

The Journal OF The Scottish Rock Garden Club



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FIG. 36—*Anemone vernalis*. (See page 204)

The Journal

OF

The Scottish Rock Garden Club

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

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Editor's Notes

BY THE TIME that this issue of the *Journal* appears to Club members the Show season will be with us again, and we will surely have had an opportunity to take stock of the damage done by the severe and protracted spell of frost, gales, and snow.

According to official records Scotland has experienced the lowest temperatures since the year 1895—a date sufficiently long ago to have little more than historic and academic interest for most of us. Low thermometer readings, however, are only part of the story. An excessively wet summer in 1954, followed by a mild December, left plants in no condition to withstand the unusually hard frosts and biting gales which ushered in the cold spell in the early days of January.

Despite all reverses, however, we have no doubt but that Club Shows will be as interesting as ever. Somehow or other, with Shows, one generally finds that if some group of plants is not up to strength others step into place, and few Shows are ever the 'flop' so often forecast a week or two before the event. Quite possibly there will appear on the show bench this year plants which have been comparative strangers to past Shows; the vagaries of nature never get the enthusiast completely down and out.

In the long history of man's love of gardening nothing can surely rival the rapid growth and spread of the popularity of rock garden plants and their cultivation. When our Club was formed it seemed that we were venturing into new paths, with few companions, but encouraged by the fact that in England the Alpine Garden Society had ventured before us without meeting disaster. The position now is that while our own Club membership has increased more than eightfold in the last nine years, in nearly all temperate countries—France, Germany, Sweden, Switzerland, America, and others—there are strong and healthy rock garden and alpine societies. Between members of these societies there is an increasing contact and exchange of plant-growing experiences, with tales of success and failure, and often a packet of seed to try out.

Having all this in mind, are we allowing ourselves to become too complacent? Are Club affairs and rock-gardening generally in as healthy a state as they could be here in Scotland? We venture to say that much is still to be done if we are fully to live up to our name as a *Club*. In various parts of Scotland, where members on the Club roll are few or none, one can see rock gardens obviously designed and fashioned by expert or real enthusiast hands. In some districts where a level garden is almost unknown and most gardens climb from street to house up a hillside one sees 'rock gardens'—some very good, some indifferent, others unmentionable—one beside the other in street after street. Obviously much effort, and often expense, has been put into

trying to make an attractive garden out of a bit of hillside—usually stony. What an opportunity for the more experienced to advise and encourage fellow plant lovers !

We know one Club member whose duties set him down far from any fellow rock gardener with whom he could lean over the gate and talk plants. His solution was to set about the conversion of his sweet pea- and big-onion-growing neighbours to an interest in his rock-gardening, at the same time lending an encouraging ear to their own chosen branches of horticulture. We hear that the results have been most satisfactory ; a new interest has developed in the district, and in so doing has revitalised the older interests, while classes for rock plants are keenly competed at the local Show. The Club Council give much thought to publicity, but members themselves should be the best publicity agents, by sharing their enthusiasm and knowledge with others and by showing them where to obtain the fellowship of like-minded lovers of rock garden plants.

Following these notes readers will see a brief notice headed : “In Search of Native Alpines” : plant hunting but NOT collecting is particularly emphasised. Since its foundation it has consistently been the policy of the Club to frown on and discourage the collecting of native plants which are at all scarce or localised, and we ask all members to keep this continually in mind. Rare plants gathered from the wild seldom live when uprooted and transplanted, usually at the wrong time of year, so that much damage can be done with no gain to the perpetrator. Success is much more likely with a few seeds, or a few cuttings, but still more likely with an established plant from a reputable nurseryman. Moreover, in certain areas it is now an offence to remove plants. Please remember all this when on our hills !

Among the “Small Advertisements” on page 278 will be seen a notice of a ‘Sale of Plants’ to be held in Edinburgh to help towards the costs of the Show. None of our Shows would be financially successful without strenuous efforts by the members in the areas concerned. In the case of Edinburgh and Glasgow Shows, where hall rents are high and other costs are steadily increasing, these efforts are particularly necessary and deserve the support of all members within the area.

Members will also see a notice concerning Club Christmas Cards. Last year orders for these kept coming in until we had to stop accepting any more because otherwise the issue of cards in time for Christmas would have been impossible to handle. Till orders are received, there can be no estimate of the number likely to be required, and reprinting means extra expense, so please send in all requirements in good time.

On behalf of fellow-members we thank all who have contributed to this number of the *Journal*, and more especially those who are new contributors. At the same time we would point out that the section devoted to plants and problems of cultivation is still weak. If even

one member in every fifty sent in a short note on some particular plant or problem, then this section might become the medium of an exchange of views and news between members that its originator intended it to be.

April, 1955.

IMPORTANT

MEMBERS are asked to note that all subscriptions should now be paid direct to the Hon. Treasurer, Mr. STEWART MITCHELL, 1 Muirfield Crescent, Dundee, Angus, and **not** to the Hon. Secretary as has been the arrangement during the past two years. The use of a Cash Payment Form instead of a letter is helpful.

This does not affect payment by Banker's Order.

The Treasurer will also be responsible for all matters dealing with membership, the issue of publications and badges. County Representatives should have stocks of Badges for sale to their members, to obviate the Treasurer having to deal with individual members.

Seed Distribution

IT IS HOPED to run another Seed Distribution this year with the co-operation of members. In the past the number of members sending in seed has been quite small—less than 100—although the number receiving seed is quite large. I am sure there are many members who could send in seed but for varying reasons do not. One reason, I feel, is that members think that large quantities are required. This is quite wrong, as small quantities of seed from all good alpine plants would be appreciated. A few seeds of a rare plant would be much more acceptable than a few ounces of seed from, say, *Meconopsis betonicifolia*.

I am sure members could send in more seeds of shrubs suitable for the rock garden—particularly dwarf Rhododendrons. Rhododendrons unfortunately take a long time to ripen, and it would be necessary to let me know before the list closed what species were to be available.

I would also appeal to Overseas members who, I am sure, could send seed of their own native alpine plants which would be greatly appreciated here.

Please endeavour to send on to me as much seed from as wide a variety of rock plants as possible before 31st October, 1955.

R. S. MASTERTON,
Cluny House,
Aberfeldy,
Perthshire.

Club Christmas Cards

THESE CARDS, in which use will be made of Fig. 47 in this *Journal*, will be available to members later this year. The sale of these cards to members last year exceeded all expectations, but the work of despatch was greatly hindered by the lateness of orders from many members. They will be supplied in dozens at 6/6d per dozen. Early application, with the appropriate enclosed, should be made to the Hon. Treasurer, Mr. Stewart Mitchell.

In Search of Native Alpines

IT IS HOPED to arrange again a few days' plant-hunting (but NOT collecting) at Spittal of Glenshee during the first week of July.

For further details please write within the next two weeks to : Mrs. W. ROBERTSON, 17 Cluny Gardens, Edinburgh, 10.

Obituary

ALL MEMBERS of the Club who knew him, but more particularly those associated with him in its administration in the early days, must have heard of the passing of Dr. Alexander O. Curle, C.V.O., LL.D., F.S.A., with a feeling of regret and sorrow for the loss of one who was a pillar of strength to the Club in the days of its infancy. Dr. Curle died on 17th January at the advanced age of 83 years after a full life of many activities and interests. Only two years ago he was to be seen keenly interested in the entries at the Club Show in Edinburgh.

Apart from a period from the year 1936 till the outbreak of war in 1939, during which he was our very active President, Dr. Curle was a Vice-President of the Club from its founding till his death. He was also a keen and successful competitor at Club Shows and was the first winner of the Kenneth Corsar Challenge Trophy at the Edinburgh Show in 1935. He also contributed interesting articles to our *Journals*.

How Dr. Curle found time for his garden and Club interests in addition to his many public duties was always a source of wonder to his fellow-members. For 15 years he was Director of the Royal Scottish Museum, and during six of those years was in addition Director of the National Museum of Antiquities, being the only person who has held these two commands simultaneously. He supervised excavations in various parts of Scotland and held appointments on boards and commissions dealing with Ancient Monuments, writing a number of articles to archaeological publications. Truly a very full life !

DEAR MR. EDITOR,

Some Plants that are or were in my Garden

I promised you some time ago something for the *Journal*, and snow and illness having prevented any active work for two months, I have taken a stroll round the garden in imagination with the help of the book in which I enter all plants put into the garden and their fate. Alas, over a period of 25 years how often is that fate noted as "died!"

Here are a few notes about some plants which I have not seen often in gardens and some which I cannot keep alive, in the hope that other members may give advice.

Three Moroccan plants : *Asphodelus acaulis*, pretty, pink, almost sessile umbels with typical asphodel foliage about 6 ins. high. *Cossonia africana*, not unlike a glorified *Morisia hypogaea* ; *Ranunculus calandrinoides*, a gem when one gets a good form with flowers like large apple blossoms, pink and white, and grey tulip-like leaves.

All these three are to be found in flower amongst the melting snow-drifts in the Blue Cedar forest in the Mid-Atlas mountains, yet the first in my experience will not grow in central Scotland, but rots off at the neck at the first sign of damp, the second lasts a very short time but self-sown seedlings may come away the following year, and the third is as hardy as can be in a granite scree. I still have a plant brought home in 1935. It has an embarrassing habit of flowering from December to March, which necessitates a pane of glass over the plant if the flowers are not to be spoiled. I have never yet flowered it under cover, in frame or alpine house.

On the subject of N. African plants ; *Chrysanthemum Mawii* (*Leucanthemum Catananche*) from the Grand Atlas Mountains is a delightful pink daisy about 4 ins. high. It is definitely not hardy here but sets plenty seed, plants from which will flower the same year.

Has anyone (other than Mr. Ingwerson) succeeded in flowering that strange *Cyclamen Rhoifianum* from The Atlas ? So far, after two years my one plant has produced three vast leaves but no flowers ; here's hoping !

Allium narcissiflorum (*neapolitanum*), far the best of the onions, has large pendant branches of lilac coloured flowers. It sets seed and increases, but not invasively.

Androsace microphylla, a Thibetan, given me originally by Miss Logan Home, produces masses of pink flowers on short stems rising from dark rosettes. It has a look of *A. sempervivoides* but is better, I think.

Anemone coronaria is yellow in Sicily, blue in Mallorca, and red in south of France. Quite a pretty spring flower !

Anemone alpina and *Anemone narcissiflora* : I brought both of these from the Jura Mountains. The former flowers freely in the rock garden, the latter exists but never flowers. I wonder why.

Anemone vernalis (see Fig. 36) is the best, I think, of all the anemones, with its silky, mauvy-whitish flowers peering out from under a rock. I find it quite easy facing S.W.

Calceolaria tenella is a creeper with tiny yellow flowers. It loves the face of a north wall.

Clematis graveolens, very like *C. tangutica*, I collected in Kashmir in 1928. I tried for twenty years to get seed to germinate without success till two years ago when I pulled off some seed heads in March after they had been hard frozen. Germination was astonishing. It hates transplanting.

C. cirrhosus, a very pretty pink clematis from Mallorca, grows at rather low levels. Plants from seed raised for me by Mrs. Boyd-Harvey have so far stood the winter.

Campanula Formanekiana is monocarpic, unfortunately, but none the less well worth growing. From a large rosette of foliage rises in the second or third year a tall pyramid not unlike that of a Canterbury Bell. In addition, long prostrate branches lie on the surface of the ground or pot. On all these branches are displayed numbers of flowers like those of a Canterbury Bell, of a pure white, tinged with mauve. One plant in the Alpine House was 2 ft. 6 ins. high and had 128 flowers out at the same time. In the open it is reasonably hardy where it has good drainage (at any rate with a pane of glass over the rosette in winter), but it does not exceed about 1 ft. in height though the number of flowers is large. It needs a lot of root room.

Cyclamen balearicum was brought from Mallorca in 1953. Some plants have survived so far but none have flowered. Has anyone flowered it in the open?

Talking of Cyclamen, I have been twice well caught out by emptying on to the heap of soil which I use for "odd jobs" pans in which cyclamen seed had been sown but had not germinated after two years. In 1954 I found a fine selection of *C. repandum* seedlings in a box of Primula seedlings and just the other day found a selection of cyclamen (probably *coum*) in a pan of *Leucojum autumnale*.

Last year I lost practically all my *C. europaeum* and *hederaefolium*; including many old-established corms. They just rotted off in August; too much rain, I suppose!

Dentaria primatox digitata, a woodlander, was collected at about 5,000 ft. in Austria; flowers large and mauve to white in colour on 1 ft. stems with much gashed foliage. The form of growth reminds me of a Trillium.

Delphinium sp. from Abyssinia, dark blue and intensely sweet. Seed sent me recently had not germinated when I last heard from the R.B.G., who kindly sowed the seed; but that of a second delphinium (possibly *Wellbyi*), said to be lighter in colour and taller, has germinated and I hope will flower next year. The first named has been for long in cultivation in a Perthshire garden and is hardy and well worth growing.

Delphinium Brunonianum. Given a good form this is well worth having. Its huge heads (compared to the size of the plant) of blue bells are delightful ; I find it quite easy in ordinary soil ; but 'ware slugs !

Plagiorrhema dubium (*Jeffersonia dubia*), a Manchurian, its pale blue flowers opening on 3 in. stems just before the foliage, and followed at once by the coppery leaves, is a lovely sight. It does well in complete shade in a very peaty soil. It can be raised easily from seed, if you can catch the seed (unripe today, gone tomorrow), or by careful division.

Leucojum autumnale. The bulbs I brought from Corsica in 1930 survived for a number of years, but those bought since the war have failed. I am now in process of raising it from seed. It is a gem. So is the little pink Corsican snowdrop (*L. roseum*) which I have never seen in cultivation.

Lewisia Tweedyi is, I think, the gem of all the Lewisias. It is perfectly hardy in scree but seems shyer of flowering than in a pan. Three years ago I saw a hybrid of *L. Tweedyi* and *L. brachycalyx*. It had the form of the latter and flowers the colour of the former. I have been trying ever since to produce a similar hybrid but these two Lewisias rarely flower simultaneously. I hope I have got one, but so far it has not flowered.

L. redivivus is never "redivivus" with me after the first winter.

Ll. Howelli, *columbiana*, *Heckneri*, etc., mongrelize worse than Aquilegias (if that be possible) in a granite scree.

Mimulus primuloides is a delightful little fellow which seems to like plenty moisture and shade. It dies down in winter.

Morina longifolia, from Kashmir, has a tall spike of pink and white labiate flowers rising from a rosette of thistle-like leaves which are very aromatic. A plant grown from seed in 1930 is still alive and well.

Diplarrhena Moraea has iris-like foliage with beautiful flowers of three rounded lobes with golden centres on 1 ft. stems. Happy in sandy loam with good drainage and full sun ; but sulks if moved !

Fritillaria tenella (*lusitanica*), from Portugal, is a graceful little chap not more than 6 ins. high with green and brown bells, large compared to the size of the plant.

Dianthus Knappii. Of interest chiefly as being the only yellow dianthus, otherwise not exciting, but is happy in a wall.

D. callizonus with its large pink flowers on more or less prostrate branches is attractive but not easy, I find, to make happy.

D. neglectus certainly is neglected. With its surprisingly large pink flowers in masses, it is most attractive and very easy in scree.

Draba dedeana and *D. dicranoides* are the only two I can grow outside with any degree of certainty. *D. polytricha* sometimes survives a winter ; *D. mollissima* never, even with glass over it, though it is one of the easiest in the alpine house.

Digitalis ambigua is a fairly dwarf foxglove from the Balearic Isles. The flowers are yellow and quite attractive : happy in sun or shade.

Epilobium glabellum has white flowers and rather coppery foliage ; is about 6 ins. in height ; flowers all summer, and does not ramp.

Eritrichium strictum. I shall never forget my first sight of this plant at Baltal in Kashmir, where a whole dry nullah bed was a blaze of blue and silver from its flowers and leaves. It is fairly easy in scree, though I don't think it is long lived. It sets seed fairly freely and some self-sown seedlings appear in scree.

Erythraea Massoni (diffusa). This little pink gentian-like plant has a habit of refusing to grow where you put it, and of migrating next door. It seems to like partial shade from a low rock.

Chrysanthemum arcticum. This pretty little pink-flowered, grey-leaved daisy is well worth having. Like the last named plant, it has a trick of walking along till it finds a place to suit it, and can be raised from seed or by division of the rather odd roots which it produces. Whether the above name is correct I do not know : it came to me under that name from a source long since forgotten.

Douglasia laevigata and *vitaliana*, are both attractive with their red and yellow flowers respectively. Both do well in a gravel scree, and the latter, contrary to its reputation, flowers freely.

Geranium dalmaticum, rather a newcomer at Shows, its bushy form not more than 3 ins. high, covered with large pink flowers, is definitely attractive.

Paeonia. I wonder why one does not see more of this genus in rock gardens. Many are not at all too large and do not seem faddy as to soil. The four I have, *obovata* and *peregrina*, given me years ago by the late Mr. G. P. Baker, are good ; *Paeonia Cambessedesii* brought from Mallorca has not yet flowered, but I look forward to seeing its lovely pink flowers on the quite small plants. *P. Mlokosewitschii* is another good plant.

The *Penstemons* are another genus well worth having. Probably a good form of *P. Newberryi*, truly prostrate, is the best. Mr. Harley of Devonhall told me years ago that the way to grow it well was never to let its branches rest on soil but always on chips or rock.

Others I like are *neo-mexicanus* ; *ovatus* (blue and rather tall), is perennial if the flowering stems are cut off before the seeds form.

Potentilla nitida is a gem for a scree, where its large pink flowers over the prostrate rosettes of silver foliage make a great show. It is reputed to be a shy flowerer, but I do not find it so.

Potentilla eriocarpa, with small grey leaves and yellow flowers, seems happy mixed with *G. verna*.

Roscoea cauleoides and *humeana*. I lost all my plants of both these during the winter of 1953/54. Only a few self-sown seedlings of the

latter appeared last June. Can anyone suggest why this should have happened ?

Phlox adsurgens before the war I could grow with no difficulty. I lost it during the war and every plant I have bought since has died off in winter though grown in similar conditions to the pre-war ones. Any advice ?

By the way, what has happened to *P. mesaleuca*, which in pre-war days was a beauty and a test of plantsmanship ?

Silene Hookeri, a pretty thing, is easier in the alpine house than outside, I find ; but why can't I grow *S. Wherryi*, which looks just like it ?

Rubus arcticus is a pretty, prostrate bramble with large pink flowers. I personally find it difficult to please.

Tulipa spp. Over the years I have found that *T. tarda*, *Haagii*, *Batalinii*, *sylvestris*, and, I think, *linifolia*, if planted deep in the first instance, go on flowering for years, and increase. Others, such as *praestans*, *Fosteri*, *Kaufmanniana*, etc., die off after two or three years.

Incidentally, can anyone make *T. saxatile* flower ? One is told to plant it where its roots cannot wander. I have three plants wedged between rocks so that they cannot. Every year they send up masses of foliage and sometimes strange white loops that look like roots that have come above ground and gone under again, but never a flower !

Viola aetolica, var *saxatile* is an attractive little yellow viola which should seed itself all over the place, but never does with me.

Aquilegia. Is there left in existence a single plant of an aquilegia which can be said to be really true ? I wonder. Can anyone tell me how to keep *A. Jonesii* alive ? I have flowered it more than once and it is a gem, but never survives. I find *A. saximontana* not much easier. Any advice ? *A. Shockleyi*, red and yellow, is a striking plant and happy in scree.

Yours,

"A ONCE WAS"

You Can Help The Club

by

Mentioning the *Journal* or *Year Book* when you order anything from Advertisers ; it encourages them to continue advertising with us.

A Garden Comes of Age . . . LeBlanc Gardens

Part I

by

LEO M. LEBLANC

THE SCOTTISH ROCK GARDEN CLUB had its beginning while we were yet in the planning period of our own Gardens ; a happy birthday has come and gone for our Club and another year is being added to its most eventful life. May its charm and the enthusiasm of the members be passed on through the years to hundreds, yea thousands of gardeners yet to come, that they too may come to enjoy the companionship, the sincerity and mutual good fellowship that exists today in the Scottish Rock Garden Club.

Perhaps as the members live over past memories, plan for future activities, and dream of finding 'room for just one more plant treasure,' they would like to read of another's garden, far across the Seas. Boarding a mythical airplane, wherever you are, let us sail on silver wings far above the turbulent oceans, be whisked through billowy clouds high over cities, plains, and mountains, finally coming to a gentle stop on a busy airport outside the city limits of Seattle ; from here you are driven in an automobile to a garden near Kent, Washington, that now lies quietly nestled amongst Fir, Hemlock, Spruce, and hundreds of exotic flowering shrubs ; it is a restful place, that had its beginning in the year 1934, on a bright, clear, sunny day in June.

A great change has taken place since that date when my father, mother, and myself arrived and took over ownership of what appeared to others to be an abandoned farm, with its old buildings falling into disrepair, a run-down sour cherry orchard, a patch of raspberries and some old apple and sweet cherry trees. True, it was not too much to the average person, but to us we could see visions of things to come, of gardens to plan with ponds for waterlilies, of flowering shrubs for colour, of having trees to give autumn beauty, of enhancing the grounds with various evergreens, of having tall conifers with spires pointing heaven-ward, while others would bend gracefully as if in silent prayer ; these and many other things we dreamed of and planned, so that through the years a garden has gradually come into being, a living joy to the owners, a dream come true, a garden of restful peace.

Now we have arrived at a mile-post in our gardening, for this coming June will mark our twenty-first, our garden comes of age. But a garden is like good wine ; it becomes better with age, the years ahead will bring added beauty and grace to shrubs and trees, the plan of year-round colour will be a pleasing picture, the individual gardens will be completed. The overall planting will have attained some degree of

maturity, making the Gardens more attractive and we hope more pleasing to the many visitors who come from far and near to enjoy the beauty, and drink deeply of the restfulness, the peace, that we have tried to bring to this beauty spot, located on a gentle terrace with sloping glades of lawn, enhanced by distant mountains, and on clear days a sky that seems to vibrate with lovely blues. There are breathless evenings to silently marvel as the Master Artist skilfully paints with sweeping strokes the horizon and drifting clouds that skim above, with reds, delicate pinks, and sombre tones of blue and grey over the Cascades in the east. May many more come in and enjoy the Gardens during the years ahead.

Much thought had to be given to the over-all plan. Buildings had to be dismantled and new ones erected ; this has been completed. Windbreaks of conifers were planted to add protection from north and east winds ; and since we were to have a series of gardens within a Garden all must be planned for ease of access and for added charm as we and our visitors walked from one into another. A master plan was drawn, changes were made as they seemed to be necessary to provide for some added feature, but the main outline was adhered to through the years. Thus the Gardens as they are today are the result of careful planning, and the use of imagination. We have had our trials and tribulations of doing the wrong things. We learned at times the hard way, but through our errors, and because of them, we trust that we have become better gardeners and that we have acquired more of the virtues of humility and patience, so necessary to garden with success.

