



The JOURNAL of  
THE SCOTTISH  
ROCK GARDEN CLUB

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VOLUME XI, Part 3

No. 44

APRIL 1969

Editor—A. EVANS, Royal Botanic Garden, Edinburgh

Obtainable from Mr. D. ELDER, Hon. Treasurer, 152 Raeburn Heights, Glenrothes

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Fig. 48—The Paradise Garden, circa 1410



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# Editor's Page

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THIS is a busy time of year for the rock gardener. Tidying up, transplanting, replanting and top dressing are all time-absorbing operations. It may be fortuitous, however, that because so much of the work in the rock garden must be done by hand and in a stooping or kneeling position, this attitude takes the cultivator nearer his plants and so allows him to appreciate them more. After all, to the enthusiast, it is the plant that counts and it is the individual plant that one bends to admire as much as the mass of colour provided by a flamboyant cultivar.

Plant appreciation is particularly keen at this time and in the rock garden the miniatures which have lain dormant all winter, in conditions quite unlike those prevailing in their natural homes, have now come to life. Our cold and warm spells, so uncertain, must be trying to the constitution of these attractive species and varieties and often one must be apprehensive for some of the rarer kinds. Growth in spring reassures us that all is in order, although spoiled blooms may sometimes make us ask the question, will I ever be able to flower that plant well?

The answer to that question is yes. It is demonstrated on the benches at our various Shows and those who regularly attend these displays will acknowledge this as being so. Over the years practically every kind of dwarf plant—shrubby; herbaceous; bulb, tuber or corm with or without fibrous roots—monocotyledon or dicotyledon, has graced the show tables. It is at the Shows that the heights of perfect cultivation are in display and once more we are able to appreciate our plants.

How much of this enjoyment do we owe to those who regularly exhibit their plants?—a great deal. How much poorer would we be if those members failed to bring their plants along. Plants that are but names to some of us, or are known only as “miffy” individuals, suddenly appear before the judges and, at last, the name means something.

From these exhibitions a great deal is to be learned, by observing the way the plant has been cultivated and presented and, if one is really interested, by a talk with the cultivator. The difference between success and failure, between satisfaction and tolerance, may be discovered in the course of a conversation.

Enthusiasts are always to be seen at Shows, but they are also available for questions during the winter at the meetings organised by our various group conveners. These meetings are arranged for our benefit, so that we may learn more about the plants we cultivate and the lecturers, often at considerable inconvenience and effort, willingly share with us their knowledge gained over many years.

A particularly enjoyable, informative and social period in the Club's calendar of events is the Discussion Week-end, to be held again this year at Dunblane. It is a time and place where enthusiasts gather and, apart from the arranged programme, can debate and expound their own theories. The lecturers are chosen because of the experience they have had on their subjects. The worth while information gleaned at one of these week-ends could be worth years of one's own personal experiences and could help us to enjoy, even more, our practical acquaintances with plants.

## The Discussion Weekend 1969

**HOTEL DUNBLANE (THE HYDRO), DUNBLANE,**

**PERTSHIRE**

**18th and 19th OCTOBER 1969**

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### PROGRAMME

Saturday :

- |           |  |
|-----------|--|
| 1.00 p.m. | Lunch  |
| 2.30 p.m. | Opening Address  |
| 2.40 p.m. | The W. C. Buchanan Memorial Lecture<br>"Some Plants grown at Ardcuil"<br>Major-General D. M. Murray-Lyon, D.S.O., M.C. |
| 4.00 p.m. | Afternoon Tea  |
| 5.00 p.m. | "Scottish Mountain Plants"<br>James R. Aitken, Esq.  |
| 7.00 p.m. | Dinner   |
| 9.00 p.m. | "Plants in Cluny Garden—a Year in a Highland Garden"<br>R. S. Masterton, Esq.  |

Sunday :

- |            |   |
|------------|---|
| 10.00 a.m. | "Rock Plants without Expensive Rock Garden Construction"<br>Miss Valerie Finnis |
|------------|---|



- 1.00 p.m. Lunch  
 2.30 p.m. "First Years in a New Garden"  
 Mrs. M. R. Stuart  
 4.00 p.m. Afternoon Tea  
 5.00 p.m. Close Down
- 

#### HOTEL RESERVATIONS FOR RESIDENTS :

All bookings for the Weekend must be made *direct* to the Hotel Dunblane (The Hydro), Dunblane, Perthshire, mentioning membership of the S.R.G.C. The special Conference rate for the hotel is £4 15/- per person. This quotation is for accommodation and all meals from lunch on Saturday to afternoon tea on Sunday. The service charge is also included.

#### NON-RESIDENTS :

Non-residents who require meals will be charged 13/9 for lunch, 21/- for dinner, 2/- for morning coffee and 2/- for afternoon tea. These prices also include the service charge. Tickets for meals may be had at the Reception Desk.

#### CONFERENCE CHARGE AND IDENTITY BADGES :

In order to cover the overhead expenses of the Weekend, there will be a Conference charge of 10/- for each person. Non-residents will be asked to contribute 5/- each for one day, or 10/- each for the two days.

Members are asked to pay the above charges at the Conference Office on arrival at the hotel, when they will be given Identity Badges and programmes.

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## Notice

The ANNUAL GENERAL MEETING will be held in the Grosvenor Restaurant, 72 Gordon Street, Glasgow, C.1, on **Thursday 6th November 1969, at 2 o'clock.**

In accordance with Rule 5, para. 2, members are notified that nominations are required for President and other Office Bearers and for Ordinary Members of Council. Nominations in writing, seconded by another Club member or members, must be sent to the Honorary Secretary no later than Wednesday 20th August 1969, the nominator having ascertained that the nominee is willing to serve if elected.

In accordance with Rule 4 (a) all Executive Office Bearers retire annually and are eligible for re-election.

In November 1969 the following will have completed three years on the Council :

J. B. Duff, Esq.	Mrs. S. Maule
Miss S. Moffat	I. Munro, Esq.
Mrs. M. R. Stuart	

In accordance with Rule 5, para. 1, they retire and for one year are not eligible for re-election as Ordinary Members of Council.

Honorary Secretary,  
L. CHRISTIANA BOYD-HARVEY,  
Boonslie,  
DIRLETON, North Berwick,  
East Lothian.

# Twentieth Century Trends

by L. CHRISTIANA BOYD-HARVEY

The Clark Memorial Lecture given at Edinburgh on 7th November 1968

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ALTHOUGH we are only two-thirds of the way through the 20th Century, it may be of interest to stand back and consider what has been happening so far to gardening in general and to rock gardening in particular. This will put things into perspective, so that we may speculate about the way rock gardening is moving towards the year 2000.

Some 20th Century innovations are of so great an importance that they deserve a whole series of articles to themselves. New materials are in use such as polythene bags, plastic flower pots, fibre-glass containers and various transparent substitutes for glass. The value of "plant hormones" has been realized, particularly for rooting cuttings and for use as selective weed-killers. There are systemic insecticides, and the effects of gibberellins and soil conditioners have been tried out. The "electronic leaf" has made speedy rooting under mist the routine procedure for large-scale propagation. There are new ideas on garden design, including the use of peat blocks and tufa. There have been thousands of new plant introductions. Plant hunting holidays have become popular and there is wide dissemination of gardening knowledge.

The present enthusiasm for "Floral Art" is a 20th Century trend which should be noted. Some of us might consider this to be anti-gardening rather than gardening, but in Britain the local floral art clubs have a total membership of 80,000. We, with our membership of only 3000, ought to consider whether some of this enthusiasm might be diverted to include an interest in growing rock garden plants for their aesthetic appeal. Our Show Secretaries are realistic about it and most of them include classes in their schedules for cut flowers and foliage of rock garden plants. Visiting members of the public always congregate round these classes, and it is our hope that they may eventually tear themselves away, and notice that some of the other exhibits are also worthy of inspection.

We are not the first people to recognise the decorative value of an assemblage of cut flowers. In the 17th Century, Ambrosius Bosschaert, Jacob Wallscapel and other Dutch painters arranged mixed bouquets of flowers in glass, pottery and metal bowls, and then made permanent records of them on canvas.

It is a pity that the beauty of cut flowers is transitory. They begin to die the moment they are severed from the plant, and nothing is more repellent in a room than a weary bunch with yellowing leaves, dropping petals and stale water, and few domestic duties are more distasteful than disposing of the decay and putrefaction. Surely some of those 80,000 enthusiasts will revolt against this recurring chore, and turn their attention towards real plants, with roots as well as shoots. The growing of plants which will slowly become bigger and more beautiful is surely a more forward-looking occupation than arranging poor amputated portions of plants which will inevitably decline and die. Even people who have not the facilities for growing hardy plants on balconies and in window-boxes are recognising the interest value of plants able to tolerate those room conditions which human beings find congenial. There is nothing new in growing house-plants. Our grandmothers had their aspidistras and potted palms, and it was said of Louis XIV that, although he had carpets in the garden, he grew orange trees inside the palace.

Growing plants inside a house reaches its highest development when they are given a whole house for their exclusive use. Some of the most meritorious plants at our Shows have been grown in alpine houses. Those members who grow their plants in this way recognise that no single alpine house is able to provide all the different conditions required by a large mixed collection. Usually one part of the house is equipped with blinds or slats to give semi-shade, and some plants have to be hidden away in deeper shadow beneath the staging. Adjacent to the alpine house there may be various frames, some to provide full sunlight and drought in summer, and others to allow exposure to natural rainfall at certain times of the year. The great new glasshouse at the Royal Botanic Garden, Edinburgh, is divided into compartments, so that one may pass from a dry desert-like atmosphere to the humidity of a tropical forest. Not all the plants here are growing at the same level, and there is a dark basement, below the surface of the tropical pond, where water-plants may be viewed through a window. Does all this give some forecast of future developments ?

A great deal of thought goes into the planning of the amateur's alpine house but, even so, it is able to do no more than provide simulations of natural habitats which are only approximately accurate. It seems probable that in the future more private growers will come to realize the advantages of greater selectivity in their choice of plants, and will specialise in those from one particular ecological zone. The Royal Botanic Garden glasshouse separates desert plants from tropical forest plants and from warm temperate plants, but it occupies an extensive area of ground. In and around the densely populated areas of the future, there will have to be great economy in the use of land for private gardens. Will the year 2000 have multi-storey glasshouses to match up with the multi-storey housing blocks, multi-storey shopping arcades and multi-storey car-parks which are already with us? May this kind of advertisement be expected in the newspapers of the future?

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What is happening to the rock garden itself in the 20th Century? Reginald Farrer, in the earlier years of the century, did more than any other writer to wean us from the old "rockery" and the even earlier "grotto". A great many people are finding that a rock garden gives the opportunity for growing a larger collection of plants than almost any other aspect of horticulture. The rocks themselves contribute to the pleasing effect, especially during the short period when there may be little in flower. There seems to be some divergence of

opinion as to whether the trend is to have a well-designed rock garden or a fine collection of plants. In the *Report of the First International Conference on Rock Gardens and Rock Plants* in 1936, there is an article by Captain B. Symons-Jeune on “*Modern Rock Gardening and its Future*” which states :—

“ . . . alpines of any real importance for garden decoration (as opposed to the alpine house) are easy to grow—they bring no special prestige to the owner, so why spoil visible rock with too many ?”

This predilection for rocks appears again in 1968 in our own *S.R.G.C. Journal*, when Mr. Reginald Kaye, in his article “*In Defence of Rocks*”, writes :—

“ . . . a rock garden can be, and in my view should be, an expression and interpretation of natural scenery. It should be built in such a way that it presents a balanced and artistically satisfying composition whether it be adorned with plants or not. In fact, when I have constructed such a rock garden, I have frequently thought it a pity to clutter up its lines with a lot of plants.”

Both writers are saying that plants spoil the appearance of the rocks, but there are others who hold the opposite point of view. During the Third International Conference on Rock-Garden Plants in 1961 there was a discussion entitled “*Has the Rock Garden a Place in the Modern Garden ?*” during which Mr. Joe Elliott said :

“I take it that any member of the A.G.S. or S.R.G.C. who is thinking of building a rock garden will do so for the prime purpose of growing a wide variety of plants, and not merely to add to the scenic beauty of the garden with a slavish imitation of a rocky outcrop.”

Mr. David Elder, too, is emphatic in his preference for plants. In an article entitled “*Is your Rock Garden really Necessary ?*” in the *S.R.G.C. Journal* for September 1967, he presents his argument thus :

“If you want to impress the neighbours and have something the others haven’t got, and you don’t mind the extra labour and expense, go ahead and build a rock garden. . . . *But*, if your garden is the usual town or suburban one, flat or nearly so, thirty yards by ten, and the nearest natural rock is miles away, don’t begin by wasting your substance on stone. Buy plants instead.”

So there is the choice. Are we to have realistic imitations of wild

mountain scenery sweeping down to the back door, or wild mountain plants tamed into submission in obviously man-made artifacts? Has there ever before been so much independency of outlook on opposite aspects of the same subject, with a refusal to conform to the prevailing fashion, whatever it may be? Is this dichotomy between stone-lovers and plant-lovers a 20th Century trend?

It has happened before. In the 17th Century a fashion started in the sun-scorched gardens of Italy for the stone parterre. A flat piece of ground near the house was marked out into scrolls and arabesques and these were filled in with gravels, pebbles and sands in contrasting colours, so that the whole thing looked like a vast carpet or embroidered cloth which remained the same in summer and winter. When the fashion reached England, Sir Francis Bacon in his essay *Of Gardens* wrote that, near the house, "Nothing is more pleasant to the Eye than green Grass kept finely shorn. Beds cut separately with divers Coloured Earths they be but Toys; you may see as good Sights many Times in Tarts." He liked to see "Low Flowers, being withal Sweet and Sightly", and these were to be grown in a wild part of the garden on "little Heaps in the Nature of Molehills."

Sir Francis Bacon was a horticultural heretic in a stone-worshipping age, and the fashion for the parterre spread to Holyrood and as far north as Aberdeenshire. Here the Great Garden of Pitmedden was laid out by Sir Alexander Seton in the manner of Charles I's garden at Holyrood. It declined through the centuries but, when it came into the care of the National Trust for Scotland in 1952, it was restored, as far as possible, to its 17th Century design. This was carried out under the guidance of Dr. James Richardson of North Berwick. In the cooler, moister climate of Aberdeenshire, the entirely stone parterre of Italy has taken on a softer and greener aspect, with the patterns outlined in clipped box backed by red brickdust and blue pebbles from the sea-shore. In the summer months the scrolls are filled with bright, low-growing flowers. Within its high stone walls it has become a meeting place for the opposing cults of stone and of flowers.

