who is associated with d'Incarville in *Incarvillea Delavayi* from west China. In the Middle East George Maw, a London druggist, was at work and published a monograph on the crocus and is commemorated by *Chrysanthemum Mawii*.

J. H. Veitch, a nurseryman, spent some time in Japan and also sent out other collectors. *Primula* and *Ampelopsis* both have species called *veitchii*. Among those he sent was E. H. Wilson. There was also another Wilson, George F., who founded the R.H.S. Gardens at Wisley ; he also first introduced the blue primrose. The hybrid *Campanula* "G. F. Wilson" honours his name. At home an Irishman, W. Robinson, was leading the movement away from formal bedding, in gardens which he likened to wallpapers. He encouraged the wild or woodland garden and also pioneered the rock garden. Although partly paralysed in 1910, he lived on for another 25 years and was planning a new orchard at the age of 95 ! His name is recalled by *Anemone robinsoniana*.

Reginald Farrer is probably the best known of all plant hunters, partly as a result of his writings, including his 2 volume "English Rock Garden." Whether you agree with his prejudices or not, you cannot ignore him. He was an assiduous and widely travelled collector in the European Alps, Japan and the Himayalas. Besides collecting he carried on a nursery business at Ingleston in Yorkshire, where he propagated and distributed his plants. He included in his outfit a complete set of the works of Jane Austen, and also a mincing machine, as he had a cleft palate and could not chew properly. He died a lonely death after a soaking in the continuous rains of Upper Burma.

Another mighty man of this period was George Forrest, who is commemorated by this Club in the Forrest Medal awarded for the most meritorious plant or pan of rock plants at each Show. He is thought by some to have been the greatest collector of them all. He had many adventures, on one occasion nearly losing his life at the hands of Chinese bandits who were after his baggage. That kind of experience was not uncommon amongst plant collectors who, at great risk and extreme discomfort, have brought us some of our greatest treasures. We should be extremely grateful when we look round our gardens. Think of him when you look at *Aster*, *Iris* or *Pieris forrestii*.

In more recent times Frank Kingdon Ward and his wife have carried on the work. The well-known *Primula wardii* is named after him, while *Primula florindae* was named in honour of his wife, who accompanied him on some of his trips.

To bring us up to date I now mention Major George Sherriff, who many of us have met and have enjoyed his hospitality in his lovely garden at Kirriemuir. His travels have taken him to the Himalayas and *Meconopsis sherriffii* is named in his honour. His partner, Ludlow, also is remembered in *Rhodo. ludlowii.*

One name which I have not seen commemorated is that of George Don, who in the late 18th century tramped all over the Scottish Highlands in search of plants and made very many discoveries ; he was the first to discover the wealth of plants in Glen Cova and Ben Lawers, that now famous area, and in his garden at Forfar he had an amazing collection of plants. If any of our experts should have the opportunity to name a new species or even a hybrid, I should like to suggest that the name of George Don is worthy of the honour, belated though it may be.

The next group of plant names I wish to mention is that indicating the place or origin. These can be most easily recognised when the name ends in -ensis, e.g. Canadensis (Canada)

Chinensis or Sinensis (China).

There is even an *Anemone laramiensis.*

Other suffixes with similar meanings are -icus and its feminine and neuter forms -ica and -icum, e.g. *Dianthus basuticus*, the dianthus from Basutoland ; *Primula scotica*, the Primula from Scotland ; and *Geranium dalmaticum*, the geranium from Dalmatia. If you are in doubt as to which is which gender, think of Julius Caesar (masculine), then of the girl's name Julia (feminine) and of course -icum must be neuter.

The list includes species described by their origin as types of situation arranged from sea level upwards. Most of these names should cause no difficulty, as they closely resemble their English counterparts. Another useful grouping is by habit and appearance, and here it would be useful to define a few botanical terms, again working upwards, this time starting from below ground level, i.e. at the roots.

The examples I have chosen are, first *Euonymus radicans* where the specific name warns us that this is one of those plants that spreads insidiously by underground runners.

And now for the stalks, a petiole is simply a leaf stalk, whilst a scape is a flower stalk directly from the root as in *Primula scapigera.*

But some flower stalks support several flowers and when the individual flowers are without stalks the main stalk is called a pedicel, but when the individual flowers also have stalks the main stem is a peduncle. Now if you take a look at some flower stems you may see some small leaf-like growths behind the flowers ; these are called bracts and when they grow in a cluster the group is called an involucre. The simplest is the Spike with flowers growing directly off the stem as in the case of lavender. Next we have the raceme where the single flowers have separate foot stalks, as is the case of the foxglove. Slightly more complex is the panicle typified by the common bramble. Here the foot stalks from the main stem sub-divide into little clusters. Then if we imagine a head of meadow sweet, carefully stripped of its florets, you will see that the main stem branches out in several directions, each sub-branch giving rise to further sub-divisions, the whole forming a cyme. Two more groups I wish to describe, the first being the umbel, which as you may guess has a bunch of stems that grow away from the main stem like the spokes of an umbrella, but terminating as a flat cluster, rather more like a Japanese sunshade.

Some of these terms appear regularly in this journal, especially petiole in connection with the group of primulas called the petiolarids. As you know, the leaves of most primulas grow straight out of the root without a stalk, but these are the exception. Scape and bract are other terms which appear regularly and we should get familiar with them so that the *Journal* becomes intelligible to us.

Many rock plants are of creeping habit, so it is not surprising that there is a veriety of specific names with that meaning :

e.g.	procumbens	prostratus
	repens	reptans

Many descriptions are concerned with down or hair, ranging from pilosus and tomentosus, meaning downy, through lanatus and lanuginosus for woolly to villosus, meaning shaggy.

We should expect some names referring to beauty, e.g.

amoenus	lovely	ornatus	decorative
bellus	beautiful	speciosus	showy
pulchellus	little and beautiful		

Some words relating to smell are pretty obvious, e.g. foetidus is stinking, fragrans and odoratus are scented, while inodorus is scentless, but less obvious are suaveolens, sweet smelling, and graveolens, strong smelling.

Colour provides an obvious group of species which I have listed roughly from pale to dark shades. Some are easy to recognise, but I

might draw attention to a few particular cases, e.g. aureus means golden but aurantiacus means orange. Nivea means snowy and pullus is dark purple.

And now I come to size and shape and in dealing with rock plants it is not surprising that many plants are described as small by a variety of words and prefixes, the latter generally describing parts of the plants. To convey similar meanings both Latin and Greek are used, remembering that for leaves we have the Latin folia and the Greek phylla, while for flowers we have Latin flora and Greek Antha. To these are joined various prefixes :

Latin minuti and Greek micro mean small

Latin grandi and Greek macro mean large

Thus multiflora (L) and polyantha (G) are many-flowered.

Various other prefixes will be found in the list.

Complete words with similar meanings refer to the whole plant, e.g.

minus and pusillus both mean small

minutissimus very small

nanus dwarf Minimus smallest

Remember when seeing names relating to size that new species and varieties are constantly being found and that what may have been named the smallest may seem no longer entitled to that name if a new and smaller plant has been found.