Having presented some of the background of the gardens, we shall take in the Gardens as they exist today and give some of the details that make up each individual garden.

From the county road a wide drive entrance leads one onto the Upper Terrace ; the sides of the entrance are planted with Kurume Hybrid Azaleas and the beds bordered with winter flowering heather. On the right, as one enters, is a tall hedge of *Ilex aquifolium*, and beyond a nursery devoted to the raising of Rhododendron Species, of which we are growing at the present time some one hundred and sixty different ones. Adjoining this nursery on the west is the planting of four acres of *Ilex aquifolium*, for commercial purposes, from which we make up gift cartons of holly : these are shipped into every State of the Union, Canada, and to far-away Hawaii. To the left of the entrance, a walk leads one through a wooded lane that borders the county road ; this wooded area, which we have planted, also provides a wind-break for the Upper Terrace on the east and the full width of the twenty acres that make up the Gardens. Along this woodland path native plants have been used to provide interest, as have two small pools. The latter are used a good deal by our many birds that have taken up residence with us, very interesting to watch and of so many kinds that they themselves lend a good deal of colour to the Gardens.

Proceeding down the drive, a few feet further west from the wooded lane, a service drive leads to the Residence and the Upper Terrace proper. A paved area adjoins the east and north walls of the home to enable one to enjoy this part of the garden the year through. A section of turf borders the paved area on the east, and next to this a wide bed of *Rhododendron Fortunei* is planted ; this has the backdrop of evergreens furnished by the Wooded Lane. On the north, bordering a paved strip, another large bed is devoted to a large grouping of *Rhododendron* hybrids ; amongst these are some of the old favorites : R. "Butterfly," R. "Mrs. G. W. Leak," R. "Earl of Athlone," R. "Azor," R. "Unknown Warrior," and a good specimen of *R. Thompsonii*. Used as border plants are some of the low-growing *Rhododendrons* ; one of these that attracts a good share of attention is *R. glomerulatum*, a plant that is sixteen years old and has a spread of twenty inches and a height of eighteen inches, very full and nearly a perfect mound, covering itself each year with its purple-mauve flowers.

Next to the home on the West wall, which does have a great deal of heat in the summer months, we have used shrubs that are not especially adaptable to full heat to see how they would do. Among these are *Kalmia latifolia* and *Pieris japonica* and *Pieris floribunda* ; both do very well and flower profusely each year ; also we do have a nice specimen of *Choisya ternata*, which of course enjoys the heat. A walk borders this planting and to the west we have used large beds devoted to Kurume Hybrid Azaleas with a few large specimens of *R. Fortunei*, and a lovely tree of *Cornus Kousa*. From this walk also we may proceed into a wee garden that is used for the growing of slow-growing dwarf conifers. Several forms of the *Picea Abies* are represented, a dwarfish form of *Stranvaesia undulata*, a cross of *R. repens* named 'Little Joe' that flowers each year, with large red tubular blossoms, and also on a small bank a beautiful plant of *Penstemon rupicola*. Growing next to a fence on the east of this garden is a nice plant of *Corylopsis sinensis*, and planted so as to have pattern of branches shadowed on the fence is a small tree of *Salix Matsudana*. A hedge of *Ilex aquifolium* furnishes a boundary of this garden on the west. In front of this are young specimens of *Magnolia Campbellii*, *M. denudata*, *M. Kobus*, *M. liliflora*, and *M. stellata*. Here too, is a broad bed of *Kalmia latifolia*, one plant being of a rich pink flower, much deeper coloured than most of the *Kalmia* blossoms. A small bog garden is at the north end of the garden. Here we have used *Ledum*, the bog *Kalmia*, several of the *Gentiana calycosa*, and an interesting *Lysichitum* ; this is a dwarf form and has not flowered for us yet. The leaves are quite distinctive, having a mottling of black upon the dark background of green.

The walk now leads back to a lovely glade of nice width, varying from six to ten feet ; this borders the *Rhododendron* grouping on the north of the home and lies east to west on a gentle downward slope

to the west, and opens out onto the parking area. On the right as we proceed westerly, we pass under four *Quercus alba*. These are now thirty feet in height ; the trees furnish shade for the Rhododendrons that are planted beneath their canopy and also are good for autumn colour. These trees and shrubs are planted in a wide border of some twelve feet, in length one hundred and fifty feet. Paralleling this planting on the north, the main drive continues to the parking area.

(To be continued)

Bonsai

(Addressed with compliments to R.M.H.)

If you ever come to Woking and think you'd like to see
Some Bonsai made in Yedo and Bonsai made by me,
Pray let me know you're coming—you'd very welcome be,
And I'll tell you all the secrets of how to dwarf a tree.

For I knew that man of Yedo, he sat and talked to me,
(He swore that in a former life I'd been a Japanese)
He showed me how to wire and bend and prune and clip, you see
He taught me all the secrets of how to dwarf a tree.

All these were brought from Yedo in Nineteen thirty-three,
A rugged Oak (*dentata*) now aged a century,
*Two "Junipers upon a Rock," Zelkova (*Keaki*),
A twisted Pine with knotted roots, Larches and Ginkgos three.

I learned the art in Yedo and these were dwarfed by me—
A grove of beeches on a knoll, a flowering cherry tree,
A Ginkgo and a Cedra, in height but inches three,
And others trained before the War all live and thrive with me.

G. A. (Woking)

*(A favourite standard design)

Concerning Tufa

By R. F. WATSON

TUFA is a subject that has not received much attention in the *Club Journal* and our Editor has asked me if I will do something about it. I do not recall ever having read or heard that *tufa* is found in Scotland, and perhaps this accounts for the fact that so little has been written about it, because, if it must be transported over long distances, the cost could be prohibitive. It occurs in fair quantity in several districts in England and Wales, but never in such amounts as to be the predominant rock of the district. *Tufa* is a water-formed substance and is built up very gradually by the water flowing through the soil, or over it, in limestone areas, the lime content being separated in the process and hardening to form a solid mass.

It is very light in weight and very spongy in character, riddled with small channels and holes, which are sometimes filled with a black peaty soil, and sometimes are empty as a result of the soil matter having been washed away. When first dug out of the damp soil, it is very soft, almost muddy, but on exposure to the air becomes case-hardened and will withstand any weather. *Tufa* is usually very rugged looking, has no stratified lines, and so can be built into a rock-garden with comparative simplicity. Alas, that it is so local in distribution, as it is the best of all rock for a garden—beautiful in appearance, neutral in colour, and very beneficial to plant life ! A rock garden made of large pieces of *tufa* would be a gardener's dream, but unless one were fortunate enough to live where it occurred, a very expensive proposition.

However, if this is out of the question, it is quite possible to acquire some smaller lumps for the purpose of making up a miniature garden in a stone trough or on a slab, or a large piece to bore and chisel into shape and make holes in, which will provide a congenial home for many small saxatile alpine plants. One quarry in North Wales, where there are extensive deposits, will supply a piece or pieces as large as will pack into a tea chest and would no doubt meet customers' requirements if asked to do so ; the material from this source is very soft and can be worked with ease.

Tufa is a rock very variable in degree of hardness, the variety of it found in the Mendip Hills in Somerset being harder and more sandy in composition, but all forms of it can be worked fairly easily with a small chisel. Even after exposure to the air, after the hard thin exterior has been penetrated it will be found to be quite soft, hence its beneficial influence on plant life. As it ages *tufa* produces on its surface a light growth of moss, and soon acquires a most pleasing and natural appearance. Small pieces can be carved out to form very attractive pots, a hole being made as large as the piece of rock will allow, and



FIG. 37—*Polygala chamaebuxus*.

By courtesy of Messrs. Collingridge—Illus. from "The Alpine Garden"



FIG. 38—*Dianthus glacialis*.

By courtesy of Messrs. Collingridge—Illus. from "The Alpine Garden"

the exterior left as natural as possible. The material, crushed to rubble and the dust sifted out, will be found of great benefit to lime-loving plants if mixed with the potting compost in the proportion usually recommended for chippings. All saxifrages love it and when unpotted the roots will be found firmly attached to the *tufa* chips.

Plants suitable for planting a *tufa* rock are best chosen from the smaller lime-loving saxatile groups, but if a large piece is obtained and a sufficiently large hole made, it will support one of the lovely miniature dwarf conifers. Only the smallest forms, of course, such as *Juniperus communis* v. *compressa*, or *Chamaecyparis pisifera nana*, or one of the delightful tiny forms of *Chamaecyparis obtusa nana*, would be used for this purpose. Of other plants a choice can be made from the smaller forms of *Kabschia* Saxifrages such as—for instance—*S.* x “Cranbourne.” *S.* “Arco Valley,” *S. Petraschii*, *diapensioides*, or any of the light growing forms, but not the strong growing forms of *Saxifraga apiculata* and its hybrids; these are best on the rock-garden where they can spread into large clumps and mats.

The smaller *Drabas*, such as *Dd. bryoides*, *rigida*, *Dedeana*, *polytricha*, *mollissima*, *andina*, and *imbricata*, are excellent plants for our purpose. Many small *Sedums* and *Sempervivums* can be used, and of course the small forms of encrusted saxifrages such as *Ss. Aizoon baldensis*, *valdensis*, and its variety *pygmaea*, *Lambertiana*, and any of the forms which grow light and hard are about the best of all plants for *tufa*. Use may also be made of the tiny forms of *Dianthus* such as *Dd. simulans*, *Freynii*, “X Whitehills,” a lesser known tiny form of *D. caesius* raised by the late Captain Leschallas, *Allwoodii* “X Mars,” “Grenadier,” etc. Some of the smaller choice *Campanulas* such as *Cc. Waldsteiniana*, *Woekii*, *arvatica* and its exquisite white form, and *rotarvatica*, are good. Also good are *Asperulas arcadiensis*, *pontica*, *lilaciflora*, *ceaspitosa*, and *nitida*.

For *tufa* pots there are many good plants. I have a plant of *Androsace argentea* planted in a small one which from a tiny seedling has in two years made a plant one and a half inches in diameter, has flowered, and looks very happy and healthy. In a larger one resides a plant of *Pratia Treadwellii*, the trailing growths of which have spread over the sides and at the time of writing (September) are laden with the lovely crimson berries. A wide choice of plants is available and no doubt readers will want to experiment. I hope that these notes in the *Journal* on a subject almost untouched may arouse interest among members and be the means of helping to create a new and exciting method of growing our beloved rock plants.

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Odd Jottings

By STUART BOOTHMAN

LIKE MOST alpine growers I possess an alpine house, but, alas, not the time to give it what is regarded as 'proper attention.' I have read, and written, of the correct ways of watering alpinines with hairy foliage, using a can with a curved spout and watering carefully round the edges of the pot, taking care to splash none on the leaves. I have read also of growing these plants in double pans, watering only the outer one, and of soaking them by standing the pans in a dish of water. If I had the leisure, I could enjoy doing this, but being too busy with other things, I water my alpine house from March to September with a Rain King sprinkler, letting the hose flow for an hour or so, thoroughly soaking everything. *Androsaces*, *Eritrichium elongatum*, *Dionysias*, and the like, live and give no trouble. From October to December they seem to need no watering and when bright frosty weather prevails after the 'turn of the year' they get an overhead watering when they are found to be dry. The danger period for all woolly leaved alpinines is in November and December, when the weather is frequently mild and misty, and everywhere, indoors and out, drips with moisture. It is then, and then only, that I find that the dictum of no-overhead-watering need be obeyed.

Cushion plants, particularly those grown under glass, often develop dead brown patches which need extraction and the hole filled with grit or a piece of stone. The cause, patently, is drought, yet the soil in the pan may never have been dry. If an affected plant is pulled to pieces it will be seen that it has two root systems: the main trunk which operates throughout the year, and a system of fine rootlets within the cushion itself which develop mainly in spring and summer and feed on the dead foliage of past years. When exposed to bright sunshine the cushion dries out; these rootlets are killed and a portion of the plant collapses. The cure is either to shade the house or to water overhead.

It is always difficult to tell when a pan in the alpine house needs a drink, especially when chippings are used to cover the soil surface. Poking the soil with a finger is a good test, but takes a long time, whilst imitating the 'wheel-tappers' at Crewe with a mallet is less satisfactory as pans filled with a scree mixture give a different dialling tone from those filled with a peaty mixture, no matter how wet or dry they may be. An easy way to know when to water is to have one or two, what I call 'Barometer' plants—plants with large leaves and gross root systems. When these flag and are obviously bone-dry, the time has come to give everything a good wetting. If other things are moist when the 'Barometer' flags, then give it a larger pot, and vice-versa if the other plants get dry first. One season of observation will easily give a standard of operation for future years. *Edelweiss* and *Arnebia* have proved good examples to denote summer dryness, and *Anacyclus atlanticus* is excellent for giving warning in the winter.

A Swedish Member Visits Scotland

(Extracts from a letter received from Mr. Kjell von Scheele of Huskvarna, Sweden)

“I FEEL very much ashamed for not having written to you earlier, but since we came back home from our journey I have been so busy. I have also been anxious to be able to send you a list of the seeds I have collected this autumn, and it has not been compiled until now.

“Now I like to thank you very heartily for all that you did to make our trip to Scotland so interesting and successful ; for the pleasant afternoon in your lovely garden and a nice tea, also for the seeds you so generously gave me ; for introducing us to Mr. David Wilkie and to your friends in Perth, Methven and Aberfeldy, and for your good advice for us to go to Roslin for settling during our stay in the Edinburgh area. Many thanks also for the fine seeds I got the other day. You must tell me what *Lilium Mackliniae* is, as I cannot find it in my books.

“I hope you will not find it too tedious to have a short account of our trip from Dirleton. We went from you directly to Edinburgh in the afternoon and then out to Roslin Castle, where we pitched our tent for two nights. It was a very lovely and picturesque place and not too far from Edinburgh. The next day I spent most of the time at the Botanic Garden, after a short visit to the Castle, where the War Memorial and the excellent view both filled us with gratitude. Mr. Wilkie gave me several hours of his time both in conducting me through the Garden and in showing me his wonderful slides of Gentians and some other plants. I think the reputation of the Botanic Garden of having the finest Alpine Department of all gardens of the world is well-grounded, and the hours spent there could not have been spent in a more interesting way. I made notes of interesting species which I hope to get hold of some time. The culture of *Mertensia maritima* was very successful also in the Garden. While I spent my time as told above, my family did some sightseeing and shopping, and at five o'clock we met for a walk in the Zoological Garden, which also was very well equipped.

The next morning we started for Perth via Queensferry. Unfortunately, we didn't find Mr. and Mrs. Renton at home. I walked through the garden for a short while and was convinced that it was a most lovely creation ; it must have taken about half a century to reach its present perfection. It was indeed a great loss that we did not meet Mr. and Mrs. Renton.

The next day at Keillour Castle we found both Major and Mrs. Finlay at home, and spent some very interesting hours in that plant paradise. None of us had ever thought that there could be in the world a place like that ; and also our children, who are usually very unwilling to admit that gardening has much of interest to give, were struck by

the richness of the natural vegetation and of what had been brought into cultivation there. You could hardly believe it possible for those two people to run this park and garden as they do !

Late in the evening we started for Aberfeldy and spent the night out on the lonely heath. We arrived at Cluny House at eleven and found all the family at home. Though there is much still to do to make the place what it will be, Mr. and Mrs. Masterton have made a very good start and will have in a few years a most wonderful garden on their beautiful hill. It was a great joy to spend a few hours with these friendly people.

“From Cluny House we started the long drive for Aviemore. In the afternoon we arrived at Mr. Jack Drake’s garden, and I was certainly very glad to meet this very frank and friendly gentleman, who is so successful a plant grower. I think he will have quite a long list for a spring shipment for Huskvarna.

“This was Saturday night and we camped near Aviemore, next day going to Inverness, and then to Nairn, where Sunday afternoon and Monday morning were spent in camp on the sea-shore. All these days it had been more or less raining, but at Nairn it was considerably better.

“At noon on Monday we started westwards along Loch Ness, and then to Kyle of Lochalsh where we arrived in very wet weather. I saw here the most wonderful plant of the whole trip—a *Desfontainea spinosa* in full bloom. The next morning we went over to Skye and then on to Fort William, where we stayed overnight. Next day was used for a trip into Glen Nevis and a walk on the mountain, after which we went south through Glencoe down to Loch Lomond, where we camped close to the shore of the loch. I can’t tell how lovely we found all the landscapes through which we passed—all the days wonderful views were followed by new ones equal or superior in beauty !

“Glasgow and Culzean Castle were passed the next day, which ended in Stranraer. Breaking camp next day was our wettest experience of the whole trip. It rained hard all day, and after our longest drive of the whole journey—about 250 miles—we had to stay indoors on Friday night at a place not far from Liverpool. During the day we had passed through the Lake District and I understand that Cumberland must be wonderful when there is fine weather.

“This holiday in Great Britain gave us a wonderful all-round view of a country and a people whom we loved and admired before, but learned to love still more. We hope to return another year, if not next year.

“May I now trouble you with some questions which I noted during my study of the Club *Journals* :

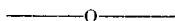
- (1) Could you tell me your opinion of the “Quick-return Method” for composts and what is the name of the preparation used for it ?

- (2) Do you have any experience of raising seeds in refrigerator boxes as described in the *Journal* ?
- (3) Have you any experience of using Copper Sulphate as a permanent weed-killer ? Is it more effective than the ordinary Sodium Chlorate ?
- (4) Finally, could you give me good advice on how to get rid of slugs ?

“And so I will give you a list of seeds which I can offer you. I hope you will find some that are of interest.”

(Mr. von Scheele's list of seeds harvested in his own garden included the following Swedish native plants :

Anemone patens, *Anthericum liliago*, *Anthericum ramosum*, *Epipactis atrorubens*, *Genista pilosa*, *Hypericum pulchrum*, *Lathyrus montanus*, *Linosyris vulgare*, *Papaver radicatum*, *Viscaria alpina*).



A feeling of elation has been in my heart to-day,
 Because the aconites are out, and spring is on the way,
 Because the winter jessamine that climbed my gardens wall
 Has come cascading down again—a golden waterfall.

A primrose here—a snowdrop there—‘*stylosa*’ showing blue ;
 Mezerium in blossom, and the bulbs all pushing through.
 Hepaticas with silken buds, a bee on sleepy wing ;
 And blue caps picking saucily at peanuts on a string.

I always think the thrush's song is like an eager shout,
 “Don't stay indoors this lovely day—
 Come out—come out—come out !”

R. M. H.

“ I COULD HAVE BEATEN THAT ”

Some of you must have said that when going round one of our Shows.
WELL, DO IT
HAVE A GO

At least have a try at the
SECOND DAY COMPETITION

Books

By JAMES DAVIDSON

“To the making of books there is no end”—a statement which is equally true of books on horticulture and of any other type of book. Fortunately those devoted entirely to Alpine Plants are not so numerous, and it was with the object of assisting beginners in the culture of alpines that the editor asked me to contribute some notes about books which might be of value to them.

Without any hesitation whatever one would put by far and away first on the list those books written by the late Reginald Farrer. Farrer has, perhaps, done more to stimulate an enduring interest in rock gardening than any other writer on the subject. In my opinion he wrote as no one else has ever done before him or since. Such a command of the English language and such powers of description! He had the gift of creating boundless enthusiasm. He was an enthusiast himself, and by his expression communicated this to his readers. Perhaps we may not all agree with his descriptions of plants. Granted they may be overpainted; on the other hand, he may damn with faint praise or utterly condemn some of our special favourites. He may even be accused of considerable inaccuracy. Be that as it may, there never was such a writer on plants as Reginald Farrer. His books can be read over and over again, and, in addition used as valuable books of reference. Nobody who professes the slightest interest in alpines can afford to omit to read “My Rock Garden.” This was the first book he wrote on rock plants, and must be read by everyone, beginners and those experienced growers who have not yet done so. Apart from the sheer joy of reading it, I find it most helpful in every way and never tire of it. It is a book which should be in all bedside libraries. Although published so many years ago, it is fortunately still in print and can be readily obtained—Arnold, 8/6. Second-hand copies can frequently be found for a few shillings.

This was followed by “Alpine & Bog Plants, an excellent sequel, which unfortunately for some unknown reason has never been reprinted. Consequently second-hand copies are apt to be somewhat expensive. They are, however, well worth searching for. Next followed “In a Yorkshire Garden,” another delightful book, but again rare and only to be found second-hand. Yet another of his books, a small one, worth acquiring is “The Rock Garden,” published a number of years ago in The Present-Day Gardening Series by T. C. & E. C. Jack. Although small, this is a most valuable book for a beginner. I know of one person at least whose interest in rock gardening was first aroused by casually picking this book out of a book-case. A second-hand copy can frequently be found at a very moderate price.

So much for the chatty and instructive books. We now come to the greatest work in the English language on rock gardening, namely

“The English Rock Garden.” This is the standard work on alpinism and their cultivation. Written in the typical Farrer style, it is a most readable book although essentially a work of reference. Never have there been such descriptions of plants. Again there may be inaccuracies, overstatements and matter with which we do not entirely agree, but what of it? It may be controversial in parts but is certainly stimulating throughout. Although not exactly a book for a beginner, it is one which should be on every alpine enthusiast’s bookshelf. Written in 1913, it naturally is not up-to-date with the more recent plant introductions. To remedy this, a complementary volume—“The Present-Day Rock Garden,” by Sampson Clay, was published in 1937. The three volumes have recently been reprinted (Nelson) at a cost of £4 10/- for “The English Rock Garden” (2 Vols.) and “Present-Day Rock Gardening” 45/-.

For the person who knows nothing whatever about rock gardening and requires some simple instructions on how to build a small rock garden, and what plants to put in it, I would recommend a small inexpensive book “Simple Rock Gardening,” by A. J. Macself (Collingridge). A similar book which is extremely good is “Miniature Alpine Gardening,” by L. D. Hills (Faber & Faber, 8/6). Not only is one instructed in the building of a small rock garden, but good advice is given on the growing of alpinism in pans, troughs, sinks and odd corners. Comprehensive lists of suitable plants for different situations, colour, flowering months, sun and shade lovers are given. In fact here the reader can find lists of alpinism for all purposes. There are good descriptions of a selected number of plants with hints on their cultivation and propagation. This is a book which I can thoroughly recommend to the beginner.