The use of stone in gardens reached its highest development in 17th Century Versailles. Louis XIV was a fresh-air man and wanted to maintain the countrified appearance which the place had previously had as a royal hunting lodge. On the other hand, he planned to use the garden for open-air receptions, concerts, fêtes, victory processions and firework displays. André Le Nôtre, Director of the Royal Gardens, admired the dignity of stone and disliked spoiling it with flowers. He

drew up magnificent plans for stone parterres, paved avenues and promenades all embellished with statuary and fountains. There were to be open-air drawing-rooms, with belts of shrubs to provide shelter and privacy. Old pictures of the period show how rigidly these shrubs were fenced back with close trellises, so that no vegetation of any kind could inconvenience the courtiers.

Louis XIV loved flowers and ordered that the parterres near the palace should be filled with them. Le Nôtre was disgusted and said that the parterres were now fit only for nursemaids to look down on from upper windows. So within the same garden there is divergence of opinion between the distinguished garden designer and his royal employer.

Then in 18th Century England, there was a complete swing away from formality to wild, unspoilt Nature. To quote again from 20th Century Reginald Kaye, the garden became "an expression and interpretation of natural scenery." Clipped box and straight avenues of trees disappeared, and groups of full-grown trees were transplanted from the countryside. Meandering paths wandered through parkland. There were no more stone parterres, and fountains and statuary were removed. Water was no longer confined within stone basins and canals, but natural streams were dammed to spread out into great ornamental lakes.

The new fashion was not adopted with much enthusiasm in Scotland for a number of reasons. No doubt Lancelot Brown, Humphrey Repton and William Kent, the most important landscape architects of the period, already had enough work in the south without making the long, adventurous journey northwards. Mr. E. H. M. Cox in his *History of Gardening in Scotland* suggests that the prudence of the Scots made them dislike destroying a garden on which money had already been well-spent. The setting of many Scottish gardens was among mountains and lochs, and even the most expert of landscapists would have found it hard to copy or improve upon Nature's own majestic backcloth. Scottish gardens remained formal in the manner of French and Italian gardens of the 17th Century, ignoring the "back-to-Nature" movement of 18th Century England.

The English landscape gardens had scenic dignity, but no flowers grew there. Garden owners must have felt the lack of focal points of interest and gradually such embellishments as stone grottoes, imitation stone ruins and great towering rocks were added, but still there remained this strange hostility to flowers.



During the 18th Century, at Uppsala University, Linnaeus was working on his binomial system of nomenclature. He seems to have been adept at arousing antagonisms. There is always a tendency for horticulturists to express indignation when "those botanists" change plant names. Linnaeus was changing everything. He had a good opinion of himself, and it was said that he wrote as though he had been personally present at the Creation. He was not only naming plants, but arranging them in Classes and Orders. The sexuality of plants had been recognised, and it was unfortunate that Linnaeus used words which were indecorously anthropomorphic in a botanical context. For instance, he would classify a lily under *Hexandria Monogynia*—six husbands with one wife. His system was denounced by the Church as immoral. The more erudite of the country gentlemen must have realised that their delicately nurtured daughters ought not to be exposed to the temptation of inspecting and counting the stamens and stigmas. It is possible that this may have contributed to the exclusion of flowers from the great estates. Botany was Pornography and best left to the long-haired students of Uppsala University and rough working men.

This appears to have happened. The "plantsmen" of the period were the skilled craftsmen, the weavers, wig-makers, nurserymen and kitchen gardeners. They had manipulative dexterity and used it in breeding and cultivating certain "Florists' Flowers", notably the Auricula. Floriculture Societies were formed to set high standards of excellence. Competitive shows were held with very strict rules for judging, and valuable prizes were awarded. The dichotomy of the 18th Century was a class distinction. No gentleman would allow the dignity of his landscape to be spoilt by vulgar, working-class flowers, and the weavers, no doubt, were secretly contemptuous of the green tedium of those rolling acres.

How do we stand now in the 1960s? Reginald Kaye supports Le Nôtre in defending the use of stone and agrees with the 18th Century landscapists that gardens should portray Nature. David Elder agrees with Sir Francis Bacon, King Louis XIV and the 18th Century weavers that flowers are of even greater importance. Perhaps most of us maintain a half-way position between these opposing viewpoints. We are inclined now to build rock gardens for the purpose of providing suitable aspects for our plants and for containing suitable mediums for their roots. We also consider our own convenience, and build rock gardens up to a height at which the plants may be more easily tended,

examined and enjoyed. Stone walls, raised beds, and sinks all fulfil these requirements. I would insist that this formal use of stone, with plants which are allowed to grow quite naturally, is essentially a 20th Century trend.

I would have insisted on it had I not come across a printed reproduction of a "Paradise Garden" (frontispiece). The original painting by an unknown artist is in the Frankfurt Historical Museum. It depicts an imaginary garden wherein saints and angels are enjoying the sunshine. The garden is enclosed by a battlemented stone wall in which a plant is growing. At the foot of the wall there is a raised bed housing an iris and other plants. In the foreground, St. Martha is kneeling beside a stone sink ; she has a trowel-like scoop in her hand and it looks as though she were preparing to plant up the sink to make a miniature rock garden. The picture was painted around 1410.

In which direction will our ideas on rock gardening move in the next thirty years ? It seems probable that, with increased need for economy in the use of land, town gardens will continue the present trend towards making intelligent use of a small area. A formal retaining wall, perhaps 36 ins. high and 36 ins. wide, doubles the planting space. A free-standing raised bed could treble it. Things are different away from populated areas, and the glen at Keillour, planted with large rhododendrons, demonstrates the proper use of an extensive country garden. In the future we may expect prize-winning rock garden plants, small enough for the show bench, to come from small town gardens and alpine houses, and it will be invitations to visit large gardens which will continue to make red-letter days in our Group diaries. The owners of these fine gardens are making 20th Century history by raising and maintaining in cultivation the thousands of Himalayan introductions of the first half of the century. Some of the collecting grounds are now politically out-of-bounds, but the plants are being cared for in gardens and photographic records exist which show them in native habitats.

The use of the camera is a very recent development in the long history of botanical and plant-hunting expeditions. Two hundred years ago James Cook was preparing for a voyage to Tahiti to witness the Transit of Venus, and thereby gain astronomical knowledge to assist navigation. He carried secret orders that afterwards he was to travel on southwards to investigate the great land mass which was believed to encircle the Pole. Joseph Banks, Esq., through the Royal Society,

obtained Admiralty permission to accompany Lieut. Cook in the *Endeavour* to collect biological data in the new countries they were to see. He was a rich young man of wide scientific interests, destined later to become President of the Royal Society at the age of only 35 and, in his old age, to become a founder Fellow of the Horticultural Society. At his own expense, he took on this voyage a party of seven, among whom were Daniel Solander, the Swedish naturalist, and Sydney Parkinson, a botanical draughtsman. It was Parkinson's duty to record new plants in water-colour to illustrate the book which Banks intended to write at the end of the voyage. At one place where they landed the wealth of vegetation was so great that Cook named it Botany Bay. On the cabin table of the *Endeavour* there was a great pile of plants waiting to be described, classified and painted. In order to record them before they withered, Parkinson made quick outline sketches, colouring in only one flower, one leaf and a piece of stem. He died of dysentery on the homeward journey, but another artist was able to complete his hastily made sketches.

In the earlier years of the 20th Century, George Forrest made use of the much speedier photographic method of recording plants in their native habitats. *George Forrest*, published by the S.R.G.C. in 1935, and *The Journeys and Plant Introductions of George Forrest*, by Dr. J. Macqueen Cowan (1952) are both illustrated by black-and-white photographs taken in the field. One of the most enlightening of these is of *Primula forrestii* dangling out of a limestone cliff in the Lichiang Range. Those of us who have only seen the plant growing in a pot would never suspect, but for this photograph, that in nature it has this long, pendulous, woody trunk.

The Ludlow and Sherriff expeditions were the first to use colour ciné photography. Mrs. George Sherriff and her late husband have always been most generous in showing fellow members the Tibetan plants growing at Ascreavie, and some of us have also had the pleasure of sitting in Group meetings and watching the films. It was a truly wonderful experience to see the monsoon clouds drifting away to reveal the sun shining brilliantly on the snow-capped mountains of Tibet.

What of the future? Keen gardeners are no longer content to be only at the receiving end of the seeds sent home by expeditions. They want to go and see for themselves how the plants grow and, perhaps, dig up just a few treasures for the garden. Every year there are more package holidays and every year they range further afield. Might the

survival of certain rare and beautiful species be endangered? By the year 2000 will the rare plants of Japan and New Zealand have suffered through being visited by a succession of Jumbo Jets each carrying five hundred plant lovers armed with trowels? A good omen for the future is a travel brochure just received, which states that the object of its specialized holidays is "the study and *photography* of wild flowers and wild life generally." Two recent S.R.G.C. lectures were entitled "Plant Hunting by Camera". Let us hope that this enlightened attitude may continue and spread.

The Scottish Rock Garden Club was formed in 1933 to create an interest in rock garden plants, to spread a knowledge of such plants, and to encourage their cultivation.

It has now become impossible to avoid acquiring knowledge. We are bombarded with it from all directions, and it seeps in through the skin. Apart from broadcasting, newspapers, technical publications and books, there are our own *Journals*, Group lectures, Discussion Week-ends, Flower Shows and visits to gardens. Then there are all the odd snippets of information which we exchange with each other. The subjects on which we disagree most fiercely are also of value in crystallizing our own ideas.

Some members will remember the 1961 International Rock-Garden Plant Conference at which one of the liveliest sessions was a symposium on "Shows, Showing and Judging." The plan had been that the experts on the platform would debate these matters among themselves, leaving the audience to listen and learn. All went peacefully for a while, but soon a restlessness became apparent in the body of the hall. The trouble was we all considered ourselves to be experts with long experience of being at the receiving end of show organisation. We were convinced that we alone could turn the whole thing inside out and get it one hundred per cent perfect. Fortunately, the Chairman, Mr. Harold Epstein of the American Rock Garden Society, realised what was happening and released the meeting for general discussion. This gave us the opportunity to liberate some of our bottled-up knowledge and it was all most enjoyable.

We have gained in knowledge through our membership, but who has the knowledge to predict what changes may come in the next thirty years? History teaches us that garden design is not a static thing. Trends from past centuries have a tendency to recur in changed

form. There are usually minority trends in different directions, sometimes ahead of their time, but sometimes lagging behind. Garden design and the choice of plants, necessarily, have to be adapted to the size of the garden and to its proposed function. The economic, political and cultural climates of the period also exert influences. What old trends are likely to recur in the next thirty years? Will the wealth of new plants still being introduced lead to an intensification of interest in the cultivation of plants for exhibiting, regardless of their decorative value in the rock garden? On the other hand, after several hot, dry summers, there is the possibility of a revival of interest in stone for its own sake, with paving, pools and terraces adorned only with slow-growing conifers. Gardens would then become flowerless, weedless, labourless places for rest and recreation.

The man-made environment at the end of the century has to be considered. There are those who have warned us that, if the present population trend continues unchecked, there will soon be 'standing-room only' on the planet. Others have expressed concern at Scotland's depopulation problem, made evident by shortages of labour for new industries. The towns are growing fast, both in size and population, but it is possible to spend many hours in the Highlands or Borders without human encounter. Will gardening be possible in big towns of the future, especially in those where new buildings are piling up skywards rather than sprawling outwards into the countryside?

In our *S.R.G.C. Journal* No. 3 (1946), there is the story of what happened to the garden of the late Mr. Walter E. Th. Ingwersen during a previous period when the nutritional needs of the human population pressed hard on the environment. He described how the War Agricultural Executive Committee ordered him to give over nearly all his garden and alpine houses for food production. He tried to sell his rock garden plants at bargain prices, but all potential customers were themselves growing food. He related sadly how thousands of his rare and valuable alpinists ascended to heaven in billowing clouds of bonfire smoke. May we dare to assume that there will always be some garden space for those who want it? Will those who already have gardens be allowed to decide what they will grow? Deprived, garden-hungry people will, of course, always be able to enjoy the Royal Botanic Garden, the properties of the National Trust for Scotland and the Stately Homes. Can we be quite sure of this? When Oliver Cromwell came to power, he ordained that pleasure

gardens were sinful and ought to be used for growing food for the people. The Royal gardens were the first to be cut up and parcelled out. Could it happen again ?

The adult population of 2000 A.D. is already in the pipe-line. What are the gardening prospects for a middle-aged couple who were born in the post-war period ? They will probably be living in a multi-storey housing block in the high-density Forth-Clyde conurbation. They have gravitated there from the country, where they were brought up to have an interest in rock gardens. They are lucky to have a balcony and on it he has arranged a series of light-weight fibre-glass boxes. These are filled with an assortment of ready-mixed composts. Most specialist nurserymen have given up alpines, having found that food-production gives them a higher return for their labours, so he has raised all the plants himself from S.R.G.C. seeds. The space available is cramped and, therefore, he is specializing in small plants for their rarity value. His wife, in a disposable paper dress, is sitting on the inflatable settee re-arranging her permanent plastic daffodils. Neither occupation sufficiently fills their long leisure hours. They would like to drive down to the Borders to see whether they are still able to find any heather growing wild, but it is too long a walk to the Parking Belt which encircles the city.

They are looking forward to retirement, when they intend to move northwards to a delightful depopulation area, quite unsuitable for road building, housing development or intensive food production. Here they will have the joy of handling real soil again instead of the synthetic stuff out of bags. They will have wide open spaces and all their garden dreams will come true. There will be a sheltered flag-stone pavement where they will live, eat and rest during the long mid-summer days. Round it will be waist-high double walls filled with their own made-up soil mixtures. In these they will grow new plant introductions raised from seed. She is getting tired of the so-called floral art which has given her pleasure in town. Instead of having "flowers" made of wax, feathers, fur, shells, fishbones, fabrics and plastics, she is planning to experiment with the old-fashioned mid-century idea of having real flowers standing in water, and she will have a cutting border and a rose-bed in which to grow them. Beyond the formal garden there will be peat beds, a bog garden and woodland. There will be a rock garden which is "an expression and interpretation









Fig. 51—*Cryptogramma crispa* ▲ *Photo—R. Kaye*

Fig. 50—*Polystichum aculeatum*  
◀ *pulcherrimum* *Photo—R. Kaye*

Fig. 52—“The Rustyback” *Ceterach*  
*officinarum* var. *crenatum*  
▼ *Photo—R. Kaye*





Photo—R.B.G. Edinburgh ▲  
Fig. 53—*Betula nana*

▼ Fig. 54—*Acantholimon*  
Photo—R.B.G. Edinburgh



of natural scenery''. They will take in more and more land every year until the place becomes too large for the two of them to manage. Native plants will then move in uninvited, but why worry ? Even the weeds are interesting and beautiful in the Highlands. With advancing years they will spend more time on their sheltered pavement, tending the plants in their waist-high walls. They will be occupied and happy and not unduly anxious about what the new 21st Century may bring.