Another way of describing a plant is by finding a resemblance to another and these names can generally be recognised by the suffixes -eoides or -opsis an example of the first being *Sempervivum arachnoideum*, i.e. the cobwebbed semp., and of the second, *Meconopsis*, i.e. like a poppy.

One final short group I should like to talk about concerns the season of blooming—vernalis for spring, aestivalis for summer, autumnalis for autumn and hyemalis for winter, respectively.

If there is now room to spare I may be allowed to digress briefly and speak of herbal classification.

Naturally in preparing a paper like this I had to do a lot of reading and came across some very curious and interesting matter which, while not covered by the title of this paper, may provide some light relief.

One of the earliest methods of description was by medicinal effect, say purging, venomous, biting, hurtful, heating, cooling, or sleep inducing effect and so on. What to us would seem the most unlikely plants were eaten, leaves and roots in salads raw and cooked. For instance, young leaves of violets were fried and eaten with orange or lemon juice and sugar, perhaps a recipe the ladies might like to try.

Vinca, or periwinkle, had a variety of uses ; the leaves were eaten as a cure for nose bleeding and also for toothache. While if a man and his wife ate the leaves together their love would increase (that's one for the marriage council). And as a cure for cramp the flexible stems were tied round the legs. To keep off fleas, mint or artemisia were hung up in bunches and the latter would also keep off goblins and lightning. This versatile plant shared with parsley the property of curing baldness if applied to the head. Perhaps some of our bald-headed men would like to try a garnishing of parsley. Here I may add that "Welsh Parsley" is the gallows, well-known as a cure for all ills.

"For ye gnawing in ye belly and ye wambling in ye stomick" you should eat origanum (marjoram), while the bite of a mad dog could be cured by eating alyssum. For anaemia or epilepsy, *Caltha palustris* (marsh marigold) provided the remedy, but the same flower taken into the room of a young girl could cause madness. Balm was said to improve the minds of students but on the other hand to sniff basil would cause a scorpion to grow on the brain. For the ladies, rouge made from the roots of *Anchusa tinctoria* was said to last for days without rubbing off. But apparently such aids to beauty were not always approved and Old Thomas Lupton's test reads "If any that hath eaten garlick breathes on the face of a woman that is painted, the colour will vanish completely away." And no wonder, say I, painted or not.

Finally, I spoke earlier of the work of Linnaeus and his successors in bringing order out of the chaos of plant classification in his time. With constant additions to the number of known species it is necessary to take steps to prevent confusion from arising again, and for this purpose an International Botanical Congress was called to meet in Paris in 1867. A code of rules was adopted and in 1905 at a meeting in Vienna a revised code was approved and from time to time amendments are made. The Congress does not give names, but may approve and recommend names already given, while botanists who give the names are expected to follow the International Rules, though there is no law to compel adherence.

There is a small permanent International Committee who can be appealed to, to interpret the rules, and which also considers proposed amendments which may be recommended. The Congress meets every five years (the last meeting being in Canada in 1959), and botanists are advised (and here I quote) "not to take names from barbarous languages unless these names are frequently cited in books of travel

and have an agreeable form that is readily adaptable to the Latin tongue and to the tongues of civilised countries'' (what about the gentiana named after the Russian general Przewalskyi), also campanulas *Portenschlagiana* and *Poscharskyana* ?).*

Recommendation XLIII reads ''Specific (or other) epithets should be written with a small initial letter except those which are derived from names of persons, or are taken from general or vernacular names.'' I am afraid the rule about capital letters is followed as much in the breach as in the observance, books and catalogues follow the American example. I regret to note that the Club *Journal* has now adopted this method.

One of the principles on which names are decided is that the oldest known name which can definitely be attached to a particular plant is adopted. Consequently, when somebody discovers an older name which can be established, the name is changed. This is a great nuisance for those of us who have been accustomed to the previously accepted one. Books and catalogues become out of date, though many nurserymen continue to use the names which their customers know. A rather extreme case is that of the English Bluebell, at one time placed in the genus *Hyacinth.* It was said to bear the Greek word Alas. But the Bluebell has no scribbles on it, so it was called *Hy. non-scriptus.* At various times it has been called *H. anglicans, Scilla nutans, S. festalis,* and has now been transferred to the genus *Endymion* sp. *non-scriptus.* In passing I presume you have all heard of the cat's pyjamas—well, if you were Welsh you might know this flower as the ''cuckoo's boots.''

In conclusion, I hope that I have managed to pass on to you some of the interest which I found in these names. However, if I have not convinced you of the desirability of troubling to learn to give the proper names to your own plants, I can only add that if sports fans (some of no great intelligence) can memorize the names of players who won championships back to the year dot, and if most ladies can learn to use many specialised terms for their handicrafts, there seems to me no good reason why rock gardeners should not learn the language of their hobby.

When we come across a name we don't know we should usually be able to find its meaning in the glossary included in most gardening encyclopedias. You don't need to swallow the dictionary, all you need is to know your plants, starting with the correct genus. When you are sure of that, go on to learn the species.

*The next meeting of the International Botanical Congress is due to be held this year in Edinburgh from 3rd to 12th August.

As for pronunciation, your glossary might indicate the position of the accent, but failing that, just be like Winston and have a go. There are fashions in this as in other things, and I can offer you no certain rule. We who have heard the experts talk to us at our meetings must have noticed the variety of pronunciations spoken by them. Horticultural Latin does not follow the rules of the classroom, e.g. the Latin "c" in gardening talk is soft in a word like *ciliaris*. My advice is, give the words a rhythmic flow and when it is a compound of two polysyllabic parts, if you accent each part separately at least you should be intelligible and what more can you ask, e.g. poli-folia and macro-phylla.

The "ii" of commemorative names gets various sounds. From school days it was "i-ee"; gardeners commonly say "eye"; others say "i-eye".

The main thing is to get to know the names of your own plants and their meanings and then use them with the confidence of knowledge.