A *vade-mecum* of alpine plants and their cultivation is “Alpinism in Colour & Cultivation,” by T. C. Mansfield (Collins, 21/-). This should be on the shelves of all alpine gardeners. It is encyclopedic in its information. The descriptions of plants in alphabetical order are brief but comprehensive. These include a description of the plant (including height), its place of origin, month of flowering, habit, amount of planting space to be allowed, method of propagation and type of soil required. There are eighty plates in colour, reproduced from colour photographs which are remarkably accurate for the majority of the plants. In addition there are instructions for the building of a rock garden, including a scree and alpine meadow. There are chapters on maintenance and propagation, the alpine house, trough, wall and paved gardens, composts, and the control of insects and other pests. As already mentioned, this is a book which no rock gardener can afford to be without and is at present the most complete modern guide available.

And then there is that delectable book “Rock Garden Plants,” by Clarence Elliott. Written in the author’s inimitable style are descriptions of plants which he himself has known or grown or, as he says,

has sometimes killed. In addition there are valuable suggestions for the propagation of the plants so described. No one could but enjoy reading this book and the only criticism is that there is not more of it. It is one of these books which can be read over and over again—a bed-side book. Unfortunately this is another of these excellent books which are inexplicably out of print, not having been reprinted since 1936. It is sad to think that so many of these books of such a high standard have been allowed to pass into oblivion by their publishers and their place taken by so many new rubbishy publications on different topics of gardening. However, it is well worth trying to pick up a second-hand copy.

Before leaving the general books on rock gardens and alpiners, I would like to mention "Commonsense Rock Gardening," by F. Kingdon Ward (Cape, 10/6). In my opinion this is a book well worth reading, as the subject is presented from a somewhat different angle from that usually found in beginners' books on rock gardening. Here the author applies his great knowledge and experience of the high mountains and flora of Tibet, Burma, and neighbouring areas to the construction of suitable sites for the growing of alpine plants in our own little gardens. The illustrations are not those of dull man-made rock gardens, but of those vast mountainous regions which are natural rock gardens. It is certainly a refreshing and thought-provoking book—one might say something out of the usual run.

As time goes on and we become more interested in the propagation of our plants, we may find that we cannot get all the information which we might require from a general book. This want has now been supplied by "The Propagation of Alpiners," by L. D. Hills (Faber, 25/-). This is the standard and most up-to-date work on the subject and all the methods of propagation are fully discussed and described.

There is a number of books which deal with different families of plants. Such are of considerable interest and value to the alpine enthusiast who has passed beyond the beginner's stage, and who wishes to specialise in a particular group of plants. There is the well-known and outstanding work on "Gentians," by David Wilkie (Country Life, 25/-). Those who wish to know about the different species of primula and their cultivation will have their wants supplied by that excellent book "Primulas in the Garden," by K. C. Corsar (Bles, 16/-). The meconopses are fully treated in an exhaustive monograph on the family—"An Account of the Genus Meconopsis," by G. Taylor and E. H. M. Cox, published some years ago. Valuable cultural information is also given in this book, which is now out of print but can be obtained second-hand. Unfortunately there is no up-to-date book on Saxifrages. The only book which can be found second-hand for a small sum is "Saxifrages or Rockfoils," by W. Irving and R. A. Malby. This book is quite good as far as it goes, but there is a great need for a new book on the subject. "Campanulas," by H. Clifford Crook (Country Life, 35/-), covers all the ground with regard to this family and the campanula enthusiast will get all the information he

requires in an extraordinarily comprehensive text-book on the subject. Heaths are fully dealt with in a recent publication, "The Heather Garden," by Fred J. Chapple (Collingridge, 21/-). With this book on his shelf the grower of heathers requires no other. The very recently published "Shrubs for the Rock Garden & Alpine House," by Royton E. Heath (Collingridge, 42/-), must also be mentioned, for those who are interested in this class of plants. "A Handbook of Crocus & Colchicum for Gardeners," by E. A. Bowles (Lane, 30/-), is a classic. No one who is at all interested in the crocus or colchicum can afford to be without this book, delightfully written by a great master on the subject. The latest information on miniature narcissi can be found in a comparatively new book, "The Daffodil," by J. M. Jefferson Brown (Faber, 25/-). "The Genus Tulipa," by A. D. Hall (Royal Horticultural Society, 21/-), is a standard work on the tulip species. It contains a large number of coloured plates and now-a-days must be considered a most inexpensive book.

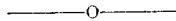
Those who are interested in Alpine House culture or who are about to build an alpine house will find the information which they require as beginners in the three following books: "The Alpine House & its Plants," by Stuart Boothman (Rush & Warwick, 10/6), "Alpine House Culture for Amateurs," by Gwendolyn Anley (Country Life, 15/-), and "Alpine Plants Under Glass," by Royton E. Heath (John Gifford, Ltd., 12/6). The last, in addition to being well illustrated, contains a list of plants which have been grown by the author, who gives comprehensive instructions about their cultivation under alpine house conditions.

And now mention must be made of books which may be required by those who wish to visit those parts of Europe where they can see for themselves and study the conditions under which alpine plants grow in their natural environment. To begin with, I would suggest a small book which describes the different alpine areas of Europe, written by a veteran amateur plant hunter and grower of alpines. It is "Plant Hunting in Europe," by Dr. Hugh Roger-Smith, which is obtainable from the Alpine Garden Society, price 4/-. This book is most informative about the various places to which one might go in Europe with comparative ease in travelling. A classic which can be obtained only second-hand, at a price, is "Among the Hills," by Reginald Farrer. It is written in his usual brilliant and enthusiastic style and describes his journeyings in search of alpines in various parts of Europe. After reading this book we can hardly rest until we have followed in his footsteps through the country he talks about and seen for ourselves the flowers upon which he has discoursed in such a glorious manner. Another of his European travel books is "The Dolomites," again out of print, but again worth searching for. It is an enthralling story, illustrated in colour from beautiful paintings by E. Harrison Compton.

Those of us who are not expert botanists will naturally require some simple guide to aid us in the identification of the flowers which we see

growing around us in such profusion. Numerous such books can be obtained on the continent, but it might perhaps be better to purchase one or more in the English language before we leave. A book which will slip easily into the pocket is "Alpine Flowers," by L. & C. Schröter. This contains twenty-four coloured plates which greatly help in the identification of the more common alpine plants. It can be obtained new for a small sum and is quite frequently for sale in second-hand book shops. Another larger book which is readily obtained on the continent and written in French is "The Alpine Flora," by H. Correvon, with the famous coloured illustrations by Philippe Robert. An English translation can at times be bought second-hand in this country for a moderate price. There are two books which are invaluable to the keen plant hunter who is not an expert botanist: "Sub-Alpine Plants of the Swiss Woods & Meadows," and "Alpine Plants of Europe," each by H. S. Thomson. They were published some years ago by George Routledge & Sons, but most unfortunately have gone out of print. Each contains most excellent coloured plates, a very good letter-press, and are well worth searching for.

Finally, there are parts of the world which many of us can never hope to visit, but which we know only too well as the home of the primulas, gentians, meconopses and all the other eastern alpine plants which are so familiar to us. We can only read about such areas and enjoy the stories of the adventures of those great plant hunters who have introduced such treasures to our gardens. It would be necessary to write another article on such books as there are quite a number of them, but space is limited. I would like, however, to mention two more of Farrer's travel books: "The Rainbow Bridge," and "On the Eaves of the World," and all the books written by that great plant hunter and explorer who is still with us—F. Kingdon Ward.



The Editor,

The Scottish Rock Garden Club.

In that remarkable summary of the primulas of the section *Vernales* by Professor J. W. Hislop Harrison made in 1931, one statement reads " I should point out that *Primula balearica*, like *P. Winteri*, will yield good seeds, not hybrid in constitution, when stimulated by pollen of any type placed on its stigmas. If this holds true of *P. balearica*, the possibility of similar occurrences in *P. vulgaris* cannot be lightly dismissed."

The *Primula Winteri* of 1931 is of course now named *Primula Edgeworthii*.

Viewed in the light of the various articles upon *Petiolares* primulas which have appeared in the Journal, this should be a further stimulus to their cultivators and observers.

Yours etc.,

R. E.

Anticipation !

By J. G. COLLEE

THE JOYS and tribulations of rock gardening are many and varied : a new flower, a rapid growing plant, a gem nibbled by a slug overnight, are all items which we discuss with the greatest delight, or the deepest chagrin, with our alpine loving neighbours and friends. Nothing, however, can equal or surpass the great satisfaction experienced by the enthusiast who grows his plants from seed. To be able to say that this plant was raised from one's own seed, or even from bought seed, enhances the plant a thousandfold in the grower's opinion.

At the moment, pans of the undernoted seeds are showing their little green shoots above the ground, and the question is—will they make the grade and eventually take their place on the Show bench, or will they simply be mediocre little plants ? That, of course, depends on a great many factors, but no first born will ever be given greater care and attention than those seedlings. Perhaps they may even resent the attention that will be showered on them, but time will tell.

The first pan is filled with tiny *Calceolarias*, that variety known as *C. Darwinii*. The seeds were sown in gritty, rich soil and they are shaded from the hot sun. They do revel in moisture and must be kept watered at all times. How soon will they show up that rather bizarre flower of orange yellow with its two eyes and a yellow apron covered with brown spots and a fascinating white belt ?

Totally different plants are showing up in the next pan, which has a breering of *Aster Purdomii*. The soil was similar to the last, but the plant is one of the showiest of the *Aster alpinus* family. This variety grows almost 6 inches high and has flowers of a most brilliant violet, around a hump of flaming orange. The individual blooms are almost four inches across, and if ever a flower was said to catch the eye, this one certainly does. A break of these asters in bloom is a wonderful sight to behold.

Two pans of *Lewisia* have not yet come through, but any day now (November) they should throw up their tiny shoots. This seed takes a very long time to germinate. The *Lewisias* require no description. They are a wonderful range of plants and were well shown at the last Edinburgh Show. One of the pans is *Lewisia Tweedyi*, which has the biggest bloom of all, apricot flowers with a touch of pink. It is a difficult variety to grow and must on no account be kept too dry.

Next in the row is a pot of *Viola Yakusimana*, a very easy "do-er" and a lovely small plant. Everyone who sees this variety is at once intrigued by its tiny form. It has half-inch stalks each with a miniature pansy of white and purple. It will grow anywhere but will appreciate shelter from the stormy blast, and especially protection from our arch enemy—the slug !

Tiarella Wherryi has come through very well. It is not by any means everybody's piece of cake as far as rock gardening is concerned, but

it is especially useful for the shady corner. It flowers for a long period—almost three months—and has feathery white plumes flushed with pink. It makes a delightful pot plant, rising to almost nine inches.

The seed of *Mimulus* (Whitecroft Scarlet) has grown extremely well, possibly because great care was taken in keeping the gritty soil moist. This is one of the smaller *Mimuli* and is a lovely variety, both from the point of view of colour and habit.

No seed shelf would be complete without a pot of *Dianthus alpinus*, and no one can complain of the difficulty of growing this plant. It is a neat, tufty plant with bright red flowers, each about one and a half inches across, daintily fringed at the edges and shading to velvety crimson in the middle. Keep them fairly dry and shelter from rain.

A pan of *Erinus alpinus*, variety Dr. Hanele, is growing very well. The flowers of this variety are intensely carmine and for a wall plant this variety is a necessity. A pot of this was well shown at one of our recent shows and received the highest commendation.

A new plant, tried from seed for the first time here, is *Penstemon pinifolius*. It was sown in very gritty soil and is coming through nicely, although it has a very delicate appearance. It is of bushy habit when well established, is about six inches in height, and blooms continually from June onwards. Its flowers are a brilliant scarlet and it is sure to become a great favourite.

These, then, are some of the babies which eventually it is hoped will grow into Alpine gems. Will they succeed? Is that not the reason why we all enjoy gardening so much, the fact that we are trying to create something new, something to test our skill, our patience and—at times—our temper!

What's in a Name?

By G. H. SOMERVILLE

ALTHOUGH we know that a rose by any other name would smell as sweet, there is something distinctive in a plant's name.

We make our first acquaintance with flowers in childhood when we know them by their old or popular names; and these can tell us many a story about the plant, explain its usefulness in the past or the allusions to which the name referred. Later, we find that these names are not sufficient in themselves, especially if we grow up to be S.R. Gardeners. There are so many local variations of the popular names and, in addition, hundreds of plants have been introduced from other countries that they cannot have had here a popular name.

In the S.R.G.C. we are quite familiar with the Botanical names of our alpiners, and they tell us with economy of language a plant's family, species, and natural habitat. All this helps us when we try to imitate for it the conditions to which a plant was accustomed when it grew wild in some far-off country.

There may be a name which recalls that of a native plant and the importance of similar plants long ago. Take, for example, digitalis, the "Wee Folks' Glove" which in *Digitalis purpurea* yields the drug still used for heart diseases. Of the genistas, *Genista tinctoria*—Dyer's greenweed—gave a yellow dye for the hand-woven, home-dyed cloths.

The gentians are called after King Gentius, a King of Illyria, who experimented with herbs : a drug is still obtained from *Gentiana lutea*. The family of artemisia includes our Southernwood, and *Artemisia absinthum* used to flavour absinthe. It is believed that the name Colchicum is derived from Kolchis, on the Black Sea, long ago famous for the drugs which came from it. Colchicine, a specific for gout, is extracted from the oxalic acid in our native *Oxalis acetosella*.

A Classical Education has its uses : it teaches us that calluna comes from the Greek "to sweep," and certainly ling was made into brooms ; and isn't a gypsophila a lime-lover ? Saxifrage is the stone-breaker, and we know that a sedum sits (tight !), especially if it is *Sedum acre* and finds a gravel path for itself. *Arenaria balearica* grows very well on the face of a sandstone, and no wonder, because "arena" is just "sand" !

One can well believe that the first names were given to those plants resembling in some way an object or animal familiar to man. A Botanical name associated with animals is Ranunculus, like the frog these plants prefer damp places to live in. Other names are Erodium and Geranium. The seed boxes of these plants resemble the beak of the heron and crane respectively. On an aquilegia the spurs of the flower look rather like eagles' beaks, and the seed pods of Hippocrepis bear a fanciful resemblance to horse-shoes, whence comes its popular name, the Horse-Shoe Vetch.

Lastly, we should not forget that some plant names incorporate those of famous botanists or explorers, men whom we remember gratefully because they made possible the large variety of delightful plants available to Rock Gardeners.

Many of these plants were found after arduous journeys, and much courage and enthusiasm were expended before the unknown wild flowers were brought back to beautify our gardens.

All S.R.G. members know about George Forrest, the Scottish pharmacist who became a collector for the Royal Botanic Garden in Edinburgh. Gardeners are indebted to him for many plants, including *Rhododendron radicans*, *Gentiana sino-ornata* ; and *Primula Littoniana* (*Viali*) called after his friend Litton, the British Consul at Tengyeuh, where he died in 1932 while on a plant-hunting expedition.

As long ago as 1772 the first plant collector was sent out from Kew. He was Francis Masson (incidentally, a great many plant-collectors were Scotsmen) ; Masson went to South Africa with Captain Cook, and stayed at the Cape for three years, when he had many adventures

while exploring the wild countryside. Among the flowers he sent home were the Cape Heaths and pelargoniums. On another expedition, this time to the Azores, he found the centaureum which is called by his name, *Erythrea Massonii*.

David Douglas was another adventurous Scottish plant-hunter. At the beginning of the 19th century he was sent to North America by the Royal Agricultural Society. He, too, suffered many hardships. On one occasion his canoe was wrecked at the rapids of Fraser River, and he lost all his latest collection of seeds, his instruments and Journal. The next year he died tragically when he fell into a trap dug for wild animals. A Rock Garden plant named after him is the *Douglasia*.

In the 18th Century, in the mountains of North Carolina in America, a plant was discovered by a French Botanist. This was the *Shortia*, or "Oconee Bells." The specimens were laid away in a Herbarium in Paris. Some years later an American botanist, Asa Gray, on examining them realised it was a flower new to the America Flora. He called it *Shortia galacifolia* in honour of his friend, Dr. Short. It was some years before Gray saw the living plants, and not until the end of the 19th Century were they found again—although a constant watch had been kept—in the mountains where they had first been seen.

Another Alpine found in North West of U.S.A. by an officer, Captain Lewis, is, of course, the *Lewisia brachycalyx*. He was on an expedition for his Government, and actually in pursuit of hostile Indians, when he saw some roots dried in the sun. He was told by Indians, who cooked and ate them, that they were the Bitter Roots. Captain Lewis did not enjoy their taste but, in memory of his adventures, he named the mountains there the Bitter Root Mountains.

The *Incarvilleas* get their name from a French botanist, Pierre d'Incarville. He was a Jesuit missionary, one of the many who, in the 18th century, were plant-collectors. D'Incarville seems to have been the first collector to gather the wild flowers of North China.

Louis XVI of France employed an artist to paint the Royal gardens and their flowers. The artist's name was Claude Aubriet. We should remember him every time we see the ubiquitous aubrietia, sometimes scorned by the modern Rock Gardener, but still a source of colour and pleasure to many gardeners who have not yet discovered the interest and excitement that the successful cultivation of alpines give to those of us who are members of the S.R.G.C., where we learn that, since there are so many plants to interest and delight us, each one must be known by its own special name.

Note : For some of the biographical information used in this article, the writer is indebted to "The Coming of the Flowers," by A. W. Anderson.

The Cultivation of Hardy Primulas

By A. B. DUGUID

PRIMULAS as a whole are not strictly speaking suitable subjects for culture in the rock garden—apart from the species that are truly alpine, such as *P. Auricula* and its hybrids, and the various species that grow on the European Alps. The majority of primulas come from light woodland, growing in association with deciduous trees and low-growing shrubs, well drained marsh-land, along sheltered valleys, and on high alpine meadows and plateaux. The ideal site for their cultivation is a not-too-shady woodland, preferably with a natural stream running through it, with space to make bold plantings in the mass for effect—ideal treatment for all 'Candlebra' species and their hybrids.

Asiatic primulas are lime haters, and no attempt should be made to grow them on chalk or lime soils. Such a situation would only bring disappointment if attempts were persisted in. Again, a hot, sunny garden where the soil is sandy is unsuitable, for although primulas would appear to grow in the cool months, a hot sunny spell quickly wilts the plants, and they soon disappear. On such soils, moderate success can be had by dressing heavily with very old farmyard manure, which must be well incorporated with the soil, adding a generous dressing of peat and leaf soil. If some shade can be provided, all the better; careful planting of choice shrubs and low-growing deciduous trees would be of benefit.

Attempts to grow primulas on unsuitable soils have given them an undeserved reputation for difficulty. The disheartened grower tells his friends how hard primulas are to grow; these in their turn feel it is not worth their time trying to grow them—even although in many cases their gardens would be quite suitable. There are large areas of the British Isles where anyone living there can cultivate land to make primula plantations and be reasonably sure of success. I don't think it matters a great deal whether it be north or south, if the soil be suitable, but speaking generally the northern parts of the country will be found to be more trouble-free in attaining results.

The ideal is a woodland glade, where the trees are mainly deciduous (birch is a lovely tree for this purpose and looks well at all seasons, a very important point), where a stream runs and gambols through, with the music of running water forever in the gardener's ear. The soil is a rich heavy loam with a dash of peat, particular care being taken with drainage, and cleared of rough grass and scrub. There the majority of primulas will thrive and repay the cultivator in due time with a riot of colour hard to describe—ranging from scarlet, through the deepest red to palest pink, from pale lavender to purple that is almost black, pale creams to deep yellow—or sheets of softest white. Pass that way after a warm shower, or on a balmy evening, and then one can appreciate to the full their beauty in scent and colour.

However, it is few who can command such a site and most will have to make the best of what they have got. If the small gardener wants to grow a patch of primulas in his garden in the best circumstances possible, I would suggest the following which I have tried and found excellent. The situation should be one that is not in full sun, one facing west being best, and failing that north or east. The soil should be lime-free, as the majority of primulas detest lime. I am writing, of course, of the woodland primulas, as they have been, more than those termed European Primulas (many of which flourish on lime) regarded as difficult. The site should be deeply dug, preferably double-dug, some time previous to when it is to be needed. Have at hand a quantity of well-rotted turf, sharp sand, horticultural peat, and clean, sifted loam. Use in proportion of roughly 4 parts sifted loam, 2 parts broken turf, 2 of peat, and 1 of sand. Break the turf up as finely as possible and thoroughly mix all together, turning it again and again until you get it thoroughly mixed. Spread this on the prepared bed to a depth of from six to twelve inches ; avoid making it too flat ; suggest a sweep in different directions, a little rise here, and a little valley there, running into the suggestion of a plain. Work on the lines of building a rock garden, and if space permits, the addition of one or two large rocks will give form and character. If rocks are used they should be placed in position before adding the top soil.

Like most other plants, primulas look their best when contrasted with other plants. Plants which I consider add charm to a primula garden are meconopsis, liliium, nomocharis, and iris. Of ferns suitable, the Hartstongue (*Scolopendrium*) is very good and has many lovely forms, some crested and tufted, others with the edges of the leaf finely cut along all its length, others again waved and crimped. The Lady Fern (*Asplenium Filix-foemina*) and the Male Fern (*Nephrodium Filix-mas*) add height and grace. Both of those again have many varieties, all beautiful and desirable. The Asplenium genus also contains such species as the hardy Maiden Hair Fern (*A. adiantum-nigrum*) and the dainty spleenworts of wall and rock. Apart from their beauty, ferns lend a woodland effect to the aspect, which is most desirable. Indispensible amongst the Meconopsis are *betonicifolia* (Baileyi), too well known to need description, *grandis*—especially F.S. 600—with enormous flowers of intense blue, *quintuplinerva* (Farrer's Harebell Poppy) with nodding pale blue flowers ; all of those are perennial, and should be in every collection. Of the biennial species *paniculata*, *nepalensis*, and *integrifolia* are all very fine, with pale blue-violet, or yellow flowers. *M. Dhwojii*, also biennial, is worthwhile for its finely cut leaves, and spire of soft yellow flowers. All the Nomocharis are desirable, even the—in some quarters—despised *N. nana*,* dainty and distinctive if only four to six inches in height. Any of the others available should be planted in choice corners. The lilies too are all suitable, and I will mention only a few. *Lilium Martagon* must be a first choice because of its ease of cultivation and the beauty of its flowers, both in the species

*Now called *Lilium nanum*.



Photo.—R. Howard.

Fig. 39.—Senecio in Carex Bog at 12,500 ft. (See page 235).



Photo.—R. Howard.

Fig. 40.—Helichrysum and Heather, with Kibo in background. (Dark patch to right, meeting skyline, shows route up Scree. (See page 235).

