The JOURNAL of THE SCOTTISH ROCK GARDEN CLUB

VOLUME XV Part 2
No. 59

SEPTEMBER 1976

Editor P. J. W. KILPATRICK • 10 Eglinton Crescent • Edinburgh • EH12 5DD

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S.R.G.C. Publications

PAST *Journals* provide a compendium of information on almost every aspect of rock garden plants and their cultivation. To encourage new members especially to build up their libraries of *Journals* a SPECIAL DISCOUNT of 20% is offered for orders of 20 or more *Journals*. Prices of some earlier and now very scarce *Journals* have had to be increased, also the postage contribution, but the value offered is still outstanding.

Current prices and availability

Journal No.	*Pence*		*U.S. Dollars*
1 to 7*	100	When available	2.50
8	80		2.00
9	30		0.75
10	40		1.00
11	100	,, ,,	2.50
12, 13	40		1.00
14 to 17	100	,, ,,	2.50
18 to 20	40		1.00
21	100	,, ,,	2.50
22 to 26	40		1.00
27	100	,, ,,	2.50
28	40		1.00
29	100	'61 Conference No.	2.50
30 to 34	40		1.00
35	80		2.00
36 to 53	30		0.75
54 onwards	40		1.00
George Forrest book	125	post free	3.25
Index for *Journals* 1 to 19	15	,, ,,	
Index for Vols. VIII, IX, X, XI	15	each post free	

Postage contribution 4p (10 cts) per *Journal* up to a maximum of 60p ($1.50).

Waiting lists are kept for the scarce *Journals*. The Club would be very glad to receive or buy any *Journals* up to No. 35 (except 9), paying postage and, if required, up to half the above prices.

All correspondence about past publications should be addressed to the Hon. Publications Manager: Dr. D. M. Stead, Esk Hause, Bishop's Park, Thorntonhall, Glasgow G74 5AF.

* See notice on page 91.

Sinks and Raised Beds

by JOE ELLIOTT

The W. C. Buchanan Memorial Lecture given at Edinburgh on 20th September 1975

IT IS CURIOUS, and perhaps just a little sad, that in spite of the increasing number of enthusiasts who enjoy growing alpine plants, the number of rock gardens being built on which to grow them has fallen steadily over the last decade or two. Before the war visitors to Chelsea Show could see five or six magnificent rock gardens each year and there were probably eight or ten firms specialising in building them; nowadays Chelsea seldom has more than one rock garden and the specialist building firms are nearly all gone.

Economics are at the heart of this change of course, for a rock garden of any size is quite an expensive undertaking and not one that can always be carried out easily by an amateur. If you can find the ash for the rock and its transport, you are then faced with the problem of heaving monstrously heavy, finger-crushing stones into an artistic whole.

The alternative places for growing your alpines are two-fold (three-fold if you include growing them in pots and pans in the alpine house, a method I will not touch on here)—raised beds and stone sinks and troughs. The latter method is governed largely by the supply of old stone troughs available, and with an increasing demand for a stock which is virtually static they are hard to come by these days. Luckily there is no such problem about raised beds; the materials for making them are plentiful, various and inexhaustible. They are also much easier to fit into the garden landscape than a rock garden often is. Provided they are in a reasonably open position they can border a path or drive, form an island site on a lawn or paved area or make an attractive L-shaped feature to the corner of a lawn. It is not usually wise to build one against a house wall for fear of encouraging rising damp; but the south or west wall of an outbuilding or garage can be a very useful site—or even a north or east wall if you are prepared to fill it with shade-loving plants.

The main purpose of making a raised bed, apart from isolating the smaller plants in your garden where they will not be overwhelmed by

more strenuous neighbours, is to provide the one feature which nearly all alpines have in common—a love of good drainage. There are few alpines, even taking the word in its widest sense, which will grow happily in a heavy clay soil. By raising their home above the surrounding ground, even by as little as six or eight inches, and filling in with a suitable gritty mixture, good drainage becomes automatic. Even if you filled the bed with the unaltered heavy soil of your garden, the drainage would be improved.

The material for building these beds can vary according to circumstances. I am lucky enough to live in the Cotswolds where our beautiful honey-coloured stone is available without delving too deeply into one's pocket and it is undoubtedly the best of all materials for the purpose. For those less fortunately situated in a stoneless countryside bricks will serve the purpose almost equally well—preferably old, used bricks which have lost their raw new look—and railway sleepers blend into the scenery quite well. As a last resort even concrete blocks will serve the purpose of retaining the soil, though they will obviously look pretty stark and unattractive until they have weathered and got themselves clothed in what might be called "face saving plants". But there is one big advantage of using natural walling stone; you can build your walls "dry"—that is to say without mortar—and leave an intricate network of small holes and crevices to serve as near-natural homes for the many alpines that enjoy such conditions. Not only that, but you cannot help having some shady north-facing crevices for your Ramondas, Haberleas and their like as well as many sunny ones for your Aethionemas, Silver Saxifrages, Sempervivums and all the others which enjoy a good roasting.

There is no magic height, size or shape for a raised bed; they can be square, oblong, round, oval or L-shaped—or even E-shaped if you want something original. Nor is the height vital, though the main idea of aiming at good drainage will be partially defeated if you make them less than about six inches high. On the other hand, if they are much more than eighteen inches high they tend to look a bit awkward and stuck-up and are not very easy to get at for planting and weeding. I have found that from nine inches to fifteen inches is the best height for an island bed. Siting *is* important, however. They should be put right out of reach of drip from trees and sufficient distance away from trees or buildings to prevent more than an hour or so's shade from being cast on them each day. Remember that the sun's arc is low in winter when any sunshine there is will be welcomed most of all by

the plants.

The soil to fill any raised bed is infinitely variable and will be governed largely by the type of plants to be grown. If you prefer to make your own soil mix, either for the fun of it or to save your pocket, and intend to grow a fairly standard range of plants without trying any of the more esoteric challengers, you could start with a mixture of equal parts by bulk of good loam, moistened sphagnum peat and fine grit or coarse sand. With such a mixture filling the bulk of the bed, extra peat or chippings can always be added to particular areas or pockets for special plants that need something different. Many alpines are so adaptable, particularly as to soil, that it is always fun to experiment. One of my beds, built four or five years ago now, was filled with unadulterated pea gravel (our local gravel, washed and graded to a uniform green pea-size) without the addition of any soil or peat. I thought it might suit some of those plants which are used to a very arid stony diet in the wild. That it has certainly done, but a surprising number of less scree-addicted plants have flourished too in a quite extraordinary way. *Wahlenbergia serpyllifolia* has made a beautifully compact little clump and flowered freely; *Teucrium akermannii* has spread out of all recognition into a two-foot specimen; *Petrophytum hendersonii* has grown well and flowered freely; I have never had *Campanula allionii* rushing around with such abandon or giving so many blooms. *Carlina acaulis* loves the conditions and bears its great starry blooms on stems of only three or four inches instead of rising rather disappointingly to ten or twelve inches as it does in a more normal soil. I could go on with the list endlessly. Another surprising feature of this gravel bed is the way the plants have stood up to drought. This last summer of 1975 was a real test and only once did I drag the hose to that far corner of the garden and give the bed a soaking; yet at no time did any of the inhabitants show the least signs of distress.

This was an experimental bed but it has proved that many alpines will flourish on a much more spartan diet than we often give them and will usually withstand both summer drought and unkind winter weather better grown thus than in a richer, more normal soil. The only feeding that this bed gets—or any other of my dozen or so raised beds for that matter—is a modest handful or two of Bonemeal or Hoof-and-Horn in early spring.

Growing alpines in stone sinks and troughs has been a particular interest and speciality of mine for as long as I can remember. The pity is that the longer I live the more difficult and expensive the genuine

articles become. The alternative to which we are all having to turn more and more is the article which replaced the humble old stone kitchen sink—the glossy white glazed ones. These would be quite unthinkable standing about the garden in their hideous white nakedness, but can be so easily disguised that they become perfectly acceptable plant homes even when mixed with the genuine stone ones. The method of achieving this transformation—for those who don't know already or cannot be bothered to look up the reference—is first of all to scrub down your sink thoroughly to remove any scum or dirt that may remain from its original use. When it is dry paint it over with one of the modern bonding materials—we use Unibond which can be bought from most ironmongers or D.I.Y. shops. Cover the whole of the outside and 2-3 inches down the inside walls. Next run some moistened sphagnum peat through a $\frac{1}{4}$ in. or $\frac{3}{8}$ in. sieve. Take two parts by bulk of the peat and mix thoroughly with one part each of cement and sharp silver sand or very fine grit. Now add water bit by drip and stir it around until you have a nice maleable mixture which will just hold its shape when released from your squeezed hand. Whilst you have been doing this the Unibond on the sink should have dried sufficiently and all you have to do now is to apply it about half an inch thick all over the outside of the sink. Take it down the inside wall for two or three inches as well so that no white glaze is visible if the soil consolidates and sinks a bit. There is no need to cover the whole of the inside, nor the outside underneath; just make sure that all visible parts of the glaze are covered. The consistency of the hypertufa is important, but can really only be learnt by experiment and experience; too dry and it won't adhere; too wet and it slithers off.

In a year or so your ersatz trough will have weathered so well that the uninitiated would hardly realise that it was not a real stone one. In spite of the moisture retentive peat in the hypertufa it does not crumble or flake in frost. Several of mine have now come through three or four winters without any such damage. The only real danger is bumps from mowers or metal wheel-barrows; such treatment may chip small pieces off, though they can easily be patched up.

The proportions of peat, sand and cement are not sacrosanct; we find the 2-1-1 mixture satisfactory but some people use equal portions of the three items. I have a feeling that sphagnum peat is better than the darker, finer sedge peat if only because it is more water absorbent and so encourages the growth of moss and lichen. Weathering can be hastened too by painting over the newly finished surface with a slurry

of cow manure or rice water.

As with so many things these days, an inflated economy has forced us into making do with second best alternatives. I must confess that I find hypertufa troughs a very acceptable second best. Certainly, the plants do not seem to notice any difference and that is what matters most—surely.

Conservation of Wild Plants

by JAMES T. AITKEN

THE Conservation of Wild Creatures and Wild Plants Act 1975, which came into force on 1st August 1975, gives particular protection immediately to twenty-one wild plants against picking, uprooting or destruction. It also prohibits the uprooting of any wild plant. The Act not only protects plants but, as its title indicates, wild creatures.

The Bill was promoted as a private member's bill by Mr. Peter Hardy, M.P. for Rother Valley, with all-party support including, from Scotland, that of Mr. Tam Dalyell, M.P. for West Lothian. The Bill's promoters were keen to point out that, although there are penal sanctions to back the provisions, the hope was that the measure would achieve its purpose by education and publicity. To that end local authorities (in Scotland, Regional, District and Island Councils) are specially enjoined to call public attention to the Act and especially to educate children concerning its provisions.

A Schedule appended to the Act lists the initial twenty-one plants protected against picking, uprooting or destruction and the plants listed are noted below, but the Nature Conservancy Council is to keep the Schedule under constant review and may advise the Secretary of State of plants which in their opinion should be added or withdrawn from the schedule, either generally, or in particular localities or at particular times of the year. Such adjustments to the schedule are accomplished by statutory instrument. No further legislation is required. Although the Nature Conservancy Council is to maintain constant consideration there is a special obligation of review at the end of each five-year period.

The Scottish address of the Council is 12 Hope Terrace, Edinburgh,

EH9 2AS, and representations concerning plants which should be protected should be made to the Council.

Apart from the special protection given to the scheduled plants, it is now an offence to uproot or destroy any wild plants without reasonable excuse. ''Reasonable Excuse'' is not defined. The law leaves what is ''reasonable'' to common sense.

Exception is, however, specifically given when picking, uprooting or destruction of scheduled wild plants occurs unavoidably as an incidental result of any action in the interest of good agricultural or forestry practice. Landowners or occupiers are not prevented from uprooting unscheduled wild plants on their own land.

The Nature Conservancy Council may also license activities concerning wild flowers for scientific or educational purposes or in the interests of conservation. Applications for such licences should be made to the Council at the address given and should furnish the following information: the species and number of plants concerned and what action (picking, uprooting and/or destroying) is proposed, with the purpose (e.g. educational) and the detailed need for the carrying out of the purpose; the location, methods and timing; whether uprooted plants are to be replanted and where; the qualification of the applicant to carry out the activity proposed and the names of two referees who can speak to the suitability of the applicant to receive a licence.

Those interested should note that the grant of a licence does not in itself confer right to enter any private land or property. Indeed, any owner or occupier of land may, where there is reasonable cause to suspect the commission of an offence under the Act, require the offender to give his name and address and leave the property concerned.

Note also that the provision of the Act relates only to wild plants. Where the plant concerned is in cultivation the provisions of the Act do not apply.

Fungi and algae are not protected but lichens are.

Members outside Scotland should note that the Act applies also in England and Wales but not in Northern Ireland.

Members engaged in education may be assisted by a poster illustrating the scheduled plants available from the Botanical Society of the British Isles, Oundle Lodge, Peterborough (35p including postage).

The British Museum (Natural History) has also produced a booklet about the Act in general. This is available from the Publications Department, British Museum (Natural History), Cromwell Road, London SW7, at 10p plus 10p postage.

SCHEDULE

SPECIES OF PROTECTED PLANTS

Common name	*Scientific name*
Alpine Gentian	*Gentiana nivalis*
Alpine Sow-thistle	*Cicerbita alpina*
Alpine Woodsia	*Woodsia alpina*
Blue Heath	*Phyllodoce caerulea*
Cheddar Pink	*Dianthus gratianopolitanus*
Diapensia	*Diapensia lapponica*
Drooping Saxifrage	*Saxifraga cernua*
Ghost Orchid	*Epipogium aphyllum*
Killarney Fern	*Trichomanes speciosum*
Lady's-slipper	*Cypripedium calceolus*
Mezereon	*Daphne mezereum*
Military Orchid	*Orchis militaris*
Monkey Orchid	*Orchis simia*
Oblong Woodsia	*Woodsia ilvensis*
Red Helleborine	*Cephalanthera rubra*
Snowdon Lily	*Lloydia serotina*
Spiked Speedwell	*Veronica spicata*
Spring Gentian	*Gentiana verna*
Teesdale Sandwort	*Minuartia stricta*
Tufted Saxifrage	*Saxifraga cespitosa*
Wild Gladiolus	*Gladiolus illyricus*

Possible Reprinting of Journals 1 to 6

UNLESS considerably more orders are received for these *Journals* it will not be feasible to go ahead with reprinting them. Those who have lost the Order Form enclosed with the April *Journal* should write at once to the Hon. Publications Manager (address on page 84) placing an order for the full set (£9.00 post paid) or for whatever numbers are needed. A decision will be made on reprinting at the end of 1976. Members who are on the Waiting List already should not fail to place their orders, otherwise their interest will be assumed to have lapsed.

Other old *Journals*. The need for these is greater than ever and the attention of long standing members is drawn to the notice on page 84.

Secretary's Page

Dates for your Diary:

2 & 3 October 1976: Discussion Week-end at St. Salvator's Hall, St. Andrews.

2 & 3 October 1976: Autumn Show at St. Salvator's Hall, St. Andrews. Saturday 1 to 6 p.m.; Sunday 10 a.m. to 4 p.m.

13 November 1976: A.G.M. at B.M.A. House, 7 Drumsheugh Gardens, Edinburgh, at 3 p.m.

26 March 1977: Edinburgh & Midlothian Show at Cowan House, Pollock Halls of Residence, Dalkeith Road, Edinburgh, 1 to 5.30 p.m.

2 April 1977: Newcastle Show at Ponteland Memorial Hall, Darras Road, Ponteland, 1 to 5 p.m.

23 April 1977: Perth Show at Kinnoull School, near east end of Queen's Bridge, 1 to 5 p.m.

14 May 1977: Aberdeen Show at the Music Hall, Union Street, 10.30 a.m. to 5.30 p.m.

28 May 1977: Dunfermline Show at Nethertown Institute, Nethertown Broad Street, 1 to 5 p.m.

Show Prizes: Members should note that prizes have been increased and that these will be in the form of cash; vouchers have been discontinued.

Editorial: The Editor invites members to submit material for the *Journal.* He would be pleased to receive articles for publication and black-and-white photographs.

Library: Requests for winter reading from Groups and individuals can be delivered at the Discussion Week-end on Sunday 3 October or at the A.G.M. in Edinburgh on 13 November. Please write in good time to the Librarian.

Travelling Lecturer: Leonard W. Beer, Esq., will travel around the country to lecture at various centres and members who do not have an organised Group in their area may like to go to the nearest Group meeting, hiring a bus if necessary, to hear this excellent speaker; or a scattered group might like to get together once in the year and invite the travelling lecturer to include them in his tour. Mr. Beer will be speaking on "Alpines from the

Himalayas''

Mon. 1 Nov. 1976, Dundee
Tues. 2 Nov. 1976, Perth
Wed. 3 Nov. 1976, Inverness
Thurs. 4 Nov. 1976, Aberdeen
Tues. 9 Nov. 1976, Edinburgh
Wed. 10 Nov. 1976, Glasgow
Thurs. 11 Nov. 1976, North Northumberland

Reprinting of Journals 1-6: Orders for these are coming in, but rather slowly. Members' attention is drawn to the notice in this *Journal* on page. 91.

Ties: These are selling well and may be bought at Shows and Group meetings or ordered direct from Mrs. Edith Lawrie, 82 Craigleith Road, Edinburgh, 4. If members order their ties before Christmas 1976 they may have them at the special price of £2 including postage —after Christmas the price will be £2.50 including postage.

Visit to Chelsea Flower Show in 1977*:* It is hoped to arrange a seven-day bus tour of gardens in the South. This would take place during Chelsea Week and the plan would be to visit this famous Show on the Tuesday, which is members' day. The gardens visited may include Bodnant, Ness, Hidcote Manor, Windsor Great Park, Wisley and Harlow Car.

Further details are available from A. Evans, Esq., Royal Botanic Garden, Edinburgh, EH3 5LR.

Service to Members: Members wishing to exchange or acquire plants, seeds etc., may advertise in this column. The charge will be 5p per word and must include the advertiser's name and address. (There will be no charge for the advertiser's initials).

Postage: This is a very heavy item in the Club's accounts. Please would members give us their help by always enclosing a stamped and addressed envelope when a reply is requested.

Suggestions: The Secretary would be pleased to hear of any other type of information that members would like to see included in this Page.

A Different Way to make Troughs

by MARGARET TAYLOR

A FEW years ago we visited a spring A.G.S. Show. The prize-winning miniature garden really took my fancy. It had been arranged in a homemade trough built dike-fashion onto a large flat rock. Having had in the past to arrange my garden in an old jam pan, I determined to try my hand at trough making.

The large, flat rock was a problem. Local sandstone was very heavy but a walk in the nearby Sidlaw Hills disclosed a mine of large roofing slates beside a ruined cottage. The slate, approximately twelve by sixteen inches, became the base. Small sandstone "bricks" were cemented onto the base, to roughly the height of six inches. The concrete was brushed off the outside to leave the bricks standing proud. Holes were left in the sides at intervals for planting. The concrete was a three to one mixture with the addition of Croid Polystik to the water. Dilute Polystik was also painted onto each stone before it was cemented into place in order to give a better key. I always wore rubber gloves when working with concrete.

Waiting three months before planting was the hardest part, to allow the concrete to cure. Perhaps this was unnecessary, but I should hate the plants to suffer from any traces of lime. A peat-based, soilless compost mixed with gravel, was used. The holes in the sides were planted first, before filling the trough with compost. The easiest way to plant these small holes is to use the trick the tufa enthusiasts employ. That is, wrap the roots of the small plant in greaseproof paper, making a tube which can then easily be inserted through the hole, the paper being removed when the plant is in position.

I soon learned by my mistakes and would like to put forward the following suggestions. The side holes act as drains. The dry crevice loving specimens, planted on their sides, soon turn up their toes during the winter, when water oozes past them continuously; whereas the moisture loving primulas flourish.

