



The JOURNAL of
THE SCOTTISH
ROCK GARDEN CLUB

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VOLUME XVIII Part 1
No. 70

JUNE 1982

Editor R. J. MITCHELL • University Botanic Garden • St. Andrews • KY16 8RT

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Discussion Weekend 1982

DUNFERMLINE COLLEGE OF PHYSICAL EDUCATION
CRAMOND, EDINBURGH

SATURDAY and SUNDAY, 11th and 12th SEPTEMBER 1982
PROGRAMME

Saturday 11th

- 1.00 p.m. Lunch
- 2.15 p.m. Address of Welcome
- 2.30 p.m. The W. C. Buchanan Memorial Lecture
"The Cultivation of High Alpines" Duncan Lowe
- 3.45 p.m. Tea
- 4.15 p.m. "Dwarf Bulbs" Ray Cobb
- 6.30 p.m. Dinner
- 7.30 p.m. "Propagation of Alpines" Bob Straughan
followed by general discussion on plant propagation

Sunday 12th

- 9.00 a.m. Breakfast
- 9.45 a.m. "Dwarf Conifers" Andrew Cassels
- 10.45 a.m. Coffee
- 11.15 a.m. The Esslemont Lecture
"Plant Hunting in the Old World"
Christopher Grey-Wilson
- 1.00 p.m. Lunch
- 2.30 p.m. "In Search of Flowers" Jack Crosland
- 3.45 p.m. Close of Proceedings
- 4.00 p.m. Tea and Disperse

Accommodation will be single student-type bed-sitters. The College, pleasantly situated at Cramond on the north-west side of Edinburgh, stands in its own grounds and has good facilities, including an indoor swimming pool. It is easily accessible from the Queensferry Road, either by way of Whitehouse Road, (running north from the Barnton Roundabout), thence into Cramond Road North, or by way of Quality Street, thence into Cramond Road North.

The Autumn Show will be held in conjunction with the Conference, details of which are in the Show Schedule. A meeting of the R.H.S. Joint Rock Garden Committee will be held at 12 noon on the Saturday of the Show.

Donations of plants, books, etc., will be much appreciated for the "Bring and Buy" Stall.

CHARGES, INCLUDING V.A.T. AT 15% AND CONFERENCE FEE

Full board from Friday dinner till Monday breakfast ..	£49.50
Full board from Friday dinner till Sunday tea ..	38.50
Full board from Saturday lunch till Sunday tea ..	28.00

Day Charges

Saturday: Lunch, tea, dinner	11.50
Sunday: Coffee, lunch, tea	8.00
Saturday and Sunday	17.00
Lectures only, per day	5.50

All bookings, residential and day, must be received by *Friday 20th August 1982*.

As final numbers have to be confirmed with the College administration some time before the Conference, *late bookings cannot be accepted*.

Applications, together with the remittance (payable to K. Truman) should be sent to the Registration Secretary, Mrs. K. Truman, 36 Lady-smith Road, Edinburgh EH9 3EU (Tel. No. 031-667 8867).

In the event of a change in VAT rates charges may have to be adjusted.

Letter to the Editor

WHILE browsing through old S.R.G.C. *Journals* and reading notes on the Angus Group Seed Exchange, I noticed that Miss Joyce Halley was very generous with her thanks to helpers and seed donors from all over the world, but how many happy receivers of seed realise that it is Joyce herself who makes our exchange what it is.

In these times of strikes for more pay, how many people would work from six a.m., yes six in the morning, to eleven p.m. every day of the week for many months and all for the love of alpinists?

Many of us help as much as we can, but the co-ordination of the seed list once all the donated seed has been checked and filed, the recording of the money when it comes in with the orders (can you imagine a daily twelve-inch-deep pile of letters in her January post!) and the final say of who gets what in the way of seed can be done by one person only — Joyce.

A very big thank you; we do appreciate all your hard work.

MARGARET TAYLOR

Vireya Rhododendrons in the Wild and in Cultivation

by G. ARGENT and J. LEWIS

The Clark Memorial Lecture 1980

VIREYA rhododendrons are a section of the sub-genus *Rhododendron* (the lepidote or scaly rhododendrons) which characteristically have seeds with long tails at both ends. This distinction is not entirely reliable but was the basis on which the group was founded when originally proposed as a new genus *Vireya* by Karel Lodewijk Blume in 1826. The name was given in honour of a celebrated French pharmacist and natural historian, Julian Joseph Virey. *Vireya* rhododendrons have, for practical purposes, a distinct area of distribution, coming essentially from Malaysia. Only some four or five species of non-*Vireya* rhododendrons infringe this geographical isolation, over-lapping with occurrences in the Malay Peninsula, Sumatra and the Philippines; a similar number of *Vireya* species escape the strict confines of the region to Australia, the Solomon Islands in the south Pacific and the broader expanse of mainland Asia.

Vireya rhododendrons now number nearly three hundred species out of a genus of about eight hundred and probably represent the largest sectional group. The origin of the section is not clear; it is arguable that they have migrated from the north or the south into their present area but it appears much more likely that they migrated south-eastwards from a general centre of *Rhododendron* evolution somewhere on mainland Asia. The long tailed seeds are particularly well developed in lowland species and appear to be an adaptation to a largely epiphytic existence in the highly forested terrain of Malaysia, where seeds need to be very buoyant to float from tree to tree in forest which often restricts wind. Other prominently epiphytic groups such as the Bromeliaceae and *Aeschynanthus* (Gesneriaceae) have remarkably similar seeds. Thickened rather fleshy roots which occur in many species may be another epiphytic adaptation associated with a limited water storage ability in the wild, and the scales may in some cases behave similarly to those of the bromeliads. They certainly sometimes act as efficient reflectors when dry and presumably help to keep the leaves cool. Like almost all the Ericaceae they are plants of acid conditions whether growing on moss covered branches or on the ground.

With the very high rate of leaching achieved by intense heavy thunderstorms and a very high annual rainfall, soil acidity as low as pH 3.5 (Doleshy 1977) has been recorded in habitats of *Vireya rhododendrons* in the wild.

Rhododendron javanicum (Blume) Benn. was the first species in the *Vireya* group to be brought into cultivation in Europe, probably about 1830. It was reported flowering at Veitch's nurseries in London during 1847 in *The Gardener's Chronicle*. The striking orange flowers attracted a great deal of attention as being extraordinary for the genus at that time, and when this species was followed soon after by the delicate white-flowered and scented *R. jasminiflorum* Hook., the large and showy *R. brookeanum* Low ex. Lindl. and *R. longiflorum* Lindl., great excitement stirred the élite Victorian horticulturists with stove houses. A wealth of hybrids soon followed from Veitch's nurseries including double and laced forms with complex parentage based on these four species. Almost all of these hybrid plants, with such illustrious names as 'Princess Alexandra', have now been lost to cultivation; certainly none has been offered for sale from a commercial list in Britain for many years. Fortunately we have a remarkably detailed account of what was achieved by the Victorian *Vireya* breeders in a paper written by the Rev. Professor G. Henslow (Henslow 1891) which gives clear details of the inheritance of some characters and illustrates a number of the best results of Messrs. Veitch & Son's breeding programme.

We are lucky in having an excellent basic reference work on *Vireya rhododendrons* in the *Flora Malesiana* account by Professor Sleumer (Sleumer 1966), but this area is still far from well explored and although most botanists and even some foresters will stop to collect something as handsome as a *Rhododendron*, there are still many parts from which plants have not been collected.

The Royal Botanic Garden, Edinburgh, has had a real interest in growing *Vireyas* only for a relatively short time. It is true that we have grown one or two of the earlier introduced species since the late 1800s and some of the Veitch hybrids persisted until only a few years ago, but it was not until the late 1960s that introductions became more than casual acquisitions. The far eastern expeditions from the RBG, Edinburgh, of Bill Burtt, Adam Martin and Patrick Woods brought in nearly one hundred new acquisitions of *Vireya Rhododendron*, including many species never before seen in cultivation.

The last few years have brought about an enormous increase in the

collection and study of *Vireya* rhododendrons in Edinburgh stimulated on several different sides. The active revision of mainland rhododendrons by Dr. Cullen and Dr. Chamberlain has given the genus an even greater importance in Edinburgh. The rebuilding of the entire back-up glasshouse area has meant increased space and better conditions in which to grow the plants, and a number of garden staff have contributed significantly in building up the expertise we now possess in the cultivation of this sometimes fickle group of plants. Lastly, an enlightened policy of allowing both taxonomists and garden staff to collect and study plants in the wild led to a succession of recent expeditions which has resulted in the contribution of a wealth of new plants, currently being tried and studied in Edinburgh.

One of these collecting expeditions was to Papua New Guinea in 1975, where two different mountain areas were visited with the help of the Division of Botany staff in Lae. The first area visited was Mt. Giluwe in the main central chain of mountains that forms the backbone of this large tropical island. Collections in the forest at about 2,000 m. altitude included a large white-flowered *Rhododendron* similar to *R. leucogigas* Sleum. (fig. 1) but probably *R. konori* Becc. and the common yellow or orange-flowered *R. macgregoriae* F. von Muell. Both of these species grow and flower happily in Edinburgh. In the sub-alpine grassland above about 3,000 m. several rhododendrons occur in the pockets of scrub where natural conditions give some protection from the fires which burn over this area as a result of lightning strikes or, more frequently, deliberate lighting, by hunting parties from the villages below the mountain. Very conspicuous was *R. womersleyi* Sleum., an attractive species with pendant red flowers, valiantly battling to regenerate with long sucker shoots from the charred stumps which had recently been burnt over. Less conspicuous but more exciting was *R. saxifragoides* J.J.S. (fig. 3) forming low cushions only an inch or two high with its six-inch flower stems and large red blooms thrust well clear of the leaves. This plant is very well named and without flowers would easily be overlooked or, if seen, casually dismissed as a tough herb which could not possibly be a *Rhododendron*. *Rhododendron saxifragoides* has been grown and flowered successfully in cultivation and would grace any alpine house with its neat habit and beautiful flowers. In the grassland of Mt. Giluwe it grows on wet peaty slopes where the vegetation is sufficiently thin to burn only very lightly.

The other area visited was the Saruwaket mountains in the Huon Peninsula, set rather apart from the main central chain. Here *Rhodo-*

dendron herzogii Warb. flowered shyly from large branches high in big trees. It makes an attractive pot plant and flowers regularly with long, white, scented flowers. Another exciting find in this area was *Rhododendron pachycarpon* Sleum. with lime-green flowers, but we failed to establish this species in cultivation in Edinburgh.

More recent visits have been made to Borneo as part of the Royal Geographical Society's expedition to the Mulu National Park in Sarawak. Seventeen species of *Rhododendron* were found within the National Park area in a range of habitats from mountain ridges of shale, sandstone or even pure limestone overlain with peat, to large trees and cliffs overhanging rivers. On Mulu itself, the highest mountain in the park, the ridges leading to the summit were brightened by several species in a range of colours: *R. orbiculatum* Ridl. (fig. 4) with large pink flowers, *R. durionifolium* Becc. bright orange, *R. yongii* Argent, a newly discovered species with handsome dark red flowers, and occasional plants of *R. himantodes* Sleum., its white flowers delicately speckled with dark brown scales. Gunong Api, a limestone mountain, might not have been expected to yield rhododendrons but the high rainfall induces peat development even on the sharp ridges and rhododendrons again occurred in profusion.

The most recent expedition to Sabah in Borneo included a visit to the Mecca of rhododendrons in south east Asia, Mt. Kinabalu, (fig. 5) which boasts twenty-five species within the National Park area and on which even a casual visitor who can climb to the summit might see a dozen species. Many people have eulogised on the flora of Kinabalu with opinions differing as to the most attractive or favourite *Rhododendron*. *Rhododendron lowii* Hook. f., with enormous yellow or apricot flowers as much as 10 cms. across, reliably flowering at all times of the year, wins the accolade of some. *Rhododendron ericoides* Low ex Hook. f. with its tiny ericoid leaves and red tubular flowers braving the bare granite to within 40m of the summit wins the hearts of others, but for me (G.A.) it was *R. buxifolium* Low ex Hook. f., unsurpassed anywhere with its sensational display of heavily honey-scented flamboyant red flowers displayed against the scenic backdrop of granite crags. *Rhododendron praetervisum* Sleum (fig. 2) with 10cm long pink hanging flowers is perhaps runner-up.

Collecting and growing techniques have been developed over the years with contributions by numerous members of staff at Edinburgh and indeed outside growers and collectors. In the field, cuttings are taken of young but ripened wood which then have their cut ends

covered in damp moss and tightly bound with a covering of thin polythene, but with the leaves free. Bundles of cuttings can be carried about like this for some days or even weeks, airing the leaves in shade whenever a chance allows, and spraying the foliage to keep the shoots healthy. Care must be taken that water does not run into the polythene cover or the cuttings may rot. When opportunity allows, the cuttings may be packed for posting using dry newspaper to separate the bundles and ideally inserting some insulating material like expanded polystyrene or corrugated cardboard on the sides of the boxes. This will protect the plants from the heat of lowland towns in the tropics and also from low temperatures that can occur in transit, particularly in the winter months. Rhododendron cuttings usually keep quite well for up to a week packed in this manner, but deteriorate progressively and if delayed much beyond ten days can be useless. On the whole, cuttings suffer much more from being too wet than too dry when confined in a parcel and they should not be sprayed just prior to packing. On arrival the parcels are promptly unpacked and the material spread out in a mist unit for a few hours if rather dry, or in extreme cases totally immersed in water for an hour or two. Dead and dying leaves are removed and the cut ends inspected. If callusing is developing satisfactorily, as it often does in the damp moss, the cuttings may be inserted directly in pure coarse peat in closed shaded cases, at 16-18° C with bottom heat at 21° C, sprayed lightly with water when necessary and left to root. If drying or infection are affecting the cut end, this may be shortened to just below a node with a clean cut. This is then treated with the rooting hormones indole butyric acid (0.3%) and naphthalene acetic acid (0.1%) in powdered talc, plus a fungicide such as Benomyl (Benlate). Rooting is variable but usually takes a month or more.

When well rooted the cuttings are potted on into an open compost of coarse peat (from which the fine fraction has been removed by sieving), loam and sharp sand in the ratios 3:2:1 plus a little magnesium carbonate and a general slow release feed. This compost is usually pH 5.0-5.5 when first made up and is sufficiently acid for most of the plants. Some problems of chlorosis do occur and have been attributed to lack of mycorrhizal fungus for the plant roots. They are more likely to be due to lack of magnesium if this element is not added, or to the pH of the compost which may rise significantly if repeatedly watered with tap water of pH 7 or higher. Plants should be gradually hardened off to lower temperatures and humidities after rooting with

cases opened for successively more extended periods. Potting should be done early in the year and completed by the end of June. Flushes of growth, although occurring at any time, tend to be in March/April or September/October and the temptation to replot in the late summer or autumn should be resisted even when growth looks very vigorous. Our experience shows it to be important to have roots right through the ball of compost before winter starts if root problems are to be avoided in the winter months which may lead to sudden death.

Rhododendrons occur in the wild from sea level to nearly 4000 m. and it is remarkable that they can just about all be grown together in one house in cultivation. In the RBG, Edinburgh, we tend to keep the plants under one of two regimes: a warm house at 21° C day, 18° C night minima and a cool house at 13° C day, 8° C night minima. Plants from lowland habitats up to about 1000 m. altitude are grown in the warm house and all others in the cool area. The plants are watered freely when in full growth and fed with dilute fertiliser fortnightly but kept on the dry side from September to March. The most difficult plants are undoubtedly those from very high altitudes which, unlike their Himalayan counterparts, cannot be grown outside as they will not endure the prolonged cold, wet and gloom of our winters. In the greenhouse they suffer from low light in the winter months and high temperatures in the summer and are never very happy. The lowland plants grow well enough when given extra heat, but in these days of high energy costs it is the plants from moderately high mountains which show most promise horticulturally as they can be grown easily with little more than frost protection. The species that are just being introduced open up a new wealth of variety of colour and form, and their economical heating requirements make them attractive plants for the connoisseur.

LITERATURE

- Doleshy, F. L. Rhododendrons on Malaysia's Highest Peak, Mt. Kinabalu. Quart. Bull. Amer. Rhod. Soc. 31 (1977): 70-82.
Henslow, G. Hybrid Rhododendrons. Jour. Roy. Hort. Soc. 13 (1891), 240-283.
Sleumer, H. Flora Malesiana 1966, 6(4), 474-668.

Why not Try the Andes?

Part 2 — CHILE

by BRENDA and JOHN ANDERSON

HAVING been captured by the magic of the Andes, and finding that the money put aside for our Argentinian trip had proved more than adequate, we decided to have a look at the mountains from the Chilean side, combining this with a quick "through the lakes" visit to our friend, Hilda Rumboll, in Bariloche. The Chilean venture was so successful that we returned the following year, and this account covers visits in 1980 and '81.

To anyone thinking of going to South America we would say, shop around, it is possible to do the trip for almost half the standard price quoted. Both times we went via Miami to Santiago, and before setting off we did as much ground work as possible. We were able to get approximate prices of hotels from the Servicio Nacional de Turismo, Catedral 1165, Santiago. The Club Automovil de Chile, Avenida Pedro de Valdivia, Santiago, also supplied lists of accommodation, and told us at which towns it was possible to hire Self Drive cars, and the prices. All prices are quoted in U.S. dollars, and all are liable to be a bit higher than quoted by the time you get there! It is also a lengthy process — an average of three weeks to get a reply by Air Mail, and much longer for the Tourist literature. It is not necessary to write in Spanish, and most of the Tourist literature is in English, but, as we said in our previous article, the ability to speak a little Spanish helps a lot, particularly in the mountains. There seems to be a constant state of friction between Argentina and Chile, which may sometimes create difficulties in getting to some of the Passes between the two.

We went from mid December to mid January on the first occasion, which was just about right for maximum flower, and 12th January to 20th February on the second trip, as we wanted to see, and mark, flowers for seed collection later. Things come and go very quickly, and if you don't know where to look it is difficult to find the seed.

We had written to Dr. Wagnanski in Santiago, who contributes seed to the A.G.S. from time to time, and is a mine of information about Chilean flora. We dined with him and his sister on several occasions, and they could not have been more charming and helpful. One evening



Fig. 1—*Rhododendron leucogigas* Sleum. (See page 8) Photo—R.B.G., Edinburgh

Fig. 2—*Rhododendron praetervisum* Sleum. (See page 9)

Photo—R.B.G., Edinburgh





Fig. 3—*Rhododendron saxifragoides* J.J.S. (See page 8)

Photo—R.B.G., Edinburgh

Fig. 4—*Rhododendron orbiculatum* Ridl. (See page 9)

Photo—R.B.G., Edinburgh





Fig. 5—Mt. Kinabalu (See page 9)

Photo—R.B.G., Edinburgh

Fig. 6—*Chloraea* (See page 17)

Photo—Lt. Col. J. Anderson





Fig. 7—*Oxalis microphylla* (See page 17)

Photo—Lt. Col. J. Anderson

Fig. 8—*Viola cotyledon* (See page 19)

Photo—Lt. Col. J. Anderson



we had the pleasure of showing them, and a few friends, slides of our own and other Scottish gardens. What was most admired were the blue meconopses and rhododendrons — subjects they cannot grow in Santiago as the summers are much too dry. Down in the south, in the forest and lakes area, rhododendrons can be grown.

The ski resorts within 50-60 km of Santiago proved to be very rich areas for us. In the area we first visited there are three adjacent villages — Farellones 2300 m, La Parva 2500 m, and El Colorado 2800 m, all with ski lifts, but in summer all as dead as the proverbial door nail! At Farellones, however, the Tupungato Motel usually has someone on the premises, and if you drop in on your way up in the morning, he will take a steak out of the deep freeze, and prepare a room. The owner (?), Senor Garcia, lives in Santiago most of the time, but if contacted in advance is only too happy to take riding/camping expeditions away up the really big snow-capped mountains looming in the background. Unfortunately we are too old for these delights.

There are dark orange alstroemerias, shrubby calceolarias, oxalis, and other attractions on the way up, but the real excitement began just about “Curva 35” on the ridge immediately below Farellones. Just beside the road there were tall pink *Schizanthus grahamii*, a very dark *Salpiglossis*, a shrubby *Solanum*, and lots of *Oxalis*. The rocky slopes revealed *Hippeastrum igneum*, *Placaea ornata*, *Leucocoryne macropetala*, *Rhodophiala rosea* var. *alba* (a white trumpet with dark pink lines in the throat), a *Solenomelus*, small pink *Sisyrinchium* and, of all odd things to find well within the winter snow line, a very spiny “bun” cactus, probably *Austrocactus hibernus*. Amongst the low, scrubby bushes scrambled a bright orange *Mutisia* and the very lovely *M. subulata*, cream with red anthers. The *Mutisia*-bug was at work as usual! On our second visit we even went to the extent of bringing Malathion with us, and dosing some of the plants, in the hope of getting seed a month later, but to no avail! Similarly, we marked *Hippeastrum igneum* and *Placaea ornata* for seed collection, but when we came back all we found were holes in the ground — we wondered if our carefully treated *Mutisia* heads had gone the same way. Incidentally, both the *H. igneum* and *P. ornata* were single plants and we never saw them anywhere else.

Near the entrance to the Motel there were quantities of *Oenothera acaulis* (?) *taraxacifolia* (?) — we were given both names — anyway, large, white, stemless and beautiful, and very floriferous, and a 6 in. high pink *Alstroemeria*, possibly *A. hookeriana*. On the road up to El Colorado there was a lot of shrubby, purple *Verbena*, and a very

lovely creamy coloured *Tropaeolum* with an orangey throat. Its thin, trailing stems, with sparse leaves, wandered over barren, dry soil, and through the occasional small bushes. A collected tuber flowered here last summer and seed germinated well.

Near La Parva, we found the spectacular *Schizanthus hookerianus* (bright yellow with a magenta tongue). Damp spots revealed the beautiful white flowers of *Calandrinia affinis* growing in profusion. A steep climb above La Parva to about 3000 m was rewarded by finding the rosettes of *Viola atropurpurea*, just where Dr. Wygnanski had said they should be, below the last pylon of the ski lift. Alas, the flowers were all over, but we got some seed (which has just germinated) and the perfect shape of the fat rosettes, with their intricately overlapped circles of tiny leaves, was a joy in itself. This area also produced the little yellow *Loasa nana*, *Caiophora coronata*, and yet another *Tropaeolum* of the *polyphyllum* type, but of smaller growth and with curious, hooded, dark orange flowers. Seed of this has just germinated.