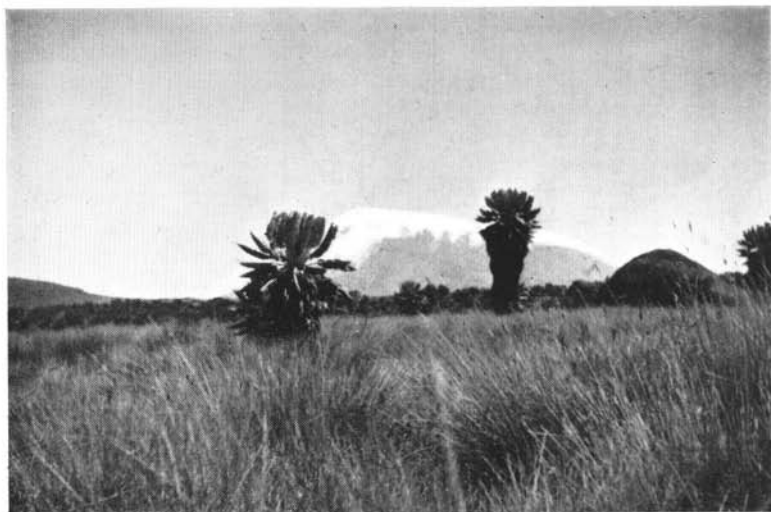


Photo.—R. Howard.

Fig. 41.—Senecio (Giant Groundsel), with Kibo. (See page 235).



Photo.—R. Howard.

Fig. 42.—Helichrysum, with Mawenzi. Upper limit of Ericaceous Belt showing higher on ridges. (See page 234).

and in the hybrids. *Lilium formosanum* v. *Pricei* is another "must" with its stout stems of grassy leaves, surmounted with snowy trumpets, deliciously scented. L. "Skusuan," one of the Bellingham Hybrids from America, is magnificent, five to six feet tall with heads of orange red "Turks Caps." *L. pyrenaicum* too in established groups is a lovely plant, especially in its variety *rubrum*, with clear scarlet blossoms; the scent, however, is objectionable. There are so many lovely Iris to choose from that it is difficult to make a choice; but for moister places I like *Iris sibirica*, blue or white flowers in May or June, 2½ to 3 feet, *I. Delavayi*, best in a very wet place, stout sword-shaped leaves of 3 feet in height, surmounted in June with spikes of royal purple flowers, and *chrysographes*, suitable for an open sunny place, 2½ feet, very handsome violet-purple flowers veined with gold. *Iris Clarkei* has lovely flowers of rich black purple, and *I. Forrestii*, 1½ feet, clear yellow flowers. One of the best of all is *Iris innominata*, from Western America, six to twelve inches, varying widely in colour, some being deep golden yellow, straw yellow, yellow with fine black pencilling, and a wide range of blues and purple. I find that *I. innominata* likes an open sunny place, neither too wet nor too dry, and when suited grows into wide patches, covering itself with its lovely flowers in May and June. There are many more plants that are suitable as association plants, but the above will be sufficient for illustrations.

The method adopted of planting primulas will, of course, be governed by the size of the bed available, and if the area at the disposal of the grower is small, bold planting in the mass cannot be undertaken. Speaking broadly, primulas look their best when planted in groups of one variety, blending naturally into other neighbouring groups. Some species indeed succeed better when grown in fairly close colonies. Primulas *chrysopa*, *farinosa*, *frondosa*, and *Clarkei*, all look their best when planted in this way, and thrive and flower better planted thickly in groups. All these primulas like an open situation and can stand quite a lot of sunshine if their roots are down in cool soil. *P. Clarkei* is one of the gems of all flowering plants; from low wads of leaves in March and April a mass of rosy pink flowers greet the spring. It is not difficult but thrives best where drainage is good. *P. chrysopa* flowers later, generally in mid-May, throwing up six- to nine-inch stems in generous abundance surmounted by whorls of pinkish purple flowers. *P. farinosa* is a well-loved plant to all who know it, growing naturally in the northern English counties. It is very fine in the Grassington district of Yorkshire, covering the dales with a haze of purple in early June. It is easy in the garden, but unfortunately not very permanent unless care is taken to lift and divide it immediately after flowering. *P. frondosa* is a much stouter plant than *P. farinosa* and also enjoys a more moist place; the flowers are profusely borne and make a lovely patch in late May. *Primula sino-purpurea* is very fine and reasonably easy, and best planted in small groups of three to five. From its rosette of mealy leaves it throws up stems six to eight inches high, on which are carried flowers of imperial purple.

sweetly scented, and most desirable. *P. sino-purpurea* has hybridised with *P. chionantha*, the resulting hybrids bearing flowers of a wide range of colours—lovely soft shades of ivory, purple, violet, lavender, powder blue, faint lilac, overlaid cream—and all of a most delicate charm. *Primula sino-purpurea* likes a fairly open position where it can get its roots down in cool deep loam where no drought can harm it. Inter-planted with other primulas, it does well, or growing through small ferns such as the oak and beech fern. *Primula chionantha*, needing similar treatment, differs from *sino-purpurea* in having paler green leaves faintly powdered with white, and ivory white, scented flowers.

Primula amoena has been with us for many years, the earliest date I have for it in cultivation in Britain being 1865. Despite this long period it has remained one of the lesser known of the species. It is difficult to account for this as, apart from being one of "the lovely ones" and easy and good tempered at that, it comes into blossom very early in the spring—weather permitting, of course. It is one of the "Vernales," being a member of the same group as the primrose. It is at its best in late March and early April; the flowers are borne six inches above the plant, and are a lovely purple shade. *P. amoena* is a shy seeder, but is easily increased by division. It is also at times viviparous, and the resulting small plants, taken off and cared for, soon make sturdy plants.

Kingdom Ward has over the years of his plant-hunting introduced many beautiful flowers, but I will ever be grateful to him for having given us *Primula Florindae*. Few Asiatic primulas have proved as amenable to cultivation in Britain, being trouble free, and generous both with flowers and seed. *Florindae* is not at all fussy where it grows, in the woodland, or border, but its real home is by and in running water. There it will thrive and become a noble plant bearing in July its sweetly scented yellow blooms on 2 feet stalks. There is a beauty and dignity about *Primula Florindae*, with its huge leaves and noble golden flowers, which should always give it a place in any collection of primulas. *P. Florindae* has hybridised with *P. Waltoni*, and produced a race of hybrids of grace and beauty; the colours ranging through shades of red, purples, creams, and violet. They need similar treatment to *P. Florindae* and are just as easy and desirable. Like *Florindae* they flower late and carry the flowering period of primulas on into mid-summer, to link up with the autumn-flowering forms of *P. capitata*.

Among the "Candlebras" there are so many lovely ones to choose from that it becomes a matter of personal choice. For sheer poetry in colour, drifts of Candlebra hybrids, preferably with *bulleyana* and *burmanica* blood in them, planted as a feature through a woodland glade make an unforgettable picture at the end of May and through June. In good strains there are so many shades of colour, that it is worth any trouble to grow them to perfection. The outstanding of

the "Candlebra" species to me are *P. Bulleyana*, vigorous in growth and generous with its whorls of "orange gold" blossoms—best in deep rich soil in a fairly moist condition ; *P. Beesiana* for a less moist place with the same deep rich soil, there to produce its tiers of lilac purple flowers. *P. pulverulenta*, not at all fussy as to position, but best in deep cool soil, makes wide rosettes of soft crinkled leaves from which shoot tall spikes of magenta red.

Primula helodoxa too must find a place in any primula collection. There is no yellow quite like that of *helodoxa*—cool, calm, and stately. If ever any plant gives the impression of standing on its own feet, this one does. Rich, well-drained soil suits it best, and there it will thrive, retaining, except in very severe winters, its handsome green leaves. It freely sets seed which should be sown as soon as ripe for best results. *Primula Viali* is a striking species quite unlike any of the others. It is a fascinating plant when bearing its lilac violet spikes tipped with flaming red, like a 'red-hot poker.' Not a difficult plant in a cool, not too wet corner, *P. Viali* appreciates a dressing of fine sand applied as a mulch, just after it comes into growth. Many of the "hairy leaved" primulas like this little attention ; I fancy the sand keeps the collar of the plant nice and comfy, and clogging damp away from the fine fibrous roots. One very important thing about *Viali*—its soft green leaves die completely away in the autumn, and do not reappear until late in the following spring. Many a one has been lost by the owner thinking that *Viali* had departed this life and promptly making this an accomplished fact by digging it out. Apart from its sheer loveliness, *Viali* is valuable for being a late-flowering primula, usually being in full flower just as *Florindae* is breaking bud.

There are many more, but enough for now. Just one final word ; be generous in your preparation for your primulas, and rich will be the reward, in colour and sweetness equalled by no other genus of herbaceous plant.

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The Korean Year

Half way through March—the hard Korean winter
Will end abruptly, and the spring will come ;
The river will resume its easy flowing,
And rosy beads will strew the early plum.

Forsythias, that hedge my hillside garden,
Break into feathered yellow—towering high ;
And apricots, with richly budding branches,
Weave a gay pattern on the cloudless sky.

Warmed by the sun, the tiny white-haired ‘grannies’
Poke up their shining heads above the mould—
Small catkins lie on creeping pussy willows,
Their silver velvet shot with rose and gold.

Then April hides the cherry trees with blossom,
The fragrant irises are dwarf and neat—
Azaleas are flushing hills and valleys—
Wild violets lay a carpet for your feet.

Soon you can gather lilies of the valley—
The slipper orchid blooms, and white wild rose ;
Then, overhead, on these immense Paulownias,
June lays a violet wreath before she goes.

A shimmering haze will veil the airless city
Here, on the hillside, not a leaf will stir.
No cuckoo call, and no *uguisu singing—
Only cicada’s harsh incessant chirr.

September brings the first refreshing breezes,
Gay-berried bitter sweet, a kinder sky—
Ripe purple grapes, persimmons richly golden—
Red peppers spread on cottage roofs to dry.

Koreans pad their garments in October,
And gather brushwood for the time of snow ;
When the great rivers will be iron highways,
With creaking waggons lumbering to and fro.

Then through those weeks of bitter winter weather,
We shall be dreaming of that magic thaw ;
When spring comes rushing back into the garden,
To gild these tall forsythias once more.

R. M. H.

*UGUISU—a bush warbler

Kilimanjaro and its Vegetation

By ROSEMARY HOWARD

IN JANUARY 1954, flying home from Kenya at 9,000 feet and gazing at the Alps which stockaded the horizon, I found it very hard to believe that I had achieved over twice that height by my own propulsion just four months earlier. I had, in fact, climbed Kilimanjaro, 19,500 feet, the highest mountain in Africa.

Lonely mountains are not, as a rule, impressive. I had seen Kilimanjaro from the distance only twice : once at early dawn from the game park near Nairobi a hundred miles to the north, and again for a few minutes at sunset as the bus approached Moshi over which Kilimanjaro towers unbelievably, sending down breezes to the heated plains from its icy summit. The local inhabitants are deprecating about their mountain, describing it as a plum-pudding garnished with sauce, and comparing it unfavourably with its elegant neighbour, Meru, which is pinnacled but less lofty. However, the ascent of Kilimanjaro, tourist outing though it be, is a unique and stupendous experience.

Tanganyika everywhere manifests its German traditions, and Marangu Hotel at 5,000 feet where parties are equipped for this expedition, is rather like a German Youth Hostel in its atmosphere. Here we dined and were kindly and enthusiastically fitted out with snow-goggles and fur gloves, hats and staffs, as well as with porters and guides. I slept under a hyrax fur rug and woke ready for our first day's trek. We were accompanied so far by a member of the ground-staff, as it were, of the geological expedition which was at that time studying volcanic conditions on the mountain. A very slow pace was set for us and I decided to benefit from the experience of others by taking the first two days' climbing very easily indeed. We had arranged to spend an extra day at the middle hut for purposes of acclimatisation and these two factors, I am sure, contributed to our ultimate success.

We walked pleasantly in line, with the barefoot porters expertly balancing food-boxes and enormous bed-rolls on their heads. These bundles were encased in green non-spray sacks, each encircled with a black, greasy band, the mark of contact with the woolly head of the porter.

Botanically, the most interesting aspect of Kilimanjaro is the existence of a succession of vegetational belts. The mountain rises to a height of between three and four miles from its base in equatorial steppe-country to a land of snow and glaciers, and the various zones resulting from changes in temperature and rainfall show most striking contrasts.

The first day's climb took us through foothills cultivated by the wealthy Chagga tribe. Coffee and banana plantations lined the path up to 6,000 feet and constant salutations were exchanged with the

smiling Africans. On the edge of the "cloud forest" we had our first halt for the heavily-sugared tea which became a feature of the climb. This forest belt, owing its existence to an almost perpetual girdle of cloud, stretches from about 6,000 to 8,000 feet and consists of broad-leaved and coniferous trees as well as some bamboo and, higher up, giant heather trees, 20 or 30 ft. high and weirdly festooned with mosses and lichens. I had been in Africa long enough to appreciate the novelty of walking along a muddy path by a bubbling stream and fortunately we heard no elephants crashing in the distance, as at that season the path was a tourists' and geologists' highway with constant comings and goings.

I noted the many wood-flowers—violets, and something very like dog's mercury—but unfortunately had no time or facilities for naming or collecting them. Tramping was easy and steady, with the porters strung out ahead and always one guide to bring up the rear.

In the late afternoon we arrived at dismal Bismarck Hut—dank, shady and cold, with the visitors' book full of ominous reflections on mountain-sickness. I had already heard stories of the airman who disappeared into the crevasses of the crater-edge before the eyes of his guide, who had advised against proceeding further. I had also been told of the young man who had gone mad on his Kilimanjaro honeymoon twenty years ago, and of an Indian climber recently who, separated from his guides, had missed the top hut and come down to the north of the mountain instead of the south, struggling into a remote village four or five days later. It was afterwards, fortunately, that I learnt of the possibility of oedema of the lungs, which caused a stalwart youth to be carried down from 16,000 feet by stretcher-bearers. Constantly at the back of one's mind was the fear of being found unable to accept the challenge of the mountain, as well as the fear of what might happen to one if one did.

Next morning we climbed out of the forests and came to the edge of the moorland zone where the heather trees become sparser and smaller and show signs of fire. This is part of the ericaceous belt stretching from about 9,000 to 13,000 feet. It was almost the exact replica of a Scottish moor with drifts of mist, except for the orange red-hot pokers. I was delighted to find harebell and scabious, both smaller and pinker than British varieties. There were also pink anemones and gentians, white and heliotrope, similar in shape and size to the chalk varieties of Sussex.

This part of the climb was tramping at its most satisfying. The path followed the contours of the ridges, keeping fairly level until we reached the comfortable Peter's Hut placed just above the cloud-line so that we could now bask in the sun, looking out on to a level ocean of white clouds. Here we found Helen and Vladimir, a colourful Czech couple from Madagascar, taking photographs with excellent continental equipment and wearing charming caps and pull-overs.

Wandering a little way from the hut, I was rewarded with the Spectre of the Brocken.

We were now well into the *Helichrysum* zone, the delight of East African mountains. These everlasting flowers are so ubiquitous here that botanists have been tempted to name the whole region after them. The plants have silvery-grey aromatic leaves, and the flowers, mostly white and yellow, are to be found in numerous sizes and formations, some in tiny polyanthus form, others larger and single. But most exciting of all the endemic plants is the peculiar *Senecio* or Giant Groundsel, a specialised form of tree-life adapted to the enormous range of temperature experienced in the afro-alpine climate. At 14,000 feet it is possible to have a sun-temperature of 73° while at 12,000 feet 87.5° has been recorded. On the other hand, scarcely a night passes without frost. Thus the senecio keeps its old rotten leaves about the stem. It grows to twelve or more feet in height, with a bunch of leaves and sometimes a yellow flower at the top; but it is soft and hollow, easily rocked with one arm. These senecios grow in groups on edaphically favoured sites among the tussocks of carex bogs, looking weirdly alive like old men standing round at an eternal conference. Where temperature and rainfall conditions are different, for example in the Ruwenzori mountains, they grow in forests, and visitors have to clamber over their rotting trunks.

The virtual insulation of the cool African summits by the hot lowlands produces other fascinating endemic life-forms. Unfortunately August is not the season for the giant *Lobelia* which grows to a height of six or more feet annually, and dies down. I found only one very young specimen about 3 ft. high. It looked like an elongated pineapple with innumerable green bracts each completely hiding a blue flower underneath.

Insects, too, have adapted themselves by becoming mainly cryptozoic, sheltering under stones at 14,000 feet and becoming wingless. Some beetles are particularly shiny and have developed an air-pocket above the abdomen. I myself saw surprisingly little animal life on the whole climb—a few small lizards at 12,000 feet and some black and white crows on the final scree. Other climbers have seen eland as high as the saddle, pug-marks of civet, serval, reedbuck and buffalo have been noted and, most famous of all, a frozen leopard was discovered inside the crater.

I must now explain that Kilimanjaro is an extinct volcano which had two vents—one the jagged, black and demoniacal peak Mawenzi (17,000 ft.) and the other the plum-pudding of Kibo joined by a three-mile saddle which at 15,000 feet shows all the characteristics of Alpine desert. The outer rim of Kibo has a diameter of about one mile, but inside there is a smaller crater with a central vent called "the ash-pit," object of recent geological investigations. The rim is reached by a 4,000 foot scree which stretches practically from the door of the Kibo Hut, on the saddle (15,340 ft.) to Gilman's Point, which is

accepted by the mountaineering club as the summit. Stalwart climbers, however, proceed round the rim to Kaiser Wilhelm Spitze, which is several hundred feet higher—a two-hour scramble which can be gruelling.

Our third day's climbing took us beyond the heather-clumps and giant groundsel communities to the gaunt and bare saddle where helichrysums become prostrate, forming cushions about the stones. In between grass-tufts, the tawny sand showed frost polygons, six inches in diameter. There was no sun and both peaks were hidden in cloud. Water and firewood had to be portered to Kibo Hut and at about 15,000 feet one began to be aware of the effects of altitude—the gripping headaches, jumping in demon fashion from one part of the head to another, the nausea and the enormous effort involved in moving up the gradual slope. By this time we had reached the joke-line—no more laughing for 24 hours.

We dozed in discomfort till 1 a.m., and at 3 a.m. rather gratefully left the smoke-filled hut and the half-eaten porridge, stepping out amongst the large and glittering stars with a lantern at each end of our small cavalcade of four climbers and two guides. We reached the famous "caves" by dawn and watched the sun appearing out of a line of red clouds behind black and awesome Mawenzi. I was terrified when I viewed the chasm beneath us and awed when I realised that the mountain towering in front of us was 2,000 feet lower than the one I had set myself to climb.

The scree began in earnest and our pace became slower and slower. One could see Gilman's Point but each ten steps, a nightmare to accomplish, did not visibly lessen the distance. Vladimir, to begin with, performed the unbelievable feat of climbing ahead to photograph us. We were now hours behind the average climber's time: it may have been that the ice which holds the scree together had melted abnormally early. We sweltered in our extra layers of clothing and deposited a large bundle of garments weighed down with stones to save them from the marauding claws of ravens. I owe my final achievement entirely to the helping arms of the guides who alternately hauled me, gasping and crumpling, ten steps at a time. Altogether we spent eight hours on the scree.

One was scarcely conscious enough to absorb the astonishing display of the top. Immediately in the foreground was an enormous dome of blue-shadowed ice, blocking the view into the main crater. To the right was the Northern Glacier with chunks like modern blocks of flats, and in between fantastic ice reared its huge shapes like rhinoceroses. There, below, was the tiny green tent of the geologists pitched at Leopard Point on the inside edge of the black rim, between rocks and ice-blocks. We climbed the rocks to Gilman's Point and signed the notebook kept in a tin box. In a gush of emotion I gave my last films to Norman (hysterical conditions are quite conceivable), while Helen, for the first time in three ascents, sat on a rock being sick.

Vladimir, with one guide, penetrated the crater to photograph the fantastic ice, and the others started the descent. For twenty minutes at a time we would slump down and doze in the sun, unaware of the passage of time. We still had nine miles to go from the foot of the scree, as it was necessary to return to Peter's Hut.

Apart from rations of sweetened tea, I had eaten one glucose sweet : chocolate I had become unable to face ; so that ultimately the whole sixteen hours had been undertaken on practically no food or sleep. Different parties have different experiences. Some eat a lot and have no headaches. Some parties of five or six are totally defeated by the mountain : few have a hundred per cent. success. The geologists find that they can work normally after five days' acclimatisation. It should be noted that I had been living at 8,500 feet, which probably had a bearing on my achievement of the top.

While we sped across the saddle, feeling fitter and fitter as we came down, Norman and I began to talk about oranges. We added a scrambled egg and some toast. The guide appeared with water and we began to feel jubilant. At least, I noticed that Norman, a silent sixteen-year-old, had started to whistle.

* * * *

The epilogue to this adventure is spoken with flowers. Next day we marched 22 miles down-hill, all carrying bouquets of helichrysum, red-hot pokers and orange galdioli, singing most of the way. The porters disappeared to pick the less common and delicious rose-pink helichrysum for our wreaths of victory. During a lunch halt our hats were crowned with moss-woven garlands and we were presented with bunches of these charming shiny pink flowers. The custom is for all climbers to be given bouquets, but only the successful, wreaths. A victorious climb provides more for the porters and guides than the mere cheerful expectation of good tips—there is a genuine participation in the climber's pleasure. But a certain piquancy must be added, certainly, if the bets laid earlier at Marangu Hotel prove favourable. I shall never forget the glistening teeth of our guides and porters in the flowery court-yard of the hotel in the evening as they lined up for payment, or the bath and sleep which followed.

A Gardener

By "LOCUM TENENS"

"YOU'LL NEVER be a gardener." That is what my wife said to me when I pulled up one of her pet plants, because I thought it was a weed. Moreover, my excuse that it really did look just like a weed had not gone down very well.

The trouble is that she may be right in her opinion, just as she is on so many other occasions when I do not at first agree with her. On the other hand, she may not.

Seeking to keep my end up, I turned to my dictionary. It is called

“Dictionary of the English Language,” by one Samuel Johnston, LL.D., and it is dated 1810. I believe he was quite a famous man.

He says :

“Gardener. He that attends or cultivates gardens.”

He then goes on to illustrate what he calls “different significations of the word” by examples from “the best writers,” as follows :

“Our bodies are our gardens, to the which our wills are gardeners ; so that if we plant nettles, or sow lettuce, the power lies in our will. Shakf.”

and again :

“Gardeners tread down any loose ground, after they have sown onions or turnips. Bacon.”

These significations, quite apart from the ancient spelling, are delicious and I shall try my best to comply with them. All the same, I have an awful sort of feeling that if I “sow lettuce,” nettles will appear. Another thing is that I am guaranteed to tread down almost anything that is “loose.” It is not that my feet are all that big, but my wife tells me that I do not look where I am putting them down. Perhaps if I stick only to onions and turnips I shall be all right.