Before planting the top, place a few suitable rocks in a miniature outcrop. Try to achieve a slightly convex surface to avoid the usual sunken appearance. Finish with a dressing of gravel and peat to give a porous surface which allows water to penetrate. An instant weathered effect can be obtained by rubbing the stones and raw concrete with

leaves. Dare I suggest Dahlia leaves work well, or doesn't a keen alpinist admit to growing such plants?

Place the completed trough on a large rock to bring it a little nearer eye-level. Don't forget to water it in dry weather. One trough on its own looks a bit lost, so why not get busy and build four or five to make a decorative and useful edge to the path.

As regards to plants, they have to be real miniatures or a small trough of this size would soon be swamped. I usually manage to plant about thirty different kinds into this small area. The congested root run tends to stunt the plants to give a Bonsai effect. A few suitable examples are: kabschia and engleria saxes; *Primulas* x *bileckii, marginata, scotica, farinosa*; all the small sempervivums; *Celmisias sessiliflora* and *argentea*; *Raoulias australis, hookeri* and the hybrid with *Leucogenes grandiceps*; *Salix* x *boydii*; the small gold *Chamaecyparis pisifera plumosa rogersii.* There are many more miniature plants. It's great fun searching the nurseries for them.

I hope some of you will have a try yourselves and get as much pleasure building and planting troughs as I do. A word of warning: they do take a lot of time to make, as my family could tell you. Many a time they come home to a new trough but no tea!

Plant Portrait—Dionysia bryoides

Dionysia bryoides was described by Boisser in 1846 from the herbarium specimens gathered four years earlier by Kotschy in Southern Iran.[1] The plant has been introduced to cultivation by seed at least four times since then but has not lived for long.

The first introduction was by Dr. P. L. Giuseppi in 1932, but none has survived. (Giuseppi also introduced other species of Dionysia of which *Dionysia curviflora* still survives and a plant from this introduction received a Forrest Medal recently.)

In 1939 Peter Davis collected *D. bryoides* and a plant received the Award of Merit in 1950 for C. H. Hammer, Esq.[2] This introduction appears to have died out soon afterwards.

A few plants remain of the 1966 Jim Archibald collection but according to Chris Grey-Wilson[3] have not flowered.

The latest introduction by Professor T. F. Hewer in 1973 from the Zagros Mountains in Iran contained nine collections of *D. bryoides* as well as other species of Dionysia, including a hybrid of *D. bryoides*,

the first recorded cross. The collection of *D. bryoides* was from the Kuk-i-Dinar Pass in Fars Province, at an altitude of about 3,000 m. In the report of his expedition[4] Hewer states that the species is very variable in the wild. He mentions several colour forms varying from violet to pink, some with, others without, a yellow eye. Plants raised from H 1986 seed have violet-coloured flowers fading to blue with age. The flowers have a prominent white eye.

The plant receiving the Award of Merit in 1950 is reported as having a white eye and the petal colour as Fuchsine Pink H.C.C. 627/3.

The plant illustrated (fig. 12) received the Forrest Medal at Edinburgh Show. It is a three-year-old plant in a 3½ in. pot. The flowers are 9 mm in diameter and last for two to three weeks in an unheated alpine house. The compost is a mixture of crushed tufa, sharp sand and J.I. Potting mixture in such proportions to feel gritty, this giving perfect drainage. The surface of the compost is covered with ⅜ in. diameter grit before pricking off the seedlings, and after repotting. Watering is carried out to the outside pot and water filters through the porous clay to the roots. To encourage growth the plants are repotted at two year intervals immediately after flowering. This is the only feeding they receive. The cushions remain firm, and to encourage even growth and flowering the pots are turned regularly.

[1]Wendelbo, P. 1961. Studies in Primulaceae I. A Monograph of the genus *Dionysia*.

[2]Anon. 1950. Plants to which Awards have been made. J.R.H.S. 75:414.

[3]Grey-Wilson, C. 1970. Dionysias in the Wild and in Cultivation. A.G.S. Publication.

[4]Hewer, T. F. 1975. To Iran to find Alpines. The Garden 100:254-260.

Fritillaria michaelovskyi

by H. ESSLEMONT

Fritillaria michaelovskyi is one of the most beautiful of the recent fritillaria introductions and a well-grown pan of it will always command attention (fig. 13).

In addition, it is not a difficult plant to grow in an unheated alpine house or frame.

My bulbs were collected in Turkey by Brian Mathew in 1965, on the Sarakamis Pass, South-west of Kars, at 6,300 ft.

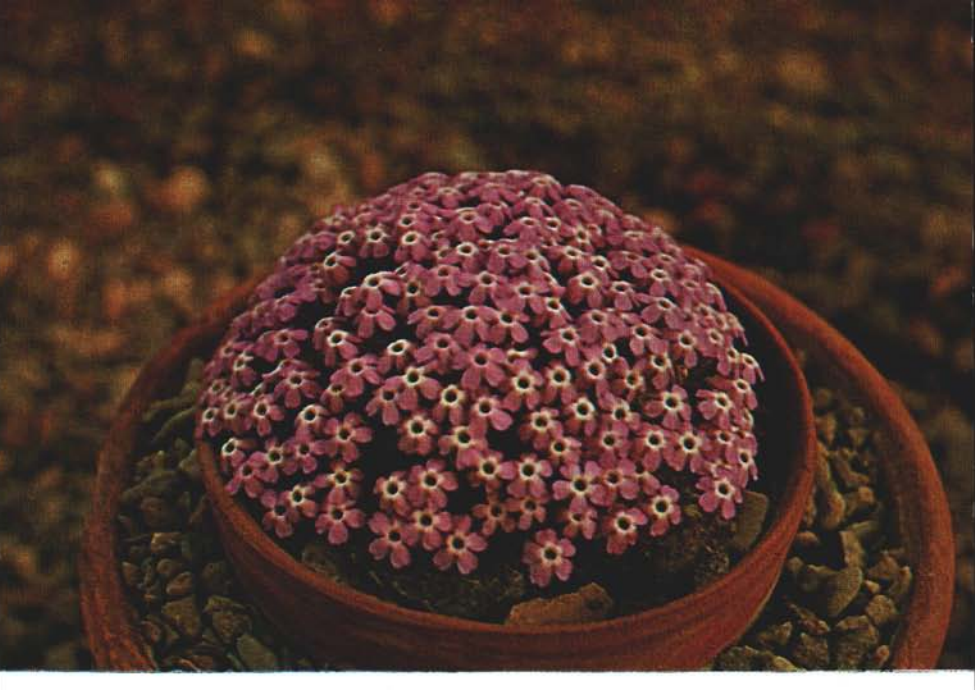


Fig. 12—*Dionysia bryoides* *Photo* R. J. Mitchell

Fig. 13—*Fritillaria ~~michaelovskyi~~* *Photo* H. Esslemont

Its pendent bells, dark reddish-purple with a bright yellow edging, are carried on six-inch stems with grey lanceolate leaves.

In nature it has been found with up to five flowers, although none of mine have yet borne more than two.

I grow all my fritillarias in clay pots in a gritty alpine mixture over good drainage and repot them annually in September.

A little sharp sand is placed under the base of the bulbs.

The pots are plunged in sand in an unheated alpine house and the sand around the pots is not watered until the 1st October.

Sufficient moisture will be absorbed by the pots to encourage root action, but not enough to promote top growth during the winter months.

In Spring, when the weather improves, careful normal watering is resumed.

A weak liquid feed is given twice during the growing season and the plants are kept growing as long as possible before drying them off for their summer baking.

Established plants will generally supply a quota of seed and if this is sown in December and exposed to frost, it should germinate readily the following Spring. It is advisable to decapitate flowers not required for seed at an early stage. This will help to build up the bulbs for the following season.

Two good seed capsules are sufficient to provide a large pan of seedlings.

Plant Note

IRIS UNGUICULARIS

THE WEEKS of sunshine we enjoyed in the summer of 1975, followed by a mild winter, have brought unexpected pleasure to many gardeners in the Edinburgh area.

It is usual, in my garden at any rate, for *Iris unguicularis* to start flowering in mid-February, followed a few weeks later by *I. u. lazica*, and to bloom rather sparsely till the middle of April. There are three forms of the Iris planted in poor soil against the South wall of the house, *I.u.* 'Mary Barnard' from Algeria, a paler violet form which probably comes from the same region, and the shorter-leaved Greek variety *I.u. lazica*. Another clump of the paler form is planted in a sheltered but less sunny part of the garden.

During the last week of November both the western Mediterranean forms began to bloom and for four months they continued to send up their graceful scented blooms, not just in ones and twos but in great masses. Even in early April one could pull a few buds to open in the house. The only exception was the clump in a less sun-baked position, which followed the normal pattern of flowering.

Iris u. lazica began to bloom early in February and was still pushing up fresh buds at the end of April.

To gardeners in a warmer climate such a glorious display throughout the winter would have come as no surprise, but here it may be many years before our *Iris unguicularis* is deceived into thinking it is back in its native Algeria.

Reference: Anderson, E.B. *Iris unguicularis.* J.R. Hort. Soc. 1971, vol. 96, pp. 82-83.

Edinburgh K. S. HALL

Show Reports

EDINBURGH AND MIDLOTHIAN

THE SHOW was held on Saturday 29th March, in the Horsa Hut, Edinburgh Art Centre. The entries were down on last year, but the benches were well filled, many of the entries coming from outside Edinburgh.

First we would like to congratulate the University of St. Andrews Botanic Garden for an excellent display of Middle East Primulaceae, including Cyclamen and Dionysia spp. *Dionysia bryoides*, (fig. 12), one of the plants shown, was a worthy winner of the Forrest Medal, awarded to the most meritorious plant in the Show. This plant was in superb condition, a dome studded with purple flowers completely covering the whole plant. This exhibit was of considerable interest to the public.

SECTION I

The Henry Tod Memorial Quaich, which has been donated to the Show by the Edinburgh Group in place of the Carnethy Medal, for 3 pans Rock Plants of different genera, was won by Mrs. Maule, Mr. E. Watson, Newcastle, was 2nd and Mr. D. Livingstone, Edinburgh, 3rd. The Elsie Harvey Memorial Trophy, awarded for 3 pans Rock Plants, new, rare or difficult in cultivation, went south of the border to Mr. Eric Watson, Newcastle, for 3 excellent Dionsyia sp., comprising *Dd.*

tapetodes (P.F. 8969), *freitagii*, a shy flowerer, and *balsamea*. Mrs. S. Maule was first in the one pan class as above with *Fritillaria gibbosa*, Mr. E. Watson was second with *Dionysia bryoides*, and Dr. J. Gosden third with the strangely beautiful *Iris sindpers*, rarely seen at Shows.

The A. O. Curle Memorial Trophy, awarded for 3 plants grown from seed by the exhibitor, was won by Miss J. Halley, Dundee, who showed *Soldanella montana*, *Draba polytricha* and *Corydalis wilsonii*.

It is difficult to make a show report other than a catalogue of names and plants, so it is not intended to go through the Show Schedule class by class, but to mention some of the interesting plants exhibited.

The 3 pan class for bulbs was won by Mrs. K. S. Hall with a well balanced trio—*Narcissus cyclamineus*, *Leucojum vernum* var. *vagneri*, and *Iris reticulata* 'Joyce'. The 1 pan Narcissus class was well represented. Mr. and Mrs. H. Taylor, Dundee, were first with an interesting pan of *N. minor* collected in N. Spain, Mr. D. Livingstone was second with the attractive *N. romieuxii*, and Mrs. S. Maule was third with the beautiful tiny white *N. watieri*, the last two coming from the Atlas Mountains in N. Africa.

Some good cyclamen were shown. First prize went to Mr. J. R. Johnstone all the way from Tyne and Wear, with a very good plant of that rather tricky *Cyclamen creticum*. Mr. Johnstone also won the class for 2 pans Androsace with *Aa. pyrenaica* and *ciliata*; second was Mr. E. Watson with *Aa. imbricata* and *pyrenaica*.

The Dionysia class is becoming quite popular as a little more is learned about their cultivation, difficult though some of them are to grow. There were quite a number exhibited. Mr. E. Watson, who grows them well, won the 1 pan class with the difficult *D. michauxii*; Mr. Watson also won the 2 pan Primula class which included the lovely white *P. allionii* 'Avalanche'. The Bhutan Drinking Cup for the best primula in the Show was awarded to *P. allionii* 'Crowsley Variety', also shown by Mr. E. Watson.

Mr. M. Adair, Glasgow, showed—I think the appropriate word is magnificent—plants in the 2 pan class Ericaceae or Vaccinaceae; they were *Cassiope* 'Muirhead' and *Kalmiopsis leachiana*, both large plants and beautifully flowered. *Cassiope* 'Muirhead' was awarded a Certificate of Merit. Mr. and Mrs. H. Taylor won the 2 pan Rhododendron Class with the two hybrids, pink *R.* 'Cilipense' and the white *R.* 'Ptarmigan'. The 1 pan class as above was won by Dr. D. C. Graham, Edinburgh, with *R.* 'Snow Lady', which was as attractive as the name.

SECTION II

As usual there were excellent plants in this section that could have graced Section I. The Henry Archibald Bowl, given for 3 pans Rock Plants of generally easy cultivation, grown in the open ground, was won by Mr. Harley Milne, Edinburgh, with an excellent trio—*Saxifraga grisebachii, Polygala chamaebuxus*, and a white Primula. Mrs. Jean Wyllie, a new exhibitor, was second and she also won in Class 46. Mr. Harley Milne also won the 1 pan Narcissus and the 1 pan Tulipa Classes.

A splendid pan of that beautiful Asiatic primula, *P. whiteii*, shown by Miss J. C. Corstorphine, Edinburgh, deserves special mention. This plant not only won a 1st prize in its class but was awarded a Certificate of Merit, a rare event in Section II.

Mrs. Kirsteen Scott, Edinburgh, won the 1 pan Rhododendron Class with a good plant of the popular *R.* 'Ptarmigan', second Mr. Harley Milne with the yellow *R. flavidum.* Some very well planted troughs were shown, which proved quite a difficult choice for the Judges. First prize went to Mr. R. R. Brown, Corbridge, with a good selection of plants; quite a feat to bring a heavy trough so far, it won him the Boonslie Cup. Mr. and Mrs. H. Taylor, Dundee, were second with an interesting collection of plants.

It seems that it has been a very good year for *Iris unguicularis* and this was evident in the flower arranging class. First prize went to the S.R.G.C. Hon. Secretary, Mrs. I. Simpson, for a very attractive arrangement of *I. unguicularis* and hellebores, the latter not easy to manage as they droop so readily; this won the Kilbryde Cup, second went to Mrs. B. B. Cormack, whose arrangement included tulips and hellebores, and third to Mrs. Taylor, who had a good selection of alpine flowers.

As usual we are indebted to all the people who took the trouble to bring their plants, in some cases from a long way off, and without whose help we could not stage a Show, also all who helped with the various chores. Special thanks to Mrs. M. Harris and Mrs. W. Milne who put on an excellent lunch every year for the Officials, and the ladies who dispensed tea and coffee in the afternoon, and last but not least our thanks to the Judges.

The splendid selection of plants displayed on the three Trade Stands added to the general interest and enabled people to buy plants without the additional cost of postage. The Trade Stands were:

Jack Drake, Inshriach Alpine Plant Nursery, Aviemore, Inverness-shire

Edrom Nursery, Coldingham, Berwickshire

J. R. Ponton, Old Cottage Gardens, Ledgerwood, Earlston, Berwickshire

They were all awarded Gold Medals. A Certificate of Merit was awarded to a superb pan of *Iris winogradowii* on Jack Drake's stand. Our thanks to them also.

S. MAULE
B. B. CORMACK

NEWCASTLE UPON TYNE

THE SHOW was held on 10th April 1976. For the fourth successive year the Newcastle Show, as held in the Ponteland Memorial Hall, showed continued improvement. The number of entries was increased and the standard of exhibits was further raised. As usual, exhibitors were welcomed from both the North and the South from as far apart as 400 miles. This joint S.R.G.C. and A.G.S. Show sets the scene of a good healthy battle each year, about which more will be said later.

The Forrest Medal was awarded to *Dionysia aretioides* 'Paul Furse', exhibited by Mr. E. G. Watson for the second year in succession. He also won first prize in Class 3 for a new and rare plant with *Dionysia bryoides* H1986 which was about 2½ ins. in diameter and was covered with 137 flowers. It was better flowered than his *D. michauxii*, about 3 ins. in diameter, with only 62 flowers.

Class 35 for three rock plants, distinct genera, was won by Mr. F. Tindall of Huddersfield and he was awarded the Gordon Harrison Cup.

Mr. R. A. Hodgeson of Stokesley, Middlesbrough, is to be complimented for again winning the Cyril Barnes Trophy and, in addition, a special S.R.G.C. Bronze Medal for 20% of the available points in Section C. Mr. M. Northway of Lincolnshire was awarded the R. B. Cooke Plate (again) for the most first prize points in the open section. The attention of local members must be drawn to the fact that he has now won it for the first two years of its existence. Be warned that he might claim possession if you let him win it next year!

The Silver Spoon, a valuable prize to be retained by the winner, who must be a local member exhibiting in Section C (three), was again awarded to Mr. R. Brown of Corbridge for a specimen of *Cassiope hypnoides* which was in flower. I would have liked to have seen this plant competing against the new and rare in the open section.

Certificates of Merit were awarded as follows:—

Harimanella stelleriana: Mr. N. Bowland of Guiseley, Yorkshire.

Androsace muscoidea var. *longiscapa*: Mr. D. Mowle of Lancaster.
Dionysia bryoides H1986: Mr. E. G. Watson, Local Show Secretary.

My thanks to all participants must be undeservedly brief, because space must be reserved to issue a challenge. Did I hear, during the Show, faint murmurings from some of our Scottish members, resident in Scotland, of vague sounds of anguish about the possible unbeatability of Dionysias? After all, of the eleven specimens entered, one plant—*D. bryoides* I recall—was not considered to be of sufficient merit to be awarded a first prize. I hereby challenge the Scots to come over the border on 2nd April 1977, and beat our Dionysias!

GARTH MERELIE

PERTH

"WHAT a super Show" was a remark frequently overheard in Kinnoull School, Perth, on 24th April 1976. The number of entries, again high, although slightly less than last year's record, appears to have been unaffected by the Club's decision to double the value of the prizes. The date was just right for Primulas and the large number of this species on the tables ensured an abundance of colour.

The L. C. Middleton Challenge Trophy for the competitor gaining the highest number of points from First Prizes in Section I was won by Mr. and Mrs. Henry Taylor, Invergowrie, with 280 points (but the keen-ness of the competition may be judged from the fact that the runner-up scored 260 points) and their comprehensive range of prize-winning plants included *Calceolaria darwinii*, *Sarcocapnos crassifolia*, a very beautiful large-flowered form of *Lewisia brachycalyx*, *Senecio leucophyllus*, a single-flowered Crete form of *Ranunculus asiaticus* which attracted much interest and admiration, *Ranunculus parnassifolius*, *Myosotis pulvinaris*, *Primula scotica*, *Helichrysum virgineum*, *Raoulia hectori* x *Leucogenes grandiceps*, *Celmisia ramulosa*, a purple form of the small *Iris mellita*, *Lithophragma parviflora*, *Aciphylla aurea*, *A. similis* and a most attractive member of the Scrophulariaceae family, *Castilleja miniata*, which must be a newcomer to the show benches.

The George Forrest Memorial Medal for the most meritorious plant at the Show was awarded to the veteran *Draba mollissima* exhibited by Mr. H. Esslemont, Aberdeen. The plant is now an enormous dome of delicate closely growing grey-green rosettes which when exhibited was completely covered with the small yellow fragrant star-like flowers. Because of its size and weight and the consequent difficulty in handling,

the plant has reached its limit for showing and has been generously presented to the Royal Botanic Garden, Edinburgh, where the skill—and strength—should be available to keep this amazing old plant alive, it is hoped, for many more years.

The Alexander Caird Trophy for six pans of rock plants, distinct, not more than two of any one genus, was awarded to Mr. John B. Duff, Glenfarg, the plants being *Kalmiopsis leachiana, Fritillaria pallidiflora, Primula* 'Linda Pope', *Lewisia tweedyi rosea, Rhodohypoxis* 'Pictus' and *Cassiope* 'Badenoch', while *Primula gracilipes, Fritillaria crassifolia* and *Ptilotrichum pyrenaicum* won the three pan class for Mrs. S. Maule, Balerno, against strong competition.