Commemorative	Gentiana	Gentius, King of Illyria, 180-167 B.C.
Names	Lobelia	de l'Obel, Netherlands, 16th Century
Genera	Incarvillea	d'Incarville, Jesuit priest, China
	Menziesia	Archibald Menzies, surgeon botanist, California
	Hutchinsia	Miss Hutchinson, Irish Lady
	Aubrieta	Charles Aubriet, artist, collector, Near East
	Shortia	Charles Short, botanist, Kentucky
Species	Farrerii	Reginald Farrer, English collector, Far East
	Forrestii	George Forrest, Scottish collector, do.
	Freyniana	Joseph Freyne, botanist, Prague
	Hookerii	Sir William Hooker, Professor, Glasgow, Director of Kew Gardens
		Sir Joseph Hooker, son of above do.
	Lawsoniana	Peter Lawson, nurseryman, Edinburgh
	Scoulerii	Dr. John Scouler, Glasgow, Professor Dublin University
	Sherriffii	Major George Sherriff, Scots collector, Tibet
	Wardii	Frank K. Ward, English collector, Burma
	Willmottianum	Miss Ellen Willmott, amateur gardener, Wisley
	Wilsonii	Ernest H. Wilson, English collector, China
	Wilsonii	George Wilson, founder Wisley Gardens

Descriptive	Aster & Astrantia		Starry	
Names	Aethionema		burnt (stamens)	
Genera	Calceolaria		shoe (flower)	
	Pentstemon		five stamens	
	Phlox		flame colour	
	Saponaria		soap (use)	
	Saxifraga		rock splitter	
	Soldanella		small coin (leaf)	
	Sisyrinchium		swine's snout (sought by)	
Descriptive	Procumbens, prostratus	}	creeping	
Names	Repens, reptans	}		
Species	Pilosus	velvety,	tomentosus	downy
	Lanatus & lanuginosus		woolly	
hair	Pubescens	slightly hairy		
	Ciliaris	fringed with fine hair		
	Hirsutus	hairy,	villosus	shaggy
Beauty	Amoenus	lovely,	bellus	beautiful
	Pulchellus	little and beautiful		
	Ornatus	decorative,	speciosus	showy
smell	Foetidus	stinking		
	Fragrans & Odoratus		scented	
	Inodorus	scentless		
	Suaveolens	sweet smelling		
	Graveolens	strong smelling		
colour	Albus	white,	niveus	snowy
	Argenteus	silvery		
	Luteus & Flavus	yellow		
	Chrysanthus & Aureus	golden		
	Aurantiacus	orange,	carneus	flesh colour
	Roseus	pink,	coccineus	carmine
	Rubrus	red,	cinereus	ash grey
	Glaucus	blue/green		
	Azureus & Coeruleus	sky blue		
	Cyananthus	blue flowered,	purpureus	purple
	Violaceus	violet,	pullus	dark purple
	Niger	black,	viridis	green
	Versicolor & Mutabilis	changing colour		
	Meleagris	spotted		
Species	Folia (Latin)	Phylla (Greek)	leaves	
Parts	Flora ,,	Antha ,,	flowers	
of	Prefixes	Uni-		single
Plants		Multi (L)	poly (G)	many
		Minuti (L)	micro (G)	small
		Grandi (L)	macro (G)	large
	Angusti narrow,	Obtusi blunt,	Cordi heart shape	
Size	Minus & Pusillus	small		
	Nanus	dwarf		
	Minutissimus	very small,	Minimum smallest	

Resemblance	Suffixes -oides & -opsis			
	sempervivoides = like sempervivum, meconopsis = like poppy			
Season of Bloom	Vernalis	Spring,	aestivalis	Summer
	Autumnalis	Autumn,	hyemalis	Winter
Origin	Suffixes -ensis, -icus, -ica, -icum			
	Chinensis or Sinensis		from China	
	Ibericum		from Spain	
Situation	Arenaria		sandy	
Genera	Azalea		dry	
	Ranunculus (frog)		marshy	
Species	Maritima		seashore	
	Sylvestris		woodland	
	Rivularis		riverside	
	Collina		foothills	
	Montana		mountains	
	Alpinus & Alpestris		alpine	
	Petraea & Saxatile		rocks	
	Glacialis		ice	
Miscellaneous Genera	Calluna	cleanses (used as a broom)		
	Cytisus	from Cythros, Aegean Island		
	Dianthus	god-like flower		
	Dryas	dryad or wood nymph		
	Erinus	early		
	Helianthemum	sun rose		
	Lychnis	lamp flower		
	Oxalis	sharp or acid (taste)		
Species	Acaulis	stemless,	caespitosus	tufty
	Fruticosus	shrubby,	glaber	smooth
	Horridus	spiny,	marginata	edged
	Nitidus	shining,	octopetala	8-petalled
	Sarcocaulis	thick skinned,	scaber	rough
	Strictus	stiff,	viscosus	sticky

An Alpine House in Scotland

By H. ESSLEMONT

I HAVEN'T got a greenhouse ;
I don't see why I should.
I can't afford a greenhouse ;
I wouldn't if I could.
Why people build a greenhouse
I've never understood.

Reginald Arkell

FEW WILL dispute that the ideal setting for alpines is a well designed natural rock garden. Our Scottish climate is favourable to growing many plants, but there is a wide range of interesting material from all parts of the world that cannot endure our wet winters. Many of these plants are hardy and require only the overhead protection of an alpine house or frame to give of their best.

The following is the method arrived at by one grower after some years of experiment to cultivate a comprehensive collection of alpines. The all-timber Alpine House illustrated, 18 ft. long × 10 ft. wide, is built on brick foundation walls 2 ft. 9 ins. high with glass sides 1 ft. 9 ins. high above, making it approximately 4 ft. 6 ins. at the eaves, rising to approximately 7 ft. 6 ins. high at the ridge. The door opens inwards to allow a wire mesh "anti-bird" metal door to be hung to the same posts to open outwards. There are eight ventilators on the roof, i.e. four on each side of the ridge, each to open with an adjustable straight stay. This enables individual ventilators to be closed in wet weather above plants that object to overhead moisture. Continuous ventilators on each side of the Alpine House are actuated by a single screw gear and they are continually open except in frosty or foggy weather. When the roof and side ventilators are open, the buoyancy of the atmosphere is quite noticeable (see fig. 12).

A special feature of the house is the 2 ft. 9 in. staging, which consists of a bed of sharp sand twelve inches deep. In this all the pots are plunged. This staging has brick sides and a base of keyed concrete slabs supported by reinforced concrete beams. All alpines appreciate a cool root run and plunging not only provides this but has the advantage of reducing considerably the amount of watering required. An experiment of growing plants plunged in a box of moist sand with a control on an open staging will quickly demonstrate the advantages of the former method.

Eaves gutters are fitted along both sides and across the plain end of the house leading to one outlet with a downpipe. The glass on the roof is cut elliptically on both top and bottom edges so as to draw the water down the centre of the panes away from the sash bar. The chain lath blinds roll on metal runners six to nine inches above the roof glass. In addition to providing essential shade in summer, these blinds will help to keep out up to 8 degrees of frost in winter.

The house has no heating of any kind. Last winter was a very severe one, yet the plunged alpines never looked better. Continuous cold suits them : it is alternating periods of heat and cold they find difficult to tolerate. If I were able to regulate the temperature of my house, I would like to experiment by keeping it at around freezing point during the months of November, December and January. The few interesting "border line hardy" plants which are grown are transferred in winter to a small electrically controlled frost-free house of a friend, which he maintains in addition to his cold alpine house, where his plunged plants experience up to 25 degrees of frost.

Pit frames with lift-off lights are built along the west side of the house. In summer these lights are replaced by wire mesh grilles as a protection from birds and roll-on blinds similar to those on the roof are used for shading (fig. 13). One frame remains unshaded all summer and this houses bulbs and irises from the East which require a good summer baking if they are to give of their best. Those who have visited the arid hillsides of Greece or Persia in summer will have an idea of the thorough ripening these plants receive in their native habitats.