Another ski area is Lagunillas, to reach which one goes up the Maipo valley to San José, and turns left up a track with instructions about hours for "up" and "down" traffic — but in summer there is no traffic! From about 1500 m there began to be interesting flowers: dark purple *Malesherbia linearifolia*, two species of *Verbena*, *V. ochreata* and *V. glandularia*, tall pink *Alstroemeria*, and a bright purple *Calceolaria* with smooth leaves, not the same as the one we grow as *C. purpurea*. Further up, a dark red *Mutisia* caught our attention, and we stopped to photograph it, and the small pink-flowered shrub *Viviania rosea*, which looks good from a distance, but the petals of the flowers turn back in a manner which makes it look as if it is wilting. The little village, if you could even call it that!, consists of three bungalows and a Refugio and, believe it or not, the first bungalow has a sign "The Bothy" and belongs to a charming Scotsman and his Chilean wife. Lagunillas proved to be a most fruitful area which we visited several times, on both our trips, twice staying at the Ski Club Refugio, which is run by a delightful old character known as Che, who regaled us with stories of earthquakes and avalanches, supplied sheets and blankets for our bunk beds (20 to a dormitory, with a cold shower, but we were the only inhabitants) and slaughtered a chicken for our supper, having been warned when we went up the mountain in the morning that we would like to spend the night — no deep freeze or electricity here!

The Refugio stands at 2000 m, and we browsed our way up a comparatively gentle slope to around 3000 m, following the faint line of a

track towards the disused wheelhouse of an abandoned ski lift. There were many flowers in this area, but the crescendo was reached on a visit in mid January, when the track became a wonderful floral display. Quantities of *Calandrina sericia*, the whole little plant glistening with soft, furry hairs, and liberally jewelled with brilliant magenta flowers, *C. picta*, with equally brilliant flowers, fleshy leaves, and curious spotted buds, *Rhodophiala rosea* in the deep rose-pink form, dwarf, pink *Alstroemeria*, the prostrate flower heads of *Argylia viridis*, its large creamy to almost brown flowers looking somehow too lush for these surroundings, the whole interspersed with a ground cover of small bright yellow *Chaetanthera*. There was even more excitement to come. A bit further on an arid north-facing slope (the equivalent of a south slope here) displayed a haze of pink, which proved to be that most desirable of Andean endemics, *Cruckshankia hymenodon*. Greyish leaves on spreading tentacles each tipped with a 2 in. diameter rosette of wavy bracts, rose-pink fading to white, which surround a cluster of bright orange stars. Interspersed with this frothy, fairy plant were groups of a curious thing looking for all the world like a starved little cabbage, sprouting an artichoke bud for a heart! This bud opens into a large, substantial daisy, some bright pink, others white. It rejoices in the name of *Pachylena atriplicifolia*. All this is just the cream of what we saw in these mountains! We sat there, munching our lunch, and dreaming of what might grow, hidden in the distant ranges stretching out into the blue! On the way down, we hardly noticed the little creamy *Tropaeolum*, trailing amongst the rocks.

It is perhaps appropriate to explain here that during the months of December, January and February (midsummer months) there is rarely any rain in the mountains of the Santiago area. The lower slopes are dotted with a few scrubby bushes, and higher up there are thin, wiry grasses and prickly shrublets, all well equipped with noxious burrs and seeds! By Jan./Feb. the deeply fissured upper reaches were struck by drought, and yet out of this seeming desert sprang these beautiful flowers! In February some of the scrub at about 1600 m had produced masses of brilliant, scarlet, honeysuckle-like flowers, which proved to be a type of *Phrygilanthus*, an epiphyte which we had found, in a different form, in Argentina, and of which we were to see other forms, on different hosts, further south in Chile. We brought back some of its sticky seeds, and offered them various hosts, so far without success.

The other place we visited from Santiago was Portillo, where we had hoped to reach the 3500 m pass between Chile and Argentina.

Unfortunately for us, the Customs men had objected to being assailed by falling rocks whenever one of the fairly frequent earth tremors occurred, so the post had been moved down to near the Portillo hotel at 2800 m. It is forbidden to take a hired car beyond the Customs. The mountains rise steeply, and are particularly bleak and forbidding, but among the thorny bushes on the lower slopes were scrambling red mutisias. At about 2000 m there were great patches of *Schizanthus grahamii* and *Tropaeolum polyphyllum*, of the colour one normally sees in this country and, higher still, in very slippery shaley scree, *Alstroemeria spathulata*: not more than 6 ins. high, with large heads of bright rose-pink flowers and whorls of sea-green leaves. There was also a particularly fine specimen of the lovely but vicious *Caiophora coronata*, which has an upright centre of finely cut leaves, surrounded by a prostrate circle of large, blown-up looking, pure white flowers — every part covered in fine, stinging hairs!

From Santiago, we moved south; the northern section of the country is mostly desert. The Pan American Highway traverses the whole country from north to south, and the farther south you get, the longer the stretches of broken surface. The concrete highway was not constructed to withstand the battering of the heavy lorries of today, plus earth tremors. The result is that long stretches of road are in an indescribably broken state, along which traffic weaves its unsteady course, like drunken snails! The farther south one gets, the higher the rainfall, and in the plains to the south of the Rio BioBio there is green rolling country, reminiscent of English parkland, the large fields hedged with brambles (which have become an imported menace), large spreading trees, beautiful horses, cattle and sheep, and lush crops. The roadsides are often orange with *Alstroemeria*. Always, on the left, you are conscious of snow-capped volcanoes, at more or less regular intervals. The Chileans have a touching belief in thermal springs and in the area many of the volcanoes on the Tourist Map show a little man (or woman!) sitting in a bath; this means there will be a track, and up that track will go bus loads of hopefuls at weekends. Where they can go, you can try! You can gauge from the map roughly how far it is off the highway, but you cannot gauge the time it will take, as the track may be anything from impassable for an ordinary car, to reasonable with care.

The farthest south we ever got in Chile was Puerto Montt, from which we did the gorgeous "through the lakes" Tourist trip to Puerto Blest on Lake Nahuel Huapi in Argentina, and on to visit our friend Hilda

Rumboll in Bariloche. It was on this occasion, in January 1980, that we saw the pastel coloured *Tropaeolum*, the large green-striped *Chloraea* (fig. 6), and the tiny *Oxalis microphylla* (fig. 7), mentioned in our previous article. Unfortunately we never succeeded in getting seed of the latter, but a fat tuber of the *Tropaeolum* has again sent up shoots and we hope it may flower this summer.

We returned to Chile by bus, through the Passo Puyhue, where we were met by friends of Hilda Rumboll, the Leslies, who took us for a quick look at the crater of the extinct volcano at Antillanca, before taking us back to their estancia near Puerto Montt. We found several interesting plants, but the prize was really quite fortuitous! Mossy banks on the way up the mountain were festooned with that exotic dead tree climber *Asteranthera ovata*. We collected a fist of moss with *Asteranthera*, which died when we got home, but what flourished was something with smaller leaves, which had been growing with it. This turned out to be *Sarmienta repens*, which flowered last year and is going to do so again this year, having overwintered in a pot in a cold greenhouse. Cuttings have taken, so we will be able to try it outside this year. We saw the *Asteranthera* in several other locations; one plant survived the journey to Scotland, is established at the base of a mossy tree stump beside a burn, and has survived this bitter winter. Seed, sent to us fresh by Dr. Wagnanski, germinated well, but only one seedling has been persuaded to grow on. *Asteranthera* flourishes at Glenarn in Dunbartonshire.

This is the very beautiful "forest and lakes" area of Chile, and the home of both the National flower, *Lapageria*, and the *Eucryphia*. Unfortunately neither was in flower, but we did see *Mitraria coccinea* peeping through the undergrowth. We tried to reach Volcan Choshuenco 2260 m, where a ski lodge is marked on the map, but the road is circuitous and bad, and we had to give up.

Volcan Villarica 2840 m was the next we encountered, and one meets the still completely black and sterile lava flow from the 1972 eruption near Lago Calafquen, many miles to the south. We discovered that there is still very little botanical life on the mountain, as the fumes and heat destroyed most of the vegetation, which is only just beginning to re-establish.

Villarica is a pleasant holiday resort, on the lake of that name. We left our car there in 1981 and went through by bus to Junin de los Andes in Argentina, to stay with friends of Hilda Rumboll's, the Woods, who gave us a very warm welcome, and much help in our

flower quest. This visit is a saga in itself, but we have only space to say that the nearby attractive ski and summer resort of San Martin de los Andes has a variety of hotels and hosterias, and that the ski lifts on Cerro Chapelco 2300 m operate in the summer. Many highly desirable alpinines are known to grow on this mountain. We got seed of two types of rosulate *Viola* and *Ranunculus semiverticillatus*. Another area in the vicinity yielded seed of the "red gorse", *Anarthophyllum desideratum*, which germinated, and we have one plant still growing! Unfortunately Self Drive car hire can only be effected in Bariloche. On our Argentinian visits in both '80 and '81 we were staying with friends, but even so, the increase in prices quite appalled us. Perhaps with the recent devaluation of the Argentine peso things may have evened out, but certainly in 1981 everything was much cheaper in Chile.

North from Villarica, our next Volcan was Llaima 3124 m. We had previously stayed at the pleasant Hotel de la Frontera in Temuco, when visiting Llaima, but had discovered that, if we took our own food, we could stay at the Ski Club Refugio, which is what we did at the beginning of February 1981. The Refugio, a surprisingly large building standing at 1474 m, is on the edge of one of the few remnants of the ancient *Araucaria araucana* forests. We were provided with a comfortable little two-berth room, sheets and blankets on the beds and, an unexpected luxury, electricity from a generator and a little electric fire, which was most welcome as it turned really cold at night, and there was fresh snow on the faintly smoking mountain in the morning.

Having had a rather rushed afternoon on the mountain in January 1980, when we found many excitements, this time we knew exactly where to go. Immediately above the Refugio, in black cinder scree, are many beautiful dark pink *Habranthus andicola*, *Quinchamalium chilense*, which looks rather like a large yellow *Sedum*, a scattering of *Haplopappus* and *Perezia*, and a brilliantly silver-leafed ground cover which is now growing happily in the rock garden, surrounded with weathered boiler ash! Higher up, and to the right, across deep cinder gullies, there are two prizes — that lovely little shrublet *Viola fluhmannii*, and large clumps of a rosulate *Viola*. In January, *V. fluhmannii* was simply covered in tiny pinky-purple violets, and the rosettes of the rosulate *Viola* were ringed with little pale lilac flowers. We hesitate to try to put names to most of the rosulates, of which there are many species, as at the moment the nomenclature appears to be a bit

confused but we believe this one to be *Viola cotyledon* (fig. 8). Suffice to say that this one is clump forming, not solitary like those we had found elsewhere. In February we were able to collect seed of *V. fluhmannii*, which is now germinating. Following the line of a rocky crest we found a number of other subjects, but now, in early February, we were making for the red cinder screes of Cerro Colorado (the coloured mountain) where, in January, we had found a whole colony of soft, furry things, the size and shape of large fir cones, which were connected to each other by a system of underground runners. We had guessed that this must be the *Chaetanthera villosa* described by John Watson, and this proved to be so, as one or two of the large orange daisies were just bursting from the tops of their "cones".

The next morning we set off early, straight towards the snowy slopes of Llama. The lower reaches produced nothing new; between 1800 and 1900 m there were lots of *Chaetanthera villosa*, again only just coming into flower, so no chance of seed. We also found *Nassauvia lanata* and *N. revoluta*, with its fascinating rosettes of tiny, intricately brown lined leaves, each edged with white "wool". The flowers of *Nassauvia* are not showy, but the growth is intriguing. Seed is germinating this year. There is quite a sizeable stream up there, and we were sure that if we followed it far enough, something new would appear, but as usual time ran out on us! In the lower reaches, at about 1000 m, on the edge of forest land, we saw *Embothrium*, the occasional pink *Hippeastrum advenum* (?), and climbing orange *Loasa*.

North of Temuco, and off the Pan America to the left, is the town of Angol, where we visited the interesting Nursery Garden, El Vergel, where they grow and hybridise *Lapageria* for export all over the world. They are also the only nursery in Chile (as far as we know) to grow rhododendrons. Both subjects are grown under awnings and, of course, watered copiously in summer, but this is an area that does get rain, even in summer. Propagation of the rhododendrons was done by a form of air layering, the mother plants being surrounded by boxes on stilts! We could get no satisfactory explanation as to why they did not take cuttings. *Lapageria* have the tendrils brought down to root in boxes on the ground, but were also grown from seed, which was green at the time of our visit. However, we were given some pods to try, which germinated well, but so far we have not had much success in growing them on.

North of Temuco, on the Pan America, the Motel at Salto de Laja is comfortable and had good food.

At Chillan, we turned off for Termas de Chillan. We spent Hogmanay 1979/80 here, when we were the only visitors in the large hotel. On our way south, in mid January 1981 (at a weekend) the hotel was full, but we stayed at Las Cabañas at the foot of the valley, where our log cabin was quite comfortable, an evening meal was produced, and a roaring fire lit in the cabin to dry our clothes, as we had been caught in a thunderstorm. It was much cheaper than the hotel, and quite adequate if one did not want a bath! On our return, near the beginning of February, the hotel was pretty full, but we got in. People come to "take the baths", which are said to be good for rheumatism. Those with money stay at the hotel and soak in vast, sulphurous, marble baths. Bus loads of peasants come up, particularly at weekends, climb the lower slopes of the volcano, and stand, with all their clothes on, in the steam coming from the fumaroles (cracks) in the mountain. They then, presumably, hope to dry out before starting on the return journey!

The approaches to Termas de Chillan are beautiful, up a wooded valley, with fields of brilliant blue *Echium*, which was being harvested for hay by an ox-drawn machine. One gets glimpses of the snow-capped volcano, producing, periodically, puffs of steam. It was not until we were climbing on the mountain that we realised that it made a sighing noise, like a great rush of wind, every time it produced its belch! Alas, it is being developed. Roads are being gouged, and building plots staked out in the forest lands of the lower slopes, and up the mountain itself ski lifts are being installed and, we understood, a road was to be made almost to the top. Perhaps John Watson's Shangri La, up a branch valley, will remain as an unscathed dreamland! We tried to get there in 1980, but the track was so eroded that nothing but the most stalwart Ox could have got up, and in 1981 it was in an even worse condition. Development does have its advantages for the elderly; it helps to achieve the unattainable!

To mention our main finds, over three visits, the lower ground, which is being cut up for building, had quantities of the red *Hippeastrum chilense*, pink *H. advenum*, and great spiny mats of the cactus *Maihuenia poeppigii* with its large, stemless, fragile-looking creamy flowers, through these mats the occasional large *Chloraea (viridiflora?)* poked its heads of greeny-striped flowers. The "tongue" of this one had raised yellow pimples, whereas the Argentinian one (mentioned in our previous article) had black pimples. Growing through wiry tussock grass were occasional sprays of a mauve *Leucocoryne* (?), and

beside the track a tiny magenta, sometimes pink, *Calandrinia*, and what appeared to be a small *Godetia*. All these at about 1000 m, yet seedlings of the *Maiheunia* survived outside this winter, and some of the *Hippeastrum*, also in the open, are just coming up.

To get to the hotel, one goes through a gate with a guardian, who takes the car number and asks if you are going to the hotel. On the left you can see a waterfall, to which there is a vague path through jungly woodland — beware a giant bush *Loasa* with large, fleshy, scarlet lantern flowers and a particularly vicious sting! In February the haze of red at the foot of the waterfall was *Mimulus cupreus*. At about 1500 m there is a sign-posted path to a Grotto, the overhanging sandstone roof of which is festooned with the enchanting little pink *Ourisia microphylla*. This was growing in cool, damp conditions. The next time we found it was up the Rio Maule at about 1800 m, growing out of monumental black boulders, right in the open, with no shade, and nothing but tiny cracks into which it could work its roots. None of its seedlings approve of any of the situations we have suggested for them!

The winding road up through the forest is scattered with yellow *Oxalis valdiviana* (?), orange, dark red, and pink mutisias and, on one corner, a group of pale pink, red-spotted *Calceolaria* with felted grey leaves, which has been named as *C. cana*. It grew and flowered last year, but this winter seems to have killed it. In early January, in a woodland clearing, there were two types (or possibly just variations) of a handsome 2 ft. high yellow *Chloraea*, one with orange, the other with green lines in the throat. The heads were substantial, with up to a dozen flowers. Also in January, a different type of the epiphyte *Phrygilanthus* with yellow to orange “fluffy” heads of flowers, was busy killing a couple of large *Nothofagus*, in the leafmould at the foot of which grew the delicate little white *Codonorchis lessonii*. Open glades just below the hotel were ablaze with the orange *Alstroemeria aurantiaca*.

The hotel stands at about 1800 m, and above it there is only a short distance of scrub before the steep, open, rocky slopes. In February there were large patches of the rich egg-yolk yellow *Euphrasia aurea*, and rosettes of rosulate *Violas* from which we collected seed, but saw no flowers. There was also a small, white, almost non-stinging *Loasa* and at about 2200 m a waterfall yielded masses of *Mimulus cupreus* and a pure yellow *Mimulus*, and crosses between the two of a pleasing apricot shade. There was also the scarlet *Ourisia racemosa* (?) which

we had found in Argentina, and the dwarf white *Caltha saggitata*. It was hard work getting to this height and, like the mountain, we felt like heaving a great sigh, and thought more favourably about that road zig-zagging its way up!

After Chillan, we decided to have another shot at getting up the Rio Maule. We had tried on our way south, but had been thwarted by an adamant Carabinieri sergeant at the first of three military check-posts on the 158 km road from Talca. It is a sensitive area in the constant war of nerves that exists between Chile and Argentina, as the Laguna del Maule is the source of a large hydro-electric scheme. This time, we were waiting on the doorstep of the Commandatura in Talca when it opened at 9 a.m., and in due course got clearance to go up to the Laguna del Maule; this did not prevent further time-consuming checks en route. The road is rough and twisting, but not difficult in an ordinary car. We followed our usual practice of noting interesting areas for investigation later, but pushing on to the top. It was as well we did, for it was well on in the afternoon before we reached the final Carabinieri Poste just below the Laguna, where John was (give the man his due, with much regret) divested of his camera by the officer on duty, who also pointed out that the overnight accommodation we had been told about simply consisted of an empty building! At 2200 m it was already cold; we didn't even possess a rug, so it was obvious that we would just have to have a quick look round and beat it back down the mountain.

Near the Laguna we saw two types of *Calandrinia* and a small, creamy yellow *Hippeastrum*, much more dainty than any we had seen before. We retrieved the camera and proceeded to browse our way down. At 1900 m there was a flattish area which we had noted on our way up. The monolithic black rocks yielded *Ourisia microphylla* and, after much searching amongst the gravelly scree, between patches of stunted scrub, we located a colony of *Viola congesta* (?). So well camouflaged were the little reddish-brown rosettes of tightly overlapping, felted leaves, that one could tread on them without noticing them. There was no flower, and though we got some seed we doubted if it was ripe. There was a particularly good red *Mutisia* growing through a bush from which John was trying to extract growing material, but I was getting restive as I did not fancy the idea of getting caught on that road in the dark.

By the time we reached the middle Carabinieri Poste it was dusk and we were both tired, so we asked him if there was anywhere nearer

than Talca to spend the night. He recommended a little *Hosteria* "just through the water and up the hill". It was primitive but clean — the loo was conveniently positioned over a stream! — and as it was a dry night it was not until morning that we noticed the glints of sunlight through the roof above our beds! A rather frustrating trip, because we were sure there were lots more goodies to be found up there, given time. Thunder clouds were building in the mountains, so we decided not to tempt fate by going back.

Also on our way south in January we had tried to get up to the *Passo Planchon*, but been defeated by the road, just beyond *Los Queñes*, where we had spent the night. The road was fairly steep and composed of unusually large, loose, sharp stones, one of which, thrown up by spinning wheels, punctured the petrol tank! When we discovered our predicament we were all of 40 km from the nearest petrol pump or garage. However, our luck was in, for a Land Rover came down the track and the driver kindly produced a piece of plastic "gum" which effectually bunged the hole, but we did not dare to carry on up the road! To give *Avis* their due, they sent a replacement car that evening, although it was a weekend. As a piece of instant first aid for other travellers on rough roads, we are told that either soap or chewing gum make excellent stoppers, but luckily we have not yet had cause to try either!

Now, on our way north, we decided to try the *Termas de San Fernando* (also called, just to confuse the stranger, *El Flaco*). The road appeared to go quite close to the 4300 m *Volcan Tinguiririca*. As it was a Saturday, we took the precaution of going into *San Fernando* town and booking a room through a travel agent. It was a pretty rough road, and so narrow along one stretch that John was trying to prevent the car from scratching the cliff on his side, while I was apprehensively mentioning the eroded edges and steep drop into the river on mine! Imagine our horror (and relief that we had not met one!) to find six quite large buses parked in the little shanty town, which was swarming with seekers after therapeutic cures. One day there may be a hotel up there; at the moment it is a derelict looking shell, and the "hotel" into which we had been booked consisted of a series of wooden huts with most unsavoury sanitary arrangements! The only hot water was in the steaming, open, crowded "hot baths" along the river's edge. There was another much more salubrious looking establishment called *El Rancho*, but it, like every shack and tent in the village, was full to bursting — weekend heat therapy! The mountains towered above the

valley, with plenty of streams cascading down, so it should have been a good area, but this was the one place in the whole of Chile where we encountered large herds of voracious goats — we were not energetic enough to see if it was possible to climb beyond the “goat line”.

We can recommend the really charming Termas de Cauqueñes, a few km out of the town of Rancagua and, just north of Rancagua, a few km off the Pan America there is a nice looking hotel called La Leonera, set in a garden with swimming pool and two large poplars festooned with *Phrygilanthus*. It is possible to go pony trekking in the mountains from here. Rancagua is only 90 km from Santiago, along one of the good stretches of the Pan America, so either of these hotels would make a good overnight stop, away from the heat and bustle of Santiago, on the way to or from more desirable but less hospitable places. We spent two days in the Santiago ski resort areas, doing a last seed collection, and then home.

P.S.—It would appear that recent political events may well make South American visits difficult for a time, but those mountains are beautiful, tantalising, and rich in floral treasure. We had great fun, with the spice of adventure thrown in, and now have the enjoyment of seeing which plants we will be able to persuade to grow in our garden. We hope that perhaps others who have success with seeds and material which they got from us will let us know how they get on, so that we can swap notes.