In the new, rare or difficult class, the winning plants were *Dionysia bryoides, Saxifraga florulenta* and *Myosotis pulvinaris.* The class for plants raised from seed attracted six entries and prizes went to *Paraquilegia grandiflora, Dionysia diapensifolia* and *Lewisia tweedyi.*

There was keen competition in the cushion class, the top three plants being *Gypsophila aretioides caucasica, Draba polytricha* and *Raoulia hectori* x *Leucogenes grandiceps.*

The best three Androsaces were all plants of *A. imbricata,* which emphasises its popularity for the Alpine House.

Reference has been made to the age of the Forrest Medal plant, *Draba mollissima.* Allowing for its life in the wild, the first prize Cyclamen, *C. persicum,* which had been collected in the Island of Rhodes in 1962, must surely qualify to be regarded as another veteran, although it still looks in its prime.

A very good plant of *Primula aureata* carried off the honours for Asiatic primulas. *P. aureata* was more often seen at Shows ten or twelve years ago, but it has proved to be dorty and somewhat short-lived and has lost its popularity.

Outstanding in the class for American or European primulas was a wonderful pan of *Primula minima alba,* shown by Mr. J. D. Crosland, Torphins. Blooming much more freely than the type plant, this entry gained a Certificate of Merit and must surely have been a close contender for the coveted Forrest Medal.

Rhododendrons on show included *R. ludlowii, R. imperator, R. pemakoense, R. cephalanthum, R.* 'Curlew' and *R.* 'Songbird'.

Tulipa linifolia, T. urumiensis and *T. cretica* took the prizes in their class.

A huge plant of *Lithospermum oleifolium* in perfect condition won first place and a Certificate of Merit for Mr. J. D. Youngson, Perth,

in a large entry for the Dwarf Shrubs class. This is another plant which I regret to say is being threatened by the owner with premature retirement; like the *Draba mollissima* it is a potential disc slipper. Another excellent dwarf shrub was *Polygala chamaebuxus purpurea.*

The Dwarf Conifer classes, by the bulkiness of the plants, always provide a problem for the unfortunate Show officials responsible for the final arrangements of the tables. This year was no exception, but the final result was worth the work involved with *Cryptomeria japonica* 'Knaptonensis', *Chamaecyparis pisifera plumosa compressa* and *C. pisifera plumosa argentea* being prominent.

Out of the eleven entries in the Liliaceae class, seven were fritillarias, but the judges' first preference was the dainty treasure, *Trillium rivale.*

In the pleione class a large and well filled pan of *P. forrestii* exhibited by Mr. J. D. Crosland was quite outstanding and was awarded a Certificate of Merit.

Despite competition from a rare *Dionysia viscidula* and a very large pan of *Soldanella montana* in full flower, Mr. M. Stone's smaller pan of the exquisite *Soldanella pusilla* took the honours in this class to Fort Augustus.

I never thought to see a Lesser Celandine exhibited at our Shows, but it must be conceded that *Ranunculus ficaria flore plena* has its attractions. It is to be hoped that it spreads less freely than its single relative.

The last class in Section I is for a container of various living specimens of rock plants, arranged for effect. Two skilfully arranged entries appeared and it was Mr. and Mrs. H. Taylor's little trough which was judged best.

There was a normal number of entries in Section II, open to members who have not yet won a medal or trophy. The Bronze Medal for the most points in this Section was won, narrowly, by Mr. G. Roslyn Shirras, Inverness. Also from Inverness came Junior member Alasdair Sutherland with some fine plants, including the little gem, *Primula scotica,* to carry off four prizes.

We congratulate Mrs. Jean Wylie from Dunblane, who in her first year of showing came to Perth and won prizes in Sections I, II and III.

Our thanks are due again to Mr. J. R. Aitken, Orchardbank Nursery, Perth, for his artistically arranged Trade Stand, to Mr. Lawrence Greenwood for his exhibit of Flower Paintings, and this year to the pupils of Primary Class 7 from Caledonian Road School, Perth, who under the instruction of their teacher, Miss Fothergill (our

Hon. Show Secretary) produced such a large and colourful selection of miniature gardens, Show Posters and illustrated wall panels. All received Awards in their own sphere from the Show Judges—Mr. A. Evans, Mr. R. S. Masterton and Mr. J. R. Aitken.

We are grateful also to Mr. R. J. Mitchell for the display of interesting plants from the University Botanic Garden, St. Andrews.

The success of the Show reflects great credit on Miss Fothergill and her helpers, and a special "thank you" is due to the ladies who worked so hard before and during the Show, baking, and preparing and serving the delightful teas, which visitors appreciate so much.

J. B. DUFF

ABERDEEN—Saturday 1st May 1976

SHOW Secretaries, Committee and willing helpers were amply rewarded for their sustained efforts by a most successful Show, which attracted a record number of entrants and entries, to both Sections I and II of the Schedule. Also, particularly gratifying in these uncertain days of rising costs, the public response was such that over four hundred paid to see the Show, ensuring that the Show accounts will more than balance. While it is not the purpose to make a profit, it is necessary that the Show be self-supporting and this happy result was achieved.

Not only the number of plants on show, but also their quality and presentation ranked with the best we have seen in recent years. High standards are the rule in Section I, where competition among the more experienced growers in most classes was very keen, but Section II also displayed a range of well-grown plants, reflecting much credit upon the exhibitors.

Pride of place for the most meritorious plant in the Show was awarded to *Androsace vandellii*, formerly known as *Androsace imbricata*, exhibited by the well-known expert and regular winner of the premier award—Mr. H. Esslemont. This plant, about nine inches in diameter and almost completely covered in its stemless white flowers, was of a standard long associated with this leading exhibitor of rare alpine plants. Other plants in Mr. Esslemont's entry in the Six Pans Class were: the white form of *Glaucidium palmatum*, *Rhododendron* 'Phalarope', *Shortia soldanelloides*, *Sarcocapnos crassifolia* and *Cassiope* 'Muirhead'. Mr. Crosland's entry took first place in this class with *Trillium rivale*, the smallest of the trilliums, *Ophrys speculum*, the mirror orchid, *Hormatophyllum reverchonii*, *Arum creticum*, *Cyclamen persicum*

and the (as yet rare) *Pleione forrestii*. Mr. McKelvie's well balanced entry in this class included *Lewisia cotyledon album*, *Cassiope* 'Kathleen Dryden', *Hutchinsia auerswaldii*, *Arcterica nana*, *Androsace cylindrica* and *Silene acaulis alba*. The same three competitors took the honours in the Three Pan Class Different Genera, respectively Mr. Esslemont showing *Androsace* x *hirtella*, *Cyclamen repandum* and *Fritillaria acmopetala*, Mr. Crosland with *Chiloglottis gunnii*, *Primula reinii* and *Epigaea asiatica*, closely followed by Mr. McKelvie's *Primula forrestii*, a *Rhododendron calostrotum* hybrid and *Lewisia cotyledon* of a good pink form.

For the second year running Mr. McKelvie far outpointed his nearest rival to win the Walker of Portlethen Trophy for the highest number of points in Section I. Notable among his plants were *Primula frondosa*, grown from seed, *Doronicum cordatum*, *Cassiope* 'Badenoch', *Rhododendron* 'Carmen', a neat well-flowered *Cyathodes colensoi* from New Zealand, and an outstanding *Cortusa matthioli*.

Scottish native plants were suitably represented by *Primula scotica*, *Salix reticulata* and *Primula vulgaris* shown respectively by Mr. Esslemont, Dr. D. G. Hardy and Miss Alison Hardy.

The standard and rarity of plants grown from seed greatly exceeds that of former years; a fact well illustrated by entries in the Two Pans Class. Mrs. S. Maule showed a brilliant dwarf form of *Ourisia coccinea* from Chile, seed obtained via the Seed Exchange, and *Paraquilegia grandiflora*, seed collected by the Wye College Expedition to Nepal. Mr. Esslemont's entry, taking second place, consisted of *Raoulia eximea*, the rare "vegetable sheep" from New Zealand and, another of his specialities, *Androsace vandellii*, (syn. *imbricata*) from the European Alps. Mr. J. N. Aitken's skill as propagator was clearly demonstrated by specimens of *Lewisia tweedyi* and *Draba rigida*.

The Rare, New and Difficult were represented by *Haastia pulvinaris*, *Dionysia diapensifolia* and *Primula reinii*, and the class for Cushion Plants contained a similar category of plants, indicating many years of patient, skilled cultivation, namely *Raoulia eximea*, *Haastia pulvinaris* and *Petrophytum hendersonii*. Outstanding in Two Pans Ericaceae were *Phyllothamnus erectus* and *Cassiope mertensiana gracilis* shown by Mr. J. N. Aitken. *Pleione pogonioides* and *Aceras anthropophorum*, two alpine house plants, illustrated terrestrial orchids of interest to the specialist plantsman.

The plantswoman's skill was again apparent in the Certificate of Merit attaching to a very fine *Primula aureata*—the true plant, consisting of several rosettes, well-flowered, shown by Mrs. Maule; this

plant closely challenged by an excellent well-flowered *Primula gracilipes* shown by another lady enthusiast, Mrs. H. Salzen, Aberdeen.

Mrs. H. Blair took second place to Mrs. S. Simpson showing small but well-grown plants of *Androsace* x *cylindrica*. Dr. G. A. Garton's *Gentiana acaulis* took the lead over the same species shown by Mr. McKelvie and Mr. Aitken, a genus not generally well represented at Shows. Good specimens of Sedums and Sempervivums were tabled by Mrs. Blair, Mrs. Pittendreigh, Mr. G. Sinclair and Miss A. Hardy. A dwarf, tight, well-budded shrubby Potentilla was an excellent example of outdoor cultivation by Miss K. O. Kelly, as was the bloodroot, *Sanguinaria canadensis* by Dr. Hardy.

The much improved standard of exhibits in Section II reflected credit upon the newer members participating, several for the first time.

Mrs. D. Craig gained most points in the Section, displaying a well-flowered *Rhododendron* 'Blue Tit', *Daphne retusa*, a clean *Chamaecyparis* species, a pink-flowered Saxifrage of the mossy section, and a neat Sedum. Plants shown by Mr. W. D. Holmes of Banchory were notable, including *Gentiana verna*, *Draba aizoides*, *Pulsatilla vernalis* and *Arnebia echioides*, popularly known as the Prophet Flower, a yellow-flowered member of the Boraginaceae. Mrs. Salzen's *Primula denticulata rosea*, *Primula rosea*, *Primula allionii* 'Apple Blossom' and *Tulipa tarda*, all worthily claimed first prizes and, similarly, Professor F. W. Robertson's well-flowered *Douglasia vitaliana* with *Androsace carnea halleri*. Three first places went to Miss J. P. Sinclair's *Primula marginata*, *Lewisia tweedyi* and *Sempervivum arachnoideum*. A neat and well-balanced miniature garden submitted by Miss Jean Simpson attracted attention.

Artistry using cut flowers from alpine and rock garden plants, and flowering shrubs, made its own special appeal, presented by Dr. Dorothy Younie, Miss A. Hardy, Miss M. Taylor, Mrs. M. Harper and Miss Arklie.

In the Junior Section, three youthful members held the stage in each of the classes. First prize for Two Plants, *Primula vulgaris* and *Aubrieta* passing to Miss Ruth Sturgeon and, in the Single Plant Class, Miss A. Hardy's good colour form of *Pulsatilla vulgaris* gained first.

Our professional gardening friends again gave invaluable supporting displays. The range of plants representing many different genera displayed by the Cruickshank Botanic Garden of Aberdeen University fully reflected the high standards we have learned to expect, thanks to the efforts of Mr. F. G. Sutherland. By courtesy of Aberdeen's Department of Leisure and Recreation—Parks Department, a striking table

garden of well-grown specimens from the new alpine house in Victoria Park, Aberdeen, created an impact, attracting much interest and comment from both the novice and the experienced rock gardener. Thanks to the interest and good offices of the Curator of St. Andrews University Botanic Garden, Mr. R. J. Mitchell, we were privileged to have an instructive display of flowering plants from Primulaceae and Orchidaceae.

These educational displays bring an authenticity to the Show, contributing knowledge of plants and of cultivation to members and to a wider audience. We are glad to record our appreciation of the artistry and expertise provided by these institutions.

Messrs. Jack Drake of Aviemore and Mrs. McMurtrie of Balbithan, Aberdeenshire, attracted many inquiries and a brisk demand for plants, at their colourful Trade stands, and it is gratifying to report the recruitment of twelve new members to the Club.

At the expense of being on a tight schedule for judging, the opening of the Show at 10.30 a.m. was more than justified by attendance, and special thanks are due to the judges—our President, Mr. A. Evans, and Mrs. S. Maule from Edinburgh, and our own local, Mr. F. G. Sutherland, for their co-operation to achieve this end.

After a lapse of some years, the provision of a tea service on the stage, efficiently managed by Mrs. McKelvie and her willing helpers, proved a most welcome complement—at times the ladies were hard put to cope with the numbers.

It is pleasant to reflect upon a successful issue, and the Committee express their warm thanks to the exhibitors who responded so well to the appeal for support, to the judges for their careful deliberations, and to all who by their service in different ways ensured the success of the occasion.

J. D. CROSLAND

GLASGOW

AS INTENDING competitors for the Glasgow Show watched plants they had ear-marked for exhibition bloom and fade in the growth-promoting weather of the weeks prior to the Show, they and the Show Secretaries wondered if there would be anything left to fill the benches. A large number of changes and withdrawals were intimated by exhibitors, but the final effect on 15th May was one of colour and excellence.

While there were some sparsely covered benches in Section II, in

Section I space was at a premium. Enthusiasts revelled in this abundance as they admired such plants as *Calceolaria darwinii, Phlox triovulata, Viola cazorlensis, Castilleja miniata, Oxytropis pyrenaica* and *Silene hookeri,* which were in Mr. and Mrs. Henry Taylor's entry in the six pan class for which they were awarded the Dr. Wm. C. Buchanan Memorial Rose Bowl.

Mr. Ian C. Donald, Old Kilpatrick, won the Archibald Challenge Rose Bowl with *Verbascum dumulosum, Kalmiopsis leachiana* 'M. le Piniec' and *Daphne retusa.*

In the class for plants rare, new or difficult in cultivation, Mr. J. D. Crosland showed a splendid plant of *Cassiope wardii* (its perfect condition on leaving Aberdeen slightly affected by the journey), the curious terrestrial orchid *Chiloglottis gunnii* and *Phacelia dalesiana.* These three fine plants gained for Mr. Crosland the Wm. C. Buchanan Challenge Cup.

That 1976 is a good year for Rhododendrons was demonstrated by the number of entries in the class for three dwarf rhododendrons. Mr. Ian C. Donald showed *R.* 'Chikor', *R. haematodes* and *R. trichostomum ledoides* and was awarded the Edward Darling Memorial Salver.

The Crawford Silver Challenge Cup, awarded to the competitor gaining the most points in Section I, was won by Mr. and Mrs. Henry Taylor, Invergowrie; among their many prize-winning plants were *Ranunculus parnassifolius, Myosotis eximea, Sedum pilosum* and, in the class for native Scottish plants, *Dryas octopetala* and *Oxytropis halleri.*

Who has won the Forrest Medal? This is one of the first questions asked as judging ends. Many of those who had been at the setting-up of the Show were gratified to find that the judges' decision matched theirs, by the award of the Medal to Mr. Harold Esslemont for his splendid *Daphne petraea grandiflora.*

Other outstanding plants in Section I were Mrs. Betty Ivey's *Gypsophila arietioides caucasica* and *Androsace imbricata,* Mrs. Joan Stead's *Anemone obtusiloba patula* and *Sisyrinchium filifolium,* while Mrs. Sheila Maule's *Hyacinthus fastigiatus, Fritillaria lusitanica* and *Fritillaria* sp. made a very fine three pan entry.

A good plant of *Lewisia rediviva* grown from seed by Mr. W. L. Morton attracted attention, as did Mr. Angus Small's outstanding plant of *Schlumbergera gaertneri.*

Mr. Malcolm Adair was a notable prize-winner with a wide range of extremely well-grown plants.

Dr. D. M. Stead again excelled in the Tulipa class, as did Mr. Cros-

land in the two pan orchid class with *Pleione limprichtii* and *Orchis purpurea.*

The Bronze Medal and the Wilson Trophy for the most points in Section II were won by Mr. and Mrs. R. J. Bezzant, Bearsden. Their plants included several well-grown conifers, *Helichrysum plumeum, Centaurea incana rosea, Azalea* x 'Hatsugiri', *Menziesia ciliicalyx purpurea.*

Much interest was shown in Mrs. E. Duff's colourful arrangement of cut flowers which constrasted so effectively with Mrs. Neil Rutherford's more delicately coloured blue and white arrangement in the same class.

A focal point in the Main Hall was the magnificent display of shrubs and rhododendrons from the Gardens of Brodick Castle exhibited by Mr. John S. Basford for the National Trust for Scotland, a worthy winner of a Large Gold Medal.

Flower paintings by Miss Daisy Anderson and by Mr. Lawrence Greenwood drew appreciative comments and added much to the interest of the Show. Both artists were awarded Gold Medals.

A Gold Medal was also awarded to Messrs. J. R. Ponton for their Built-up Rock Garden. Their stand attracted the attention of Club members and visitors eager to acquire some of the large selection of plants on sale.

If some exhibitors had had to withdraw entries from Sections I and II, the rhododendron specialists had no such difficulty. Instead the problem became one of insufficient space in some classes, but with a little readjustment all were accommodated, so providing the usual mass of colour in the Rear Gallery.

Sir G. W. Pennington Ramsden of Muncaster Castle, Ravenglass, exhibited blooms of first class quality, gaining for him the Urie Trophy and the Rhododendron Challenge Trophy.

The Sir John Stirling Maxwell Trophy for the best individual truss or spray of a species was won by Mrs. Neil Rutherford, Rosneath, while the Prize for the Best Hybrid was awarded to Sir G. W. Pennington Ramsden for *R.* 'Crest' (Hawk grex).

It may have seemed that there were many enquiries being made at the Show Secretaries' table, but in fact visitors were stopping to admire Miss Margaret Nicolson's miniature rock garden which, over the years, has become a much appreciated feature of the Show.

The facilities afforded by the tea-room were also much enjoyed.

The Show Secretaries gratefully record their appreciation for all

the help given to them and for the support of the judges and exhibitors.

M. G. HOLGATE
M. THOMSON

DUNFERMLINE

THE CLUB SHOW in Dunfermline was held on 22nd May in the Nethertown Institute, due to changed conditions, instead of in the Music Pavilion in Pittencrieff Park, where it has been for so many years. Those who have to cope with the organising of the Show would undoubtedly be grateful that the Institute was available, even though one missed the very excellent light of the Music Pavilion and, the hall being much smaller, there was no room for the school-children's miniature gardens and flower painting competitions which were always so popular in previous Shows.

However, plants are the chief reason for our Shows and in the Institute they made a colourful array. No matter how we may complain about the vagaries of the season, good, indeed near perfect plants always seem to appear on the show tables, even though they may not be so plentiful sometimes as others, and new names appear on the cards—another excellent sign.

In Class 1, for 3 pans rock plants of different genera, Doctors J. and C. Gosden won the Mrs. W. B. Robertson Challenge Cup with excellent plants of *Campanula aucheri*, *Rhododendron kiusianum* and *Primula calderiana*, and Mrs. Ivey came second with excellent plants of *Lewisia* 'Pinkie', *Dianthus freynii* and *Verbascum* 'Waithman', while Miss Milburn was third with *Phyllodoce aleutica*, *Phlox douglasii* and *Aquilegia alpina*. Mrs. Ivey had good plants of Lewisia in several classes, and many good plants of *Campanula aucheri* were on show—Mrs. J. L. King being first in Class 13 with a fine specimen.

In Class 15 (1 dwarf Rhododendron) Drs. J. and C. Gosden were first with an outstanding *Rhododendron yakusimanum*, which later in the Show also won the George Forrest Medal.

