

THE ROCK GARDEN 137



July 2016

Postal Subscriptions from 1st October, 2015

Postal subscriptions are payable annually by October and provide membership of the SRGC until 30th September of the following year.

Subscription Rates	UK	Overseas
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Family (Two adults and up to two children under 18 on 1 st Oct)	£21	£25

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No card details whatsoever are retained by the Club after the transaction, whether sent by post or through the web site.

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Email: subsec@srgc.org.uk

Electronic subscriptions

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The Editor welcomes articles, photographs and illustrations on any aspects of alpine and rock garden plants and their cultivation. Authors are encouraged to submit material electronically but articles may also be submitted in manuscript. Digital images are particularly welcome; high quality prints or drawings may also be submitted.

The normal deadlines for contributions are 1st November for the January issue and 1st April for the July issue. These dates also apply for material for the Yearbook and Show Schedules.

Journals usually arrive in February and August. Please contact the Subscriptions Secretary in case of non-arrival (see inside front cover).

Enquiries about advertising should be made to:

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Contact may also be made through the club website: www.srgc.net

The SRGC Snowdrop Day 2017

Ian Christie

We have set the date of Sunday 26th February 2017 for our club's Snowdrop Day. Thirty members (only) are invited to meet at Westmuir hall at 10 o'clock in the morning for a programme that will include a presentation by Matt Bishop, a visit to Brechin Castle to see special snowdrops, lunch at the Castle's garden centre (under £10, or bring your own lunch). We will then travel on to Maulsden to view the special colony of *Galanthus plicatus* and take a walk around a million or more *Galanthus nivalis*. The cost per member is around £15 and we will provide coffee and tea at the hall. For any further details please contact ianchristie@btconnect.com



Discussion Weekend 2016

After three years of superb Highland hospitality in Grantown-on-Spey, we now venture south to Peeblesshire to the delights of the Scottish Borders. This area of outstanding beauty and rich history offers ruined castles, sweeping valleys, magnificent forests and wonderful things to see and do. The organizing team invites you to the modern Cardrona Hotel, sitting by the River Tweed, midway between historic Peebles and Innerleithen. With views of the Border hills, this 4-star hotel offers spacious and comfortable accommodation, an award-winning restaurant, an 18 hole golf course and a spa. Even dogs are welcome.

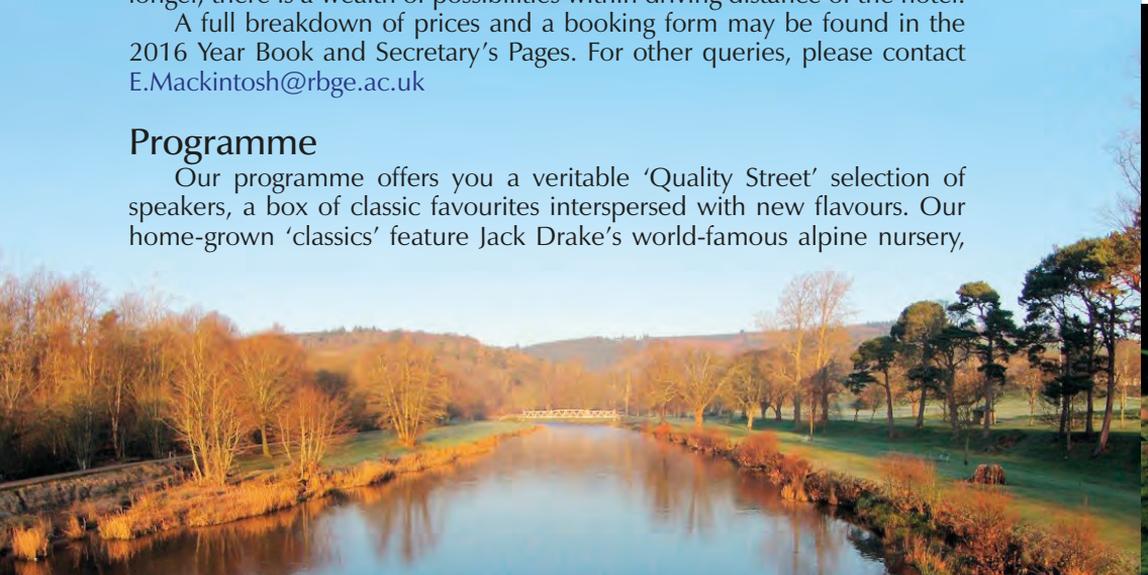
Peebles and the Borders are easy to reach, with major routes touching the boundaries of the region. Peebles is about thirty minutes by car from Edinburgh and an hour from Glasgow, Newcastle and Carlisle. Airports at Edinburgh, Glasgow and Newcastle are within easy distance. There is a twice-hourly bus service between Peebles and Edinburgh.