I am sure that I was a real gardener once. It was a great many years ago when I was a small boy. My father had allowed me to have a tiny little garden, of my very own, in which I grew wonderful things, at least they appeared so to me. One, I remember, was a gooseberry bush, which I had found thrown away on a rubbish heap. I planted it in my garden with great care and no gardener can ever have been more thrilled than I was when it first produced a few leaves and in the end two gooseberries. Of course, I grew other things as well, and I particularly remember some nasturtiums. For them I dug a trench about a foot deep and lined the bottom with the seeds. On these I put a layer of soil a few inches thick and then more seeds, repeating the process until I reached the surface. The odd thing was that in due course I got quite a good show of flowers.

If I was a gardener then, I must have lapsed a bit since, because whenever I try to grow nasturtiums nowadays they are a sorry failure. What I am wondering is whether I must wait for my second childhood (not so very far off now) before I regain the art. I have asked my wife about this and she says “Don’t be silly.”

I have found another intriguing quotation in the same dictionary. It reads :

“When ages grow to civility and elegance, men come to build flatly, sooner than to garden finely. Bacon.”

The meaning is a trifle obscure, but I know that I would far sooner garden finely than monkey about with civility and elegance.

What I must do is now quite clear. I must sow lettuce, avoid nettles, watch my feet and leave nothing loose where onions and turnips are concerned. In fact I must garden finely. Then perhaps my wife will be persuaded to alter her opinion and, after all, classify me as gardener. I would like that.

Dwarf Conifers

Part I

By ROGER F. WATSON

IT IS TRUE to say that this most interesting race of plants is returning to popularity among owners of rock gardens. Although they have always held a great interest and fascination for some who have realized their value as plants to give an air of permanency to the garden scene, and although perhaps few in number, there are comprehensive collections in existence which contain forms of great rarity which are not generally available in cultivation. Most botanic gardens contain an arboretum of these pygmy trees, and these are always a source of interest and surprise to the uninitiated, and many people find it hard to believe that they are natural forms of their arborescent relatives of the woodland and forest, and not "Bonzae trees" as the Japanese artificially trained specimens are called.

The rock gardener has no place for these "man-made forms" of the forest trees, although we admit that the artistry and patient care which goes into their production is a craft and a branch of gardening which is unique in its way, with its grafting on to uncongenial stocks, pinching back shoots, training into quaint shapes, and restriction of the roots. Our dwarf conifers are natural forms which have occurred in many ways, and will not revert to the normal arborescent forms when planted out in the open ground without root restriction, but will grow slowly year by year, and retain their characteristic features. They can be obtained in a variety of forms—prostrate mats, bun-shaped bushes, pyramidal or conical specimens, or rounded balls, some of "monstrous" or freakish abnormal branched forms of slow growth, and some with long and short branches making an irregular stunted plant which looks essentially alpine in character. Some are of extremely slow growth, and others are looser and quicker. These characters I shall note later in a selection of varieties and forms which are in my own collection or which I have observed in cultivation. With regard to commercial stocks, it is good to see forms appearing again in cultivation, which had long been considered lost and were only names in books of reference. I have recently been able to acquire such rare forms as *Abies lasiocarpa compacta*, *Cedrus Deodora nana*, *Pinus nigra nana*, *Picea Mariana nana*, *Picea Abies pygmaea*, and others which had been recorded but rarely seen. There are no doubt other rare forms hiding in old gardens, which for various reasons the owners have had to abandon, and it would be of the greatest value and interest to all who are fond of these pygmies to keep a good lookout for any forms, with a view to propagating them and preserving them from being irrevocably lost. A good friend of mine in Surrey, Mr. J. W. ("Bill") Archer, is a champion of this kind of work, and in his amateur

collection will be found many plants which have been rediscovered in this way, including some which he has been unable to identify as yet. A great acquisition which came into my possession from him is a most rare miniature form of *Chamaecyparis Lawsoniana* var. *Ellwoodii*, which was propagated from a sporting branch on that variety, and which at thirteen years of age is a tiny compressed oval bushling of dense, typically *C. Ellwoodii* foliage, standing about eight inches in height. This will be a popular plant for the smallest garden or for a trough garden or pan, when it is propagated further and better known. Also, in that unique collection is a plant of *C. Ellwoodii* that has sported a golden foliaged branch. Whilst walking around a well-known nursery recently, I observed a *C. Lawsoniana Fletcheri*, which had on one branch a spray that had sported into a moss-like ball of pink and white variegated foliage. I was given a cutting and have hopes of growing a new form. It is such as these that add great interest to one's collection: and are always worth looking for, and propagating. Many forms have been discovered in this way, and also by abnormal seedlings. I once found a *Taxus baccata* seedling in this way, which has slowly grown into a tiny fastigate plant, which at eight years of age is about twelve inches tall. A find like this is likely to occur to anyone who is keen enough to observe any deviation from the normal. A most interesting origin of some very good dwarf conifers is that which is known as "witches brooms," a dense conglomeration of short shoots in a tuft, which occurs on a branch by reason of some constriction of the sap flow, and these shoots if propagated retain their very dwarf habit. Good examples of this type are *Pinus sylvestris* var. *Beauvronensis* and *Cryptomeria japonica* var. *Knaptonensis*.

All forms have their uses in the rock garden—the prostrate forms for positions high up on the rock or flowing down over a large rock. It must be borne in mind, however, that although these prostrate forms are very low in stature, many of them are by no means dwarf in spread, and when growing well can cover a good deal of ground. The rounded and bun-shaped forms are good for open spots, as specimens, and the pyramidal and conical forms, planted lower down, planted as if on a rocky ledge with rockwork behind them. The tiny, very slow growing forms are excellent plants for pot and pan culture, for frame or Alpine House, and develop so slowly that all they need is repotting when the soil becomes exhausted. Good forms for this work are *Chamaecyparis obtusa nana*, and its forms, *caespitosa*, *minima*, *contorta*, *intermedia*, *flabelliformis*, *spiralis*, *nana aurea*, and *Chamaecyparis pisifera plumosa compressa*, *Cryptomeria japonica Knaptonensis*, *pygmaea* and the rare *Vilmoriniana*, *Picea Abies Gregoriana*, *humilis*, and a few more. *Pinus sylvestris* var. *Beauvronensis*, and some others I shall note later. They will be a constant source of interest at all times of the year and fitting companions for the dwarf cushions of such plants as the *Androsaces* and *Drabas* and other rock plants.

Dwarf conifers are hardy for the most part, but I have noted in my garden that nearly all the types with fine heath like foliage, and the

variegated portions of some varieties, also *Picea Albertiana conica*, are rather susceptible to cold north and east winds, and are better with a little shelter from these directions. The cold winds cause the side exposed to it to develop brown patches of dead leaves, and this will often persist the whole season, spoiling the appearance of the plant. They are not fastidious as to soil, growing quite well in any reasonable neutral medium, which does not become water-logged, or dry out too much. Anyway, not many plants will flourish in the former condition, and the latter state can be put right by watering and mulching the surface.

Most forms can be propagated by cuttings and these can be inserted at almost any time of the year, as they are for the most part slow to strike. The best time I have found, however, is in early summer, and cuttings taken then have often formed roots by autumn. A closed frame should always be used, to maintain humidity, and they must not be allowed to dry out. Shoots of the current years growth with a heel make the best cuttings. Mr. Murray Hornibrook in his great work of reference on "Dwarf and Slow-growing Conifers" has drawn attention to the fact that the type of plant can in some cases be influenced by the taking of cuttings at low points on the trunk, these making a slower growing and dwarfer plant, and especially mentioning *Chamaecyparis Lawsoniana var. Fletcheri*. As evidence of the veracity of this, I was recently shown in a famous nursery a group of plants of this variety, raised from cuttings taken at random, and there were three distinct types in the groups. The normal, rather quick-growing conical form, a slower-growing oval bush type, and slow-growing low rounded forms. This last type is the one to select for rock garden work, as the normal type is, although a beautiful plant, too quick-growing for most of us, reaching a height of ten feet.

Grafted plants should be avoided if possible, as the difference between them and plants on their own roots is remarkable. A specimen of *C. obtusa nana gracilis* here, as a grafted plant, is about two feet in height, and growing strongly, whereas a plant of the same age from a cutting is still to be measured in inches. A good number of plants are now propagated by grafting, and if these must be obtained, cuttings should be taken as soon as possible: I have struck cuttings of many forms by the method described, but have not yet been successful with *Cedrus* and *Pinus*, but it may be possible to strike these with root forming hormones.

Now for a selection of varieties. I shall include only those which are in my possession or which are known to be in cultivation, with but a few exceptions. The standard work of references on dwarf conifers is the great "Dwarf and Slow-growing Conifers, 2nd Edition," by the late Mr. Murray Hornibrook, in which the author has with great thoroughness recorded over 500 forms of the various genera. Even since that book was written, there are new forms appearing in cultivation, and older forms are again being introduced, which had been lost sight of.

Abies balsamea var. *Hudsonica*. A rare prostrate form of the North American Balsam Fir with dark green leaves, glaucous blue on the under-side, and very slow growing. A good slow growing prostrate conifer.

Abies balsamea var. *nana*. Quite distinct from the above, although sometimes sold for it. An upright globular bush of bright green leaves, and very slow growing. A good form to grow as a pot specimen, or for a trough garden. Its annual growth is about one inch.

Abies lasiocarpa var. *compacta*. My plant of this variety is a young one, but it is a very desirable dwarf conifer on account of its wonderful glaucous blue colouring. Has recently appeared in cultivation in this country, but it is extremely rare.

Cedrus Libani var. *brevifolia*. A slow growing dwarf form of the "Cedar of Lebanon," making an upright bush of blue-grey short needle-like foliage and very stout stiff branches.

Cedrus Libani var. *nana*. Another dwarf form of the Lebanon Cedar, forming a globular bush of deep green needle-like foliage. This form is in cultivation, often under the name of *C. var. "Comte de Digon."* It is not that form, which does not seem to be in cultivation, but would be very desirable if it was.

Cedrus Deodora var. *nana*. An extremely rare and beautiful dwarf form of the "Deodar" which grows into an irregular shaped bush, clothed with needle-like foliage of a wonderful blue grey. A gem for a conspicuous position in the rock garden, where it will arrest attention. I should hesitate to include this, but I recently saw plants at a Show, so conclude that it is in cultivation.

Chamaecyparis Lawsoniana var. *Ellwoodii*. The well known and popular form which has blue grey semi-juvenile foliage is taking the place of *C. Laws. Fletcheri* for rock gardens, as this latter variety quickly grows too big.

C. Lawsoniana var. *Fletcheri*. The form of this known as *C. Laws. Fletcheri nana*, presumably obtained by propagating low shoots of the trunk, should be obtained, as it is much slower growing.

C. Lawsoniana var. *minima*. A green leaved slow growing upright dwarf form, with the branchlet sprays set edgeways.

C. Lawsoniana minima aurea. Similar to the above in habit, but with a golden foliage, which retains its bright colour all the year round.

C. Lawsoniana minima glauca. A good and popular form, growing into a broadly conical bush, with deep blue-green blunt ended foliage, the branchlet sprays being set at various angles.

C. Lawsoniana var. *nana argentea*. A rare form, which grows into an oval bush, with a stout trunk, and dense branches, its ultimate height being about two feet. The older foliage is grey-green, the young foliage almost pure white.

C. Lawsoniana pygmaea argentea. Another rare form, much dwarfer and more compact than the last named, with blue-green foliage, tipped silvery white. A good plant for pots or trough gardens.

C. Lawsoniana var. *Forsteckensis*. A "monstrous" form of very slow growth, with deep green moss-like foliage, growing into a dense ball with age. This does not show its true character as a young plant.

Chamaecyparis x nidifera. A curious dwarf conifer, reputed to be a cross between *C. Lawsoniana* and *C. nootkanensis*, which grows into a bush of arching pendulous branches, thickly covered with blue-green foliage, giving the impression of an ostrich plume.

(To be continued)

"Glen Scotland" in the Pamirs

" YOU FOLLOW the stream up among picturesque clumps of tall firs and find unexpectedly that half of it bursts out of the ground from the midst of a fir coppice at the foot of an ancient terminal moraine which rises steeply above for a thousand feet or more, covered with alpine flowers and juniper scrub. At the top of the rise are pastures with two or three Kirkhiz huts, and away behind, curves the glacier-filled valley up to the great ribbed and fluted ice-walls of the main range . . . then through a short winding valley into a small park-like valley with grassy lawns, tall firs like church steeples and little firs like Christmas trees, junipers, willows, alders and actually the rowan tree of Scotland. We christened the place "Glen Scotland" at once for there were other Scottish things in it too; ferns, wild currants, blue-bells (known to the Sassenach as hare-bells"), huge thistles, billowing mosses and rain. Somehow it rained twenty-five per cent. more there than anywhere else but when the sun shone it was more than twenty-five per cent. more beautiful. For there were flowers everywhere, filling every nook and cranny, anemones, larkspurs, columbines, Dragon's head, vetches, primulas, gentians, campanulas, potentillas, violets blue and yellow, rock roses, clematis, king-cups, blue and white forget-me-nots and hosts of others; and in the inmost recess of the glen a lovely waterfall—a pure white column of water pouring over a fifty foot cliff—which said:

" Thus far shalt thou go and no further. "

From " Chinese Central Asia " with the gracious permission of the author—SIR CLARENCE P. SKRINE, O.B.E. Consul-General (*retd.*)

Polemoniaceae of the Rocky Mountains

By C. R. WORTH, Groton, N.Y., U.S.A.

IN WRITING a series of notes on some of the Western American plants which have interested me, it may be well to define, at the outset, what I mean by the vague term "Rocky Mountains." I must confess that I am not at all certain which of the multitude of ranges scattered over eight states properly come under this title: some of them are really "mountains of the Great Basin," lying west of the Rockies proper, but exactly where the line of demarcation lies, I would not venture to guess. So, in these comments, I shall take in all the territory lying to the east of the Sierra Nevada of California, and the principal ranges of Oregon and Washington. The flora of these coastal states is to a large extent distinct from that east of their borders. Although the Wallwas of eastern Oregon are reported to have their flora more nearly related to that of the region to their east than to the coastal flora, I have no personal acquaintance with them.

It must be emphasized at the outset that there are very few, if any, really restricted endemics of the alpine zones of the Rockies; off hand, I can think of no species which is confined to a single peak or small range, even in our present state of knowledge of the flora—and there are vast regions, especially in Idaho, still almost unknown botanically. However, at lower elevations, especially in canyons of the more arid regions, there are many species of apparently very limited range.

There are three, or perhaps four, distinct regions, so far as plant geography goes: the northern one, embracing most of Wyoming and all of Montana and Idaho; that from southern Wyoming through Colorado into northern New Mexico, and including the Uintas of north-eastern Utah, and perhaps the La Sals to the south; the remainder of Utah, Nevada, and Idaho south of the mountains; the few high peaks of central to southern New Mexico perhaps form a distinct sub-group, while Arizona has only one small group (really a single mountain) that attains alpine elevation, which has only a very few species of alpines, all of wide distribution. The lower mountains of southern Arizona have a very different flora, apparently largely Mexican. Many species are common to most, or even all, of these regions.

Altitude, in the Rockies, offers no criterion as to the desirability of a plant for the alpine garden. Most of the mountains rise from plains whose elevation is at least a mile, and the plants at their base are fully as alpine in appearance as those at the summits, in many instances. Many of the more attractive genera have as many desirable species from below timberline as from above it—"below timberline" meaning, in the Rockies, below the lower limit of tree growth—among them, *Aquilegia*, *Penstemon*, *Primula*, *Phlox*, *Mertensia*. Some desirable plants have a very wide altitudinal range: *Petrophytum* (*Spiraea*) *caespitosum*, usually a plant of the lowest lime cliffs, I once met growing with *Eritrichium elongatum*; *Oenothera caespitosa*, a plant of plains and foothills, in one range climbs above *Eritrichium*.



Photo.—A. Evans.

Fig. 43.—*Genista dalmatica*. (See page 264).



Photo.—A. Evans.

Fig. 44.—*Genista horrida*. (See page 265).

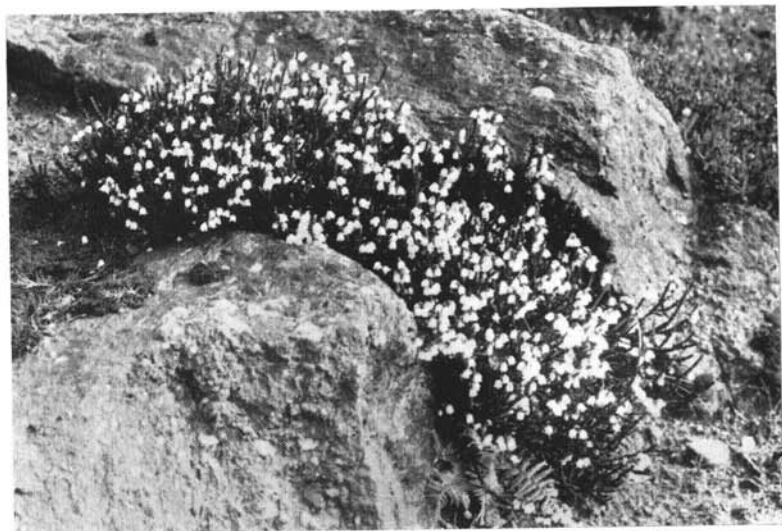


Photo.—D. Wilkie.

Fig. 45.—*Cassiope mertensiana*. (See page 268).



Photo.—D. Wilkie.

Fig. 46.—*Thalictrum kiusianum*. (See page 273).

Plants of the lower regions, with perhaps the exceptions of the fascinating and so far untamed miniature Penstemons of the desert, present the same cultural problems as those of higher elevations. At my garden in south-central New York (elevation 1375 ft.) the most successful treatment for most species seems to be the sand bed in full sun, with daily watering in dry weather. These arid-region plants, strangely, cannot withstand drought in the East. I lost the greater part of my collection a few years ago when, during a dry spell, I withheld the hose in the hope of making them happy.

At last, to the plants : I shall start with one of my favorite families, the Polemoniaceae, and get the worst over at the start. Phlox is a tangle of names perhaps unequalled elsewhere in the American flora. On my first collecting trip, in three weeks I accumulated more apparently distinct forms than there are species described from the region—and some of these invalid. Regional floras only add to the confusion. Dr. E. T. Wherry has studied the genus for many years, but most of his investigations remain unpublished. However, in acquiring a western Phlox one cannot go wrong : while some are better than others, all are good. Those which I know fall roughly into three groups : the erect, usually somewhat woody type, the more familiar sprawling mats, and the tight little “buns” which delight Dwight Ripley.

Of the first type, I have found *Ph. longifolia* (any name I use in this genus is subject to correction) growing among sagebrush in a valley in central Idaho. It puts up only a few woody branches to perhaps a foot in height ; its flowers are officially white, but I seem to recall pink ones. Although it has few roots, it re-establishes well, and is a fair garden plant. Another—or perhaps several—species that I think of, almost certainly wrongly, as *Ph. nana*, I have met early in the season in full bloom, both in woodland on the north slope of the Uintas, in sagebrush east of the La Sals, and away into south-western Colorado. It—or they—grow about six inches tall, few stemmed, with showy pink flowers. I have not caught this one in seed, and plants seemed un-negotiable. In the foothills of the Sierra Blanca, most south-eastern of the high peaks, I found a less erect one, with big pink flowers, that should have been *Ph. mesaleuca*, but differed from that frequently renamed plant. Garden plants were lost during the war.

The mat type is legion, with every slope and peak of some of the more northerly ranges displaying its own version, but I cannot recall seeing any of this type south of the Tetons, although they appear in Colorado. Perhaps most of these are merely forms of *Ph. caespitosa*, but they are distinct from the gardening viewpoint, and some are great beauties, especially a glistening white from the Teton Pa's Mountains, and a similar one from perhaps a hundred miles north-east of there which occasionally indulges in brilliant blues. The species offered by Claude A. Barr are all, I believe, correctly named by Dr. Wherry. From Mr. Barr I once had a *Ph. alyssifolia* which made a mat nearly a yard wide, covered with white flowers. But I grew too proud of it, and the jealous gods sent a mouse one winter to gnaw it off

underground ; never since have I been able to grow a specimen plant.

The bun types are plants of the foothills and plains near the mountains, and are rather akin to Aretian *Androsaces* in both appearance and needs. Full-grown plants are rarely more than three or four inches across, and are dotted with small white flowers. In 1938 I collected seed of *Ph. hoodi*, but whether anyone succeeded in growing it I do not know. *Ph. muscoides* is somewhat similar, from farther north, but I do not believe I have ever found it. *Ph. tumulosa* comes from relatively low elevations in driest Nevada, where it favors soil liberally mixed with lime chips, and is perhaps in all respects the extreme example of this compact dry-region group. I once sent a few seeds to Stuart Boothman with the warning that it was almost certainly un-growable. He retaliated a couple of years later by publishing a photograph of a seedling in flower, and quite in character. *Ph. condensata* has caused some English gardeners to bewail its refusal to "condense" for them, but I suspect that this species may be merely a compact high-alpine version of a more loosely growing lowlander. At 12,000 feet in one range only, of Utah, I have found a marvellous thing that is not tight enough for a bun, but that usually makes a compact dome perhaps six inches across, glistening with silver, and with very long-tubed white flowers. It seemed to me to be close to *Ph. austromontana*, but that, so far as I know, comes from lowish desert regions not too far away. Again, I have never learned of success with it in cultivation.

Polemonium is another confused genus, but here the alpine gardener has fewer names to worry him. The taller Polemoniums can be ignored, for they are similar, and often inferior, to *P. coeruleum*. There is one exception, which I have glimpsed only once while on a pack trip in the Mogollons of western New Mexico ; it probably is not in cultivation, but did not seem worth a long trip back for seed, as there was nothing else of much interest in the range. This was *P. luteum*, exactly like *P. coeruleum* except that its flowers were soft yellow. (*P. reptans* is an easterner).

Of the assorted dwarfs of *P. pulcherrimum* type, one will find many names, but superficial differences seem to depend largely on the conditions under which they are growing, and except for *P. elegans* (from the Olympics, I believe), are not worth seeking individually, for all are much the same. Clay has much praise for *P. montrosensis*, but herbarium material I have seen has been of a rather coarse and commonplace plant. If I recall correctly, Ripley and Barnaby were unable to find it, and it may well be that it has been exterminated on Mount Rose, now a playground for the more or less temporary residents of Reno.