Few of us who saw this magnificent dwarf rhododendron, introduced from Japan little more than 50 years ago, will easily forget it. A very well-flowered specimen of *Penstemon roezlii* was a most worthy winner in Class 21.

The Carnegie Dunfermline Trust Trophy for most points in Section I was won by Mrs. E. Ivey.

There were more entries than usual in Section II this year, the

Bronze Medal for most points being awarded to Mrs. J. Muir of Limekilns.

The 3 pan class in Section IV (Class 41) was won by Mr. D. C. Williamson with an excellent *Celmisia, Hutchinsia alpina* and *Phlox douglasii* var. As is usual at Dunfermline, the Sempervivum and Sedum classes, 48, 49 and 50, were excellently represented and competition was really keen. Compared with past Shows the dwarf conifer classes were rather disappointing, and in Class 60 the most outstanding specimen unfortunately lost points owing to a lack of dressing. The Institute of Quarrying Quaich was awarded to Mr. and Mrs. J. E. Campion and Mr. and Mrs. D. G. Williamson, who tied with equal points.

Congratulations and thanks are due by all to Mr. and Mrs. Campion and their team of willing helpers for the work put in to provide a most attractive and interesting Show under conditions that must have imposed problems.

J. L. MOWAT

In Barguzin Mountains

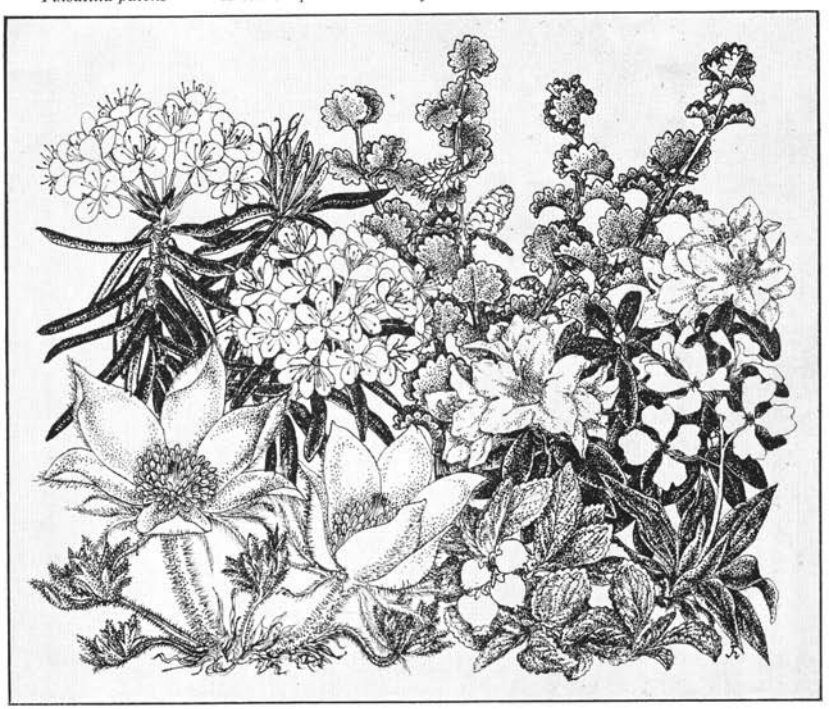
by JOSEF HALDA, Prague, with drawings by his wife, JARMILA

IT IS early in the morning, or better to say just after midnight of 25th June, when the three of us—my friend Vova, his wife Lena and me—set out for our journey to the mountains. With full rucksacks on we are leaving the village of Kulinovo hidden in the bay of Saint Nose peninsula at the southern shore of Baikal lake. We can hear some fishermen netting on the other side by Olchon island, but here is peace disturbed occasionally by dogs barking. After three hours' walk it is dawn and I am amazed at the sight of the vast ridge of the Barguzin Mountains getting red and burning in the morning red sky. Vova is engaged in a lively discussion with his wife; this phenomenon is for him only an everyday illumination of his morning rounds. We ascend the first ridge by sparse, park-like forest of *Abies sibirica*, with huge cone-shaped crowns and silver undersides of its needle-leaves, *Picea obovata* of candle-like habit and dull green colour, shrubby *Larix sibirica* and irregularly branched *Pinus sibirica* that provide the home for numbers of striped squirrels—"burunduks".

Moist places are inhabited by mixed communities of *Abies sibirica*

Fig. 14
Pinus pumila *Rhododendron aureum*
Cypripedium guttatum *Linnaea borealis*

Fig. 15
Ledum palustre *Betula nana* *Rhododendron parviflorum*
Pulsatilla patens *Arctous alpina* *Parrya nudicaulis*



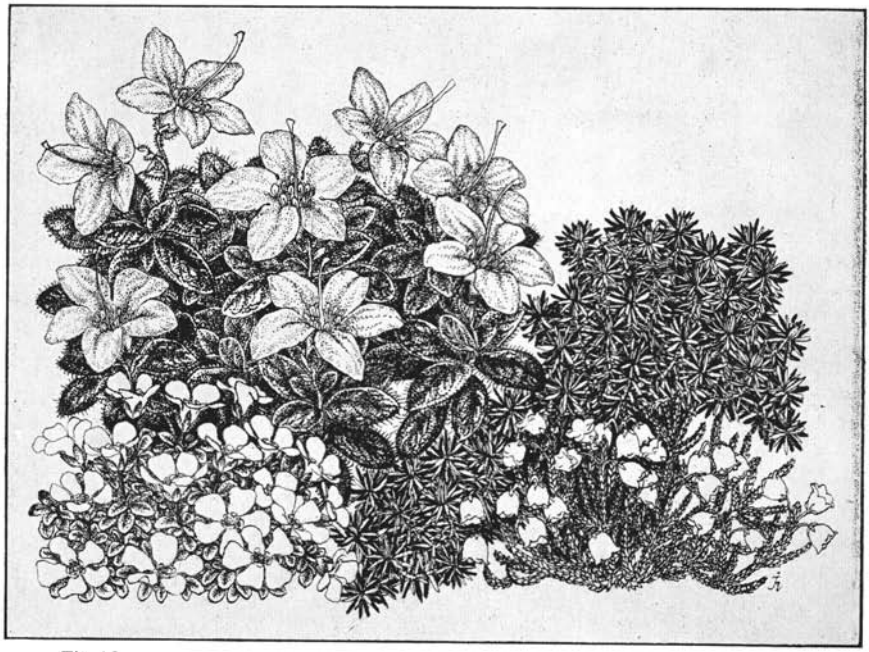
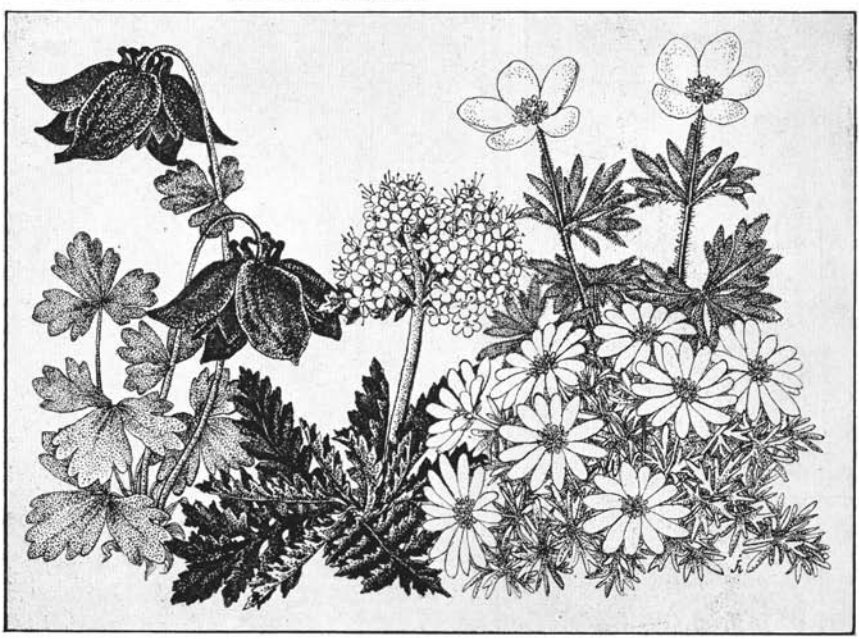


Fig. 16
Rhododendron redowskianum *Empetrum subholarcticum*
Diapensia obovata *Cassiope ericoides*

Fig. 17
Rentiana algida *Pedicularis oederi* *Lloydia serotina*
Ganunculus sulphureus *Potentilla gelida*

Fig. 18
Trollius ledebourii *Rhodiola quadrifida*
Andromeda polifolia *Dryas punctata* *Dendranthemum zawadskii*

Fig. 19
Aquilegia glandulosa *Anemone sibirica*
Patrinia sibirica *Callianthemum sajanense*



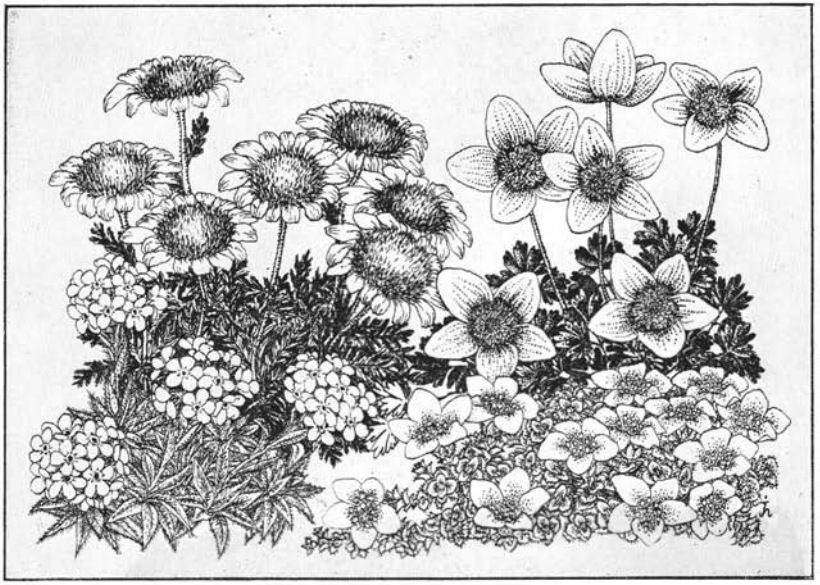
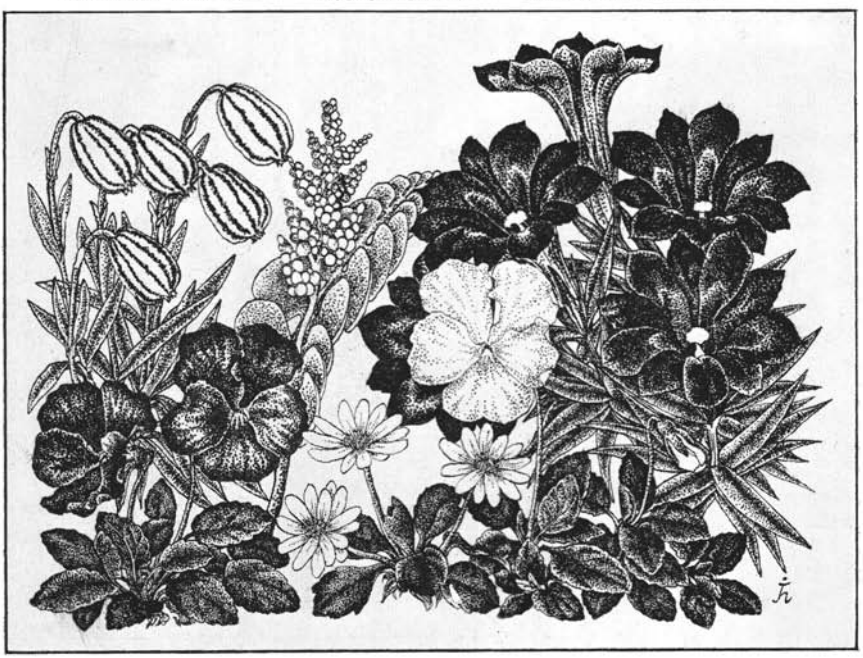


Fig. 20
Pyrethrum pulchellum *Paraquilegia microphylla*
Androsace villosa *Saxifraga oppositifolia*

Fig. 21
Melandrium apetalum *Botrychium lunaria* *Gentiana grandiflora*
Viola altaica violet form *Oxygraphis glacialis* *Viola altaica* yellow form



and arborous *Betula lanata* (syn. *B. ermannii* var. *lanata*) with undergrowth of grasses. We are crossing the ridge to its southern side and note a sudden change of character of growth; no more firs and spruces, here, there and everywhere only larch—*Larix gmelinii* with colonies of "kedrovovo stlanika"—*Pinus pumila* (fig. 14) in clearings. Under the conditions its height is only 1-1.5 m and evidently in its optimum stage, its branch tips literally enveloped by tiny cones. The higher the altitude the dwarfer it becomes, adpressed to the ground. We have reached 1200 m in height and the forest is gradually ending—the zone of so-called larch then starts. Slim *Larix gmelinii* of limited height occasionally diversified by shrubby islands of low *Betula divaricata* (syn. *B. middendorfii*). Down below roars the mighty Barguzin river taking its waters towards Baikal.

Sun scorches, it is long after midday and we hide in the shade of rocks preparing our meal while soft growth of purple-flowered *Bergenia crassifolia* provides a comfortable bed for us. In contrast with the silence of the larch forest the air here is busy with the buzzing of swarms of bees, fancy butterflies and robust noisy beetles, mingling with the whistles of piping hares and marmots, the songs of birds or the rattling of avalanches of stones dislodged by playing goats and kabars. Nearby a herd of robust Siberian stags graze in company with wood grouse running about them raking the soil. The stoney slope underneath is blazing with large golden-yellow flowers that resemble Adonis or Caucasian meadows with *Pulsatilla aurea.* When descending to have a look I put up a covey of wood grouse taking off with a rumble from under my feet. Large tufts with silky glossy leaves belong to *Pulsatilla patens* (fig. 15)! Only rarely can be found isolated violet-flowered plants of the species. Among the flowers there are ugly-looking, flowerless stalks. When asked for the reason, Vova replies with a broad smile "Eh, tvoj glušak" and points to the wood grouse sitting now on larch trees. Sometimes, in warm days, the grouse cram themselves with flower buds so that it is possible to "shoot" them with a club—they cannot move. And how tasty they are! Vova expresses pleasure. A small herd of kabars runs off, their legs looking like bleeding—so red are they in their lower parts. "We shall go there", Vova says, "there is our supper"—and aims at sparsely growing larches whose undergrowth has a purple flush.

In a while I know why; our trousers are red to the knees and boots with cranberry juice. Last year's berries having been frozen during winter have a divine taste. We are picking them in handfuls, eating

with such a vigour and soon looking like small children who secretly get to a plum jam cake. There are islands of quite rare plants in the thick carpet of cranberries—globose, aromatic, white-flowering shrubs of *Ledum palustre* (fig. 15), tiny, bright green "woods' of *Betula divaricata*, extensive carpets of *Pinus pumila*, releasing clouds of yellow pollen on the slightest touch, large carpets of *Empetrum subholarcticum* (fig. 16) with decorative black berries, mossy carpets of *Cassiope ericoides* with wonderful white bells, and *Vaccinium myrtillus* and *V. uliginosum* combined with tiny shrubs of *Betula nana* ssp. *exilis*. Vast areas are occupied by silver carpets of *Cladonia alpestris*, so thick that there cannot succeed any competitive plant. Ground cover under the larch trees is locally formed by mosses (*Aulacomnium turgidum*, *Rhytidium rugosum*, *Dicranum elongatum*) decorated by dispersed *Rhododendron parviflorum* (fig. 15), often mixed with *Betula nana* ssp. *exilis*. Of the inflorescence of the Rhododendron can be made delicious, sweet-scented tea. From the other woody plants one can see here and there among tiny rosy-flowered carpets of *Linnaea borealis* (fig. 14) thin-branched *Salix krylovii* with lanceolate leaves. We proceed still up the river stream.

The forest ends at 1600 m and we are entering into the characteristic zone of sub-alpine shrubby places. Vast carpets of *Pinus pumila* are typical here and you are tripping over creeping trunks up to 30 cm thick. I am not able to estimate their age but it must be over 600 years. Another species typical of this area is *Rhododendron aureum* (fig. 14), creating adpressed shrubs, thick carpets hardly reaching 30 cm in height packed with light yellow flowers 6 cm in diameter. Hundreds of hectares of flowering Rhododendrons with characteristic green spots of *Pinus pumila* or small forests of *Betula divaricata* lead us into a world of fairy tales. Those greens! Dark green small forests of *Alnus fruticosa*, silvery, adpressed carpets of *Juniperus sibirica*, grey-green shrubby places of *Betula krylovii*, shiny green shrublets of *Ribes fragrans* or *Sorbus sibirica*, and all this is with a background of colourful grasses and lichens.

We find bogs with various species of genus Sphagnum and Hypnum combined with clusters of *Luzula parviflora* ssp. *melanocarpa* with decorative black-brown ears. In shiny pools between them are plants of *Swertia obtusa*, 20 cm in height, with yellowish or metallic blue, starry flowers. Their edges are laced by shrublets of *Salix fuscescens* with miniature catkins on slim branches. Boggy meadows are occupied by *Eriophorum humile* and *Scirpus maximowiczii* (syn. *E. japonicum*).

There are more flowering plants, most striking of which are light yellow *Gentiana algida* (fig. 17), hairy *Eritrichium villosum* with heads of shiny blue flowers with yellow eye, pale flowering *Pinguicula algida* and *P. villosa*; vast, low carpets of *Andromeda polifolia* var. *pusilla* (fig. 18) with glaucous leaves and pale rose bells as if they were made of sugar, yellow-green flowering *Tofieldia coccinea* (syn. *T. nutans*), creamy, rounded flowers of *Claytonia joanneana* or violet *Pedicularis lapponica*. Prostrate shrublets of *Rhododendron parviflorum* (fig. 15) bear plenty of big, pale lilac flowers. Golden-yellow *Caltha membranacea* with big umbrella-like leaves occupies big areas.

Next day we reached the first bigger lakes hidden in meadows. Also the lakes have a flora of their own. Their shores are occupied by monocultures of *Eriophorum scheuchzeri*, while *Carex saxatilis* grows here with its roots in water and the water surface brings leaves of *Sparganium hyperboreum*, which is a typical plant of this area. We proceed up against the stream of a brook striking *Ribes fragrans* up to 1.5 m high growing in wet stony places together with red-flowering, carpet-like *Rubus arcticus*, *Linnaea borealis* and many Saxifraga species. Free areas are covered by decorative rose-flowering *Chamaenerium latifolium*, releasing plenty of fluffy seed. Brook banks are occupied by a few species of willows, including predominant shrubby *S. vestita* and *S. alexensis*, but we can find isolated groups of tinier *S. myrsinites* and *S. divaricata*.

We find many interesting species in their shade, for example purple *Cortusa sibirica*, pale *Geranium albiflorum*, rose *Epilobium annagalidifolium*, *Luzula multiflora* ssp. *sibirica*, vast areas of *Caltha membranacea*, purple *Saussurea latifolia*, rosy clouds of *Thalictrum minus*, carpets of *Linnaea borealis*, a few Saxifraga species such as *S. punctata*, *S. hyperborea*, *S. cernua* or *S. melaleuca* which we find higher up in wet snow basins. Yellow *Chrysosplenium alternifolium* covers big plains, together with *Cardamine bellidifolia*, creamy *Macropodium nivale*, yellow-flowering *Taraxacum glabrum* or pale rose *Valeriana turczaninovii*. Yellow *Doronicum altaicum* with big flowers up to 10 cm in diameter is rare here. *Salix lanata* predominates between thinner vegetation and is decorated by golden-yellow catkins on shrubs 1 m in height. Between them we can see violet flowering *Aquilegia sibirica*, carpets of *Lycopodium annotinum* ssp. *pungens*, decorative *Athyrium distentifolium*, large carpets of white-flowering *Cerastium cerastoides*, yellow *Taraxacum pseudonivale*, big white flowers of *Stellaria umbellata*, pale yellow *Astragalus frigidus* or violet *Oxytropis altaica*.

