

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



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No. 12—April 1953

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# The Journal OF The Scottish Rock Garden Club

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



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## Editor's Notes

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IN THIS Coronation Year of 1953 Club members will wish to join in an expression of loyalty to our Queen and at the same time sincerely wish that Her Majesty may long enjoy a happy and prosperous reign. The absence from members' gardens of any of those gloriously patriotic colour schemes in red, white and blue, so universally advocated this Spring by nurserymen and seedsmen, denotes no lack of loyalty. Rather it denotes a more lasting loyalty to those aesthetic values on which Her Majesty herself has so often laid stress. We can find no confirmation for the rumour that some members were considering a rock-garden in the accepted national colour scheme with the aid of massed *Aubrietia* and *Arabis*; nor do we believe any rock gardener would give up space to the thistle—intentionally.

Scottish members must all agree that the months of January and February this year must have set up a new record of warmth and sunshine for the time of year. From the gardens of many members came news of all sorts of early colour displays—primroses and *Primulas* of the *Petiolaris* group full of flower the first week in February, *Rhododendron praecox* a mass of bloom by mid month, and along with it various *Kabschia Saxifrages*, *Iris* and *Crocus* spp. in full flower; and surely the *Kabschia Saxifrages* were never finer than they were this year. The complete absence of frost, and the fact that there was no biting chill even in the winds we had, gave us the beauty of these early flowers over a longer period than usual.

All this made it hard to credit newspaper reports in the fourth week of February that in some southern parts of England the sun had been glimpsed for the first time this year and that in many parts gardens were still covered in snow. One wonders what will happen to the plants so blithely pushing up flower buds and young growth if a spell of hard weather returns to us later in the season.

A feature connected with the Club's show programme which should provide additional colour and interest this year is the Scottish *Rhododendron* Show, organised by the Gardens Committee of the National Trust for Scotland, to be held in connection with our Club show in Edinburgh on 14th-16th April, and the inclusion of a section for *Rhododendrons* at the show in Glasgow on 5th and 6th May. An innovation to be tried out at Edinburgh and Perth shows this year, and very worthy of strong support, is a "Second Day Competition." The idea is that members who never have showed may feel that they have at home something as good or better than some of the prize-winning entries; this competition invites them to bring their plants to the show on its second day to compete in a section of their own. The editor has heard that this idea has already been copied from our

Year Book by one or two young horticultural societies and adapted to their own use.

Many of our groups now seem to have adopted the holding of a 'pre-show' meeting which takes the form of a demonstration in preparing plants for show and a discussion on faults and good points ; in some cases this meeting has become almost a group competition, with each member bringing something to set against his neighbour's. To many districts this idea is probably not news, but the more widespread it becomes the higher should grow the standard at shows, and at the same time many members should learn to lift and handle their plants with less risk of injury or loss.

At a time when so many people, with no previous experience in the subject, are turning their interest to rock gardens, Club members can do a lot to help beginners in the various problems they come up against ; our shows, too, can be a help and an inspiration to them in their new pursuit. Let us hope that none will look with disdain on the beginner, but ever be ready with a helping hand and friendly encouragement for those at a stage we all must have passed through at one time or another.

This seems an appropriate place to mention a matter recently discussed in Council. In the early years of the Club the names of members who were prepared to open their gardens to fellow-members were marked with a star in the list of members published annually in the Year Book. It is felt that this ought to be revived. At the same time it is emphasised that the small garden, and the constricted town garden, can be as interesting to many as the larger and more spacious rock gardens, always admired but unattainable by most. Intending visitors would, of course, first inform the owner of the garden by letter or 'phone and make sure that their proposed visit was convenient and the owner at home. All willing to extend the hospitality of their gardens should so inform their County Representative who in turn will pass on the information to the Hon. Secretary for inclusion in the next Year Book.

Any member who in the past has been deterred from contributing to the *Journal* by a need of drawings to illustrate his subject will be glad to learn that that problem exists no longer. An enthusiastic member who makes a hobby of scientific illustration has offered to make any drawings required on the supply of full information or the object to be copied. Anyone wishing to take advantage of this offer should write to Dr. R. B. Pike, Crawford Lodge, Millport, Isle of Cumbrae. We thank Dr. Pike warmly for his offer.

The editor thanks all who have contributed to this *Journal*, with a special welcome and word of thanks to new contributors, and to the many members still silent would say—"Go thou and do likewise." *April, 1953.*

## Lantern Slides and Film Strips

FOR THE benefit of members and county groups the following information about the possibility of hiring lantern slides and film strips has been obtained.

- (1) These can be obtained on loan from the Royal Horticultural Society by members of that Society at a charge of 5/- plus carriage for sets of 40-50 slides, or 2/6 per film strip. To non-members and affiliated Societies the charge for sets of slides is £1. Films issued to members at the reduced charge are for use by the members personally.
- (2) Slides are  $3\frac{1}{4}$  ins. square.
- (3) The hirer is responsible for the slides from the time they come into his possession till they are received back by the Society ; he must make good any loss arising from injury to the slides or containers at the rate of 6/- per slide (black and white) and £2 2/- (coloured).
- (4) In the list of floral lantern slides are a number of sets dealing with Rock Garden plants.
- (5) Full details as to method of hiring slides and other conditions are obtainable from The Secretary, Royal Horticultural Society, Vincent Square, London, S.W.1.

\* \* \* \* \*

More than once the possibility of forming a library of lantern slides, to be available to members wishing to illustrate talks and lectures, has been discussed in the Club. Several members have offered the use of lantern slides and colour transparencies, and it is felt that an appeal to members may reveal many more prepared to do the same. Will any member of the Club willing to lend slides for use by other members notify the President, stating subjects of slides, sizes and any conditions of loan. This also applies to films and colour transparencies.

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Mr. Robertson for acquainting us with Mrs. Robertson's generous gift, and at the same time offer our sincere sympathy.

This Cup it is proposed to allocate to the class for "Three Pans of Rock Plants of Distinct Genera" (Class 33).

The Schedule having been published before the donations of these awards, will prospective competitors please note these additions.

## Important Notice

MEMBERS are asked to note that as from 1st March 1953, the Hon. Secretary will collect all payments for Subscriptions. It will save work, therefore, if such payments are sent **direct** to Sqdn./Ldr. J. J. Boyd-Harvey, Boonslie, Dirleton, East Lothian, on and after 1st March 1953. Remittances should be made payable to "The Scottish Rock Garden Club"; the use of a Cash Payment Form instead of a letter is requested. Subscriptions paid by Bankers Order are **not** affected by this change.

The Hon. Secretary will also be responsible for all matters dealing with membership, the issue of publications and badges. Regarding badges, it is hoped that all County Representatives will keep some of these in stock for sale to their members so that issue by the Hon. Secretary will be obviated.

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## Beginning Again

By R. J. R. MEASHAM

IT HAPPENED during the 1951 Conference, in the New Hall's crowded restaurant, that I took the last seat at a table for four. Of the earlier comers two, wearing badges of high office, were deep in a conversation far above my head and, I fancy, above that of the young assistant from one of the trade stands who completed the quartette. After a while one of the great ones turned to me and kindly asked, "And what do you specialise in?"—a question nearly as flattering and disconcerting as that once put to me in the lounge of a Perth hotel by a guest whose dinner had agreed with him only too well: "Are you . . . Buying . . . Bulbs?"

Too slow-witted then to reply that I had just paid 4,000 guineas for Jonathan X of Monkbarrow, so now I could think of no better answer than to say that I was a novice of thirty years' standing. "Delightful!" commented the great man: whereafter the conversation ceased.

I think his comment was true. No doubt the novice knows nothing of the specialists' ecstasies; but he has his humbler and perhaps more constant joys; and I hope, in these notes, to share some of mine with my fellow-beginners, and perhaps remind some of those who have climbed higher than me, of the pleasant slopes below.

In the Spring of 1952 I began rock-gardening for the fifth time; not, this time, from scratch, for when we left East Lothian in January 1951, between 150 and 200 plants in pots and pans of various sizes were loaded in the furniture vans. They were a more or less chance collection of reserve plants, recent acquisitions, and plants raised from seed or cuttings the previous summer, with a few which had been lifted from the open late in the year. They seemed none the worse for the three days' journey to Somerset, or from the change from frost and snow to the vans' stuffy interior, and again to grey skies and rain. In Somerset we had no garden of our own, but our plants had standing-room in a friend's garden while we looked for more permanent quarters: most of them had the shelter of a frame till April.

For over a year we remained rock-gardeners only potentially. (Sorry!). Of course, plants had to be re-potted and we raised a few seedlings and struck a few cuttings, but lack of storage for potting materials induced recourse to ready-made composts which were not altogether a success. A batch of *Dianthus alpinus* seedlings, for example, did very well in John Innes potting compost for a while, but when winter came they perished one by one. On the other hand, there was time to spare for finicking jobs, and so practically every seed was harvested, and some minute cuttings, *Androsace pyrenaica* and *Sax. tombeanensis*, taken with a proportion of success never before achieved.

After ten months or so of this provisional existence we found a house and garden at Exmouth, and four months later we moved in, and the surviving plants with some additions from various sources. The losses in the interval were mostly small cuttings which never got going, but also included were four old plants lifted rather later in the year, which sustained damage to their root systems. They ought, I suppose, to have been put in a sand frame to make new roots. They were *Campanulae betulaefolia* and *Rainerii*, *Globularia incanescens*, *Petrocallis pyrenaica*. On the other hand things with more compact root-systems, *Cassiope lycopodioides*, *Eritrichium strictum*, *Geranium Farrerii*, and *Phyteuma comosum*, settled down to pot life quite happily.

It seems likely that the impact of a new owner on an old garden will leave its mark on both parties to the collision. Such an impact I now hope to describe, and, if nobody minds, to go on describing.

The new garden—new to us, but some 55 years old—is divided into two sections of about 800 square yards each. The rear section is mostly devoted to fruit and vegetables, but includes three biggish beds of flowering shrubs. The other section, in front of the house, preserves the Victorian lay-out, with a semi-circular gravel sweep enclosing a lawn with rose-beds, and belts of shrubs, underplanted with other things on either side and along the frontage, which faces south-west. As one faces the house the left-hand shrubbery border, about a foot wide, runs straight S.W. to N.E. ; the edge of the right-hand border follows the curve of the gravel sweep, so that this border widens from 6 feet to about 50 feet. Near the centre of the broadest part of this border is a specimen pine of an exotic species not yet ascertained, about 50 feet high and with the lower branches removed up to above 25 feet. Outside the boundary walls on each side are belts of trees, mainly deciduous, from 25 to 40 feet high, or thereby. If I have made myself clear, it will be seen that this part of the garden gets practically no shade after midday in summer, and that most of it is exposed to the sun all day.

This is the setting in which, if at all, a rock garden is to be made.

There was, however, something to start with. A shallow flight of steps leads to a projecting porch and the front door (facing S.W..). On each side of this has been made a border, about 9 feet wide, and raised from two to three feet above the surrounding ground. Here had been made banks of "rock-work," by seating on, or partly burying in the soil (a heavy neutral loam) chunks of a rather ugly whitey-grey stone much favoured in this district, and which I am told comes from Lyme Regis. There are veins of quartz in it, and it does not seem to weather or to afford a foothold for any sort of moss. It has been used as an edging to most of the garden paths.

These twin rockeries were, when we came here, covered with a tangle composed mainly of self-sown *Aubretia*, *Helianthemums*, *Thymes*, *Phlox subulata* varieties, *Veronica Catarractae*, *Campanulas* of the "octopus" section, and some of the less tractable *sedums* : but among

these we had seen, on our first visit in December, a solitary trumpet of *Gentiana acaulis*, and other good things have come to light since—notably a good-tempered plant of *Lithospermum diffusum* and flourishing bushes of *Cytisus x Beanii* and *C. purpureus*.

Behind the 'rockeries' on either side of the porch a good deal of peat had been added to the soil and a number of heaths planted—varieties of *Calluna* and of *Erica carnea*, *E. vagans*, *E. lusitanica* and others not yet ascertained. Against the house walls, on one side of the porch is a large bush of the double *Leptospermum scoparium*, on the other *Correa alba* and *Leptospermum Nicholsii*, but otherwise this position, invaluable for the not quite hardy plants to which the climate invites one, had been given over to hardy heaths and *Daphne Mezereum*, which hardly need such conditions. To complete the picture cement slabs had been laid to form stepping stones across the bank on each side.

To make anything like a rock-garden out of the available materials and in the position given seemed impossible, but it did not seem hopeless to re-make the rockeries so as to preserve the best of the existing plants and make a comfortable home for some of the plants we had brought with us. This was a matter of some urgency, for many of them were showing a distaste for pot life in the conditions in which they endured it. These had been aggravated by my idea, engrained I dare say in many beginners, that 'a bit of glass' is the answer to the problem of dealing with alpinists in pots. There is a conservatory attached to the house, facing S.E., and in that most of my plants were accordingly deposited almost straight from the furniture van; the recognized shade-lovers were excluded, but were not in much better case, for no stance could be found for them which was not open to the sun for several hours.

However, the weather was cool and all were well for a while—until one bright morning the conservatory was forgotten until the temperature had reached something like 100°, and the unfortunate 'alpinists' were being grilled alive. The extraordinary thing was that most of them showed no ill effects; but *Aquilegia scopulorum*, *Asperula arcadiensis*, and one or two more never recovered, and others lost all their flower buds. Moreover, the conservatory was found to harbour green-fly, and proved, in fact, a most unsuitable home for alpinists. Most of them were accordingly moved to a plunge bed made in an old brick pit half-filled with ashes, while for the shade-lovers a "staw" was improvised in a corner occupied by weeds and rhubarb.

I set to work, therefore, on the left-hand rockery, beginning at the N.W. side, by removing all the *Aubrietias* and *Sedums*, lifting all the loose stones (most of which concealed colonies of ants or woodlice), and working in sand and peat among the roots of the "good" plants with a handfork. The N.W. face of the bank was rebuilt, and here a home was found for *Ramondia Nathaliae*, which had sulked in its pot for eighteen months and never showed any sign of a bud. Within

a week she had sent out five flowering stems and the first flowers were opening. *Phlox subulata*, next to go in, was not so successful ; it started to grow at once, and produced flower buds, but then collapsed, no doubt due to the after effects of being grilled.

So, as time allowed, for there were many other jobs to be done, this rockery has been gradually rebuilt, the rubbish and the creepy-crawlies removed, and the homeless plants given root room. And how they enjoy it ! I have come to the conclusion that for me, at any rate, to grow anything but a very limited range of alpiners in pots is sheer cruelty. Of course, this is only to be expected with such strong growers as *Erodiums*, *Aethionemas*, *Thymes*, but it seems to apply also to most of the *Primulas*, *Aquilegias* and *Androsace carnea*, yes ! and *Corydalis cashmeriana*.

Whenever possible, I have built up the face of the rockery as a dry wall, for it is an advantage of wall gardening, not mentioned in A. L. Winning's article of page 86 seq., that it enables one to use really ugly stone, provided it is hard, without calling attention to its ugliness. Of course, it is not so easy to build with chunks of any old shape, nor does the wall look so like a wall ; but it can be done and a firm construction, hospitable for the right plants, produced. Incidentally, *Erigeron mucronatus* is a dangerous thing to plant. Here it grows on every brick wall, and has to be frequently weeded out from other places, and *Corydalis lutea* is as bad. I should like to mention *Erodium chrysanthum*, which indeed will produce its lovely filigree foliage anywhere, but is apt to be too invasive ; while on the face of a sunny wall its powers of encroachment are reduced, it is pretty certain to produce a succession of its delicate, though hardy, golden flowers.