The really choice species are those with whorled leaflets and funnel-form flowers, less than a foot in height, but whether they contain two species or many is an unsettled question. *P. confertum* as I have seen it in the Medicine Bow of Wyoming (Snowy Range) is the largest and looest of the lot, with flowers of a much lighter blue-purple than those of *P. viscosum* from farther west, while *P. lemmoni* of the San Francisco Peaks in Arizona (the only other good alpines up there are *Silene*

acaulis and a nearly yard-high form of *Primula parryi*), seems only a depauperate version, perhaps three inches high, of the latter. There is much variation, especially in size of flower, among *P. viscosum* in its wide range, but it is invariably a scree plant of the highest altitudes ; *P. confertum*, as I saw it, grew in soil at timberline. All of these (and other names) Davidson combines into *P. viscosum*, and makes as a sub-species *P. v. ssp. mellitum* the quite distinct *P. mellitum* (cream) and *P. brandegeii* (yellow). Both are extremely rare in my experience : I know of only one station for each, and not many plants of either. Mrs. G. R. Marriage once told me that she had never found either, although *P. mellitum* is recorded from the region where she collected. Both are plants of crevices at moderately high altitudes, 8000-10,000 ft., *P. brandegeii* on limestone, *P. mellitum* on granite, as I know them. Farrer maligns the latter by accusing it of smelling of beer ; not trusting my nose, I have checked with companions, and the plant, and flowers, have no odor at all even when bruised. The same cannot be said of the *P. viscosum* clan, which I once located by following its scent over a quarter mile of scree—and their perfume is that of skunk. There has also been recorded, from eastern Nevada, a specimen with whorled leaflets and campanulate flowers, possibly a hybrid ; I hope that some day I can go in search of it. All of this group are quite reasonable in cultivation, although plants in the open are inclined to die after flowering.

Gilia need not detain us long, for although there are many beautiful species, few are in cultivation, and those mostly stalwarts. Such is widespread *G. aggregata*, frequent around timberline (the upper one), yard high, splendid with scarlet trumpets. In one range in Utah it escorts one up the canyons, then immediately it emerges on the great flat summit, it changes from scarlet to white flecked with minute red dots, so that it appears pink. *G. pungens* is an unexciting timberline plant, making loose bushes of six inches or so, and suggests an inferior Phlox, with flowers of yellowish white. Other species that come to mind are lowlanders and rather large.

Collomia (Gilia) debilis, however, is a plant of prime importance in some of its forms ; not, however, the Montana one, which is sprawling, frail, bluish in flower. In a range in western Wyoming, on the lowest screes, *Collomia* makes loose mats two or three feet across, with glistening translucent bells of crimson. Much farther south, on Timpanogos in Utah, there is a similar but somewhat inferior form. The plant has foiled all my efforts to collect it, for mature plants are un-negotiable, with a woody rootstock as thick as one's wrist, which extends for yards unknown into the coarse stone slides. Seed seems never to ripen : I have found it always in flower, with seeds as immature in September as in late June. The lack of small plants suggests either that its growth is extremely rapid, or that seed matures only rarely.

These are the principal, and probably the most desirable, members of the Polemoniaceae to be found in the Rockies, although *Gilias* from Arizona, at least, should include some attractive though short-lived plants.

Hardy Heathers—Part 3

By NORMAN WEBSTER

PROPAGATION

FROM THE nurseryman's point of view the best method of propagating most heathers is from very small cuttings. It is also the best method for the very few amateurs who want to raise thousands of plants from a small foundation stock, and who can give cuttings the time and skilled attention they require. Cuttings can be taken over a comparatively long period, at least from June to August. The percentage strike will be found very variable from season to season for no easily ascertainable cause. The cuttings can be set out in a mixture of fine peat and sand in seed pans and placed in a cold frame, preferably facing north or shaded from full sun, and kept close until the cuttings strike: or they can be placed in boxes filled to within a couple of inches of the top with the peat and sand mixture, covered with glass and kept in the open, preferably in the shelter of a north wall. When the cuttings strike they can be lined out in cold frames and given some protection when necessary; or they can be put direct into open ground, with or without cloche protection.

I do not recommend the use of hormone preparations with heather cuttings; their action is uncertain and unpredictable. I have experienced total failure with large batches of cuttings using hormone powders, a thing that has never happened to me when not using them.

Nor do I advise the much boosted "glassing down" method. In this the seed pans are filled right up level with the top. Cuttings are inserted at an angle of 45°, and glass is placed over them so that they are pressed on to the surface of the soil, glass and soil surfaces actually being in contact. Cuttings root with extraordinary speed by this method, generally in from twenty to twenty-eight days. The snags come afterwards. Even if the glass is raised very gradually to admit air after the cuttings have rooted, they seem to die off very readily. Even when I use something as tiny as a matchstick to admit the first supply of air, I get this trouble. If any reader knows a method of handling the cuttings after they have rooted by the "glassing down" method, I would be very glad to hear of it.

My own propagating is done by layering, and this is the method I recommend to fellow amateurs. It can be done either by pinning down shoots of plants grown for display, or more systematically by trench layering plants in a nursery border. In the first method, naturally low growing shoots should be chosen, and they can be brought to layering position with pins made from garden wire or large hair pins. Under the curve of the shoot goes a handful of peat and sand mixture, and the process of rooting will be hastened if you scrape the underside of the selected shoot lightly with a penknife. Layers should be sufficiently rooted for removal in about a year; and this method gives a

good-sized flowering plant in a year less than from cuttings. Its disadvantage is that the layers have to be marked in some way such as by wooden pins, which is unsightly ; and even they are apt to be trodden down or overgrown.

I believe trench-layering is the ideal method for the amateur. A well-grown plant of three to four years old is replanted considerably deeper than it has been growing previously, so that only about two or three inches of the tips of the shoots show above the surface. The plant should be well spread out and surrounded by the usual peat and sand mixture, and within about a year it will have formed roots along the stems and can be divided up. When you buy in heather plants, it is a good idea to trench layer one or two of each variety ; or you can plant them in their flowering quarters rather closer than normal ; then when they have grown on for a year or two, the extras can be removed and trench layered. This method implies keeping a nursery border for propagating, but this I consider an essential part of any well run garden.

SELECTION OF VARIETIES—THOSE OMITTED

For some years now I have compiled a list (a copy of which I shall be pleased to send any reader) giving the names of heathers I grow. They number over a hundred and sixty varieties, obviously far more than most gardeners want, so I have tried to indicate what I consider the two dozen best varieties. I must emphasise that my sole criterion in making this selection is garden merit—no heather is included which is merely rare or curious. Before dealing in detail with recommended varieties, I shall mention some I have excluded from my best two dozen, and give my reasons.

Following the seasonal order of flowering, I have excluded the paler forms of *Erica carnea* such as "C. J. Backhouse," "Jas. Backhouse" and "Mrs. Samuel Doncaster," because I consider them less attractive than the darker coloured forms : these mentioned are also rather straggling and, like the human hair, inclined to get thin with age.

Of the tree heaths, the type plant of *Erica mediterranea* and its white variant have been left out because they do not flower until very well established, and even then less freely in the north of Scotland than they do in the south of England ; because they eventually become too large for most gardens and straggle badly with age. *Ericas arborea* and *australis* and the fine hybrid *Veitchii* are missing because of their doubtful hardiness, which means they must have good shelter from frosty winds.

Of our Scottish Bell Heathers (*Erica cinerea*) I have excluded reluctantly the very minute carpeting varieties such as *atro-rubens*, *atro-sanguinea* and "Mrs. Dill." The flower colour of these is brilliant, but they are slow growing, and ineffective as single plants. If anyone has space to plant a couple of dozen of them together on a slight slope, and patience to wait until the plants join up, they will be well rewarded.

No Dorset Heaths (*Erica ciliaris*) have been included because of

their rather straggling habit. If one attempts to correct this by cutting back they seem to resent it, and either die or flower less freely the following season. I think they want a higher rainfall than we get on the Moray Firth coast. If you want to try one, I recommend *Erica ciliaris Maweana* (deep pink), a Dorset Heath more compact than most.

I have had many protests against my exclusion of the three showy Cornish Heaths, *Erica vagans* "Mrs. D. F. Maxwell" (cerise), "St. Keverne" (rose pink) and "Lyonesse" (creamy white). The reason is that their rampant growth comes very near to coarseness, and that they lack the attribute of quality, so difficult to define in a plant but so easy to spot. The one Cornish Heath I have included seems to me the quality plant of this group.

Coming to the autumn flowering common heathers (*Calluna vulgaris*), one could easily choose two dozen fine varieties from this group alone. I had to sacrifice such personal favourites as "C. W. Nix" (bright crimson) because I believe the older form "Alportii" has the greater all-round merit; *elegantissima*, because it is not hardy, and needs to be cloched in winter or sheltered in a cold frame; *flore pleno* and "Tib" (both double purple) because some of the newer doubles are brighter in colour; "Goldsworth Crimson" (late dark red), because in the north it flowers little or not at all; *Serlei alba*, because there are several better whites; and all the dwarf carpeting *Callunas*, for the same reason that I omitted the very dwarf *Erica cinereas*.

(To be continued)

My Rockery

The man who helped to make my little garden
Said that the rockery was waste of space,
That it would make hard work, and be expensive,
And alpines would not tolerate this place.

I'm glad I did not heed his gloomy warnings,
Because upon this rockery I grow
Flowers that will take me back to far off countries,
And well-loved places that I used to know.

Some days I visit Canada and China,
Pass through South Africa, Japan and Spain;
And then maybe a small familiar blossom
Will bring me back to Scotland once again.

I wander in a field of erythroniums,
See glistening snow by gentians vivid blue—
If I had listened to that foolish gardener,
How could my thoughts go travelling as they do?

R. M. H.

Some New Plants from Turkey—Part 2

By HENRY TOD, Ph.D.

IN THE first article of this series I mentioned that these Turkish plants appreciated a piece of glass over their heads in winter, and I would like to amplify this point somewhat.

It will be remembered that the early months of 1954 were, on the whole, dry after the snow melted, and that the temperature was relatively high. The sheets of glass were, accordingly, removed about the middle of March to avoid drawing the plants, instead of remaining in place for a month or so more. As a result, when dull, cold and damp weather followed, with occasional heavy frosts, the plants which had started to move early suffered seriously, *Verbascum pestallozæ* being lost completely in the open ground. Fortunately one plant in a pot (in a plunge frame) had been overlooked, still had its glass in position, and survived. One *Salvia* species from Bozborun Dagħ was lost altogether. Actually this was not a serious loss from a garden point of view, for though the leaves made quite a pleasant silver tuft, it threw up a three-foot stem with thin white and blue flowers at about six-inch intervals—not one of the best plants of the collection !

Another silver-leaved plant is *Helichrysum orientale* var. *pichleri*. This forms very fine pure silver rosettes two to three inches across, and these sub-divide and gradually increase into a sub-shrubby growth, all of this very fine silver colour. The flower spike rises from these rosettes and forms little yellow cones which later open out (if there is any sun) into typical *Helichrysum* flowers. This plant shows very markedly how these Levantine plants depend on weather and situation. The first batch was planted out on the flat in a reasonably rich soil where they made big fat rosettes and then succumbed to the first frost and damp. A second batch were planted on a steep slope of very poor starved soil, with very sharp drainage. These have formed small tough tufts which have stood up to damp, hard frost, dead leaves drifting over them, and general bad treatment, and are quite healthy, but much smaller and more compact. Under glass this plant is intensely silvery ; in the open it is much greyer and the underlying green of the leaf can be seen. Of these silver plants by far the most striking is *Salvia montbretii*, P.D. 16172, which is almost pure white, with a silvery sheen on its softly furry leaves. I have not risked it out of the Alpine House, as it seems sensitive to damp even there. It has not flowered as yet ; neither have *Phlomis nissolii* nor *P. monocephala* P.D. 16334, both of which have survived outside with glass in the winter. They are forming rather tufty sub-shrubby plants with fine silvery leaves.

Another very beautiful “silver” which is sensitive to damp is *Tanacetum* sp. P.D. 16368. This plant forms a wide spreading mat of very finely-cut pure silver leaves about five inches high. It has not

flowered and the flowers would have to be beautiful indeed to improve this plant which is, I think, one of the best foliage plants for the rock garden which I have seen. It does, however, require a cover of glass in the winter, at any rate after such a dull, damp autumn as we have had. My big plant is in a sorry state as circumstances prevented me from protecting it as soon as I should have. Two other silver-leaved plants are also *Tanacetums*, and are quite handsome as foliage plants alone. The one, *P.D.* 16366, has finely-cut leaves and is silvery, the flowers being the most miserable little yellow blobs, while the other has spoon-shaped leaves, is tufted with white felted leaves (*P.D.* 16170). The former is the better of a sheet of glass over winter, but the latter can fend for itself.

A neat little carpeter with greenish silver leaves is *Paronychia sp.* *P.D.* 15798. This spreads slowly, hugging the ground and stones as it goes, and seems to be quite hardy. The young growth at the tips of the shoots have fine silver hairs which give it rather an attractive glitter here and there.

One plant which spent its first year or so of life apparently sulking is *Silene echinus*. This last year, however, it has suddenly burst into activity, starting to increase much more rapidly and producing its first flowers. It forms a rather open cushion, something like a softer version of an *Acantholimon*, and the pink flowers about the size of a shilling with baggy calyces are borne on the end of thin, wiry stems some three to four inches high. This very sunless summer and autumn did not help any of these Turkish plants to give of their best, and I hope for better things of this *Silene* when we get better weather.

One most delightful plant which *did* flower well was *Linum caviense* *P.D.* 18491, which I showed at the Glasgow Show. It was one of the Aretoid *Linums*, forming a spiny, wiry grey tuft of leaves about the size of a florin, with big yellow flowers. Most unfortunately the plants all died immediately after flowering, without setting any seed, so it is lost—at least my plants are. I do not know if it is monocarpic or whether the effort of flower production was too much for them, but it was tricky to keep alive at any time. It is a great pity if it has vanished again for it was a most handsome plant and seemed ideal for a scree plant for the Alpine House—I never risked my plants outside.

Now for three small shrubs. The first is *Origanum laevigatum* *P.D.* 16371. This makes a foot-and-a-half high spreading clump with fragrant dark green leaves with a purple flush. It has tried hard to flower for me for three seasons now, but it seems to be very late-flowering and has never made it as yet, always being nipped by an early frost. When I can get a more suitable spot I think it will "come up to the scratch"—I believe the flowers are pink.

The second is *Teucrium chamaedrys* var., a very free-flowering pink form which has also appeared on the Show bench. This forms a dense hummock of stems, freely clad with pink flowers which open over a long period rather late in the season. The third is *Lysimachia serpylli*

folia, which forms a ball of thin green stems and leaves with the yellow flowers at the tips of the stems. This again suffered badly from the lack of sun, as fully three-quarters of the buds did not open. On the few days when we had sun this October the buds would open freely, but on the dull days they would not move at all. It is neat and tidy and I think that in a hot sunny place in a poorish soil it would do well, but its fuller development must wait for better weather—it is still as I write (early January) forming new flowerbuds under glass which, alas, never open.

On the whole 1954 has been a hard year for these plants and we can only hope that 1955 may be more favourable and let us see what they can do, given happier conditions.

Oh! Oh!

Which concerns The Year Book of the S.R.G.C. 1954-55
With special reference to page 6 thereof

There's an index on the cover
For pages 1 to 61,
But I cannot yet discover
Any page that's numbered none.

You want perhaps to show
In Glasgow or elsewhere,
Just look at pages 00
You'll find full details there.

Instead of playing Yo-Yo,
Which is just a game for fools,
I turn to pages 00
And contemplate the " Rules ".

And if I'm feeling so so,
Which an " outing " would repair,
There's more than one page 00
Telling how and when and where.

May I sum it up in toto,
Though I do not want to chide,
I am tempted to say Oh! Oh!
To a most instructive guide.

Locum Tenens.

A Week in the Cascade Mountains—Part 1

By LEO M. LEBLANC

IT WAS an early hour that August morning that saw my brother Bob and I off on another expedition into the Cascade Mountains ; this time we had one full week ahead of us to enjoy the greatness of God's magnetic grandeur, days that were to bring us many unexpected adventures, that we shall long remember.

Our destination was the lake country that surrounds Stevens Pass, some one hundred miles north and east of our Gardens at Kent. According to our trail maps of the region a hike of several miles through rugged terrain lay before us. Fortunately, however, the Forest Ranger stationed at the patrol headquarters at the summit directed us to another road that had its beginning some six miles east of the Pass that would lead us back up the other side of the Range, and at the same time save us nearly four miles of hard climbing. The road proved not to be a super high-way, but rather the typical, narrow, rough, and very steep road-bed. We finally agreed, as the car swung around a precipitous curve, and headed what appeared to be straight up, that we should be sprouting wings any minute. However, after a few extra efforts on the accelerator, and backing up for another try on the last steep grade, we pulled to a steaming stop just a few feet from the famous Cascade Crest Trail. From this very convenient location we had only about two miles of walking to reach our destination, a high mountain lake we had not previously visited.

Because of the frequent storms in this area we had several extra light tarpaulins and additional clothing to pack, and to strap onto our even now overladen packs. These when fully prepared weighed nearly one hundred pounds each, quite a load for even strong shoulders to bear up two strenuous miles of difficult mountain climbing. Besides the burdens for our backs, we had our movie equipment, fishing gear, the climbing ropes lashed to the outside of the packs, and side-arms just in case we might have some unwelcome visitors about camp at night.

We were fortunate that the alpine country was at its prime ; flowers were everywhere, great sheets of *Cassiope Mertensiana* were cascading down in beautiful drifts of white over former large rock slides, while *Phyllodoce empetrifomis* was keeping it close company. As we climbed to higher elevations the floral display changed, more so as we neared the open meadows ; here the scarlet paintbrush, *Castilleja crispula*, and the purplish-rose of *C. oreopola*, gave an air of gaiety to the unfolding scene, while great colonies of *Valeriana sitchensis* were growing on either side of the rock-strewn trail, as also was *Mertensia laevigata*. Here too, was *Polygonum bistortoides*, the mountain dock, known by its familiar lanceolate leaves and rather slender stem bearing an oblong spike of wee fragrant flowers. This plant can be most trying to a photographer wishing a still picture, for it sways with the slightest breeze, but how beautifully it 'takes' with a movie camera !

Ahead now, we could see the crater-like sides that made up the

area that must hold the waters of the lake we intended to camp near ; a few more paces and we stood above the sky-blue glistening alpine lake that lay nestled below us some five hundred feet. The sheer cliff we were standing on the rim of, formed the west side of a giant horse-shoe like curve ; directly across from our position was a broad opening, through which, we were later to learn, flowed a small stream that was the outlet of the lake. The beautifully clear water was reflecting the few light clouds that floated high above us, while all the time the lake fairly sparkled with dancing jewels of sunlight. It indeed required a deliberate effort to leave such magnetic beauty, but having some distance to cover before we could make up our camp we gave the packs a new resting place on our sore shoulders and proceeded on our way.

At this point our trail branched and we left the Crest and began to descend by way of a path that led us around the basin on the north of the lake. We had scarcely left the main trail and walked north along the ridge, when we suddenly rounded a bend in the path and two very enchanting small ponds met our gaze. They lay nestled in a bit of meadow, with alpines of several kinds clustered about and flowering with great abandonment ; here *Cassiope Mertensiana* seemed to relish its home, for there were great carpets of it everywhere.

As we continued down the steep trail, enjoying the glimpses of the blue waters of the lake through the *Abies nobilis* that grew rather thickly about, my brother suddenly stopped and bent over a little and gave an exclamation ; as I came up in back of him, I could see that he was looking down upon two small violet plants we had not previously encountered. The foliage hardly resembled the violet family, yet there was the unmistakable flower for us to enjoy. Removing our packs, we crouched closer to inspect these travellers from other fields ; strangely enough we did not find any relatives of these two during our stay in the area. After speculating how and why they had appeared in this vicinity we once again resumed our heavy loads and continued our descent to the lake shore on the east side, which did prove to have a good camping location quite protected underneath a staunch group of *Abies nobilis*.

Our first point of business was to level a strip of ground, spread soft boughs, and set up the light army tent that was large enough for two men ; next we stretched one tarpaulin above the tent to give additional protection from driving rain and the very heavy mountain dews ; the other tarpaulins we used to erect a shelter near our small fire-pit. How we later appreciated all of our extra care in arranging our camp-site ! The next hour was spent in collecting drift-wood, from which we made a rough table and a good reclining bench, these were built underneath our shelter ; the last tarpaulin was draped from the roof of the lean-to so as to be in back of our benches and give us added wind protection.

Having completed our camp duties we turned to preparing our evening meal. What can be better than a good stew for such an occasion ? Our tramping of the day had given us some hearty appetites ; the hot food was a delicious banquet for us and we certainly did justice

to every bit of it. After cleaning up our dishes, if one can call utensils by such a glowing term, we placed our packs far up one of the trees out of reach of night prowlers ; we then filled our pipes and relaxed in the conventional woodsman's manner about the camp-fire.

It was a beautiful evening, sitting there enjoying the dying embers in the fire-pit, watching the smoke from our pipes curl lazily into the mountain air and vanish in the gathering mist. A full moon was rising over a distant peak, filtering its soft light through the darkened forest, lighting up the small fragrant flowers of the *Rhododendron albiflorum*. As the celestial globe arched its way across the vault of the darkened heavens, we knocked the ashes from our pipes, poured water on the last of the glowing embers, stirring them well to make sure that some lonesome spark would not become energetic during the night, then we gave a last glance about us. The friendly moon cast one more ray of light in our direction before sliding behind a lofty peak, it looked like a shy wink to me ; the happy fellow, perhaps it was his way of saying good-night ! After one good stretch that always seems to make one feel so fine, we pulled aside the tent flap, crawled through the small opening and 'hit the sack' for our first night out in the quiet of God's own country. Oh, we were tired, but what an exultant feeling possessed us ! Sleep came quickly and, as the saying goes, 'we slept like logs.'

The sun looked in on us the next morning just as we had started our fire for breakfast ; he seemed rather surprised to see us about so early, and as if ashamed at being late in rising, he hurriedly hid his beaming countenance behind a lofty crag in the east. After the fire was going in a lively manner, the coffee-pot was set on the little galvanized plate to perk merrily away, while bacon was sliced and eggs broken into a pan. It was not long before the aroma of frying bacon was wafted toward our twitching nostrils ; how good it did smell ! As the boiling coffee started to dance we put the eggs in one skillet, while in the other, the first sourdough went in to fry. Where does a breakfast taste better than when eaten out in the open, where the fragrance of the fresh green is everywhere and the air has a tang of oncoming Fall ? We were quite sure that any day would see us roaming the world with a bundle thrown across our shoulders.

The next two days we lazed about, just enjoying the good mountain air and the fine scenery that was grouped all about us. The shore nearest our camp was gone over quite thoroughly for any plant that might seem anxious for us to take its picture. The Shooting-Stars, *Dodecatheon Jeffreyi*, were growing and flowering at the very edge of the restless lake, for now the wind had whipped the waters into a frothy condition around the shore ; the colour of the flowers are of a definite light shade of orchid. The plants were growing in abundance on the east and northeast shores, the cool water of the melting snows above bathing their already wet feet ; they seemed to love the companionship of ferns and the lush grasses. We did find a most obliging group of the flowers that posed beautifully for the eye of the camera.