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From *The Villa and Cottage Florists' Directory* (1835), by James Main,  
A.L.S.

Of the Lapidium, commonly called Rock-Work.

As a flower-garden is a receptacle for everything that is gay and beautiful in the vegetable kingdom, so every kind of soil and habitat natural to the plants respectively, should be, as nearly as possible, imitated ; not only as a means conducive to their free growth, but in order that they may be seen in their domesticated state as they are most generally seen in nature. For this purpose we have lapidiums, or Alpine plant borders, which are only a congregation of rugged stones. In the interstices of these, the plants are put, either on the dry summit, or in dark recesses under the largest blocks. And though such a harsh feature may be dispensed with in a simply beautiful flower-garden, it is absolutely necessary in an extensive botanical collection, where the object avowedly is, to get together and present every vegetable production found on the varied face of the earth ; whether among craggy rocks, or on the extended savannas of the low latitudes. Alpine plants, therefore, which constitute a very large and beautiful portion of our collections, are treated with a situation and exposure as like their native habitat as it is possible for art to accomplish. Many of the mosses, lichens, and especially the beautiful family of ferns, cannot be cultivated successfully, nor indeed would they look well, if unaccompanied by fragments of stone or other marks of uncultivated nature.

# Ferns for Rock Garden and Woodland

by REGINALD KAYE

(The William Buchanan Memorial Lecture given at Dunblane on 19th  
October 1968)

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FIRST, I would like to say how much I appreciate the honour of being asked to give the William Buchanan Memorial Lecture on this occasion. Many members present will remember Willie Buchanan as a friend, and admire his profound knowledge of plants and the skill with which he cultivated a very wide range of hardy species. This was equalled only by his most embarrassing generosity and readiness to share his treasures with any enthusiast who visited his garden, a sanctuary for rare plants.

I had known and corresponded with Willie over many years but, up until a year or so before he died, had never been to his garden. I remember on this occasion arriving at Bearsden, to find him waiting for me in his shirt sleeves with a box full of labels and polythene bags. It fell dark long before we had explored half the garden and I stayed overnight and well into the following afternoon. Willie insisted that I ought to have this and that until I had my van almost packed with polythene bags full of cuttings and layers. Whenever I look at the many plants I grow through the generosity of this enthusiastic plantsman I think back to that October afternoon spent with him talking of plants, having no idea that he was to be taken from us so soon.

Not least among the plants loved by Willie Buchanan were the ferns. He had many fine species and varieties in his rock garden, as well as in the rest of his garden, some of them very rare and not known to exist elsewhere. It is good to know that these rarities were taken up and cared for by his friends and still flourish today. It is upon the subject of ferns for the rock garden and shady woodland that I am to talk this afternoon.

I think I may claim to be as great a lover of alpine and rock garden plants as anyone here, but I must confess that I find equal pleasure and satisfaction in growing ferns. They are so interesting and, apart from their natural grace and beauty of form, provide a welcome contrast to the vivid colours of the flowering plants : the two complement one another.

In the winter months especially, the evergreen or wintergreen species come into their own, and the hart's-tongues, polypodies, polystichums and spleenworts become most conspicuous during this season.

What could be more welcome than the glossy verdure of the many varieties of hart's-tongue when strolling round the garden on a dismal winter's day, or the feathery grace of the polypodies and polystichums shining out from amongst the gloomy remnants of summer's flowering plants? Ferns are particularly useful for covering that part of the rock garden where more shade is cast than is good for the majority of plants, and there they will create much interest where, without them, the prospect might be rather dull.

Some three or four years ago I built a dry wall specially to house my collection of *Polypodium* varieties and a few other genera. At the base of the wall these are interplanted with groups of *Cyclamen*, *Hylomecon*, *Meconopsis* and other shade-tolerant plants. Today this area is perhaps the most attractive part of my nursery gardens. This might not be saying so much for, through lack of staff, a rather large proportion of my land has gone back to nature and I have some fine groups of hogweed, knapweed and other native plants. A great friend who is keenly interested in photographing British native flora has found some species not previously recorded for the area. We have named this part of my nursery the *Matto Grosso* or *Green Hell*.

It is difficult to account for the almost total eclipse of ferns as garden plants during the last forty years, a neglect so widespread that few people today are really knowledgeable about the group. I believe that I am correct in saying that a dwarf crested Lady Fern exhibited recently by our immediate past President at a S.R.G.C. Show was thrown out by the judges as N.A.S. who thought a plant of parsley had been entered!

It is sometimes said that one of the obstacles to taking an interest in ferns is their naming, but they are no worse, from a nomenclatural point of view, than dwarf conifers. Anyone who can pronounce *Schizocodon*, *Schizostylis* and *Eschscholtzia* should have little trouble with *Dryopteris*, *Polypodium* and *Polystichopsis*.

Ferns, of course, have been bedevilled more than most plants by the taxonomists, the Oak Fern, for instance, having been placed in four or five different genera since I took up ferns. Anyway, once the names have been acquired, one can impress one's friends no end by reeling off some particularly choice examples, though the modern rules of nomenclature are tending to spoil the fun. I must confess

myself a diehard in this respect. Varietal names such as *divisilobum*, *gracillimum* and so on explain themselves and are more pleasing to the ear than the proper or fancy names which the pundits tell us must now be used for cultivars. Imagine naming a beautiful new variety of Fern 'Penelope Shufflebottom', or 'Ponsonby's Pride' when a simple latinised musical adjective such as *flabellipinnulum* or *ramocristatum* at once gives a picture of the variety. In the case of ferns there are so many variations of frond detail, as varied as the shades of colour in roses, for instance, that the imagination reels at the thought of distinguishing them all by the use of proper names.

One of the fascinating characteristics of British ferns is their ability to sport into all kinds of fantastic variations, as I shall shortly show. But there is little time to develop this aspect of the subject as I must press on to more mundane matters such as cultivation and propagation. I think it is true to say that the vast majority of ferns present no problems. A mere handful cannot be grown in soil containing lime, but the others will thrive in almost any soil except pure sand. Most ferns like shade and all except one or two prefer good drainage. The ideal soil for the larger ferns contains a good proportion of humus, obtained in nature by the normal leaf-fall of the tree canopy. Ferns like a stony soil provided that lots of humus separates the stones. Those ferns requiring more specialised treatment, such as the spleenworts, will be dealt with as they appear on the screen. General maintenance consists of providing an annual top-dressing of loam and leafmould with a lacing of bone meal applied in spring just before growth gets under way.

Propagation on the private garden scale generally means simple division of the plants when they have made two or more crowns. In the case of some *polystichums* the fronds produce bulbils which will make young plants, if pegged down on to compost. When rooted these can be detached and grown on. But if large numbers of plants are desired then spores must be saved and sown. Some of the finer forms are sterile and can be increased only by division and some varieties will not come true from spores, but species normally come 100% true.

When spores of a variety are sown, as opposed to a species, there is always the possibility of raising improved kinds or even of getting something quite new or unrecorded. On the other hand there are just as likely to be inferior forms and these should be discarded as soon as their true character is revealed. If one is too tender-hearted one is likely to fill the garden with rubbish.

Perhaps at this stage I should say something about the life cycle of a fern as this may not be familiar to all. The fern plant as we see it growing is a neutral or asexual organism. The flowering plants produce male and female organs, usually, though not always, in the same flower, and by fertilisation develop a complex body, the seed. This contains a multicellular embryo plant surrounded by food reserves within a protective coat. The fern plant, on the other hand, reproduces itself in a different way and releases unicellular spores which, on germination, gives rise to fern plants not immediately recognisable as such. When a spore falls on a congenial medium it germinates and grows into a small scale-like plant, (the prothallus), about half an inch in diameter, and this can live and proliferate independently in its own right, in some cases for years. Eventually, however, male and female organs are produced on the lower surface of the prothallus and, after fertilisation, give rise to a normal fern. The prothallus then disappears. Thus we have two independent alternating generations within the life cycle of the fern.

It is obvious then that there must be many enemies of the germinating spore, for literally many millions of spores are shed annually by one large fern plant, and if all reached maturity the whole world would be a waving jungle of ferns. Clearly, special techniques are necessary for the successful germination of fern spores. My own method is to use earthenware seed pans and to prepare them by thorough cleaning, crocking the drainage hole, putting a layer of rough compost sievings over the crock and filling half way with the finely sieved compost pressed firm. Protecting the surface with a piece of paper, I pour boiling water through the compost until the pan is too hot to hold. As soon as cool, I sow the spores thinly from the point of a knife, and cover with glass to prevent stray spores of other ferns, fungi, etc., contaminating the pan. The pans are then set on a bed of ashes resting on a polythene sheet in a shady greenhouse. The glass covers are never removed until germination is well under way and any necessary watering is applied by soaking the ashes. The prothalli appear in anything from one to six months. As soon as the young plants are large enough they are pricked off and kept close until they are growing freely, after which they are hardened off and potted up or lined out to grow on. Now I think I will show some slides with which I hope to illustrate something of the variety of ferns which can be used to adorn our gardens. First of all I will show several species and varieties which can be used appropriately in the rock garden.

. . . . Then followed a collection of slides of Adiantum, Asplenium, Polypodium, Cystopteris, Polystichum and other ferns suitable for the rock garden. A selection of the many varieties of Athyrium were next projected to illustrate the amazing range of variation demonstrated by this fern. This was followed by examples of many other species and varieties for woodland planting and, finally, a few slides of flowering plants which grow and associate well with ferns in shady gardens.

Mr. Kaye concluded his talk by expressing the hope that he had shown how rich and wide the field was in the fern world, and how, by cultivating ferns, beauty and pleasure could be introduced into the garden.

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# Natural Screes and Scree Gardening

by C. GRAHAM

(Lecture given at Dunblane on 19th October 1968)

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I SHOULD like you to join me for a few moments on the Skagastol glacier in the Jotunheimen district of Norway. Today there are no crevasses, just a sprinkling of snow over solid ice. We are looking across to the Jostedalbreen which, according to some authorities, is all that is left of the ice-cap that covered most of the British Isles several thousand years ago. Turning, we climb to the col, perspiring in the process as we sink waist deep in the soft snow. Consequently, we frequently stop to admire, on our left, Store Skagastolstind, the peak rising to 2000 feet above us. On the other side of the col we look down into an excellent example of a U-type hanging valley scoured by a glacier no longer there. The rock of the district is igneous and the sides of the valley are steep, carrying very little snow. Note that the screes on the left appear more numerous. They face south and the weathering agents, frost, sun and frost again, are no doubt more active on this side of the valley. Small by Alpine standards, they are, nevertheless, larger than they appear, being nearly 2000 feet below us and five miles to the end of the valley.

My first sight of *Cassiope hypnoides* was of a plant on the edge of a snowfield with water streaming through it, but, as you can see, it does not demand such extreme conditions as the stone under which it is growing has enabled it to resist the invasion of dwarf willows and *Betula nana* (fig. 53). It would seem that suppression by the latter is only a matter of time. From the summit of the Sognefjell road one gets some idea of scale, and if this road is followed northwards to Boverdal *Silene acaulis*, *Dryas octopetala*, *Saxifraga oppositifolia* and *S. aizoides* can be seen growing in close association in scree at the side of the road, all lime indicators.

The geologists define screes as the disintegration of rock by weathering and when this material is moved by erosive forces, such as glaciers, into certain formations, these are usually known as moraines. To the gardener a scree can be anything from a few inches of grit in a trough to the famous scree in the Royal Botanic Garden at Edinburgh. If you build your rock garden of soft stone or tufa, which varies in hard-

ness, you will probably find, after a frosty winter, that you have more screes than you bargained for and all in the wrong places. This will effectively illustrate to you what is constantly taking place in the mountains. Rain or snow melt on the summit of a mountain will follow the line of least resistance to the lowest possible level. This may be by cracks in the rock face, expanding by frost, thaw and avalanche into gullies, the detritus "fanning out" at the foot of the gullies. Boulders of considerable size are dislodged and create an erosion barrier and there is then a build-up of smaller rocks until a stage of relative stability is reached. Lichens find homes on the surfaces of the rocks ; they decompose and form humus which, when trapped in rock crevices, provide footholds for legumes, *Dryas*, etc. A gully scree usually has an ample water supply for most of the year. With maximum drainage, such screes carry a substantial flora provided they are free from the depredations of sheep and goats, which destroy many more rare plants than the much maligned collectors of the S.R.G.C. and the A.G.S. combined. In some areas of the Alps, the "Holly Fern", *Polystichum lonchitis*, is the dominant fern ; I have measured fronds up to two feet. It reaches maximum development in screes of large boulders and, though only fronds are visible through the stones, after considerable excavation one finds a plant in soil with a root system comparable with a plant in the herbaceous border. Screes at the foot of rock faces are not usually as extensive as gully screes, and after snow melt are sometimes arid, especially if facing south. One is often disappointed searching such screes for plants. I live in a district of limestone face screes and, even allowing for sheep, they are poor in plants compared with the clints where moisture is more plentiful. The annual top dressing of fine grit which many screes receive is a hint that the gardener can take, to the advantage of many of his plants.