The Shades of the Shadow

by JAROSLAV KLIMA

THE ALPINE gardener must solve the question of placing new plants. He can obtain information from many reference books, but what happens when a new species becomes available? In the books he meets the magical words sun and shade. Thoughtful alpine gardeners quickly find out that the words are used quite freely. Does the sun mean that the plant must be planted in a southern exposure, or will a northern sunny place do? Shade is complicated in the same way. Is it a dense shade under trees, or a light shade of forest clearings, or the shade with free sky over plants to which they refer?

Those who grow their plants from seeds have a good opportunity to experiment for they have ample numbers. Plant buyers must rely on luck

and good judgement for they do not have plenty of plant material.

Haberlea rhodopensis is a typical plant which is recommended to be grown in shade. If you come to the Rhodopi Mountains of Bulgaria you will find plants growing in the water-moistened moss in dense shade under trees, and also in the dry, south-facing open crevices. The plants in south-facing crevices which are tinder dry in summer, produce the best flowers. The plants growing in dense shade produce sparsely flowering stems. If you set the haberleas in the south-facing open crevice in the garden these will often become too dry and die. If you give seemingly adequate water the plants will soon rot. Plants under trees and shrubs do not bloom properly and can suffer from over-watering. The right place is in the shade with free sky overhead. In such conditions they grow and bloom well. They can also be grown between layers of peat in the heath garden or in a narrow limestone crevice.

The Pirin Mountains are the home of two wonderful, tiny shrublets — *Genista subcapitata* and *G. depressa*. They both grow on north-facing slopes; the first on limestone, the second on granite. Their colonies can be found in association with short grass. At first sight one could conclude that the plants get much sun. But they are only 2-3 cm high and the grass gives them some shade. When planted in the garden they seem to flourish facing north growing in a soil of the same consistency as is used for the *Porophyllum* saxifrages, and without any grass. But if set in short grass they grow well even in south-facing positions and bloom even better.

Soldanella montana var. *hungarica* grows in the Piatra Craiului Mountains in Romania. The locality generally is steeply sloping to the north, and is densely covered by *Rhododendron* 'Myrtifolium'. Only the large violet flowers of the *Soldanella* can be seen above the *Rhododendron* foliage. The leaves of the *Soldanella* are hidden in the dense shade and they are a healthy green. If you set your plants in a similar aspect in the garden you will find out soon that the plants die. Light shade seems to be necessary to grow them without difficulties.

Dianthus callizonus, which is another plant of this locality, grows at the edges of grass tufts. The plants are sometimes covered by dead grass. It provides shade for the leaf rosettes. This pink grows well in the garden in full sun if you have a heavy humus-rich soil and a moist situation. This pink suffers from pear rust and is attacked by anthomid fly in the garden. The plant can be ruined by both evils mentioned above and a grass mulch would cause it to rot. But if shaded slightly

by short grass, for example a *Carex*, it self sows and gives plenty of strong free-flowering plants.

The cultivation of *Eritrichium nanum* is a challenge to many growers. Handbooks say much about its beauty, but its successful cultivation has not been definitely solved. The Romanian Bucegi Mountains provide a home for its subspecies *jankae*. It inhabits north-facing rocky ledges, and the plants are subject to piercing northern winds and cold as the ledges are almost without snow in winter. Their placing in the garden is much discussed. But it is clear that growers cannot give the plants the cold north wind which they get in the mountains, as well as plenty of sun. It is a plant of sunny, dry, windy and cold places. The problem of longevity of the high altitude alpine plants in the garden, and the provision of much sun, air and sufficient cold for these plants in the lowlands during the summer has been waiting a gifted grower to solve.

The little tuft of hairs atop a plant you can find in the Pirin Mountains on parched, windy and stony places facing east belongs to *Androsace villosa* var. *arachnoidea*. The plants cower in little cavities of rock crevices. Sometimes you find them in tufts of short grass where they are protected against sun and wind. In both cases the root neck is ever in the shade. This seems to be most important if you want to grow the rose-coloured South Pirin form, and the white one from the North Pirin Mountains. Over-watering in association with summer heat will cause losses of many plants. Their preference for windy ledges resembles *Eritrichium nanum* ssp. *jankae*. Grass, for example small fescues, help the species to survive outdoors without difficulty providing you avoid giving them too much water during summer and especially in the winter.

The name *Alyssum* at once brings to mind a plant for a sunny position. The behaviour of *Alyssum cuneifolium* growing in the Pirin Mountains is quite different. The plants inhabiting north and east-facing slopes grow freely in screes and crevices, while the plants at the south-facing open slopes are found in grass tufts that provide some shade for its stems. This plant does not grow well in a south open scree in my garden. It is sad to see the drying heads of this yolk-yellow coloured flower, for it can show its wonderful, large flowers from spring to autumn when grown properly. If set in the carpets of pinks, saxifrages, bluebells, etc., it is very happy in south-facing positions and self sows. Its seedlings, however, grow best on north and west-facing slopes.

Jasione orbiculata grows in acid conditions in the Pirin Mountains on meadows between a thin copse of *Pinus mugo* which provides plenty of moving shade for the plants. If set under the same conditions in the garden the plants do grow well but do not bloom. A wetter place with plenty of sun and protection against mid-day sun, however, gives freely-flowering plants.

Oxytropis jacquinii grows in the Bucegi Mountains on steep, barren, north slopes. Only the summer sun rays touch the plants in the morning, giving them a bit of warmth. Drought and cold conditions seem to be necessary for the successful cultivation of this plant. It requires more sun at low altitudes and more cold on the roots. This can be attained by planting low plants around the *Oxytropis*. Of course, they must not be too invasive or they will smother the *Oxytropis*.

These are a few examples.

How then can he satisfy these new plants? Everybody must consider the complex problem of sun irradiation and evaporation. He must firstly take into account the equilibrium of watering and evapotranspiration on the rate of growth during the growing season. He can then solve the problem of soil temperature and water capacity of individual positions in the garden. In periods of drought, surrounding plants will ease the position by providing a modicum of shade, thus reducing excess water loss.

I must stress that the shade given to small plants by surrounding plants is not usually taken into account. But it is perhaps an important phenomenon helping the plants to survive the summer heat of lowlands and the winter cold. Maybe the physical properties of a plant association is the determining factor for wild plants to survive in the new conditions of our garden. Having created a suitable microclimate in our garden, we can grow our plants without difficulties in spite of the fact that the garden collection is quite different from that prevailing in the mountains. The microclimate cannot be created only by the position or the chemical and physical properties of the soil. We must also use the surrounding plants to provide these suitable conditions for our favourite plants.

The combinations are sometimes very strange. My best plants of *Gentiana verna* are very happy growing among creeping *Juniperus rigida* var. *pendula*. The bizarre combinations bring a new dimension to the aesthetic view giving new restrictions and complications. But, if it is a way to free our plants from pot cultivation, we must overcome the difficulties and let them grow independently.

Recent Acquisitions from the Seed Exchange

by POLLY and MIKE STONE

As this now forms only a part of our column, it will have to be somewhat shorter than previously.

***Crocus banaticus* (*iridiflorus*)**

Crocuses in general are not worth raising from seed unless one is a collector after the really rare ones. Most of the good garden species multiply rapidly and are relatively cheap to buy as corms, but *C. banaticus* is an exception: perfectly easy outside and yet expensive in catalogues. We requested seed twice; the first time there was no germination, but a packet we were allocated in January 1978 produced half a dozen seedlings the following December. They received no attention during their growing period that winter, other than a sprinkling of potato fertiliser (we scatter this on all our bulb borders during the growing season). For the summer dormancy, they received absolutely no attention—just ignored in the corner of a cold frame and receiving all the waterings from rain and can of the other inhabitants. No attempt was made to dry them off; their natural habitat in Eastern Europe is not summer dry. The feed was repeated when the leaves reappeared in the winter 1979-80. Next June the pot was partially dried off, tipped out on to a flat surface, and a careful search through the contents revealed 8 corms of various sizes. Planted out in an ericaceous bed, basically peat and leafmould, the largest three flowered in autumn '81. We were fairly sure we had the right plant, as the leaves lack the silvery stripe down the centre of most crocus; but the flowers confirmed it at a glance. The inner segments are noticeably shorter than the outer. Basically on the blue side of purple, the three seedlings differed slightly in depth of colour. It is as yet too early to tell whether seed has been set; the pods develop underground in *Crocus*, and are not due to appear until the onset of dormancy. Increase by stolons has, however, already started.

Hosta nakaiana* and *H. venusta

Alpine gardens have been commonly accused of lacking interest later in the year; most alpiners are adapted to a short growing season and must flower early so that seed has time to ripen. Hostas are well-known as valuable plants for the herbaceous border, but a recent

survey in "The Plantsman", volume 3, part 1, lists at least a dozen species of a foliage size compatible with alpinists. In general the genus flowers in high summer, some so late as to be unsuitable for the north: the large *H. plantaginea*, for example. We have planted instead its hybrid, *H. 'Royal Standard'*.

So far we have flowered two of the dwarf species raised from the S.R.G.C. exchange: *H. venusta*, sown February '77, and *H. nakaiana*, sown January '78. Both germinated fairly quickly in June '77 and May '78 respectively. Many seed raisers prick out their seedlings "as soon as they are large enough to handle", as the books say. This is fair enough when raising vegetables, but we do not do so except for such fast growing things as *Cytisus*, larger Asiatic primulas, *Meconopsis*, etc. There is sufficient feeding in the seed-pan for the first season and we top-up with a liquid feed if necessary. Also it is a waste of propagator's (Polly's) time and frame space to prick out a row only to find the species is tender here and departs first winter. Thinning is rarely necessary as seed exchange donations are shared into as many packets as possible.

Both hostas survived their first winters in the cold frame and were potted up singly in June into our standard compost: 2 peat, 1 coarse sand, which we use for everything except, for want of a better term, those we call scree-plants. *Hosta venusta* is by far the smaller of the two and was kept in pots for an extra year; consequently both were planted out in June 1980. *Hosta venusta* flowered that August and *H. nakaiana* a year later, July '81, so both required three years from germination. They closely match their descriptions in Ohwi's "Flora of Japan" and so appear to have come true.

H. venusta has dark green leaves only 5 cm (2 inches) long, fairly narrowly ovate, with short petioles. Around 6 violet flowers are produced in a scape less than 15 cm (6 inches) long.

Hosta nakaiana looks very distinct from the above; the leaves have long petioles and are relatively much wider: 7.5 cm (3 inches) by 4 cm (1½ inches), in colour a paler sage green. The inflorescence is knob-shaped in bud, subtended by a prominent boat-shaped leaf, and is carried well above the leaves on a scape about 30 cm (1 foot) long. The individual flowers are large, the perianth being over 5 cm (2 inches) long and of a pale lilac in our plants.

Thalictrum sp. 6 in. (Afghanistan)

The above heading, printed in the 1979-80 seed list, roused our

curiosity and we included it in our requests. If one doesn't mind a gamble, and is prepared to harden one's heart and discard non-garden-worthy offspring, then this sort of mystery item adds interest to the seed-frame. Incidentally, we place our pots in a cold frame simply to stop them from becoming excessively wet during the winter; no heat is used. It is slower, but makes far better plants in the long run. Around the end of April all our frame-lights (except one, kept to protect ericaceous seedlings from very heavy rain) are stowed in the loft for the summer.

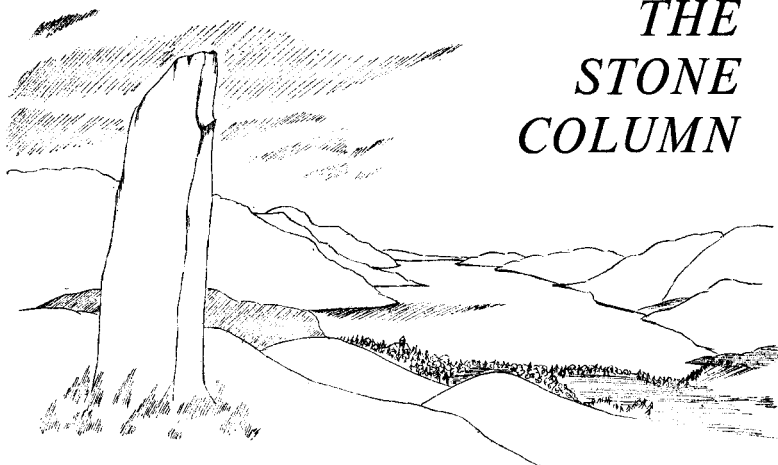
Sown in February 1980, the *Thalictrum* germinated naturally in April and, growing fairly quickly, was potted on singly that July. They soon showed that they were indeed thalictrums by the beautifully divided glaucous foliage. We distributed a number to friends, including one to Margaret and Henry Taylor of Invergowrie. Next May, 1981, we were visiting them for the weekend of Edinburgh Show, which fortuitously coincided with my half-term. With a mischievous smile, we were invited to admire the magnificent flowers on the Afghanistan *Thalictrum* in the alpine house. We all concluded it was a delightful foliage plant: the flowers were completely apetalous, just a fuzz of greeny-pink stamens. Five plants of our own, put out in a sunny raised bed, flowered a month later in the open, in June, and were only a little over the claimed height of 15 cm (6 inches) at 20 cm (8 inches). They are just starting into growth as we write (March '82) so are completely hardy. We shall definitely keep them for the foliage interest, a glaucous blue equivalent of the maidenhair fern.

Townsendia parryi

We had been deterred from trying this genus of small Aster-like composites by the statement in "Clay" that they are better adapted to the south and the east of Britain than the north and west. However, we have since developed a scepticism towards dogmatic statements in books and decided to find out for ourselves. The question arose, of course, which species to try; six were present in the 1978-79 seed list. We had seen a fine colour plate of *T. exscapa*, but this species is definitely a prairie plant, described in the flora as native to dry plains and valleys. Others occurred in places such as New Mexico, which hardly suggests suitability for Scotland. The choice finally fell on *T. parryi*, which is found in the Wallowa Mountains of Oregon, from whence we are growing *Cassiope mertensiana* and *Gentiana calycosa*, amongst other satisfactory garden plants.

Seed sent in January '79 germinated poorly in April, only 3 seedlings appearing. This is quite usual with many composites; the seed is often of low viability. They were left undisturbed for a whole year; the seed pot contained a well-drained scree mixture and they were well spaced. Potted in May '80, they were grown on and planted in a trough just before the damaging frost of April '81. All were completely undamaged and flowered the following August. At this time they were easily the finest flowers out on our troughs. Magnificent lavender daisies over 10 cm (4 inches) across, the central yellow disc itself being over 2.5 cm (1 inch), and carried on stems of only 5 cm (2 inches) above rosettes of slightly silvery, narrowly spatulate, foliage. Side rosettes formed as the main stem elongated in seed, and tried to flower in the autumn, but frost intervened. Although tap-rooted, we had experienced no difficulty in transplanting just as growth was commencing, but as expected the plants proved monocarpic.

THE STONE COLUMN



INTRODUCTION

A SHORT time ago there was a suggestion by the Editorial committee that a regular column could be a feature in our *Journal*, and, as frequent contributors, we were "volunteered" into writing it. Our sister publication south of the Border has had a series; *Pedicularis*, *Rhinanthus* and now *Greenleaf*, but these are true anthologies, with a multi-authorship. This is not quite what we have in mind, perhaps one rather more in the nature of an alpine gossip-column. Not so much a monolith, more a tapestry of interwoven ideas and themes:

DIARY — things seen and done, aimed we hope at various levels. This could include a shorter version of “Recent acquisitions . . .”, not only from the seed exchange but also other unusual plants of interest: **INFORMATION** — items too small to be considered as the basis of a whole article. We hope members will help here: **COMMENT** — on the world of alpinists in general, like the leader in a newspaper.

The R.H.S. magazine “The Garden” feels it necessary to print the usual disclaimer on its title page that any opinions expressed are those of the author concerned, and not necessarily endorsed by the Society. This implies that the R.H.S. should and does have an official viewpoint; presumably that of the oligarchs. The S.R.G.C. is not a political party or pressure group, more a loose association of individuals linked chiefly by a love of alpine plants. There is no such thing as an official S.R.G.C. position; nor should there be. Rigidly held opinions can easily lead to intolerance as happened in the Guide-dogs at Chelsea affair, or in the banning of troughs as “Not real gardening.”

We would, of course, welcome any ideas, requests and information for inclusion in this column. There must be many members who have neither the time nor the inclination to write an item to be printed verbatim. Jot it down, note form will do, and send it to us at Askival, Fort Augustus; length one line to one page, or more.

If it is a problem, we may have a suggestion; if not, we can always publish the question and hope that another member can contribute an answer. Acknowledgement of the source will be included if requested, anonymity likewise. If it is controversial but not libellous, we'll put out our necks on your behalf. Enough of this! On with the column, part one.

WINTER 1981/2

To start on a totally predictable and topical note; the winter just coming, we hope, to a close. As we write, however, a heavy March snowfall has just deterred us, yet again, from making the 70 mile round trip to attend our local group lecture in Inverness. Well aware of our obsession, many locals have enquired as to the state of our garden following the severe weather, expecting no doubt that commiserations were called for. In fact, so far we appear to have escaped comparatively lightly, perhaps because there was 4-5 inches (10-12 cm) of snow lying on the coldest nights. The winter of 1978-9 was far colder on average, although it didn't reach the excessively low temperatures of January '82, (our minimum was -15° C) the cold lasted for

much longer. Our construction work did not start until mid March in 1979, and many bulbs were 4-6 weeks later than average. This year a mild February has brought them on. Our recent losses were numerically reduced because 1978-9 removed many doubtfully hardy species that we have not since replaced. This time *Hebe* and *Sempervivum* were the worst hit genera; even such supposedly totally hardy species as *Hh. epacridea* and *haastii* are damaged. *H.* 'Carl Teschner' is totally brown; *H. macrantha* has a suspiciously pale look about it. The former we shall probably not bother with again, it has rather ordinary violet flowers. The much hardier (with us) *H. pimeleoides* 'Glauca-caerulea' is at least as interesting in flower and has the advantage of glaucous foliage; *H.* 'Carl Teschner' is a nondescript dark green. Although this is the second time we have lost *H. macrantha* we shall replace it again. As the name suggests, the white flowers are unusually large for a *Hebe*. They have more form and substance than, say, the somewhat stocky racemes of the equally showy, but tender, *H. speciosa* hybrids widely recommended for coastal gardens. *Hebe macrantha* roots easily from cuttings, and grows rapidly to its normal height of around 60 cm (2 ft.) so that, statistically, one should be able to enjoy it for a few years at least.

Turning to *Sempervivum*, we have only recently come to accept this genus as suitable for planting in our troughs. In July 1979 we were asked to demonstrate the various stages in constructing and planting a hyper-tufa trough to our local Inverness group of the S.R.G.C. This involved setting up and filling a mould on the day, stripping and carving a second trough cast two days beforehand, and planting up a third which was several weeks old. All our troughs are filled with a scree mixture, thus when planting we follow Farrer and bare-root everything. Provided it is done carefully around April time, we have never known a plant to resent this treatment, even daphnes and Aretian androsaces. High summer is quite another matter, however, and so we thought of using *Sempervivum*; their succulent drought-resisting nature making them much more tolerant of disturbance in full growth.

The following summer we had to admit that the result really was quite attractive, especially as we had used a granite from Loch Ness side to make up the outcrop, whose pinkish colour complemented the red-browns of the semps. A second larger trough was cast that year for planting in spring 1981. The following winter dispatched two of the inhabitants of the original trough: *S. nevadensis* and *Jovibarba allionii*, and no less than eight of those in the newer trough. Details

would be tedious; suffice to say that they were nearly all species, not garden hybrids, and that there was no discernible pattern, hairy and non-hairy species departed in roughly equal proportions. Unless one is a dedicated "Sempophyle" the differences in garden form and effect are not great.

Among our Ericaceae, *Pernettya* suffered the most losses: *P. furians* (of course) and *Pp. ciliata* and *prostrata* var *pentlandii* confirmed our opinion that this aggregate is not fully hardy here. As mentioned above, winter '78-9 removed most of our doubtful rhododendrons like *Rr. leucaspis*, *megeatum* and *spiciferum*. There has been one very surprising survivor of both winters, a seedling of *R. camelliiflorum*, planted out in an open position. Its handbook rating is H2-3, only for sheltered gardens in the west. On the other hand, a plant of *R. impeditum* 'Pygmaeum' is severely browned, yet its rating is H4. It could be that we have it in too much shade. We intend moving a number of these dwarfs to a large trough in full sun in April ('82).

We have in recent years taken an interest in the related family Epacridaceae, found in the Antipodes. One of the better known species belonging to this family is *Cyathodes colensoi*, which has long been known to be slightly suspect. A bad winter always damages it here. Interestingly, the half dozen or so representatives we have of the New Zealand dracophyllums all came through without damage. Seed of this family has been said to be difficult to germinate, but we have found our sphagnum method succeeds in most cases. There is scope for further trials; *Epacris* itself occurs at the highest elevations in the Snowy Mountains of Australia, being a dominant member of the "Feldmark".

Turning to bulbs, we have so far detected no losses in the open ground. We did lose them in pots in ordinary winters, so now all go into well-drained narrow borders under and around our shrub roses. Even a $\frac{1}{4}$ in. (6 mm) corm of *Crocus lazicus*, is well protected by a ring of Draza*! We must think of a better way of raising *Cardiocrinum* seedlings; they also die in pots with monotonous regularity each winter.

The potential of a night's frost to damage plants depends, not only on its severity, but also to a great extent on its timing. Far more devastation was caused to our garden by a frost of -8° C, during the

Editor's Note: Draza is a proprietary brand name of a molluscicide based on a carbamate.

single night of 22nd/23rd April 1981, than in the whole of the following winter, by temperatures down to -15° C. The same havoc had occurred before in the spring of 1978, this time -7° C, overnight 9-10th April; so it appears that such late severe frosts are a regular hazard in this garden, and we must live with them. It has become noticeable that European and American alpiners are much more tolerant of sudden frosts when in growth than are many Himalayan ones. A large plant of *Cassiope* 'George Taylor' in full flower turned completely brown and subsequently died back virtually to ground level. The various *C. mertensiana* forms nearby, including the supposedly tender pink one, *C. mertensiana californica*, were undamaged in flower or foliage. We could hardly bear to look at our petiolarid primula frames after April 23rd last year and avoided them for weeks. European primulas of the sections *Auricula* and *Farinosa* were untouched in spite of the rapid thawing of the flowers in full sun. Although it is traditional in Scotland to place the emphasis on plants from the Himalayas, we are slowly but surely shifting the balance in our garden away from them exclusively and towards a more cosmopolitan collection.