A further run of frames is situated along a north wall. This contains plants which appreciate partial shade. One section of this frame has a permanent slatted light with timber slats about $\frac{7}{8}$ in. wide and spaced $\frac{3}{8}$ in. apart running from back to front. Here one finds the shortias and schizocodons and other plants which like deep shade, with *orphanidesia gaultheriodes* tucked away in the darkest corner.

In a future article some of the plants that are grown in this alpine house and frames will be discussed.

Something Attempted - Something Done!

By J. G. COLLEE

THE SUCCESSFUL attainment of a difficult task is something which appeals to all of us. Especially is this the case amongst gardeners, who, when they have a particularly difficult plant to rear feel an immense degree of pride and satisfaction when they can produce a really good specimen. This is not egoism, but can be described as pride in completing something which presented a real problem. Fortunately for them, the results, be they good or bad, can be seen and talked about with their gardening friends. Rock gardening, more than any other sphere of horticulture, presents millions of problems and the biggest problem of all is to grow certain plants which grow well in their natural habitat as well in our gardens or alpine houses.

The Gentians as a whole can be called "kittle-cattle," doing well in this patch of ground and not at all in a neighbouring garden, or even in another bed. There are many plants which are the delight of the connoiseur simply because they demand that little extra attention, that little extra care, to make them into specimens which will enhance the show bench or even be the pride of the old member who lovingly carresses a plant when she brings it along to one of the local meetings.

We have all come across the plant which to us has been difficult in the extreme, and we recollect with what pride we handled this plant when, after years of patient endeavour, we have finally managed to grow a really good specimen. When we succeed our cup of happiness is filled to overflowing ; if we fail it is yet another challenge which we hope will bear fruit at the next attempt.

Two Lithospermums, tried for years, outshone themselves during the late cold season. *L. oleaefolium*, not an easy plant at any time, flowered abundantly, its opalescent violet flowers being admired by all who saw it. Perhaps the top dressing of peat early on in the season made all the difference to the healthy growth of this plant, and yet its native habitat is on the cliffs of the Pyrenees ! Its counterpart, *L. prostratum* 'Heavenly Blue.' was literally a sheet of magnificent blue when it flowered, but now, at the time of writing this article, it appears to have completely died. Fortunately a few seedlings have appeared around the site of the plant and it is hoped that they will emulate the parent. This plant was grown in deep peat on an exposed position in the rockery. Perhaps it could have done with a little protection from the elements after it flowered so profusely.

The Lewisia family as a whole present a challenge in the north even though they are classed as a race of hardy plants. We do not often see them on the show bench, but possibly this is because they are so extremely difficult to transport from place to place when they are in abundant bloom. *L. tweedyi* is without the shadow of a doubt the most beautiful of this race of lovely plants. The flowers, growing in abundance on stems 3-4 inches long, are almost like tea-roses and are of a beautiful apricot colour striped with rose veins. They are reputed to be difficult to grow from seed, but if the seed is newly harvested no such difficulty presents itself. The plant must be kept moist without any dampness lying on the leaves or the crown of the plant. Keep it dry in winter.

The Campanulas as a whole can be termed easy plants to grow, but anyone who is fortunate enough to obtain a plant of *C. piperi* will have different thoughts about this statement. This is a little North American plant which has leaves not unlike small Holly leaves and has flowers of striking blue with a touch of violet. The flowers are large and starry and have an almost opalescent sheen like some of the Delphiniums. The plant is rather uncommon in nature and is found on almost solid granite rocks. To remove it from its almost soilless habitat is difficult in the extreme. It is an ideal subject for the alpine house, where it should be planted in a well-drained lime-free gritty mixture and should not at any time be over-watered. It does best, like so many alpines, when left severely alone !

Primula nutans has often graced the show bench and many a time a really good specimen must have been the envy of all who saw it. It is not by any means an easy plant to grow and it is usually maintained with considerable difficulty. It is a perennial, but it is best treated as a monocarpic for it has the distressing habit of disappearing after flowering. Seed should therefore be harvested whenever possible and sowings should be made annually. Fortunately seed germinates readily when new, and the young plants give little trouble. Both flower and foliage are lovely to look at and a good specimen is really worthy of commendation to the grower. It is difficult to advise the type of soil in which it should be grown, as it will live or die in a variety of mediums. Perfect drainage is an absolute necessity as it will not tolerate the slightest stagnation at the roots. This too makes an ideal plant for the alpine house.

One plant which has always been of particular trouble to the writer is *Primula Allionii*. In the Maritime Alps specimens may exceed two feet in diameter, the plants being a massive blaze of colour, and yet,

even exhibition specimens rarely exceed a mere six inches. It forms hummocks, having closely packed rosettes of grey-green sticky foliage. The flowers are borne in late Spring and they vary greatly in colour. *P. allionii* is best grown in the alpine house and it should at all times have a sweet, well-drained mixture of loam, sand, leaf-mould and lime rubble. Great care must be taken in watering and the foliage and surroundings must be kept free from excess moisture. If you take these precautions you will go far in checking the unfortunate rot to which this primula is liable. It is when you try to cultivate large healthy specimens that this primula becomes a problem, as is the case with so many alpines.

Everybody loves the beautiful, and sometimes rare, miniature Rhododendrons and when these are really well-grown they immediately stamp the grower as an "expert" ! They seem rather expensive to buy, but when one realises that it takes several years to rear a saleable plant, it is not so surprising. Lime-free soil is absolutely essential and peat or leaf-mould are a necessity. The pots in which they are grown should not be too large as they make dense roots not unlike those of the Azaleas. The choice of varieties will no doubt be governed by colour, but the following should not be left out of a collection : *R.* 'Blue Bird,' an attractive mauve, *R. hanceanum* (if obtainable in dwarf form), a free-flowering pale yellow variety, much prized for its stately habit of growth, *R.* 'Humming Bird,' a lovely variety with large drooping crimson flowers, and *R.* 'Intrifast,' a cross between *R. intricatum* and *fastigiatum*, being one of the prettiest dwarf blues.

The lovely white Xmas Rose, *Helleborus niger*, has been planted in almost every position that the text books advise and not until it was planted on a stone hard rockery some years ago did it really come into its own. This year it was a glorious sight and its pure white flowers were admired by all who saw it. Now that it has established itself it certainly will not be moved, as the Hellebores resent change. These, then, are but a few of the plants which have given trouble and also pride and every gardener could give examples of a similar nature. Perhaps it is this challenge that keeps us all so interested and so happy even during the darkest days of the year !

Our Shows

By "SHOW SECRETARY"

MOST MEMBERS I think would agree that our Club Shows might well be regarded as being to a great extent the display windows of our Club's aims and activities. It is to them as well as to members' gardens that we go, or at least we should try to go, to see the results, the successes or part successes, of the efforts of members to cultivate in captivity those plants which have charmed us in the wild. As members of the Scottish Rock Garden Club we have decided to devote at least some part of our leisure time to the attainment by trial and error of the successful cultivation of these fascinating little plants.