Yellow *Ranunculus sulphureus* (fig. 17) lace the brook at water level

in close neighbourhood of rare white-flowering *Eutrema edwardsii* (Brassicaceae). *Selaginella selaginoides*, well-known from Europe, creates adpressed yellow-green, coppery flushed groups. Tiny, wiry *Equisetum scirpoides* inhabits alluvial sands together with white-flowering buns of *Minuartia stricta*. Banks are covered with *Eriophorum scheuchzerii* at some places, often found with *Trichophorum alpinum*. More nutritious clayish soils are inhabited by *Poa alpina* and alluvial pebbles providing poor diet suit carpets of *Carex brunnescens*. We pass through places overgrown by sub-alpine willows and go over mountain meadows often closely neighbouring with not yet melted snow fields. We can see plants in almost all stages of their development —from withered off-flowered to those setting seed stage (for example Drabas) to plants just starting their growth and penetrating the margins of snow. Tundra-like forms of *Betula nana* (fig. 15) prevail in abysses. There are ever-frozen soils and therefore the vegetation of the dwarf birches is very poor; among them are sporadic small grass or carpets of lichen. We are camping on a thick layer of a lichen and roast "taymens"—local salmon which were caught by Lena. They are tasty and our meal is shared by a few audacious piping hares.

There was frost at night about —6° C and we can't make ourselves get out of our sleeping sacks in the morning, but the sun gets warm at six and we watch colourful icicles changing into shiny flowers. We are at about 2000 m and typical low alpine vegetation meets us. Plants shine from thin carpets of low grasses containing mainly *Trisetum altaicum*, *Poa ivanoviae*, *P. paucispicata* (syn. *P. bargusinensis*), *Carex perfusca* and *C. podocarpa* (syn. *P. behringensis*) and show plenty of colours and shapes. There are groups of orange balls of *Trollius ledebourii* (fig. 18), rose *Ligusticum mutellinoides* ssp. *alpinum*, yellow carpets of *Viola biflora*, white-flowering carpets of *Saxifraga flagellaris* ssp. *setigera*, green-yellow flowering adpressed carpets of *Chrysosplenium baicalense*.

Pale blue, big flowers of *Aquilegia glandulosa* (fig. 19) cover perhaps tens of hectares, together with white flowers of *Anemone sibirica* (fig. 19), yellow, slightly scented *Patrinia sibirica*, vast areas of *Rhodiola rosea*, tiny whitish *Thalictrum alpinum*, a small white carrot *Anglica saxatilis*, shiny yellow *Potentilla gelida* (fig. 17), white-flowering buns of *Callianthemum sajanense* (fig. 19), *Polygonum viviparum*, bluish carpets of *Lycopodium alpinum*. In places monocultures of *Veratrum lobelianum*, small clusters of big flowering, pale blue *Campanula dasyantha*, violet shrublets of *Dracocephalum grandiflorum*, groups of

yellowish *Swertia obtusa*, blue-flowering buns of *Veronica densiflora*, pale rose *Erigeron eriocalyx* together with lilac *E. flaccidus* (syn. *Aster flaccidus*), *Astragalus alpinus*, purple *Hedysarum arcticum* and wonderful carpets of rose-flowering *Pyrethrum pulchellum* (fig. 20).

Aristocrats gathered in wet snow basins—big flowering *Viola altaica* (syn. *V. monochroa*) in yellow and velvet violet forms, *Gentiana grandiflora* (fig. 21) (syn *G. altaica*) with gentian-blue flowers the size of our European *G. clusii*, *G. uniflora* with tiny pale blue quivers, yellow *Pedicularis oederi* (fig. 17) and violet *P. sudetica*, orange *Crepis dasyantha*, lilac *Oxytropis alpicola*, yellow *Oxygraphis glacialis* (fig. 21), "golden fern"—*Botrychium lunaria* (fig. 21), green and white striped swelled calyces of *Gastrolychnis apetala* (syn. *Melandrium apetalum* (fig. 21)), vast carpets of *Sibbaldia procumbens* together with rusty small ears of *Carex tripartita*, pale violet *Parrya nudicaulis* (fig. 15) and white-flowering *Saxifraga melaleuca*.

We found *Eritrichium villosum* on boggy places as tufted thin plants, but here on gravelly meadows it is compact buns, often about half a metre in diameter with hundreds of flowering heads. They flower blue, but sometimes in white and even rose colours. We rejoice at them, running about as little children. Among them in full flower are a great number of decorative yellow-flowering *Taraxacum mujense*, *Polygonum bistorta* ssp. *ellipticum* and *Paris quadrifolia*—in full sun in gravel!

Yellow-flowering *Senecio asiaticus* is also a plant which would suit our rock gardens. Drier places contain monocultures of *Kobresia bipartita*. Screes and places with a thin layer of soil are occupied by *Pinus pumila*, undergrown by *Calamagrostis lapponica* and *Carex iljinii* together with *Rhododendron aureum* and wetter spots provide homes for *Salix jeniseensis* alternated by *S. glauca* at the wettest places. Each spot between the pines is occupied by arrays of spotted dwarfs of *Cypripedium guttatum* (fig. 14), swinging in a breeze to and fro together with purple turbans of *Lilium pilosiusculum* and yellowish clusters of *Tofieldia cernua*.

Ephedra monosperma, one of the tiniest dwarfs of this genus, is still full of red berries which look like red currants sprinkled on the ground. Sometimes we can see fields of deposited soils which provide homes for willows. I estimate at least ten species growing here. Carpets of *Salix reticulata* can be recognized at a distance by its shiny dark green leaves —no other species here equals it. Also *S. turczaninovii* (syn. *S. liliputa*) reminds us of our own *S. retusa*—its carpets stabilise moving wet screes. *S. krylovii* (syn. *S. baicalensis*) is most frequent from shrubby species

creating vast tiny forests around the springs. At other places we see different gnarled small rods of *S. nasarovii.* Tiny shrubs of *S. saxatilis* are specialising on ever-frozen soils, while *S. hastata* takes a liking to protected basins of brooks. We find an isolated colony of *Saxifraga merckii* (fig. 22) at about 2500 m; its creamy flowering buns like bare soil and grow together with neat *Draba subamplexicaulis* with golden-yellow adpressed clusters of *Ranunculus altaicus.*

We have reached a range where the vegetation is poorer, apart from the species mentioned above. We find here adpressed creeping shrublets *Salix stenophylla* and big buns of white flowering *Minuartia arctica* (fig. 22). We are passing climbing rocks; their less steep slopes are overgrown by omnipresent yellow-flowering *Dasiphora fruticosa.* Despite the changing rocks—granite and limestone—we passed on our way some of the plants which do not seem to specialise on a certain kind of rock. On wet, slopy walls are striking with the purple-rose colour of *Saxifraga oppositifolia* (fig. 20), and pale blue flowers of *Paraquilegia microphylla* (fig. 20). Well-known *Draba fladnizensis* and *D. hirta* colonise most often on margins of crests. We can see white-flowering *Stellaria edwardsii,* carpets of emerald green *Woodsia glabella,* well-known *Asplenium viride,* big groups of *Viola biflora* and rare pale yellow *Novosieversia glacialis* occurring at the highest altitudes resembles our *Sieversia reptans. Saxifraga tenuis* with a veil of whitish flowers likes cold rock chimneys. On the other hand, *Saxifraga nivalis* spreads its shiny rosettes on open rocks when it grows in company with golden-yellow *Potentilla elegans* (fig. 22) and the wonderful creeping willow *Salix berberifolia* ssp. *fimbriata* (fig. 23), whose leaves are deeply toothed and which, with its prickle-like cilia, has no analogy in the genus of Salix. Mossy terraces are occupied by white-flowering *Minuartia macrocarpa.*

Saxifraga algisii in big carpets creates monoculture on rocks together with *Potentilla nivea* and big buns of *Eritrichium villosum.* Pale blue *Mertensia serrulata, Patrinia sibirica* (fig. 19) and *Campanula dasyantha* (fig. 22) occur on wet scree rockeries as well as *Nardosmia saxatilis* (Compositae) with lilac flowers, pale rose *Dendranthemum zawadskii* (fig. 18), *Saxifraga bronchialis* ssp. *spinulosa, S. brachypetala,* decorative pale violet bells *Campanula langsdorfiana,* violet *Hedysarum inundatum* and *Saussurea poljakovii,* rose *Erigeron eriocalyx,* thousands of sprinkled yellow and violet great flowers of *Viola altaica* (fig. 21) and rare decorative dimorphous *Cryptogramma stelleri* growing in wet crevices.

Dry outcrops provide homes for rare endemic *Borodinia baicalensis* (Brassicaceae), creating decorative white-flowering clusters, rose *Rhodiola quadrifida* (fig. 18), yellow-green carpets of *Selaginella sibirica*, omnipresent *Lloydia serotina* (fig. 17), compressed buns of *Torularia humilis* (Brassicaceae) or huge white-flowering clusters of *Gypsophila sambukii*. Brushy clusters of *Festuca altaica* are the commonest of the Family of grasses and grow together with *Poa smirnovii* and *Kobresia bellardii*, having decorative brown ears, *Carex rupestris*, *C. macrogyna* and *C. glacialis* (mainly on limestone). *Luzula unalaschkensis* ssp. *kamtschadalorum* prevails on wet rocks.

Terraces and grassy slopes are covered by carpeting shrubs. Vast carpets of *Empetrum subholarcticum* and *Vaccinium uliginosum* occur most often here and are alternated by big groups of pale lilac *Rhododendron adamsii* (fig. 23).

The screes are worth mentioning. Apart from common European species such as *Oxyria digyna*, *Woodsia ilvensis* or *Dryopteris fragrans* we can find here the wonderful sky-blue *Polemonium pseudopulchellum*, violet *Saussurea congesta* in rosettes, decorative dimorphous *Cryptogramma raddeana*, white-flowering *Cerastium lithospermifolium*, well-known *Erigeron flaccidus* and *Papaver canescens* shining at screes with rose, orange or red flowers here, there and everywhere. Grassy slopes and stony places under scree cones, if not occupied by creeping *Pinus pumila*, host many interesting species too.

In the scattered growth of grasses of which the most characteristic are *Trisetum subalpestre* you can meet with lovely glossy, crouching to the ground rosettes of *Rheum compactum* with thick flower stems, *Botrychium lunaria*, low, rose *Pedicularis amoena*, violet *Saussurea schanginiana*, carpets of *Arctous alpina* (fig. 15), groups of tiny white-flowering shrublets of *Spiraea alpina*, *Gastrolychnis apetala*, white-flowering carpets of *Minuartia biflora*, shiny rosettes of *Polystichum lonchitis*, tiny yellow-flowering *Solidago dahurica* or ever present *Astragalus kaufmannii*, violet *Oxytropis adamsiana*, *Draba nivalis* and *D. lanceolata*, decorative *Silene chamarensis*, silvery *Artemisia lagocephala*, yellow-flowering *Bupleurum triradiatum*, clusters of *Saxifraga algisii*, big carpets of white-flowering *Dryas grandis* or *Thymus serphyllum*, white hairy dwarf carrot *Phlojodicarpus villosus*, *Aster serpentimontanus* like our *A. alpinus*, pale blue *Pulsatilla turczaninovii* or white *Minuartia verna*. Besides, there are plenty of species of rocks and meadows there giving cheerful and gay appearance to their slopes. The greater part of the sub-alpine zone is tundra, which is mostly

stony-lichen with few species of "higher plants" such as *Lycopodium selago* (fig. 23) or the rare orchid *Coeloglossum viride*, *Gentiana algida* and a few species of willows, for example *Salix arctica* ssp. *torulosa*, but grassy tundra is most interesting. Drier places are occupied by *Carex rupestris*, *Poa arctica* or *Hierochloë alpina*, wetter places are occupied by a monoculture of *Carex ensifolia* and *Juncus triglumis*. We can find there many species of meadows and rocks.

We have reached the highest peak of the Barguzin Mountains—Bolshoy Golec (2,840 m)—after 14 days' hiking; there is only a cold, stony desert thinly overgrown by various lichens. Of the place where we stand rise to the West massifs of Chamar-Daban, Upper Angara Mts. to the North and striking snow-covered peaks of the Kodar Mts. which are the only ones in the Bajkal Mts. system covered by glaciers in alpine altitudes, are to the east.

We continue up the Barguzin River through the changing scenery of rocks, meadows and tundra, living by hunting, picking berries, and the rest of our provisions. After 19 days' ascent we reach the source of the Barguzin River. There, apart from other plants, we find *Ranunculus pygmaeus* and the tiny purple *Corydalis pauciflora* on mossy places. Wet barren soils are covered by carpets of *Dryas punctata* (fig. 18) of which are profunding shrubs of *Rhododendron adamsii*, *Salix berberifolia* (fig. 23) and *Cassiope tetragona* (fig. 23). We find shiny crimson-flowering creeping shrublets of *Rhododendron redowskianum* (fig. 16), wonderful tiny plants much like our European *Rhodothamnus chamaecistus*. White-flowering plants are not rare and I am disappointed at the thought that all that beauty cannot be brought home. We find buns of *Diapensia obovata* (fig. 16) with white waxy flowers in the middle of *Cassiope ericoides* (fig. 16) together with lilac-flowering shrublets of *Phyllodoce caerulea* (fig. 23). Plants are flowering all around us, but it is the 20th day of our journey, we have run out of food, and we are delayed anyhow. We must pass the ridge tomorrow to meet Evenks with horses waiting to transport us to the banks of Bajkal. And then we go home.

Beginner's Luck

by JAMES T. AITKEN

IT's great to be ignorant.

I don't mean 'great' like Napoleon or Ramsay Macdonald or the Bay City Rollers, I mean, sort of sublime. In a way, perhaps it's what the clergymen mean by being in a State of Grace.

The point is that, having got the first bit of rock garden built and over the first winter, and the sun having started to shine, it appeared that Spring was with us. No point in a garden, rock or otherwise, without plants. So we had to start with the planting.

The last time we wrote about this garden I explained that, in the beginning, there was nothing, and then made so many qualifications and reservations and exceptions that it was hard to keep in mind that there was really so nearly nothing that it didn't matter.

It was like that with the plants.

We had come from Glasgow, which every Glaswegian knows is the greatest city in the world, to leaven the lump of Edinburgh, which every Glaswegian knows needs every iota of leaven. In Glasgow we had started to gather, albeit modestly; and one or two plants had been stacked in my father-in-law's garden.

Nowadays it is fashionable for the cognoscenti of rock gardening to explain that for the removal they needed two pantechnicons—one for the furniture and the other for their plants, all duly potted, or at least in tomato boxes. (Aberdeen rock gardeners use fish boxes. It is said that the sanitary man once pursued a pantechnicon from Stonehaven to Forfar only to find fish boxes of dwarf rhododendrons). We flitted in no such style.

But there was, for instance, a *Daphne mezereum.* It had come from Hillier's in the first parcel we ever got from them. When we knew we were to move, it moved first. No bother, spade under the roots on both sides, a wee heave, a dunt to knock off the surplus soil and it got its root tied up in a big newspaper for the journey. Back in it went equally unceremoniously, heel all round the neck, to await when its new permanent home would be ready.

So when we had got that initial bit of garden constructed, and as Spring was springing, we went through, dug up the said *Daphne mezereum,* brought it through and planted it where it was meant to

stay. To be honest, we had some qualms about whether we were doing right. It was coming into bloom and the instinct told us you didn't transplant in bloom.

But I have always been of the view that, for an amateur gardener, the proper time to do a job is when you have time to do it. So in went the daphne; and it flowered; and it grew; and it never looked back. As I say, a State of Grace.

Because, soon afterwards, I was told you can't transplant daphnes. Why do you think—I was told—nurserymen grow them in pots? Root disturbance is an absolute anathema. So said this wise and knowledgeable man. But we didn't know, and we had done it.

Then very much later we learned that, in fact, if you are to transplant daphnes, you should transplant them when they are in flower. That is the only time evidently you can do it. I believe it is because after flowering the plant is at its most vigorous and makes new growth sufficient to overcome the disturbance of moving. It seems that brooms are similar. In fact, a lot of plants move only about flowering time. Many primulas move and divide best just after flowering.

What else had we, as it were, in store?

There was a *Silene schafta* to come through—not perhaps a medal-winning plant, but the first plant we ever raised from Rock Garden Club seed and a milestone to us. Foreby, it is a good summer flowering plant. Showy and no trouble. What better?

Then there were primulas, and they took a hammering. They moved alright and I suppose, as I've explained, nothing wrong with the season for moving. The trouble was the dry Edinburgh spring. When you read the books, they all warn you about drainage and winter wet. I know a bloke who was growing rock plants fine and then he started to read books. When he moved house he thought he would do it right. He would rock garden like the text books and the Alpine Garden Society's erudite Quarterly. He dug down three feet or so, put in a foot of clinker, then a layer of turf turned upside down. That layer of turf meant he had to re-lay his drying green. But the turf was within his pocket, whereas old carpeting, which was put forward as the alternative, was not. His neighbours took it that he was on a do-it-yourself job on the drains. All the good it did was to give him exercise. The moisture went through so quick he finished putting in pockets of black polythene to keep moisture in! The fact is that most so-called rock plants are really from alpine meadows and want, not acute drainage, but good garden soil with plenty of humus

and, particularly in Spring, reasonably moist conditions.

The moral is, either don't read books—or at least gardening books —or realise that most of them are written by people who live in the environs of London where they have a hard pan of clay which does constitute a drainage problem. Mind, don't get too despairing if you are on good sticky, gooey clay. Many a primula will grow a treat on such soil. Try the candelabras. The clay retains both moisture and nourishment.

Nobody warned me that in Edinburgh you could have practically no rain between March and June with a drying wind to make things worse. These primulas just withered and died. No water at the roots and always the wind; the wind dehydrating the leaves.

Later you find solutions. Like a hose and sprinkler. Almost more necessary in the East of Scotland garden than a spade. There are other things. The books are right when they talk about keeping the surface of the soil loose. If the soil has a smooth hard surface the roots dry quicker than if you keep a sort of mulch of soil on the surface.

But there is no mulch like a real humus mulch. If you can get your paws on the stuff, put on a dressing of leaf mould. Don't bother forking it in. Just apply it. The worms and the rain together will incorporate it into the soil. But before it gets into the soil, it acts as a sort of insulation on the surface, protecting the soil against too much moisture loss, and also protecting roots against too much cold. I suppose if you were in India's coral strand and applied a mulch of leaf mould it would keep the roots of your plants cool. Here in Edinburgh where, despite all impressions to the contrary, we are south of the Arctic Circle, we have no such problem. But if you are tempted to cancel your membership—wait! In the next issue there may well be a chap from India writing that the secret of growing cassiopes in Bengal is a good mulch of leaf mould.

If you can't get leaf mould, then peat, but a reasonable quantity of peat. And if you apply it in summer or spring I find it stays dry and blows away. Good for the neighbours, but peat is expensive. So apply it in the autumn or early winter. Or just your garden compost. Not the raw green lawn mowings, but the stuff out of the compost heap. The leaf mould and the garden compost increase fertility as well as improving the soil structure. The peat is supposed to have no food value. It just, so the pundits say, improves the mechanical condition of the soil. I must confess I have always wanted to write about the "mechanical condition of the soil" ever since I heard one of these

doctor chaps, who don't know one end of a bandage from another, refer to this. I gather it means that there is no food value but it helps the soil to convey the food it has or gets elsewhere. Sort of like an aperitif. But to a layman like me, however it does it, peat has a beneficial effect even if not an actual fertiliser.

But we grew *Primula rosea* a treat, but just by accident, like the daphne. They had got planted near where some stones were piled up and one landed up beside the primulas. Then some dung fell off a barrow. For the avoidance of doubt, I explain that this dung had been purchased by me from my milkman. It had not fallen off in the sense of having been knocked off! Mind, these stones put me in mind of another tip about moisture. Pardon me if I harp on about moisture, but until I learned some ways of combating it I suffered from drought like a chap from Cambuslang Spartans matched against Mohammed Ali himself. You can help with moisture as well as anything with a stone beside the plant. Not near, right up against it. As near as you can get without being on top. If you like, one on each side. You don't need a boulder. The size of a cricket ball will do, the flatter the better. In fact, one way to combat these dry suns and drying winds is a one inch (sorry, dirty obsolete term, should be 0.025 m) layer of chuckies on the surface of the soil. (Chuckie is an Innellan or North Berwick geological term for pebbles; but a chuckie is nice and round and doesn't cut your feet when you go paddling as a wee boy. Paddling in its turn means (one) the aquatic sport or recreation of feet immersion in marine brine practiced in Scotland by children and a religious order known as Woman's Guild Outings, or (two) the means of propulsion of the *Waverley*). Going back—you will find a lot of what looks like scree in gardens is in fact good good soil covered with such a layer. The stones also keep clean flowers like gentians liable to be splashed, bashed and muddied by autumn rain. So your stones can mulch and keep flowers from mud stains.