The slide of the Ober Gabelhorn at Zermatt shows a typical cirque glacier surrounded by arêtes and on the one of the Schönbiel glacier the markings of rock avalanches are clearly seen. Note the build-up of the lateral moraines and the slide of the receding glacier of Pré de Bar with the lateral moraine more stabilised. The Brenva is a good example of a terminal moraine and one can follow another lateral moraine to the head of Val Veni, a distance of approximately eight miles. This moraine rises to a considerable height above the Glacier de Miage and, acting as an effective barrier to falling rocks, the beginnings of a gradual build-up to a Larch climax can be seen. Many



*Photo—H. Esslemont*

▲  
Fig. 55—*Cedrus libani* in Lebanon

Fig. 56—*Rhododendron imperator*

▼  
*Photo—R.B.G. Edinburgh*







Photo—R.B.G. Edinburgh

▲  
Fig. 58—*Rhododendron sargentianum*

◀ Photo—R.B.G. Edinburgh

Fig. 57—*Rhododendron hanceanum* 'Nanum'

Fig. 59—*Androsace villosa* var. *arachnoidea*  
'Superba'

(This plant received a Certificate of Cultural  
Commendation when shown at Aberdeen)

▼ Photo—H. Esslemont





Photo—R.B.G. Edinburgh ▲  
Fig. 60—*Celmisia longifolia*

Fig. 61—*Craspedia uniflora*  
▼ Photo—R.B.G. Edinburgh



# Rock Gardening - “from the ground up” - II

by HENRY TOD, Ph.D.

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IN THE September 1968 issue of the *Journal* I discussed soils and plant nutrition, but it has been suggested, before leaving these subjects, that some further amplification should be made on the question of the balance of elements needed in plant nutrition.

It was stated that these elements interact, one with the other, but I should like to stress that deficiencies may arise in two quite different ways. First, there are the “simple deficiencies” where, for one reason or another, the amount of material needed by a plant runs short. Thus a strongly growing plant in a pot, or a vigorous clump in the open ground, may take up all the available food material from the soil. Subsequent growth of the plant will then be hampered by a lack of this particular foodstuff, or even of several nutrients.

This is most probably the cause of the slowing-down and general check to growth which occur when *Iris pumila* is grown for a long time in one situation. The roots of the Iris tend to go straight down into the soil and do not ramify widely, in a lateral direction, through the surrounding soil. The result of this is that they exhaust the reserves of nutrients. In this case the remedy is simple ; lift and replant the irises in fresh soil where sufficient plant foods are available and waiting to be absorbed.

This is a common type of deficiency and is perhaps most easily seen where there is a shortage of nitrogen. Then the growth of the plant slows down and the leaves become pale green and stunted. Shortage of phosphorus, as phosphate, shows up in a number of ways, the leaves sometimes appearing dull in colour and texture, although at other times they may show startling shades from yellow, through orange and red to purple. Again many of the deficiency conditions show up as a mottling or bleaching of the leaf, a process which ends in a browning of the affected areas (necrosis). Ultimately the brown, dead areas fall out or break off.

While the characteristic appearances of plants suffering from nutrient deficiencies have been recorded in colour for most “crop” plants, very little has been put on record for what are called “ornamentals” in the United States of America.

Apart from food shortages brought about by the growth of plants themselves, another way in which nutrients may be lost is by leaching, i.e. washing out by heavy rains. Perhaps this is not so uncommon in rock gardens as one might imagine, for in the pockets, where the root run is restricted, the soil nutrients cannot be replaced in the same way as they would be in a large open bed. This condition mainly affects nitrogen and magnesium on normal soils and potassium on light ones, for most of the other nutrients are firmly held in the soil.

The second cause of deficiencies is that referred to in the first article as "induced deficiencies" and is due to interactions between the nutrients. Here, again, two mechanisms are in play, one purely chemical, by combination, and the other by sheer excess bulk. Perhaps the first is best exemplified by the "fixation" of phosphate in strongly acid or strongly alkaline soils. At both these extremes, the phosphate combines with elements present in large amounts to form insoluble phosphates which the plant roots cannot "get at" as the phosphates will not dissolve in the soil water. In very acid soils large amounts of iron, manganese and aluminium salts come into solution in the soil moisture and combine with the phosphate dissolved in it, forming completely insoluble phosphates. In an alkaline or calcareous soil the completely insoluble "triple" phosphate of calcium is formed (there are three calcium phosphates of varying solubility) and, once more, this prevents the plant from absorbing the phosphate it requires.

Perhaps the second mechanism is more easily explained by the analogy of a crowd pushing through a gate. Supposing there were equal numbers of Englishmen and Scots in a crowd, then approximately the same number of English and Scots would get through. If, however, there were one hundred Scots to one Englishman, the Englishman's chances of getting through would not be equal, but only about one in a hundred.

Most probably this is what happens in a lime-rich soil. There is so much calcium in the soil compared with, say, magnesium that the chance of magnesium being absorbed by the root hairs is very greatly reduced, hence magnesium deficiency arises in a plant. Of course, the reverse can happen, for very high levels of magnesium may "block" the entry of calcium, leading to calcium deficiency. One of the commonest of these effects, known as "mass-action" effects, is magnesium deficiency induced by over-heavy dressings of potassic fertilisers. This is very common in market-garden practice where enormous dressings of potassic fertilisers are frequently applied.



In the case of some elements a combination of these two mechanisms may occur, in others there may be more complex chemical reactions involved, into which there is no need to go. The position, however, may be summarised as shown in this table :—

High levels of	may induce deficiencies of
calcium (lime)  magnesium potassium aluminium, iron, manganese (acid soils) heavy metals, e.g. lead phosphate very acid soils	magnesium, manganese, iron, copper, zinc, boron, phosphate. potassium, calcium. magnesium.  phosphate. iron, manganese. iron, manganese. phosphate, boron, nitrogen, calcium, magnesium.

This, then, is the basis of the plea for moderation in applying fertilisers. Luxury dressings can, as has been explained, cause serious upset to a plant. Generally speaking, it is worse to apply too much than too little for plants can struggle along on very low rates, near-starvation level in fact, whereas no plant can tolerate for long a serious upset in the balance of its nutrients.

I have written elsewhere on the subject of organic manures and fertilisers, but there is one point I should like to stress. The main difference between “organics” and fertilisers is the rate at which they release their nutrients. The fertiliser releases its nutrient content as soon as it dissolves in the soil water, while organic manure releases *its* nutrients only when the micro-organisms in the soil break down the various components into a form which can be dissolved in the soil water, and so be absorbed through the plant’s root-hairs.

This raises the vital question of the “availability” of nutrients in the soil. It is of little importance at all to know what is the *total* amount of any nutrient in a soil, what really matters is how much of that nutrient is *available* to the plant. For example, there might be huge amounts of total phosphate in a given soil, yet so little may be “available”, i.e. usable by the plant, that the crop could fail from phosphate

deficiency. It is like having a suitcase full of out-of-date banknotes. They will buy nothing if they are not converted to the currency of the day. They represent the "total" figure for the nutrient in the soil, the few odd shillings in one's pocket the "available".

This, incidentally, is the weakness of some soil-testing kits ; they measure "total" values, not "available" ones, which are, in general, more difficult to estimate without full laboratory facilities. A fortune awaits anyone who can discover a simple and inexpensive way of making the huge reserves of phosphate and potash present in the soil available to the plants which grow in it, always provided he or she can get it launched on a sound financial basis !

It is the gradual breakdown of the components in the "organics" that gives them their prolonged availability and hence makes them so valuable. They provide a slow steady feed to the plant rather than the quick response given by fertilisers.

Having established what may be called the fundamentals, we may now consider the very tricky aspect of the lay-out of the rock garden.

Broadly speaking, there are only two distinct types of garden, sloping and flat. If one has a garden with a slope or, even better, several slopes, the problems of lay-out and construction of a rock garden can be relatively easy. If, however, the site is flat, one is faced with a more difficult situation. In either case it should be remembered that whatever method of construction is used, the rock-work should be in proportion to the rest of the garden. If the whole garden is large perhaps this is not so important, but if it is small, as most gardens are nowadays, the balance must be more carefully considered. A garden composed of seven-eighths rock garden and the other eighth a narrow strip of lawn will look completely unbalanced. Conversely, a very small outcrop-type of rock garden surrounded by a wide expanse of grass will, more or less, hardly be noticed and will look like a little hump which should not be there.

Then, too, a rock garden or a rock bank should not be adjacent to formal rose beds. If so sited, the contrast would be too extreme and it is better that a moderate expanse of grass should separate such features and so break up any sharp division. Though not ideal, a hedge can form a reasonably good background to a rock garden, but if one is used it is better separated from the rock garden by a path. Hedges *do* need clipping and allowances must be made for this and for the removal of the cut material.

Rock plants may be grown in two quite distinct ways ; first, in a rock garden or rock bank, and secondly in "rock beds" which, as we shall see, also includes troughs. In many ways rock beds or troughs afford closer control over soil conditions. Pockets of specially prepared mixtures may be worked into a rock garden, but there is no guarantee that the roots of the species planted there will not spread beyond the pockets, or that soil water from another source will not percolate into them.

In a strictly formal garden, a rock garden or rock bank may look somewhat out of place. Beds of more formal shape, however, will fit well into the general pattern and, even on a slope, the dry-wall and rock bed type of construction may be used to fit into this more regular design.

In my first article in this series I mentioned that a low-lying wet area might be utilised for a bog garden, a pond, or both. This can be readily incorporated into a general layout and, for example, could begin as a scree lying between two banks and gently sloping down to merge, gradually, into a bog garden which, in turn, could end at the edge of a pond.

To be perfectly frank, I am not too enamoured of the little rill running between rocky banks into a neat and tiny basin, being returned, once more, to the top outlet by the action of a hidden electric pump. Many gardeners consider this attractive and an asset, which of course it is, as it provides the environment for bog and water plants which otherwise could not be kept alive and happy. To me, somehow, the balance and scale are wrong, but obviously this is a purely personal view. Two good examples of how water can be incorporated into the rock garden can be seen at the Royal Botanic Garden, Edinburgh, and the Royal Horticultural Society's Garden, Wisley. In both cases the scale is very much larger and the balance is accordingly better, at least to my mind.

Where a garden has a clear slope the construction of a rock garden or a rock bank is extremely simple and straightforward, but where the site is flat the problem is quite different. In my next article I shall discuss these points in detail.

# A Holiday in the Lebanon

by H. ESSLEMONT

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SNOW was lying on the ground in Aberdeen on the morning of 9th April 1968, yet thanks to the miracle of modern air travel we dined in Beirut that same evening in midsummer weather. We had set out on a 15 day tour to see the flowers of the LEBANON. Our party was led by Mr. and Mrs. Aslet of Wisley, and I am indebted to Mr. Aslet for naming many of the plants we found which were new to me.

Lebanon has a coastline of 150 miles along the eastern shores of the Mediterranean and enjoys a warm temperate climate of mild rainy winters and hot dry summers. It follows, then, that a good summer baking is almost essential to the successful cultivation of many Mediterranean plants. In some parts of Britain this can be accomplished with the aid of a cold frame or an unheated alpine house and an excellent example of this method of cultivation may be seen at the Royal Horticultural Society's Garden at Wisley. In other areas where severe frosts are experienced, it may be advisable to maintain the temperature of the house at just above freezing point.

The economy of the Lebanon is based principally on agriculture and commerce, but today considerable effort is being made to attract tourists and to extend the tourist industry. Everywhere we found the inhabitants friendly and welcoming and we were fortunate in having as our guide and counsellor throughout the tour Sobhi Caracalla, President of the Guides' Association of Lebanon.

Our first excursion was to Byblos, perhaps the oldest inhabited town in the world, with its picturesque crusader castle, ancient temples and a harbour with the defensive towers of a bygone age. Growing in the castle walls were large plants of the Yellow Henbane, *Hyoscyamus aureus*, which blended well with the mauve flowers of *Matthiola sinuata*. Large lizards, sunning themselves on the hot stones, darted into crevices at our approach. Nearby, drifts of red *Ranunculus asiaticus* coloured the grass: a good form of this striking plant, collected at Lyndos in Rhodes in 1962, flowered in my unheated alpine house a month later.

A halt at the mouth of the Dog River produced an interesting Phlomis, probably *P. viscosa*, and a tall *Celsia* species with three-foot stems. *Poterium spinosum*, one of the 'wire netting' plants, was plentiful on the dry stony hillsides. At this strategic pass, tablets had been erected by successive conquerors, commencing with Nebuchadnezzar in 600 B.C. and finishing with one commemorating the Liberation of Lebanon and Syria in July 1941.

Another excursion took us 5000 feet up the mountain to the source of the Adonis River, beyond Afqa. The winding road, with many hairpin bends, climbed through wild and rugged country dotted with small villages, terraced fields of vines and olives and apple and cherry orchards.

Several halts were made in search of flowers and at one of these some of us saw *Fritillaria libanotica* for the first time. The finest plants, about three feet high, were growing in the middle of a thorn bush where they flourished safe from their enemies, the goats. We found several Arums, one yellow spotted brown, but the majority were in deep shades of maroon. Some Ophrys and Orchis species were growing in the light woodland. A "Praying Mantis", blending perfectly with its green and white background, was a centre of attraction.

Blue and red forms of *Anemone coronaria* were plentiful by the roadside and an attractive white *Primula acaulis* was found in light shade. Plants of *Cyclamen persicum* made bright splashes of colour in high rock crevices above the road, their position posing problems for the photographers.

The striking scarlet *Tulipa oculus-solis* preferred the cultivated ground of the orchards, where it was plentiful. Woe betide the impatient collectors who tried to win one! Most of the bulbs were at least twelve inches deep in the hard stony ground, where they remained undisturbed by the shallow ploughs used by the local peasants.

The road ended abruptly at the celebrated Afqa Grotto, the source of the Adonis River. It emerges from a huge cave in the side of a precipitous rock nearly 650 feet high, tumbling out in a mass of spray. The remains of an ancient Roman temple can be seen on a nearby eminence. Some of the distant screes looked inviting for the plant hunter, but unfortunately time did not permit of their exploration.

Another interesting excursion was to Beit ed Din, the ancient Palace of the Emirs, now a summer residence of the Governors. The castle of Beit ed Din is a fine example of 19th Century oriental architecture with its slender arcades, superimposed galleries, domes and

square crenellated towers. There was a museum of Lebanese folklore in a wing of the castle. On this journey parts of the roadside were sheeted with pink *Linum pubescens*.

Our second centre was the St. Bernard Hotel, the Cedars, at 7500 feet. On the final approach to the hotel we drove through a twelve-foot cutting of snow. The ski-ing season was drawing to a close and the warm sun was rapidly melting the snow on the scree above the hotel, but a cool mountain breeze made a welcome change from the sultry heat of Beirut.

Exploration of the scree was rewarding and not too arduous. *Anemone blanda* was plentiful and other plants noted were *Vinca libanotica*, *Colchicum bifolium*, *Fritillaria crassifolia*, *Corydalis rutifolia* and, in leaf only, several dwarf tulips and crocuses.