Human nature being what it is, one can hardly expect to see complete failures on display at our Shows. Where we have failed in spite of effort with some plant or other we rather go quietly round the show-benches looking for examples of the plants which have given us difficulty and trying to find out by probing questions the recipes and methods of treatment of those who have succeeded where we have failed. This is or should be one of the main reasons for our Shows and their chief justification—an opportunity not only to admire but to learn, and to improve our own knowledge from the experiences of others. None of us, not even the most expert of our leading plantsmen, are so self-sufficient but that we can learn something from another's successes or failures.

If the above statements can be accepted as reasonably correct would the visitor looking in on the Club's activities as displayed in its shop window not expect to see, in the work of a lively and active Club of over three thousand members, an overwhelming array of all sorts of plants put on show by a large number of members ? Would he not expect to find some aiming at perfection in plants which are old favourites of long standing, while others vied in trying to reach equal success in the cultivation of less well-known plants whose special needs are still to be found out by most of us ? He would surely expect to see the names of scores of members, some beginners, others old hand, but all bent on the one aim of advancing their own knowledge and at the same time helping on the knowledge of their fellows.

How often does the visitor see this ? Very seldom, I am afraid ! He is much more likely to find the same few exhibitors' names appearing in class after class, one group of the more experienced in one section and another group not so very much more numerous in another section, while here and there some overlapping and intermingling

occurs. It is on the loyalty of this proportionately small number of our members, whether they are beginners or experienced old hands, that the success of the Shows, the very Shows themselves in fact, depends.

One hears all sorts of excuses for not exhibiting at Shows. It is too much bother to take plants, or the plants are not just right at the right time, and so on. But is it any easier for those who do exhibit ? To leave it to chance that a plant will be perfect at the right time is no way to produce one's best for exhibition. And those who exhibit often do so with much more difficulty than some who complain while living almost within a stone's throw of the Show hall. And of course in the *Year Book* members are told how they can forward plants for exhibition if it is impossible for them to take them personally ; they will be received and attended to by the Show Secretary and his Committee. Again, great thought has been given to the drafting of Show schedules so that the classes cover as wide a variety of plants as can be normally expected in condition at the time of the Show under consideration, so that no matter what type of rock plant a member may favour there is provision made for him or her in each Show schedule.

We none of us can tell how far the influence of a really attractive Show may travel. As well as interesting those who take part and those who come to look, news of items in it may find their way to others who have not been there themselves but who may become sufficiently interested to come to the Club and perhaps some day take part themselves in showing.

Most people must have at least some inkling of what a thankless and frustrating job is a Show Secretary's and that of his supporting Show Committee. Their greatest worry always is that of trying to ensure that the Show will be as great a success as their combined efforts can make it. If they were unexpectedly overwhelmed with an unprecedented abundance of entries, the extra work involved would be far outweighed by the pleasure and satisfaction resulting.

May every member who is not debarred by circumstance of the lack of a garden or disability to produce any show-worthy plant promise himself or herself to try to enter an exhibit at least to the Club Show most accessible. In this way they will share in providing interest and pleasure to their fellows, both those who are able to attend the Shows in person and those more distant members who in their isolation can only read the Show reports which appear in the Club *Journals*.

Praise for Plain Plants

PRAISE is given to the rare and difficult plant that survives a bad winter, and often the plain plant is forgotten, so this article is in praise of some plants that make no great cultural demands, but give me great pleasure.

The *Albuca* planted three years ago wintered last year with no protection, and when flowering time came had twenty-two blooms, and set three seed heads for the first time.

Roscoea cautleoides grandiflora, planted two years ago, flowered for the first time, and what a lovely flower it is. *R. alpina* also flowered, though not so attractive ; it also set seed.

The Gentians certainly liked the weather, the flowers were lovely, particularly 'Inverleith' which did better than in its previous six years.

Allium ostrowskianum did well with plenty of flowers and a good setting of seed ; in September I found little rooted bulbs on the surface and these were planted.

I also got plenty of self-sown seedlings of *Sisyrinchium brachypus*, and *Phacelia platycarpa*, which has flowered continuously. I found one open today, 1st January 1964.

Unexpected likings for the poor conditions were found in a sheltered plant of *Aethionena pulchellum*, also *Potentilla villosa* and *Saxifrage* x *Jenkinsae*. The Reticulata Iris were as always very good.

So, looking back, 1963 was not so very bad for plain plants.

West Surrey. IRENE LIMOST

A Brief Explanatory Vocabulary

OUR TREASURER is a Scotsman, which is as it should be. He is also a Fifer, i.e. a native of the County of Fife. This may, or may not, be a matter for rejoicing, for, as all Scotsmen know, Fifers have a reputation, second only to Aberdonians, for being hard-headed, close-fisted, and "fly". It is reliably stated that, up to a comparatively recent date, all infants born in the County were bounced upside-down on the hearth stone, and all those who cracked were rejected. It is believed, however, that on one occasion one with a small crack slipped through, and this may, in part at least, explain some of our Treasurer's idiosyncrasies.

But what, more than anything, confounds and confuses many of our members outwith (he would probably say "furth of") Scotland,

is his habit of interpolating obscure Scots words and phrases in his communications, for no apparent reason whatsoever. We have decided, therefore, to append, for the benefit of our non-Scottish members, a short Glossary of the Treasurer's more common efforts.

BAWBEES	Half-pence. As half-pence are still considered to be money by Fifers, this means, by extension, money in general.
COLLIESHANGIE	A riot, fight, or uproar.
CRABBIT	Twisted, ill-natured, difficult to get on with.
DAFT	Crazy.
GIRN	To complain, moan, weep.
GLAIKIT	Simple-minded.
GREET	See "girn".
GUDDLE	A mess.
NAE BOTHER	Easy, no trouble.
SAIR FECHT	A worry, bother, struggle against odds.
THRANG	Busy.
THRAWN	See "crabbit".
TRACHLE	See "sair fecht".

We hope that this short list may be of some little help to those who have suffered. To the others it will give an idea of what the Treasurer's letters are like !

What ?

DURING the last few months I have gone through three mental phases which could be described as 'Wel-l-l', 'Good gracious' and 'Good Lord, what have I done ?'

During the October Conference Week-end at Peebles, I was approached about taking over the seed exchange from Mrs. Cormack, which accounts for phase one. Phase two was engendered by a visit to Edinburgh in November during the compilation of the Seed List, and the last after a look at the actual distribution. It looked to me that the requirements of a convener of the seed exchange fitted an old Scotswoman's description of a suitable minister's wife—'a strong constitution and the ability to play the piano'. The first I have, the second would be useful as an outlet in times of stress, but unfortunately I'll have to make do with a record-player.