LEAF CLEARING

Leaf-clearing is one of the regular garden chores which, to the uninitiated, may seem a little perverse. We collect the leaves from the beds, place them in a pit to rot for a couple of years, and then spread the resulting leaf-mould back on the beds as a top-dressing. Why not leave well alone, they say, and let nature take its course *in situ*. Aesthetic considerations aside, there are sound practical reasons for the removal of the bulk of leaves from alpine beds. Although some of the plants grown as "alpiners" are in fact woodlanders in nature, the majority do not experience leaf-fall from deciduous trees in the wild. Evergreens are particularly badly affected; a mat of soggy leaves will exclude the light and eventually cause die-back of the covered part of the plant. Rot may often set in, spreading either from the fallen leaves, or the dead part itself, to the uncovered parts and leading perhaps to the loss of the whole. This does not, of course, apply to those plants which are fully herbaceous, dying back completely for the winter. In a bed containing nothing but herbaceous perennials, and the odd large shrub as background, this presents no problem. We leave the dead growth, and any blown leaves they may accumulate, until early spring to provide a measure of frost protection. Removal before growth recommences not only improves the look of the border but

also greatly reduces the available hiding places for vegetarian gourmands intent on consuming the tender young shoots.

Although alpine beds usually contain a mixture of all types, deciduous and evergreen, woody and non-woody, it is pointless to clear only some plants in autumn. The leaves simply blow back from the uncleared parts. We clear the whole bed and then top-dress any sections requiring additional protection with well-rotted leaf-mould which will not blow around. Don't be too meticulous, however; it is better to clear everywhere that needs it reasonably and as quickly as possible. The wind is your enemy; start at the down-wind side of the garden, and chances are it will reverse overnight!

COPROSMA FRUITS

The family Rubiaceae is not one of the highest significance in the alpine world. Although it comprises about 400 genera, most are tropical and only a few contain desirable alpine species. *Asperula* is possibly the most important, but *Galium*, the bedstraws, may be more generally grown inadvertently, as some species are garden weeds. In Sampson Clay's "The Present Day Rock Garden", there appears a most attractive plate of *Cruckshankia glacialis*, taken in Argentina by Harold Comber. Visitors to the Magellan Strait please note! Ranging in size from prostrate creeping shrubs to forest trees, the genus *Coprosma* occurs right across the Pacific from Java to Hawaii, but the species hardy in Scotland are all native to New Zealand, and possibly Australia. We say possibly, as the highly desirable *C. moorei* from Tasmania departed last winter, but it was hardly a fair trial of a very young plant to face such a winter so soon. Unlike *Asperula*, the coprosmas are grown not for their flowers, which are an inconspicuous greeny-yellow, but for their fruits. The latter, which are technically drupes like a cherry, may be any colour from orange to silvery-white and blue or purple. There is a snag, however; nearly all the hardy species are dioecious, that is, having male and female flowers on different plants. Mistakes can happen even in well established nurseries; we purchased supposed male and female *C. petriei* from one such nursery, only to discover a year or two later, when examining the flowers under a lens, that they were both male. By this time they had combined to form a dense mat 1 by 1.5 m (3 × 4.5 ft.) and we haven't had the heart to discard them. A single plant of *C. brunnea* does produce its small blue fruits for us most years. We thought this a little odd, but as the New Zealand flora said "prevailingly dioecious" we assumed this specimen

was an exception, and functionally monoecious.

When clearing leaf-fall from our only specimen of *C. pseudocuneata*, growing down a vertical wall, I discovered that this had a number of small scarlet fruits. A short time later, Brian Halliwell from Kew happened to be visiting and we showed him the fruits, expressing our surprise at their production. "Have you any other male *Coprosmas*?" he asked; "we have found that one species can fertilise another." We pointed to the large male mat of *C. petriei* across the garden. Now this can be left in peace, knowing that it is justifying its space, as a source of pollen. We moved on and the matter slipped our minds for a week or so. Then suddenly we realised that if *C. pseudocuneata* had been pollinated by *C. petriei*, the fruits would give rise to hybrids. Rushing round to see if they were still there, we found nothing. Those black-birds had beaten us to it. Curses, foiled again!

WILD FLOWERS OF JAPAN

We were very pleased when we heard that a society devoted to the cultivation of alpine plants had been formed in Japan. There is much to admire in many of the facets of Japanese culture, as was clearly shown by the B.B.C. series "The Shogun Inheritance." While some of the excessively formal aspects of Japanese gardens may not be to some Western tastes, there is no doubting their feeling for the combination of rock and plant. There is also a long tradition of cultivating plants in containers for the Japanese to draw upon; and what beautiful containers they use! Personally, we have long dreamt of being able to visit the various islands of Japan, home of so many choice plants.

While at the Alpines '81 Conference in Nottingham last year, we took the opportunity to join the Japan Alpine Rock Garden Society. As a result, a few months later we received a circular advertising a new book, "The Wild Flowers of Japan", by Kochi Onoe, Kazuko Fujii and Kazuo Mori.* Perhaps it comes from living in such a relatively remote area, but we feel a good library is an essential adjunct to the alpine garden; and so we ordered. Although there are short chapters on cultivation, distribution, and climate, the heart of the book consists of 50 line drawings of Japanese native plants, each subtended by an information table. Many of the drawings have something of the economy of line seen in Japanese art. The translation is delightful and often evocative, such as the description of *Leontopodium faurei* as "sordid yellow". Alpine house growers will be interested in the comments on page 81 concerning the cultivation of *Dicentra*

peregrina. Our own modest experience bears out Kazuo Mori's strictures: plants of both pink and white forms are coming up strongly in troughs which were not covered for the winter.

In the preface the authors convey their intention to introduce Japanese plants to a wider gardening public abroad. While not pretending to be comprehensive, pretty well every plant illustrated is worthy of cultivation, and we hope Japanese gardeners will make seed available to our exchange in due course. Sadly the standard work, Ohwi's "Flora of Japan" (in English), published by the Smithsonian in the U.S.A., is now out of print.

*Available from: Miss Kazuko Fujii, 27-5 Asahigaoka-Cho, Ashiya-Shi, 659, Hyogo, Japan. Price 2300 yen, including surface mail.

More Seed Please

by H. TAYLOR

WE ALL know that our seed exchange is remarkable, though not quite perfect yet. Most of the seed donated is a delight to our efficient seed manager. But, for new donors, a few hints on seed collecting and cleaning may be of help.

We can encourage our heroes and heroines, who climb mountains all around the world, to send seed to our exchange. Keep at it. Keep confounding the books by collecting at high altitude and thus obtaining hardy strains of plants, usually reputed to be tender.

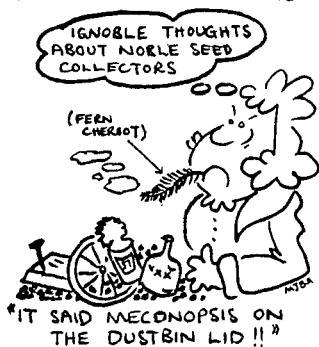
Collecting in the garden is much easier. Choose a good form of your plant, weeding out those with squinny flowers early in life. Watch daily for pods to ripen, then pounce on a dry day when the pods begin to burst. If there are no dry days and the pod stays green well into the autumn, try cutting the stem well below the pod. Stand this in a dry room until the pod ripens completely and bursts open, allowing the fully mature seeds to be shaken out.

When collecting seeds outside in the garden, I take a large paper bag, print the plant name on the outside and pop the ripe pod upside-down into the bag. This large open bag is then put in a corner to let the pod open and shed the seed. If you have to crunch up the pod, it can be a difficult job to separate the tiny pieces of pod from the seed. Try rolling the mixture down a paper slope, adjusting the angle so that the seed rolls leaving the chaff behind. Breathe gently and blow away the chaff, or rub the side of a ballpoint pen on your jersey

and with a wave of the pen the chaff may lift away. A tea strainer can be useful for sieving big pieces out of small seed, but no system is 100% perfect. Clean seed remains only after a tremendous amount of effort. (Dried lavender flowers do have a very nice scent but the seed exchange would rather have just the little shiny seeds).

Now visualise our seed manager with frayed nerves furiously smoking roll-ups made from fern fronds. Fern spore collection should be simple, provided the frond is cut as soon as the spores on the back turn pale brown. Place the cut frond in a clean paper bag and as the frond dries the brown spores (powder) will fall into the bottom of the bag. Just send the brown "dust" to the exchange, not the pieces of frond. (There are better smokes for calming the nerves!).

HALLEY'S COMMENT



Berries pose more problems. In the garden, they must be covered by netting or the birds will get them. Squash the seeds out of ripe berries and spread the seeds thinly on paper to dry. Another way is to drop ripe berries into the liquidiser with some water, spin, decant off the pulp, then dry the seeds. Dry shrivelled berries are difficult to clean, so separate the seed while the ripe berries are soft.

Then there is the difficulty of identifying and recognising the good

seed from each plant. It's only when you find a nice fat seed that you have a criterion for rejecting smaller shrivelled 'seed' that has not been properly fertilised. This raises the question of adequate pollination and fertilisation. Some solitary plants are self fertile, but you have a much better chance of obtaining good seed if you grow two or three plants close together. Also, these two or three must be genuinely seed-raised plants, not vegetatively propagated pieces of the same clone. Clonal plants may look distinct, but behave just like a solitary plant when it comes to setting seed. With Compositae it's often difficult to know if fertile seed is present. I've been told that good seed may be identified by dropping the fluffy parachutes onto a sheet of paper. Good seed hits the paper with a slight sound, whereas bad floats down like gossamer. This method sounds just a little dubious.

The rest is simple; print your own name and the plant name on each seed packet and post it to our seed exchange in plenty of time to get

the plant name into our annual seed list, i.e. before 31st October.

The correct name of the plant is also of the utmost importance. I confess I once sent in seed of the small white-flowered *Lewisia nevadensis* labelled *L. brachycalyx*. I only realised the error of my ways when a knowledgeable friend pointed out that the true *L. brachycalyx* has broader leaves and usually pale pink flowers. If you raise a plant from seed and it flowers, then check that the name is correct before returning seed to the exchange, and maybe we will not get *Lychnis flos-jovis* labelled *Silene hookeri*, although the kidney-shaped seeds of the *Silene* can actually be separated from the small round seeds of its *alter ego*. In the case of *Meconopsis grandis* you really have to see the genuine plant to distinguish it from *M. betonicifolia*. *Meconopsis grandis* is frequently sent in under the name *M. betonicifolia*. By the way, *M. betonicifolia* is one of those plants that can easily be improved by selection. Choose good blue-flowered plants and consign to the compost heap those with poor colour before the poor flowers are fully open and bees can spread the inferior pollen.

Check the name, and remember it's no use labelling your seed "Martha's Meconopsis", even if it was kind of Martha to give you the plant. Ours is an international seed exchange. We need the correct generic and specific name. Even if you purchase "Flora Europaea", that slightly expensive set only covers European plants; there is still the rest of the world.

Only then can the worthy seed donor sit back with a comfortable halo and the knowledge that "I have joined the ranks of saintly conservationists. That packet sent to the exchange will ensure the species surviving in odd corners all around the globe. (And maybe it will get me a notch higher in the queue when the Scottish seed manager makes up my order!)"

On Having A Flutter

by JOAN STEAD

I HAVE reached the inescapable conclusion that we are born gamblers. No! we are not given to having bets on the horses — that particular form of self-indulgence died the death when, at the age of 12, we were given a whole 1/-, (and believe me, a bob was MONEY in those days) to place on the Northumberland Plate, and the fancied horse came in

third; but why otherwise should we derive such enormous pleasure from the Seed Exchanges, and from taking shares in expeditions devoted to seed collection in the wild, and (to us) unattainable places of the world?

To me, the receipt of a packet of new or unknown seed can only be compared with the sounds of an orchestra tuning up — what follows may be disappointing in the extreme, but nothing can dim the anticipatory thrill. We search for information; we mix compost, and sow the seed; we watch, oh how eagerly! for germination; the first touch of green appears, and is revealed, most likely, by the hand lens, to be one of those gardening pests — liverwort, pearlwort, or poppers; but sooner or (more often) later, the hoped-for cotyledon pushes its way through the compost. I must admit that there is a certain sameness about juvenile monocots, ('are you sure it's not just grass?') but the variations on the dicot. theme are most intriguing; and when the first true leaf appears, excitement really mounts. One soon learns, and accepts, that despite the theory that gardeners are less wasteful of plant material than is Nature, there will be many losses on the way; and indeed many seeds fail to germinate at all. Pricking-out time often produces casualties, but perhaps even more difficult are seed-pots with an over-generous germination. It needs a strong and ruthless mind to discard a crowd of healthy seedlings. The pundits say 'but you should sow thinly'; so sensible! but one is chronically short of room, and who can tell what will germinate en masse, and what in ones or twos? Even after the pricking-out stage there are many hazards on the road to maturity. Does this sound gloomy? It should not, for the whole process, from hope to hazard, and to possible fruition, is of quite absorbing interest, and the inevitable losses serve to enhance the pleasures of success when it does come; and that is why I say we must be born gamblers.

For years we had been ardent devotees of the Seed Exchange (wherever can one obtain such pleasure at so little cost, and for the minor labour of collecting and cleaning seed from one's own plants?) but our initiation into the delights of wild-collected seed came in 1972 with the B.C.W. expedition to the Chilean Andes. Packets of seeds, some whose names were completely unknown to us, some whose descriptions, or pictures, in Clay, had set up a covetous longing, were there, in our hands. Well, we don't have a Chilean climate, and of course we made many blunders, so many of these plants have fallen victim — some much lamented like the beautiful dwarf alstroemerias, and calceolarias;

some we are pleased to have met, albeit briefly, such as *Caiophora coronata*, with great white goblets, and stinging leaves, which appeared to cause such slaughter amongst the bumble bees; some which failed to reach maturity; and some which are still giving us pleasure, including some of the tropaeolums, *Calceolaria arachnoidea*, with dusky purple flowers and silvery leaves, the whole contrasting so well with white flowers; and that showy but rather tender dwarf, *Alstroemeria gayana* var. *humilis*.

In 1976 came the second Nepal trip of the late Len Beer. Some of Len's plants were not hardy in our conditions; some were far from being suitable for the rock garden; for instance a *Ligularia* with a six-foot flower spike, and huge leaves definitely one of the architectural plants, and one which in spite of having been collected at 8000 ft., has proved hardy. Of the other survivors, the one which has pleased me most is a *Cassiope fastigiata*. It first flowered this year (1980), with charming large bells; when the first corolla fell a less obvious attribute was revealed when we saw that the inside of the bell, around the stamens, was suffused with bright red. This may not be a unique feature, but none of my others cassiopes share it. Should it prove to be distinct, how pleasant it would be to have it named in memory of Len.

I was rather doubtful about what was to turn out to be a rather gremlin-ridden trip to Turkey in 1977 by John Watson; few Turkish plants can stand our weather and conditions; I have a reluctance to use more lime in the garden than I must, and space in the alpine house is very limited. However, of course we fell, and had, indeed still have, great fun with the MacPhail/Watson collections. They germinated well, and some have even proved hardy up to now; there are some delightful plants amongst them, (*Veronica*, *Convolvulus*, and some rather exotic looking dead-nettles), but of course the immediate eye-catcher was *Tchihatchewia isatidea*. Who could possibly resist a plant with such a ghastly name? Its real charm lies in the leaf rosette, although the large conical eruption of lavender cruciferous flowers is showy enough, except that the plant signs its own death warrant by flowering, being monocarpic. Even so, I was not tempted to sow any of the seeds which the biggest plant produced. The remaining plants set no seed. So *Tchihatchewia isatidea* is now but a pleasant memory.

After Turkey, Nepal again, with the B.M.W. expedition of 1978. Although some of the seeds duplicated those of Len Beer, from 1975, the plants which have survived the hazards of potting on, and planting out, are totally different. It is, of course, far too soon even to guess

what may become established, and become well-loved garden plants. Could it be some of the delectable sounding gentians? One of these flowered in July, a charmer, the size of *G. prolata*, but to my not impartial eye, more attractive, and horticulturally distinct; a woolly *Helichrysum*, one of the primulas, or saxifrages? Only time will tell.

Now we have sown, just as enthusiastically, some more Andeans, collected by Dr. Fiedler. So the succession is maintained. One thing is certain; as long as we are able, we shall be coming back, like Oliver Twist, ever hopefully, for more.

Seed Exchange

TO THE numerous regular donors of seed to the exchange — many thanks on behalf of the rapidly increasing band of those who request seed. As many of you will have realised, the '81-'82 seed distribution ran into a decline as there were too many orders for too few seeds, not a good seed year!

We did limit the surplus seed this year but it will have to be curtailed further in the future as we were unable to fulfil the later orders. However, we hope that next season will produce better supplies and more members will take the trouble to collect seed. I understand an article by Henry Taylor on 'Collecting Seed' will be in this *Journal*. Collectors please make sure your seed is ripe; I do get a fair amount of immature seed which is useless.

It would make our job easier if those using the exchange would try and keep to our schedules. Seed must reach me by the end of October; late ripening seed should be listed and the list sent by the end of October. Recipients of seed seem to like our early distribution and this can only be done if you keep to our deadlines.

All overseas members will receive a seed list. All donors will receive a seed list. Other home members who wish a list must send a S.A.E. (8½ × 5½) or a stamped addressed sticky label to:

Miss J. HALLEY,
16 Abercrombie Street,
Barnhill, Dundee DD5 2NX.

There was the usual great demand for *Androsaces*, *Cyclamen*, *Gentians*, *Lewisia*s, *Primulas* and small bulbs, a few seeds of the rare varieties from a few people can be distributed fairly widely. Please clean your seed and don't waste space and postage on rubbish, not to

mention our time. We have a leaflet on cleaning seed, obtainable by sending me a S.A.E.

I hope you all have a good gardening year and consequently a good harvest.

JOYCE HALLEY

Letter to the Editor— Liverwort and its Control

Following the note under the above title in *Journal* 68, p. 261, Mr. N. Woodward wrote to say that he had had very good experience with Algofen. Algofen is a solution of a chemical with bactericidal, fungicidal and algicidal action, sold by:

Macpenny International Ltd., Gore Road Industrial Estate,
New Milton, Hants. BH25 6SF.

The material as received is diluted about 1:30 and used as a spray, so although it seems expensive at around £5 for 500 ml, it does in fact go a long way.

It is much more convenient than the Thiram emulsion previously recommended and certainly effective with *Marchantia polymorpha*. There is no need in *this* note to put any question mark before the "Control" in the title and the writer feels indebted to Mr. Woodward for drawing attention to a very useful product.

D.M.S.

The Scottish Contribution to Plant Introduction

by A. C. SMALL

IT HAS long been recognised that Scots have occupied many important places in the gardening world. It may not be so well known that, in proportion to population, Scots and men of Scottish descent have occupied an extraordinarily large place in the collection and introduction of new genera and species of plants and others by providing opportunities and encouragement for collection.

Below are listed some of those who have been honoured by having plants called after them, with an example in each case.

Behind the word "collector" lies a tale of vast labour frequently in extremely difficult and hazardous conditions. Some such as David Douglas, Francis Masson and David Nelson, sacrificed their lives in search of new plants.

The list is not complete but should give some indication of the important part played by Scots in this field.