Spiny horrors, *Acantholimon* (fig. 54), probably *Acantholimon acerosum*, still looking brown and lifeless after their long rest under the snow, were dotted about the stony ground and a very neat, prostrate *Prunus* was in tight bud. In a sheltered pocket on one of the higher scree, a large colony of *Puschkinia scilloides* was seeding itself around, and a neat yellow *Draba*, occupying crevices in a lichen-covered rock with mauve *Aubrieta* at its base, made an attractive picture for the photographer.

The Cedars of Lebanon (fig. 55) are situated about fifteen minutes' walk below the hotel and some of the oldest trees are estimated to be over one thousand years. Their handsome dark boughs stood out majestically against a white background of snow. These cedars, strictly protected and preserved, are the last survivors of the immense forests that in Biblical times lay across Mount Lebanon. It is said that Solomon imported wood from here to build his temple in Jerusalem. We saw a small nursery of seedling cedars grown for further afforestation.

On an excursion below the Cedars we discovered a few plants of *Cyclamen coum*. They were in the heart of some thorny *Berberis* bushes, the only place where they were safe from the goats which wreak such havoc on the flora in that part of the world.

What at first sight looked like a large *Colchicum* was later identified by our leader as a species of *Sternbergia*, probably *S. clusiana*, and nearby, on the summit of an open rise, we found our first *Oncocyclus* *Iris*, yet unflowered. There they would get a real summer baking. *Oncocyclus* *irises*, especially some of these recently collected in Iran, are exciting plants and well worth the attention of the keen plantsman.

Grown along the lines suggested in a recent article in the *Journal*, they do not appear to be too difficult in this country and last year a number of them, grown in long pots, flowered in my own and a fellow member's alpine house. My house is unheated, while his, in a colder district, is maintained frost free. *Daphne oleoides*, *Romulea nivalis* and a species of *Lloydia* were also noted in this area.

Our third and last centre was the modern and well appointed Park Hotel, Chtaura, complete with its outdoor swimming pool. From there at 3500 feet several excursions were made to higher ground. One of our most exciting finds in this area was *Iris histrio*, and, although very local, it seemed reasonably plentiful at the three sites where we encountered it. In each case it was growing in a well drained situation ; often in crevices or among rocks.

We also found an interesting *Crocus* with the largest corms that our leader had ever seen in wild collected material. There was a fine *Ornithogalum* and *Bongardia chrysogonum* as well.

On higher ground above Zahleh, snow was still lying in the hollows. There, on a rocky slope by the roadside and in clay soil *Iris sofarana* was flowering and, in the sodden ground, where the snow had just melted, were masses of colchicums in both white and mauve forms. *Daphne oleoides* was plentiful but we were a little surprised to see several large plants of *Rhododendron ponticum*.

An interesting day was spent at Baalbeck, a small town situated at the foot of the western slope of the Anti-Lebanon range. There the Romans had built a great temple in honour of the god Jupiter. Entry to this is by a monumental staircase and one must pass through a hexagonal and sacrificial courtyard before reaching the temple proper. Some of the stones of the temple are said to weigh 750 tons.

On our last evening at Chtaura we sat down to a meal of Arab dishes washed down by Arak, the potent aniseed-flavoured national beverage. We had as our guests on that occasion Colonel Albert Najjar, head of the Lebanese Army Medical Service, and his cousin, Mr. Beschara Ghorayeb, an eminent lawyer.

This brought to a close a most interesting and enjoyable holiday, and much of its success must be attributed to the careful planning of Mr. and Mrs. Aslet and their solicitude for our welfare.

# Miniature Rhododendrons

by A. D. REID

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FREQUENTLY I have been asked to provide the names of up to six dwarf rhododendrons suitable for growing in the garden. I find this an extremely tricky question to answer, principally because of the difficulty in determining what qualities the enquirer is looking for in a plant.

Personally, I consider dwarf rhododendrons to be among the most engaging and accommodating. With so many good features, it is difficult to eliminate some species in favour of others in order to provide a short list from which to choose. Perhaps I cannot do better than itemise some of these dwarfs, emphasising that the opinions expressed are my own and have been formed after growing the plants in a number of positions and in different gardens. I have also been influenced by observing them in the gardens of my friends, some of whom live on the west coast where growth is accelerated by higher rainfall and greater humidity.

Possibly my oldest favourite is *Rh. imperator* (fig. 56), which with me has always been a reliable grower. It blooms profusely but occasionally I find it necessary to trim the odd shoot to keep the plant shapely, for I have noted that, if left alone, this plant is inclined to straggle. I am prepared to accept, however, that the flower colour is a little difficult to describe and in some forms is less positive than the optimistic descriptions in catalogues.

This brings me to the point that in my view it always pays to be on the look-out for the best forms selected from species which are variable in growth and colour. For example, it will invariably benefit the intending buyer to give that little extra for a First Class Certificate or Award of Merit form, as these awards have only been given to excellent clones.

An outstanding dwarf variety is *Rh. cephalanthum* var. *crebreflorum* which each year constantly covers itself with beautiful pink daphne-like blooms and, in some seasons, produces a second crop of flowers. This plant keeps shapely without requiring attention and the leaves are pleasantly aromatic, particularly when bruised.

No collection should be without *Rh. impeditum*, a species which includes forms bearing flowers of many shades from reddish-purple to



blue. The leaves, too, show seasonal changes of colour and in some stages could justifiably be claimed to vie with the best silver foliage plants.

Another variety with this fascinating silver leaf character is *Rh. calostrotum* var. *calciphilum* and in May it produces extremely attractive, bright, rosy-red flowers. I don't find it blooms profusely, however.

Here I might mention that there are several interesting hybrids, among them *Rh.* 'Pink Drift', which, in a number of situations and in good seasons, have been first class in form and colour. *Rhododendron* 'Pink Drift', in my view, has never received the credit and attention it merits.

For those biased in favour of dark, rich red flowers and a plant which hugs the ground, the very small *Rh.* 'Carmen' is recommended. If placed in a position where light shines through the flowers, a variation of vivid colour can be had. This plant is, of course, amongst the many hybrids which have *Rh. forrestii* var. *repens* as one of their parents. There are a number of others, most of which are equally reliable and more floriferous than *Rh. forrestii* var. *repens*. This parent, by virtue of its early flowering habit, is more vulnerable to damage by frost.

A worthwhile species of pleasing habit and form is *Rh. microleucum* and its freely borne white flowers last a considerable time.

There is a wide choice in the so called blue miniature rhododendrons and here, I think, the seeker cannot improve upon a selection from the cultivars 'Augfast', 'Blue Bird', 'Blue Tit', and 'Blue Diamond'. Given time, some of these will make sizeable plants and, as they are reasonably slow growing and bloom at an early stage, a great deal of enjoyment will be derived from them for a number of years.

Those of us who live in an area where late spring frosts consistently damage the blooms might be well advised to consider growing *Rh. nitens*, a species with excellent foliage and glowing purple flowers which appear during June and July, or *Rh. campylogynum* together with its near relative *Rh. myrtilloides*. In the case of the last two species, I would suggest that a little care be exercised when making a selection as both plants have a considerable colour range in their flowers. This varies from light pink to dark plum purple and a choice can be made to suit one's own taste.

When we come to the miniatures with yellow flowers, and here I must confess to a weakness for these plants, there are a considerable

variety available, and yet frequently I am astonished to learn from quite experienced gardeners that they have never seen yellow flowered dwarf rhododendrons—azaleas yes, but rhododendrons never !

High among the best yellow dwarf species are *Rh. valentinianum* and *Rh. megeratum*, though the latter inclines towards a “brassy” yellow in some forms. Both, unfortunately, are somewhat frost tender and require protection in my garden. Where this is provided, they will give considerable pleasure. With regard to *Rh. valentinianum*, it has been apparent for a number of years that there are two quite distinct forms, one a more robust plant which, if given the proper conditions, will eventually reach a size just outside that of miniature specification. This plant has been separated from *Rh. valentinianum* and is now described as *Rh. fletcherianum*.

*Rhododendron keiskii* is yet another yellow which has great appeal and here again there are two distinct kinds. One is very much more compact and less inclined to sprawl than the other. *Rhododendron chryseum* is probably the easiest and best of the yellows in the *Laponicum* series. One yellow-flowered species worth growing for foliage effect alone is *Rh. lepidostylum*, for here the young leaves are glaucous blue. As it is inclined to bury its flowers in the new leaf growth, it is worth looking out for forms which are less prone to do this.

Two yellows of comparatively recent introduction are *Rh. ludlowii* and *Rh. lowndesii*. The latter is from a very high altitude and sheds its leaves in the resting season and, with me at least, does not appear to be long-lived. *Rhododendron ludlowii*, on the other hand, can be a very appealing plant but is, I fear, without a vast amount of stamina. Vitality, however, is evident in that most excellent hybrid *Rh. ‘Chikor’* which has *Rh. ludlowii* as one parent, and *Rh. chryseum* as the other. To date I have been very impressed by the vigour and flowering performance of this hybrid, which has already gained an Award of Merit.

*Rhododendron hanceanum* ‘Nanum’ (fig. 57) is another cultivar which cannot fail to impress and should be included in any collection of small or miniature rhododendrons. Whether in or out of flower, there is an air of refinement about a good form of this plant which puts it in the front rank. My description of the flower colour would be a good cream, although in catalogues this is often described as yellow. However, it may be wise to see *Rh. hanceanum* ‘Nanum’ in flower before acquiring it, as my colour descriptions have been frequently questioned, particularly by the distaff side. Two forms of *Rh. hanceanum* are recognised by growers, the much larger growing

version being classed as the species while the smaller form is described as *Rh. hanceanum* 'Nanum'. I believe there is a smaller form yet which has even more appeal, but so far I have been unable to obtain a plant.

One could hardly leave the subject of the yellow-flowered miniature rhododendrons without mentioning *Rh. sargentianum* (fig. 58), probably one of the most popular species. At first this plant did extremely well with me, but in recent years it has not been so reliable; perhaps my soil conditions or the weather in the north does not suit it. Here again, it should be noted that there are two forms, one very compact with butter-yellow flowers which cover the dark green foliage; the other, of more lax growth, has flowers which are light cream to almost white.

There is now a dwarf hybrid with *Rh. sargentianum* as one of the parents. This is *Rh.* 'Sarled' of which high hopes have been expressed but, in my (admittedly) short experience of the plant, it is much more like its other parent, *Rh. trichostomum* var. *ledoides*.

So far many excellent miniatures such as *Rh. keleticum*, *Rh. pema-koense*, *Rh. pumilum*, *Rh. radicans*, *Rh. glaucum* and *Rh. brachyanthum* have not been mentioned, and only short reference has been made to the numerous cultivars of *Rh. forrestii* var. *repens*. *Rhododendron ferrugineum*, familiar to many members of the Club as the "Alpen Rose" and met with on holidays in Switzerland, is also omitted, but I feel enough has been said to illustrate to the enthusiast how absorbing the growing of dwarf rhododendrons can be.

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# Growing Rhododendrons from Seed

by I. F. LA CROIX

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IN THE past few years I have had a fair amount of success in raising rhododendrons from seed by a simple and, to me, trouble-free method. With four youngish children and a large house and garden I do not have much time for elaborate compost preparation and, as most of the bought composts contain lime and so are unsuitable for rhododendrons, I look around for something simple and easily available. The most satisfactory medium I have found so far is well-rotted spruce needles ; in other words, soil dug from under a spruce tree, several inches below the surface, so that the form of the needles can no longer be distinguished. This soil does not need to be sterilised, as it contains relatively few weeds and these can easily be picked out as they germinate. Usually after a few weeks there will be a growth of moss on the surface, but this does not seem to interfere with the growth of the seedlings. In any case, they should be at the pricking-out stage before the moss really thickens up. I have tried peat, but it dries out very readily and is frightfully difficult to re-wet. Also, with me, it does not give such good growth as the spruce compost, which is moisture-retentive and does not cake.

I sow the seed either in pans or in plastic seed-trays and can, if I wish, sow several different species in rows in one tray. When the containers have been filled with compost, I stand them in water until the compost is saturated. Once the surplus water has drained away, I sprinkle the seed on the surface but do not cover it. The containers are then completely enclosed in polythene bags. This seems vitally important, as on one occasion I did not have a large enough bag, and ended up with only two seedlings. I tend to think that germination is quicker if the bags are covered, but I have not done any controlled comparisons.

The first sign of germination—the emergence of the radicles from the seeds—can usually be seen in just over a fortnight, say 14 or 15 days. It takes about another week for the cotyledons to free themselves from the seed coat. It is about this time that I remove the polythene bags. This year, as we were to be on holiday for a fortnight, I

replaced the bags after they had been off for a week. When we returned, the seedlings had made excellent growth, but were not "drawn". The surface of the compost was somewhat slimy, but this soon dried off.

A disadvantage of the plastic trays is that they have to be watered by standing them in a sink. This is rather a bother, so I prick out the seedlings into pans filled with a mixture of loam, peat, leaf-mould and sand as soon as they are big enough to handle, which is usually three or four months from sowing. As the seedlings may stay in these pots for a couple of years, a good compost is important. I grow the seeds in the house, in a sunny bay window, and keep them indoors over the first winter, as I find it easier to keep an eye on them in this way. The following summer, the pans go outside.

Species I have growing on from seed include the following: *Rh. baileyi*, *brachyanthum* var. *hypolepidotum*, *campylocarpum*, *caucasicum*, *didymum*, *ferrugineum*, *glaucophyllum* and its var. *luteiflorum*, *kiusianum*, *insigne*, *mucronulatum*, *tephropeplum*, *virgatum* and *zaleucum*. Some were grown from S.R.G.C. seed and some from seed I collected myself and sowed immediately, more or less. There seems to me no doubt that seed sown as soon as it is collected both germinates and grows more vigorously than when the seeds are stored for a time. I was disappointed that seeds of *Rh. schlippenbachii* and *Rh. camtschaticum* obtained from last year's seed exchange did not germinate at all, and I should be interested to hear if anyone else was successful with them.

One is often warned that seed, unless collected from hand-pollinated flowers, will probably result in crops of worthless hybrids, but the uniformity of appearance of my seedlings is very marked, which suggests that they are not hybrids, although of course time alone will tell. In any case, most of the *Rhododendron* species grown in this country must originate from seed collected in the wild, from flowers untouched by hand.

Growing rhododendrons from seed is fascinating, but I feel that problems may arise later. Last week I transplanted 55 seedlings of *Rh. tephropeplum* alone (and many have been given away). As the years pass and the thickets darken around us, I may yet come to regret my pastime.