I am viewing my elevation to the hierarchy of the S.R.G.C. with a good deal of trepidation and considerable doubt as to whether this

office can be filled by one such as myself, who has to work to earn the money to spend on a rock garden.

Should this prove to be possible it will be due to my predecessors, who by ingenuity and experience have evolved methods which keep order and system in a situation which could easily become chaotic. Mrs. Cormack has been a very able convener and most generous with helpful advice and explanations on procedure, and is prepared to supervise my halting steps in the year to come. It is very heartening to know that I have her to call upon if things get out of hand.

If I can manage to make the change-over next season so that the recipients are unaware of any change other than an address, I will be more than satisfied.

At the same time I am quite aware that this work cannot be done without assistance and these duties were undertaken with the approval and promised aid of the Angus Group. When we take over we will be pleased to hear of the success and failure of the seed, and constructive criticism, provided it is applied gently, will be welcome.

A question in my mind at the moment is—"What is my garden going to look like this time next year ?"

J. A. H.

Plant Notes

BRYANTHUS GMELINI

Bryanthus gmelini, tiny member of the Ericaceae Family native to Hokkaido and Kamtchatka, would be considered a "collector's item" among rock gardeners in this country, as it is little known or grown as far as I can determine. I received two small pieces in a parcel of plants from Japan. However, because of the bare root treatment, fumigation at port of entry, and lack of a strong root system, I took a dim view of ever getting them to establish. They were planted in a mixture of sand and peat in a small garden that my children have nicknamed "Mamma's tidbit garden" where minute members of the Heath family are planted, watched carefully, and where the soil is never allowed to dry out. This area receives some sun on and off throughout the day, but there are no prolonged periods of exposure to sunshine. Much to my surprise and delight both pieces established without a backward look, one plant now after five years being about eight inches across. For a plant that has never honoured me with a single flower, it gives me a great deal of pleasure, with its attractive procumbent

habit and diminutive, needle-like evergreen leaves. The new growth in Spring appears to be glaucous ; however, on close inspection one discovers a fine pubescence on the leaves gives this false impression. In summer the colour is medium green and with the first frost takes on a subdued reddish hue. In Spring the two-toned appearance of old and new foliage gives a charming effect. Despite the fact that it has never had a flower to tempt the gardener or sell him on the desirability of this small heath, *Bryanthus gmelini* brings forth considerable comment from visitors to my garden. Cuttings which seem to root quite easily in sand and peat have been passed along to these people who value foliage, texture and habit of growth above floral display.

In the occasional literature where one can find mention of *Bryanthus gmelini* (sometimes under the name of *Bryanthus musciformis*) it is described as being impossible to flower in cultivation, which in itself is a challenging statement. When a plant is obviously healthy and happy in its environment one wonders why it will not produce a single bloom and if any of its requirements have been overlooked. Several times it has been listed in the nursery catalogues in the United Kingdom, thus it would seem that your members would have had the opportunity to experiment with it and have possibly some information on how one might encourage *Bryanthus gmelini* to bloom.

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

PITYROGRAMMA TRIANGULARIS

BY REPUTATION this attractive little fern, commonly known as the California Gold Back Fern, is difficult in cultivation, at best existing for a year or two and then suddenly expiring. My first experience with it was about three years ago when I was sent a goodly number collected in the Columbia gorge area of Oregon. They were planted in various situations (not rock garden) where low-growing ferns would be attractive, with the exception of one plant which for some reason, and I cannot recall just why, I planted under a small alpine fir (*Abies lasiocarpa*) in the warmest garden in my entire yard. The soil is miserable though the drainage is good. Except for this one plant, all disappeared in short order, the only remaining evidence of their existence being a nice stand of Selaginella in which the fern grows in its native habitat.

Last Spring my husband, our two children and I went on a camping-fishing trip up the Hamma Hamma River in the Olympic Mountains. I had no intention of plant collecting in this lowland forest region,

because as I recalled from the many previous trips to this area, the last one over ten years ago, there was nothing growing there that I had any particular desire to add to the garden. I might explain that we were not within the Olympic National Park, where collecting is prohibited, but in the National Forest, where it is possible to collect moderately if certain rules and restrictions are observed. Regardless of intentions, plastic bags and a trowel are always standard equipment on any of our hikes.

We hiked the two miles along an excellent but steep trail through beautiful forest to Lena Lake, where the fishing is usually good. I noted one open spot where *Asplenium trichomanes*, the delightful little Maidenhair Spleenwort, was in evidence growing among small loose rock. Upon our return in later afternoon I explored this open slash in the forest well above the trail, to be rewarded further by finding many tiny clumps of *Cheilanthes ciliquosa* (densa), their roots growing under small rock that just had to be pushed aside and the plants easily lifted from the fine sandy soil. This was a surprising find, as I had previously seen it only on the eastern slope of the Cascades. I then became aware of *Pityrogramma triangularis*, which I had never seen in the wild before, and did not realize it grew in this part of Washington at all. I later learned that it is indeed rare in the Olympics, known from only one or two locations. All three ferns grew in small clumps, ideal in size for collecting.

Upon our return home, *Cheilanthes ciliquosa* and *Asplenium trichomanes* were planted in poor soil in an open, sunny garden, and the three *Pityrogramma triangularis* were planted under the alpine fir along with their lone surviving kin from Oregon. All four plants share the distinctive feature of being an extremely small form, the largest frond only three inches in length, the stipe glossy brownish-black, the blade a subdued dark green, roughly triangular in shape and two inches long. The two basal pinnae are comparatively large, pinnately divided and each segment of the blade intricately veined. Examination of the back of the frond shows the characteristic whitish powder on the new growth turning to a golden color with age, thus the common name "Gold Back Fern".

As I write these notes eight months later I can report that the ferns are all healthy, apparently happy in their environment, as they are all increasing in size. I am certain that our wet, cool summer accounts for them establishing quickly and easily, and wonder if good drainage, a meagre soil and overhead protection from rain are conditions under which they might thrive.

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

GALANTHUS N. LUTESCENS

SOME YEARS ago we received a bulb of what purported to be *Galanthus nivalis lutescens*, a double Snowdrop with white outer petals and golden yellow inner ones. When we moved to our present garden in 1958, we brought these bulbs, by then increased to six, and planted them in a pocket at the base of a cliff. Thanks to our excavations, there was a landslide during the first winter here and the "Yellow Snowdrop" disappeared under the debris. We never expected to see them again and for five years there was no sign of them, but last month (January) I noticed a minor eruption of the soil and *Galanthus n. lutescens* is now in full bloom, looking lovelier than ever after its long journey to the surface !

Kilcreggan. E. TAGGART

ANEMONE NARCISSIFLORA

THIS LITHE and lovely thing is very rarely seen in cultivation, yet it appears to have all the merits of a thoroughly garden-worthy plant. It is of course herbaceous, and quite hardy, its natural home being the high alpine meadows in the European Alps, where it enjoys a fairly wide distribution (see fig. 14).