Myself, I have never used a gravel mulch. I have always somehow managed to get humus.

The combination of the moisture from the stones and the moisture and nourishment from the dung mulch was just what *Primula rosea* wanted. We learned that a lot of primulas like a lot of dung.

Also that winter we got seed from the Rock Garden Club. I have long since forgotten what seed, except that there were three seeds of *Daphne retusa.* I had nothing ready, so I bought some seed compost from a garden shop. Again I didn't know. But as most rock plants

are lime-hating, you should ensure that your ready made John Innes composts are lime free. The standard J I composts have chalk added. Your good garden shop will also stock them "without lime". If they don't, tell the owner what I have said and what is implied. But don't say my name, just say something modest like "this expert who writes in the Rock Garden Journal!" If you say my name, he may well know me and I can't now run fast. Also he will tell you that I'm no expert and that's true. But the wholesalers produce it "without lime" and if you don't ask you won't get.

In due course I got two plants of *Daphne retusa* to germinate from my three seeds. And we still have them, and very good small shrubs too. Like the *Daphne mezerum*, they too have been transplanted—in bloom. They have never looked back.

We were lucky too with friends with plants.

Just about the first Rock Garden Club meeting I ever attended was in Miss Cranston's tea room in Glasgow. In the course of the meeting, Eddie Darling—one of the greats of the Club—took the opportunity which had somehow offered to explain that we were a Club; not a Society or an Association or a Union; but a Club. The essence was that a Club was an almost domestic or family coming together. It was intimate. You submerged part of yourself into it. It was that close. That was how the founding fathers of the Club meant it.

So in that atmosphere, in these first Glasgow days, almost at once we found ourselves receiving plants.

Take an instance. From one of these first meetings I went home in the tramcar with an elderly lady, Miss Butchart of Burnside. She was no 'great'. She would never have been regarded—or regarded herself—as other than rank and file. But let her and her like get mention in these pages, for she was of the essence of the Club. We chatted away and parted at her gate and I thought no more of her. But a few days later she appeared with a basket of plants. Not exotics. There was an aubrieta and alyssum and a rooted heather. Plants like that. It was a Club to her, like Eddie Darling said, and she was starting us with what she had and what we needed. You don't swap plants; you give and you get; rarely to or from the same person. It's a Club.

So we got plants. Much from the said Eddie, including any amount of candelabra primulas which were seeding themselves around his greenhouse. They did well with us when we got the hang of satisfying their need for moisture and we still have their progeny. Their seed in

due course went into the Seed List as Cramond Hybrids and such a plant eventually won a prize! Oh Glory!

Plants from many a friend in these days—when we were beginning. We still get them. Often it's easier to remember that it's from Willie, or George, or Bill, or so-and-so than its erudite botanical reference.

That's luck for you!

Campanulas native to the USSR.

by T. V. SHULKINA, D.Sc., Leningrad

THERE is hardly a rock garden in which one would not see some or other campanula species. They have been known in cultivation for many years, but new discoveries can still be made even today.

Campanula L. genus is the richest in the family Campanulaceae Juss.; it numbers over 300 species growing mainly in the temperate zone of Euroasia. They grow in West Europe and the Mediterranean, where about 140 species are found. They also occur in the Caucasus; elsewhere in the other parts of the USSR, for which about 150 species have been noted (Fedorov, 1957; Fedorov and Kovanda, 1975).

Campanulas are characteristic for various habitats; ; they can be found in the woods, meadows, on rocks frequently in the alpine and sub-alpine belts, and occasionally in the steppes and deserts. They are most numerous and diverse in the mountains. Such diversity of occurrence is correlated with no less diversity of biomorphological structures in under- and above-ground parts of the plants. The subject of this work is biology of various campanula species of the flora of USSR. Representatives of two sections and nearly all the sub-sections identified by A. A. Fedorov were examined.

Observations were made in the Botanical Garden of the Komarov Botanical Institute and in the field. A detailed study was made of ontogenesis development from its earliest stages. When sown in the greenhouse in March, the seedlings appear in 10-20 days. The germination period is 15-20 days. Ability to germinate varies from low (5% in *C. tridentata*) to extremely high (95% *C. medium*), the average being

50-70%. The studied species show a uniformity in shape of the seed-lobes. They are elliptical, occasionally with a hollow at the apex, non-pubescent. The data available in the literature (Poletiko, 1952; Csapody 1968) show that this particular shape is characteristic for the European species as well. The size of the seed-lobes varies greatly: the smallest is *C. lactiflora*, the largest is *C. medium*. The first leaves appear comparatively soon 7-15 days after germination. The shape of the first leaves of Campanula species are most often more rounded and smooth-edged than subsequent leaves.

Almost all Campanula species, including annuals, have undeveloped epicotyl, and leaves appear immediately above the seed-lobes. This type of development is characteristic also for other species of the family. Among these are: *Adenophora liliifolia* (L.) Ledeb., *A. pereskiifolia* Brot., *Phyteuma spicatum* L., *Symphyandra pendula* (Bieb.) A.DC and many others. All these plants have a rosette of leaves, with shortened internodes in the early stages of their development (fig. 24). However, there are exceptions to this rule, namely, among the examined species three, *C. lactiflora*, *C. hypopolia* and *C. lasiocarpa*, have developed

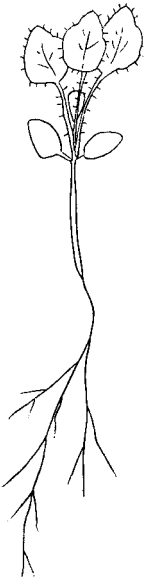


Fig. 24—*Campanula latifolia* L.

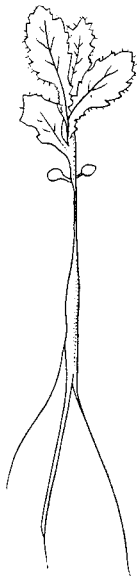


Fig. 25 *Campanula hypopolia* Trautv. Fig. 26 *Campanula lactiflora* Bieb.

epicotyl and intensively growing shoot. In *C. hypopolia* (fig. 25) and *C. lasiocarpa* the rapid growth is soon arrested and the length of the internodes becomes reduced. And in *C. lactiflora* (figs. 26 & 27) a longer shoot develops by the end of the summer and sometimes flowers in the first year.

All the three species belong to unrelated systematic groups. *C. hypopolia* and *C. lasiocarpa* represent individual monotype sub-sections. Such type of development cannot therefore be regarded as specific to a certain phyletic branch of the genus. Rather this is a character emerging independently in various phyletic lines and merely repeating the archaic type of development. The presence of the developed epicotyl and elongated primary shoot has been noted for *Azorina vidalii* (Wats.) Feer, *Codonopsis* species, *Platycodon grandiflorus* (Jacq.) A.DC., *Peracarpa carnosa* (Wall.) Hook f. et Thoms. *Ostrowskia magnifica* Regel.

It follows from the above that almost all campanulas develop a shortened shoot in the early stages of ontogenesis. The types of shoot-structure in adult plants are very diverse. The main difference lies in

Fig. 27—*Campanula lactiflora* *Photo* Dr. T. Shulkina

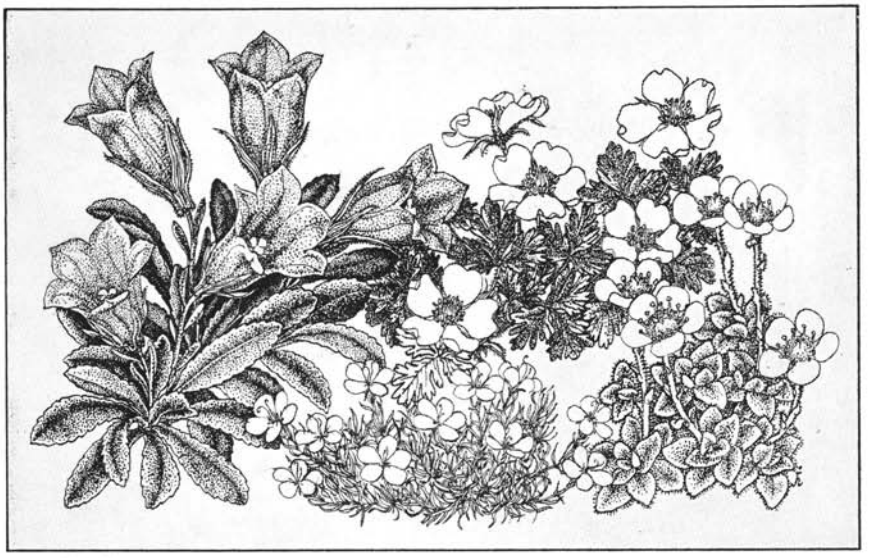


Fig. 22
Campanula dasyantha *Potentilla elegans*
Minuartia arctica *Saxifraga merckii*

Fig. 23
Rhododendron adamsii *Phyllodoce caerulea*
Cassiope tetragona *Lycopodium selago* *Salix berberifolia*

the fact that some species are characterized by the monopodial growth throughout their life span; others the monopodial growth is followed by the sympodial growth after the first flowering. Different growth habits correlate with different ways of wintering. Besides, the way of wintering changes in the process of ontogenesis. Most of the campanulas have a rosette of green leaves in the autumn.

The first year the biggest number of leaves on the shortened shoot is to be found in *C. medium*, the fewest in *C. mirabilis*. Most often the leaves of rosettes do not remain up to vegetation. They die off in the snowless autumn or winter, or during the spring frosts. The remaining young leaves, with rare exceptions, do not grow in the spring, but photosynthetize and die only in May or even in June or July (*C. aucheri*). Very few of the species preserve green leaves in winter even in unfavourable years (*C. persicifolia* L.).

Another type of wintering is observed in the species developing prolonged shoots in the first year. This group is not numerous. Besides the monopodial species of sub-section Heterophylla (*C. rotundifolia* and others) it includes among the studied species, *C. lactiflora*, *C. rapunculoides* (sympodial sp.) and *C. carpatica*. Renewal buds are placed on the bases of shoots. *C. lactiflora* has closed buds, while *C. rotundifolia* and *C. rapunculoides* have proleptically opening buds.

Thus, even during the first year the way of wintering in various species of the genus Campanula is different. However, none of the studied species possesses at this period specialized bud protective scales.

The winter period is undoubtedly crucial for the majority of the Campanula species. During snowless winters in Leningrad not only plants with above ground organs (*C. medium*, *C. kemularia*, *C. lasiocarpa*) are affected, but also plants wintering underground (*C. lactiflora*). Sometimes the plants perish as a result of spring frosts, having wintered under the snow cover, which is no doubt evidence of the thermophilic nature of the genus Campanula.

Vegetation of various species of adult plants starts in spring at the end of April and beginning of May. During the stable warming of the air, growth of new leaves is observed in most of the species wintering above-ground, and in some of the underground wintering species. Some of the Campanula species start vegetating very late when the total of positive temperatures is high enough. Among them are mainly underground wintering species (*C. lactiflora*, *Codonopsis clematidea*, *Platycodon grandiflorus*) and some of the above-ground wintering species (*C. kemularia*).

Fig. 28—*Campanula bellidifolia* *Photo* Dr. T. Shulkina

Fig. 29—*Campanula biebersteiniana* *Photo* Dr. T. Shulkina

Thus all the species can be divided into three groups: with early, middle and late vegetation. The dates of the beginning of vegetation may vary in accordance with the weather conditions, but distinctions between these three groups are preserved.

Flowering also occurs at various times. Rosette-forming plants with specialized reproductive shoots are the first to flower. This group forms reproductive organs in May, earlier than the other groups. Growth of the reproductive shoots lasts only 2-3 weeks. Flowering begins in June at the temperature total*of 580-700°C. It lasts about a month, but occasionally single flowers appear in autumn. Reproductive shoots die off after fruiting. Formation of new leaves on the shortened shoots takes place during the whole vegetation season. This group includes *C. aucheri*, *C. bellidifolia* (fig. 28), *C. tridentata*, *C. petrophila* and some other species, namely of sub-section Scapiflorae (Roiss.) Fed.

Rosette-forming plants are known to have a great diversity of the shoot structure and types of their growth. Along with the specialized reproductive shoots they have semi-specialized shoots bearing flowers and leaves. Species belonging to this group constitute a second wave of flowering which happens usually by the end of June. They include *C. collina*, *C. punctata*, etc. Species having non-specialized lengthened shoots are characterized by rather late flowering. The temperature total at this time reaches 1000-1200° C.

Reproductive organs are formed in June, flowering starts in July. Growth of reproductive offshoots lasts about a month and a half.

There are two variants in this type and *C. latifolia* is the most characteristic of one of them. After finishing of reproductive offshoot growth, the growth of the whole plant ceases completely. During the second half of summer renewal buds are formed. Another development is characteristic of *C. mirabilis*, *C. medium* and some other species. When the main offshoot and its leaves stop growing, the growth process does not cease. These plants in August and September form a lot of offshoots in the axil of almost all leaves of the main stem. Some offshoots may appear even in October, when all the leaves in the axil of which they develop have already died off. These species have no renewal buds; they are monocarpic.

According to the time of vegetation completion the campanula species are also divided into several groups. The first group includes

*The temperature total is the *sum* of the daily *mean* temperatures from the early Spring until the time of flowering. This conception does not appear to be used in Britain, probably because there is not normally a mid-winter period of sub-zero temperatures from which the beginning of the temperature total can be calculated.—*Ed.*

species in which above-ground organs die off long before the frosts, in the middle of September. Among them are *C. latifolia* and a row of other species having at the second year renewal buds with scales in the basal part of the reproductive stem. The species which end vegetation in October are: *C. cephalates*, *C. lactiflora* (fig. 27), *C. alliariifolia*, *C. rapunculoides*, *Codonopsis clematidea*, *Platycodon grandiflorus*, *Adenophora liliifolia*, *A. kurilense* and others. Some species have reproductive shoots dying off in the early autumn, but the leaves of vegetative shoots remain green for long (*C. collina*).

Many campanula species have rosettes of leaves when covered with snow even in adult state. However, some of them develop closed buds with special scales (*C. aucheri*). Green leaves are preserved till spring only in occasional years and in a few species, most often *C. persicifolia* and *C. carpatica*.

At the wintering of adult plants the percentage of species which have closed buds is greatly increased. However, during the first year none of the species has specialized bud scales, and only in the following years some of them develop buds with specialized scales. The times of vegetation beginning and ending, as well as the state of the plants in winter, give evidence of the thermophilic nature of campanulas. This is confirmed also by the fact that not only the plants of Asperula-type (Diels, 1918) perish in winter, but also those belonging to Polygonatum-type (*C. lactiflora*, *Ostrowskia magnifica*); the latter dies off completely in Leningrad when not protected.

The type of seasonal development, as well as other factors, has determined to a great extent the evolution of life forms in the genus Campanula. Thus, for example, the relatively late flowering did not favour the origin of annual forms. Among 150 campanula species of the flora of the USSR there are only two annuals. In addition, the annual species of this genus studied are characterized by a prolonged development, which does not allow one to refer to them as typically Mediterranean type of annual ephemerals.

The early flowering which is necessary in high mountains with their short vegetation period is achieved by the life form being specialized. The species of sub-section Scapiflora are mainly distributed there. They have leaves collected into the pre-root rosettes, their reproductive stems are leafless or with few leaves.

Thus, as a result of the study, there have been revealed both likeness and difference in the annual development cycle of many Campanula species.

The biology investigations make it possible to prognose the success of the introduction of various campanulas. Many decorative species of the flora of the USSR are promising for cultivation in Leningrad and in other areas with similar and warmer climate. This list represents decorative species from various areas of the USSR, but mainly from the Caucasus.

SECTION CAMPANULA

Sub-section number:

1. *C. medium* L.
2. *C. mirabilis* Albov
3. *C. komarovii* Maleev
5. *C. punctata* Lam.
6. *C. alpina* Jacq.
8. *C. latifolia* L.
9. *C. cephalotes* Nakai
   C. glomerata L.
   C. trautvetteri Grossh.
11. *C. dolomitica* E. Busch
    C. alliariifolia Willd.
12. *C. collina* Bieb.
    C. annae Kolak.
    C. albovii Kolak.
13. *C. autraniana* Albov
14. *C. ossetica* Bieb.
    C. raddeana Trautv.
    C. kemulariae Fom.
    C. choziatowskyi Fom.
    etc.
16. *C. dzaakii* Alboff
    C. tridentata Schreb.
    C. biebersteiniana Roem. et Schult. (fig. 29)
    C. aucheri A.DC
    etc.
18. *C. hypopolia* Trautv.

SECTION RAPUNCULUS (FOURR.) BOISS.

Sub-Section number:

1. *C. pontica* Albov
   C. lactiflora Bieb.

C. persicifolia L.

2. *C. carpatica* Jacq.

4. *C. lasiocarpa* Cham.

The detailed description of these species will be made in future. The list is not complete, of course. Many other species are ornamental, but above only main ones have been mentioned among 60 species tested in the Botanical Garden of the Komarov Botanical Institute of the Soviet Academy of Sciences.

LITERATURE

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A Conference for Beginners

by K. S. HALL

A VERY successful programme, aimed to help members new to rock gardening, was arranged by the President during the Easter vacation. It took place in the Dunfermline College of Physical Education in Edinburgh, where excellent facilities were provided.

The intention was that there should be 40 resident members taking part, but unfortunately the places were not all taken. However, it was encouraging for the organisers to welcome members from as far afield as Cheshire and Caithness, and from many Counties in between.

The programme covered the basics of rock gardening, the composition and qualities of soil, the construction of rock gardens, plants to grow in different conditions, books to use and simple propagation. In addition, there was a conducted tour of the Rock and Peat gardens in the Royal Botanic Garden.

Perhaps the most valuable part of the week-end was the opportunity to discuss one's own problems and experience with fellow gardeners. There was no doubt among those participating that this venture was a great success, and if there is sufficient demand it might well be repeated.

Obituary

Miss H. M. LOGAN-HOME

WITH THE death of Miss Mollie Logan-Home on April 15th, the Club loses not only a Vice-President, but a much-loved member too. In the early days no Show was complete without the two tall sisters from Edrom Nurseries with their colourful stand of primulas, meconopsis and alpines. Indeed, the credit for sowing the seed that ultimately burgeoned into the Scottish Rock Garden Club should, in part, be theirs, for it was at a Royal Caledonian Horticultural Society's Show in Edinburgh that they foregathered with Mr. Eric Laird and said, "Why don't we start a club of our own?" There followed the meeting reported by R. E. Cooper in *Journal* No. 14, April 1954. Only sudden illness in the family prevented the sisters attending, but others watered the seedling and potted it on and so the Scottish Rock Garden Club came into being.

As a girl in India, where her father was in the army, Mollie spent happy holidays in hill stations, seeing, in their native habitat, many of the plants she subsequently grew so well at Silverwells. She loved to recall meeting a Dutch couple collecting plants in Kashmir and how it was from that trip that they introduced the magnificent form of *Primula rosea* called 'Visser de Geer'.

When the family returned from India for good, Mollie and Edith began gardening in the grounds of their parents' home, Edrom House, near Duns in Berwickshire. So successful were they that, before long, encouraged by the late Dr. McWatt of Duns, they were exhibiting in a modest way. In 1936 they moved to Silverwells, Coldingham, (retaining the name Edrom for the nursery), where very soon Alec Duguid joined them and from then on the nursery expanded and the garden blossomed. Seed came from all parts of the world, but chiefly from Major George Sherriff, collecting in Tibet and Bhutan. Conditions at Silverwells were ideal for himalayan plants and the skill and dedication of these three contributed, very materially, to the pleasure we enjoy in our gardens today. While the seed distribution was still in its infancy they donated handsomely, thus getting it off to a good start.