# Some Australian Alpines

by K. D. GILLANDERS

OF ALL Australia only a very small area can be called alpine. While Tasmania has quite a number of mountains that support good alpine flowers, Victoria and New South Wales have only very limited tracts that fall into this category.

The Bogong High Plains, in the north-east of Victoria, would probably interest the rock gardener most. They are part of the Great Dividing Range that runs down the continent parallel to the eastern coast. The Bogong High Plains are about 5000 feet, while occasional peaks reach to over 6000 feet ; Mount Bogong, at 6508 feet, being the highest mountain in Victoria. Snow lies in this area for 6-7 months, the temperature falling as low as 10° F. in winter. It enjoys a very constant rainfall, no month receiving less than 3 inches, while the average annual rainfall is about 58 inches. Summer temperatures rarely exceed 85° F., even although 40 miles away on the low country it may be over 100° F.

The rocks are composed of basalt, slate, sandstone, schist and gneiss and the soil varies from deep rich volcanic loam in basalt areas, to very poor thin layers on the slate and sandstone. Soils are generally acid and in the vicinity of sphagnum bogs may drop to pH3.5.

The tree line finishes at about 5000 feet with *Eucalyptus niphophila*, "Snow Gum", and numerous shrubs, including *Hakea lissosperma*, *Eriostemon myoporoides*, and species of *Acacia* and *Olearia*. Above this extend the herb fields composed of native grasses, low herbaceous plants and dwarf shrubs which diminish in size as one ascends the higher peaks. Here the plants are quite prostrate, sprawling for several feet but only two or three inches high. Odd clumps of *Eucalyptus niphophila* strive to survive on the summits but, although gnarled and old, they manage to reach only two to three feet. Composites predominate in our alpine plants and it is plants such as *Olearia*, *Celmisia*, *Brachycome* and *Craspedia* that make the mountain tops so colourful in early summer.

*Celmisia longifolia* (fig. 60) is one of the most common plants and is very variable in its silvery foliage. In some forms the tapering pointed leaves may be only 1/8 of an inch wide, while others have





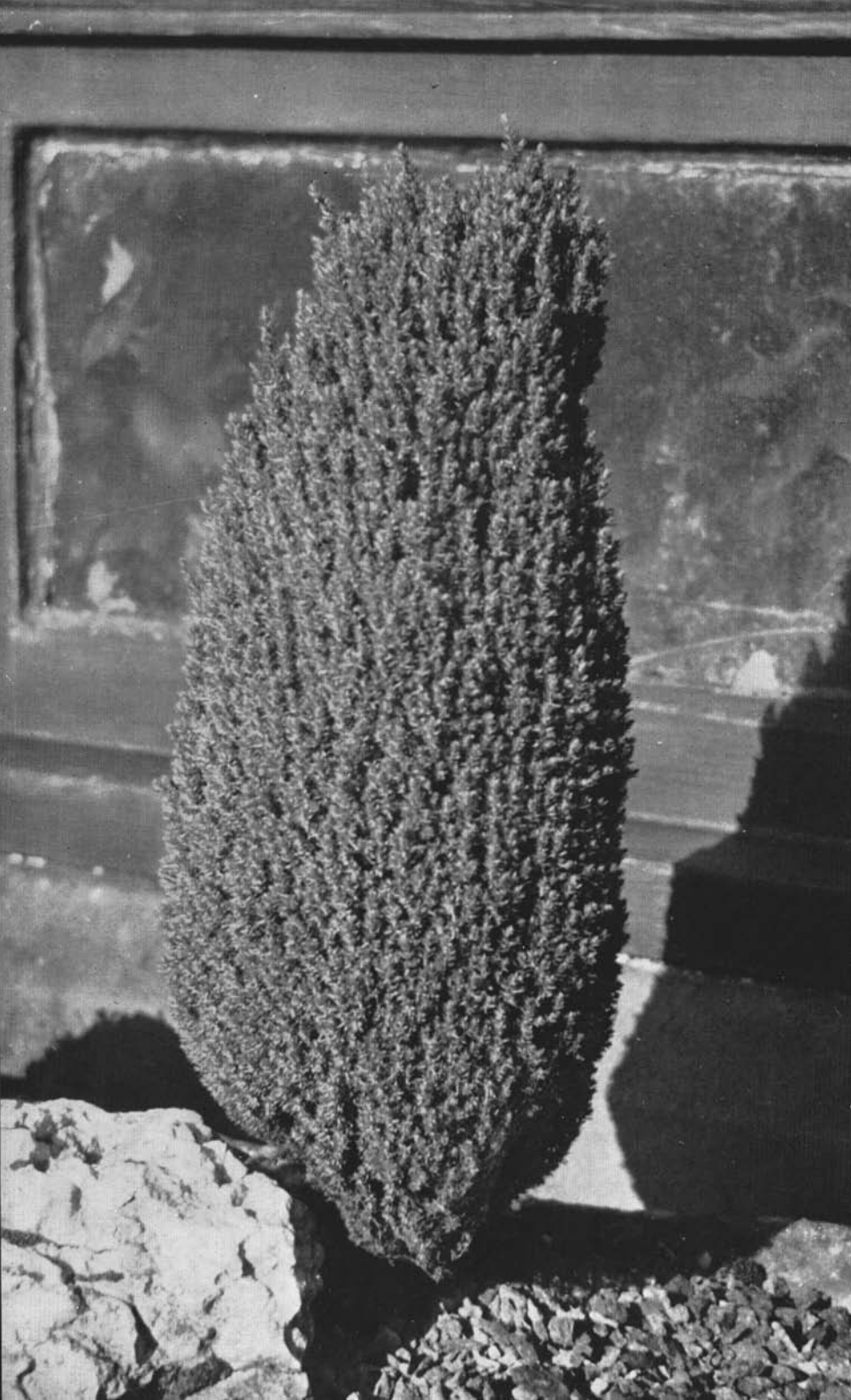




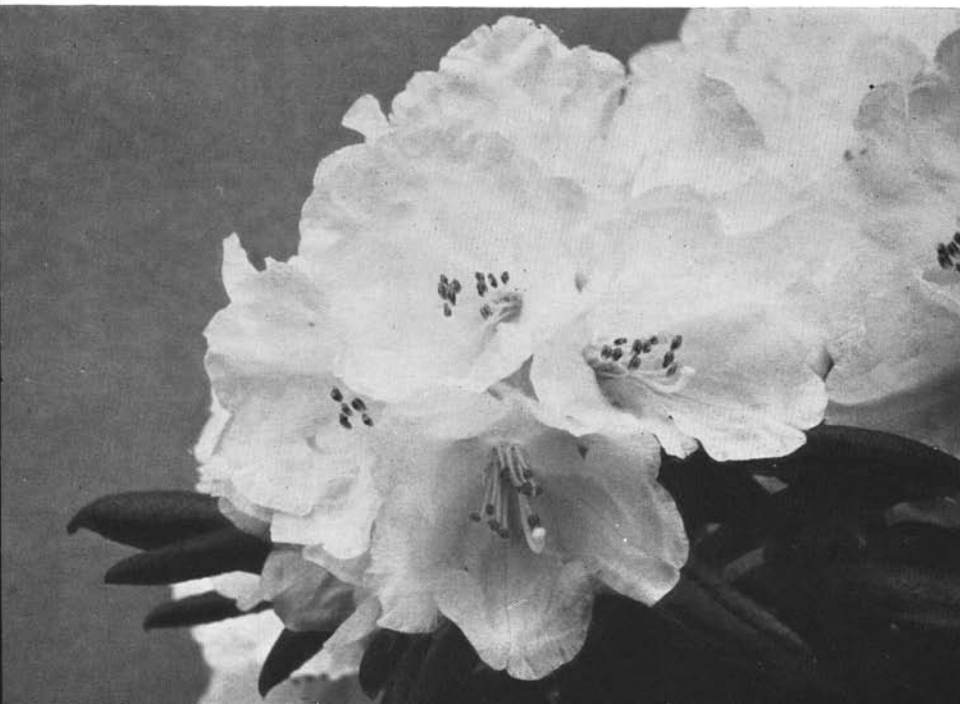


Fig. 64—*Chamaecyparis pisifera* 'Squarrosa Sulphurea' ▲ Photo—R.B.G. Edinburgh

Fig. 63—A fine example of the dwarf slow-growing *Juniperus communis* 'Compressa' ◀

Photo—A. Evans

Fig. 65—*Rhododendron yakusimanum* (close-up) ▼ ◻ Photo—R.B.G. Edinburgh





one-inch wide leaves pure white on the reverse sides. The white daisy-like flowers are produced singly on nine-to twelve-inch stems and the backs of the petals of some are deep pink.

*Celmisia sericophylla* is the only other *Celmisia* occurring in Victoria. It grows only in very moist situations, usually at the edge of running water, its silvery felted leaves making large mounds by the sides of mountain streamlets. The flowers are very similar to *C. longifolia* and are produced early in the season.

*Craspedia uniflora* (fig. 61), "Drumsticks", is also very common. The golden or orange terminal flowers are spherical in shape and are carried in a tight compound head. The basal rosette of leaves vary from light green to silver.

There are many brachycomes, the following three, I think, being worthy of mention. *Brachycome rigidula* develops a suckering habit and fills crevices on rocky slopes with a mass of small lavender-blue daisies. In contrast, *B. decipiens* makes rosettes of blunt-tipped rather thick leaves and produces one-inch wide pale lavender flowers. Although encountered growing in most positions, it prefers some shade. *Brachycome nivalis* makes neat rosettes of deep green, finely bisected, moss-like foliage. The white daisy flowers are borne singly on six-inch stems.

Most of the olearias found are too big for the average rock garden but *O. frostii*, which reaches only 18 inches, would be quite suitable. It varies in colour and in its best forms is lilac blue. The one and a half-inch wide flowers are produced in great profusion.

The showiest of the many helichrysums found here is *H. bracteatum*. It makes mats several feet in diameter, which can have 70-80, two-inch wide golden everlasting flowers on them. The flower stems are up to six inches high and the buds are particularly lovely, being of a deep shining orange. *Helichrysum alpinum* makes an attractive dwarf shrub 18 inches high. During the flowering season the tiny blooms are produced in such profusion that they cover the bushes. They are red in bud, opening to white.

There are three helipterums, "Sunrays", particularly, that catch the eye. *Helipterum albicans* (yellow form) is very common. Its narrow foliage is silver and the golden everlasting flowers are produced in great abundance. The white form, *H. albicans* var. *alpinum*, is one of our loveliest alpiners with oblong leaves that look like they have been cut from white felt. Frequently the glistening white flowers have a flush of crimson on the reverse of the bracts. *H. albicans* var. *alpinum* inhabits rocky outcrops in full sun. *Helipterum anthemoides* also likes

exposed positions. It forms a central rosette and from this its pure white, half-inch diameter flowers are carried on many fine nine- to twelve-inch long stems. These are clothed with narrow grey-green leaves. In cultivation, slugs seem to be very partial to it.

Found only on the highest summit, *Ewartia nubigena*, "Brown Edelweiss", makes silvery mats up to four inches across and is completely prostrate. It favours westerly positions and suffers from damp, a condition which causes large areas to rot out. It resembles the raoulias and although the small pale brown flowers are not conspicuous, it makes an attractive foliage plant.

The only conifer growing in these regions is *Podocarpus alpinus* "Plum Pine", with aromatic deep green yew-like foliage. The fruits are quite conspicuous, being black when ripe, and are backed with a bright red fleshy bract. There are many old volcanic plugs rising steeply several hundred feet above the high plain country. Fallen blocks of basalt have formed huge rocky beds at their edges and the spaces amongst these are the favourite haunts of *Podocarpus*. It grows up through the moraines and spreads out horizontally over the rocks. Some plants are 20 feet across. Looking down from the top of these plugs, many veteran skeletons of *Podocarpus* can be seen. They must be hundreds of years old, having been ultimately torn out of the ground by the rock mass moving down the slopes.

Epacridaceae provides several shrubs worthy of mention. *Pentacondra pumila* is one of them and forms carpets several feet in diameter. The fine foliage is so tight that it is like a coir mat to walk on. Its tiny white flowers are followed by translucent red fruits the size of red currants. These are held above the foliage and it is not uncommon to find flowers and fruits on the plants at the same time. Frequently colonies of orchids are found growing with and through *Pentacondra*. *Prasophyllum suttonii*, "Mauve Leek Orchid", and *P. alpinum* are the species most seen, but *Thelymitra venosa*, "The Blue Flowered Sun Orchid", and *Diuris pedunculata*, "The Yellow Flowered Snake Orchid", are also found.

Epacris is the name for our heaths and two showy species found here are *E. petrophila* and *E. microphylla*. Both make small fine-leaved shrubs bearing masses of dainty, snowy white, erica-like flowers. In some areas, such as the Dargo High Plains, the cattle are grazed in the summer months and season after season they eat down *E. microphylla* so that eventually the plants make tight little buns several inches high, and flower prolifically.

Closely allied to Epacris are the bearded heaths, *Leucopogon hookeri* and *L. montanus*, both growing about twelve inches high. The common name refers to the furry beard-like petals of the small white flowers. They are usually dioecious, the female plants bearing clusters of brilliant red berries.

*Richea continentis* grows only in sphagnum bogs or similar, very moist, positions. It makes clumps of ascending branches clothed with narrow pointed leaves like those of a bromeliad. The terminal flower spikes are red, while the small individual flowers are white. In cultivation I have found that it will grow quite happily under normal conditions, provided it is not allowed to dry out.

There are several ranunculus, but I think *R. gunnianus* is the best. It prefers very moist conditions and has very fine bisected foliage, similar to larkspur. The large golden flowers are followed by red seed heads which are produced in abundance. *Caltha*, a genus closely allied to Ranunculus, has a species, *C. introloba*, which is found in similar situations. This marsh marigold flowers as soon as the snow melts. Its fleshy, deeply lobed leaves make a perfect foil for the creamy white buttercup-like flowers which nestle close to the ground.

Our only Gentian, *Gentiana diemensis*, which is similar to the New Zealand species, can be found in abundance on slopes that receive some afternoon shade. This plant has a rosette of bronze-green leaves and produces clusters of half-inch wide, white, purple-veined flowers on six- to nine-inch stems. It is very difficult to transplant, but seed sets readily. *Wahlenbergia gloriosa*, "The Royal Blue Bell", grows in rocky crevices in similar positions. Its large deep violet-blue bells are held on fine, hair-like stems four inches above the small crenate leaves. *Wahlenbergia gloriosa* is ideal for dry rock walls or crevices, where it will spread unobtrusively.