Meanwhile homes have been provided for a good many plants on the edge of the right-hand shrubbery border, but of this and of other developments and projects I should like to write later. For the present, any plans for a rock-garden, properly speaking, are in abeyance.

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## The Best Autumn Gentians for Beginners

By DOROTHY C. PAPE

UNDER the above heading I am referring solely to what my unbotanical mind calls the grassy foliaged gentians. I know there are many of the broader-leaved ones even more easy, but although they can be colourful at a time of year when there is not much in bloom on the rock garden, they do not, to my mind, provide the fascination of the Chinese gentians and their hybrids. Somehow these manage to look Chinese with more than a hint of oriental colouring in their make-up and tones of blue and green, reminding one of their country's beautiful old porcelain which has always fascinated me.

I have always been interested in the gentian family and I would hate to be asked how many species I have tried and killed in the last twenty-five years, in what is really an unsuitable soil for the family—heavy and somewhat limey with a very low rainfall. As the result of my experiments, I am sometimes asked for advice as to which are the best for beginners, and certainly the numerous new species introduced and hybrids created in the years preceding the war caused great confusion to anyone but the expert, and I am far from that.

Probably many will contradict me and sing the praises of one or the other of the newer species or hybrids, but I have come to the conclusion that I would be perfectly happy if only five of these gentians existed, and that no others I have tried can provide me with the pleasure that these five have done, so the problem seems much simplified. The five are :

- G. sino-ornata*. Royal blue ; September and October flowering.
- G. Farreri*.\* Pale sky blue with a white throat. Late August and early September flowering. Read the eulogies of our patron saint on its discovery and all well deserved—which was more than all his enthusiasms were.
- G. Maccauleyi*. A cross between *sino-ornata* and *Farreri* ; paler than *G. sino-ornata* ; late August and early September flowering.
- G. stevenagensis*. *Sino-ornata* crossed *Veitchiorum* ; darker than *G. sino-ornata* and the orange pistil seems to show up even better against the darker petals. Late August and early September flowering.
- G. hexa-Farreri*. *Hexaphylla* crossed *Farreri* ; a duller shade of blue, but a very easy doer. August flowering.

All have stripes of varying black, yellow and green on the outside of the trumpets. Unfortunately, all the last four have been frequently raised from seed and it is possible to obtain very varying plants under these titles, particularly in the case of *G. Farreri* and *G. stevenagensis*.

These gentians are all good doers, though some complain of *G. Farreri*, which does not trouble me at all. They prefer a peaty soil—peat moss being the best—but any peat will suffice and can hardly be

overdone. I do not like leafmould so well. They prefer an open spot in full sun or they become drawn and straggly and, in shade, the blooms will not stay open. The more rain-water that can be provided the better. *G. Farreri* will put up with a good deal of lime and *G. Macauleyi* with a little, but *sino-ornata* shows its resentment to lime immediately and turns an unhealthy yellow. *G. Macauleyi* seems to require more water in dry weather and can very easily die if neglected in a drought.

All these gentians should be divided in April when they are becoming congested. The plants should be lifted and gently pulled apart, and replanted in a freshly prepared bed. The only other work consists of removing the dead foliage of the previous year as soon as the new growth commences in Spring, and giving a top dressing of peat and sand when the foliage is an inch high.

The Chinese gentians prefer the open ground and do not prosper in pots or even troughs. *G. sino-ornata* makes a lovely cut flower for the house, but the colour is not so good in artificial light. I know that on reading this note the gentian fans will complain, "Does she not like Devonhall, Caroli, ornata, etc.?" Yes, I like them all and many more, but I repeat I would be perfectly happy with only the five mentioned, and I would hate to part with one of them.

\*(See Fig. 10).



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## Some Flowers of the Fjords

By K. S. HALL

CARPETS of *Linnaea borealis* and clumps of *Phyllodoce coerulea* growing unharmed beside a public path ! It is a tantalising thought for anyone who has searched in vain for these rare plants of the Highlands, but they are only two of the interesting flowers we found on the West coast of Norway during the last week of June 1952.

We were staying at Åndalsnes, the little town on the Romsdalsfjord where the British troops landed in 1940. The town itself was completely destroyed in the fighting, and has been rebuilt with modern houses of painted wood and a charming up-to-date hotel. Behind the town rise wooded hills, and it was in these woods, amongst the ruins of machine-gun posts and within five minutes of the hotel, that we found the first treasures.

Here four different forms of *Pyrola* were growing under the trees. *P. uniflora* and *P. rotundifolia* were not very plentiful, and we found only a few plants of *P. secunda*, but *P. minor* grew in such abundance that one could, without a twinge of conscience, pick a bunch of its sweet-smelling sprays. *Maianthemum bifolium*, so rare in Britain, and *Cornus suecica* were scattered throughout the woods, and in the damp places *Pinguicula vulgaris* made large splashes of rich violet.

But of all the flowers in these woods the loveliest was *Linnaea borealis*. Under the pine trees it spread its slender trails everywhere, dripping over rocks and tree stumps, and out of this carpet of soft green rose the graceful stems with their delicate twin bells of pale pink. It is no wonder that Linnaeus chose this exquisite flower to bear his name.

Across the fjord, above the tree level, lay open moorland country very like our Scottish hills. There the grey-green leaves of *Salix lanata* formed a background to *Phyllodoce coerulea* in flower. Seen for the first time, this was a little disappointing, for its name is sadly misleading, although the Norwegians also call it "Blue ling." Much more attractive, and growing on the same moors, was *Andromeda polifolia*, whose tiny pink chinese-lanterns contrasted charmingly with its dark foliage, while here and there we saw large mats of rich pink where *Loiseleuria procumbens* was in full bloom.

Behind Åndalsnes the river flows swiftly down the Romsdal, fed by melting snows from the plateau above. On the rocks beside the river grew *Saxifrage cotyledon*, whose Norwegian form is a very handsome plant with plumes of flowers, sometimes nearly 18 inches long, not unlike those of "Tumbling Waters."

Above the river rise the high cliffs and pinnacles of the "Home of the Trolls," which is reached by a well built, though rather terrifying zig-zag motor road. On the plateau at the top are found the plants of the high mountains, but the snow lies late up there and most of the flowers are not fully out until July. On one rock, close beside the



path to a famous view-point, we found a miniature natural rock garden where, in full bloom and running one into the other, were *Diapensia lapponica*, looking like a creamy white saxifrage, *Andromeda polifolia*, *Loiseleuria procumbens* and an exquisite little Cassiope, *C. hypnoides*, whose white bells rise singly on slender stems an inch above the moss-like foliage.

Whether any of these plants will do well in a Scottish rock garden remains to be seen, but these Norwegian plateaux should, in July or August, provide much to interest a rock-gardener. We found two small books which, between them, helped us to identify these and all the other flowers we found. The illustrations were quite good, and although the descriptions were in Norwegian, the Latin names enabled us to confirm the identification on our return :

- (i) *Floraen in farge* (The flora in colour), by Gjaervoll & Jørgensen.
- (ii) *Fjellflora* (Mountain flora), by Aschehoug.

## Some Dwarf Rhododendron Species

By E. H. M. COX

IN THE last issue of *The Journal* I mentioned various methods in which dwarf Rhododendrons could be used in the rock garden. Now your editor has asked me to go one stage further and mention some of the actual plants. This is a large order. Dwarf Rhododendrons are not only numerous, but many are of little garden value, while even in the best species various forms exist, of which some may be great improvements on others. Thus it is difficult to lay down the law and pick out a given number of good species. In addition, new hybrids are being raised which in some cases are better than either of the parents ; but these hybrids I shall have to leave to a later issue. In any case, I shall only mention plants with which I have had personal dealings, good or otherwise. I must follow the 1952 edition of the Rhododendron Handbook published by the R.H.S.

### ANTHOPOGON SERIES

This is one of the most distinct of the lower-growing series. Most of the species have tubular flowers arranged in little heads carried on the tips of the young shoots. They are not among the easiest to grow and must have semi-woodland conditions with some shade. The worst of this advice in Scotland is that if too much shade is given, they grow lanky and spindley instead of the normal bushy dwarfs about two feet high and soon grow out of character.

The most charming is *R. Sargentianum*, a lovely lemon-yellow. For many years there has been a fine old plant in about the middle of the rock garden of the Royal Botanic Garden, Edinburgh, but I have always found it very difficult to establish. There is an easier group now known under the one name of *R. trichostomum* which used to include *R. sphaeranthum*, *R. radinum* and *R. ledoides*, all very lovely

but more upright in growth than *R. Sargentianum*. All have small grey-green leaves and the typical little heads of tubular flowers. In the type, which is synonymous with *R. sphaeranthum*, they are usually white, in *var. ledoides* they are usually pale rose, and in *var. radinum* palest pink ; all are excellent.

#### BOOTHII SERIES

In this there is one dwarf sub-series, *megeratum*, and one semi-dwarf, *tephropeplum*. Except on the west coast these are only mentioned as a warning. The lovely *R. leucaspis* with its flat-faced white flowers and woolly leaves is far too early in its February or March flowering to be of any value unless as a pot plant. I have tried the equally lovely, yellow-flowered, *R. megeratum* on several occasions, but have found it difficult to keep alive through our changeable winters.

In the other sub-series *R. tephropeplum* is free-flowering and pretty, with neat little rose-magenta flowers, but I have found it very bud-tender and almost useless with us on the East coast. When it died in the long winter of 1947 I never replaced it.

#### CAMPYLOGYNUM SERIES

This has two excellent rock plants. There is *R. campylogynum* itself, which will grow to two feet and form a compact bush. The small bell-shaped flowers are carried above the leaves on stalks and in colour vary from pink to plum-purple with occasional shades that are near mahogany. The other species is *R. myrtilloides*, smaller and more compact, with flowers of a rich plum colour that show off well above the tiny polished leaves. Both are easily grown, but they do not like drought.

#### FERRUGINEUM SERIES

Our European Rhododendrons, *R. ferrugineum* and *R. hirsutum*, are too well known to warrant description, but it is as well to remember that although often classed as rock plants they live long and will grow to fully 5 feet in height. They do not take kindly to being cut back, and so in time they may grow too large for a rock garden. We have plants over forty years old and they are fully 5 feet each way.

#### GLAUCUM SERIES

This contains two neat plants, *R. charitopes*, which in April and May has apple-blossom pink flowers spotted with crimson, and *R. tsangpoense* in its variety *pruniflorum* with plum-purple flowers on long stalks that do not appear with us until late June. Both can be recommended as something a little out of the ordinary, quite hardy and ultimately reaching about 4 feet.

#### LAPPONICUM SERIES

This is the large series of dwarf Rhododendrons that take the place of our heather in Western China and South East Tibet. There are no less than 52 species listed in the series. Like the heaths, there are good,

bad and indifferent ; and they form pitfalls for the unwary. At one time or another we must have grown about 40 of them, but many, such as *R. polycladum* and *R. achroanthum*, are not worth growing, while others, such as *R. scintillans* and *R. impeditum*, have some forms which are much better than others. My advice is wherever possible to see actual plants in flower before you buy them.

Here are 8 that are worth growing :—

- R. chryseum*, 1-2 feet. One of the best yellow dwarfs.
- R. hippophaeoides*, 2-3 feet. Grey-green foliage and pale lavender flowers.
- R. impeditum*, 1 foot. Low, compact and neat, with rich blue-purple flowers in its best forms ; slow growing.
- R. intricatum*, 2 feet. Very twiggy with small mauve flowers and many of them.
- R. microleucum*, 1-1½ feet. One of the few dwarfs with white flowers. It is still rare.
- R. ravum*, 5 feet. This is the largest of the series, with deep rose flowers that show up well against the dull green leaves ; very free-flowering.
- R. russatum*, 3 feet. Rich blue-purple flowers with a white throat, and a very fine plant. There is a slightly smaller form that used to be known as *R. cantabile*.
- R. scintillans*, 2 feet. This has the nearest-blue flowers in the series. At its best it is almost a royal-blue.

#### NERIFLORUM SERIES

This is a large series and contains many plants which are on the borderline of size for the rock garden. Species like *R. apodectum*, *R. neriflorum* and *R. dichroanthum* will grow to 3 feet in height and much more in diameter. I would warn you against *R. aperantum*. From descriptions in the wild state it is a multi-coloured species ranging from white through yellows and pinks to crimsons ; but in cultivation it is proving to be a very slow species to flower and to grow. I have had 6 plants for 25 years and have only seen one flower. Other growers have had similar experience both in England and in Scotland.

The one real dwarf in the series is *R. Forrestii*, which used for the most part to be called *R. repens*. This has been introduced many times from China. Some of the earlier sendings of Forrest have proved shy in flowering, but some of the later introductions, mostly by Kingdon Ward, are much superior. This is a creeping dwarf plant that hugs the contour of the ground. The waxey, pillar-box red flowers, so large for the size of the plant, make it one of the best of all Rhododendrons for the rock garden. It will stand hotter conditions than many, and should not be grown in too dense shade.

#### SALUENENSE SERIES

This, one of the lowest growing of all the series, also has the largest and flattest-faced flowers of any of the dwarf series. The colour varies from a rose-pink through all the rose-magentas to a hot port-wine

colour in *R. keleticum*. *R. calostrotum* is the best known, with grey-green leaves and rose-purple flowers. *R. saluenense* is not very different but it grows taller, while *R. radicans*, like *R. Forrestii*, hugs the ground.

Although sometimes the colour leaves something to be desired, all the series are worth growing for the size of their flowers and their neat appearance.

#### TRIFLORUM SERIES

Most of this series are far too large for the rock garden, but there is one, *R. Keiskei*, which is a low compact shrub with pleasant lemon or primrose-yellow flowers. There are two forms, one dwarfer than the other, but both are equally free-flowering and charming, although they flower early in April and are sometimes cut by frost.

#### UNIFLORUM SERIES

As the name implies, these are species with single, or at the most paired, flowers. As a rule they are not of great account. One of the best, *R. imperator*, is one of the most difficult of all dwarfs to establish and is not worth its name. But the series does contain *R. pemakoense*. The colour is pinkish-purple, a little indeterminate. But to make up for this we find it the most free-flowering of all dwarf species. Every year it is a round ball about 1 foot high and  $1\frac{1}{2}$  feet in diameter, so covered with flowers that hardly a leaf is to be seen. It is really an accommodating plant that should be more grown.

#### VIRGATUM SERIES

Last, but by no means least, comes *R. racemosum* in the *virgatum* series. It is so well known that it does not require any description. But this is the classic example of a Rhododendron that varies from a squinney-flowered nonentity in its worst forms to a lovely rich pink, large-flowered, free-flowering beauty in its best. As it is propagated easily from cuttings, it should not be grown from seed. There are lovely taller forms reaching 6 feet, but the most dwarf with the deepest pink flowers was that introduced by Forrest under number 19404.