In an open situation which it enjoys, the plant attains a foot in height and, over its typical, strong, anemone foliage, the flowering stems in May or June support an umbel of up to ten or more, glistening white buttercups, centred with bright yellow stamens. In the bud stage, flowers are of deep pink and, as flowers mature a flush of pink remains on the reverse of petals. Individual flowers are more than an inch in diameter, and a well-covered specimen sparkling in a sunlit breeze is quite breath-taking in its elegance.

Yet its needs are not difficult to satisfy ; it is a plant for the open rock garden in good—fibrous, well-drained loam—a position in sun, open to wind, as cool as possible and, an important qualification, a soil medium which does not at any time become parched. Unlike *Anemone alpina*, this plant does not form a deeply penetrating tap root, but instead a fibrous mass of roots which at all times must have the support of a sound moisture-retaining loam, rich in peat or leaf-mould. In common with other plants of the higher alpine regions, a raised elevation in the garden is desirable, so that adequate and natural drainage can always be assured.

Satisfied of these simple needs, this soundly perennial plant will increase the number of its crowns over the years. Propagation can be by careful division of the crowns during dormancy or, quite effectively,

after flowering. Seed should be sown as soon as possible after ripening, in sandy loam, and germination can be expected the following Spring.

Aberdeenshire. J. CROSLAND

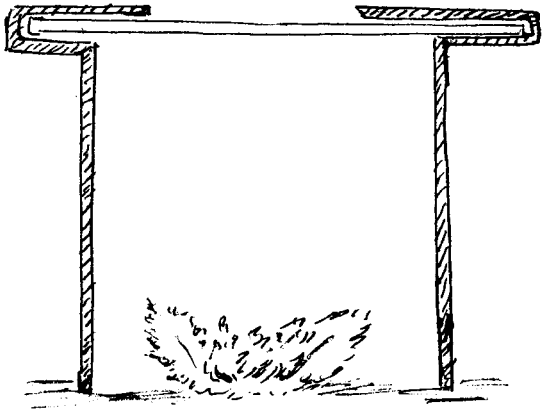
PROTECTION FOR PLANTS

THE Scottish National Institute for the War Blinded has produced a wire support which can be used to hold panes of glass of any size over plants which require protection from overhead damp in winter.

The length of the support is 15 inches and the cost 4/- per dozen, plus postage.

Three of the wires will hold a small pane, but four might be required for a larger piece of glass. They have been tried out during the winter over rosettes of S.S.W. Meconopsis. All those which were covered look very healthy and started into growth in February, while the unprotected controls still looked shrivelled and unhappy.

Orders may be sent to : The Superintendent,
S.N.I.W.B.,
Linburn, Wilkieston, Midlothian.



THYMUS CILICICUS

A PLANT recommended by Mrs. Greenfield of Epsom is always of interest and this magnificent thyme is well worthy of the A.M. it received in 1956.

Thymus cilicicus was introduced by Dr. Peter Davis who found it in Western Anatolia, growing in dry gravelly plains. This location gives one a guide to its cultivation. It suggests an open gritty mixture and a long-tom pot to enable the roots of an established plant to

delve deep for moisture. The pot might be plunged in sand in a position where it can receive a maximum amount of sunshine.

The four-year-old plant illustrated has been potted on annually and the branches have been layered around the main stem where they rooted readily (see fig. 15).

In July the plant presented a solid dome of its lilac-pink flowers some ten inches across. It was cut back fairly hard after flowering.

It has been grown in an unheated alpine house and it survived last winter, although blackened by 12° of frost. All my cuttings and a friend's plant perished.

As the illustration shows, it made a good recovery, although a frost-free house is probably the ideal method of cultivation for this thyme.

Propagation is readily effected by cuttings, pulled off with a heel in autumn and planted in a sandy gritty mixture around the edge of a pot.

They will be found very acceptable for distribution among one's knowledgeable gardening friends.

Aberdeen. H. ESSLEMONT

Show Report

NORTH BERWICK

THE AUTUMN SHOW was held in the Sun Parlour on 5th September 1963, and although the entries were fewer than last year, the standard was high.

The Forrest Medal for the best plant in the Show was awarded to *Campanula morettiana alba*, exhibited by Mr. Esslemont, Aberdeen. The East Lothian Trophy for 3 plants of different genera was won by Mrs. Boyd-Harvey with *Cyclamen neapolitanum album*, *Gentiana saxosa* and *Crassula sarcocaulis*. The Peel Trophy was awarded to Mrs. David Tweedie for the 3 best Gentians—*veitchiorum*, x "Devonhall" and x "Kidbrook Seedling." The Logan Home Trophy went to Mr. and Mrs. Baillie for the best Miniature Garden, which was a large piece of tufa planted with Saxifrages and Sempervivums. Mr. Esslemont won the Mary Bowe Memorial Trophy for the highest aggregate number of points in Section I. The Club Bronze Medal for the highest aggregate number of points in Section II was won by the Rev. E. M. Ivers, Dunbar.

In the New, Rare or Difficult Class there were some interesting plants, and Mrs. Boyd-Harvey's *Pyxidanthera barbulata* was first, Mr. Esslemont's *Dicentra peregrina pusilla*, in flower, was second, and *Dionysia curviflora*, shown by Mr. and Mrs. Baillie, was third.

There was quite a good entry in the class for plants native to Scotland, and Mr. Esslemont won 1st with his *Sagina* x *boydii* ; 2nd prize went to Mrs. Tweedie for her *Salix* ; and Mrs. Maule was 3rd with a smaller *Sagina* x *boydii*.

Mrs. Maule was 1st for her entry in the Silver-grey Foliage Class, and in the Autumn-tinted Foliage Class Mr. Esslemont's plant won first prize. In the class for Rock Plants in Fruit, Mr. Scott won a first prize for his beautiful plant of *Myrtus nummularia*. In the opinion of many this plant was certainly in the Forrest Medal class.

Mr. Esslemont was the winner of the best cushion plant with *Draba mollissima*, a perfect compact dome. The Saxifrage cushion plant was won by Mrs. Maule with *Saxifraga* x "Faldonside."

There were again this year some very good pans of cyclamen shown by the Hon. Miriam Pease, Mrs. Boyd-Harvey and Mrs. Waller. Rock plants in flower are rather scarce at this time of the year and the lovely pans of cyclamen did much to brighten the show benches with their charming pink and white flowers.

There were several good plants in the Heath and Heather Class, notably a *Calluna vulgaris alba*.

The backbone of the Autumn Show appears to be the classes for Sempervivums and Sedums. These plants are easy to grow and make an interesting contribution to the rock garden for most of the year. Several Sedums are autumn-flowering and some have good autumn colour. Because of the wide variation in form and colour, Sempervivums provide interest all the year round. All make excellent pan plants.

There was a good display of dwarf conifers, notably a large specimen of the slow-growing *Microcachrys tetragona*.

The bulb class was poorly represented, but a pan of *Leucojum autumnale* caught the eye with its frail beauty. This was shown by Mrs. Sanderson.