- BALFOUR, Professor J. H. 19th century botanist at Glasgow University,
later Regius Keeper, R.B.G. Edinburgh *Primula balfouriana*
- BARR, PETER. Glasgow breeder of narcissi. *Narcissus barrii*
- BOWIE, JAS. W. Early 19th century collector in Brazil for Kew.
Oxalis bowiei
- BOYD, Dr. WM. of Faldonside, Melrose. 19th century amateur gar-
dener. *Salix x boydii*
- BRODIE, JAS. H. 18th/19th century discoverer of *Pyrola uniflora* in
Britain *Brodiaea*
- BROWN, ROBT. Early 19th century botanist. *Brunonia*
- BUCHANAN, JOHN. 19th century student of New Zealand flora.
Hebe buchananii
- CARMICHAEL, Captain DUGALD, 18th/19th century botanist.
Carmichaelia
- CARNEGIE, ANDREW. 18th/19th century Scottish/American industrialist
and philanthropist. *Carnegiea*
- CATHCART, J., 19th century Judge in India. *Cathcartia*
- CAWDOR, Earl. 20th century collector with Kingdon-Ward in China.
Primula cawdoriana
- COCKBURN, H. 19th/20th century British Consul in China.
Primula cockburniana
- COLQUHOUN, Sir ROBT. Early 19th century patron of Calcutta Botanic
Garden. *Colquhounia*
- COWAN, Dr. J. M. 20th century botanist/gardener at R.B.G. Edin-
burgh and Inverewe. *Rhododendron cowanianum*
- DON, GEORGE. Early 19th century botanist, collector of native plants
and nurseryman. *Salix doniana*
- DOUGLAS, DAVID. Early 19th century collector for Horticultural Society
of London; one of the greatest collectors. *Douglasia*
- DRUMMOND, THOS. Early 19th century collector for Kew. Was with
Franklin in the Arctic, later took over Don's nursery.
Dryas drummondii

- FALCONER, HUGH. 19th century Superintendent Botanic Garden Saharanpur. *Rhododendron falconeri*
- FERGUSON, WM. 19th century collector in Ceylon. *Saxifraga fergusonii*
- FORBES. Professor of Botany, Edinburgh, and collector in Norway and the Levant. *Crinum forbesianum*
- FORREST, GEORGE. Early 20th century collector, made six trips to China and died there. Sent back vast quantities of seeds of new plants. *Rhododendron forrestii*
- FORSYTH, WM. 18th century Curator Chelsea Physic Garden, also Kensington Palace Gardens. *Forsythia*
- FORTUNE, ROBT. 19th century collector for R.H.S. in India, China and Japan. Introduced *Jasminum nudiflorum*. *Saxifraga fortunei*
- FRASER, JOHN. 18th/19th century collector in Newfoundland and eastern U.S.A. Later nurseryman in Chelsea. *Abies fraseri*
- GILLIES. 19th century collector in Chile. *Rhododendron gilliesianum*
- GOOD, PETER. 19th century collector for Kew in Australia. *Goodia*
- GORDON, JAMES. 18th century nurseryman in Mile End, London. *Gordonia*
- GRAHAM, ROBERT. Professor of Botany, Glasgow and Edinburgh. *Salix x grahamii*
- GUNN, R. C. 19th century collector in Tasmania. *Eucalyptus gunnii*
- HOOD. 19th century collector of succulents. *Hoodia*
- HOOKE, Sir WM. 18th/19th century Professor of Botany Glasgow and Director of Kew Gardens. *Rhododendron hookeri*
- HOOKE, Sir JOSEPH. 19th century son of above, collector and successor to father at Kew. *Berberis hookeri*
- HOUSTON, Dr. W. M. 18th century surgeon and botanical collector in central America. *Houstonia*
- HUME, DAVID. Early 20th century gardener R.B.G. Edinburgh, killed on active service 1914. *Roscoea humeana*
- JAMESON, WILLIAM. 19th century Professor of Botany, Quito, Ecuador. *Gerbera jamesonii*
- JEFFREY, JOHN. 19th century collector in Oregon. *Dodecatheon jeffreyi*
- JUSTICE, JAMES, F.R.S. 18th century lawyer, author of Scottish Gardener's Dictionary. *Justicia*
- KENNEDY, LEWIS. 18th/19th century nurseryman with Lee (q.v.). Introduced standard rose. *Calochortus kennedyi*
- KERR, WILLIAM. 18th/19th century collector for Kew in China and Superintendent Botanic Gardens, Ceylon. *Kerria*

- LAWSON, PETER. 19th century Edinburgh nurseryman and author of
Pinetum Britannicum. *Chamaecyparis lawsoniana*
- LEE, JAMES. 18th century nurseryman with Kennedy (q.v.) and author
of first English botany on Linnaean System.
Cypripedium leeanum
- LINDSAY, Dr. JOHN L. 18th/19th century physician. *Celmisia lindsayi*
- LYALL, DAVID, M.D. 19th century botanist/collector with H.M.S. 'Terror'
in New Zealand. *Hebe lyallii*
- LYON, JOHN. 18th/19th century collector in U.S.A. *Lyonia*
- MACKAY, J. J. 19th century Curator Botanic Garden, Trinity College,
Dublin. *Erica mackaiana*
- MACNAB, WILLIAM. 19th century gardener R.B.G. Edinburgh.
Saxifraga macnabiana
- MALCOLM, WILLIAM M. 18th century nurseryman in London.
Publisher of a catalogue of greenhouse plants. *Malcolmia*
- MASSON, FRANCIS. 18th century Aberdonian collector for Sir Joseph
Banks in South Africa, Spain, the Canaries and U.S.A.
Massonia
- MENZIES, Dr. ARCHIBALD. 18th/19th century surgeon-naturalist with
Vancouver in N.W. America, Australia and New Zealand.
Penstemon menziesii
- NELSON, DAVID. 18th century explorer with Captain Cook in Aleutian
Islands and with Captain Bligh in the "Bounty".
Kniphofia nelsoni
- NEIL, PATRICK. 18th/19th century Secretary Caledonian Horticultural
Society of Edinburgh. *Neillia*
- NIVEN, JAMES. 18th/19th century collector in South Africa.
Asparagus nivenii
- PARK, MUNGO. 19th century explorer in Africa. *Parkia*
- PATERSON, Colonel W. 18th/19th century traveller in South Africa.
Patersonia
- SCOTT, MUNRO BRIGGS. 19th/20th century Botanist at Kew.
Briggsia
- SCOULER, Professor JOHN. Early 19th century surgeon/naturalist with
Douglas (q.v.) to N.W. America. *Penstemon scouleri*
- SEAFORTH, FRANCIS, Lord. 19th century patron of botany. *Seaforthia*
- SHERRIFF, Major GEORGE. 20th century collector in Tibet and Bhutan.
Primula sherriffae
- STUART, JOHN, Earl of Bute. 18th century Prime Minister and chief
adviser at founding of R.B.G., Kew. *Stuartia (Stewartia)*

SUTHERLAND, JAMES. 17th/18th century Superintendent Edinburgh Botanic Garden and author of Hortus Medicus Edinburgensis.

Begonia sutherlandii

TOLMIE, WILLIAM FRASER. 19th century surgeon with Hudson's Bay Co.

Botanist and collector in N.W. U.S.A. *Penstemon procerus tolmiei*

TWEEDY, JAMES. 18th/19th century collector in Argentine.

Lewisia tweedyi

PRINCIPAL SOURCES

Johnson's Gardener's Dictionary. Wright, 1898.

The Gardener's Companion. Miles Hadfield, 1936.

The Coming of Flowers. Anderson, 1951.

R.H.S. Dictionary of Gardening. 1956.

Plant Names Simplified. Johnson & Smith, 1958.

The Rhododendron Handbook. R.H.S., 1963.

The Plant Hunters. 1979.

On Showing

by JOAN STEAD

Now for something completely different. I am particularly interested in European primulas and I should like to recommend to new exhibitors a few which, with reasonable cultivation in a normal season, should be available for Shows over a period from the last week in March to the first or second week in May. They are *Primula x sternii* (*Bileckii* Form), 'Barbara Barker', 'Beatrice Wooster' and the cultivars of *P. x pubescens*, 'Faldonside', 'Mrs J. H. Wilson' 'Ruby' and 'Rufus'.

Quick results can be satisfying to new exhibitors and nothing comes so quickly as bulbs. Reticulate iris and crocus are normally over or almost over by the first of the Shows but *Narcissus cyclamineus, minor* and the very fine hybrid 'Tête-a-tête' should be available as would *Tulipa batalinii, linifolia, tarda (dasystemon)* and *urumiensis*. A five- or six-inch pot or pan (not bowl as drainage is necessary) should take up to ten bulbs. Grow them cold in a frame, greenhouse or alpine house. I have known bulbs to be grown successfully in an old fashioned orange box with panes of glass on top. Use what you have and good luck to all who wish to have a go at our Shows. You will find friendly rivalry and lots of people willing to impart their knowledge. Above all, you will soon learn that as an exhibitor a Show is a great social occasion.

Corfu and Epirus

by MICHAEL J. B. ALMOND

CORFU in May is ablaze with interesting species of lowland Mediterranean flowers; it is also nowadays, because of its popularity as a tourist resort, easy of access and relatively cheap. For those who feel, however, that Prospero's Isle is too sedate and not exciting enough for a hardened alpine plant enthusiast, I suggest taking a few days out of the middle of your two weeks in Corfu to explore a little of Epirus, on the mainland east of Corfu. Corfu has charm; between its green, rolling hills nestle numerous neat, whitewashed villages with Italianate churches surrounded by tall, dark spires of Italian cypress (*Cupressus sempervirens*). Epirus has rugged grandeur; it is one of the least visited areas of Greece and, with its bare karstic limestone tablelands over a mile high cleft by spectacular gorges and its reminders of Turkish rule, it is a complete contrast to Corfu.

We arrived on Corfu on 29th April and stayed in Corfu town for five nights; we then took the ferry to Igoumenitsa and the bus from there to Yannina, the main town of Epirus, where we stayed for four nights before returning to Corfu for the rest of our fortnight's holiday. On Corfu our transport consisted mainly of two mopeds hired, at very reasonable rates, from a shop next to the ferry terminal. There are also good bus services to all parts of the island from Corfu town, but travelling by bus makes round trips difficult (in other words, it is easy to get from Corfu town to either A or B, and back again, by bus but it is impossible to get from A to B). The mopeds had a maximum speed of about 30 mph and so very long trips were not practicable. In May also, although the sun is hot, the air, when riding at 20 mph or so, is distinctly cool and an anorak is essential equipment.

The island of Corfu is roughly wedge-shaped, with the apex of the wedge pointing south-east. It is 62 km long and the northern end is 25 km across. For over three-quarters of its length, however, the east and west coasts are no more than ten kilometres apart. A range of hills crosses the northern end of the island from west to east, rising to the highest point on the island, Mt Pantocrator (906 m); south of these hills the highest point is Mt Ayii Deka (576 m).

Corfu town itself is full of interesting features, but this is not the place in which to relate them. Not to be missed, however, is the old

British cemetery, on the south-west outskirts of the town. This is maintained sufficiently to keep it from becoming overgrown, but not with such care that nature is excluded. In addition to the magnificent mass of *Gladiolus byzantinus* that greeted us by the entrance, the shady paths harboured numerous orchid species, including *Serapias parviflora*, *Anacamptis pyramidalis*, *Orchis coriophora* and *Ophrys scolopax cornuta*.

On the coast at Mandouki, on the north-western outskirts of the town in a marshy area near a new hotel development, we found growing among the reeds a large number of magnificent specimens of *Orchis laxiflora* ssp. *palustris* together with more *Serapias parviflora*. Continuing further up the east coast north from Corfu town, we came to Gouvia, with its delightful land-locked bay and its ruined Venetian ship sheds. While exploring these we found more *Ophrys* — *O. lutea minor* and *O. scolopax cornuta* — and also *Cerintho major*, *Linum pubescens* and *Verbascum arcturus*.

At Spartilas, a picturesque little village perched about 300 m up the south-western flank of Mt Pantocrator overlooking the sea, we paused to recover our breath after ascending the steep, twisting road from the coast below. A majestic *Verbascum sinuatum* stood sentry at the roadside and in the fields behind, among the masses of field flowers, were *Orchis quadripunctata*, *Ophrys ferrum-equinum* and *Gynandiris sisyriochium*. From just beyond Spartilas there is a road, rough but serviceable, up Mt Pantocrator. It winds up the west side of the hill, cliffs or rough hillside on the right and pink clouds of Judas trees (*Cercis siliquastrum*) and green and red pistachio trees (*Pistacia vera*) on the left; between the trees there are views over the little fields and the olive groves below. Between the villages of Strinilas and Petalia another, even rougher, track leads off right towards the summit. The last part of the climb is extremely steep and, discretion being the better part of valour, we parked our mopeds among the *Asphodeline lutea*, honesty and pretty pink *Lamium* and walked the last few hundred metres. Beside the track we saw *Anchusa undulata* and *Cynoglossum creticum*, the Cretan Houndstongue. Just below the summit, on the northern slope, we found a considerable number of plants of a fine form of *Fritillaria graeca* with a green stripe down each petal. Right on the top of Mt Pantocrator we found *Aceras anthropophorum* (the Man Orchid), *Bellevalia dubia* and *Muscari comosum*. The view from the top is breathtaking and unusual in that it encompasses a considerable slice of Albania, lying mysteriously along the horizon

with only a narrow strip of water, 2 km wide, separating it from Corfu.

Kouloura lies on the coast below Mt Pantocrator facing Albania across the narrow strait. Growing in a wood beside the road here we found *Acanthus spinosus*, *Gladiolus communis*, *Ophrys apifera*, *Ophrys sphegodes* and *Serapias vomeracea* (fig. 9). A little further on towards Kassiope we found a fine specimen of *Platanthera chlorantha* growing in the shade of the roadside trees. In the little fishing port of Kassiope, at the north-eastern tip of the island, the olive trees were in blossom, as were the *Robinia* and the Indian Bead Tree (*Melia azederach*); and the weavers were standing or sitting outside their houses weaving shawls on triangular frames.

Sidari is situated near the opposite, north-western, tip of the island. It is famous for its fine beaches and its weirdly weathered sandstone rock formations. Along the top of the low cliffs grow *Cistus albidus* and *Anthyllis hermanniae*. The fields behind are dotted with *Orchis laxiflora* and *Anacamptis pyramidalis* and at the sides of the road are patches of *Lupinus angustifolius*. A pleasant ride from Sidari brings you to the village of Ayios Stefanos with its long beach flanked on the east by impressive cliffs and on the west by the rocky mass of Cape Ayios Stefanos, the most westerly point of Corfu. Here, among the *Cistus salvifolius*, we found the attractive rosettes of *Evax pygmaea*.

The main road back from Sidari to Corfu town passes over the low col known as Troumpeta. In pine woods on the northern slope near the top of the pass we found *Tragopogon porrifolius*, *Serapias*, *Anacamptis pyramidalis*, *Orchis italica*, *Orchis quadripunctata* and *Ophrys ferrum-equinum*, and on the southern side of the pass we found a considerable number of *Orchis coriophora*. From the top of Troumpeta the view south, along the southern flank of the hills and towards the fertile plain of Ropa — a view of rocky hillsides on the one hand giving way to a vast, undulating sea of olive trees with the occasional village forming an island surrounded by cypresses rising up like green breakers on the white rocks — encapsulates Corfu at one glance.

Away at the western end of the hills that rise up on your right as you contemplate this prospect lies Paleocastritsa, where the young Nausicaa is said to have stumbled upon the shipwrecked Ulyssus. On the cliffs behind its three rocky bays we found *Cistus salvifolius*, *Convolvulus althaeoides* ssp. *tenuissima*, *Chamaepeuce mutica*, *Campanula ramosissima* and *Ceterach officinalis* (the rusty-backed fern).

South of Paleocastritsa, east of the hills which rise to form the cliffs of the west coast, lies the plain of Ropa. Beside the road along the

western edge of the plain we found *Cistus albidus*, *Phlomis fruticosa*, *Gynandiris sisyrinchium* and *Ophrys scolopax*. Below the cliffs of the west coast lie numerous beaches, some easier of access than others, some disfigured by large hotels, some secluded and unspoilt like the beach of Mirtiotissa, by which we found a magnificent clump of dark-purple *Iris germanica*. A little to the south of the Mirtiotissa beach, above Glyfada beach with its modern hotel, lies the village of Pelekas. Above the village itself is the viewpoint of Kaiser's Throne, ablaze with *Phlomis fruticosa*, from which a good view can be obtained right across to Corfu town on the opposite coast and south to Ayii Deka. Just below Pelekas, on the eastern side of the village, we found *Gladiolus communis*, *Campanula ramosissima*, *Campanula patula*, *Serapias*, *Orchis coriophora* and a small, pale-mauve *Anemone coronaria*.

The highest hill in the southern half of the island is Mt Ayii Deka (576 m); on its north-eastern slopes, near the village of the same name, we found *Anacamptis pyramidalis*, *Orchis italica*, *Orchis quadripunctata*, *Ophrys ferrum-equinum*, *Ophrys scolopax cornuta* and, beneath *Cistus albidus*, a fine clump of the parasitic *Cytinus ruber* in full flower. Further south, beside the beach at Ayios Gordis, we found *Linum arboreum* and *Cerintho major* and, beside the road near the village of Ayios Mattheos, *Orchis coriophora*, *Orchis morio* and *Ophrys scolopax cornuta*. Near the shore at Messonghi, on the south-eastern coast, not far from a row of venerable, gnarled, ancient olive trees and beside a mass of *Cistus albidus*, we found our most spectacular specimen of *Ophrys scolopax cornuta*, with 'horns' easily half an inch long — longer than the main lip of the flower itself.

In Epirus the country is rougher and the distances greater. We took the ferry from Corfu to Igoumenitsa and the bus from there to Yannina. We hired a car for two of our three full days there and used the local buses for the other. Yannina, our base, is the provincial capital and a town of some 40,000 inhabitants (about a third as many again as Corfu town). It stands about 100 km inland at a height of 470 m above sea level. The old town, with its picturesque Turkish-style houses crowded round Ali Pasha's citadel (which still contains two mosques and the remains of a Turkish bath among its buildings), stands on a rocky promontory jutting out into the western end of the Lake of Yannina, also known as Limni Pamvotis. The lake is about 10 km long and 3-4 km across; there is no outlet from the lake and it extends into the surrounding reedy marshes in the winter and contracts again in summer.

After your journey from Corfu, a pleasant way to spend your first afternoon in Yannina is to take one of the frequent boats to the island in the lake. On the island, which lies opposite the old town but somewhat nearer the far shore, are numerous medieval monasteries in pleasant, traffic-free surroundings — some still containing old frescoes on their walls and ceilings.

On the eastern side of the lake, opposite Yannina, rises the great ridge of Mitsikeli (1819 m), separated from the main mass of the Pindus range by the remote, upland valleys of the Zagoria. The main road east across the mountains from Yannina to Thessaly skirts the northern shores of the lake, the reed beds dotted here and there with the bright yellow flags of *Iris pseudacorus*. After passing through the village of Perama, which boasts a magnificent series of caves full of weird and wonderful stalagmites and stalactites which must be the equal of any other in the world, the road begins to climb up the southwestern flank of Mitsikeli. Just below the pass over the ridge, near the village of Spothi, we stopped to admire the view of the lake and, across it, Yannina; we were also rewarded with patches of *Helleborus cyclophorus* among the ubiquitous *Euphorbia rigida*. As we explored the scrub for other flowers, a single file of goats passed along the skyline above us. The depredations of their kind had left only a few *Orchis provincialis* and *Anthyllis tetraphylla*.



We drove over the ridge into the Arachthos valley and, near the river crossing, we found *Saponaria calabrica* and *Ajuga orientalis* at the roadside. From here the road climbs steadily upwards and eastwards along the rocky northern flanks of the Metsovitikos gorge towards the town of Metsovon. Below Metsovon, in the roadside scrub, we found more *Orchis provincialis* together with *Fritillaria graeca* and a pale-mauve *Anemone coronaria*.

The town of Metsovon perches on the steep valley side at a height of about 1000 m. Although it has a population of only a few thousand, it is an important centre for the whole of this mountainous area. Before the main road was made passable for normal wheeled traffic, it was almost an independent republic, inhabited mostly by Vlachs, a pastoral people speaking a language related to Romanian. All the five great rivers that rise in the Pindus have their sources near Metsovo

and the views on all sides are wonderful and the mountain air clear and exhilarating.

Above Metsovon is the Katara Pass (1823 m), which rewarded us both with spectacular views and some interesting flowers: *Ranunculus palustris*, *Crocus veluchensis*, *Primula veris* and *Scilla biflora* where the recently melted snow had left the ground damp; *Euphorbia myrsinites*, *Draba aizoides* and *Daphne blagayana* on the drier, rocky knolls. We also found *Muscari neglectum*, *Ornithogalum nanum*, *Corydalis solida*, a pretty white *Potentilla speciosa* and more *Helleborus cyclophorus*.

The next day we drove north from Yannina along the valley floor below the ridge of Mitsikeli and, about 20 km from Yannina near the village of Asfaka, turned right, up a side road. About half way up the ridge we found *Anchusa undulata* and *Aethionema saxatile* together with a mass of orchids: *Orchis laxiflora*, *O. provincialis*, *O. simia*, *Ophrys scolopax*, *O. sphegodes mammosa* and a *Gymnadenia*. We continued, past the picturesque, stone-built village of Vitsa, to Monodendri. Like other villages on these north-western flanks of the Pindus, Monodendri has solid, stone-built houses with big carved wooden gateways, topped by overhanging roofs, which open on to steep, narrow lanes lined with high stone walls and far too constricted for wheeled traffic of any description. Unlike other villages, however, Monodendri is perched on the rim of the Vikos gorge, a spectacular cleft in the rock over a thousand metres deep, which helps to make the high, karstic tableland of the Tymphi massif (rising to 2480 m), across it on the eastern side, so inaccessible.

There was little of interest growing on the rocks beside the gorge at Monodendri, apart from a little *Sedum dasyphyllum*, but when we had retraced our steps and driven, via the old Turkish bridge at Kokkori, to a spot south of Monodendri where we could look down the gorge rather than across it, we found more orchids in the roadside pasture, including *Orchis tridentata*. We drove on up the southern flanks of the great Tymphi massif, past the picturesque mountain villages of Kapesovo and Tsepelovo, to Skamnelli. Nestling under a cliff above Skamnelli is the little medieval church of Ayia Paraskevi. It is unusual among Greek churches in that it has frescoes on its *external* walls — a feature normally associated only with Romanian churches and another reminder that the population of this area is traditionally Vlach and not Greek. Just above the church the limestone pavement starts — at this time of the year, however, it was too dry for there to be anything of great interest growing there. Unfortunately we had

neither the time nor the equipment to explore this area properly — some other time, perhaps!

The next day we took the bus from Yannina 60 km north to Konitsa, near the Albanian border. The town commands the main road from a hillside just to the north of the colossal gorge through which the river Aoos emerges on to the plain. The gorge also forms the northern boundary of the Tymphi massif and divides it from Mt Smolikas (2637 m), further north. We walked a little way up the gorge and were pleased to find numerous specimens of *Ramonda serbica* on the vertical cliffs. The gloomy gorge also yielded *Matthiola fruticosa* and a pretty white *Cerastium* perched inaccessibly on the cliff face. In spite of its grandeur, however, the gorge (here in its lower reaches, at least) is a dark, damp, dispiriting place, much overgrown with scrub by the river side.

We left the Aoos gorge, therefore, and took the bus back towards Yannina for 15 km to the village of Klidonia. Here it is that the river Voidamatis emerges from the Vikos gorge on to the plain. As we walked along the track from the village to the gorge we passed *Hypericum olympicum*, *Anchusa azurea*, *Cistus salvifolius*, *Verbascum arcturus*, *Arum italicum* and *Cerintho retorta*, with its peculiar large dark-purple bracts. The fields on either side were a pale pink sea of *Crepis incana*. The Vikos gorge at Klidonia is narrower than the Aoos gorge at Konitsa; the river was very fast-flowing and it was impossible to penetrate more than a hundred metres or so above the elegant pack-horse bridge which spans the river at its debouchment.

Last but not least, one place near Yannina which no visitor should miss is the ancient sanctuary of Dodona. It lies about 20 km southwest of Yannina and is beautifully situated, amid smiling scenery and luxuriant vegetation, facing Mt Tomaros. We watched the lizards sunning themselves on the stones of the great theatre and nearby found *Orchis quadripunctata* and *Ophrys sphegodes*. Near Dodona, among the trees, scrub and *Asphodeline lutea*, we also found *Orchis ustulata*, *Ophrys sphegodes* and masses of *Ophrys sphegodes* ssp *helenae* — its dark crimson lip covered in velvety fur but with none of the complicated markings normally associated with other species of *Ophrys*.

From Yannina, part of the Ottoman Empire until 1913 and still very oriental in atmosphere, we returned in less than half a day to Corfu, a British protectorate from 1815 to 1864 (when it became part of Greece), Venetian before that and really always part of western

Europe. How many of the tourists who visit Corfu each year, I wonder, realise that a taste of the mystic east can be had just across the narrow stretch of water which separates them from Epirus?