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## Some Cyclamen—2

By J. E. STEWARD

NO DOUBT there is much truth in the old saying that "well begun is half done," but it has been borne in upon me that there may be also some virtue in finishing the remaining half. It has been kindly suggested that it would be of interest if I were to add to what was written in a previous article on Cyclamen and so round it off, as it were.

I am only too glad to try to do this, but it is with great trepidation that I embark upon it, for some of the species that remain to be mentioned are comparatively rare in cultivation, while others present some difficulty in nomenclature. However, here is the attempt to fill in most of the blanks left by the previous selection.

*C. hiemale*. This hails from the Sicilian Taurus and, as its name suggests, is winter-flowering. Early in November the leaves appear, followed any time between December and February by the rose carmine flowers with a deep red spot at the base. It is a species near *C. ibericum*, but flowers much earlier and the flowers are smaller with a blotch that is round and not triangular.

*C. ibericum*. The flowers of this vary from magenta to shades of pink and, I believe, even to white. In form they are somewhat like *C. coum*. The leaves are slightly toothed with a silver zone or spots above, and form a good setting for the flowers. If grown in proximity to *C. coum* resulting seedlings will often show a cross between the two which is rarely an improvement on either. The exception, of course, is the beautiful *x Atkinsii*.

*C. alpinum*. Like *C. hiemale* this comes from the Sicilian Taurus and was introduced as early as 1892. It is considered by some to be a form of *C. cilicicum*, even though it appears to be nearer *C. ibericum*. The flowers are bright carmine with a dark purple blotch at the base. The leaves are a deep green above, with a broken white zone, and crimson beneath. The corm is flattish and roots from all parts below the middle.

*C. pseud-ibericum*. It would appear that this is nearly related to the most eastern form of *C. europaeum* and the fact that it is fragrant may have a bearing on the relationship. The leaves appear before the flowers and are of a deep green with spots that are a greeny silver. These markings are not so clear as in *C. ibericum*. The flowers are of a purplish rose colour with a deeper purplish blotch.

*C. latifolium*. I mention this more for the sake of completeness than anything, for it is generally considered as a synonym of *C. persicum*. It is figured in the Botanical Magazine, No. 44, as *C. latifolium*, and on occasion appears to have been called *C. tomentosum* and *C. albidum*. What the real truth is, I must leave to the experts, but it is quite possible there may be extreme forms which are so unlike the Cyprian form of *C. persicum* as to justify giving it the specific name of *latifolium*.

*C. balearicum*. The leaves of this appear in the late autumn and are small and spear-shaped with a similar mark of silver on them.

The buds form early and then remain stationary for a long period, rather aggravatingly—at least mine do. At the time of writing (February) they are only developing slowly. When they do come out, they are white, with sometimes a rosy throat, exuding a faint fragrance if one's olfactory nerves are sensitive. They bear a similarity to those of *C. repandum* in being long and narrow in the petal, but are altogether smaller.

*C. creticum*. This is another one that is included for the sake of completeness, for it is generally regarded as a synonym for *C. repandum*. It appears to be limited to the island of Crete, as its name suggests, and so may be a local form. With that I must leave it!

*C. africanum*. Coming from Algeria, this is one of the very tender ones and requires a hot position and good protection if grown out of doors. I have seen the base of a south wall suggested as a possible place for it. Being a 'doubting Thomas,' if I possessed it (which I don't, as yet), I should certainly feel happier if it had the protection of a frame. Because of its home conditions it needs a good period to dry off in the summer and for this reason hates disturbance. This I consider is a 'miffy' one in a family where most are reasonable doers. It has been described as being larger in all its parts than *C. neapolitanum* and a hybrid with the latter has been recorded. The flowers, which are followed by the leaves, are of a rose colour with a deep crimson spot at the base. The corms root all over.

*C. Rohlfsonianum*. This hails from North Africa and is not to be trusted for hardiness. It is a difficult one to come by. The leaves and flowers appear together, the former are plain green with an irregular margin and serrated at the edge, while the latter are pink, sometimes even near crimson, but always paler at the tip.

*C. pseudo-graecum*. It is difficult to gather much information about this. It appears to be confined to the island of Crete and is not very hardy. Flowers and leaves appear together. The flowers are similar in colour to *C. graecum* but more pointed in the petals while the leaves have a jagged serration and an ivy-shaped formation.

No one is more aware than myself of the rather meagre details in these notes, but at least I hope they may serve as a brief introduction to a delightful race and also perhaps may encourage other readers to try them for themselves. Then, maybe, in later issues of the *Journal*, they will be able to give us the benefit of their experience and so enrich and increase our knowledge of a genus possessing much beauty in leaf and flower.

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## Shows

By "LOCUM TENENS"

IT USUALLY starts this way. My wife (the expert) remarks that a S.R.G.C. show is coming off soon and that she has not got a thing to enter. I (the novice) say that to me there appear to be a lot of things in flower, which look lovely, and that I am sure they are good and will get first prizes. Not a bit of it. She says that those will all be over and the next batch of lovely things will not be out in time. It would not surprise me if that sort of conversation takes place in quite a number of other households.

As the date of the show gets nearer, certain plants are discovered, which seem as if they might be showable, but they are never just at the right stage. Some need to be pushed forward, others held back. How this is done is still a mystery to me and rather magical. I keep well out of the way and peep round the corner, admiring from a distance and wondering sadly whether I shall ever be able, all by myself, to grow something which will win a prize.

During the last day or two before the show the excitement increases. Disappointments begin to appear and the weather is sure to be too hot or too cold. Beware, at this time, of mice, beetles, slugs, or even poor Benjamin Bunny. I have even heard of someone who left a gate open and was visited by three cows.

The journey to the show has its trials. First, the car has to be packed. This is a tricky business. Flower pots and pans never seem to fit nicely into the space available, but insist on being wobblers. Moreover, there are always some precious stems which are determined to stick out or hang over and must be controlled by balls of paper and other ingenious devices. Then comes the drive itself. Every bump and pot-hole has to be watched for and avoided. The anxiety is great and I am exhausted by the time we get there.

The show room is a scene of intense activity. People rush to and fro. Some carry boxes of pots, which they put down in alleyways and I fall over them. Others are studying schedules and their own lists, which frequently seem to get lost (at least our's do) and sorting out show cards. Some harassed exhibitors are arranging cut flowers in vases and there are nearly always quite a few people searching for the secretary. The calmest are the professionals of the trade, who carry on quietly setting up their beautiful stands. Somebody once mistook me for the secretary, presumably because I was standing about looking tired but wise, and I was able to supply quite a lot of misleading information. I have a great admiration for Show Secretaries, but, thank goodness, I am never likely to be one.

On one occasion we took, among other things, some cut daffodils to a show. We arrived late and there was only a short time before the judging was due to start. My wife went off to put her pans of Alpines in the right places and I was left with having to arrange seven

or eight vases in about half an hour. Never again. Having, after much enquiry, found the vases and filled them with water, I started the arranging. I put some moss in and then a stem or two. The moss immediately disappeared into the bottom of the vase. That produced a problem. To leave the moss where it was would mean that there was not enough room for the stems and I could not tip it out, because the water would have made an awful mess. It was solved by my being lucky enough to borrow a knitting needle. A buttonhook would have been better, but people do not carry them about. When, at last, I had got all five daffodils in place in a vase, one or two of them were sure to turn their heads away in disgust and face the wrong direction.

When the judging is over it is fun to hurry along and see if there are any pretty red, blue or yellow tickets lying beside my wife's exhibits. If there are, I feel proud and, although I have contributed so very little to their production, I lurk about, hoping to hear some passer-by exclaim in admiration of the specimen.

Shows are always full of kindly and charming people. At one of them I met a female "Locum Tenens," that is to say, one who is left in charge when her husband, the expert, is away (just the reverse of my situation). I did not know who she was, but we had much in common and I got a lot of useful hints on the proper performance of our duties.

Then there was a lady who, having been introduced to my wife, asked her if she had seen a certain ghastly exhibit which had won a prize. I am afraid I chuckled, because that particular plant was in fact my wife's pet show piece.

When all is over there is a great scramble to remove the exhibits. It is odd how everything now seems to pack so easily and firmly into the car. The anxiety is past and we can rattle along, scorning bumps and pot-holes, and talk contentedly of the beautiful things we have seen and the nice people we have met.

## Hardiness

By D. M. MURRAY-LYON

WHAT does it mean?

Well, perhaps it means different things to different people in different parts of the country. But by and large, it surely means that a plant is hardy if it not only lives but flourishes out of doors "given the right conditions."

One of the most important of these conditions is avoidance of stagnant moisture, especially round the collar of the plant at ground level. This can usually be achieved by planting in scree, or in the case of plants that must have damper and richer soil by at least scraping away an inch or more of soil from the neck and replacing with ashes or gravel. This latter plan suits the monocarpic *Meconopsis* such as *nepalensis*, *Dhwoji*, etc.



Then there are the plants which don't like getting their hair wet—certain *Androsaces*, *Asperula suberosa* and things like that ; in their case the answer is to plant under an overhanging rock or stone. Of course, if you don't mind the rock garden being disfigured in winter by miniature glasshouses and umbrellas, these too give the necessary protection. Artificial caves and walls and their uses were mentioned in *Journal No. 10—1952*.

Frost is another problem. There are plants that just will not stand frost, but there are others which will "if" certain precautions are taken. Frost damage to young growth and leaves and to early flowers can be largely avoided by planting where the early morning sun does not shine on the plant. If the rays of the sun do not reach the plant till the frost in or on it has been melted by the warming atmosphere, then damage, if any, will probably be slight. Syringing with cold water in the early morning before exposure to the sun's rays has a similar effect.

With some plants it pays to "treat 'em rough." *Rhododendron ciliatum* is marked "C" in the *Rhododendron Handbook*, i.e. "Hardy along the seaboard and in warm gardens inland." If you have not got such a garden, plant it exposed to full sun and wind in the open and you will find it will grow much more dwarf, and tougher and closer to the ground. It will probably be later in flowering, too, and so the frost-tender flowers have more chance of escaping frost than when grown in a moist sheltered position. Plant *Pieris Forresti* on the east side of a hedge and it will probably be cut by frost ; plant it on the west side and the odds are that it will be undamaged.

When going round gardens study the position and aspect in which plants and shrubs are flourishing, particularly those with a reputation for tenderness ; it is surprising how often they seem to flourish in exposed situations. One explanation is, I suppose, that exposure ensures that any sunshine there may be is fully utilized for ripening the wood.

Of course there can be no hard and fast definition of hardiness as judges at our shows have found to their cost in judging the classes for easy cultivation in the open ; what may be hardy in Galloway or Wester Ross is not necessarily hardy in Edinburgh or Perthshire.

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## Low Growing Plants in Ohio

By R. M. SENIOR

ALTHOUGH in the State of Ohio there are no plants that could really be classed as Alpines, nevertheless there are many charming low-growing plants which, if seen in the rock garden by one unfamiliar with these flowers, might readily be mistaken for inhabitants of the mountains. Many of these plants have one characteristic that might debar them from the rock garden in that, in the Spring, after blooming and setting seed, they disappear until the following year : but shortly after the end of winter our woodland is often a glorious sight with such plants as *Mertensia virginica*, *Hepatica acutiloba*, *Sanguinaria canadensis*, *Polemonium reptans*, *Delphinium tricorne*, *Smilacina*, *Erythroniums* and *Collinsias*. Many of these will grow equally well in full sun, and if there is no objection to having them disappear after blooming, at least some of them would be welcome in the rock garden. In our garden, for example, we always have a place for a clump of *Delphinium tricorne*, a fine plant which can be found in many shades ranging from dark violet to white, and if not placed in soil that is too rich, may grow to a height a trifle over one foot.

There are several other low-growing plants in our garden that are found in different parts of Ohio, and that do not disappear after blooming. One of the choicest is *Silene caroliniana*, sometimes called *S. pennsylvanica*, which is a semi-prostrate plant bearing good-sized pink flowers. We have kept it for many years, but it has been necessary to divide annually, otherwise it often dies.

*Coreopsis auriculata*, with rich yellow flowers, is about ten inches high, and seems to have an iron constitution, since it endures our hottest summers and variable winters. It has an odd leaf, in that at its base a tiny green "ear" extends on each side.

*Sedum ternatum*, a prostrate plant with white flowers and creeping stems, loves a little shade, where it gradually clambers over rocks, and in the course of time forms a good-sized dark green mat.

*Lithospermum canescens* is an attractive plant about twelve inches high, with deep yellow flowers. It seems to like a slightly acid soil. Incidentally, I once found a regular colony of these plants on the shore of Lake Michigan, apparently growing in pure sand.

Another plant that has lived in our garden for many years is *Actinea herbacea* (See Fig. 11), sometimes classed as a *Tetranneuris*. This plant is found in the northern part of the State, and I understand its range extends across the Canadian border into southern Ontario. It is about five inches high with good-sized yellow flowers that have a rather long period of bloom.

The above mentioned perennials do not nearly exhaust the list of those that might be considered a welcome addition to the rock garden ; however, it may give the reader some idea of the plants native to this section of the country.

## A Selection of Dwarf Shrubs

By ALFRED EVANS

WHEN reading through the many books and periodicals in which the planting of Rock Gardens is discussed, one is immediately aware of the number of ericaceous shrubs recommended as suitable for permanent planting. This is as it should be, for there are few families possessing the quantity and quality of plants as are to be found in the *Ericaceae*. With few exceptions, this is a shrubby family in which there are both evergreen and deciduous species, supplying a wide range of interest to the garden. Here the attractive or interesting characters can be foliage, flowers, fruit, colour of bark or habit of growth, and in some instances one plant may possess three or four of these features. On reading further, however, it becomes apparent that the majority of these genera require moist acid conditions if they are to produce satisfactory results. Admittedly some of the alpine *Rhododendrons*, once they are established, will grow and flower extremely well in certain exposed positions as will a few of the *Vacciniums*, *Arctostaphylos* and *Heaths*, but their numbers are few by comparison.

These few observations made me investigate further, not into the Natural Order *Ericaceae*, but into other genera outside this family. I endeavoured to compile a list of shrubby genera and species suitable for planting on the southerly and consequently drier areas, including the screens. In presenting this, with the few descriptive remarks on the individual species, I do not qualify my statement and say it is complete, as lack of space does not allow for such perfection. However, all the plants mentioned can be accommodated in the average rock garden and present little or no difficulty in cultivation, the most important factor being the choice of situation. The plants mentioned are all hardy in the Royal Botanic Garden, Edinburgh.

The *Coniferae* are not included in the list, as this group of plants is worthy of a separate article; while the genus *Daphne* which has been discussed in a recent issue of the *Journal* has also been omitted.

Even after such a pruning, the number of genera and species still to be considered is large. Most of the Club members will be familiar with many of the plants mentioned, but I hope a few of the species will be unfamiliar and made to sound sufficiently attractive to stimulate enquiries.

In order to facilitate reference the genera have been listed in alphabetical order.

*Anthyllis* (Leguminosae). This is a genus which revels in full sun and is recommended to be planted where the soil is light and sandy. The hardy shrubby species are deciduous and are not difficult to grow. They may be propagated by cuttings or seed.