Liliaceous plants are not represented to any great extent in these regions, but large quantities of *Astelia*, *Herpolirion* and *Arthropodium* are found. The first mentioned is commonly called "Pineapple Grass" because of the resemblance the foliage has to the top of a pineapple. It likes bog conditions and is dioecious. The flowers are rather insignificant, but on female plants they are followed by attractive red fruits. *Herpolirion novae-zelandiae* also likes bog or moist conditions. Its grass-like leaves are only a few inches high and intermingle with the herbage, making the plants almost impossible to distinguish when not in flower. It grows in full sun and forms colonies several feet in diameter. The pale blue star-like flowers are produced on stems so

short that they appear to be lying on the ground. I have grown *Herpolirion* in my garden here where it multiplied but never flowered. It would appear that it needs a colder climate to encourage it to flower. *Arthropodium milleflorum* produces several 18-inch high branched stems bearing numerous pale lilac flowers with a faint vanilla scent. It prefers light shade to more open aspects and will withstand dry conditions.

The predominant colours seen on the high plains are white, yellow and mauve. Reds do not seem to exist until one finds a drift of *Stylidium graminifolium* in flower. Their spires of rosy-red flowers make a bright contrast to the masses of white and gold. Stylidiiums occur at all altitudes right down to sea level, but the alpine form is by far the superior plant. Lowland forms grow higher, up to four feet, and are pale pink in colour, while the alpine form is usually between 12 and 18 inches. It is commonly called "Trigger Plant" because of its pollinating mechanism. The column which is held to one side of the flower sweeps across to the other side on being touched. If the marauder is an insect the stigma collects pollen from the body of the insect which sets off the mechanism. The flowers are protogynous, a condition which prevents self-fertilisation, and the insect which gathers pollen from anthers which are mature carries it to the younger flower, where the pollen is as yet immature but the stigma is receptive. This method must be effective and satisfactory as an abundance of seed is always set.

The Umbelliferae contributes two plants of horticultural value. *Aciphylla glacialis*, the foliage of which is hard and stiff and is very much like small palm fronds, makes an interesting plant at any time. The creamy white male flowers and the yellowish female flowers are produced in several umbels. This also is a dioecious species and the male flowers are by far the better. They are practically impossible to transplant when once established as their long, thong-like, deep roots go straight down between the slate and rock. *Trachymene humilis* forms prostrate little plants in open grassland. The flat topped clusters of pink and white flowers are held close to the ground. It flowers prolifically over a long period and seems very happy in cultivation.

Pimeleas with their daphne-like flower heads are very similar to that genus but do not have the daphne scent. Two are quite conspicuous in this area ; *P. ligustrina* is particularly so and is found at low elevations where it makes large bushes. The alpine form, growing in more exposed positions, is 18 inches high. It produces a mass of

creamy white daphne-like flower heads, backed by large green bracts. *Pimelea alpina* is a wiry, dwarf shrub, several inches in height but spreading out horizontally through *Poa caespitosa*, "Snow Grass". It is extremely slow growing but the branches have a very gnarled appearance which the fine leaves are unable to hide. The small clusters of pink and white flowers develop on every available terminal shoot.

There are many other dwarf shrubs that are part of the alpine flora. The following are a few that stand out because of their flowers and shape. *Hovea longifolia* can be a shrub of up to twelve feet but, in the high plains, it is usually only 18 inches. It forms huge knee-high drifts, as I would imagine heather does in Scotland. Its small, narrow, oblong leaves have a recurved edge and are coated on the undersides with russet-brown indumentum. It is one of the first shrubs to flower after the snows recede, when it sends out racemes of small purple pea-like flowers.

*Boronia algida*, although not producing a mass of flower, has a charm of its own that catches the eye. It is frequently found in association with stunted *Eucalyptus niphophila*, but also occurs on the open summits where it can measure two to four inches high by several feet across. Its small four-petalled flowers vary in colour from light to deep pink. Like *Pimelea alpina*, it is very slow growing and the longest growths I could find when searching for cuttings were 3/8ths of an inch long.

*Kunzia muelleri* has fine juniper-like aromatic foliage and single plants can cover several square yards. It runs along the ground like a prostrate juniper, rooting as it goes. This plant and several others play an invaluable part in checking erosion, a factor too apparent in many places. These plants, when in bloom, smother themselves with small, pale yellow flowers and have prominent stamens.

Occurring along rocky slopes and among snow gums is *Prostanthera cuneata*, the "Alpine Mint Bush". The leaves of this species emit a very strong mint or menthol fragrance when crushed. It makes neat bushes 18 inches high and the white flowers, lightly pencilled with purple, appear over a period of several months.

Conspicuous because of their brilliantly coloured fruits are several coprosmas. *Coprosma nivalis* is completely prostrate. Its creeping woody stems are clothed in small bright green foliage. It seems to occur only in exposed open positions among rocks. *Coprosma moorei* is similar in habit but prefers moist conditions near streams or bogs. As it too is dioecious, the blue fruits appear only on the female plant.

Because large areas of the high plains are heavily grazed during the summer months, many alpine plants suffer and the result of this is that many species have disappeared from these localities. It is to be hoped, however, that they will continue to survive in the several reserves where grazing is not permitted, such as Mount Buffalo National Park and Mount Hotham Alpine Reserve.

The plants mentioned in these notes do not constitute a complete list of alpines found growing on the high plains. I have only mentioned those that appeal to me and have horticultural interest, and that I have grown or attempted to grow in my own garden.

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# The Case for Dwarf Conifers

by M. RICHMOND PATON, B.Sc., Ph.D.

---

CONIFERS, above all else, provide permanent form and outline in garden design, factors which cannot be attained by deciduous shrubs and only by few evergreen flowering trees. Essential as they are to the basic layout of the garden, there are many other functions which conifers fulfil ; for instance, they form a contrasting background for delicate, early-flowering shrubs, make flat sites more interesting and provide much needed winter colour so important in our climate. There are many forms and varieties of conifers which provide these things and it is simply a matter of choosing the right tree for the right situation.

Dwarf conifers are mainly cultivars of *Picea*, *Juniperus*, *Thuja* and *Chamaecyparis*, the last mentioned being extremely variable and producing two types of trees quite different in appearance from each other. One bears fluffy juvenile foliage while the other has adult needles which are hard and flat. Very few of these slow growing forms ever produce female cones but, occasionally, some develop male cones bearing pollen. In the case of *Picea mariana* 'Nana', a sport of the "Black Spruce", these cones are small, red and very pretty.

It is not difficult to understand the reason for this sterility when it is known that most cultivars of small trees originate as "Witches Brooms" on branches of otherwise normal large trees, or as dwarfs appearing among seedlings in forest nurseries. The first is caused by abnormal cell growth following virus, bacterial or fungal infection. The second is brought about by the mutation of genes—a phenomenon in the world of plants as it is in animals.

Accurate identification is not always easy, but to the rock gardener who finds botanical descriptions difficult, a word about the main kinds of conifers may be helpful to him in recognising the groups to which a plant belongs. *Chamaecyparis*, for example, can be most confusing because of the number and variety of forms. Generally, however, it can be said that the slow growing cultivars which have juvenile foliage and are fluffy and soft to the touch, and where branchlets on being bruised give off an acrid smell, invariably belonging to the species *pisifera*.

That well known tree, the "Lawson's Cypress", is the parent of many small forms ; these have the hard flat foliage of the larger tree and are unusually upright or rounded in habit. There are some beautiful dwarf coloured forms of *Chamaecyparis lawsoniana* bearing blue, silver or golden foliage.

The Japanese *Chamaecyparis obtusa*, on the other hand, is rounded in outline, has flattened branchlets which are sometimes spiralled in growth and has blunt tips. There are also some unusual forms of *Chamaecyparis* with whipcord, weeping branches, not readily falling into any category, but these are mostly forms of the first mentioned species, *Chamaecyparis pisifera*, and are usually listed under the cultivar name of 'Filifera'.

Junipers are prickly to the touch, the needles being very sharp. There are many prostrate forms, one of which is native to Britain, and others which are pyramidal and stiffly erect. There are some good glaucous forms and a few with variegated foliage, but otherwise there is not the colour range found in *Chamaecyparis*.

The small spruces are mostly derived from the grass-green "Norway Spruce" and what a large number of forms this conifer has produced ! These miniature trees are extremely resistant to both frost and wind. Their shape is mostly conical or rounded and when mature they are often broader than tall ; the dark foliage makes a very good foil for lighter coloured subjects.

By comparison, there are few thujas, but these can be distinguished from other coniferous trees by the lovely aromatic smell of the foliage. Most, although not all, forms exhibit the hard adult foliage often in a soft bronze colour. One exception, *Thuja orientalis* 'Decussata', has feathery juvenile branchlets which turn a glorious purple in winter.

Although in a short article like this it is not possible to describe the genera mentioned in more detail, it would be wrong to stop here, as some of the most beautiful dwarf trees belong to genera not yet listed. There is a lovely small silver fir, *Abies balsamea* forma *hudsonia* which has shiny needles with white undersides. The elegant "Eastern Hemlock", *Tsuga canadensis*, has given rise to two outstanding miniature trees. One, *Tsuga canadensis* 'Albospica', has silvery foliage and grows into a rounded bush with white-tipped branches, while the other, *Tsuga canadensis* 'Standishii', is a pale green pendulous cultivar, ideal for clothing a steep bank. There are also some attractive dwarf pines, cedars and yews. A few are difficult to obtain but, if a collection is being made, it is certainly worth hunting for these forms.

Many catalogues are helpful in giving the ultimate height and width of cultivars, but those that give the height after a certain number of years are even better. The advertised dimensions may take twenty or thirty years to attain and, when one is reminded that on average the annual growth rate is between one and three inches, trees received from the nursery will not be very big. Larger specimens are usually available, but a correspondingly higher price is charged for them.

After observing dwarf and slow growing conifers in Scotland for a number of years the following table has been compiled with a view to helping the rock gardener with his choice. It includes only those cultivars suitable for small gardens and rock gardens. As one's collection and interest in the plants grow, more information and guidance may be had from specialist books and, if there is a desire to grow larger conifers, there is just as wide a variety, but these belong to another article.

The table gives the approximate height and spread of plants that have been established in the garden for ten years.

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## DISTINCTIVE CHARACTERISTICS OF SOME GOOD DWARF CONIFERS

UPRIGHT TREES : To add height to flat areas	<i>Height</i>
<i>Chamaecyparis lawsoniana</i> 'Ellwoodii'	5 ft.
" <i>pisifera</i> 'Squarrosa Boulevard'	3 ft.
<i>Juniperus squamata</i> 'Campbellii'	4 ft.
<i>Picea albertiana</i> forma <i>conica</i>	3 ft.
PROSTRATE TREES : For covering banks, rocks, etc.	<i>Spread</i>
<i>Cedrus libani</i> 'Sargentii'	2 ft.
<i>Juniperus conferta</i>	3 ft.
" <i>x media</i> 'Pfitzeriana'	4 ft.
" <i>horizontalis</i> 'Glauca'	3 ft.
<i>Tsuga canadensis</i> 'Standishii'	4 ft.
	<i>Height</i>
ROUNDED TREES : To provide variety to outline	<i>and spread</i>
<i>Abies balsamea</i> forma <i>hudsonia</i>	1 x 1 ft.
<i>Chamaecyparis lawsoniana</i> 'Lycopodioides'	4 x 3 ft.
" <i>obtusata</i> 'Gracilis'	1 x 1 ft.
<i>Picea mariana</i> 'Nana'	1 x 2 ft.
" <i>abies</i> 'Nidiformis'	1 x 2 ft.
<i>Thuja orientalis</i> 'Decussata'	2 x 1½ ft.
GOOD COLOUR FORMS	<i>Height</i>
<i>Chamaecyparis lawsoniana</i> 'Aurea Densa'	2 ft.
"    "    'Backhouse Silver'	2 ft.
"    " <i>pisifera</i> 'Squarrosa Lutea'	3 ft.
<i>Juniperus chinensis</i> (Blaauw's form)	3 ft.
<i>Taxus baccata</i> 'Semperaurea'	1 ft.
<i>Thuja occidentalis</i> 'Rheingold'	3 ft.
<i>Tsuga canadensis</i> 'Albospica'	3 ft.
CULTIVARS WITH VARIEGATED FOLIAGE	<i>Height</i>
<i>Chamaecyparis pisifera</i> 'Compacta Variegata'	2 ft.
<i>Juniperus chinensis</i> 'Plumosa Albovariegata'	1 ft.
" <i>sabina</i> 'Variegata'	2 ft.

# Rhodohypoxis

by Mrs. R. McCONNEL

---

I HAVE been associated with *Rhodohypoxis* for many years and have always been interested in the history of this attractive South African bulbous plant. Therefore I thought that as so many gardeners have tried to grow it—some more successfully than others—a short note on the genus might appeal to those enthusiasts.

*Rhodohypoxis*, or the rose-coloured *Hypoxis*, belongs to Hypoxidaceae, a plant family at one time included in Amaryllidaceae. It is a monotypic genus having at least one wild variety.

A search of the records at Kew revealed that dried material was received in 1864 originally. It seems that the Reverend R. Baur was the first to collect this plant, but no date is given for his discovery. It was from herbarium material gathered in November 1875, by the Rev. R. Baur, that J. G. Baker described it as a new *Hypoxis*, *Hypoxis baurii*, in the *Journal of Botany* of 1876. There he states that it was found on the Baziya Mountains, near the mission station in Transkeian Kaffraria, at between 3500 and 4000 ft. According to the *Bot. Mag.* t. 9412, the white form was discovered before the red one and, at the time of describing *R. baurii*, Baker determined this as a new species, naming it *R. platypetala*. It has since been reduced to a variety of *R. baurii*. In the *Gardeners' Chronicle* of 1877 Baker further states that a Mr. MacOwan, who collected bulbs in South Africa with the Rev. R. Baur, sent live bulbs to Herr Leichtlin in Germany, who flowered it in the summer of 1877. Also at Kew are other dried specimens, which were sent from Natal and Transvaal, with flowers varying from white to red and with almost glabrous to densely hairy leaves.

The name *Rhodohypoxis* was given to *Hypoxis baurii* and *H. rubella* by the South African botanist C. Nel in Engler's *Botanische Jahrbücher*, 1914. Obviously, he decided they were quite different from other *Hypoxis* and placed them in a newly created genus of their own.