Saturday morning offers you free time at the hotel or further afield. Peebles is a Royal Burgh and a picturesque market town of unspoilt character. Stroll through its mediaeval alleyways or follow its walkways along the beautiful River Tweed. The traditional High Street boasts fine independent shops and a good selection of top quality eateries. A guided visit to the Royal Botanic Garden's satellite at Dawyck promises magnificent trees and autumn colour in mid-October. Traquair House, one of the oldest and most romantic in Scotland, is only seven miles away and is well worth a visit; it houses a privately run brewery. Staying with the historic theme, Neidpath Castle, dating from 1370, lies on a bend on the river Tweed and is a pleasant walk one mile out of Peebles. Both Peebles and Innerleithen are within easy walking distance along the river from the hotel and the latter also provides a wide range of attractions. For those who wish to stay longer, there is a wealth of possibilities within driving distance of the hotel.

A full breakdown of prices and a booking form may be found in the 2016 Year Book and Secretary's Pages. For other queries, please contact E.Mackintosh@rbge.ac.uk

Programme

Our programme offers you a veritable 'Quality Street' selection of speakers, a box of classic favourites interspersed with new flavours. Our home-grown 'classics' feature Jack Drake's world-famous alpine nursery,



bulbs and plants at home and away, and two genus-specific lectures on the cultivation of fritillaries and hellebores. Scotland's native plants are not neglected and three new 'flavours' are also introduced: growing alpines in the Bavarian Schachen, gardening on rock (USA) and exploring Sikkim. The only question is *'Who is the big purple one?'*

Friday 14th October

- Bob Wallis, Wales: The Jim Archibald Bulb Lecture: *'Fritillaries in the Wild and in Cultivation'*
- Small Bulb Exchange

Saturday 15th October

Morning

- Optional activities
- Plant show
- Plant sales

Afternoon

- Jim Jermyn, Scotland: The John Duff Lecture: *'Inshriach Nursery'*
- Jenny Wainwright-Klein, Germany: *'The Alpine Garden on the Schachen'*
- Anne Spiegel, USA: *'Gardening on Rock'*

Evening - Drinks reception, dinner and plant auction

Sunday 16th October

- Rannveig Wallis, Wales: *'A Plantaholic, Home and Away'*
- John Massey, England: The William Buchanan Lecture: *'The World of Hellebores'*
- Heather McHaffie, Scotland: *'Growing Scottish Native Plants at the Royal Botanic Garden, Edinburgh'*
- Margaret Thorne, Scotland: The Harold Esslemont Lecture: *'Sikkim: The Long Route To Kanchenjunga'*



SRGC? ... or ^S ^R ^G ^C ?

Will you help keep the club together?

Our club secretary, Carol Shaw, is retiring this year after more than ten years in the service of us all. Would you like to take her place so as to be at the social centre of things and enjoy the company of our lively and friendly club council?

The basic duties of this vital role are to arrange and prepare for council and committee meetings and the annual general meeting, to collate the yearbook and show schedules, to keep track of various regular calendar items such as the Exploration Fund grant applications and some other things like the awards and trophies. There is a modest non-contractual honorarium and expenses are paid.

Competent administration is essential for the continued operation of the club, and requires nothing more than a tidy mind, some familiarity with the club's annual cycle of activities, and a real wish to see the club thrive ... just like most members!

So, if you are interested in helping the club and enjoying a new social life in the process, please contact Carol (findhorncarol@icloud.com) for an informal chat about the secretary's job and a more detailed account of the calendar of activities.

Our club needs a new secretary - apply now!

Modernising communications with members

The club needs the ability to communicate with members in the most cost effective and efficient ways possible. To this end we would like your permission to collect and store your email address(es). In the enclosed Secretary's Pages booklet there is more information about what we are doing and why. Please take time to read it and, if you have an email address, consider letting us have permission to begin using it to get in touch with you from time to time over club business aside from renewals, seed exchange and suchlike. This will not mean a deluge of emails, just the occasional one, and please rest assured the information will be as secure as your membership details are. And you can, of course, change your mind about receiving such emails at any time. Thank you.

Christine Boulby, Subscription Secretary

A Peek behind the Scenes

David Rankin

What does your council get up to between one annual general meeting and the next? Members are a lively lot with ideas and opinions and meetings are anything but dull. There is a lot going on, and so this article brings some news of highlights.