The Hon. Miriam Pease's *Gaultheria miguelliana* won 1st prize and Mrs. Meyer's very attractive dwarf rhododendron won 2nd in Class 17.

There were only three entries in the flower arrangement section, but Mrs. Campsie and Mrs. Mill-Irving won 1st and 2nd for their very attractive arrangements.

It was unfortunate that there were so few competitiors in Section II. Mrs. Campsie and the Rev. E. M. Ivers supported it well.

Some plants worthy of note were a large pan of *Astilbe simplicifolia*, an enormous pan of *Cyclamen neapolitanum* in Class 1, and in Class 32 *Kirengoshoma palmata*, a Japanese woodland plant, described by Farrer as a "magnificent oddity."

Edrom Nurseries again supported the Show with a fine exhibit of autumn-flowering rock plants for which they were awarded a Gold Medal.

Group Activities

STEWARTRY OF KIRKCUDBRIGHT

THE 1963-64 Session of this Group opened with a Bring and Buy Sale on 28th September in the garden of Mr. D. M. McQueen at Roughhills. Blessed with fine weather, we had a good attendance, and over £22 was raised towards the cost of the winter programme of lectures. Moreover, members very much enjoyed visiting this lovely garden which is always kept in such immaculate condition.

The opening lecture in Dalbeattie on 11th October was given by Major-General D. M. Murray-Lyon and was on the subject of Peat Banks and Borders. His talk and the lovely slides of plants, mostly from his own garden, were much enjoyed by a good audience. We are very grateful to him for coming so far.

On 22nd November Mrs. Boyd-Harvey gave us a most interesting talk in Castle Douglas entitled "End of Season Stocktaking." The tragic news of President Kennedy's assassination reached us just before she started and cast a gloom over the evening. However, Mrs. Boyd-Harvey's rather unusual approach to the subject of rock gardening and a most interesting general discussion afterwards in comfortable chairs round a roaring fire made this a memorable evening horticulturally.

The last of our meetings before Christmas was devoted to a Brains Trust and was held in Dalbeattie on 13th December. With due respect to all concerned, we feel that this was no whit less interesting than a perhaps more august occasion which was broadcast a few days later. We were fortunate in having Miss King, Dr. Paton, Mr. Hean from Threave, and Mr. MacDonald from the Crichton Royal Gardens as our Panel.

G. F. HUTCHINSON, *G.C.*

NORTH NORTHUMBERLAND

ON THURSDAY 19th September the members visited Grindon Corner, where Miss Pape had an extensive collection of illustrated books on alpines set out on tables. Many members attended and were able to sit and examine the books at their leisure and take notes from them. Afterwards they took tea. This meeting was arranged earlier in the summer when the weather was so unpleasant that it was thought that the usual autumn garden visit would not be popular. It was a novel venture that proved a great success.

On Friday 25th October, Dr. Duncan M. Morison gave a talk on "Some More European Alpines in their Native Habitats," illustrated with his fine coloured slides. This Group always enjoys Dr. Morison's lectures and this one was no exception. His genial manner of delivery in conjunction with the interesting nature of his talks always ensures a very pleasant evening.

On Tuesday 12th November, Mr. Gordon Harrison, a local member, gave a very interesting lecture on "Trouble-free Rock Plants," illustrated with his own coloured slides. Mr. Harrison is a very knowledgeable grower and propagator of alpine plants and he has travelled extensively in the Alps and Dolomites. The photographs of his garden at Ponteland caused the members to wish to visit it and Mr. Harrison cordially extended an invitation for the coming summer.

On Friday 6th December, Dr. W. A. Clark, Lecturer in Botany at the University of Newcastle, gave a talk on "Interesting Plants of Northumberland and Durham," illustrated with coloured slides. Dr. Clark covered the whole area as far afield as Teesdale, but concentrated on our own area in North Northumberland. The wonderful photographs of wild flowers on Holy Island and Ross Links showed that they could be just as colourful as any alpine meadow. This was an outstanding lecture and the large audience showed their appreciation.

The last lecture of the season is still to come, when the Group looks forward to a talk on Tuesday 17th March on "Ericaceous Plants," and also "Propagation of More Difficult Plants," by Miss E. M. H. King of Kirkcudbrightshire. Miss King is a skilled propagator of hard-wooded plants such as rhododendrons and conifers.

The Group Committee is arranging four days of garden visits in the late Spring and it is hoped that a two-day visit to Loch Fyne will also be added to the programme.

D. C. PAPE, *G.C.*

Book Review

" GARDEN SHRUBS AND THEIR HISTORIES," by Alice M. Coats. Pp. 416, with 4 colour and 11 black-and-white plates and 5 line-drawings. Published by Vista Books, London, 1963. Price 45s.

To even the keenest and most enthusiastic rock gardeners, and of course to gardeners in general too, there must come at times occasions when they feel a need for a temporary easing off or relaxation from their absorbing hobby. It is difficult to imagine anything more suited to fill such a need as *Garden Shrubs and their Histories*; in fact, the danger is that one may too easily be persuaded into extending the period of relaxation beyond reasonable limits. But this is no book for relaxation only, even though so charmingly written. It is at the same time full of extremely useful and descriptive information concerning the great number of flowering shrubs with which it deals.

To get together such a wealth of interesting and engrossing fact and fiction in the form of botanical description, horticultural usefulness, and legendary and factual history must have entailed an extraordinary amount of research. That the author got a great deal of pleasure out of this research is very evident in the flashes of quiet humour which appear through the book. [I like the description of the bramble fruit—" an assemblage of drupes (it sounds like the definition of a particularly boring party)," or, three pages later, a reference to the " torrid midday sun in English woodlands"]. Quiet digs like these pop up here and there among a wealth of knowledgeable descriptions of the many *genera* and *species* mentioned, and the histories, legendary and actual, of their introduction to cultivation and their early vicissitudes.

Mistakes appear to be few and trivial. A common fallacy is repeated that *Abelia floribunda* can only be grown out of doors in Cornwall and Ireland, in spite of the fact that a plant has grown and flowered for forty years as many miles north of Scotland's capital city. Hypericums *androsaemum* and *calycinum* are classed together as spreading rapidly by underground stolons, but while this is true of *H. calycinum* I have never known *H. androsaemum* do it, though it spreads all too freely by seed. While *Olearia macrodonta* is certainly exceptionally wind-hardy, I have known a plant nearly fifty years old come unharmed through twenty degrees of frost many times in its life.

Towards the end of the book is a section giving some brief biographies of the leading pioneers in British gardening and men famous in plant collecting. This section includes such well-known names as Loddiges, Veitch, Fortune, Henry, Wilson, Forrest and Ward, and is followed by a *Selected Bibliography* giving the reader a list of many worthwhile books of reference. The book ends with a very useful *Index of English and American Names*. It is exceedingly well produced and printed, and altogether a book worthy of a place in every garden-lover's library.

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 Lawrence Hochheimer, Ridge Farms Road, Norwalk, Connecticut 06850, U.S.A.

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