Up and down the country they took their plants to Shows, from Inverness to Chelsea, the Scottish Rock Garden Club, the Alpine Garden Society, the "Highland", the "Royal", and other large

agricultural shows across the border. They were indefatigable. Not so long ago, at a Chelsea Show, the remark was overheard, "Do you see those two tall women over there? Well, they're made of teak!" They relished that. (Mollie was 6 ft. 3 ins. and Edith 5 ft. 11 ins.).

Mollie radiated serenity and peace, even at the end of a four-day Show when all around was chaos and everyone else scurrying to be off. With her gentle smile she loved to show people round her beautiful garden at Silverwells. No matter how many came, a bus load or a single individual, beginner or expert, all were made welcome and all benefited from her garden wisdom.

After Edith's death Mollie rather withdrew from active gardening, but she still managed a plant-hunting trip to Crete, in spite of breaking a leg only a week before setting off. She went, complete with large plaster, and still managed to bring back some plants.

The Club has had, and still has, many expert growers, but few will have spread so widely so much knowledge and plant lore and sheer sweetness as Mollie Logan-Home. She was a saint.

M.I.C.H.

Offprints

BECAUSE of certain unfortunate misunderstandings in recent years, it is thought advisable to repeat the arrangements regarding Offprints. These arrangements originally appeared on page 275 of Volume XII Part 4 of the *Journal*.

Members are requested to note the arrangements and to draw the attention of non-members who they may invite to contribute to the *Journal*. The printers distribute the type immediately after printing and therefore it is quite impossible to produce Offprints unless these are printed at the same time as the *Journal* is printed.

The arrangements are:—

> "Contributors of articles to the *Journal* (as opposed to short notes, as for instance Plant Notes) are entitled to ask for offprints of their articles, provided that the request is made at latest at the time of returning the proof to the editor. Twenty offprints will be supplied free of charge, but if more are required a charge will be made to cover the cost.
>
> Contributors from overseas will normally be given 20 offprints unless the author states that these are not required."

Joint Rock Garden Plant Committee

EDINBURGH—20th SEPTEMBER 1975

AWARDS TO PLANTS

AWARD OF MERIT

To *Celmisia philocremna* as a foliage plant for the alpine house. Exhibited by Messrs. Jack Drake, Inshriach Nursery, Aviemore, Inverness-shire.

CERTIFICATE OF PRELIMINARY COMMENDATION

To *Gentiana* 'Marion Lyle' as a flowering plant for the rock garden. Exhibited by Mr. H. and Mrs. M. Taylor, Tantallon, Morris Place, Invergowrie, by Dundee, Angus.

AWARDS FOR EXHIBITS

CERTIFICATE OF CULTURAL COMMENDATION

To D. F. Mowle, Esq., 16 Peacock Lane, Hest Bank, Lancaster, for a well-grown plant of *Cyclamen graecum.*

PERTH—24th APRIL 1976

AWARDS TO PLANTS

FIRST CLASS CERTIFICATE

To *Draba mollissima* as a flowering plant for the alpine house. Exhibited by H. Esslemont, Esq., 9 Forest Road, Aberdeen.

To *Primula minima alba* as a flowering plant for the rock garden and to *Pleione forrestii* as a flowering plant for the alpine house, submitted by J. D. Crosland, Esq., Treetops, Torphins, Aberdeenshire.

CERTIFICATE OF PRELIMINARY COMMENDATION

To *Drapetes dieffenbachii* as a flowering and foliage plant for the rock garden, from Mrs. Joan Stead, Esk Hause, Bishop's Park, Thorntonhall, Glasgow.

AWARDS FOR EXHIBITS

CERTIFICATE OF CULTURAL COMMENDATION

To Mrs. S. Maule, 578 Lanark Road West, Balerno, Midlothian, for a well-grown plant of *Primula aureata.*

To Mr. H. Esslemont, 9 Forest Road, Aberdeen, for a fine specimen of *Draba mollissima.*

To Mr. J. D. Crosland, Treetops, Torphins, Aberdeenshire, for well-grown specimens of *Primula minima alba* and *Pleione forrestii.*

S.O.S.—Save Our Shows

by JOHN and CHRISTINE GOSDEN

"WE MUST, however, at all costs get more exhibitors to bring their plants forward for our Shows. At present we have a moderate number of staunch supporters who bring their plants, often great distances too, to our Shows. . . . This is not, however, nearly enough. Our Shows are our shop-window as well as our meeting place and we must not let them shrink to vanishing point".

Henry Tod, S.R.G.C. *Journal* IX, pt. 2, 1964, p. 164.

In the twelve years since the above was written we have, for lack of support, lost the Shows at Dundee, Dumfries, Penicuik and North Berwick. The main reason for this, and even more worrying for the Club, is that we have lost so many of the "staunch supporters" and have gained so few new showing members. While our total membership has not grown less, that within Scotland *has* shrunk, the difference being made up by expatriate and foreign members who contribute to our Seed Exchange and *Journal* but can do nothing to help the basic running of the Club, the administration and, above all, the daily interchange of thoughts, ideas and plants which is the heart of the Club, all the rest being "fringe benefits".

Now the Shows are almost the only way in which newcomers can be attracted to our way of life (for it *is* more than just a hobby) and if our remaining Shows are not to go the way of the others we must all be prepared to help.

There are a number of misconceptions about showing. The first of these is that it is essential to have an alpine house. The straight answer to that is that for the well-being of the plants it is quite unnecessary, that many plants positively *detest* being in an alpine house, and that the alpine house is really designed for the well-being and comfort of the gardener! That's as may be, you'll no doubt say, but at

least you must have proper frames. There we'll concede a point and agree that some plants need the protection afforded by a frame and do better there than in the open ground. *But* you can grow an awful lot of good plants without either frames or an alpine house. Many, many plants that form a close hummock or mat, or a ball of roots, can be lifted straight from the garden into a pot, given a quick tidy and be perfectly presentable for the show-bench. The same applies to many shrubs with a compact root system. Those plants that are difficult to lift because they fall apart (like Cyclamen) or resent disturbance (like conifers) can be grown in the pot—plunged into a bed in the open garden with no greater care for their welfare than keeping the weeds clear, a drink if it is dry while they are in growth, annual top dressing and re-potting when they outgrow their quarters. What, you may ask, about the plants that need (oh dread pair of words) winter protection? Here we must confess. We love some of them so much that we could not be without them. So in winter they are plunged in a group in their pots, and an old sash window, supported on four piles of old bricks, is placed over them on the slant. It is not very elegant, but it does let us grow them and we have no alpine house or frames. And the same system does for the plants that like a summer baking.

So much for the conditions of growth. The second great misconception is that plants are only shown in the expectation of winning —a prize, a trophy, whatever. There are, it is true, some wizards in the Club whose plants are grown to such perfection, and are of such age and rarity or difficulty, that their very presence on the bench suffices to bring them the accolade. But for the rest of us, mere mortals that we are, there is an enormous amount of pleasure and fun in setting our plants out with their peers and discussing our problems and occasional successes—this is what the Club is really about—growing plants, not just vicariously swanning off to the Himalayas once a month in winter, pleasant though that is.

We end with a further quotation from the same article by the late Dr. Tod. It is truer now that it was then:

"Most members have one or two plants at least which are of good enough quality to show to their friends—isn't that really what is being done at a Show? Why not let more than a handful see them—put them on the show-bench and you might get a prize as well! Do, please, bring one, two, six or twenty, whatever you can, to *at least* your nearest Show and, once you have started, you will usually find that it really is a lot of fun and it becomes a habit—but a good one!"

In Search of Yugoslav Orchids

by TED CLAY

CAVTAT is a holiday village a short distance SE of Dubrovnik on the Yugoslav coast. We took a package holiday there in late April, visiting the surrounding area and staying elsewhere on two nights. While the others went into ecstasies over fritillarias, hellebores, and such-like goodies, my passion is orchids, and there was certainly plenty to interest me.

On the first morning we took a stroll near the hotel and came across a fine stand of yellow orchids, which we christened "Orchis Maryii" after their finder, pending identification. They turned out to be *Orchis pauciflora*, the commonest orchid along this section of the coast. It is similar to *Orchis provincialis*, but may be distinguished by its unspotted leaves. We also found *Orchis provincialis*, but in one place only. Also a few hundred yards from our hotel *Limodorum abortivum* grew beside the sea. It was so well camouflaged against the pine needles that one could stand a few yards away and not see it.

A valley leading inland from Cavtat was rewarding. The Early Spider Orchid (*Ophrys sphegodes* ssp. *sphegodes*) was just going over on the banks, and *Orchis laxiflora* made a purple sea on a boggy olive terrace. Most interesting, however, were the Serapias, which showed their adaptability by growing all over the valley bottom. Meadows or pine woods, it made no difference, the Serapias flourished. Only where the vegetation was so thick as to make competition impossible was it defeated. The vast majority were *S. lingua*. However, there was also a plant like *lingua*, but with the heart-shaped lip typical of *S. cordigera*; and another like *lingua*, but with spots at the base of the leaves such as are normally only found in *S. cordigera*. These may have been hybrids, although we never found *S. cordigera* itself.

We found another very interesting Serapias forming flesh-pink sheets in meadows above Titograd, near the Albanian border. The lip was striped with darker pink like that of *Orchis papilionacea*. In a population covering two meadows it showed very little variation.

The flowers were the same size as those of *lingua*. The lip was narrow, with few if any hairs, and always of the same striking colouring.

Titograd itself was a great contrast to the comparatively affluent coastal tourist area. Near the centre of the town there were one-room

houses with earth floors.

Our other expedition inland was to Mostar, to the North of Dubrovnik. In and around Mostar there is a large Turkish community and the women wear, as everyday garb, ankle-length dresses of bright colours and pointed slippers. To our surprise one friendly local farmer proudly addressed us in fluent German which he had apparently learnt during the war. However, his meadows, like many in the mountains, were a sheet of Green-Winged Orchids (*Orchis morio*).

Some of the mountain roads are quite horrific, such as one we followed above Titograd which is hewn out of a sheer cliff-face, and enters at least eight tunnels. It was on one such road that we found out to our cost that there is a Yugoslav law which forbids under any circumstances overtaking on bends.

Another amazing road leads from Mostar to Trebinje. It is unmetalled and very much single track. Imagine our horror when we met a large lorry coming the opposite way. However, the driver casually filled the ditch with rocks for us to drive over, as though this were an everyday occurrence. Nevertheless, the route proved worthwhile botanically and I found a clump of *Cephalanthera longifolia* in a typical beech wood location.

The other major expedition we made was to Budva, on the coast South-East of Cavtat. We stayed the night there in a stately hotel where we were the sole guests in a huge marble-floored dining room attended by the whole kitchen staff and two waiters. It was near Budva that we found within a few yards of each other the Monkey Orchid (*Orchis simia*), *Orchis tridentata*, an orchid not yet in flower which looked like the Lizard Orchid (*Himantoglossum hircinum*) and a colony of a form of the Early Purple Orchid (*Orchis mascula*) in which all plants had unspotted leaves. It made a fitting finale to an enjoyable holiday.

A copy of "The Seedlist Handbook", Second edition has been received. This extensive and improved List of Plants represented in the Seed List of the American Rock Garden Society, the Alpine Garden Society and our Club will be of great help to those who do not recognise a name in a Seed List.

It can be obtained from Kashong Publications, Box 90, Bellona, New York 14415, U.S.A. for five dollars, post post.

Alpines of Juzhno-Kamyshovyj Khrebet on Sakhalin

by VLADIMIR VASAK, Czechoslovakia

FOR ALPINES of SW part of Sakhalin we have travelled by a train from Juzhno-Sakhalinsk (in Japanese: Toehara); the small train overcame several kilometres of the Susunai—lowland with meadows and fields of potatoes. Later it climbed up to a ridge named "Miculskij", then again get down to low land and at the valley of river Ljutoga, and after that came to the foot of the mountains, where we wished to observe and collect plants (fig. 30).

Juzhno Kamyshovyj Khrebet is a mountain ridge on the South-west of Sakhalin; it is about 240 km long and maximally 40 km wide, situated from the North to South. The western slopes of these mountains have a climate stimulated by a warm sea-stream named Cushima in the Japanese Sea, for it is this area which is the warmest on Sakhalin in both winter and summer. The winters here are characterized by lots of snow—so some slopes are places with dangerous avalanches. Precipitation in the mountains is about 1000 mm, regularly divided over all the year.

From the pass in the Kamysh-ridge we get down to sea level at the Tatarian Channel into the town of Kholmsk, and from there to the South on the sea-coast to the village of Loveckoje. We passed through an area of forests devastated by a fire, with some shrubby undergrowth and not big groups of trees—the remains of burned spruce and fire-forest. For a forester it would not be a pleasing view, but for a plants-man a true paradise. Our excursion here was led by Mrs. E. Egorova, botanist of the Sakhalin branch of the USSR Science Academy. We went as guests into a camp of geologists and geophysicists, so we did not need to bring with us tents and other necessities for camping; thus we had more space in our bags for plants and seeds.

I have written in one of my previous articles on Sakhalin that the SE part of this island has a very cold climate owing to the cold Okhots Sea. On the other hand, the climate of the SW part is warm, as it is moderated by the warm Cushima stream in the Japanese Sea. The flora of this area is closely related to the flora of Hokkaido. We have collected plants for the herbarium, some seeds, and also some living

plants for three full days. In this time we have found there 131 species of vascular plants, which gives a picture of the rich assortment of plants living there.

One of the most interesting plants there was *Skimmia repens* Nakai of the Rutaceae family (Syn.: *S. japonica* Thunb. var. *repens* (Nakai) Ohwi). I found it several times in the shade of a fir forest (*Abies sachalinensis*); it is an evergreen shrublet with spreading and sub-erect branchlets, which do root easily, only 30-50 cm high, in vegetative habit recalling some Daphnes with relatively big leaves. Its name is taken from the Japanese "skimmi"—injurious, poisonous (its berries). In Japan they call both *Skimmia japonica* and *S. repens* "Miyama-shikimi". It is the mountain form of *S. japonica*, widely spread in the mountain forests of all the islands of Japan—on Kuriles-Shikotan, Kunashir, Iturup and Urup—and on S. Sakhalin. Its leaves are narrowly oblong, glossy, vivid green, with short petioles, 3-8 cm long, entire, usually brought together at tops of branches. We can see both male and female shrubs. Fruits are berries up to 10 mm in diameter, red; but I have never found any fruits on Sakhalin nor on the island of Kunashir. *S. japonica* as well as *S. repens* is easily propagated by cuttings. Some Dutch nurseries sell it as a pot plant when it has its red fruits. The whole plant is poisonous. Decoction of leaves can be used as a protecting medium against garden pests. In China they use it in medicine—as a medium against influenza—for its content of alkaloid skimmianine (Isiyama, 1936).

Close to this plant there was a plant, more familiar to Americans than to Europeans, namely *Clintonia udensis* Trautv et Mey. Although I have written about it once before, I should like to say a few words: the home of the genus Clintonia is in America. Reginald Farrer writes of three species which are grown in gardens—*Clintonia borealis*, *C. umbellulata*, and the most showy Californian *C. andrewsii*. *C. udensis* is closely related to the Himalayan *C. alpina*, so its synonym is *C. alpina* Kunth. var. *udensis* (Trautv. et Mey) Macbride. In Japan it is named "tsubane-omoto" (Ohwi, 1965). Its area spreads over mountain forests of Hokkaido, Central and Northern Honshu in Japan, on Kuriles, Sakhalin, in Manchuria, China, in E. Siberia in the Amur. Ussurijsk and Okhotsk areas.

At the margin of the forest here was a small holly—*Ilex rugosa* F. Schmidt, an evergreen shrublet up to 30-50 cm high, with pentagonal branches. Its leaves are leathery, some rugose, finely toothed at the margins, with distinctly epressed venation. In herbarium specimens

they come brown to black. Flowers are minute, white, semi-dry berries red to reddish-brown. Its home is Japan, Middle and Southern Sakhalin, and several Kurile Islands—Iturup, Kunashir, Shikotan, Urup, and on the very small island of Shiashkotan. Only one locality is known in continental Asia—in the area of the river Choz on the western slopes of mountains Sichote-Alin. In Japan it is often grown as a decorative shrub (and not less often as a bonsai). It would be very desirable. The seeds which I collected didn't come up.

In the shade of trees were growing two interesting ferns which are suitable for a shady corner of the rock garden. The first was *Gymnocarpium dryopteris* (L.) Newm., very often found throughout the northern moderate zone. It is often known under synonyms as *Polypodium dryopteris* L., *Lastrea dryopteris* (L.) Bory, *Phegopteris dryopteris* (L.) Fee, *Polypodium disjunctum* Rupr., *Dryopteris disjuncta* (Rupr.) Mort., *Gymnocarpium robertianum* var. *disjunctum* (Rupr.) Ching, *Dryopteris linneana* C. Crist., etc. In ferns synonyms are important as they are still used very frequently.

Another nice fern here was *Dryopteris monticola* (Makino) C. Christ., widespread in mountain forests in Japan at Hokkaido, on Kuriles, on Honshu and Shikoku, and in Korea, S. Manchuria, S. Sakhalin and even on Kunashir. It is also known as *Nephrodium monticola* Makino, *Aspidium monticola* (Makino) Christ., *Aspidium filix-mas* var. *deorsolobum* Christ., *Nephrodium erythrosorum* var. *manshuricum* Komarov.

The forest here was *Picea jezoensis* (Sieb. et Zucc.) Carr. and also *Taxus cuspidata* Sieb. et Zucc. Its wood was formerly very popular and used for many purposes, so this tree is now relatively rare and needs strict protection. From its heart-wood a brown dye was made. Fruits are edible. A decoction of needles was used in Japan against diabetes (Sugawara, 1937).

Other interesting trees there are *Quercus mongolica* Fisch. var. *grasseserrata* (Bl.) Rehd. et Wils. (some of these oaks were very old and nicely formed), *Betula ermanii* Cham., *Phellodendron amurense* Rupr. var. *sakhalinensis* F. Schmidt, and *Kalopanax septemlobus* (Thunb.) Koidz. The last named tree is interesting because it was originally named by Thunberg, the Swedish botanist, as *Acer septemlobum*. But if we know that the description was made on the basis of sterile branches, we understand this mistake, as the leaves are too closely similar to a maple, but the branchlets are somewhat spiny. It grows in the area of Ussuri, at SW Sakhalin, in all Japan except

Riu-Kiu, and Central and NE China.

At forest margins and in the open, shrubs of *Sasa paniculata* (Makino) Makino et Shibata and *Sasa sugawarae* Nakai, a lovely bamboo, there grew three climbers, truly liana-like: *Actinidia kolomikta* (Maxim.) Maxim., *Schizandra chinensis* (Turcz.) Baill., and *Vitis cognetiae* Pulliat (*V. kaempferi* Rehd. non Koch.). But only on the Actinidia were there tasteful edible berries. The Vitis was sterile and Schizandra had only a very few fruits. Also there were formations of black berries, shrubby *Vaccinium smallii* A. Gray with bluish-black berries, and a miniature shrublet *Vaccinium praestans* Lamb. with relatively large and bright red berries, which were very acid, but so fragrant and edible.

Of the better known decorative plants we have seen here a day-lily, *Hemerocallis middendorffii* Trautv. et Mey., *Ptarmica speciosa* DC. I must say that it has not got its latin epithet "*speciosa*" for nothing; it is truly showy. *Sanguisorba tenuifolia* Fisch. bloomed here with white flowers; at the end of its bloom was blue *Adenophora kurilensis* Nakai. Also there were to be seen golden yellow *Arnica sachalinensis* (Regel) A. Gray; it is interesting that this plant is different to the European *A. montana*—it is not so sensitive to lime in the soil, so it is easy in culture, and it can become even weedy in the garden. It is easily propagated by division (Jelitto, Schacht, 1963).