*Anthyllis Hermanniae* is a native of the Mediterranean regions. It has a close growing habit and the many branches are terminated by a sharp tip. The grey leaves can be simple or trifoliate and during July are almost hidden by the flowers which are yellow in colour with deep

orange centres. The numerous inflorescences, which in themselves are few flowered, sit tightly amongst the branches. This species hardly reaches 15 inches in height but has a spread of upwards of two feet.

*Anthyllis montana* is a much more lowly plant, and one which requires less space in which to grow. This plant is never taller than from three to four inches. Its trailing branches which will spread a little way over a rock are covered by three inch long silvery pinnate leaves. They provide an excellent background for the rose-pink heads of flowers, very much in evidence during June and July. This is a native of Europe.

*Anthyllis montana atrorubens*, a variety of the previous species, has flowers of a deeper pink.

*Artemisia* (Compositae), is well known for the odour produced when any part of the plant is crushed or bruised. The plants are invariably covered with silvery grey hairs and this character can be utilised to good effect if not overdone. The flowers themselves are in no way attractive. A dry sunny position is favourable to the rock garden species, which may be increased by cuttings taken in July.

*Artemisia arborescens*, introduced from Southern Europe, is a most attractive plant with finely divided silvery grey foliage. It forms a small shrub up to eighteen inches high. The yellowish brown flowers are carried on shoots twelve inches long and appear in July.

*Artemisia granatensis*. This plant, a miniature of scarcely three inches, would appear to be enclosed and protected by a covering of finely lobed silvery leaves. The small yellow flowers are carried on three inch stems. The Iberian peninsula is the natural habitat of this species.

*Astragalus* (Leguminosae) contains a large number of species, a few of which are suitable for the rock garden. They are best grown from seed and should be planted in their permanent positions while still small. Probably the best time is when the young roots have penetrated the ball of soil but as yet have not started to form a network round the inside of the pot. Once in position they should not be disturbed. Light, well-drained soil or a place in the scree are ideal for the rock garden species.

*Astragalus alpinus*. One need not doubt the hardiness of this plant, hailing as it does from the arctic region and being a true native of Scotland. It is best grown in the scree where the attractive close habit of this prostrate plant will be preserved. The leaves are pinnately divided and the drooping flowers which can range from white to purple are set in tight clusters carried on fairly long stalks. These appear in June.

*Astragalus Tragacantha*, a native of the Mediterranean regions, must have a well-drained position if it is to retain its tight cushion-like form. It will eventually cover an area two feet square and will reach twelve inches in height. This is an evergreen plant having spiny tips to the leaves. The flowers are produced in few flowered heads during June and are purplish in colour.

*Astragalus Wulfenii* is a very handsome plant. In June the clusters of large pink light purple flowers are carried on long slender pedicels. They blend well with the blue-green foliage and produce the seeds in  $1\frac{1}{2}$ -2 inch long reddish coloured pods. The leaves are made up of 30-40 small leaflets more or less orbicular in shape. A ledge facing south where the long trailing stems may hang over a rock face would be ideal for this species. There the stems should eventually grow to a length of two feet. It is a native of Dalmatia and is deciduous.

*Atraphaxis* (Polygonaceae) consists of a number of shrubby deciduous species native to the eastern Mediterranean and Central Asia. Their flowers are small and papery-like to the touch and are produced in clusters. They can be increased by cuttings taken in July.

*Atraphaxis Billardieri* (See Fig. 12) is perhaps the best of the genus and a very easy plant to cultivate. It does not demand rich soil or protection, but rather a sun-baked ledge with its roots in a light sandy loam. In such a position the prostrate twiggy branches will be able to tumble over the rock face and during June and July will be covered with the clusters of tiny pink flowers. It is hardy and never exceeds twelve inches in height in this position. Dead wood should be removed when present, but this task should be done at the end of summer when it will be readily distinguished. The branches are so fine that during winter it is difficult to tell which are alive and which are dead.

*Berberis* (Berberidaceae). Surely few genera can supply so many excellent garden plants as this. The wide range of those noted for their foliage, flower or fruit are too numerous to enumerate, but these are invaluable for use in giving background, shelter or height. Both deciduous and evergreen species are available and have the added advantage of not demanding a rich soil.

*Berberis buxifolia nana* is a small, close-growing shrub which rarely attains more than two feet in height. It is an evergreen with small leathery dark green leaves. April and May are the months when it produces its light orange coloured flowers, to be followed later by dark purple rounded fruits.

*Berberis Barbarossa Buccaneer*, a garden hybrid between *B. aggregata* and *B. Wilsonae*, must be one of the most colourful varieties. The leaves are deciduous and during the autumn months usually produce a glorious display of bright colours before they finally fall. The shrub will probably reach three feet in height, but this merely assists in showing the clusters of bright red fruits to advantage. If the autumn sun can be utilised for back lighting, the berries appear to be illuminated. The yellow to orange flowers are borne on two inch long panicles all along the shoots, which arch out gracefully. Perhaps the best location for this plant is on top of a rock face where the long shoots may be allowed to reach out into space. A thinning out of very old wood every three or four years, depending on the growth, is the only pruning necessary.

*Berberis concinna*. This is a Himalayan species and one which has much to commend it to the rock gardener. Its yellow flowers are

produced singly at the ends of one inch long pedicels and are succeeded by dark red oval berries in autumn. This neat little plant of up to eighteen inches may be slightly tender in some gardens, but it will reward tenfold any consideration shown. The small spiny leaves are deciduous with a light shiny green upper surface and are covered on the lower sides by a dense glaucous meal.

*Berberis Darwinii Firefly*, a dwarf variety of probably the most popular of garden shrubs, resembles the species in every way except height. It has dark evergreen spiny foliage and rich orange coloured flowers which are seen at their best in May. September brings large dark purple fruits covered with a grape-like bloom. It has a very neat habit and should not exceed two and a half feet in height.

*Berberis rubrostilla* is a garden hybrid probably containing *B. Wilsonae* blood. It has very long arching branches and may reach a height of three feet. This plant commands much attention during autumn because of its unusually long oval shaped, bright red fruits, which appear to glow. The best variety is *Berberis rubrostilla Crawleyensis*, for not only are the fruits longer in this form, but they are produced in greater numbers on the panicles. They do not all ripen at one time, so that there is a wide range of tinted fruits from green through the yellows to rich reds. The leaves are deciduous and in the fall add still more colour to the display. To be seen to full advantage this variety should be planted high in the rock garden, at eye level if possible.

*Berberis empetriformis*. This plant has a sprawling habit with a maximum height of about twelve inches. Perhaps the red stems are the most conspicuous parts as the small evergreen leaves are very narrow. The golden flowers are few, usually solitary, and appear in May. They are followed in autumn by purple fruits. This species has been successfully hybridised with *Berberis Darwinii* and has given rise to such fine garden plants as *Berberis stenophylla* and its many handsome varieties.

*Berberis stenophylla*, although a most desirable plant, is not suited for the rock garden. Once planted it will soon spread by means of its long underground stems. These will eventually get out of hand as they establish themselves round and under some of the larger rocks. However, seedlings raised from this plant have produced less rampant types which warrant recognition by the rock gardener.

*Berberis stenophylla corallina* has a more restrained habit than its parent and has flowers in which there is a reddish tone. Another form, *Berberis stenophylla gracilis compacta*, has a thick, close-growing habit, displays reddish coloured flowers and is one of the finest in the group. It seems to confine itself to the space originally provided, hardly reaches eighteen inches in height and never becomes loose-growing and unsightly. The dark green evergreen leaves are narrow and spiny.

*Berberis Thunbergii* is a Japanese species whose young foliage contributes a colourful display in Spring. The leaves never become really green, always having a tinge of yellow throughout the summer. The whole process of colour is repeated on a grander scale in the autumn.

It rarely reaches three and a half feet and has long dark red shoots with a single spine protecting each leaf cluster. The inflorescence is few flowered, being comprised of three or four orange flowers half an inch in diameter. Of the varieties, *Berberis Thunbergii atropurpurea* differs from the species in having purple foliage, but is not so colourful in the autumn.

*Berberis Thunbergii atropurpurea* Little Favourite is a dwarf scarcely exceeding fifteen inches.

*Berberis Wilsonae*. This is another deciduous species which provides colourful autumn tints, the attractive juicy red fruits and brilliant foliage making this plant a feature in this season. The problem of underplanting does not arise in this instance, as the long arching branches sweep down to ground level. Two and a half feet is a reasonable height for this plant to grow.

*Carmichaelia* (Leguminosae). A New Zealand shrubby genus of easy cultivation, but one which demands the maximum of sunlight if it is to flower well. It likes a warm sandy soil or in the case of some species a position in the scree where small tight growing plants are encouraged to remain as such. Except in the young stage, these plants are usually leafless, relying on the green, sometimes flattened shoots to assimilate the plant foods.

*Carmichaelia Enysii* (See Fig. 13) is a dwarf of barely three inches which has small purple pea-like flowers appearing towards the end of June and carried on very short stalks. The branches are twiggy and the plant spreads over the ground like a green mat. The best positions for this species are the scree or a warm south facing pocket.

*Carmichaelia Monroi* forms a small thicket of hard green branches four to six inches high. It is a most interesting plant which in its native habitat is found growing in gravelly situations. Its flowers are small and produced in clusters of from three to five. The plant differs from *C. Enysii* by having very broad shoots.

*Carmichaelia uniflora*, as the name suggests, has solitary flowers. These are purplish in colour and are carried on narrow pedicels. The thin branches form a network but in habit this plant is more straggly than the previous two species.

Other species which can be recommended are *C. graciles*, *C. Petrei* and *C. subulata*. Propagation is best done by seed.

*Caryopteris* (Verbenaceae). From Eastern Asia comes this genus of sub shrubs which can be encouraged to form specimen plants from two to five feet high depending on the type of pruning practised. The flowers, borne in both terminal and axillary cymes, appear during late summer and autumn on the current year's wood. If severely pruned every February they can be confined to a size admirably suited to the rock garden. They are easily cultivated and should be given a light sandy mixture in full sun.

*Caryopteris clandonensis* (See Fig. 14) is a hybrid between *C. Mastacanthus* and *C. mongholica*. It is the finest in the genus and flowers

during August and September. The flowers are a rich bright blue produced in great numbers with the stamens exerted to some length, giving the impression of spines. The foliage is grey in colour and usually coarsely toothed.

*Ceanothos* (Rhamnaceae). This is a very popular genus in gardens and is one of the most decorative shrubs. It is mainly used as a wall plant and when considering the extent of the normal rock garden one does not usually contemplate planting this genus. However, there are one or two dwarf prostrate species which are suitable and if given a light sandy bank in full sun, slightly sheltered from winds, there is no reason why they should not flower well annually. They can be increased by cuttings taken in July and inserted in gentle heat.

*Ceanothis prostratus* (See Fig. 15) remains squat on the ground and spreads quite rapidly in a favourable position. The opposite leaves are evergreen and holly-like, measuring up to an inch in length. During May and into June the numerous clusters of flowers smother these shoots in a lavender blue haze, making a charming picture. This is a native of California.

(To be continued)

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## The American Rock Garden Society

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

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

The annual subscription is 3½ dollars, or 10 dollars for three years if paid in advance, and the Secretary, who will send further particulars, is Mrs. D. E. Hansell, 19 Pittsford Way, Summit, New Jersey, U.S.A.

In addition to its bi-monthly Bulletin, the American Society has a Seed Exchange in operation and issues special plant leaflets under the name of Saxiflora.

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FIG. 10—*GENTIANA FARRERI* (See page 168)

*Photo.—D. Pape.*



FIG. 11—*ACTINEA HERBACEA* (See page 180)

*Photo.—R. M. Senior*



FIG. 12—*ATRAPHAXIS BILLARDIERI* (See page 183)

*Photo.—D. Wilkie*



FIG. 13—*CARMICHAELIA ENYSII* (See page 185)

*Photo.—D. Wilkie*



FIG. 14—*CARYOPTERIS* X *CLANDONENSIS* (See page 185)

*Photo.—D. Wilkie*



FIG. 15—*CEANOTHUS PROSTRATUS* V. *DIVERGENS* (See page 186)

*Photo.—D. Wilkie*



FIG. 16—*AQUILEGIA DISCOLOR*—(See page 193)

*Photo.—D. Wilkie*



FIG. 17—*AQUILEGIA FLABELLATA NANA* (See page 193)

*Photo.—D. Wilkie*



FIG. 18—AQUILEGIA SCOPULORUM (See page 194)

*Photo.—D. Wilkie*



FIG. 19—GENTIANA BELLIDIFOLIA (See page 198)

*Photo.—N.Z. Publicity Dept.*



FIG. 20—*CELMISIA* SP. (See page 199)

*Photo.—N.Z. Publicity Dept.*



*Photo.—N.Z. Publicity Dept.*  
FIG 21—*OURISIA MACROCARPA* (See page 199)



FIG. 22—*RANUNCULUS LYALLII* (See page 199)

*Photo.—N.Z. Publicity Dept.*



*Photo.—Royal Botanic Garden, Edin.*

FIG. 23—*GLAUCIDIUM PALMATUM* (See page 209)

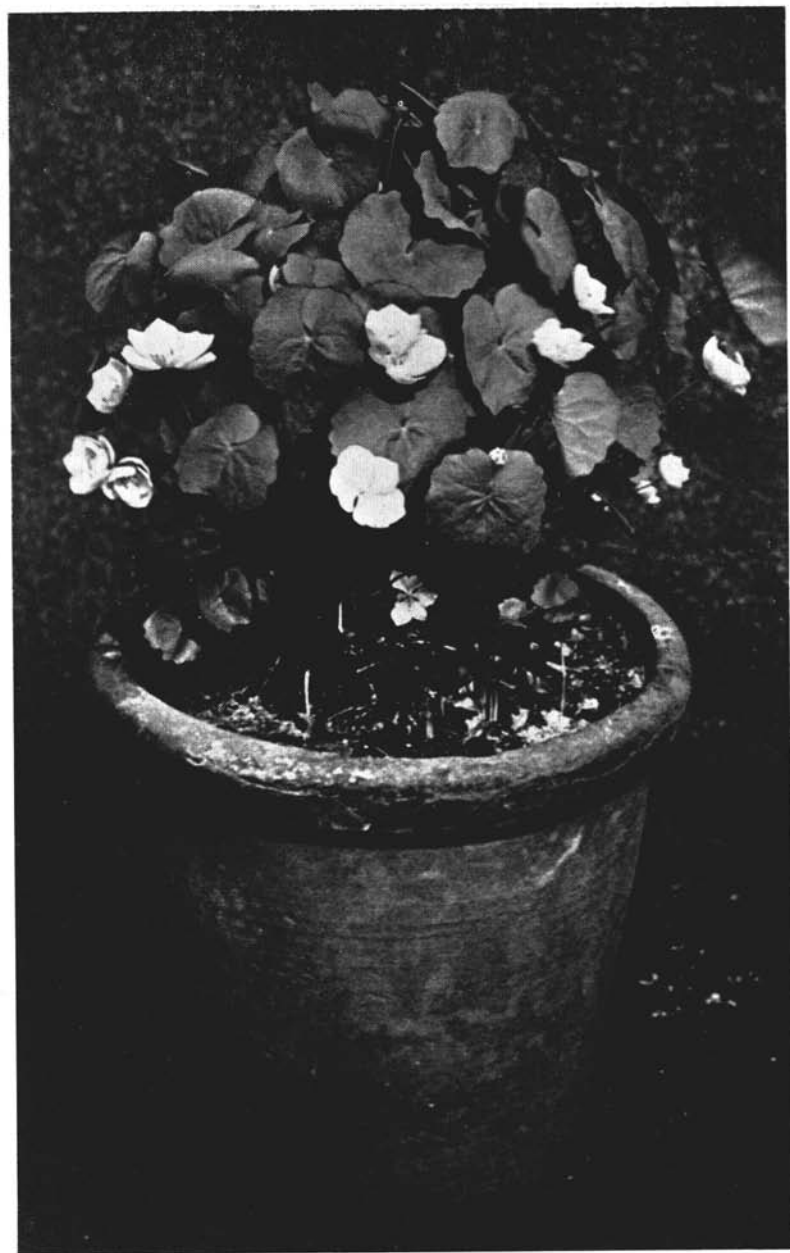


FIG. 24—JEFFERSONIA DUBIA (See page 209)

*Photo.—D. M. Murray-Lyon*



## Hairpins

By L. C. BOYD-HARVEY

Do you use hairpins? I find them invaluable.