The Peloponnese in Autumn— some jottings from my notebook

by LYNN A. ALMOND

WE HAD booked a week's package holiday in the Peloponnese in October, not expecting it to be a plant hunting holiday, but we were pleasantly surprised by the number of flowers we found. We stayed the week in Porto Heli, a small fishing village at the tip of the easternmost of the four promontories of the Peloponnese. On our first stroll through the village we found *Scilla autumnalis* carpeting a rough area beneath some olive trees. The individual flowers are not spectacular but, *en masse*, they produce a haze of blue. Just a little further on, in a back yard there was a small clump of *Sternbergia lutea*, which presumably had been planted there, as it normally grows higher up in the mountains. We were frustrated at not being able to photograph them because they were too near the rusty chain link fence. The next flower we saw was *Cyclamen hederifolium* again in a small fenced-off field, but this time we were able to gain access and photographed them. As it turned out, we saw plenty of cyclamen later in the holiday.

The brochure had described Porto Heli as remote, but we had hoped to use the local buses for getting around. The local bus, however, only went to a nearby larger town, Kranidi, where one had to wait some time for a connection. We decided to hire a car, therefore, for two days.

The first day we drove north through Didimi, on to the ancient site of Epidaurus on the east coast and then south round the end of the peninsula. At the pass above Didimi the scrub was well grazed by sheep, but we found the tiny *Colchicum cupanii* growing among the rocks, and also *Crocus cancellatus* (fig. 10), including one beautifully veined with grey. In the magnificent theatre at Epidaurus, *Cyclamen graecum* (fig. 11) was growing between the stone seats. Passing through the small village of Ano Fanari, we caught a glimpse of yellow under a



Fig. 9—*Serapias vomeracea*, near Kouloura, Corfu (See page 51) Photo—Michael Almond

Fig. 10—*Crocus cancellatus*, near Didimi, NE Peloponnese (See page 56) Photo—Lynn Almond



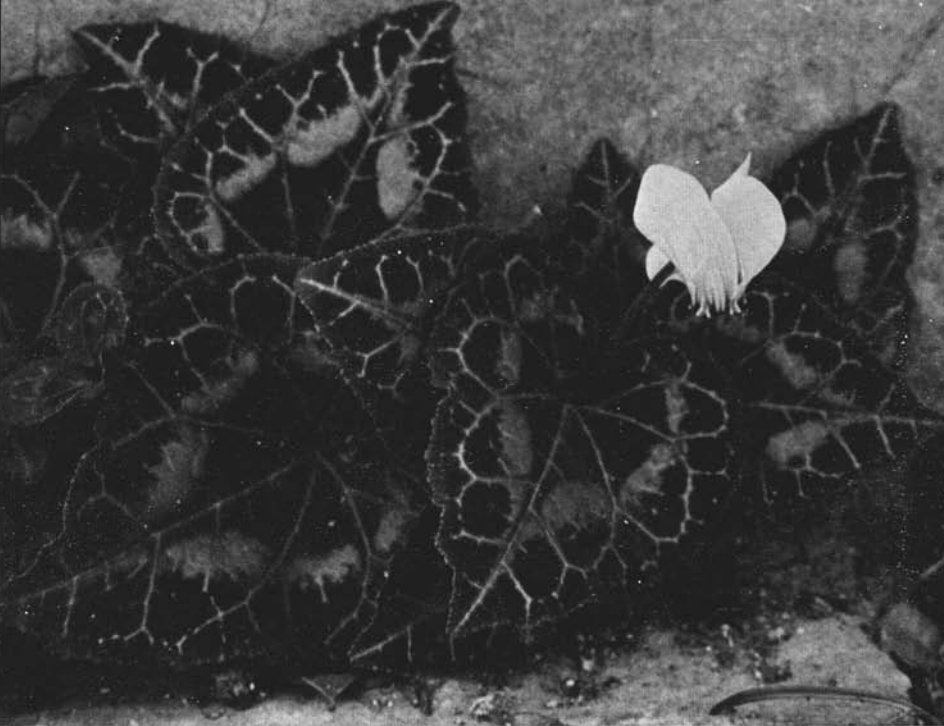


Fig. 11—*Cyclamen graecum*, Theatre of Epidarus (See page 56)

Photo—Lynn Almond

Fig. 12—*Sternbergia candida* col. Sonderhausen (See page 68)

Photo—H. Esslemont





Fig. 13—*Sternbergia lutea*, Ano Fanaria, NE Peloponnese (See page 57)
Photo—Lynn Almond



Fig. 14—*Lewisia pygmaea* ssp. *longipetala* (See page 58)

J. Forbes

bush and stopped to investigate. It was *Sternbergia lutea*. As we were trying to photograph it, some children came out from a nearby house and told us that there were more on the hillside behind the house. We followed them and growing in patches of earth between the rocks were many more sternbergias and also crocuses.

The next day we drove north again, past Epidaurus to Corinth, then south via Mycenae to Nauplion. Near Nea Epidaurus, in a field which had been ploughed after the crop had been harvested, we found a mass of *Cyclamen hederifolium* and elsewhere along the road we caught more glimpses of pink. Near Korfos, half way between Epidaurus and Corinth, in the pine woods we found more *Crocus cancellatus*, with their large white goblet-shaped flowers. We were interested to see that some of the pine trees had tins attached to them to collect the resin for retsina. At the top of the imposing hill of Acrocorinth, we found a considerable number of *Sternbergia lutea* (fig. 13) growing in cracks in the rocks or under bushes. We had planned to look round the ancient site of Mycenae, but we were disappointed to find that it closed at 3.30 in the winter season. Nauplion is an interesting town with a Venetian castle on the hill and a fort on an island in the bay.

On the other days we used the bus or Shanks' pony to get around. Along the roadside most of the vegetation was very dried up, but the dead plants of various thistles and acanthus were quite magnificent and a plant of *Aractylis gummifera*, a large sessile thistle, still had several large purple flower heads. Pomegranates were still on the trees in the orchards.

One day we walked the few miles to the little village of Kostas and took a boat across the strait to the island of Spetse. Again we found more cyclamen, both *hederifolium* and *graecum*. The pink colour varied quite widely and some flowers were strikingly marked with dark pink veins. *Cyclamen hederifolium* grew mostly in open ground in drier places, whereas *C. graecum* grew in woods or in the shade of rocks. On Spetse the white-washed houses were gaily covered with orange and white bougainvillea, as well as the usual purple variety.

One walk from Kranidi to Didimi and back again along the coast yielded only a few cyclamen, *Urginea maritima* — which we had only seen as dry bulbs previously — and several tortoises. The day was very hot and we ran out of water. In desperation we approached a small isolated cottage where we could see people working. We were warmly welcomed and, although the cottage did not have mains water,

we were given several glasses of water together with the customary sweets. We talked in halting Greek to the family for some time as we recovered from our exhaustion.

The last day we did not want to go far from the hotel, so stayed on the small peninsula opposite the hotel. We found more cyclamen and, here and there amongst the prickly scrub, the small white blooms of *Narcissus serotinus*. On returning to the hotel we found that there was still some time left before we had to leave. We went over to the small "island" owned by the hotel — in reality a shingle bar which had been cut through at the landward end. On all our walks by the sea shore I had hoped to find *Pancretium maritimum*, the Sea Daffodil, but had not done so — and here it was on our door step. Unfortunately, there was only one tattered bloom left, but over the whole of the island there were many plants with their large seed heads. Even here, too, there were many clumps of *Cyclamen hederifolium* growing in the shingle at the end of the island where few people visit.

Although we did not see all the autumn-flowering plants which grow on the Peloponnese, we saw enough to whet our appetites to return and explore further afield.

Plant Portrait

LEWISIA PYGMAEA SSP. LONGIPETALA (fig. 14)

Lewisia pygmaea ssp. *longipetala* is a beautiful and attractive plant for the rock garden and is 2-6 inches (5-15 cm) tall. It has a short caudex about $\frac{3}{4}$ -1 $\frac{1}{4}$ inch (2-3 cm) across). The root is fusiform, spindle-shaped, narrow both ways from a swollen middle, and branched. The flower stems are erect, longer than the leaves. The petals are pale rose $\frac{1}{2}$ - $\frac{7}{8}$ inch (12-18 mm) long with scattered glandular teeth on the margins. This plant is found growing in the high mountains of the Sierra Nevada west of Truckee, California. It has two near relations, *L. pygmaea* and *L. pygmaea* ssp. *glandulosa*. The former is found on the Cascade Mountains, Washington to Sierra Nevada; east to Montana and New Mexico; Rockies, Colorado. *Lewisia pygmaea* ssp. *glandulosa* grows in California in the Sierra Nevada. *Lewisia pygmaea* ssp. *longipetala* will grow well in the rock garden in a well-drained but not arid position. The plant loses its leaves in the winter and survives with a resting bud.

Dairsie

J. FORBES

The Second Ten Years

by JIM SUTHERLAND

THE W. C. BUCHANAN MEMORIAL LECTURE

THE W. Buchanan Lecture is given each year on some aspect of the cultivation of plants and I imagine that, like me, the previous lecturers have found great difficulty in choosing a suitable title. However, my problem was possibly greater in that my interest in horticulture is very varied and I have never been tempted to specialise in any one aspect or genus. The result is I am not a specialist but might more aptly be described as a “dabbler”, preferring to get my pleasures from growing a range of beautiful plants rather than excelling in the cultivation of a few of the choice rarities.

I have tried to do some research on my title “The Second Ten Years” but found to my surprise, that while many people have written at great length on the establishment of gardens, few, if any, have written on the problems of keeping the garden in health and balance. There is no doubt that age brings sagacity and the oft quoted maxim “you can’t put an old head on young shoulders” is particularly true in gardening experience. We all make mistakes and only fools don’t benefit from their mistakes, but so often we learn too late that one year’s seeding means ten years’ weeding where weeds are concerned.

There are, of course, certain laws in gardening and the first law of gardening states that “Everyone shall have that which he does not want and shall therefore covet alternative material and conditions quite unsuited to his station” — how well this sums up human nature and gardeners in particular! We on the east coast try to grow the Ericaceae, which is much more suited to the wetter west coast, and, those on the west coast covet our ability to grow the rare scree dwellers which revel in our dry atmosphere. I have often been asked why a certain garden or gardener cannot grow individual species and, while it is often possible to suggest reasons, I find it better to offer the suggestion that it is much more satisfying to grow plants that are happy to grow with you. This is without doubt a valuable lesson to learn in our first ten years of apprenticeship. It is as well to ask ourselves occasionally if we are not trying to do the impossible by growing plants from a geographical distribution as widely differing as Lesotho, Alaska, Nepal, New Zealand, Turkey and Chile, in our small garden. I believe it is not our great powers of cultivation, but the greater powers of adaptation of the plant kingdom.

When we create a new garden from scratch, there seem to be few great problems in the first few years and plants in the virgin soil usually grow with great vigour. Great planning and help should be sought in these early years because permanent features such as paths, walls, hedges and trees can become major problems in the second ten years unless one copies the example of E. B. Anderson who wrote the book entitled "Seven gardens or 60 years of Gardening". He appeared to average out at approximately $8\frac{1}{2}$ years per garden and there may be a lesson to be learned there. It certainly doesn't give me much information for this particular talk.

A very valuable lesson to be learned in our first ten years, and one which will surely keep us busy in the second ten, is the introduction of noxious weeds. You know how it happens — some kind person offers us a big plant of *Delphinium* and resting snugly in the middle of it are a few minute pieces of Bishop's weed, Coltsfoot and Convolvulus which romp out into our border and colonise our other plant and tree roots.

Of course, it is not only these few noxious weeds which are the culprits. We have a few "cultivated" weeds and our nurserymen friends are not averse to making a spot of quick cash out of these, viz. *Campanula cochlearifolia* — a tiny charmer with nodding thimbles of blue elfin flowers" — so describes one nurseryman. I think a more apt description might be "A tiny charger". Similarly Anna N. Griffith in her book "Collins Guide to Alpines" describes *Sedum anglicum* as a "tiny charmer" — I wonder if she found it necessary to get rid of such tiny charmers out of the scree? And yes, there are many more such as *Potentilla eriocarpa*, (I had to rebuild my scree to get rid of this one!), *Acaena microphylla*, and that, oh so well-named plant, *Cotula squalida* — give it an inch and it will cover a mile!

This brings me to my second law of gardening which states, "Gardening shall be more of a matter of reclamation than innovation". We could liken it to our house where we have to replace our wallpaper, paint and furnishings, but, so often, we forget about treating our gardens in a similar fashion. It is so easy when we start a garden to plant a large number of plants and they all do so well for the first few years. It is very difficult to plant only species which are suitable for the size of garden and the temptation is to plant a few trees such as *Betula*, *Prunus*, *Eucalyptus* and for a few years all is well, but the troubles are building up underground. The trees continue to thrive,

but our lower growing plants begin to deteriorate until after ten years replacing plants in these beds leads to dismal failure.

I often wonder if we try to copy nature too slavishly with our own eyes blinkered and so often read into a problem the wrong interpretation of results. Often we jump to wrong conclusions without controlled experimentation. It was said by many that alpines would never be grown successfully in plastic pots after trials using the same composts in clay pots had proved disastrous. Now that we realize that plastic pots don't breathe in the same way and that the composts have to have greater porosity, success is now being achieved. In the same way some believe that shading is essential to grow plants in an Alpine house and yet those same plants grow in full sun in their natural habitat. Give maximum air movement over the plants to keep the leaves and roots cool with adequate ventilation and the plants will in fact grow more in character.

There always have been, and there always will be, vast differences of opinion on how to grow alpines successfully and this is understandable because of the great variation of climate and soils.

Reginald Farrer in his book "My Rock Garden" makes the following statement regarding two rock gardens he made—

"One is ill built, ill soiled and a perpetual worry. Nothing but the commonest things will live or thrive except with endless bother. There is some fatal canker in the soil and besides, I made the garden many years ago when like Cleopatra I was exceedingly green in judgement."

"The second garden — if you plant on Saturday it has grown one inch by Monday and a foot by Monday week. — An old kitchen garden — Alpines are such frauds they appreciate old dung."

Well, this may be a bit sweeping in its concept but I do believe there is a lesson to be learned and most of us have had to learn it over the years. In any garden situation there must be a sensible approach to feeding plants in order to keep them in good health. Very few people are aware of the richness of feeding available to many alpines in the wild and it took me many years to reach the conclusion that we are so often trying to do the impossible in our gardens by planting an established plant in a bed where it has to compete with a network of established roots of other plants. Mother Nature is much more clever than we are because she establishes her new plants from seed and the seedling plant as it develops does so as a balanced unit with an ample root to top growth ratio and therefore competes much better for survival. If anyone is in doubt about the richness of soil available to alpine

meadow plants I suggest they dig up a piece of meadow turf and examine the wonderful loam in which pulsatillas and gentians are growing.

A further theory I have lived with in my first ten years of apprenticeship is that of shade and full exposure to the sun and I am of the opinion that while in the south of England there may be some truth in the siting of shade-loving plants on the north side of a wall, here in Scotland, this is much less important. In the first place our climate is much cooler and secondly the sun is high in the sky in the height of summer, so very little shade is cast when it is at its hottest. I think the late General Murray-Lyon was the nearest to a solution when he constructed his little rock caves for some of his shade lovers. It is after all coolness they require and not necessarily dull light conditions, and these are quite separate factors.

Having reminisced at length over lessons learned in the first ten years of our apprenticeship, how does the journeyman put the experience to work in the second ten years? The most important factor is to try and assess the situation at as early a stage as possible, because some form of renovation will inevitably be necessary. It is like old age — it creeps up upon you insidiously and procrastination only aggravates the problem.

Some possible causes of the decline of garden plants are: 1. Overcrowding; 2. Root invasion; 3. Starvation; 4. Soil sickness; 5. Moss; 6. Disease; 7. The natural lifespan of plants; 8. Pets.

Overcrowding is inevitable in any garden and plants should be chosen as temporary fillers to be discarded before spoiling the shape and size of the permanent specimens. Regular pruning and shaping to keep the natural size and shape of the plant should be carried out to maintain healthy vigorous growth compatible with the most prolific flowering. The regular trimming of heaths to remove all old flowered growth immediately after flowering is an example.

Probably the most frequent cause of failure in establishing or re-establishing plants in a border is root invasion from trees and larger shrubs. Where this is the problem the only remedy is to double dig the border, removing as much root as possible, and enrich it with old compost or farmyard manure before replanting. A three ounce dressing per square yard of fertilizer will also replenish lost food reserves. Where the soil has lost its moisture retention and structure, the incorporation of peat will be very beneficial.

Starvation in a border is often associated with root invasion

and dryness, and I find top dressings of Vitax Q4 together with mulching with old sawdust manure from a livestock mart or livestock carrier's yard an ideal form of mulch. One important point to be remembered is to apply the mulch at the end of winter when the soil is at maximum moisture capacity and not in late spring when the soil is dry. Where plants are showing signs of poor growth, liquid feeding with a very dilute solution from a diluter through a hose is worth while perhaps twice per year. When watering it should be remembered that a heavy watering is essential and the soil should be wetted down to the full rooting depth.

Soil sickness can occur with many plants and is the result of the build up of undesirable soil fungi (*Pythium* sp.). Avoid replanting the same type of plant in any given position or if necessary replace a few bucketsful of the soil with some from the vegetable garden.

Moss is a very common problem in gardens and in particular in peat gardens. Much has been written on the subject both for and against. David Leach in his book on "Rhododendrons of the World" claims he could not grow *Rh. impeditum* until he associated it with *Polytrichum*, while at the Royal Botanic Garden parts of the peat beds are "de-mossed" twice a year.

All too few people fail to realise that plants have a lifespan as do all humans and denizens of this earth. With old age plants become less vigorous — as do we gardeners! Some plants have remarkable longevity while others are mere annuals and replacements should be made before the decline has gone too far.

My last contributory factor to garden deterioration leading to the need for renovation must surely be pets. It is remarkable how the British people will allow their pets to rule their lives and gardens. Burned patches in lawns and *Cupressus* are tolerated with remarkable patience. You will by now have gathered I do not have a dog or a cat and I am unpopular with my neighbouring pet lovers!

I have tried to discuss the lessons I have learned in my apprenticeship and how I have found these to be of use in my second ten years of renovation and reclamation.

I will close with two more points. Firstly a quote—

"Like many amateur gardeners with too little spare time I tried to grow too much, and no doubt many good plants perished, that, with a little more care might have survived. I cannot resist the lure of the unknown and the reputedly difficult, but I must admit that such success that I have had can only be attributed to the survival of the fittest" — E. B. Anderson 1971 — ten years ago.

It seems that gardeners do not change and, like the caterpillar, we must continue our metamorphosis, then look forward to the next decade with new horizons.

I would like to finish by mentioning *Daboecia x scotica* 'William Buchanan' — a magnificent plant named after a very great gardener.

Bulbs of the Eastern Mediterranean

by O. SONDERHOUSEN

THE HAROLD ESSELMONT LECTURE 1981

IT WAS a great honour and an extraordinarily great pleasure being invited to come to Scotland to give the Harold Esslemont Lecture on plant hunting.

Although I have been in correspondence with Harold Esslemont for only a short time many letters and many interesting and rare bulbs and corms have also been exchanged.

My garden is placed 10 miles north-west of Copenhagen, which is on the same latitude as Edinburgh and Glasgow. As I have no alpine house and no frame all my plants are grown outdoors in the very cold Danish climate, where the temperature during the wintertime often falls to -20°C (-5°F). However, compared with the Scottish climate the rainfall is much lower in Denmark, being about 65 cm (26 in). In the summer months (April to October) we get approximately 40 cm (16 in) of rain. From mid November until mid March I cover my tender and rarer bulbous plants with branches of spruce for protection.

I laid out my garden in 1961 as a normal type with shrubs, perennials, and a kitchen garden, but I gradually obtained more bulbs and corms and my mania for collecting them really began in 1965 and my garden is now full of bulbs.

In March 1967 we went to the Greek island of Rhodes to look for the newly named *Cyclamen repandum* ssp. *rhodense* which was described by Desmond Meikle in the Journal of the Royal Horticultural Society. This, our first plant collecting journey, was a great success and it was followed by many others, sometimes up to four a year, to Italy, Greece and Turkey. I should like to mention that my wife, since that time, has taught herself all three languages — Italian, Greek and Turkish — in order to facilitate our wanderings in these countries. The result has

been up to forty plant hunting journeys since the first one in 1967 and we have collected approximately 1000 different plant numbers. The exact number of species is not known since many of them have not been identified.

In Rhodes during the month of March 1967 we found hosts of a *Cyclamen* flowering on the road to Mt. Filerimos. It was not the special one we were seeking but *C. persicum*. They grow there in the same way as *Anemone nemorosa* in Denmark, covering the woodland floor with their flowers. It was an impressive sight. Further up the mountain *Cyclamen repandum* ssp. *rhodense* was found. We asked ourselves — “How would these *Cyclamen* grow in the Danish climate?” *Cyclamen persicum*, alas, only survived a few years but *C. repandum* ssp. *rhodense*, grown in a protected area in front of our house, has flowered regularly. The situation is sheltered and the plants start to grow and produce their leaves early in the spring and sometimes suffer from the late spring frosts, which we have till the end of May. I believe a protected place underneath a big shrub, an evergreen one is best, should help the situation.

Since that first visit to Rhodes, we have made many trips and found a lot of interesting plants. For instance, on the top of the highest mountain on Rhodes — Ataviros 1200 m — we found the broad leaved, autumn flowering *Colchicum macrophyllum*. We saw it also on Crete. It grows well in front of the house and seeds well, so it is possible to grow seemingly tender plants in our harsh Danish climate.

Among the other autumn flowering plants *Crocus tournefortii* attracts much attention but it has only survived a few years here.

Cyclamen graecum flowers regularly with us and this is a low altitude plant which we found at lower altitudes.

Fritillarias are abundant on the island. There is one *Fritillaria* on the island of Rhodes described by my countryman Alfred Hansen in 1969 as *Fritillaria rhodica*. It grows on rocky hillsides and is a slender plant with yellowish green flowers. Alas, it has not proved to be hardy and has languished in the garden.

We have been four times to Crete. There the dainty *Cyclamen creticum* grows plentifully and can also be found at high altitudes, 1100 m above the Omelos plain. It has grown well and flowered this year. Here too, and on most of the high mountains of Crete, the lovely *Crocus sieberi* flowers with an incredible profusion of blue, white and orange. Tulips too are abundant and in the olive groves they flower well. One we found still had the remains of its red petals which

we thought was *Tulipa bakeri*, but to our surprise when it flowered it turned out to be one of the *Hageri* group — *Tulipa doerfleri* (synonym of *T. orphanidea*) — one of the four tulips from Crete. It flowers well, but as it is a triploid it does not set seed, so propagation is a slow process from small side bulbs.