With the rains here is connected a memory of one plant—*Petasites japonicus* (S. et Zucc.) Maxim. var. *giganteus* (F. Schmidt) Nichols. In Japan it is named "akitabuki", and its young stems and petioles are eaten boiled as a vegetable, also the buds are used as a spice (Uphof, 1968). The butter-bur of Sakhalin is a true giant, its petioles being as strong as a hand and often up to 2 m high, and its leaf-blades are 1 to 1.5 m in diameter. I have used one such leaf once as an umbrella, but in this case it was impossible to collect and dig out plants, as I had not enough hands for a small botanical spade, bag with plants—and also for an umbrella. The ideal number of hands for such a purpose was perhaps only possessed by the Indian godess Kali. So I have thrown out the leaf—and then became entirely wet. This Petasites is growing only at Sakhalin, Kuriles, Hokkaido and N. Honshu. Its often used synonyms are *P. giganteus* F. Schmidt and *P. amplus* Kitamura.

At the slope of a valley, where this Petasites grew on a brookside, I have seen one interesting minute Violet—*Viola selkirkii* Pursh—in contrast to the giant butter-bur this plant is very, very tiny, with minute heart-shaped leaflets, lilac violet flowers and purple-tinged seed pods. As it is widespread in large areas in the N. hemisphere it has many

Fig. 30—Coast Slopes of Sakhalin *Photo* E. M. Egorova

Fig. 31—*Senecio pseudoarnica* *Photo* E. M. Egorova

synonyms: *V. kamtschatica* Ging., *V. umbrosa* Fries, *V. imberbis* Bunge, *V. borealis* Veinm., *V. salina* Turcz. The Japanese name them "miyama sumire". Farrer classifies it as "a small and rather delicate thing".

The most interesting and also the most showy plant which I have collected in this area is undoubtedly the Lady Slipper—*Cypripedium macranthum* Sw. We can meet this plant over a very large area—from Tibet and Himalaya northwards to the Polar Circle in the area of Yakutsk, from Mogilev district in Russia to Kuriles and Japan and perhaps even Formosa, but we must have had good luck to find it. I was so happy three times: in 1968 at Sakhalin, in 1969 in the Chamar Daban mountains southwards from Baical, and in 1972 in the area of Teleckoe Lake in Altai. It is a very hardy Orchid. There are various mentions on its culture in literature and even among people. Some growers say that it is short-lived in gardens and very difficult; for others it grows easily and quite well. In all cases this Orchid is as yet rare in gardens and it is absent also from many of the gardens of top European and American gardeners. It is very variable in the wild; albino forms are also known. From this species are often made several micro-species, with various names; also very variable are the viewpoints of botanists. For it I retain the name for a wide species. In Japan it is named "schizobana-atsumori-so". In Siberia it is used in popular medicine for purposes of gynaecology, etc. (Utkin, 1931).

No far from scattered Cypripediums I have found also a scattered formation of East Asian Lily-of-the-Valley, *Convallaria keiskei* Miq., not too different from *C. majalis.*

Perhaps also it would be interesting to note several plants of the sea coast. Some of them root in a soil moistened by sea water; they grow on a sandy or gravelly coast. For me it was very interesting, as I could observe the sea at Sakhalin for the first time in my life. Some of the plants present here can be used as a salad. *Honkenya peploides* (L.) Ehr. var. *major* Hook. Syn.: *Ammodenia major* (Hook) Kudo. It is present at coasts of Pacific from Korea and Japan to Alaska. Eskimos call it Ahsahklook and Eteeahahluk, and the boiled plants, with the addition of some Northern berries and reindeer fat, are prepared a special cream (Heller, 1962). But it can also be a guest in the rock garden, especially its smaller form present on coastal areas of Europe, Arctic areas and N. America. Another edible plant here was wild celery—*Ligusticum hulteni* Fern. And the last edible plant here was *Lathyrus maritimus* (L.) Bigel.

After World War II there came to Sakhalin new colonies from the

continent; this is a perennial one very closely related to the current pea; it recalls them even by taste, in difference to all other wild Lathyrus, the seeds of which are bitter. I have heard also a mention that *Lathyrus maritimus* is a perennial pea which was grown here by a Japanese long ago and which became wild later. Of the Pea family here was also *Thermopsis lupinoides* (L.) Link. Syn.: *T. fabacea* (Pall) DC., which is a nice decorative plant, easy, but sometimes big and easily becoming weedy. I have also collected here the relatively rare *Vicia japonica* A. Gray.

Very nice here is a groundsel, *Senecio pseudoarnica* Less. (fig. 31); I have met it in full bloom. Its large yellow flowers look like miniature sun-flowers. Another Compositae, which is for its silvery habit grown in rock gardens, is *Artemisia stelleriana* Bess, inhabiting the coasts of Okhotsk and Japanese Sea.

And the last—and a very nice plant here was the oyster plant—*Mertensia asiatica* (Takeda) Macbride. Its creeping stems are up to 1 m long, but the leaves on them are slightly pruniose, silver-bluish green, some waxy and thick; the flowers are very nicely blue.

We have returned from Juzhno-Kamyshovyj Chrebet with plastic bags full of plants, and after arrival we have spent two days arranging the collected plants in papers and so labelling and cleaning of plants and seeds. From the seeds which were brought from SW Sakhalin were raised many interesting plants and some of them we have still in cultivation, such as *Hemerocallis middendorffii, Viola selkirkii, Convallaria keiskei, Artemisia stelleriana, Senecio pseudoarnica, Mertensia asiatica*, etc. I should be very pleased if each of the localities which I have visited during recent years had left us such an amount of living souvenirs!

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A Meditation upon the Show Schedules

by "CHLORIS"

I AM NOT normally a peruser of the Show Schedules. As a non-exhibitor, I have little inducement to read them when there are so many things to do. Besides, their bewildering variety of content and arrangement —here two whole families sharing a single class, there a whole class devoted to a single genus—here alphabetical order of classes, there no order apparent (to the layman at any rate)—repels the casual reader at first glance. But I was once stranded with nothing else to read but the 1975 Show Schedules, and I read them from cover to cover, fascinated, finding them unexpectedly productive of entertainment and food for thought.

I discovered, for instance, that they contained first and foremost a handy reference list of families and genera:

AMARYLLIDACEAE—Cyrtanthus (whatever is Cyrtanthus? Must look it up), Galanthus, Leucojum, Narcissus, Nerine, Tecophilaea, Sternbergia, Zephyranthes, etc.

Very interesting. And useful. But what is one to make of this one:

PODOPHYLLACEAE—Glaucidium, etc. What does "etc" convey after a lead-in list of one item?

GLOBULARIACEAE—Globularia. Well that's clear enough, anyway.

It is interesting to note that LILIACEAE does not contain Lilium, for the purposes of the S.R.G.C. Shows at least.

The Rules for Judges were the next thing to set my thoughts in motion. Garden-worthiness is a quality for which the judges may award points in one type of class only—viz. the classes for "Rock Plants of Generally Easy Cultivation and Grown in the Open Ground". Searching the schedules, I found that no such class occurred in those for Newcastle, Glasgow or Aberdeen; only one such in the others and then in the beginners' sections only. It would therefore seem that Garden-worthiness is not an important factor in the selection, raising and judging of plants at the Scottish Rock GARDEN Club's Shows. Or is it that "Garden-WORTHINESS" comprises more than the ability to grow in a garden, or even that this is an unimportant element in its meaning; that garden-worthiness is assumed throughout; that

Dionysias and the like are garden-worthy even though nobody can grow them in a garden; and that the real reason for giving 50% of the marks for garden-worthiness in these beginners' classes is to ensure that inexperienced entrants do not swamp the sacred benches with overflowing pots of unrefined and rampant weeds?

And now to the Show Schedules themselves. As I began to read them I must confess that the first thing to strike me was a feature of style rather than content. And it struck me with the force of a tolling bell. Repetition. For each of Edinburgh's four special prizes, the phrase "to be held by the winner for one year" was printed separately. The phrase could surely be extracted and placed above the list, outside the brackets, so to speak, to the same effect as regards meaning and with less booming in the reader's head. But worse was to come in the tiresome repetition of the word "distinct" and the phrase "suitable for the rock garden". The former occurs 93 times in all, the scores being as follows: Edinburgh and Perth 14 instances each; Newcastle and Dunfermline, 11; Aberdeen, a paltry 8; the Discussion Week-end —a small Show in the number of classes—7; and Glasgow a clear winner with 28. "Suitable for the rock garden" occurs a mere 52 times and varies more wildly in its distribution. Edinburgh finds the caution necessary 14 times and Glasgow 16; Dunfermline, Perth and Aberdeen use it only 2, 4 and 6 times respectively; and Newcastle and the Discussion Week-end bother with it not at all.

One would be inclined to feel, with Newcastle, that it is hardly necessary, at a Rock Garden/Alpine Garden Show, to remind exhibitors that plants must be "suitable for the rock garden". (By the way, is that the same as "rock plant" which means, according to Show Rules, "suitable for the rock garden, bog garden or Alpine House"?) It is used chiefly of bulbous genera, but I have not noticed Newcastle's Show to be much bedevilled by monster hybrid daffodils as a result of its omission from their schedule. Moreover, Edinburgh, which is firm in its demands for Rock Garden Crocus, Iris, Narcissus, Tulip and Cyclamen (Classes 12-19), makes no such requirement concerning its Crassulaceae (32-33 and 55 to 56), and would, apparently, accept the frilliest Anemone St. Brigid with equanimity (20-21). Perth is cautious about Compositae but totally carefree regarding, for example, Scrophulariaceae, to say nothing of Liliaceae excluding tulipa. And so it is with the others. I played a very enjoyable game of "Spot the anomaly" on this phrase, and I wondered what would happen if I brought a 6 ft. *Crassula arborescens* to sit among the Sempervivums and Sedums

in Edinburgh (incidentally, why "*including* Sedum and Sempervivum" in Class 32? Crassulaceae would normally include them, would it not?) or staggered to Perth with a huge pot of *Fritillaria imperialis*. Would the judges damn them with a contemptuous "N.A.S."? Or just ignore them as well-bred people ignore an example of bad taste?

A blanket requirement in the over-riding Show Rules that all entries be "rock plants" as there defined would cover all classes, perhaps necessitating a few adjustments for Dunfermline's Cacti or Glasgow's Section V, for instance, but saving a yard or two of print to the great joy of the Editor and Treasurer. The same applies to "distinct" which is used wherever entries of two or more pans of plants occur in one class. If there is any real danger of exhibitors entering 3 pans of *Primula* 'Wanda', a blanket rule that in multiple-pan classes all plants must be distinct would obviate it. And, if it didn't, it might not matter much. A spectator at Newcastle this year asked me "Can you tell me what 'distinct' means here?" It was class 26, "3 pans Rock Plants, distinct". The winning entry consisted of 3 small, white-flowered domes of equal size: *Androsace imbricata*, *Androsace pyrenaica* and, I think, *Androsace imbricata* x *pyrenaica*—or something. The spectator found it odd that the second prize went to three similar domes (one with coloured flowers) and that those exhibitors whose plants were really distinct to the layman were "also rans".

But the most interesting line of thought, and that with the greatest promise of indefinite ramification, was the topic of "Class distinction" among plant families. Four families were represented in classes at all seven Shows while 14 families had no representation at all (except in "open" classes like the "3 pans Rock Plants" above). At first, one might be inclined to say "Ah! These four will be the aristocratic families and the backbone genera of the rock garden." But not so. I could hear *Diapensia lapponica* saying to *Jankaea heldrichii* (3 Shows each) "Aristocratic? My dear, all those sedums and sempervivums! They'll grow anywhere. And they have them at all the Shows".

"But there *are* some decent families in that group", says Jankaea. "The Primulaceae, for instance, and the Ericaceae".

"They have a few respectable genera, I suppose", says Diapensia reluctantly. "But the Primroses are terribly promiscuous, my dear, and the Callunas have become frightfully common. In trade in a big way now, they tell me! As for the Rhododendrons—it's a wise hybrid that knows its own pollen-parent, believe me".

"Well, the families they leave out are a pretty mixed lot, too! No-

body can be surprised about the Umbelliferae—who'd want to associate with them? And the Legumes and Labiates have some rather plebeian members, though I've always thought the Pyrolas rather refined".

"Yes, but who grows them? There's such a thing as being too nice, you know. The only Show to have a class for Polemoniaceae is Aberdeen, because it's the only place where they can grow *Phlox triovulata*".

A pregnant line of conversation, which I must follow up some time.

Misnomers

by JOYCE HALLEY

THOSE who managed to attend the Perth Show this spring would see the result of the *Lewisia brachycalyx* seedlings distributed last year There were some very handsome plants and quite distinct from *L. nevadensis.*

This year I would like to try and stop the variety of plants being distributed as *Silene hookeri.* In non-botanical terms I expect this plant to be nearly prostrate, the stems radiating from the root. The long narrow leaves and the stems are hairy, giving the whole plant a grey-green appearance. The flowers are a distinctive chalky pink, with five petals and each petal divided into four segments. From the throat of the flower there are prominent bract-like scales, white, and two to each petal, and each flower has its own stem which is about one inch long and as the flower fades the stem above the bracts changes direction until it is at right angles to the bit below the bracts, by the time the flower has faded.

The plant most commonly sent in as *S. hookeri* seems to be *Lychnis flos-jovis* and the foregoing description can apply except that the Lychnis is an upright plant, seems to grow any height from eight to eighteen inches, depending on the moisture available. The flowers are in a tight cluster and the petals have only one notch. As far as I know *S. hookeri* should be treated as an alpine house plant and *L. flos-jovis* seeds about all over the garden. Any further relevant information about *S. hookeri* from members will be welcome.

Conference for Beginners

by JOYCE DRUMMOND

THE ANSWER to why we found ourselves, on a wet Saturday in early April, driving fifty miles to a College which specialises in Physical Education, lay simply in the following paragraph which appeared in the September 1975 issue of the Scottish Rock Garden Club *Journal.*

"Are you a rather new Member who doesn't know how to begin and hesitates to ask for advice?".

That certainly filled my description and I was delighted to learn that a residential week-end course for beginners was to be held on 3rd/4th April in the Dunfermline College of Physical Education near Edinburgh.

Along with approximately 40 others, we assembled from all over Scotland, and even England, for lunch in the modern and very comfortable College.

Our first talk of the day was given by Mr. Ben Barrett whose subject "The answer lies in the Soil" was a particularly appropriate introduction to the discussion week-end.

"Rock Garden Construction" was the subject of Mr. James R. Aitken's talk and this, too, was most interesting. Mr. Aitken's slides used to illustrate his talk showed us some recent gardens which he had constructed.

In the evening, Mrs. Maule, Mrs. Stead and Mr. Ross Kirby talked to us about "Plants and Places", which gave us an insight into the situation and conditions most suitable to their cultivation.

This was followed by a Plant Stall and raffle and some of the surplus seed from the seed exchange was sold.

Thus equipped with the knowledge of the soil, the construction of the garden, the plants to place thereon and the veritable seed to sow, we retired with much to think about.

On Sunday morning, Mr. Alf Evans took us on a conducted visit to the Royal Botanic Garden. Mr. Evans' firsthand knowledge and total approachability was particularly appreciated and Mrs. Evans had made sure that we were provided with a cup of coffee. We then had a demonstration and talk, from Mr. George Kirkpatrick, on the preparation of alpines for the show bench.

On return to the College, we viewed a selection of books obtainable from the Scottish Rock Garden Club Library, together with some useful catalogues which were of interest to Members.

The final talk and demonstration of the week-end was given by Dr. and Mrs. I. Simpson Hall on "Simple Propagation". Thus the conference discussion period concluded, without doubt an unqualified success. It received its final accolade during the drinking of the last "cuppa" when several participants asked if they could sign up for a repeat performance!

Regeneration of Wild Flowers in Wisconsin Pine Woods

by LAWRENCE JOHNSON

I HAD pine woods in Wisconsin which were part of a farm which my family once owned. In June of 1974 I visited it for the first time in thirty years. The trees are descendants of native white pines which in an earlier day covered a vast area in that part of the state and, according to record yielded an estimated 8,000,000,000 board feet of lumber between 1875 and 1902. Although the adjacent countryside is well timbered today, very few pine woods survive with their flora intact. However, there are very many plantations of pines dating since about 1930, but in these there is no undergrowth of any kind.

The tract I visited has been logged twice in the 20th century, and exhibited some evidence of fire damage of more than sixty years ago. The region suffered a severe drought in the '30s, and at one time cattle had access to the woods, but since then there has been a long period of ample rainfall.

I have a very vivid memory of the wild flowers found there prior to 1942, and I was amazed at the profusion of interesting plants to be seen on every hand last summer.

It was too early for *Pyrola canadensis* to be in bloom, but the plants in bud were everywhere. *Hepatica triloba* still flourished in the centre of the woods, among birches and other deciduous trees not yet crowded out, and at the edge of the woods were Solomon's seal, *Asclepias tuberosa*, and *Lilium philadelphicum*.

A large field adjacent to the wood had been cleared for ploughing

in 1917, and in the years since had reverted to pasture, and in 1947 my eldest brother, the last of the family to own the farm, planted three acres of it to Norway pine (*Pinus resinosa*). These trees are now splendid timber, and their shade was not too dense, and we were interested to see many of the above mentioned wild flowers colonizing the area again.

And, in that line, I was asked by an old friend if I remembered Appleby's Woods, a totally different habitat in the neighbourhood made up of lindens, elms (now extinct), maples and hickories. The area was pasture and in our earlier days was a green parkland and quite without wild flowers. He said no cattle had been on it for many years, and it was colonizing again with wild flowers, and he asked me where I supposed they had come from. What is the answer? From windblown seed possibly, and do we know how long seeds may survive in the ground? As Roger Tory Peterson in his *Field Guide to Wild Flowers* writes: "Can seeds remain viable in the soil for half a century or more, until succession renders their habitat suitable again? We know little about this".

Seed Exchange (Angus Group)

WHEN my correspondents in New Zealand and Australia start sending in seed, I realise it is time to write the notes for the September *Journal.* Last season turned out disappointing seed wise, presumably because of a very damp autumn, and we were short of about 200 items compared with the previous year. But to make up for that we acquired an extra 20 home donors and 8 more from overseas, so I feel the exchange is in a very happy situation. My plea for Androsace, Calceolarias, Narcissus and Pleiones produced excellent results. Thank you very much; only the rarer varieties of each of these were in short supply. I think everybody who wanted Pleiones got them unless they wanted *forrestii* or *humilis* or such scarce items.

Please remember that a few seeds of some of the rarer plants are welcome; we parcel them out with great care.

Seeds, or lists of seeds to follow, must reach me by the end of October; late contributions hold up the printing of the seed list.

All overseas members and home donors receive a seed list. Home members, who are not donors, and wish a list, should send a stamped addressed envelope—$8\frac{1}{2} \times 5\frac{1}{2}$—or a stamped addressed label, if a suitable envelope is not available, to:—

Miss J. HALLEY
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Applications for seed must be on the form provided in the seed list, and please read the instructions. All orders are date stamped when they arrive here and are placed in their respective boxes, and we stick strictly to the order of priority—overseas donors, home donors, other overseas members, and home members.

Seed is ripening fast in this hot weather and I hope you all have a good harvest.

JOYCE HALLEY

P.S. There is a member in New Zealand, postmark Roslyn, who did not get their seed because there was no name and address on the order; we did our best to trace them but had no luck. They can still have the seed or transfer the charges to this coming season if they wish.

ERRATUM

In the report of the Edinburgh Discussion Weekend Show in the *Journal* for April 1976, on p. 74 it was stated that *Pyrola asarifolia incarnata* was exhibited by Mr. and Mrs. Taylor. This is incorrect. It was shown and won in the class by Mr. and Mrs. Stone, Fort Augustus.

LATE 1976 HOLIDAYS
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NC 97: EGYPT—A NILE CRUISE—20 October to 9 November
This lovely cruise in the SS *Lotus* is accompanied by a distinguished Egyptologist and is designed for a maximum of 45 passengers. The itinerary includes a few days in Cairo before sailing along the Nile and visiting ancient sites on its banks. Among the places seen on the way are Abydos, Denderah, Luxor (where we spend four days), Esna, Edfu, Kom Ombo and Aswan, from which an excursion can be made to Abu Simbel. **Prices are from £575*

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