**FOR PROPAGATING** such plants as *Androsace sarmentosa*, *A. senpervivoides*, *A. lanuginosa*, *Phlox stolonifera* and others which send out stolons or runners. The hairpin is put over the runner close to the terminal rosette, pushed well down into the soil, and a small piece of rock pressed down on top of the hairpin to conserve moisture. In two or three weeks roots will have grown and the new plant may be severed from the parent. Some *Primulas* form a vegetative bud at the tip of the scape, and after harvesting any seeds there may be in the surrounding capsules, a hairpin is placed as near the bud as possible, and then pressed down into the soil. This will form a young plant just a nice distance from the parent, and it will flower twelve months earlier than a plant raised from seed. The branches of small shrubs may be arched over in a similar way. A slight scratch with the fingernail at the point of contact with the soil will hasten root formation.

**FOR PROTECTION FROM WINTER WET.** Small cloches may be made from pieces of Windolite cut to rectangles of say 9 ins. × 6 ins. Three or four of the largest size of hairpins are inserted into each of the two shorter sides and then pushed down into the soil on either side of the plant. These have rounded tops which cannot drip on to the plant but will guide rain down into the soil. If the open ends face north and south the wet west wind cannot drive in. Early in October is the time to put them in position over small woolly or hairy treasures such as *Primula Reidii*, *P. nutans*, *P. eburnea* and *Draba mollissima*. Even if planted on sloping ground, the hairpins will hold the cloches safely in position.

**FOR PROTECTION FROM GALES.** Prostrate plants like *Hypericum repens* and *Gentiana verna* which radiate from a central rootstock are often swept to one side and turned upside down by high winds and brittle ones like *Asperula arcadiensis* and *Campanula fragilis* may be torn to pieces. A whole packet of the "invisible" size of hairpins used round the circumference of the mat will anchor it safely.

**FOR GUIDANCE OF CARPET PLANTS.** Plants like the *Thymes*, *Raoulia*, and *Calceolaria tenella* which are growing well and threatening to smother other plants in their path may be diverted and made to grow in the direction you want by frequent hairpinning.

**FOR SHOW PREPARATION.** When lifted and potted up for a Show, parts of a plant may hang over the sides of the pan, and then when packed into a box for the journey they are almost certain to be bruised or broken before reaching the bench. A few hairpins will confine the straggling pieces within the sides of the pan and can be removed before judging begins. Some woodland and meadow plants are more effectively "set-off" by a surface of moss rather than a

top-dressing of chippings, and this should be firmly fastened down with invisible hairpins.

If you have not yet discovered these indispensable little garden accessories, do invest at least a shilling in a few packets of different sizes.

## Clova

By W. ROBERTSON

BETWEEN May 23rd and June 25th, 1952 about half a dozen Members visited the Clova district.

I arrived on the first date and spent two long and very fine days on the hills. It was, of course, rather early for the rarer plants of the district, but the plateaux in places were rose-pink with *Loiseleuria* and here and there flame-sheeted with the buds of *Salix herbacea*. I did not find *Lychnis alpina* in its known station, but on some North-facing rocks about six miles distant I looked down from above upon a brown "door-mat" of what *may* have been the plant in winter garb. Had time permitted I should greatly have liked to make a thorough search of the wild-wood of Scots Pine and birch in the gorge of the upper Esk. This wood is from 1,400 to 1,600 ft. alt., off the "beaten track," and might be extremely interesting.

The second party, in mid June, had a most unfortunate spell of weather, and disappointing results. They persevered gallantly in driving rain, but visibility was poor and all burns and gullies in high spate. The third party had better conditions. They concentrated mainly on the two well-known habitats—Glen Doll and Coire Fee, finding a certain amount of interest. They were also fortunate in finding *the* colony of *Oxytropis campestris*, occupying a very small area.

Later in June I revisited some West Ross-shire mountains and noted with interest the great inferiority in quantity and colour of the bloom on *Silene acaulis* in comparison with same date last year. *Arabis petraea* was also sparser, and *pure* white, whereas last year it was blueish-white. In 1951 great snow-cornices lay on the ridges and gully tops in late June.

The first days of July I spent in some of the remote corries and glens of the Southern Cairngorms. My most interesting find was a very small and exquisite colony of *Cardamine impatiens* at 1,700 ft. and near a burn which feeds the Dee.

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## The Genus *Nomocharis*

By D. M. MURRAY LYON

This genus is a small one, more especially since it has been decided to transfer a number of species to the genus *Lilium*, to which, and to the genus *Fritillaria*, the *Nomocharis* genus is closely related.

Those left in the genus are: *aperta*, *basillissa*, *Farreri*, *Mairei*, *meleagrina*, *pardanthina* and *saluenensis*.

I will try to describe these and one which was, and to most people still is, *Nomocharis nana*, although it is now officially known as *Lilium nanum*. Although *Nomochares* have been known for some sixty or seventy years, and although *Nomochares*, *pardanthina* and *Mairei* have been in cultivation in the Royal Botanic Garden, Edinburgh, since 1914, they are by no means well known or widely cultivated, though they are no more difficult to grow than many liliacs. They come from North-East Burma and Western China and seem to do best in light shade and good woodland soil. They require plenty of moisture in the growing season, but with good drainage. If there is plenty of moisture they don't mind full sun here in Scotland, but in most parts of Southern England shade would, I should think, be essential. They are all beautiful and well worth any little extra trouble to grow them well.

I shall start with the two which have been longest in cultivation—*Mairei* and *pardanthina*.

*N. Mairei* is probably the most charming species, although *N. basillissa* may oust it from first place when flowered in this country. *N. Mairei* has one drawback in that it hangs its head more than the other species. To see it properly you really ought to look up at it from below and to find a place for it sufficiently high to enable you to do this, and which will yet remain sufficiently damp, is not always easy. This really applies in a lesser degree to all *Nomocharis* except *saluenensis*. *N. Mairei* grows to 3 feet at times, but usually it is not more than 20 to 24 inches in height. Its leaves are up to 4 inches in length and carried in whorls. The flowers are carried on horizontal stems produced at the apex and from the axils of the two top leaves. They may be as much as 3½ inches across and open wide. In colour they are white or pale pink heavily speckled with rose-purple or crimson-maroon, this freckling being more marked than in any other species. The number and size of the spots vary a great deal from plant to plant. The inner segments of the flower are delicately frilled, which adds to the charm of the flower. It is quite impossible to get a real idea of the beauty of the flowers from a mere description like this.

*N. pardanthina* has a fairly close resemblance to *Mairei*, the main differences being that its flowers have fewer and smaller spots which are mainly confined to the base of the segments. In size and in colour, apart from the spots, the flowers are very similar, but in *pardanthina* the edges are nicked rather than frilled. Another difference is that

in *pardanthina* the flowers, while not erect, are much less turned down than in *Mairei*, and so more easily seen. *N. Farreri* is slighter in build than *pardanthina* and the leaves are much narrower. The flowers are very like those of *pardanthina*, but perhaps not so notched at the edges.

These two species are so alike that at one time *Farreri* was considered to be merely a form of *pardanthina*. Both of them come from the wettest part of the *Nomocharis* area, so moisture is particularly important for them.

*N. aperta* is rather like *Mairei*, but the flowers are not frilled. At first the flowers are rather inclined to droop, but they become more erect as they develop. There may be up to six flowers to a stem and in colour they are pale rose with reddish purple spots, mostly towards the centre of the flower. Another difference is that the leaves are in pairs, not in whorls.

*N. meleagrina* also resembles *pardanthina*, but the spotting is much more generally spread over the flowers. It is still very rare in cultivation and personally I have never seen it.

Another rare species and, judging by Farrer's description which I give below, a real beauty, is *basilissa*—"of a pure, luminous, salmon scarlet, unspotted, like nothing so much as some wonderful strain of *Papaver orientale*. There is no eye of pallor between the uniform fire colour of the corolla and the pit of darkness at its base."

So far I have never seen it in flower, but I live in hope, as there is a young plant with its name on the label in the Royal Botanic Garden, Edinburgh.

*N. saluenensis* is possibly the easiest of the family to grow and it holds its flowers upright, thus making them easier to see. The colour of the flowers varies somewhat, but is usually a kind of rose-purple on the outside with a more pinkish colour on the inside with a dark blotch at the base of the segment. It is free flowering and may carry as many as six or seven flowers to a stem. While quite pretty, it lacks some of the charm of the others I have described. It is two to three feet in height and has its leaves either in pairs or in whorls of three, they are broader than the leaves of the others.

To finish there is *Nomocharis nana*, now to be known as *Lilium nanum*. Some people damn this plant with faint praise, but personally I think it is attractive in its own quiet way. It only grows 8 or 9 inches high, and has for its size comparatively large bells reminiscent of a *Fritillaria*. They are usually purple or pale lilac with brown markings, and with the sun shining through them, rather pretty.

To end up I shall give a few suggestions based on my own and other peoples' experience.

Bulbs must not be allowed to get dry when lifted, or the hair roots will die and the whole plant will soon do the same, though it may send up a deceptive stem first. If sent by post, they should be packed in slightly moist material such as sphagnum or peat.

Never move them when at rest, old or young. I find the best time to move them is in Spring just when the small green shoots begin to poke their noses through the soil. They can be increased by scales, but scales are few, so only take one or two at most from a bulb. Seed is the best method of increase and quite simple, but of course it takes three or four years before they reach flowering size. Seed should be sown in Spring on a good open compost with a good proportion of leaf mould and/or peat, and I find a sprinkling of fine coal chips, not dust, on top is an advantage.

I have seen it stated that seed should be sown in heat in Spring. This is quite unnecessary, but if it is done and the seedlings are kept growing on in a cool house the next winter, a year is saved I believe, in the time required to flower them. Unless steps are taken to prevent it, cross-fertilization is very liable to take place, with hybrids as a result. These, however, are usually just as attractive as the species themselves, and often stronger growers.

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## Some Dwarf Aquilegias

By KENNETH CHARLES CORSAR

Every gardener knows the hybrid Aquilegias, those favourite inmates of herbaceous borders, popular alike for their display of colour and as cutting flowers for house decoration ; but their smaller kinsmen, of equal grace and beauty, so suitable for the rock garden, do not seem to be as widely known, and many of the fine species now in cultivation are seldom or never seen in collections of rock garden plants. With few exceptions these dwarf Aquilegias are easy to manage ; they are not exacting in their requirements and though one or two may be rather short-lived seed is generally produced in abundance and by this means stocks may be maintained. It must, however, be borne in mind that the majority of Aquilegias will cross with any other, producing, as a general rule, hybrids of little merit ; consequently when seed of a particular species is required care must be taken to ensure that it has not been contaminated by the pollen of another.

The term "dwarf Aquilegias" is here applied to those species which do not normally exceed twelve inches in height, though it is a well known fact that considerable variation in this respect is possible and that any species may well be taller in one garden than in another. It should further be noted that there may be marked variation in the shade or tone or colour in the flowers. These variations are not entirely due to the soil in which the plants are grown, nor yet to the strength of the light to which they are subjected ; it is their nature, and must therefore be accepted as natural. This inherent variability has given rise to much confusion within the genus ; sub-species, varieties and forms abound which, coupled with the above-noted propensity to hybridise, has resulted in a lengthy list of names, the great majority of which are unknown to gardeners. In this article only such species as are readily obtainable from the usual sources will be mentioned, as it seems pointless to discuss those which may, in the first place, be unobtainable, and in the second, may not be species or even natural hybrids at all.

As regards cultivation, all that Aquilegias demand is a rich, gritty, compost and good drainage ; anything approaching acidity in the soil will be fatal to them. Though many species are in nature woodland plants which derive some shade from the trees around them, protection from the sun is not generally necessary in British gardens. Where any departure from this general rule is called for the fact will be noted when the species is under consideration. Meantime, it may be said that the dwarf Aquilegias are not exacting and that they may be grown almost anywhere and by anyone without difficulty.

The first species to be considered is *A. akitensis*, a native of Japan and the best of the Asiatic Aquilegias. The circular, almost spurless, flowers are borne on stems some six inches high ; their colour is pale blue with cream coloured petals. The variety *kurilensis*, which received the A.M. in 1947, is dwarfer, the flowers being carried on stems no

more than three inches tall. The variety is a better thing than the species.

*A. alpina*. If this is a distinct species then its distribution is restricted to the Central Alps, but as it is indistinguishable from *A. pyrenaica*, it is probable that the two are one and the same thing and, therefore, *A. alpina* is widespread throughout Europe. "The Blue Beauty of the Alps," as this *Aquilegia* has been named, is one of the loveliest of the genus; its brilliant blue, nodding flowers provide a bright splash of colour to the more shaded places in the rock garden. Unfortunately this is rather a shy plant to flower, and unless it is really content in a garden it will not survive for long. A plant bearing the name *A. alpina* var. *alba* is sometimes met with in gardens, but it is probable that this is a hybrid and not a variety, and in any case it has little to commend it.

*A. Bertolinii* is a European closely allied to *A. pyrenaica*, and like it having both petals and sepals of the same bright blue colour. The form of growth is neat and compact and the flower stems are stout, erect and no more than four inches high. The flowers, large for the size of the plant, are generally produced in abundance, and if grown in the scree it will seed itself freely. In nature *A. Bertolinii* may be found over a wide area, from the South of France to the mountains of Italy.

*A. discolor* (See Fig. 16) hails from Spain, where it grows at considerable altitudes. It is a dwarf species, seldom exceeding six inches in height, and in appearance it resembles *A. pyrenaica*, except that the petals are tipped with yellow, for which reason it is not always liked. But *A. discolor* is a good rock garden plant which appears to have a longer life than many members of the genus, and for this reason, if for no other, it is well worth growing.

There is no gainsaying that some plants owe their attractiveness to their oddity, and among them is *Aquilegia ecalcarata*. This species is somewhat variable in habit; the reddish-brown flowers may be borne singly or the stems may be branching, producing many flowers, and although these are small and without spurs, their number and grace give the flowering plant an attraction of its own. The height of the stem may vary considerably, but the form generally grown in gardens ranges from six to nine inches tall. Unfortunately this *Aquilegia* is rather short-lived; however, as seed will be produced in considerable quantity, no difficulty should be experienced in maintaining the species.