(to be continued).

George Forrest Medal Plants

By D. M. MURRAY-LYON

“ THERE HAVE been plant hunters innumerable from the earliest times, but it would be safe, if the matter of success were judged by the number of worthy introductions, to rank George Forrest as the greatest of them all.

The Scottish Rock Garden Club has established as the premier award for plants exhibited at the Annual Shows, a medal, which, with the full accord of Mrs. Forrest, is called the George Forrest Memorial Medal. ” That is an extract from the first publication of our club—“ George Forrest V. M. H. ” The first awards were made in 1934 and up till now, December 1954, forty-six awards have been made to plants belonging to fifteen different natural orders. Of the forty-six awards twenty have gone to Primulaceae, and of these thirteen went to *Primula*, making it easily the most popular genus. Members of Ericaceae come second with six awards, three of which went to *Cassiope*.

The only plants which have gained a George Forrest Medal more than once are *Omphabgramma vincaeflora*, *Kalmiopsis Leachiana* and *Nomocharis aperta*, each of which has two awards to its credit.

An interesting point is that there is not a single case of an award going to a hybrid. Is that due, I wonder to prejudice, or did it just happen? Another interesting point is that twelve out of the thirteen primulas are Asiatic, the solitary exception being *P. Allionii*. Up to now almost all shows at which Forrest Medals were available for award were held in April and May. . Now we are going to have shows with Forrest Medals available in June and September, and it will be interesting to see if this brings into the roll of honour plants of other genera. Such things as asiatic gentians, dianthus, and campanulas will now have a chance.

As regards the owners of the winning plants, it is interesting to note that so far the amateurs are keeping their end up pretty well, having thirty-three awards to their credit to “The Trade’s ” eleven. Below I give details of the awards to date.

Note :—*A*=Aberdeen *Dmf.*=Dumfries *Dnd.*=Dundee
E=Edinburgh *G*=Glasgow *P*=Perth.

Plant	Show	Owner
PRIMULACEAE		
<i>Primula Allionii</i>	Dmf. 1954	Mrs. D. E. McConnel
„ <i>aureata</i>	Dmf. 1949	D. Livingstone
„ <i>bhutanica</i>	G. 1950	D. Livingstone
„ <i>Boothii</i>	Dmf. 1951	Longmuir & Adamson
„ <i>Dickieana</i>	P. 1950	Mr. & Mrs. J. T. Renton
„ <i>Reidii</i>	G. 1951	Edrom Nurseries
„ <i>reptans</i>	E. 1951	R. S. Masterton

<i>Primula Rockii</i>	E. 1953	A. D. Reid
„ <i>scapigera</i>	G. 1937	Mr. & Mrs. J. T. Renton
„ <i>sonchifolia</i>	E. 1949	Mrs. G. Knox Finlay
„ sp.? <i>Name not recorded</i>	E. 1938	R. B. Cooke
<i>Androsace ciliata</i>	G. 1934	Dr. Wm. Buchanan
„ <i>imbricata</i>	Dmf. 1950	David Livingstone
„ <i>pyrenaica</i>	Dmf. 1952	Henry Archibald
<i>Dionysia curviflora</i>	G. 1954	A. D. Reid
<i>Omphalogramma vincaeflora</i>	E. 1934	Mr. & Mrs. J. T. Renton
„	A. 1950	Jack Drake
<i>Douglasia laevigata</i>	G. 1946	Dr. Henry Tod
<i>Soldanella montana</i>	A. 1954	Jack Drake

ERICACEAE

<i>Cassiope lycopodioides</i>	Dnd. 1954	Jack Drake
„ <i>rigida</i>	Dmf. 1953	Mrs D. E. McConnel
„ <i>selaginoides</i>	E. 1952	Jack Drake
<i>Kalmiopsis Leachiana</i>	E. 1950	R. B. Cooke
<i>Kalmiopsis Leachiana</i>	P. 1953	Major & Mrs. Walmsley
<i>Phyllodoce nipponica</i>	E. 1946	Major & Mrs. Walmsley
<i>Rhododendron imperator</i>	G. 1938	E. Darling
„ <i>repens</i>	E. 1936	Mr. & Mrs. J. T. Renton

RANUNCULACEAE

<i>Aquilegia scopulorum</i>	G. 1940	G. F. Lawrie
<i>Paraquilegia anemonoides</i>	A. 1951	Mrs. MacDuff Liddell
„ <i>grandiflora</i>	G. 1939	Mrs. Halley-Brown

BORAGINACEAE

<i>Mertensia coriacea</i>	E. 1948	Jack Drake
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CARYOPHYLLACEAE

<i>Silene Hookeri</i>	E. 1940	Dr. A. D. Curle
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DIAPENSIACEAE

<i>Shortia galacifolia</i>	E. 1937	Capt. A. Walmsley
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GESNERACEAE

<i>Jankaea Heldreichii</i>	P. 1951	Bannatyne & Jackson
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LILIACEAE

<i>Nomocharis aperta</i>	E. 1935	Andrew Harley
<i>Nomocharis aperta</i>	E. 1939	Andrew Harley

OLEACEAE

<i>Syringa microphylla</i>	G. 1953	Bannatyne & Jackson
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PAPAVERACEAE

Corydalis cashmeriana G. 1949 Mrs. G. Knox Finlay

PORTULACACEAE

Lewisia columbiana rosea E. 1954 Jack Drake

SAXIFRAGACEAE

Saxifraga aretioides G. 1935 E. Darling

SCROPHULARIACEAE

Calceolaria Darwinii P. 1952 Jack Drake

THYMELIACEAE

Daphne petraea E. 1948 Henry Archibald

VIOLACEAE

Viola delphinantha G. 1936 Mrs. Halley-Brown

Shopping

THE OTHER day I was in our local township to do some shopping, and on my list were a number of things needed for the garden. I went to the ironmonger (the sort of place that sells everything) where I fell into the hands of a young lady assistant. She was quite a pretty girl, but I do not think she had been working very long in that shop.

I first asked for a sieve, having noticed that the one my wife uses for potting up had become dilapidated. The young lady asked whether I wanted it of wood or of metal. I said metal, and she enquired of the boss where they were. She then led me into some catacombs, used as a store, and we hunted among many bins. At last she found what she was looking for, and it turned out to be a funny little contraption used for cooking. My fault, of course. I should have made it clear that I wanted a garden sieve.

The next item on my list was chip baskets, which we wanted for our fruit. The young lady brightened up at once, clearly knowing all about this one, and produced from under the counter a metal gadget, which apparently is used in the preparation of chipped potatoes.

Obviously, she was extremely domestic minded, and it was this thought that prevented me from mentioning my last requirement, which was pots. It might, I fear, have been too embarrassing.

Winter Flowering Plants and Shrubs—Part 3

By J. T. WALL

BULBS, etc.

CHIONODOXA SARDENSIS—well named “Glory of the Snow”; this species is the first to flower, February to April, and is quickly followed by *C. Luciliae* with large blue and white flowers; there are also good “Pink” and “Albino” forms. The bulbs should be planted 6 inches deep; a good place is beneath fruit trees.

COLCHICUM SPECIOSUS and other “Autumn Crocus” often carry their naked flowers well into November, and there is a rare species *C. luteum*, that sends up charming, small golden chalice in February.

CROCUS—*speciosus*, *zonatus*, *Sieberi*, *longiflorus*, and a host of others—charming, graceful, scented colourful species and hybrids, may be had in this genera; they may have flowers of blue, lilac, purple gold, and white, with all the intermediate shades. They flower from October to April and are best planted with shelter from prevailing winds in full sun and good drainage. *C. speciosus* is the best for autumn and *C. Tommasianus*, which if happily placed will seed all over the garden and provide a grand harvest for the honey bee, in February and March. Care to protect from mice and voles is essential.

CYCLAMEN. It is not generally realised that so many of these lovely plants are hardy even in Scotland and may be grown successfully without protection, either on a raised bank, in the rock garden, or beneath some dwarf deciduous shrub. I have seen them in their hundreds round the boles of tall conifers and on steep grassy banks beneath Japanese Maples. They appreciate the dry conditions such sites provide during the summer months.

CYCLAMEN neapolitanum, with rosy lilac or pure white flowers, is the showiest and easiest of all. The flowers are usually over and the exquisitely marbled foliage well on its way to maturity by the end of October.

CYCLAMEN europaeum is supposed to produce its rosy purple scented flowers in August, but in Scotland I find it is liable to do this pleasing duty any time from then to December, and we are duly grateful.

CYCLAMEN Coum, with rounded dark green and ruby-red flowers, is a November to December flowering species, not always easy to establish. We are now told to call it *Cyclaman obcordatum sub. sp. Coum*.

CYCLAMEN ibericum, or properly *vernum*, is a tough little guy with rounded marbled foliage and bright rosy purple flowers; the petals give the impression of being cut short in their youth. It is a free flowering and seeding species bearing a succession of bright jewels from January to March. There are others but the foregoing are the easiest to obtain and grow.



Photo.—J. C. Gilchrist.

Fig. 47.—*Dryas Octopetala* at Inshnadamph.



Photo.—Henry Tod.

Fig. 48 — *Primula* aff. *Wigrammiana*. P.S.D.W. 6025.
At Edinburgh Show, 1954 (See page 275).

ERANTHIS. These are the " Winter Aconites ", which push up golden buttercup-like flowers tucked into green frilly ruffs from January to March. There are several types of which *E. hymaelis* and *E. Tubergenii* are probably the most reliable in Scotland. They seem to like heavyish soil and do well under deciduous trees, they are all probably lime lovers.

GALANTHUS all of you will know as the " snowdrops " that grow so well in the wild in many parts of Scotland, both in the single and double forms. The autumn flowering species are not so well known however, or easy to obtain. Occasionally bulbs of the following are offered—*Galanthus Olgae* from Greece which comes into flower any time from October to November, and *Galanthus Rachelae* which flowers in January. The two following snowdrops are more easily obtainable—*Galanthus Elwesii* with its large solid white flowers on 12inch stems in February at the same time as *Galanthus byzantinus*, a most adaptable species, seeding itself freely when once established. I have been told to include *Galanthus plicatus* by our worthy Editor who informs me that it was in flower with him in quantity in St. Andrews in January ; it is a grand but variable species with curled back margins to the broad grey leaves.

IRIS alata, *Willmottiana* and *Griebneriana* are " juno " irises, and need planting in a sunny warm border, and a period of drought from June to December. The flowers are glorious, like blue and lilac orchids—they can be grown and are worth much trouble when once acquired.

IRIS reticulata and *histrioides* are two February and March flowering species, they are reliable and the purple and gold flowers on 3-6 inch stems are scented and colourful at this season.

LEUCOJUM VERNUM, the spring snowflake, closely resembles the better known snowdrops ; the flowers are larger and have no inner segments, each petal or sepal is tipped with green and there may be three gloriously violet-scented flowers on each stem. They like moist rich ground so should be happy in Scotland and a pleasing sight in February and March.

NERINE BOWDENII, or Jersey Lily, are grown well and successfully in Scotland although they appreciate a well drained sunny border where they will send up heads of large pink lilies in October to November.

A more robust giant version of this is *Amaryllis Belladonna* with large rich rosy pink flowers on 2ft. stems, these appear at the same season and do well under similar conditions.

STERNBERGIA SICULA is considered by many authorities to be the ' Lily-of-the-field ' of Biblical times ; it has large golden crocus like flowers in October or November. A warm sunny border with a good summer ripening of the bulbs is needed to produce the glorious flowers.

Last but not least is *Zephyranthes candida*. There are several species of these lovely crocus-like bulbs easily grown and increasing rapidly in a sunny border, their pure white chalice a grand sight in February or early March.

A Selection of Dwarf Shrubs—Part 4

By A. EVANS

ERINACEA (Leguminosae). This is a genus which contains only one species but it does not rely on this distinction as a sole recommendation. It is not so common in gardens to-day despite the fact that it was introduced almost 200 years ago. Its natural haunts are the countries bordering the Western Mediterranean where it frequents unshaded sun-drenched situations. It is not surprising, therefore, that the best results in gardens are obtained where the plants are given an open south-facing site and where the soil is dry and not too rich in plant foods. In such a position it should spread slowly and, in time, flower. There is little hope of successfully transplanting an Erinacea once it has become established in the open ground and it is therefore imperative that young plants should be grown in pots prior to planting in their permanent places. *Erinacea pungens* (The Hedgehog Broom) is a dwarf spiny shrub with a silvery appearance. It assumes the form of a tight hummock or half sphere, completely protected by numerous strong tapering spines, and the few small leaves which are produced usually fall early. A few years must elapse before flowers appear but when this stage is reached the light purplish blue corollas are seen to be inserted into large silky calyces. An established plant of this species will make an attractive feature in a rock garden during the whole year, but especially in May when it is in full flower.

ESCALLONIA (Saxifragaceae). With few exceptions the members of this group of plants are large and spreading and only suitable for spacious borders, but there is one form which can be said to have a rock garden stature.

Escallonia rubra minor is semi-evergreen and hardy. It is a low growing shrub which can be pruned so that it may with ease, be confined to a given area. This pruning is best carried out in August after flowering and should consist of removing the old flowering wood to encourage strong young shoots on which next year's crop of flowers will be borne. It is a Chilean plant and has bright red flowers which are large compared to the dimension of the shrub.

EUONYMUS (Celastraceae) is a particularly handsome shrub which is widely grown for the brilliant autumn tints of its foliage and its brightly coloured fruits. The rock garden species, however, do not yield such vivid shades as do the larger deciduous shrubs, but, never the less, ought to be considered when planting certain areas. Full sun and poor soil is the combination which seems to suit their requirements.

Euonymus nanus has a loose sprawling habit and its thin green stems seem never to become compact or matted. These may trail through other plants but do not appear to cause them harm. The small narrow

leaves are only partly evergreen while the inconspicuous flowers rarely produce fruits.

Euonymus radicans is a much better plant than *Euonymus nanus* being wholly evergreen and highly decorative. It is a Japanese native with a dwarf spreading habit but it can become a menace to other plants if its wanderings are not curbed. The oval leaves average one inch in length by half an inch in width and are shiny and glabrous on both surfaces. *Euonymus radicans* is very variable and names like *roseo-marginata*, *Silver Queen* and *variegatus* are but three examples of those given to the many forms.

FABIANA (Solanaceae) is a South American genus with a heath-like form which, unfortunately, is not completely hardy in this country but in sheltered positions can be induced to grow and flower profusely. It should not be encouraged to grow luxuriantly by planting it in a rich soil lest it fails to ripen its wood sufficiently to withstand the winter. Old plants have a habit of dying suddenly and it is therefore necessary to have young stocks available as replacements. Propagation is best done from cuttings taken in August but it is also advisable to have plants of different sizes and ages growing in the garden so that at least one group may survive a severe winter.

Fabiana imbricata has long white tubular flowers which appear in June, measuring as much as one inch in length and gradually tapering from the open mouth back to the calyx. The elongated conical branches are often smothered with these flowers. It is an evergreen with minute leaves and may eventually reach 4 feet. Unfortunately every plant does not develop into an upright shapely specimen and after a few years may have spread laterally. This should do no harm, however, and it may still earn its right to a place in the garden provided it is kept apart from less robust neighbours.

Fabiana violacea has blue flowers as its specific name suggests but the shade may vary according to the form and only the better coloured forms should be increased. It resembles *Fabiana imbricata* in every respect with the exception of its flower colour and perhaps its less robust stature.

FOTHERGILLA (Hamamelidaceae). There are only a few species in this North American genus. They are closely related to the " Witch Hazel " and have the same attractive features of flowering precociously in the first half of the year and the foliage developing bright tints in late autumn. The leaves are deciduous and vary in size but what is more interesting is that the colour of the autumn foliage differs with the species. There are no obvious petals to support the floral colour and the flowers consist of numerous creamy white stamens clustered together in groups. Propagation is best done by layering or by the removal of suckers. The *Fothergilla* is a neat plant which requires little attention after planting and not being a rapid grower

never becomes leggy or unsightly in the rock garden. Slight shade does not seem in any way to retard these plants.

Fothergilla gardeni is the smallest species with the smallest leaves. The branches are rather loose and the whole plant is inclined to be weak growing with floral clusters only approaching half the dimensions of those in the other species. In April and May when in full flower, *Fothergilla gardeni* is still an attractive plant. *Fothergilla major* must rank as one of the most colourful autumn foliage plants. The large oval leaves turn a bright orange yellow and providing a sheltered site has been chosen for this shrub they will remain in the branches for a considerable period, but a strong wind in the autumn is the greatest enemy of the *Fothergilla*. This species becomes a focal point in the garden when the leaves have changed their colour. *Fothergilla major* is perhaps the most robust species and will eventually reach 5-6 feet, without ever becoming unsightly. *Fothergilla monticola* also has large leaves which may be as much as 4 inches long. In autumn these change to a bright reddish orange which seems to set the shrub ablaze. The large clusters of flowers appear in May a little later than those of *Fothergilla gardeni*.

GENISTA (Leguminosae). The genus *Genista* is very closely allied to *Cytisus* (The Broom) from which it differs by a few small botanical characters, the most notable difference being in the ripened seed which has an appendage in *Cytisus* but not in *Genista*. Generally *Genista* species are spiny, whereas the Brooms are thornless, but as this character is not constant it cannot be relied upon solely to separate the two genera. Both succeed in similar conditions where the soil is not too rich, and in full sun, and as many of the *Genistas* are slower and dwarfier growing than their near relative they may be more easily accommodated in the smaller sized rock garden. Once these plants have become established transplanting cannot be recommended as their root systems are both wide and deep. It is more certain and satisfactory to raise young plants from seed and grow these in pots until they have reached a suitable size for planting out. All species of *Genista* have yellow flowers but the shades are many.

Genista anglica is not the choicest of plants but it is an interesting native which inhabits the moors and commons of Britain. It is a low deciduous shrub which spreads loosely over the ground and rarely exceeds 12 inches in height. The branches tend to become entangled and they lack the regular interlacing which is evident in some of the tidier more compact plants. The shoots of this species are adequately protected by numerous slender spines which ably explain its common name "Needle Furze". Late spring to early summer is its flowering period.

Genista dalmatica (Syn. *Genista sylvestris* var. *pungens*) (See Fig. 43) is a low, compact, slow-growing shrub which can be highly recommended to the rock gardener. Rich yellow flowers are formed on short terminal

racemes during mid-summer. In addition to being extensively pubescent the branches are very slender and spiny and despite the tendency of these shoots to die back annually, numerous young growths sprout from the base of the plant in spring. It is this apparent winter pruning which gives the plant its extremely dwarf habit and if planted in a south facing scree *Genista dalmatica* may never exceed 3 inches. As the specific name implies it is a native of South East Europe.

Genista horrida (See Fig. 44) does not always flower very freely in this country. W. J. Bean suggests that this is due to lack of sunshine but this species should not be ignored because of this failing. Those who are attracted to shapely plants will find in this one a welcome acquisition. In a scree mixture the maximum height of *G. horrida* may be less than nine inches while in soil it may reach two feet or more. Wherever it is planted however, it will develop into a compact mounded plant shielded from its enemies by numerous piercing spines. The small trifoliate leaves are densely clothed in short silvery hairs.

Genista lydia is a most distinctive plant and should never be confused with any other species. If planted on a rocky ledge in an open exposed position, this species will send out long gracefully arching shoots which will cascade over the rock face and eventually form a network of loose slender branches. The branches are five-angled and have long internodes, so that their delicate tracery is not concealed by the narrow leaves. Bright yellow flowers are borne on the ends of short lateral shoots which arise in the axils of these leaves in May. *Genista lydia* is practically spineless and has a habitat which includes East Europe and Asia Minor.

Genista pilosa (The Hairy Greenweed) is a British native although confined to South West England. It seems to prefer the hot, sun-drenched, south facing slopes of the rock garden where it will spread extensively if left unchecked. Despite its dwarf habit of barely four inches few plants can rival this species in forming a thick carpet of branches. The profusion of small yellow flowers completely smothers the entire plant.

Genista sagittalis is a very interesting plant for, on inspection, it is found that the green stems are very markedly winged. The green shoots of the *Genistas* are able to manufacture food in a similar way to the leaves. It would appear that this species has developed this character further, and evolved these broad green wings so that foliage is almost unnecessary and leaves appear only spasmodically. The habit of this plant is to spread laterally but numerous side branches spring up to form a thick crop of shoots. Although stem rooting is not uncommon, the expansion appears to be as rapid over a rocky surface as it is over soil. It flowers in June, when the upright many flowered racemes are bright with yellow flowers. *Genista sagittalis* has been known for many years and was introduced from Italy as long

ago as 1758. *Genista sagittalis* var. *minor* is a dwarf replica of the species and is particularly recommended for the moraine.

Genista sericea, from the West Balkan States, forms a low compact shrub of 12 inches. The small simple leaves are polished above but are covered with silky hairs on their underside and the plant tends to increase by short twiggy shoots rather than by sending out long straggling growths. *G. sericea* has small golden yellow flowers which appear in early June.

Genista tinctoria is indigenous to Britain and in its finest forms makes a handsome garden plant. This plant masquerades under the common name of "Dyer's Greenweed" and will eventually reach three feet but if severely pruned in early spring the young growths will flower when under 12 inches high and consequently will be of more useful stature for a rock garden plant. This species seems to be able to withstand this treatment annually. The large flowers appear during the summer months, so that this shrub will add colour to the garden at a time when most rock plants have ceased to bloom. Many forms of this species are grown but the finest variety is *Genista tinctoria flore plena*. It is less robust than the species and the double flowering habit marks this as something special in *Genistas*.

(To be continued)

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A Small Rock Garden

AN ACCOUNT OF ITS PLANTS THROUGHOUT THE YEAR
—Continued

By DAVID LIVINGSTONE

IN THE last issue of "The Journal" I described my small rock garden in Edinburgh and gave an account of the flowering of plants that had come into bloom by the middle of April last year. The story is continued here.