The stoloniferous *Tulipa bakeri* grows well on the Omelos plain and we have found *Tulipa cretica* on the eastern part of the island. It has not done well and has bloomed sparingly.

The fritillarias are one of our favourites and we found only one plant of *Fritillaria messanensis* near the town of Chania. Its type locality is from Messina in Sicily and we have noted differences in the two plants. The plant from Crete is not self fertile but, more surprisingly, it does not set seed even after pollination with the plant from Sicily.

We went to Sicily looking for the autumn flowering *Galanthus corcyrensis* which was first found by Zodda in 1904. It was rediscovered by us in 1970 after 66 years of oblivion. It flowers well in the garden in late November but sets only a little seed, otherwise it is completely hardy.

We found many lovely plants and mention must be made of the different leaf shapes and colour forms, especially the dark red types of *Cyclamen hederifolium*. All the plants from over 1000 m have done well here.

Cyprus in the spring is also a joy. *Crocus cyprius* which flowers very early in February, and *Colchicum troodii*, one of the best of the small flowering types, are endemics to this island and both have proved to be hardy and are good garden plants.

The autumn flowering *Cyclamen cyprius* was, of course, found with leaves only. It has not proved to be very hardy in front of my house and I should have tried it under shrubs for shelter instead.

Greece has been our main destination for many years. In the Peloponnese the autumn flowering *Galanthus reginae-olgae* grows in abundance on Mt. Taygetas. There are also many species of *Crocus* here. The most common must surely be *Crocus boryi* with cream-coloured flowers sometimes with black feathering on the outside of the petals. We found both types. Also plentiful is the white but variable *Crocus hadriaticus* with its red stigma which shows its close relationship to the Saffron Crocus. Less common is the highly feathered *Crocus crewei* (fig. 16) with black anthers, although plants without this characteristic feathering were seen. On the Mani peninsula the

largest and perhaps most beautiful of the autumn flowering crocus — the pastel blue to pure white forms of *Crocus niveus*. Suddenly we found a smaller light blue one. It turned out to be *Crocus goulimyi* which, though only named in 1955, is now well established in cultivation, for it increases rapidly by offsets. Both *Crocus niveus* and *C. goulimyi* flower very late in the year, so do not provide the same breathtaking display as in the wild.

While we were looking for *Crocus goulimyi* we found seed pods of a fritillary. This has been identified as *Fritillaria davisii* and it has flowered regularly with us and has proved to be hardy. Other fritillaries come from this corner of Greece. From the island of Idra we found *Fritillaria rhodocanakis* and collected bulbs. In the autumn the bulbs lift better and if there are seed pods then it is worth sowing some seed into the places where the bulbs were lifted to perpetuate the species in the wild. On the west of the Peloponnese *Fritillaria conica* grows but must flower very early in the year, for on our visit in March the plants had already produced large green seed pods and the seed was viable.

The Greek mainland is full of beautiful places and we usually rent a car in Athens, although we have travelled by our own car all the way from Denmark by way of Yugoslavia and Bulgaria and Euro-Turkey. Normally we look for plants en route and near the Greek border we found *Fritillaria sribryni*, its seed pods projecting from the middle of a most spiny shrub. In the north of Greece we camped in the mountains at 1300 m and growing around us on the grassy limestone slopes was *Fritillaria drenovskii*. On our way over the Katara Pass we found *Fritillaria graeca* showing considerable variation in colour and tessellation and not far off *Lilium chalcedonicum* grows. In northern Greece *Fritillaria graeca* var. *thessalica* reminded us of *F. ionica* from the island of Corfu, while in the autumn we have seen and collected that rare autumn flowering crocus *C. robertianus*, which has proved very amenable in cultivation.

In southern Yugoslavia within 50 m of the Albanian border we have found *Lilium albanicum*. This is a truly small alpine lily and worthy of a place in the garden. From Yugoslavia we have collected *Crocus veluchensis*, (a fine little crocus closely related to *Crocus vernus* with flowers of lavender to deep purple and with a white hairy throat); *C. scardicus* (fig. 15) with its bright yellow dainty flowers; and *Crocus cvijicii* (fig. 19) with long pale yellow flowers.

We have collected extensively in Turkey. On Mt. Sultandag *Fritillaria*

pinardii grows. It is an attractive robust plant of 15-20 cm. Here too grows *Colchicum ancyrensis*, *Sternbergia colchiflora* and a *Galanthus* of the *Elwesii* group, but it seems it may be named *Galanthus gracilis* by Chris Brickell shortly. In association with it *Eranthis cilicia* flowers just as it does in our garden in the spring.

West of Fethije we walked up the mountain for the whole day. It was a fantastic experience. At 700 m we found *Fritillaria forbesii*, one of the yellow-flowered species. Higher up *Fritillaria acmopetala* grows but these were in bud at the time of our visit. Suddenly we came across a host of white-flowered plants which looked like bulbs from a distance. There must have been 100,000 of them. As we drew nearer it became apparent to me that it was *Sternbergia candida* (fig. 12), recently named by Brian Mathew in "The Garden". It has not proved to be amenable to garden cultivation and seems to be more successful in the alpine house.

It was strange to come to Bursa and Uludag to the snow and frost, yet in the snow melt areas *Fritillaria pontica* grows with *Crocus gargaricus* (fig. 17) which flowers in the spring. This plant is a fairly recent reintroduction and has settled to garden cultivation. The flowers are brilliant yellow orange.

Above the town of Hamsekoy we found a snowdrop. It was not *Galanthus latifolius*, which grows in this area, but *G. rizehensis*. This plant is known from the Black Sea coast at a much lower altitude than 1350 m. Higher up this same mountain we found *Cyclamen parviflorum*, which has proved hardy with us in Denmark. In the Zigana Pass the spring flowering pale blue flowered *Crocus biliottii* grows with *Crocus vallicola* (fig. 18), an autumn flowering creamy white flowered plant. This latter plant should not be allowed to dry out in the dormant season and should be grown in a moist sunny position — full sun, according to Brian Mathew. Related to it is *C. suwarowianus* (fig. 20) from north-east Turkey.

When we returned to the Zigana Pass last autumn there were 100,000 flowers of *Colchicum speciosum* — a truly magnificent sight. To walk among all of these plants is a fantastic experience and one which we shall never forget.

Fig. 15—*Crocus scardicus*

Fig. 17—*Crocus gargaricus*

Fig. 19—*Crocus cvijicii*

Fig. 16—*Crocus crewei*

Fig. 18—*Crocus vallicola*

Fig. 20—*Crocus suwarowianus*



Crocus scardicus



Crocus crewii



Crocus garganicus



Crocus vallicola



Crocus cvyicii



Crocus suwardianus

Photographs—H. Esslemont

Thank You, Doctor Bacon . . .

by ENID BROWN

ALTHOUGH the botanically-famous Monte Baldo lies on the very shores of Lake Garda, we had always dismissed the Italian Lakes in general as 'not our scene'. It was only on reading Dr. Lionel Bacon's recent book 'Mountain Holidays in Europe', that we awoke to the possibilities of this area of lakes, mixed woodland and bare limestone hills. We went there in the last week of June 1980 and since spring had come very late we found the early flowers in beautiful form wherever we went. Many of the roads leading to high mountain villages were good, and we also made frequent use of old military roads in varying degrees of repair. Take a shortish, sturdy car and an equally sturdy driver, and you will probably achieve your objectives!

We chose to stay at Mezzolago on the small Lago di Dedro, which is surrounded by attractive woods of mixed conifers and deciduous trees, including *Amelanchier* and mountain *Laburnum* in bloom. The roadsides were thick with the rosy-purple form of *Polygala major*, so large that at a distance we often mistook them for stands of purple orchids. The woods were thickly carpeted with plants, rarely in flower, but showing a fascinating contrast of leaf shape and texture, from the leathery fans of *Helleborus niger* and *H. viridis* to the dainty twin hearts of *Maianthemum bifolium*. Some flowers of the shady places were *Thalictrum aquilegifolium*, the dusky *Geranium phaeum*, butterfly and bird's-nest orchids. In more open glades grew *Lonicera xylosteum* with pairs of small cream flowers, and *Lonicera alpigena* with much larger leaves and rust-red flowers, neither with any obvious scent. *Lilium bulbiferum*, growing amongst tall grasses, was just opening its large orange cups.

Naturally, our first thought was a day on Monte Baldo, which rises sharply in a narrow ridge from the south-eastern shore of Lake Garda, and stretches for miles in a series of bumpy tops, whose limestone cliffs and screes gleam grey-white in the sun. A modestly-priced funivia wafts the eager flower-hunter from the lakeside at Malcesine almost to the summit ridge; from there one can follow a good path along the nobbly, undulating crest. The day was fine, with veils of mist continually parting to show glorious views of the lake beneath us and the faraway snow-clad summits of the Adamello and Ortler mountains.

There was a wealth of flowers, some old friends and some excitingly new. Masses of globe flowers grew near the lift, and every jumble of limestone scree supported great tufts of yellow *Corydalis lutea*. We had seen the purple *Corydalis solida* often enough in the mountains, from Corsica to the Pyrenees, but had never envisaged its yellow relative as a mountain plant at all. Stretches of turf were thick with *Gentiana clusii*, some of an unusual pale turquoise. As we scrambled up the first 'hump' along the ridge, we saw white *Ranunculus alpestris* contrasting with the vivid pink of low-growing *Erica carnea*. In the shade of boulders we spotted one of the real beauties of Monte Baldo, *Callianthemum kernerianum*, the many oblong petals of palest pink clustered around a central boss of golden stamens and greenish carpels. The stalk was very short and the lobed basal leaves only beginning to unfurl. There were handsome clumps of *Pulsatilla alpina*, the reverse of the white petals washed with indigo. Some areas were given over almost entirely and surprisingly to daisies and yellow buttercups. The daisies were in fact the 'false daisy' *Bellidiastrum michelii*, larger and even more robust in all their parts than those that disgrace our lawn at home, but the buttercups, on closer inspection, were quite unlike the home product. They were *Ranunculus thora*, growing only a few inches high, with a large, waxy, kidney-shaped main leaf almost clasping the stem. The plant is extremely poisonous — its Italian name is '*Ranuncolo velenoso*' — and sap from its roots was reputedly used by the Gauls to tip their arrows. Two other near relatives, *R. scutatus* and *R. hybridus*, with strongly-toothed variations of leaf shape, turned up on other expeditions. We saw the soft blue of two forms of *Globularia*, *G. nudicaulis* in substantial clumps, and tiny shrubby *G. cordifolia* var. *nana* closely hugging the rocks. The warmth of the day brought out the delicious scent of *Daphne striata*, with its clusters of purplish flowers surrounded by a ruff of downward-pointing leaves on rather straggling stems. Many familiar alpine plants were there, including *Potentilla crantzii*, *Viola biflora* and *Draba aizoides*, but with typical perversity *Carex baldensis* and *Anemone baldensis* failed to show themselves to us on their home ground. I have a special fondness for the alpine *Clematis*, and as we were returning to the lift, having been driven back by steadily thickening mists, we found a superb display growing through a large patch of *Rhododendron hirsutum*. The colour contrast should, I suppose, have been one of nature's mistakes, but it made a striking picture with the lavender-blue flowers poised so elegantly on slender stalks above the vivid carmine of the "Alpenrose".

From our base at Mezzolago we were able to visit two passes, both with interesting flowers. A military road goes up to the Passo di Tremalzo, on to the Col di Marogna, and finally descends to Lake Garda. The flowers were abundant on both road-sides, one a grassy slope and the other a rocky scree rising to Monte Tremalzo. We saw *Scrophularia hoppei*, the alpine figwort with tiny maroon-black flowers and ferny leaves, *Aquilegia atrata*, *Horminum pyrenaicum* and one lady orchid, *Orchis purpurea*, growing in the grass, while the bright blue of both *Ajuga genevensis* and *Polygala major* — again very *major* — stood out against the pale grey of gravel patches. Very dwarf bushes of *Amelanchier ovalis* covered in white flowers grew in the scree tumbling down from the mountainside above us, as did clumps of a lovely deep purple viola new to us, *Viola dubyana*. As the road climbed to the col, the verges grew rockier and sported both colour forms of *Polygala chamaebuxus*. The bright pink and yellow form is spectacular, but tends to look rather crude when seen against the softer blended colours of the creamy variety. There was a fine display of *Primula glaucescens* on the rocks at the top of the pass, as well as the first plants of *Primula auricula* seen in this area, with its oval leaves very lightly toothed at the tip and grey with meal. We scrambled up the right-hand slope overlooking the pass through a sprawl of *Pinus mugo*, where flowers as varying in size as lovage, *Dentaria pentaphylla*, the white form of *Hepatica trifolia* and the small white and yellow flowers of *Pinguicula alpina* grew. On the grassy summit of Cime di Marogna were masses of alpine forget-me-not and the silvery-white heads of *Carex baldensis*, growing within sight of Monte Baldo, though the width of Lake Garda away. On the lower, left-hand side of the pass was a series of military trenches, now completely overgrown with vegetation, which provided a colourful display including more *Polygala chamaebuxus*, large tufts of *Globularia nudicaulis*, alpenrose and rockrose, as well as the sizeable rosettes of *Saxifraga mutata*, whose dark green, glossy leaves have a translucent edge. It was disappointing to find that our flower book showed rather meagre, narrow-petalled orange flowers — its leaves had suggested something more impressive.

The second pass, the Passo Croce Domini, is reached by a road taking off from another small, attractive lake, the Lago d'Idro. By the roadside we saw another *Dentaria*, *D. enneaphylla*, forcing its way through a patch of snow, the bronzy young leaves still half-folded around the pale yellow flower heads, and contriving to look most exotic. Apparently bare and rather uninteresting hills surround this

pass, but as so often happens, closer inspection showed flowers galore. *Gentiana verna* was sometimes brilliant blue and sometimes smoky purple; at times the two colours showed on alternate petals with very subtle effect. There were large patches of *Viola calcarata*, always violet-coloured here, *Soldanella alpina*, some *Dryas octopetala* and, confined to one hillside, a fine show of *Anemone narcissiflora*. *Daphne striata* and *Erica carnea* straggled among quantities of primulas — *Pp. spectabilis*, *glaucescens* and *halleri*, the last quite distinctive with its long, slender, dark red corolla tube. A long valley, sign-posted Lago Della Vacca, mounting to a high cirque, led off this pass road, and this gave us a most interesting extension to our excursion. The rock seemed to be predominantly limestone and the flora duly calcicole. At one point a towering white crag of very friable limestone had weathered into a cascade of particles as fine and pale as silver sand, and both *Draba aizoides* and *Soldanella alpina* were flowering profusely and apparently happily up to their necks in it. Yet only a couple of hundred yards away the mouth of the upper valley was filled with a moraine of boulders of quite a different rock, where we found *Pinguicula leptoceras* and calcifuges such as *Primula hirsuta*, *Loiseleuria procumbens*, *Soldanella pusilla* and *Lloydia serotina*, its delicate bells shivering in the wind.

The other limestone mountain which we felt that we must visit was Monte Tombea, like Monte Baldo a long, undulating range, with a military road running close under the ridge. We made two separate approaches to it, the first from the Lake Garda side by way of the village of Magasa. On our way up to the village a single roadside cliff yielded two treasures, both seen in flower for the first time. One was *Aquilegia thalictrifolia*, only nine inches or so high, with deep blue, wide-open flowers with conspicuous golden stamens and neat grey-green foliage; “rue-leaved” was indeed an accurate description. (We were rather amused to think that only a day or two before we had seen *Thalictrum aquilegifolium*, again a very apt description.) The other rarity, tucked in at the base of the cliff, was *Physoplexis comosum*, the devil’s claw rampion, quite unmistakable with its head of long, tapering flower tubes and protruding stigmas. The path above the village, which should hopefully have led us to Monte Tombea, aborted completely in the middle of a wood, but our disappointment was somewhat alleviated by the discovery of *Paederota bonarota* with its vivid speedwell-blue flower spikes growing in rock fissures, and a saxifrage with primrose-yellow flowers in deep shade under an

overhang — the latter we have so far been unable to identify and would be grateful for suggestions. A sizeable mat of pale, yellowish-green was made up of loose rosettes of overlapping leaves, the leaves as broad as long, perhaps half an inch across, with five roughly equal pointed lobes, the whitish old leaves persisting at the base. The leaves were velvety-soft and sticky, covered in extremely long white hairs — so long that the whole plant looked as though it had been spun over with spider's web. The slender, sprawling stems were again very hairy, with the stem-leaves smaller and tridentate. The flowers, borne singly but freely on fragile thread-like stems, had rounded petals reminiscent of *Saxifraga androsacea*. The dark, damp site may have exaggerated the pale colouring and the elongated stems, but even so, it does not seem to accord with any description to which I, as very much an amateur, have access.

For our second attempt on Monte Tombea we approached from Bondone, a village where charcoal is still made by primitive methods. The road up to the summer hamlet of Alpo di Bondone is rough, exposed and narrow, and beyond that another military road rises in hairpins to the ridge, which was invisible in a persistent draping of mist. Wartime relics of dug-outs and tunnels loomed eerily in the half-light, but yielded only rank growths of grass, or occasionally fragile ferns. The ridge walk itself brought a fine array of flowers. The interesting buttercup here was the white-flowered *Ranunculus bilobus*, with lightly notched petals and a rounded, scalloped leaf. Large tufts of *Linum alpinum* were a beautiful deep blue, almost rivalling the great clusters of *Gentiana clusii*. *Viola dubyana* appeared again, growing in fine gravel with a small, pale yellow lousewort, *Pedicularis tuberosa*, nearby. We found *Rhodothamnus chamaecistus*, that glamorous member of the Ericaceae; its rich pink flowers with dark-tipped stamens and long, curving style contrasting beautifully with the pale grey of the boulders on which it grew. There were two plants of *Fritillaria tubiformis* with their chequered flowers, at what must have been almost the limit of its range for altitude. *Primula auricula* was fairly common, growing on limestone cliffs and rocks. There were two distinct forms, one with fleshy, toothed leaves, and another which must have been *P. auricula albocincta*, whose smoothly rounded leaves, grey with meal, showed a distinct white edge and with flowers which had a crystalline ring of white in the throat. Both types, contrary to what I had expected, seemed to be scentless, though the cold, sunless day was perhaps partly to blame. We found cushions of more than

one type of *Kabschia saxifrage*, none as yet in flower, and were denied the pleasure of a photograph of *Saxifraga tombeanensis* growing on Monte Tombea.

Of course, there were some disappointments — no *Cyclamen*, no paeonies, no *Geranium argenteum*, no *Daphne petraea* came our way — but we saw a great many fascinating plants, and had a splendid time finding them, thanks to the lead from Dr. Bacon. We shall quite simply have to go back!

Dealing with the Enemies

by DON STEAD

THIS IS not an article for the young and vigorous, rather for those of you who are getting grey in the beard, long in the tooth, bald on the 'heid', or however you like to describe yourselves. It is for those who, having retired, begin to wonder where they are going to find the *Time* to do all the things they planned to do, grow all the desirable plants they hoped to grow, win all the Forrest Medals they hoped to pin up in a place of honour, make all the raised beds they hoped to construct against the possibility of later difficulty in back-bending, and get all those confounded *Weeds* under control. Yes, those are the enemies — *Time* and *Weeds*.

The one fatal thing to do is to fill all your hours. That way *Time* just vanishes and wins. A man called Davies had the right idea:

“What is this life”, he said, “if, full of care,
we have no time to stand and stare”.

Lines worth pondering over and reflecting on.

We have, of course to concentrate on *this* life. There could well be others but there's no certainty about the employment position for rock gardeners in the Elysian Fields. Information is rather hard to come by, but there is some evidence that the Head Gardener is a Lily man. He is also reputed to like to see a lot of harps being played and, whilst that might be fine for some, it's not so good for those who think that C Flat has something to do with the third floor of the tenement block along the road. On the other hand, information about the alternative place seems pretty definite. So arid, by all accounts, that even *Calochortus kennedyi* would have no more chance than the proverbial cat.

Of course, one mustn't take the *Stand of Stand and stare* too literally. It's there for alliteration and euphony only and from what I can gather

W. H. Davies didn't particularly favour the vertical position. No, to lie in a deck chair on the lawn and either gaze with satisfaction on the sward just cut or shut your eyes and forget that it's waiting to be cut both qualify as Standing. And if you slip into 40 pleasant winks I'm sure that could be classed as Staring.

One has to face the fact that the weeds *have* to be coped with, but don't allow them to fill you with care. Get what pleasure you can out of an operation which you know you have to do rather more than once. In all walks of life it pays to know one's enemies and understand their *modus operandi* so that one's attack is delivered in the most effective way. One can sometimes appreciate them as plants — with an effort! One must equally be masterly in one's choice of weapons and know the weeds that laugh at a hoe, such as docks, those like dandelions which have a 90% chance of surviving even the skilful use of a fern trowel and those like Bishop's Weed which, particularly in heavy soil, are not much incommoded by any mechanical attack, but which are susceptible to chemical weapons.

We do not decry the kneeling pad and hand fork approach to weeding. It is the way to get a closely planted area immaculate with all the opportunities to see that the *Geranium napuligerum* has managed to produce some rare and welcome progeny, that the MCW *Veronica* does not really think, after due consideration, that the west of Scotland climate is worth living in and that the *Adonis pyrenaica* which you were sure was dead is, after all, about to push a fat bud through the soil. All these observations, pleasant or otherwise, offset the tedium of the job. But during that time-consuming operation, probably spread by weather and other considerations over a period of weeks, maybe a whole generation of poppers (*Cardamine hirsuta* to you) has had time to ripen seeds and scatter them far and wide, Creeping Buttercup (*Ranunculus repens*) has slipped some runners unobtrusively and almost undetectably into the strawberry patch and Rosebay Willowherb (*Epilobium angustifolium*) has snaked its underground shoots into a place of safety at the base of the *Rosa moyesii*.

So we recommend supplementing mechanical means with some of the armoury of chemical weapons. Some folk use the word "chemical" in a most unreasonably pejorative sense and *claim* they will have nothing to do with anything emanating from a chemical factory. I don't often hear them saying, though, "None of those nasty chemical nylons for me — what have you in hand-spun wool or cotton?" Nor, when wheeled into the operating theatre do they murmur to the

anaesthetist “Half a bottle of brandy and a straight right to the jaw would suit me better, Doctor”. But we digress — let us assume that we are sensible people who read the labels on the bottles of weedkiller, use the contents accordingly and benefit from the years of investigation which have gone into their formulation.