Another Japanese *Aquilegia*, and one about which there is some confusion, is *A. flabellata* var. *nana* (See Fig. 17); sometimes it is listed as *A. Japonica* and occasionally it is found under the name *A. akitensis* var. *kurilensis*. This species is dwarf, normally four inches high, the leaves are fleshy and of a blueish-grey colour; the stems are thick, almost too thick for their length, and carry clusters of blue and white flowers. Though it might not appeal to some people because of its stunted appearance, this *Aquilegia* has a character of its own, and it is without question a good garden plant. The albino form, *A. f.* var.

*nana alba*, is more widely grown. The creamy-white flowers are borne on characteristically stout, short, stalks. Both the coloured and the white forms breed true from seed ; both have reasonably long lives ; but both are popular with slugs and rabbits, when either of these pests are present in the rock garden.

One of the most beautiful of all the Aquilegias is *A. glandulosa*, which Farrer sought in vain to prove should be called *A. jucunda*. Although it has everything to recommend it—grace, beauty of colour, freedom of flowering, and length of life—it is surprising how seldom it is seen in rock gardens. The flowers, carried singly or in bunches of up to five, on stiff stalks which vary in length from nine to eighteen inches, are of pure blue and white. The foliage is sticky and emits peculiar, but not unattractive odour. *A. glandulosa* produces great quantities of seed which breeds true, and large numbers of seedlings will come up around the parent plants. It probably does best in a soil that is not too rich.

*A. Jonesii*, an American species, is one of the rarest of the genus in cultivation. Though it invariably comes true from seed, this species is so shy to produce flowers, even in its natural habitats, that the amount of seed is strictly limited ; hence, obviously, the shortage of plants. This Aquilegia is not difficult to grow ; it will do well in the scree, especially if there is lime in the soil ; or it will respond readily to pan culture. The difficulty is to get the plants to flower and there is, as yet, no known way of achieving this. The flowers when they do appear have purple sepals and blue petals and short, straight spurs. *A. Jonesii* is a dwarf, neat species, and one which deserves every effort on the part of gardeners to induce it to flower.

*A. saximontana*, a Rocky Mountain species, is the smallest member of the genus in cultivation ; in fact, so short are its flower stems that they frequently do not rise above the foliage. Although this Aquilegia was discovered many years ago, it was only comparatively recently that it came into British gardens and it is still rather an uncommon plant. Some rock gardeners hold that *A. saximontana* has no merit, but the sight of a little colony of this tiny plant with its blue and white flowers will convert the doubter ; the very minuteness of the plants and their brave display of blooms are meritorious features. This species does well in the scree or in pans of scree mixture, but it probably looks at its best planted in a pocket flanked by rocks. Whenever they are grown in the rock garden they must be out of the way of coarse growing subjects which might swamp them. Though short-lived, this little Aquilegia seeds freely, and once plants have been established the rock garden will never be without it.

Very different is *A. scopulorum* (See Fig. 18), another American which produces flowers peculiarly large for the size of the plant and the length of the stalk, and which has particularly long spurs. These flowers are bi-coloured and very variable in shade, some colour forms being better than others. It has been found, too, that the length of the flower stalk may vary as much as from five to eighteen inches.



The most attractive specimens are those which bear their large flowers just above the graceful greyish foliage, and when they are planted in rather light soil this effect may be attained. A plant will survive for five or six years, during which time it will have yielded a crop of seedlings ; but protection against cross-pollination should be afforded, else the resultant plants will not be true to type.

Finally we come to a most unusual *Aquilegia*, *A. viridiflora*. This species has silvery foliage and flowers of chocolate brown and green borne on eight-inch stalks. The spurs of medium length and the flowers have a pleasant scent. This species is widely distributed throughout the Far East, where it is found growing in hot rocky places. *A. viridiflora* is a good rock garden plant which will do well in drier situations, or on the scree.

The selection from among the dwarfer of the *Aquilegias* given above constitutes an interesting and attractive set of plants. The list by no means embraces all the known species and varieties, and many more will doubtless be introduced into British gardens in the future. But before this comes about it is to be hoped that botanists may be able to remove some of the confusion which now exists in the genus ; otherwise there may well be considerable duplication of names.

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## Spring-flowering Crocus Species

By J. L. MOWAT

THE SPRING-FLOWERING species of *Crocus* have always held a great fascination for me, whereas I must admit that I find it rather difficult to enthuse over the autumn and winter ones—possibly because of their nakedness and usually rather wan colouring compared with their brighter and more cheerful Spring brethren. Over several years I kept note of their sequence of flowering order and found that in some species there was quite a variation, while others were consistent almost to a day, year after year. I noted, too, that many completely disregarded their accepted time of flowering, and decided that situation and soil conditions had a great deal to do with this.

First to open each year (usually about mid January) are invariably *C. Korolkowii* and *C. Sieberi*—probably influenced by the fact that they are in one of the warmest and driest parts of the garden. Right on their heels come that delightful little gem—*C. laevigatus* var. *Fontenayi* and the larger, gaudily coloured *C. Imperati*.

In early February there comes quite a rush of species one after the other—the pure silvery *C. biflorus* var. *argenteus*, the small, delightfully shaped, and rich orange *Cc. Olivieri* and *ancyrensis*, and the elongated, pale *Tommasinianus*, which self seeds to such an extent as to be almost a weed and should therefore be kept away from the confines of the rock garden in favour of the shrub border, where it has room to spread without danger to its neighbours. By mid February *Cc. Fleischeri*, *susianus*, *etruscus*, and the many fine varieties of *C. chrysanthus* are providing a delightful range of colour, form, and size. Towards the end of the month such later species as *stellaris*, *candidus*, with its variety *subflavus*, and *Balansae* come into flower, and in early March comes *versicolor picturatus* bringing up the rear-guard. Along with all these different times of flowering go differences in colour, markings, size, and even shape, and I will try to give some idea of the species above mentioned even though my descriptions may be very inadequate and convey a poor idea of the flowers as they actually are.

To return again to the first to open—*Crocus Korolkowi*, from Turkestan, is a very inconspicuous fellow on a dull day, the backs of the outer segments being tinged brown, but a blink of sunshine reveals to us a blaze of bright golden yellow as the flowers open to the sun. They are not so large as some species, being about 3 ins. tall, and their bright yellow petal-like segments  $1\frac{1}{2}$  ins. long. Its near neighbour, *C. Sieberi* (from Greece) is colourful even on the dullest of days, its segments being of a uniform bright lavender blue that catches the eye even in the bud stage. The flower-tube is 3 to 4 ins. long, with an orange throat, and the segments  $1\frac{1}{2}$  ins. long. The beauty of the open flowers is enhanced by broad, orange-scarlet anthers.

*Crocus laevigatus* (also from Greece) and its variety *Fontenayi* are, to my mind, exquisite little gems that would look well in a trough

garden, so small and neat are they. The yellow-throated tube is only 2 ins. long, while the lilac or whitish segments are about  $1\frac{1}{2}$  ins. long,  $\frac{1}{2}$  in. broad, and open freely without the need of bright sun. The backs of the three outer segments are buff, tinged or feathered with bright purple. *Var. Fontenayi* has brighter, rosy-lilac segments, with violet lines running from their bases. *C. Imperati* (from S. Italy) in contrast, is one of the larger-flowered species with a tube fully 4 ins. long and bright, pale purple segments, the backs of the three outer ones being buff with prominent rich purple feathering. Next comes *C. ancyrensis* (from Asia Minor), a smaller, tubby-shaped fellow of uniform rich orange, and a most profuse flowerer. I have many times counted up to twenty flowers on a single corm; in fact I have dug up corms, doubting that so many flowers could come from only one. *C. Olivieri* (Greece) is also bright orange, a well-shaped flower, but without the profuseness of *C. ancyrensis*.

*Crocus Fleischeri*—from Asia Minor—is not in the first rank of beauties, but is nevertheless attractive in its more modest way. With a 3 in. tube and pale yellow throat the segments (about 1 in. long) are white with deep purple veining, but a lack of breadth in them gives the flower a faintly “scraggy” appearance. *C. Tommasinianus* is a long-legged, pale lavender rascal from Dalmatia that seeds prolifically and spreads at an amazing rate; I suggest that it be kept as far from the rock garden as possible.

After having to be so critical it is pleasant to come to *C. biflorus* and its variety *argenteus*. Though it is often called, I do not know why, the “Scotch Crocus,” it is a native of areas from Italy to Persia. In colour it may range from white to pale lilac, with the backs of its outer segments buff, beautifully and cleanly feathered with purple lines. *Var. argenteus* has a rather smaller, more plump, white flower with a delightful satiny sheen, and scarlet stigmas. *C. etruscus*, from Italy, is one of the smaller-flowered species, with a striped lilac tube of 2 to 3 ins., and segments lilac-purple inside and creamy buff, feathered purple, outside. *C. susianus*, from the Crimea and Caucasus, has a short-tubed, rich orange flower of good substance. The backs of the segments may vary from orange itself to featherings in dull or rich brown: the long, spreading stigmas are orange-scarlet. This is sometimes called the Cloth of Gold Crocus.

*Crocus chrysanthus* has given rise to a whole host of beautiful varieties, from which even the most hardened species-purist must find it hard to refrain. They are all good, and perhaps I should leave it at that, but I must mention *Snow Bunting*—a creamy white, and *Moonlight*—perfectly named. Might I dare to say that *var. fusco tinctus*—striped and feathered dull grey or brown—does not thrill me. I often feel that *C. aureus*, a native of S.E. Europe, though now naturalised in this country, should have more claim to be called “Cloth of Gold” than *C. susianus*, but it is so well known as to need no description here.

From Asia Minor comes *C. candidus*, a smallish-flowered species with a  $2\frac{1}{2}$  in. flower tube and white or yellow segments which are

sometimes purple feathered on the back ; *var. subflavus* is a yellow form. This Crocus has not done too well with me—probably because it was invaded by a creeping *Scutellaria* (I ought to say a galloping *Scutellaria*) and suffered frequent liftings in an effort to get rid of this dangerous “rock plant.”

Put into words the same description might well fit both *Cc. Balansae* and *stellaris*—orange segments with their outer surfaces suffused or feathered brown or bronze—but the flowers of *C. stellaris* are slightly larger and the feathering somewhat brighter and more sharply defined. Our last to flower is *C. versicolor*, but it is literally by no means least, having a white or pale yellow tube of 4 or 5 ins. and white or pale purple segments, either self coloured or feathered purple on the outside. *Var. picturatus* is a good white with rich purple feathering.

Though the stronger-growing forms of Crocus will grow and thrive in almost any soil and situation, there is no doubt that they all—particularly the finer-growing species—prefer a warm, sunny exposure where they can ripen off thoroughly, and a light, open soil with good drainage. In rock gardens it is often found desirable to plant them deep enough to allow of some carpeter such as Thyme, *Acaena*, or Mossy Saxifrage to grow over and cover the space left when they have died down. They will grow up through this cover satisfactorily year after year ; but for my own part I feel that at least the finer-growing species fully merit a space of their own without having to share with a carpeter or ‘slug-harbourer.’

## Some Rock Garden Plants from New Zealand

By C. WALKER

THE FLORA of New Zealand is unique in many ways, many of its species and indeed its genera being unknown to any other country. It has provided the gardens of many temperate countries with a wonderful range of exceedingly attractive flowering shrubs, trees, and rock plants. It is with some of its typical rock plants that we are now concerned ; the ones mentioned have all been grown successfully in many Scottish gardens.

New Zealand’s gentians are uniformly white or streaked with pink. The snow gentian *G. corymbifera* is one of the most attractive, 18 inches high with several flowers to the stem. Much dwarfer and one of the finest is the mountain gentian *G. bellidifolia* (See Fig. 19), rising hardly six inches. *G. saxosa*, the shore gentian, has larger flowers almost like a lily. A real gem, restricted to Marlborough in the South Island and almost confined to limestone or calcareous soil, is *G. Astoni*, with longer stems and many fine flowers. The snowball gentian, *G. divisia* from Canterbury, again in the South Island, is very attractive, with numerous stems branching into small domes of white flowers.

There are about sixty species of *Celmisia* (See Fig. 20) native to New Zealand, the largest called Silver Cotton Plant, *Celmisia coriacea*, with leaves two feet long and white daisy flowers of three to five inches diameter clothed with cottony tomentum. Smallest is the silver cushion plant, *C. argentea*, which has densely packed, moss-like branches with close-set leaves a quarter of an inch in length and needle pointed. Quite a number are easy in cultivation and make excellent garden plants. In nature they grow and flower profusely in the sub-alpine zone, but are not often found at lower levels. Though several species are very constant in form, the majority hybridize freely. Almost all can be multiplied by means of seeds sown in autumn or early spring in gritty soil made somewhat spongy by the addition of some sphagnum moss dried and rubbed through a sieve.

*Ourisia* is known here by two names, Mountain Foxglove and Snow Primula, and the best species are among our finest and showiest flowers for the alpine rock garden, competing favourably with our Mountain Daisies and Buttercups. One is *Ourisia Macrophylla*, found in both islands, and growing in nature as low as 1,000 feet elevation, whereas the other, *O. macrocarpa* (See Fig. 21), is restricted to the southern half of the South Island, usually above the 3,000 foot mark. Under ideal conditions, both plants may attain a height of almost two feet, and bear on each flower stalk from four to eight whorls of showy yellow-centred flowers, each not less than three-quarters of an inch across.

*Ranunculus Lyalli* (See Fig. 22) is a magnificent Buttercup with large pure white or cream-coloured flowers. Perhaps because its cuffed leaves resemble those of a waterlily, it is called a Mountain Lily, sometimes Mount Cook Lily. Specimens with flowering stems four feet high have been recorded, but the usual height is much less and there is a dwarf var., *Traversii* with cream flowers. Another name, Snow Cups, describes the white form well. Where damp cool conditions can be given, the plant is well worth growing. Two other species, *R. insignis* and *R. lobatus*, in character somewhat similar to *R. Lyalli*, but both yellow, respond to cultivation.

## Horticultural Hypnosis!

By J. G. COLLEE

I AM one of those persons whom everybody dislikes. Perhaps it is not myself whom they dislike so much, (so I tell myself), as my profession—namely Dentistry.

When I planned my garden I decided that the view from the Surgery window must attract the patient's attention and by so doing prevent them from thinking too much about the operation to their mouth. It was a very difficult task but, if the opinion of my patients can be taken into account during the last twenty-five years, I have succeeded to some small degree at any rate!

I built a square-shaped rock garden directly in front of my surgery window, surrounding a large fish pond. The sides and back sloped away from the water so that from "the dreaded chair" you can almost look into the water. The pond is well stocked with numerous Gold Fish, and plants are always in flower in the surrounding rockery. Children especially, are particularly interested in the little gnome, dangling her legs in the water and not appearing to feel the cold of the approaching winter. In Spring the edges of the pond are brightened with rows of dancing daffodils, and the reflection of these in the water adds to the effectiveness of this form of hypnosis. "Creeping Jenny" actually growing from the banks into and below the surface of the water gives a beautiful effect during most of the year, while a bank of "Catmint" delights the eyes on the bank nearest the surgery window. A hedge of American Pillar roses serves as a finish to the further away bank of the rockery, but this bank is only about three feet in height and behind this rises a terraced garden which is covered with gay flowers during most of the season.