18th April Three choice varieties of *Primula pubescens* opened their flowers today. P.p. Ruby, which has ruby-red flowers with a prominent white eye, is not as widely grown as it deserves to be. Indeed I doubt whether the European primulas are given the place in the rock garden which their ease of cultivation and wonderful prodigality in flower merit. I know there is a number with a bad reputation for their failure to flower freely in cultivation. These can easily be avoided and there is still left to us a wealth of others which require only a fairly rich vegetable soil, splitting up every other year and a reasonably open sunny situation where they will not dry out in summer. Given these requirements they will reward each year with an astonishing display of flowers out of all proportion to the space which they occupy. Those who have been privileged to see Mr. Archie Campbell's garden in Edinburgh in April will testify to the truth of this. And now to return to plants newly in flower today. P.p. The General, with its wonderful terra-cotta flowers and yellow eye, is a delight. Catalogues often describe it as having a weak constitution but I have never found this to be true. Mine are growing on a slight slope to the south and therefore get all the sun that is going. They are planted, however, between rocks and they have therefore the cool root run they seem to relish. The third primula is a mystery; it is labelled P.p. Mrs. J. H. Wilson but it is not the true Mrs. J. H. Wilson which is a much more refined plant with paler lilac-mauve flowers. So far as I know this one came from the Royal Botanic Garden, Edinburgh where it is still growing under that name. It is a vigorous grower and very free with its flowers. Misnamed or not, it is well worth growing even if you have the real Mrs. J. H. Wilson.

21st April Today a Himalyan androsace, *A. sempervivoides* is showing its small clusters of pink flowers borne on short

stems above little rosettes of dark green leaves. This is a very pretty little plant which asks only for a reasonable soil and open exposure. It is not necessary to protect it from rain in winter and it increases readily by offsets which are produced and root after the fashion of strawberry runners.

24th April Another androsace, *A. cylindrica x hirtella*, a more fickle one, is scenting the air today with its little white flowers. It has a perfume very similar to hawthorn blossom. This one needs plenty of stone chips round its neck and under its small grey-green rosettes. Winter protection is also necessary. It is a lovely little plant for the expert and is most easily managed in a pot in the alpine house or frame. If it is grown outside, give it a select spot among other tight growing dwarfs like the choice *Drabas* and *Kabschia Saxifrages*.

26th April The little white bells, so like Lily of the Valley, of *Cassiope mertensiana* (See Fig. 45) are nodding in the breeze today. This is a fine little member of the genus. It likes a peaty soil and my one seems to appreciate the very little shade that it gets in the late afternoon.

1st May More primulas today! *P. Goeblii* has fine lilac-pink flowers, as it should have, but its leaves cause me to doubt whether the name is authentic. I last saw the true plant about fifteen years ago and the leaves of my plant do not measure up to what I remember of the handsome leaves I saw then. It is a good thing, however, correctly named or not. There is no question about the other, *P. pubescens* Rufus, a vigorous grower with masses of brick-red flowers. Each year this is the last of the pubescens tribe to flower. It makes a good pot plant and should be seen more often on the show bench.

The tiny *Narcissus juncifolius* is flowering now. Its grass-like leaves are almost prostrate on the ground and the small flowers—the perianth is about the size of a shilling and the cup flattish—are borne on 2 or 3 inch stems. I have chosen a not altogether suitable spot for this little treasure. It is too far removed from the path and too low down. A select raised spot where it can be admired without treading gingerly on the rocks is called for. *Armeria casepitosa* is a sea pink from the Pyrenees with almost stemless cluster heads of pale pink flowers. It requires a position in full sun and once planted should be left alone as it makes a long parsnip-like root which resents disturbance.

- 6th May Narcissus Bobby Soxer is a Jonquil hybrid with several flowers to a stem. The perianth is yellow and the flattish cup, deep orange. It grows about 10 inches high and is perhaps, therefore, a little on the tall side for the small rock garden. It is perfectly easy, flowers freely and increases rapidly.
- 7th May One of the choicest of plants but a little difficult outside perhaps is *Androsace arachnoidea superba*. It is suitable for even the smallest rock garden but is more easily managed in a spot in the alpine house or frame. It is a tight growing species forming little woolly rosettes from which spring half inch stems bearing clusters of white flowers about the size of silver threepenny pieces. To begin with the eye is green but as the flower ages this changes to pink making a pleasing contrast. A gritty compost with stone chips underneath the rosettes and around the neck of the plant, an open sunny position and a pane of glass overhead in winter are necessary to ensure success out of doors.
- 8th May Today among the grey-green foliage of *Polemonium confertum* are clusters of violet-blue flowers with prominent yellow stamens. This American plant is pretty out of flower but how wonderful it is with the sun shining on it in bloom. My plant is in full sun in a well drained position where it grows very freely : indeed if it were allowed to do so it would soon encroach upon its neighbours.
- 9th May The little shrublet, *Aethionema Warley Rose* is suitable for the small garden and the large one alike. It has fine blue-green foliage and cluster heads of lilac-pink flowers which last over a considerable period of time. It should be cut back after flowering and it will furnish up with new branchlets for the following year. Cuttings may be rooted readily by inserting them in August in the soil around the parent plant. A position in full sun suits it best.
- The small blue *Rhododendron fastigiatum* is sure to flower freely every year and little shrubs like this add character to the garden. It demands no more than any other rhododendron, that is, a peaty soil and an occasional light top dressing of a peaty mixture. The star gentian of the European Alps, *Gentiana verna* is always a source of wonder. It is not always easy to establish or to keep but it is worth every effort. I think success depends largely on obtaining young plants raised from seed. I planted mine in accordance with a formula about which I read some years ago : below and around the roots I

put little pieces of sandstone and cow dung and covered the lot with a light loam in which I mixed a little peat and some coarse sand. They have taken to this and have poked up little shoots some inches away from the group of plants. This gentian needs no description from me. Perhaps the most popular of all rock garden plants, *Lithospermum diffusum* Grace Ward, is showing its wonderful blue bell-shaped flowers over green foliage. It appreciates a peaty soil and dislikes lime intensely. When it grows well it is a beautiful thing but unhappily it has a history of sudden collapse and death. It is worth trying, however, and if you fail to grow it, you fail in good company !

11th May *Rhododendron keleticum* was one of the very first rock garden plants to catch my fancy. It is dwarf, has rather hairy leaves and purple flattish flowers which are as big as half-a-crown. I remember seeing a bed of this species at Laird and Dickson's nurseries at Pink Hill, Edinburgh, now unhappily no longer in business, and I was struck by its freely produced flowers. From Nevada comes *Phlox Douglasii* which in its growing season has tight green foliage hugging the earth. Almost stemless flowers of a delicate lavender the size of a two-shilling piece erupt all over the mat-like growth, making it a choice plant. There are other forms of it of deeper colour and it is said that they are more desirable. However, I am quite happy with the one I have. It grows well in full sun and in a gritty soil,

12th May The Himalayan androsace, *A. sarmentosa* is a good rock garden plant with fairly large woolly rosettes and typical cluster heads of pink flowers. It should be grown in well drained gritty soil. If it is grown in too rich soil, its rosettes will be large and soft and will quickly rot in our winter rains. It can, of course, be protected, but grown under hard conditions it should not need protection. It increases after the fashion of a strawberry plant. An American shrub, *Phyllodoce Breweri*, provides long racemes of deep rose reflexed flowers. It forms its buds in the autumn and I always marvel that they are not destroyed by our winters but unfailingly they open out to provide welcome colour in spring. It is rather lax in habit and its branches are inclined to sprawl but it never takes up more space than one would like it to have. A peaty soil and partial shade suits well. The same conditions apply to another member of the same genus, *P. aleutica*; it is much dwarfer and tighter in its growth. The flowers too, are different : they are a pale cream and

almost bell shaped. *Lithospermum oleifolium* demands quite different conditions from *L. diffusum* mentioned earlier as it actually likes lime, its leaves are a silver-grey and its flowers are paler and not so intensely blue as *L. diffusum*. It is a fine plant and suitable for pot or pan culture.

14th May A Russian, but not a "red", has arrived this morning! *Iris ruthenica* has grassy foliage and sweetly scented violet-blue flowers with the falls netted with white. The flower stems rarely exceed 5 or 6 inches although the leaves may be longer. My plants are growing in pretty nearly ordinary garden soil in full sun. This species should be divided, if one wishes to increase one's stock, immediately after flowering.

The subulata phloxes provide a wonderful wealth of colour but they need to be trimmed back after flowering in the small rock garden or they would soon take up more space than one intended. Three of them are now in flower P.s. Samson a good salmon-pink, G. F. Wilson a pale blue and Temiscaming, very strong magenta. The growing stems root into the ground where they lie and it is an easy matter to propagate from these; all are in full sun.

22nd May Another iris today but of a different kind and from a country with a vastly different political outlook. It is *I. cristata* a miniature flag iris from the Southern States of America. It has soft blue flowers borne on 2 or 3 inch stems. Unfortunately, their stay with us is fleeting but I look forward nevertheless to their brief appearance each year. It is rhizomous and a handful of peaty compost thrown over the rhizome now and again in summer helps the rooting process. It should be planted where it will have filtered sunlight as some shade and a moist soil is necessary. It may be split up after flowering.

26th May *Primula sikkimensis* is flowering in a most unlikely situation, not only flowering but flowering profusely. It is open to the sun the whole day long but again it has a cool root run as it is flanked on two sides by rocks and on a third by a concrete path. It is not so tall as it would be in a shadier spot but its nodding yellow bells, even if on shorter scapes, are still very pretty.

28th May And yet another iris, this time from North West America. It is *I. innominata* which belongs to the same group as *I. ruthenica* and has the same grassy leaves. It is, I believe, very variable in colour but the one I have is a good yellow with chocolate or brown markings on the falls; the flowering stems are some 8 inches high. It is said to be

difficult to establish but I did not find it so. It should be broken up, if necessary, after flowering. It is growing well in almost ordinary garden soil with a little peat and sand added and receives a good deal of sun until the late afternoon in summer.

The Asiatic primula, *P. polyneura* is very variable and has in fact been known in its different forms under a variety of names. My plants have magenta coloured flowers with a yellow eye on 8 or 9 inch stems. It is quite hardy and increases slowly but surely in a semi-shady spot. It may be divided after flowering. Another Asiatic primula, *P. werringtonensis*, fairly similar to the last named but belonging to a different section, is also flowering in a like situation although it has perhaps a little more sunshine. It is a relative, I believe the only hardy one, of the greenhouse *Primula obconica*.

30th May Helianthemum Mrs. Earle is a really suitable sun rose for the small garden. It has little double red flowers which come in quick succession over a long period. A light sandy soil in full sun is all it asks and an occasional trimming in after flowering.

Dianthus averuensis is a delightful little pink. It has typical carnation foliage but only an inch or so high and bears little single rose pink flowers on 2 or 3 inch stems. No doubt it would appreciate lime, as this genus does, but mine has none because it is growing alongside gentians. A position in full sun in a well drained soil is all that is necessary to keep it in good health.

4th June An American Phlox, *adsurgens*, which should be more widely grown, brightens the rock garden today with its pale salmon-pink blossoms. I have been given varying advice on how to grow this but I find that it grows well in almost pure John Innes Potting Compound in a situation where it receives a little shade in the late summer day. It increases readily from cuttings taken in August, or shoots can be layered and rooted by placing some compost over its sprawling stems. I find it as attractive in flower as the rare *P. mesaleuca* which is now, I think, unobtainable in this country and which in any case was slow of increase as it could be propagated only by root cuttings.

5th June I have given over two small parts of the rockery to stonecrops and houseleeks; both are on slopes to the south and the soil is very gritty and the situation sunny because as is well known these two genera do best when grown hard and in full sun. I have been quite amazed by the

floral display given by *Sedum spathulifolium aureum*. This one has fat yellowish-grey leaves and orange-yellow flowers borne on short stems. Two others, *S.s. purpureum*, purple-red foliage and *S.s. capablanca*, whitish-grey foliage bearing somewhat similar flowers to the first named although perhaps not so deep in colour, are also in flower. *Sempervivum jubilee* is also about to flower in the same position. The various houseleeks are, I think, better in foliage than in flower except perhaps the very small *S. arachnoideum minor* which has pretty little red flowers.

- 8th June** Various other *Helianthemums* are now in flower, some of which came to me un-named. Two named ones I must mention as they are both good. *H. Salmon Queen* which I need not describe as the name gives its colour and *H. lunulatum* which has very tiny grey-green foliage and beautiful small yellow flowers about the size of a sixpence. It blooms over a long period although each flower lasts only a day or so, and is a real treasure for a select dry spot in full sun.
- 12th June** The little Japanese *Thalictrum kiusianum* (see Fig. 46) is another gem for even the tiniest rock garden. It has small foliage similar in appearance to maidenhair fern and fairy like little lavender flowers borne just above the leaves. The whole plant is only 2 or 3 inches high and it increases slowly by its growths rooting as they go along. It will never encroach on anything else. I have this one growing in full sun in ordinary soil. It and several others occupy an area which I like to think of as "The General's Corner" because it contains several choice little plants kindly given to me by Major General Murray Lyon.
- 18th June** *Primulas Forsteri* and *Bileckii* are blooming again for a second time. The blooms are not as large as they were early in the spring but they are still 'showy' in a quiet sort of way as befits these pygmies. Perhaps I should record here that they continued to flower off and on for most of the summer and I only hope that their spring display next year is not affected by this.
- 19th June** A lusty bell flower has opened today; it is *Campanula turbinata* which has large blue flowers. It is a strong grower and requires to be kept in check or it would soon exceed its allotted space. It can be used quite effectively as a garden edging.
- 21st June** The last of my *Rhododendrons* is *R. nitens* which has flat purple flowers borne in great profusion. This little shrub has strong stiff branchlets and grows about 12 inches high.

Plants and Problems

SLIPPER ORCHIDS

I HAPPENED TO mention to a sister how much I would like to grow the tiny pink fragrant slipper orchids on my rock garden. She and I had found them growing in moist moss at the foot of a forest tree in Esquimalt, Vancouver Island. In that location they would get no sun at all.

To my surprise my sister writes that last summer she was on a mountain in Northern Alberta, where many rare orchids grow—and over 6000 feet above sea level these same orchids were growing. With the intense cold there and the dry heat of the short summer this is in sharp contrast to the other moist and dark location, and seems to indicate that they are more adaptable and hardy than one would suppose. I thought this might interest.

Fife.

R. M.

(The correct name, and possible sources of supply, of this orchid would be of interest to members—Editor.)

IRIS INNOMINATA

IRIS INNOMINATA comes from North America and is a fairly recent introduction ; it was first collected in Oregon in 1929. The root stock is a rhizome which unlike many Irises does not appear on the surface.

Iris innominata is an ideal show plant as it is easy to dig up and makes a splendid show of colour ; the flower stems are short—6 to 9 inches long—and the inflorescence compact. The slightly veined petals are a good buttercup yellow, the standards slightly paler than the falls. The leaves are somewhat lax, a good green, numerous, and narrow ; incidentally they do not completely die down in winter. The plant flowers in May and should be grown in full sun. It can be increased by division and quickly forms good thick clumps.

I have described the true form of Iris innominata, which is the only one we have in this garden, but in other gardens we have seen many forms varying in colour from almost white to pale mauve.

Wigtownshire.

L. W.

ALLIUM OSTROWSKIANUM

ALLIUM OSTROWSKIANUM is a bulb and a first class rock plant, very gay in colour with a pleasing loose habit, and umbels of good rosy pink flower heads. Some of the many flowers in the umbel grow upright but the outside ones are slightly pendulous forming a ball of flower. It gracefully decorates our rock garden in June to July and we grow it here with very sharp drainage. The flower stems are shortish up to 1 foot, and are set off by thin grey-green foliage. It seeds itself here occasionally but is not invasive like some of the onion

family, and can be propagated by seed or offsets. It has been known in this country now for nearly a century having been first collected by Fetisow from Turkestan. As one would expect from its country of origin *A. ostrowskianum* is best grown in full sun.

Wigtownshire.

L. W.

PRIMULA AFF. WIGRAMMIANA

P. S. D. W. 6025

ON THE Botanical Expedition to Nepal in 1952 seeds of this lovely *Primula* were collected. The field notes say—No. 6025, *Primula* sp., 13,000 ft., on rock ledges. I received some seed, thanks to the kindness of Dr. George Taylor. This was sown in January 1953 and kept in a cold greenhouse. Germination was good and I was able in May to prick out into boxes a nice number of seedlings. Some were overwintered in these boxes and some were transplanted to a bed, which I had hollowed out of a 5/6 ft. retaining wall. This wall faces N.W. and has an old hawthorn hedge at its top. The bed is about 2 feet from the path level, is about 4 feet across and about 3 feet to the back. The back half is roofed over with stones and soil and in winter a large piece of glass is put across the front and leant back to the roof. It is far from being tight fitting, so lets in plenty of air but keeps off most of the rain. The seedlings were planted from their box about the end of July and only put in the front part of the bed where they get plenty of light. These have done better than those left in boxes and I think most of them should live to flower again this year, despite having produced a fair amount of seed. I doubt if those in the boxes will survive. Both in the boxes and in the raised bed a soil rich in leaf mould with some grit, was provided. (See Fig. 48).

N.E. England.

R. B. Cooke.

POROUS OR NON-POROUS

IN ROYTON HEATH'S new book on Rock Garden Shrubs the author says that "members of the ericaceous family dislike the dryness which is to be found at the edge of porous pots." Anyone who has tried growing dwarf rhododendrons and other ericaceous plants in pots will I think agree with him. His remedy is to slightly overpot, but is there not another remedy possibly?

These plants want well aerated soil but they want it consistently moist. To get this condition I submit that a porous pot is not necessary, or in fact desirable.

The necessary soil conditions of moisture and open-ness can be got by giving an open 'humusy' soil, light by reason of a good proportion of peat and/or leaf-mould, and of course adequate drainage.

I have tried growing some of these ericaceous plants, and also some ground orchids and woodland plants, in plastic pots with satis-

factory results. Now I am trying ordinary clay pots painted with bituminous paint. It would be interesting to hear other people's ideas and experiences. I can still remember the magnificent show of auriculas in the village schoolmaster's little greenhouse fifty years ago, and they were all grown in glazed pots.

Edinburgh.

M.L.

ROSCOEAS

IT IS SURPRISING that Roscoeas are not more often seen in our Scottish gardens. I think perhaps people are inclined to look at them and say "rather like Orchids, and probably not hardy." Well, as a matter of fact they would be perfectly right to suspect hardiness with this genus, but the two species we grow here are perfectly hardy and have withstood the severest winters with no protection at all. Although they look like Orchids to the unbotanical eye they are no relation but belong to the order Scitamineae which is curiously enough the same family as the Banana. They have been collected at various times, notably by Abbe Delavay in China and later by Forrest in the Himalaya. Height at which found is 10,000 ft. or so—Royle collected *R. purpurea* at 10,000 ft. in the Hymalya too—so despite having tropical cousins the natural habitat of these two Roscoeas is definitely alpine and high alpine at that.

R. cautlioides and *R. purpurea* grow very well together. The former being a cool yellow and the latter a rich purple, the two colours contrast well with each other, and they flower about the same time. Incidentally they scatter their seed about and very soon one gets a crop of seedlings which develop into varying shades of pale yellow to mauve; but it is easy to pull out the indifferent shades and leave the good colours. The Orchid-like flowers are very elegant and stand well above the foliage; they are quite pure in colour, unmottled or spotted, and are supported by strong stems swathed in leaves at the base. *R. cautlioides* grows to 18 inches high but *R. purpurea* seldom more than 1 foot. The leaves of *R. purpurea* are coarser and broader than those of *R. cautlioides*.

We grow them in our ordinary loam, which is poor loam here, in a sheltered semi-shaded position at the foot of the rockery. The root stock is a rhizome, and we find at times the flowers get too congested, particularly *R. purpurea*, but they can be divided in the spring, or propagated by seed. They get literally no other attention and all the years they have been here I have never known them not to flower 100.%. They die down completely in the winter and do not appear until rather late in the spring.

If you have never grown these plants I do strongly recommend them; they make a good show, a useful addition to the rock garden in July, and are perhaps a little out of the ordinary.

Wigtownshire.

L. W.

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Book Reviews

“ SHRUBS FOR THE ROCK GARDEN AND ALPINE HOUSE ”

By ROYTON E. HEATH (Collingridge, 42/-).

MR. HEATH has been fortunate in his publishers, for Collingridge have lavished all their skill on this fine book. That is not to imply that it is in the Christmas book tradition, with emphasis on form rather than on content. Mr. Heath is an enthusiast and an expert, as readers of his earlier book—“Alpine Plants under Glass”—will already know.

I think he must also be an optimist, because so many of the plants he describes are either difficult or doubtfully hardy. The general gardening philosophy behind this book is—“Grow a plant first in the alpine house under controlled conditions. Propagate it; and when you have plants to spare, try them out of doors in various positions and soil mixtures. The pleasant surprises will more than make up for the disappointments.” Mr. Heath also deals with many plants which are hardy and easy, but I felt his abiding interest was rather in the problem children.

There is a particularly valuable section on dwarf conifers. To the gardener more interested in form than flower this is surely our most valuable group of rock garden shrubs. Perhaps Mr. Heath underrated the risks. In north-east Scotland in the severe winter of 1947/48 I lost more than half my collection; not all were killed outright, but many were so disfigured that they were not worth retaining. Gardeners should, I think, be warned of such hazards; but if there is anything in the idea that severe winters come at seven year intervals, then the spring of 1955 should be just the right time to plant.

At the opposite extreme it seems strange to find *Linnaea americana* described as “not easy of cultivation”, when here, in partial shade and acid soil, it ramps like chickweed.

The section on dwarf rhododendrons seems to me specially well done. Such a vast number of species and hybrids is now available that expert guidance is essential. With such slow-growing plants one does not want to waste time on the second rate, and Mr. Heath wisely excludes the botanical curios.

The marginless photographs are very fine and some quite breathtaking, for example that of *Daphne petraea* facing p. 84, and of *Shortia uniflora grandiflora* facing p. 161. As a heather enthusiast, I was specially interested in the photograph facing p. 92, showing very skilful use of these plants in the rock garden.

Congratulations to Mr. Heath and Messrs. Collingridge on the production of such a choice volume: the connoisseur both of plants and of books will find great joy in its possession.

N. R. WEBSTER.

“ THE ALPINE GARDEN ”

By COMMANDER C. F. WALKER

AS THE author says this book is largely composed of random reflections on various aspects of rock gardening. He says too that it is primarily intended for the gardener with little or no previous experience of alpinists. More experienced rock gardeners will however glean useful bits of information from it, and they will enjoy reading it, for it is written in an easy and attractive style. The author stresses the point, often forgotten in gardening books, that rules and regulations need to be interpreted with intelligence, making allowances for differences of climate and soil. He does not give long lists of plants, but he does describe and give hints on growing a large number of his own favourites, which are, or would be if they knew them, favourites of most other people too. The book contains twelve coloured plates, some of which are particularly good. Published by Collingridge at 15/-.

D. M. M-L.

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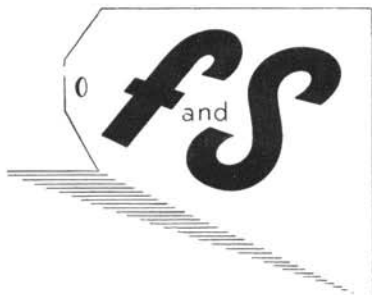
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