There are various kinds of weedkillers:

1. Those which kill all plant material.
2. Those which destroy all green leaves and stems.
3. Those which inhibit germination.
4. Those which selectively kill some genera, leaving others unharmed.

All have their uses in varying circumstances. Sodium chlorate belongs to Class 1 and can be used totally to sterilise an area. The effect lasts a long time — several months — and sodium chlorate should not be used where rain-leaching could affect downhill areas where there is no weed problem. One could use instead Glyphosate (Roundup, Tumbleweed), a relatively new weapon, deactivated by the soil, very effective with problems like Dandelion, Bishop’s Weed, Welsh Poppy, Rosebay Willowherb, Celandine and many others. It is costly (none is cheap) and is worth keeping for your pet problems. If made up in a pint sprayer and carefully directed it is a most useful weapon.

A Class 2 weedkiller is Paraquat/Diquat (Gramoxone, Weedol). This interferes with photosynthesis and destroys all above-soil plant material, but anything like a Dock or a Dandelion, with a substantial root storage system, comes again, and grass needs a very good and thorough soaking. Good for most annual weeds and perennials like Daisy, Creeping Buttercup and Broad-leaved Willowherb.

One of the best known Class 3 weedkillers is Simazine (Weedex, Pathclear) which is marvellous for paths and saves a lot of work.

Class 4 weedkillers are mainly for lawns. There are a number of active ingredients, made up into various formulations to deal with different spectrums of weeds. Read the fine print before and after purchase and do *not* apply in a strong wind.

Use with care whatever meets your needs and use the hours saved in your favourite Standing and Staring!

One thing to be avoided like the plague is being ‘scunnered’ by a weed (a lovely Scots word, that). If you are, then peace of mind is destroyed. Nor must one assume that everyone is afflicted with one’s own pet — I was about to say ‘hate’ but what I mean is ‘alien species’, because weed populations vary widely. When visiting the late General

Murray-Lyon's garden he inveighed against Sourocks (*Rumex acetosella*). I ventured to say that we didn't have any Sourocks in our garden. "Nonsense!" he exploded, "Everyone has Sourocks". It was clear that I should be put on a charge if any more were said on the subject.

The one weed which does seem to be everywhere in the U.K. is Hairy Bitter Cress, *Cardamine hirsuta* ("poppers" and a lot more unofficial names), a most variable plant which grows all the year round and can produce an exploding pod of seeds from a rosette of leaves half the size of a pinkie nail. All nurserymen seem to include it as a bonus with their deliveries and it is no respecter of that great garden where so many of us go periodically to bow down and worship. Poppers are killed by Paraquat, but if one leaves spraying a bit too late the plant uses the minimal shock of a death-dealing spray to trigger its explosion of seeds. When that happens sit back and admire the wonderful urge to procreate displayed by the humble *Cardamine hirsuta*. If you can do that you are certainly not 'scunnered' by it. Also, if it is the slightest interest, "you're a better man than I am, Gunga Din".

I could go on about other weeds — for example, Creeping Yellow Cress, *Rorippa sylvestris*, allegedly rare in the north and certainly introduced to us in a plant delivery from the south. Its thread-like white roots think nothing of creeping under a yard of well-bottomed stone path and throwing up new plants. It revels in being "dug up" and has defied me for more than 10 years, but I am hoping that Glyphosate is the answer. Another challenging exercise in weed killing is the elimination of Dog Daisy, *Leucanthemum vulgare*, from rough grass; Japanese Knotweed, *Polygonum cuspidatum*, is a doughty opponent against which one can enjoy a long-drawn-out fight with no holds barred.

I trust that with my title I didn't raise any hopes of ultimate success against either enemy. "Dealing" was used not in the colloquial sense of "demolishing" but in the dictionary sense of "having relations with". One cannot really do much better than the near octogenarian member who enjoyed himself sowing seeds of *Rhododendron barbatum*. How better can one cock a snook at *Time*?

But in my mind's eye I see the Editor with his blue pencil poised and if he uses it then this very pleasant *Stare* will have been a waste of *Time*. I must end with a dreadful but heartfelt paraphrase of Burns' perceptive words: O wad some Pow'r the giftie gie us

To do oursels as we tell others.

Prague Show 1981

by JAROSLAV KLIMA

ABOUT thirty members devoted three thousand hours of preparation and construction to set up the rock garden and show in the garden of St. John Nepomuchy Church and 66 members lent 1955 plants to complete the planted display. The Show took place from 21st May to 6th June and was attended by over 20,000 visitors.

The weather however was not kind to us, for during the weeks before the Show frosty days were dispersed through hot spells of weather with rainy days intermixed throughout. It did not help the growers to show plants at their best, although even the most exacting visitors were well satisfied.

There was a plant sale in conjunction with the Show and people had to queue for periods up to two hours to purchase plants, such was the interest in our venture. There were many plants for sale and a few of the exhibits were also offered.

The collection of ferns shown by Dr Siebert was of a high quality. He brought along 106 ferns of which the best was the American sun lover *Cheilanthes fendleri* with pretty grey-green leaves about 15 cm in height. Others which particularly attracted the attention were *Athyrium felix-femina* 'Bornholmiense', *Polystichum setiferum* 'Acutilobum' and *Adiantum pedatum* 'Aleuticum' which is only 6 cm high. *Phyllitis scolopendrium* 'Undulatum', shown by Mrs Guthova, was one of the largest ferns on show. *Cypripedium calceolus* with ten slippers and the pretty large-flowered *C. reginae* shown by Mr Sussmilch gave a charm to the fern display.

True alpine were well represented. *Dianthus alpinus* x *callizonus* 'Jan' shown by Mr Stibic was particularly attractive, for it was a tight bun covered in 12 large flowers, 4 cm in diameter. It has the green leaves of *D. alpinus* and the dark rose flowers have a light spotty band on the reflex of the petal. Also of interest was *Dianthus neglectus* 'Amis'. This collection was completed by *Geranium argenteum* and *Leontopodium alpinum niveum*, which is a very desirable plant. *Edraianthus serpyllifolius* 'Albus' together with the type plant bearing dark violet bells belonging to Mr Hejeman were highly prized. He also exhibited for the first time the Greek *Daphne jasminea* in full flower. Much admired were the compact *Delosperma undulata* and a large

plant of the white-flowered *Oxalis enneaphylla* from the Falkland Islands and shown by Mrs Strastkova.

Miniature conifers were represented by the Conifer Nursery Zehusice and by Mr Pesek and Mr Krca. Particularly prominent were *Taxus baccata* 'Amersfort', *Picea glauca* 'Laurin' and *Picea glauca* 'Globe'.

A small trough densely planted with *Physoplexia comosa* (syn. *Phyteuma comosum*) gave a wonderful display showing how the correct setting is important for difficult plants. This was created by Dr Horny.

Our best grower of Engleria saxifrages and our chairman Mr Holenka showed the red-flowered *Incarvillea brevipes*. The height of this plant did not reach 20 cm and the large flowers were 5 cm in diameter. My experience is that this species can bloom itself to death. Once one of my specimens had about 40 flowers and it killed it. His other outstanding plants were *Dicentra peregrina* — a silver gem for screens; and the grey-leaved *Celmisia allanii*. The *Celmisia* was well supplemented by *Aciphylla aurea* shown by Mrs Sladkova.

Four growers showed *Lewisia rediviva* in various colour forms. It seems there are no difficulties in growing this species here if we grow it in pots. Several new American alpines were displayed. These included *Penstemon x teucroides* resembling a small *P. pinifolius* with short blue flowers and *Aquilegia scopulorum* ssp. *perplexans*: with violet-rose flowers and yellow stamens protruding perpendicularly to the sky. This Utah plant varies much in the wild and each grower has a chance to select an interesting colour form. The third plant to attract attention was a flowering *Campanula piperi*. I had not seen it in bloom before even though I had once had about 150 seedlings in my garden. The specimen shown was one of them, unfortunately it was not mine. Now my supply has shrunk to three rather unhealthy plants. The collection was shown by Mr Zeman.

Mr Zvolanek showed a pretty hybrid *Saponaria pumilio* x *S. ocyroides* 'Rubra Compacta', which is an adpressed dwarf with dark rose flowers for cooler positions. It must be protected against slugs. I think this cultivar was originally selected by the well-known Austrian grower Mr Kummert.

Finally, I remember our trip for five seeds of *Dianthus callizonus* in 1979. In 1981 we could see a British cultivar of *Dianthus callizonus* which had no greyish leaves. The cultivar had a green-leaved compact plant, which is not typical. The flowers however were typical by the light colouring at the base of dark red broad petals. Type plants of *D. callizonus* were shown by many growers of which the best, dark rose-flowered form came from Mr Holubec.

I cannot mention all the wonderful exhibits and their growers. Not all plants I mention here were awarded prizes by the jury. This therefore is only my point of view. We could see for example 30 new cultivars of *Sempervivum* grown by Mr Cmiral and his new cultivar *S.* 'Red Riding Hood'. But if I described all the wonderful plants at the Show in detail I should devote a special prize to the readers. So let me say that without the exhibits of all 66 exhibitors our Show would not have been as successful as it was.

Obituaries

Mr. DAVID J. DONALD

Members will be very sad to learn of the death, in December, of David Donald. Although a comparatively new member, having joined the Club in 1975, he soon became a keen supporter of the Perth Group and took over the office of Subscription Secretary of the Club when that demanding office became vacant in 1978.

David's enthusiasm and efficiency made an immediate impact on those who worked with him and were soon acknowledged by the membership as a whole. Sadly his term of office was of short duration and the General Meeting of November 1980 learned with great regret of his resignation due to failing health.

Even during his illness in the winter of 1980/81 David gave continued and unstinting support to his successor and others in office.

The Club has been fortunate in the devotion of its officers over the years and David's contribution, particularly his tolerance and kindness, was of the highest order.

Our deepest sympathy is extended to his wife Sandra, who did so much to help the Club during David's term, and his son Sandy.

L.N.B.

Mrs. GEORGIE LEWIS

Mrs. Georgie Lewis, a member of the Kirkcudbrightshire branch, died on 2nd January 1982.

Mrs. Lewis joined the Club when it was re-formed after the Second World War and was probably one of its earliest members. In 1953 she presented to the Kirkcudbrightshire Group a Silver Challenge Cup

for beginners, for annual competition. This undoubtedly encouraged new members to take greater interest in the growing and presentation of plants, and hopefully proved of some benefit to the Club as a whole.

A regular exhibitor at the Dumfries Show, she gained the Forrest Medal among her other successes.

ESTHER KING

Mr. DAVID ELDER

IT IS with much regret that I record the death of David Elder, one of the most senior Vice-Presidents of the S.R.G.C. Many of us will recall with warm appreciation the splendid service he rendered to the Club as Honorary Treasurer during the 1960s. Lest it be thought that the Treasurer is a mere recorder of income and expenditure, let me say that, above all, he is the Club's financial adviser and that, therefore, his advice is very important in the successful management of the Club's affairs. David Elder discharged this function with distinction.

David Elder was appointed by the Council of the Club as one of its representatives on the Steering Committee for the 4th International Rock Garden Plant Conference held in Harrogate in April 1971. In turn he was elected by that Committee to act as Treasurer for the Conference, a difficult and, at times, daunting task which he, nevertheless, fulfilled with great credit.

His valuable services to the Club over many years were recognised in 1970 when he was appointed Vice-President for life. David Elder has now gone from our midst, but those who knew him or worked with him in Council will long remember this kindly man who gave so freely of his time and knowledge to the Club.

DAVID LIVINGSTONE

Book Reviews

Collectors' Alpines by Royton Heath. Illustrated in colour and monochrome. 543 pp. 1981. Country Life and Collingridge. £20.

It is not often that one has the opportunity of reviewing an established classic on alpine plants as though it were a new publication. Actually the reprinting of *Collectors' Alpines* has no doubt been influenced by the demand for this book in the second-hand market. This in itself assured the publishers' success.

This truly major work on the cultivation of plants in frames and alpine houses is as comprehensive in its coverage of the subject as any yet in print. It concentrates purely on the growing of plants in pots and with this in mind a large part of the early text deals exclusively with the structures needed to provide for their protection and shelter. It also highlights the various ancillary equipment required. It discusses soil mixtures, always an interesting subject for gardeners, their uses in seed sowing and vegetative propagation. It deals with the day to day maintenance of a large collection of plants in an artificial environment — quite different to that of growing plants in the open garden. It brings proper attention to the control of pests and diseases and gives prominence to the hygiene necessary for keeping plants free from troubles.

Quite apart from all that, however, there is a facet of alpine house culture which never fails to attract the attention of the rock gardener and that is the exhibiting of plants in pots at Shows. This chapter should help not only beginners who wish to know how to start on the road to showing, but also many more knowledgeable plantsmen who just fail to attract the higher awards with their plants. Royton Heath, with a long list of cultural awards to his credit, can speak with real authority on the subject.

Although first published in 1964, this work is in no way obsolescent. In fact there is additional information given at the end of the book which helps bring the text up to date. One quite useful appendix gives a list of synonyms where they affect the plants mentioned, but it must be realised that plant nomenclature is ever changing.

When this new edition is compared with the original, the first thing which strikes one is the fact that many of the illustrations are now in colour. This lifts the book by making it brighter. In most instances the photographs are well worthy of inclusion, but there are just one or two which might have been better omitted.

Collectors' Alpines will be an asset to the cultivator of rare and unusual plants long after other books have been superseded.

ALFRED EVANS

The Bulb Book by Martyn Rix and Roger Phillips. 11½ ins. × 8½ ins. soft-back. 192 pp. 1981. Pan Books, Ltd. £6.95.

Colour throughout the year is desirable in the garden and here we have a book which presents the reader with a galaxy of over 800 hardy bulbs, corms, tubers and rhizomes. They are arranged in sequence of flowering from spring through to winter. This pictorial guide contains over 350 colour photographs.

Although botanical accuracy is assured through the eye of the camera, it is disappointing to note that in some of the studio photographs, where the plants are laid out as herbarium sheets, the finer details of the flowers are indistinct. Furthermore, it is sometimes difficult to appreciate the normal size of the plant, even with the help of knowing the degree of reduction. The dates on which the photographs were taken are given, to aid identification and to help in planning displays. Pictures of bulbs flowering in the wild clearly portray their natural habitat, while those photographed in cultivation show how material collected from central

Asia, Turkey & Greece, North America, Chile, the Caucasus and Mediterranean regions, for example, can adapt to the different climatic conditions of Great Britain and, through careful cultivation, be encouraged to bloom.

The introduction gives an insight into the geographical locations and climate of the areas where bulbous plants are found. Short articles on Conservation and Collecting, Cultivation, Propagation, Pests and Diseases and a Glossary precede the main text. In general the descriptions accompanying the photographs follow a similar pattern, the information being brief yet informative, giving the name of plant, authority, its plant family, distribution and habitat, flowering period, distinctive features, sparse notes on cultivation and, when possible, the name of the collector and his field number.

All the bulbous plants in the book "are hardy enough to survive the cold of winter outdoors in North West Europe" states Martyn Rix, but protection from winter damp is necessary in some instances. Popular cultivars of tulips, daffodils, hyacinths and crocuses are well represented, but it is of particular interest to note the inclusion of some less well-known, new or challenging species. These include *Cyclamen rohlfsianum*, *Tecophilaea cyanocrocus*, *Fritillaria liliacea*, *F. amabilis* (over 120 fritillaries are recorded), *Iris cycloglossa*, *Colchicum corsicum*, *Crocus hartmannianus*, *Trillium tschonoskii*, *Calochortus kennedyi* and *Sternbergia candida*, a plant discovered as recently as 1976.

There are a few unfortunate errors in references to page and plate numbers in the text which may take the reader on a wild goose chase. The search can be quickly completed, however, by making use of the index. The guide concludes with the names and addresses of specialist societies, suppliers of bulbs and other nurseries to help the reader to trace a source of supply, and finally a selected bibliography is given to encourage a wider investigation of bulbs.

JILL SLEIGH

Rhododendrons and Azaleas by Mervyn Kessell. Blandford Press, 1981. 176 pp. £8.95.

In the past thirty years many books have been written about rhododendrons and justifiably so. As one of the largest and most worthy of woody genera, it contains many plants which should be more widely grown, rather than being regarded as specialist plants and maintained in collections, as is so often the case.

Mr Kessell's book should appeal to rhododendron growers at all levels. The absolute beginner will find concise instructions on selection, purchase, planting and cultivation, while for more established growers there is up to the minute information on classification, pest and disease control, and propagation, all subjects which require regular up-dating.

In the sixty pages of appendices the author covers a variety of subjects and has compiled many useful lists, ranging from the selection, use and association of rhododendrons in the garden to a world-wide list of rhododendron gardens open to the public and a comprehensive list of nurseries dealing in this genus.

The book is well researched and written by someone who obviously knows his subject widely at practical level, something which is too often lacking in many of the gardening books published today. It contains thirty pages of colour illustrations which on the whole are excellent, although *Rh. x praecox* has come out on the red side of pink. There are also many useful black and white pictures and line drawings.

I feel that this book will fill a need in the current literature on the subject and be well received, particularly by those who are just 'getting in' to rhododendrons.

W. R. HEAN

The Wisley Book of Gardening. Ed. Robert Pearson. Royal Horticultural Society in association with Collingridge Books. 1981. ISBN 0 600 36778 9. £15.

The dust cover states that the objective of the book is to gather together expert knowledge into one volume, to broaden horizons, and to entertain and inform. This it certainly does. An impressive team of 35 horticulturists have contributed to make this a most valuable reference book. Some of the writers are members of Wisley garden, while others are distinguished growers of national reputation.

The book is divided into six main groupings. The first, Planning and Planting, covers garden design, showing possible layout plans to lawn preparation and maintenance and with notes of trees, shrubs, wall plants, hedging and screening plants. Herbaceous plants, bulbs, annuals and ground cover plants are also included.

The Plants for Special Purposes covers the area of specialist knowledge and here alpine form the main theme, although plants for shade and for pools are also featured.

There is a section for the enthusiast's plants such as roses, dahlias, rhododendrons, lilies, etc., and these are covered sufficiently to whet the appetite of the beginner who wishes to have a sound basis on which to build his knowledge and expertise.

The kitchen garden and protected cultivation are given their rightful place in a book of this kind and it concludes with a section on practical gardening dealing with the basics of soil and manures; of plant propagation and pruning; and pest disease and weed control.

The book has a foreword by Lord Aberconway and there is a most valuable contribution by Chris Brickell, the Director of Wisley Garden, on "Nomenclature and the Gardener". This is a subject which perplexes most gardeners and Chris Brickell clearly and simply explains the rules and regulations governing plant naming.

I found this an interesting book, beautifully presented and with plenty of line drawings and colour illustrations to allow easy identification of the plants.

It has achieved considerable success in breathing some fresh air into gardening literature by using experts in their own field to write about the subjects dear to themselves and therefore has thrown the shackles off repetitive clichés which abound in horticultural literature.

I consider this book to be a most valuable reference volume for the general gardener's bookshelf. It will certainly inspire the beginner and provides a wealth of information. It will also encourage the specialist growers to look at other groups of plants as well.

The Royal Horticultural Society and Collingridge should be well satisfied with this dual partnership and I look forward to seeing many more publications of this standard.

R. J. MITCHELL

Evergreens by H. Peter Loewer. 131 pp. Walker, New York. \$14.95.

The incursion of deer into the garden can be made less likely, so the author suggests, by the application of human urine along the perimeter — but only the urine of meat eaters is effective, vegetarian urine is not effective! Well, there you are. As my grannie used to say, we are learning all the time!

This book is illustrated in black and white drawings by the author and the illustrations are good, clear and to the point. It is an American book and the nurseries he lists, and which I regard as a useful idea in such a book, are all North American. However, this Club is among those he lists as useful to join for those interested in the subject.

The subject I found difficult to be clear about. He embraces the small conifers, and I write small because he does not confine himself to what we would call dwarf conifers suitable for the rock garden. From the conifers

he goes on to deal with other evergreens, and it is difficult to understand his standard of selection for these. His rhododendrons are what we would style the large hybrids like 'Pink Pearl'. He lists holly and *Kalmia*, brooms and heaths, *Shortia* and *Vinca*. I could not fathom the criterion of selection. Why in, why out?

The preliminary chapters contain much sound elementary material. There are good instructions on the construction of hypertufa troughs and raised beds. But certainly I would not commend all the practices advocated to British conditions. The chapter on small conifers is good and informative.

The advent of this book in the shops should not seriously challenge the national savings movement.

J. T. AITKEN

Book Notes

by DON STEAD

Bulbs. The Bulbous Plants of Europe and Their Allies. C. Grey-Wilson & B. Mathew. Illustrations by M. Blamey. Collins. 285 pp., 48 colour plates, illustrating over 400 plants, many black and white drawings, keys. Hardback, 9½ ins. × 6½ ins. £9.95. Well arranged and good cross-referencing between text and illustrations. Names based on *Flora Europaea*, Vol. 5.

The Iris. B. Mathew. Batsford. 202 pp., 38 colour photographs, 32 black and white photographs, 16 line drawings. £17.50. A scholarly but very practical and well set out book from a botanist who is also a skilled iris cultivator. Not cheap, but the Hon. Publications Manager can help.

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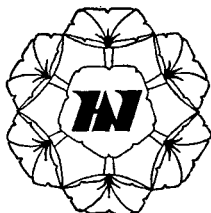
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Starting from Bucharest the itinerary of this holiday provides ample scope to explore the foothills of the Eastern Carpathians as well as the lovely countryside of Moldavia with its superb monasteries and churches whose painted exteriors are probably unique in the world. The tour ends with a short cruise on the Danube Delta, ideal for bird-watching, photography and observing the way of life in this remote area. 19 Days: £645

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FURTHER AFIELD

CAPE FLOWERS IN SPRING — 11 September to 2 October

South Africa's Cape Province is renowned as being one of the world's richest areas for wild flowers which, in September, are unequalled in colour, variety and profusion. This tour, purposely confined to within roughly 100 miles of Cape Town, has been designed for the enjoyment of the specialist gardener and horticulturalist and for the photographer and country-lover alike and is one we have been operating over many years. 22 Days: £1499

THESE and many other holidays, including a Pony-trek in Kashmir; a walk from Simla to Kulu in the Western Himalayas; Southern India with a few days in the Nilgiri Hills at Ootacamund; and Kashmir with far Ladakh (or with Nepal) are escorted by experts. For full details, apply to

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