The whole picture is a delight to the dentist and his assistant as well as to the patient undergoing treatment, and compensates to a marked degree for having to "look down the mouth" all day.

## Some Conifers and How to Dwarf Them

By A. COCHRANE

ALL CLUB members will be familiar with the usual dwarf conifers which are so useful in many Rock Gardens, but I believe few members will have seriously considered producing their own miniature forests. I am sure many of you will have admired the ancient Scots firs near Grantown-on-Spey and other places and will have regretted that they are a "wee thing" large for most of our Rock Gardens. But this matter of size can be overcome and a good likeness of the "real mac-kay" can be produced in the following manner:—

Firstly, we will select a Scots Fir (*Pinus sylvestris*), preferably a one-year-old seedling from the nurseryman. He will probably give us a dozen for one shilling. A small one-year-old with, if possible, a bent trunk, is to be preferred. Two-year-olds *will* do, but are usually too big and more expensive, though they sometimes have more characters to choose between. Having chosen our tree, we place it in a two-inch pot in the Autumn, in perfectly ordinary light compost. It is then plunged to the rim in soil, well covered with pea gravel or chips which help to keep the tree from being splashed with mud. If the tree is *very* small, a second year's natural growth should be allowed, which will usually increase its height to 2-2½ inches. In this case there will be no natural branches, but if some do occur no harm has been done. Two-year-old trees, and very large one-year-old ones, should be treated as follows:—

Those with branches should be let alone in the Spring, except that the terminal shoot should have the apical bud removed, about April, when it is well swollen, being careful to leave the secondary bud cluster. The aforementioned side branches must *not* be touched at this stage. Those without branches should also have their apical buds removed. This will cause two or more branches to develop during the season. Three-year-old trees should have all terminal buds removed as above unless it is desired to encourage a special branch to grow naturally for a season. About June or July, second, third, and succeeding years, it is very useful to shorten the annual growths when they are still green and soft, by any number of needle clusters, providing only that the minimum number left is three. The amount of growth to be removed is an artistic matter and will be dealt with under Training. Most of these shoots will be secondary buds, which were spared in the Spring and will usually occur in twos or threes. It is most important to remove a different amount from one of the "twins," otherwise overcrowding and a clipped effect will appear. It is sometimes necessary to remove a whole shoot, to avoid overcrowding, but that is rather controversial. The effect of the removal of green shoots is to encourage buds to appear from the remaining needle clusters, which will be vital in the following Spring.

*Training* : Having secured a suitable tree, the object is to design how best any natural feature can be made use of. If, for instance, the tree has an elbow-like bend in its trunk, it would be advisable to train most of the branches away from the bends, so as not to obscure this main feature. This is accomplished by three methods :—

Firstly, retain all buds not specified for removal which will grow in the desired direction, and remove others which would be surplus. Secondly, remove all green growth which cannot be made to conform with the above as directed earlier. Finally, it is possible to tie selected branches in the Autumn into a position producing a bend. This is best accomplished by fine raffia passed over, but not round, the branch and secured to some older part of the tree, or a thin cane. Ladies will particularly appreciate this job.

These three methods must, of course, all be applied to the same tree before the final object is obtained.

*Potting* : It will be found that the roots of trees will come through the drainage hole and the pots should therefore be stood on buried slate, after the first winter. These roots can be quite safely cut off. The trees should be re-potted every third year until they reach an eight-inch pot. As much soil as possible should be retained around the roots during re-potting. After an eight-inch pot has been reached, the trees can be left for several years without an increase in pot size.

It will be found that an interesting feature can be developed by encouraging some roots to come to the surface and show their gnarled appearance. This can best be accomplished by pushing small stone chippings under selected roots, which has the effect of causing them to rise out of the soil. This treatment should not be attempted until

the roots are well established and of a fair thickness. I have no personal experience of training roots deliberately over small rock (stones), but I believe this would be perfectly successful.

I have found that larch seedlings are particularly amenable to training into special shapes, such as "wind blown" and "the umbrella." They can also be disbudded very much easier than the Scots Fir, and can be cut at almost any time of year without leaving bad "snags." But in spite of this, I think there is more achievement in dwarfing a Scots Fir. Older Scots Firs should have dead needles gently removed, as these cannot always fall clear, and the tree benefits by having its trunk and branches cleaned with a dry tooth brush. I hope readers will still consider a miniature outdoor forest worth while, tooth brush and all.

## Municipal Rock Gardens

By A. L. WINNING

THERE IS increasing evidence of the unfortunate and almost unavoidable decline of the private estates throughout the country. As a result of this trend, rock garden lay-outs have suffered considerably because qualified staff could neither be afforded, nor proceed to fulfil the exacting demands of such features. However, the development of parks, open spaces, and former private estates under municipal ownership has helped to uphold the traditions of the past and to continue this form of ornamental gardening.

Some fine municipal rock gardens can now be viewed by the public with greater ease than when under private control. As one engaged in the parks service, I must admit that many examples do not measure up to present day standards of design, and fully deserve classification in the almond pudding category. This is evident, especially in parks of the late Victorian or Edwardian era when nature was intimidated, not imitated.

The apparent lack of interest in the best utilisation or exploitation of the site may be due to causes other than lack of knowledge or horticultural skill. Examples can be found where well designed rock gardens have deteriorated under the pressure of continual damage and thieving. This leaves the parks staff with a sense of futility and frustration.

It is no wonder that some rock gardens are allowed to revert to nature in which a display of dwarf and often prickly shrubs and weeds predominate. There are undoubtedly some localities in our cities and large towns where the inhabitants neither enjoy nor understand rock gardens. This fact is correlated with the high incidence of vandalism often found in these areas. In such circumstances it is futile to maintain what exists or to plan any further developments. Happily



it is noticeable that in other areas, often in residential districts, rock gardens can become a source of local pride and satisfaction. The obvious results of such conditions can do much to stimulate the Parks Department to greater efforts in this direction. Most lay-outs are prone to some degree of vandalism, even where the designer is fully aware of this menacing evil.

There is, to my mind, a responsibility which rests especially with a specialist society which is devoted to rock garden culture. Rock garden enthusiasts can do much to act as a spearpoint of public opinion by showing interest in such features and being communicative to less well informed people. Serious destruction can be mostly traced to juvenile delinquents who exist as a persistent threat to all features of the park. *However*, there are other ways in which adult visitors may be unwittingly responsible for minor damage, which when viewed collectively is a big factor in the success or failure of a public rock garden. Lack of parental control may allow children to enjoy pulling out or changing the positions of labels and thus create a gardener's nightmare. Dogs may not be properly under control if their admittance is allowed. A more serious complaint is attributed to the collector maniac who intentionally depredates by cool and calculated methods. It is amazing how many plants are stolen or partly stripped of cuttings in one season. This action necessitates extra propagation and this time and expense could be more profitably used in improving or enlarging plant-collections. Surely the garden fraternity is distinguished by the happy relationships which exist between its members, amateur or professional. Plant exchanges or special visits can be arranged with little difficulty and to the mutual benefit of participants.

The co-operation of the Parks Department can be of considerable value to club activities. Displays of alpines and flowers at Flower Shows can be arranged and the services of staff utilised for lectures or special visits. Some local authorities are very much alive to the public interest in this subject. In Ayr, an Alpine House has been recently built at Belleisle Park, in which alpines and bulbs are shown in a natural rock setting.

The many and varied responsibilities of present day park superintendents makes it difficult to devote as much attention to such features as they would desire. The assistance of club members can be a source of encouragement and improvement. The development of collections of rock plants representative of the most suitable subject for the locality is a project in which the enthusiasts can co-operate and gain further knowledge. Gifts of plants can help in this direction. The scheme is of particular use to the novice, who can see the rock plants which thrive in the district.

I hope that members may view their local conditions in the light of this article and act accordingly. In this way the cause of rock gardening under municipal control will be assisted and its future stabilised.

## Autumn Colour

By W. G. KNOX FINLAY

### LECTURE TO THE PERTHSHIRE GROUP

On 10th November 1952, in Perth, Brigadier A. Gilroy, O.B.E., in the Chair.

JUDGING from the large attendance here tonight I take it that you are in agreement with me, that lecturing to a Rock Garden Club on autumn colour, is legitimate.

The construction of a rock garden is an individual matter, dependent on the site and area available, but it is the correct placing of main features which must be most carefully considered to obtain the maximum colour effect. The background is of the utmost importance, as is also the establishment or use of existing feature trees and shrubs to break the full view and give promise by a glimpse or peep of something most exciting round the corner. Having dealt with these essentials you must turn your attention to the grouping of smaller shrubs and plants. You can learn about this by trial and error. Do not be afraid to give them a wheelbarrow drive, if your first, second or even third fancy does not please you.

We grow our alpiners in rather open spaces of screes and peat walls which merge into the background of taller herbaceous plants, lilies, shrubs and trees. So there is no limit—I would like to repeat NO LIMIT—to what may be termed a rock garden plant.

The majority of alpiners flower in spring and early summer—the taller herbaceous plants are best in June, July and August—but what we try to do is to ensure that our garden is brilliant from September till the end of November, and it is about the plants, shrubs, etc., we have for this purpose, that I propose to talk to you tonight.

As regards the smaller plants, the Asiatic Gentians are of course the first choice. I will show you some photographs of some of them and their hybrids later. But the Ericas, vulgaris hybrids such as "H. E. Beale," "Goldsworth Crimson" and so on are indispensable. The autumn Crocus species and the Colchicum, of which "Water Lily" and "Barr's hybrids" are the best we grow, give a good show and bloom right into November. *Primula capitata* var. *crispata* is at present most lovely; *Schizostylis* is also flowering but perhaps a little too late for our high situation. In September and early October the *Cyananthus lobatus*, *lobatus* Sherriff's variety, and *Sherriffii*, *Codonopsis convolvulacae* and *vincaeflora* are still flowering, with *Sedum spectabile purpurea*, *Polygonum vaccinifolium* and many others. *Euphorbia polychroma* also colours up well with us.

Of the later herbaceous plants (leaving out Michaelmas daisies and any others that require staking and tying), the blue *Stokesia cyanea* and *Kirengeshoma palmata* with its yellow flowers and black stems are much admired. We always take the trouble of making one or two bold plantings of *Lobelia cardinalis* *Queen Victoria* and *Huntsman*

in moist situations. They give us at least two months of continual colour. *Verbena bonariensis* is another worth-while plant for late in the season.

Turning to shrubs, those which flower on the current year's growth are mostly late-flowering, with insignificant fruit and leaves which seldom change colour, for example *Caryopteris*, *Buddleias*, *Hydrangea*, *paniculata* Gd/FI, *Ceanothus* "Gloire de Versailles" and other hybrids. *Polyantha* Roses if pruned well after first flowering will go on flowering till November. But many shrubs which flower in spring give us colourful berries in the autumn, such as *Cotoneasters*, *Skimmias*, *Stransvaesias*, *Euonymus*, *Gaultherias* and of course *Berberis*. With these we also get marvellous foliage effects.

It is these autumn tints which are generally meant when one talks of autumn colour. Much has been written recently as to the whys and wherefores of colouring, the accumulation of waste products, sugar and minerals in the leaf, the cessation of the production of chlorophyll, the change of temperature, drought, soil conditions, and so on, but I think that we will all accept that the magnificent display of this season must be due to drought giving a check in growth. All over the countryside the *Beeches*, *Oaks*, *Rowans*, *Geans* and *Birches* have been a wonderful sight. This check in growth can be brought about in other ways. Often we see a *Rowan* on the hill with scarlet foliage; on examination it is usually found that the stem has been "rung" by rabbits or that the tree is growing on a rock, while all its neighbours are green because they have escaped the rabbits or are growing in good conditions.

But this does not always follow; there are reasons unknown to science why perhaps one branch of a tree, or one shrub in a group colours. I have never tried "ringing" shrubs or trees for the production of good colour, but it might be worth experimenting. I often notice that a recently transplanted shrub is much more brilliant than those of the same species which have not been moved. I think by cutting some of the main roots in July, one could produce the required check.

Our garden colour is usually at its peak about mid-October, but it begins in September with *Acer platanoides* and *Euonymus alatus*, bright pink and pale cream. *Acers ginnala* and *filicifolium*, *Cercidiphyllum japonicum*, etc., are first class, but quickly over, as is *Cotoneaster acutifolia* var. *villosa*, which is not enough grown. Unfortunately this year we had a gale at the wrong moment, at the end of September, so the early autumn tints were blown away. The *Acers palmatum purpureum*, *dissectum*, *Ozakazuki* and *circinatum* were only beginning to colour at that time, so the gale did not affect them; by mid-October they were orange, scarlet and crimson, with the exception of *Acer circinatum*, which resembled nothing less than the *Buchanan tartan*. *Enkianthus*, *Oxydendrons*, *Gaylussacias*, *Iteas*, *Photinias*, *Mespilus* and *Rhus* all played their part in the full October glory, while the *Berberis* with multi-coloured leaves were hanging with scarlet berries.

Other good colourers are *Nyssa sylvatica*, *Acer griseum* and *Fothergillas*, but our plants of these are still too young to make a great show.

Now in November, *Parrotia persica* growing up the house is perfect, the colours of a ripe peach. *Rhus foliis purpureis*, hard pruned in spring, varying from dark purple at the base of this year's growth to Post Office red and orange at the tips, is one of the more spectacular and satisfactory shrubs to grow, being a good purple red all summer and doing even more for us now. Today, going round the garden I have noticed *Eucryphia glutinosa* as brilliant, *Leucothoe catesbaei* sprays of lovely Fire Engine red, and *Gaultheria tetramera* with translucent blue berries, while in the peat walls the Shortias and Shizocodons, *Sax Fortunii*, *Galax phylla* are a delight to the eye. There is in truth no end to what I think of as autumn colour and I see no reason why every garden should not be as gay as ours is, at the back end.

I would like to explain that taking colour photographs of garden subjects in the rather poor light conditions of autumn presents a difficulty that I find hard to overcome, so I hope you will keep this in mind when I now show you some of my efforts. After the pictures I will be very pleased to try to answer any questions on this subject.

(65 slides were shown of plants, etc., in the garden at Keillour).

The following plants were discussed after the lecture :—

- Acer nikoense* (rich red).
- Disanthus cercidifolia* (claret colour).
- Euonymus europaeus* (purplish red with pink berries).
- Ginkgo biloba* (pale gold).
- Liquidambar styraciflua* (purple red).
- Quercus coccinea* (crimson).
- do. *heterophylla* (red).
- Rhododendrons*, *Azalea* group (red and yellow).
- Rhus cotinoides* (orange, scarlet, crimson).
- Ribes americanum* (crimson and yellow).
- Vitis Cogneticiae* (scarlet and blood red).

## ALPINES

—o—

### H. DAVENPORT JONES

WASHFIELD NURSERIES,

**HAWKHURST, KENT**

(Formerly with Miss E. A. Britton, Devon)

—o—

LIST ON APPLICATION

## Plants and Problems

### A HAPPY ASSOCIATION

FROM EARLY July to November a group of plants on my scree has given a continuous splash of pleasing colour in blues and yellow. They are none of them rare or difficult.