There now seems to be a gap in the history of *Rhodohypoxis* and it was not until 1927 when my mother, the late Mrs. Garnett-Botfield, showed it at Chelsea that this colourful species received more publicity. Specimens were submitted to Dr. Stapf at Kew, and in due course he identified the red-flowered plants as *R. baurii* and the white form as

*R. baurii* var. *platypetala*. My mother had received a small box containing dry soil and some desiccated turfy material from a friend in South Africa with no plant name or directions. She put everything in a box containing sand. Six months later a single plant of *R. baurii* came into flower and, after another year, a white one flowered. From these two plants most of the present day hybrids have resulted.

Being so fond of these little plants, my mother decided at the age of 67 to go to South Africa to see them growing in the wild. She went to the Drakensberg where she collected both *R. baurii* (fig. 62) and its variety *platypetala*. She never saw the red and white forms growing near each other, yet Dr. H. G. Schweickerdt, who saw them in their natural habitat, is cited in Bot. Mag. t. 9412 as having said that "the red- and white-flowered forms grew together in countless thousands".

When growing these plants it should be remembered that there are thunderstorms and rain all the year round in their natural habitat and the plants do not get a really dry rest. I have grown *Rhodohypoxis* in Ayrshire and here at Farnham, Surrey, out in the open without protection and I don't find that I lose many. My stock of hybrids, however, I grow in beds in the open, but they are covered with Dutch lights from October to April. I find that they grow in any good garden soil to which a little peat or leaf-mould and sand has been added. They appear to dislike lime, for, although I have seen them growing in limy soil, they looked unhappy. I have also seen *Rhodohypoxis* in my mother's garden at Beamish, under water in winter, and still growing strongly in summer.

I find the best time to divide and move the bulbs is from May to July. The clumps in the garden need to be thinned every few years, otherwise the plants tend to produce smaller flowers.

So varied and attractive were the forms raised from seed that my mother selected those which seemed to her reasonably distinct, and the following is a list of cultivars she raised. 'Albrighton', 'Douglas', 'Dulcie', 'E. A. Bowles', 'Fred Broome' (after my mother's gardener), 'Garnett', 'Great Scot', 'La France', 'Maculatus', 'Margaret-Rose' (after my mother's two maids), 'New Look', 'Pictus', 'Pinkeen' and 'Ruth'. To these I have added 'Dawn', 'Harlequin', 'Perle', 'Stella' and 'Mrs. Susan Garnett-Botfield'; the last my mother chose to be named after her.

I consider that *Rhodohypoxis* is one of the longest flowering alpiners. It blooms from April to September and seems to have no enemies; even slugs and snails leave it alone.

Propagation is by division and seed, but seedlings do not breed true to type. For example, three of my cultivars, 'Dawn', 'Harlequin' and 'Mrs. Susan Garnett-Botfield', came from seed saved from *Rhodohypoxis baurii* 'Ruth' and all are quite different.

## Plant Notes

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### GAULTHERIA PROCUMBENS

*Gaultheria procumbens*, "Checkerberry" or "Creeping Wintergreen", was the first of this genus to be discovered and named. It was called after Dr. Gaulthier, personal physician to the botanist Kalm.

*Gaultheria procumbens* grows in North America in cool damp woods where shade is abundant. It is a creeping plant with subterranean shoots which send up short, erect, leafy stems. During the latter part of summer, inconspicuous white to pink-flushed flowers appear, but during winter and spring it is the large red berries that help to bring cheer to the rock garden.

This species was first introduced in 1762, possibly for medicinal purposes, as it is the source of the oil of wintergreen (Methyl salicylate), which is sometimes used by those suffering from lumbago and rheumatism. It has also been called "Mountain Tea" for at one time the leaves were dried and used for making tea.

JANE GRAHAM

### MORISIA MONANTHA (Syn. *M. hypogaea*)

THIS crucifer was first introduced into Great Britain by a Mrs. Palliser. She obtained seeds from Professor Moris, who had collected them from plants he had found growing on the Mountains of Sardinia, and it is in his honour the plants have been named Morisia. This species delights in a light gritty soil in an open sunny position. Thus it is ideal for screens, crevices and even troughs. It makes colonies of rosettes about two inches across. The flowers appear from March to May from each tuft of leaves and the contrasting dark green saw-edged leaves and bright yellow, wallflower-type blooms are most effective.

Root cuttings, placed in a sandy compost and taken at the end of the flowering season, quickly produce young plants.

*Morisia monantha* is one of our most charming alpiners, and with its bright yellow flowers can outshine many saxifrages.

JANE GRAHAM

## MECONOPSIS BETONICIFOLIA (Syn *M. baileyi*)

IN 1913, while travelling in south-eastern Tibet, Colonel F. M. Bailey collected herbarium material of a blue *Meconopsis*. Unfortunately the only specimens he sent to Kew were few and pressed, and it was to such scant material that the name *Meconopsis baileyi* was applied. Nothing more was heard of this plant until 1924, when Captain F. Kingdon-Ward went out to Tibet and found plants similar to those described by Bailey. Kingdon-Ward collected both ample herbarium material and seed, and the introduction into our gardens of this lovely plant under the name of *Meconopsis baileyi* is due to him. Soon after this it was discovered that *M. baileyi* and the then less familiar *M. betonicifolia* were very similar, so much so that the factors which separated them did not warrant two names. In accordance with the rules of nomenclature, the older name had to be retained, and so *M. baileyi* became a synonym of *M. betonicifolia*.

*Meconopsis betonicifolia* was originally found in 1889 in W. China by the Abbé Delavay, who again sent only pressed specimens to a botanist friend in Paris.

Since 1926, when this blue Himalayan Poppy was first offered to the public, it has been a great success. From May until August its sky blue flowers, with golden centres, are borne on unbranched stalks up to 5 feet in height, and associate well with other plants in any shady spot or woodland. This *Meconopsis* is an easy plant to grow and propagate.

JANE GRAHAM

## AETHIONEMA ARMENUM 'WARLEY ROSE'

*Aethionema armenum*, sometimes better known as the "Persian Candy-tuft", is remarkably long-lived. It has a number of garden forms, one of which, *Aethionema armenum* 'Warley Rose', was introduced more than 40 years ago by Miss Ellen Willmott from her famous garden at Warley, Essex.

This is a shrubby evergreen, layering itself until quite quickly it makes a large patch two feet or more across. It is small in all its parts and only about six inches high. The spikes of bright pink flowers are freely produced in May and June.

Cuttings from young shoots produced after flowering root easily.

I grow this cultivar in scree in full sun and also in a less sunny place where it does equally well.

CYNTHIA J. H. SANDERSON



## ANDROSACE LANUGINOSA

ALTOGETHER *Androsace lanuginosa* is a charming plant. Its trailing stems, covered with silky, silver foliage, spread into a wide patch and produce masses of lavender-pink flowers with deep pink eyes, carried in large umbels.

It is a valuable species in the rock garden as it flowers much later than other androsaces and gives welcome colour in July and August.

There are always plenty of rooted offsets from which to grow more plants.

CYNTHIA J. H. SANDERSON

## HIPPOCREPIS COMOSA 'E. R. JANES'

*Hippocrepis comosa* 'E. R. Janes' is a particularly fine form of a native legume. It has striking, clear yellow, vetch-like flowers borne absolutely flat on a prostrate mat of bright green foliage carried on intertwining, wiry stems which have a spread of two feet or more.

Cuttings, taken after flowering, root easily when pulled off with a heel.

This cultivar really is an "eyecatcher" when in flower and the bees love it.

CYNTHIA J. H. SANDERSON

## MELAMPODIUM LEUCANTHUM

*Melampodium leucanthum* is a delightful free-flowering daisy from the Great Plains of North America. In its native home it is subjected to extremes of cold in winter and heat in summer. Its six-inch stems bear many white daisies with yellow centres and the narrow leaves are grey-green. Here (Central California) this composite blooms from early summer until frost, sometimes flowering itself to death. It thrives in lean soil in full sun. Easily raised from seed, this New World plant often blooms the first year. A related species from the Rocky Mountains, *Melampodium cinereum*, is shown and described on pages 24 and 25 of the *Report of the Second International Rock Garden Plant Conference* 1951.

WILLIAM RAWSON, California

# Joint Rock Garden Plant Committee

DUNDEE—4th OCTOBER 1968

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## AWARDS TO PLANTS

### PRELIMINARY COMMENDATION

To *Crocus banaticus* (syn. *C. byzantinus*, *C. iridiflorus*) as a flowering plant for the rock garden and alpine house, exhibited by G. Rae, Esq., 20 Dovecot Park, Selkirk.

To *Romulea longituba* var. *alticola*, exhibited as *Syringodea luteonigra*, as a flowering plant for the rock garden and alpine house, exhibited by Major-General and Mrs. D. M. Murray-Lyon, Ardcuil, Pitlochry, Perthshire.

## AWARDS FOR EXHIBITS

### CERTIFICATE OF CULTURAL COMMENDATION

To J. D. Crosland, Esq., Treetops, Torphins, Aberdeenshire, for a well-grown plant of *Petrocosmea kerrii*.

To H. Esslemont, Esq., 9 Forest Road, Aberdeen, for a well-grown plant of *Raoulia buchananii*.

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# Show Reports

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## DUNDEE

THE DUNDEE SHOW, held in October, turned out to be a great success as far as entries and quality of plants were concerned.

The Alexander Caird Trophy, awarded for three pans rock plants of different genera, was won by Mr. J. H. K. Rorie, Dundee, with an entry of *Crassula sarcocaulis*, *Acaena microphylla* and *Gentiana sino-ornata*. Dr. and Mrs. T. A. Stuart, Pitlochry, won the Dundas Quaich with *Viola yakusimana* and a beautiful plant of *Gaultheria itoana* in fruit. The Forrest Medal, hotly contested, was awarded to a lovely plant of *Petrocosmea kerrii* shown by Mr. J. Crosland, Torphins. The L. C. Middleton Challenge Trophy, awarded to the competitor gaining the highest number of first prizes in Section I, and to be held for one year, was won by Mr. H. Esslemont, Aberdeen.

In Section II, which was well supported, a Bronze Medal was won by Mr. Hector Martin on his very first attempt at showing with the Club. The quality of plants displayed in this section was of a particularly high standard.

A Joint Rock Garden Plant Committee Meeting was held during this Show and the heights reached in the cultivation and display of the exhibits can be gauged by the recommendations made at that meeting.

Preliminary Commendations were received by Major-General and Mrs. D. M. Murray-Lyon for *Romulea longituba* var. *alticola* exhibited as *Syringodea luteo-nigra*, and Mr. G. Rae, who had travelled all the way from Selkirk, for a particularly fine form of *Crocus banaticus*. Cultural Commendations were awarded to Mr. J. Crosland for the Forrest Medal plant, *Petrocosmea kerrii*, and to Mr. H. Esslemont of Aberdeen for a healthy cushion of *Raoulia buchananii*.

Thanks are due to the exhibitors and the many willing helpers who rallied round to make this late Show such a success.

J. RORIE,  
*Show Secretary.*

# Obituary

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Major ALAN WALMSLEY, M.C.

Many members of the Scottish Rock Garden Club would be saddened by the news of the sudden death of Major Alan Walmsley, M.C., who had a long and active association with the Club, having been a member since 1936. He had a distinguished Army career and served in the 1914-18 War in the Royal Welch Fusiliers, in which he was awarded the Military Cross for great gallantry and was mentioned twice in dispatches. After being severely wounded he was invalided out of the Army, but served again during 1939-41 in the 19th L.A.A. Regiment, R.A.

Major Walmsley was a most successful and energetic President of the Club from 1947 to 1951. His term of office was a period of prosperity for the Scottish Rock Garden Club, which was largely due to his enthusiasm and popularity. He introduced such new features as the appointment of County Representatives from every county in Scotland, and it was also due to him that our Shows began to be held in areas other than Edinburgh and Glasgow. The first of these was in Dumfries, to be followed later by Perth, Aberdeen, Dundee, Dunfermline and East Lothian. During this period there was also a considerable increase in the membership of the Club from less than 500 to over 2000 members. He was elected to the Joint Rock-Garden Plant Committee of the Royal Horticultural Society, on which he served until the time of his death. It was during his Presidency that the International Rock Garden Plant Conference of 1951 took place. In 1961 he was awarded the Scottish Horticultural Medal by the Royal Caledonian Horticultural Society for services to Scottish horticulture.

He was an enthusiastic gardener with an extensive knowledge of plants and their cultivation. Along with Mrs. Walmsley, he created a beautiful garden at Culderry, Garlieston, in Wigtownshire, which ranks amongst one of the best in the south-west of Scotland. It is well-known for its collection of rare and interesting plants, many of which he and Mrs. Walmsley collected personally in various countries. Ericaceous plants and bulbs were of particular interest to him.

A successful exhibitor at our Shows, a number of his plants received special awards. In London in 1947, a First Class Certificate and the Farrer Memorial Medal of the Alpine Garden Society were awarded

to *Phyllodoce nipponica*, and within the week the same plant received the George Forrest Memorial Medal at Glasgow. It was judged to be the most outstanding plant of the year. This plant is still alive and is now at least 2 ft. in diameter ! Many others received Forrest Medal awards, amongst which can be mentioned *Shortia galacifolia* in 1937, *Epigaea asiatica* at Dumfries in 1960, and *Daboecia azorica*. On several occasions he won the premier prize at our Shows for the best collection of six different plants.

Flower photography was another of his interests, and his lectures were always illustrated by beautiful colour photographs taken on his plant hunting journeys. He also exhibited flower paintings for which he was given an award by the Royal Horticultural Society.

In addition to his horticultural activities, he was an outstanding shot and pursued this pastime up till a few days before his death. But plants were his primary interest.

Those who knew Alan Walmsley will miss his kindness, quiet and helpful conversation about plants, and his knowledgeable remarks about their history and cultivation. It is a great pleasure to learn that the garden of Culderry is to be carried on under the able supervision of Mrs. Walmsley, to whom we extend our most sincere sympathy in her bereavement.

J. D.



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# The American Rock Garden Society

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

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

The annual subscription is 3½ dollars, or 10 dollars for three years if paid in advance, and the Secretary, who will send further particulars, is Richard W. Redfield, P.O. Box 26, Closter, New Jersey 07624, U.S.A.

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

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Form for Application for Membership may be obtained from : John Turnbull, Esq., D.S.O., D.F.C., C.A., Secretary, The Royal Caledonian Horticultural Society, 44 Melville Street, Edinburgh, 3.

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