To take the yellow first, this is provided by *Viola aetolica saxatilis*, a dwarf and very free-flowering viola. It does not always survive the winter, but seeds itself in scree. It flowers its first year; those from seed sown in a cold frame on 15th February were in flower by the end of June.

Now the blues—first a very well-known plant, easy and attractive, *Linaria alpina*, with violet flowers tipped with orange. It seeds itself freely but, being easily pulled out, does not become a nuisance. Another violet-coloured one, but a lighter shade, is *Calamintha alpina*; like the other two, it does not exceed four inches in height. The last two are slightly taller, up to six or eight inches. *Jasione perennis* is rather like a dainty scabious with soft blue flowers.

The last of the group, *Nierembergia hippomanica* (*Coerulea*), has attractive feathery foliage with pale blue, rather flat trumpets. It is said to be not too reliably hardy, but it survived last winter here on the scree with no protection; the scree was very sharply drained. Perhaps it would be wise to keep a few young plants in the frame for the winter as a precaution. Cutting strike easily in August.

The whole patch was about two or three feet square and contained one plant each of the *Nierembergia* and *Jasione*; the others were in threes or fives.

Edinburgh.

M-L.

### A BUTTERCUP OF MERIT

POSSIBLY one of the reasons *Ranunculus calandrinoides* is so seldom seen is due to its unusual blooming period prohibiting its appearance on the Show bench, which would inevitably cause its acquirement by a larger circle of admirers once they had seen it. It is a thoroughly good plant and those who do possess it "fall for" it quite heavily.

Commencing to bloom as early as November, a well-grown specimen is quite capable of carrying on right into March, or even April, and is seldom without flowers if planted in a deep pot in a cold house or frame.

Outside, its season would probably be shorter, but the writer cannot say, not having so grown it. At Inverleith, however, he has seen it growing most happily at the head of the scree in the rock garden, but is unaware if it is cloche protected at any time.

This white buttercup finds its home in the Atlas Mountains and its requirements, most fortunately, are very simple. Deep pots are a prime necessity as *calandrinoides*, possesses the typical deep roots of the genus and would most strongly resent shallow pans. Fill the

pot with a quite rich but well-drained compost of heavy loam, well-rotted leaf mould, sharp sand, a little old mortar rubble, and my favourite 'pinch of bone meal and pinch of burnt wood ash,' and then reverse the usual watering procedure. Give plenty of water during the growing season (mid-winter) and once the foliage has dried down (summer) withhold water entirely, placing the pot where it can obtain all the sunshine available.

Re-potting, when soil exhaustion renders this necessary, should take place in September and soil be kept moist. Growing points will then make their appearance in three weeks or so.

And then, during the dreary days of winter, one is rewarded with sight of a really unique beauty of the buttercup race. The flowers are large, white flushed a delicate pink, with large golden stamens, and arise from very beautiful glaucous foliage of a most attractive undulating form, the whole plant presenting a picture of chaste, yet friendly loveliness, that somehow gets you.

To add to its merits it is a good doer, easily increased by division at re-potting time and, in all probability, by seed as well. In the open it should also prove a satisfactory subject.

Belfast.

A. E. SMITH

#### GENTIANA SINO-ORNATA

Everyone who sees this Gentian in full bloom is absolutely enthralled by the beauty and colour of its flowers. At this time of the year, when the rock garden is rather devoid of colour, this plant, sometimes referred to as "The Glory of Autumn," shows up its sapphire trumpets in profusion. That is to say, if it likes you, because this plant more than any other, must like you, to grow for you! Farrer says of the Gentian family as a whole, and this plant in particular, "they are kittle cattle and hard to please; but, when pleased, with what pleasure do they not repay the pleaser!"

A large bed of sino-ornata in full bloom at once stamps the proud grower, rightly or wrongly, as a "green fingered gardener," a neighbour who must surely know everything there is to know about rock gardens! Perhaps it would be as well not to disillusion our neighbours by telling them of Farrer's article!

This Gentian is entirely Autumn flowering, has trailing stems which bear large four-inch long sapphire trumpets. It must have a lime free root run and the writer grows them in a medium consisting of two parts half-inch flint garden chips, one part free loam, and one part peat. This mixture prevents the hardening of a peaty soil, a thing Gentians as a whole detest. The actual locus of the bed is up against some large kerb stones, which retain the heat and moisture of the day. A depth of soil, to the extent of a foot, was removed from such an area and the above mixture substituted. The thongs were planted in this and have repaid the little work expended in their cultivation by each year making a most wonderful picture in blue.

Bo'ness.

J. G. C.

## IRIS BRACTEATA

ON RE-READING with great pleasure Mr. Drake's article "Some North-West American Iris" (pages 63-4 of *Journal* No. 10), I noticed he mentions he has not grown *Iris bracteata*.

This is a delightful little Californian, possessing dark green, very tough, strap-shaped leaves of  $\frac{1}{2}$  in.  $\times$   $\frac{3}{4}$  in. width and most attractive flowers varying from straw to yellow in colour and delightfully veined with a network of brownish crimson, and grows to a height of six inches or so.

The plants, which I raised from seed very many years back, thrived and endured and proved as hardy and 'tough' as their own tough leaves. Their ultimate loss was wholly ascribable to War neglect. When I did see them they were far gone, having eaten all the soil (poor at the best) from the stoney pocket in which the little colony had been planted, and were trying to subsist on what amounted to dry dust and stones and nothing else. Too far gone, despite attempts at rescue, even they succumbed.

I am now re-growing from seed, which is by far the best means of propagating all these members of the N.W. American group.

None of them take too kindly to transplanting, so it is a good plan to raise seedlings in individual small pots, but if this takes too much space use great care, when transplanting, to ensure no roots are broken.

Mr. Drake, in his article, most thoroughly covers the cultural requirements of this entire group of Iris, all of which are highly desirable and all of which, with the possible exception of *I. bracteata*, show great colour variation from seed. With me the last named has, so far, proved constant in colour.

In our small garden there is a colony of *Iris tenax*, raised from S.R.G.C. seed distribution that has given particular pleasure not only to my wife and myself, but to many friends as well. The plants provide the whole gamut of colour mentioned and all are so attractive that they prove to the hilt that variation, in the case of these Iris, is indeed no detriment.

But *I. bracteata* has a something all its own, and I, for one, should be very sorry not to have it.

*Iris bracteata*, and all its compatriots, are so easily raised from seed, will fit well into all sorts of places, and are so 'fetching,' that they ought to be 'everyone's plants.'

Of course, for special forms such as the lovely good yellow variety of *Iris innominata*, etc., one must start with plants vegetatively propagated from similar stock.

Belfast.

A. E. SMITH

## TWO WOODLANDERS

TWO PLANTS which are hardy, easily grown, most attractive and yet by no means common are *Glaucidium palmatum* (See Fig. 23) and *Jeffersonia dubia* (See Fig. 24). They both come from Japan or Man-

churia and both like woodland conditions as regards light and soil. A soil with plenty of humus in it, peat and/or leaf mould, and which never dries out but yet does not get water-logged will suit them. Part shade which will shield them from the direct rays of the sun, except in the early morning or late afternoon, is what they like.

I grew them successfully in my Perthshire garden under crab and cherry trees in a border made for asiatic primulas, meconopses, etc.

I shall try first to describe *Glaucidium palmatum*. It belongs to the family of Ranunculaceae and is herbaceous, dying down below ground level for the winter. In spring its shoots push up, looking at this stage rather like fronds of bracken and soon the leaves begin to unfurl.

The leaves, which are palmate, and borne two on an eight to ten inch stem, are toothed and sharply pointed. Set in green bracts above the leaves are large solitary flowers satiny lilac with golden stamens, reminding one rather of the flowers of a tuberous-rooted begonia. Propagate from seed sown in February, or an offset can sometimes be taken off.

*Jeffersonia dubia* (Syn. *Plagiorhegma dubium*) belongs to the Berberidaceae, though anything less like a berberis to the non-botanical eye is hard to imagine.

It is herbaceous and disappears below ground for the winter. It is a good idea to cut off the previous years' stems in March, otherwise the new shoots grow through the old and it is difficult to tidy it up without doing damage.

In April shoots start appearing.\* The kidney-shaped leaves are most attractive, green edged with red, and they are carried on stems six to eight inches long.

The flowers, each on a wiry reddish stem, are carried just clear of the foliage and open out quite flat. They are rather like poppies and are of a pleasing lavender blue.

If grown in too deep shade the leaves are apt to hide the flowers. This also may be propagated from seed or offsets. Both these plants are perfectly hardy.

\*This year buds were well-developed and coloured on 8th March.

Edinburgh.

M-L.

### RHODODENDRON RADICANS

THIS SMALL Rhododendron, which belongs to the Saluense series, and comes from S.E. Tibet, is a first class rock garden shrub. It forms a prostrate mat up to twelve inches square and is only two inches high. Its leaves are very small, shining dark green above and grey beneath.

It is a profuse flowerer and the flowers are comparatively large, being over an inch across as a rule. They are in the form of wide open flattish bells carried upright one to a stem. In colour the flowers are said to vary from pink to crimson purple, though personally I



only know of the latter form. It flowers in May. It is perfectly hardy and is satisfied with the usual "humusey" soil rhododendrons like.

Either full sun or light mid-day shade suits it.

It layers itself freely, so propagation presents no difficulty.

Edinburgh.

M-L.

### CUTWORMS

IT HAS been stated in the *Journal* that the way to deal with cutworms is to seek them out at night with a torch, but I must confess that I do not find this a particularly amusing pastime.

One day last summer I noticed that several plants of *Primula tibetica* and *Campanula Allionii* were in a damaged and wilting condition. They were loose in the ground because their roots also were being eaten. Cutworms are untidy feeders and always leave unconsumed portions of leaves scattered round their damaged victims.

Quick action was necessary, but unfortunately all the bottles, packets and tins of insecticides in the cupboard were empty. However, I always keep a bottle of Clensel in the house for taking stains from carpets, so, following the instructions on the bottle, but making the solution slightly stronger than recommended for spraying greenfly, I mixed up half a gallon. This was poured all round the plants from a watering-can without a rose. The effect was dramatic. Within three seconds the ugly, fat, grey-green glutton had scrambled its way to the surface. It was only left to me then to throw it to the hens, who did not seem to mind the flavour of Clensel at all.

It says on the bottle that Clensel may be used as a soil fertilizer. However, I felt it possible that plants, whose ancestors had always lived on turf loam and yak-manure, might not appreciate bottled fertilizer from Glæ-gow, so I washed away any excess with plain water. The plants were pushed back firmly into the soil, three stones were pressed round their necks, and they were covered with flower pots for a couple of days. Since then they have never looked back.

East Lothian.

L. C. BOYD-HARVEY

### EARLY COLOUR IN THE NORTH

THERE IS a cheery path of colour on my north wall to-day, 20th February 1953, made by *Hepatica triloba*—Pink and Blue, *Anemone angulosa (transylvanica)*, *Primulas bracteosa* and *Clarkei* and *Saxifraga x Jenkinsae*.

An answer to those who say they can't grow anything because their garden gets no sun!

*P. Clarkei* is growing in a widish, vertical crevice and is a mass of flourish, while those grown in sun but with the roots in the shade of a stone are just showing small, pink buds as yet—odd.

Edinburgh.

M-L.

## CALCEOLARIA TENELLA

(Scrophulariaceae—Chile)

THIS TINY plant is not so well known as it deserves to be. It forms a prostrate mat of bright green, tiny, creeping shoots covered with minute, rounded leaves. The shoots root as they grow and from them spring numerous slender stems, each one bearing a number of miniature clear yellow flowers with tiny, reddish brown dots along the lips. The flowers are very dainty and not at all vulgar and flamboyant as some of the other calceolarias (e.g. *Darwinii*) always appear to me. It likes a cool vegetable soil in shade and I grow it on my north wall. If happy it will climb up a stone or peat wall and cover anything up to a foot square. It does not become a nuisance, however, as it is so easily pulled out if it begins to ramp too far. It flowers in June-August and is very free flowering.

Increase is easy ; bits of the creeping shoots torn off in April grow away at once if planted in leafy soil in shade, preferably in a frame. It can, too, be raised from seed sown in February.

Edinburgh.

M-L.

## THALICTRUM KIUSIANUM

(Ranunculaceae—Japan)

THIS IS one of the smallest of the thalictrums and is a very dainty little plant not exceeding as a rule four inches in height, and not much more in spread.

It has the typical ferny leaves and fluffy flowers of its family. The colour of the flowers is white, mauve, or rosy purple or any intermediate shade, the anthers are pink. It usually flowers in June or July. It seems to like rather a rich scree with perhaps fifty per cent gravel and sand or other "drainage" material, about twenty-five per cent ordinary soil, and twenty-five per cent leaf mould and/or peat. It does NOT like lime. If happy it throws out stolons which when rooted may be detached when they break into growth in spring. It may also be raised from seed sown in February. It forms tuberous roots and dies down in winter, so if not carefully marked it is liable to be dug up in error. I have found it hardy, grown as described, but I believe it is apt to die off in winter if the drainage is deficient. It would, I think, be very suitable for growing in a trough.

Edinburgh.

M-L.

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## Book Review

GARDENS AND GARDENING, VOLUME IV.—ROCK, WALL AND WATER.  
Published by The Studio Ltd., 66 Chandos Place, London, W.C.2,  
price 18/-.

IN ANY publication having as joint editors authorities so well known in the gardening world as Roy Hay and F. A. Mercer, and containing articles by a team of writers each of whom is generally recognised as a leader in his or her own particular sphere, one naturally expects to find a very high standard set. In "Rock, Wall, and Water," the reader will find that this high standard has been attained and maintained throughout. Each section is well written and plentifully illustrated with well chosen photographs.

The comprehensive section on "Wall Gardens : Construction and Planting," by Mr. Fred Barker, leaves nothing to be desired unless that his list of suitable plants, at the end, might have been divided into sections of sun- and shade-lovers. "Sink and Trough Gardening" likewise provides all the information necessary for the creation of a variety of interesting trough gardens and ends with a list extendable as the trough enthusiast acquires experience.

Mr. Will Ingwersen's introduction to "Constructing and Planting a Rock Garden" is most heartening to all whose available garden space is not just what they would wish, is full of sound advice and interesting suggestions throughout, and ends with a list that should enable even the veriest novice to start from the beginning with an attractive and colourful rock garden. Frances Perry's article is lucid in text and enchanting in illustration, my only possible criticism being that the inclusion of an explanatory diagram on pool construction would have been helpful, explicit though the text is. For all who delight in Water Lilies much useful advice is given by Mr. Pearce, and a comprehensive list supplied to suit varying requirements.

Mr. A. T. Johnson's "Pool and Stream" is a really charming section, beautifully illustrated, full of ideas and suggestions for all fortunate enough to be able to provide suitable conditions, and enough to cause envy in the hearts of those who cannot do so.

To sum up : at a time when there are many decidedly third-rate gardening works in circulation, this book provides more than 140 pages of delightful and useful matter illustrated by numerous beautiful photographs. Though many of the suggestions contained may suit the more expensive layout rather than the "back garden," there are adaptations to suit every type of garden, large or small, and no enthusiast in rock-gardening or its near relatives, wall-, trough-, and water-gardening, could read this book without both profit and pleasure.

J. L. M.

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