Five new working groups have been formed, and much of the club's work has been devolved to them. These groups can bring in more club members, not on council, who add their skills and ideas. The five groups this year cover: (1) educational meetings, including local groups and conferences; (2) other members' activities such as shows, the seed exchange and the library; (3) publicity and publications; (4) on-line activities including the website, the forum and social media; and (5) administration (everything else!) At a council meeting we debated all sorts of ideas, good and bad, and these groups are working out how to implement the good ones. Here are a few of the many things that they are doing.

Local Groups When many groups are smaller than they were, how might we relate to other groups in Scotland or elsewhere? The club recently received a substantial legacy from David Boyd. We have decided to use this as an opportunity to reach out to people in areas where at present there isn't a local SRGC group. There will be 'David Boyd events', where possible with involvement of local horticultural societies, with some talks, practical activities and plenty of socialising time. There might be one or two each year, with the first one, the 'Early Summer Event', planned for Grantown-on-Spey in 2017. The events may be for one day, perhaps with an optional second day of practical or outdoor activities. There are sufficient funds to run these events for quite a few years.

The educational meetings working group is developing the plans. If you would like to help, or suggest places where such events could be held, please contact Anne Bush (bush509@btinternet.com).

Seed Exchange We want to incorporate 'best practice' into all areas of the exchange. We aim to improve the experience of ordering seed on-line, and we hope to have all seed packets labelled with the plant name. We will also ensure that we have a positive and constructive policy for dealing with wild-collected seed, including complying with new legal restrictions (the Nagoya protocol), and we are liaising with other horticultural societies.

Library This has been run for a year by Julia Corden, who took it from Boyd Barr to prevent it from being lost, and it has now passed to Sheila McNulty. We are investigating ways of making the books more readily accessible to members, perhaps with an on-line catalogue and ordering

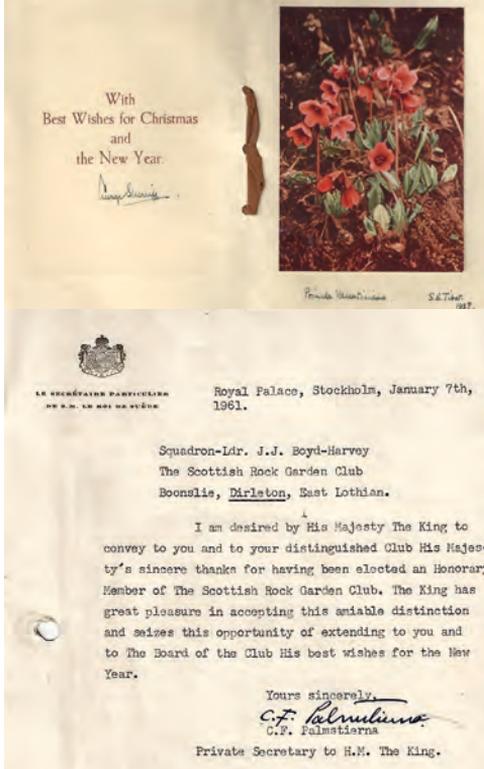
system. There is a budget for new books, so the library is a great and up-to-date resource for all our members to use.

Archive There are all sorts of historical records: papers from the creation of the club; minutes of council and other meetings; journals, seed lists, show schedules; notebooks with handwritten lists of what seeds were ordered; and a box of fascinating correspondence. That box has passed from president to president, and other documents have been collected and stored by other people, particularly Jean Wyllie. A quick peek into the correspondence box revealed a Christmas card from George Sherriff with his photo of *Primula valentiniana*, and a letter from the King of Sweden, who, as a regular participant in the seed exchange, had been offered honorary membership.

Council has agreed that the entire archive should in due course be taken over by the library of the Royal Botanic Garden Edinburgh, with open access to all members of the SRGC and other researchers. Its long-term preservation is assured and a resource that has been hidden away will be open to us all. When it is catalogued, that information will be available on-line. The archived material will eventually include all council minutes, past and future. At present these are available to members on demand from the club secretary.

The International Rock Garden Conference takes place every ten years and comes to Scotland once in twenty years. Preparations for 2021 are well advanced under the leadership of Sandy Leven. So put 'Rock Garden Plants in a Changing World', Perth, May 8th to 11th 2021 into your diary now and be ready to welcome our visitors from all over the world.

Plant Labels and Journals For years Glassford Sprunt has brought plant labels to shows. A mundane job? Certainly a welcome and much appreciated one, for Glassford has sold about a million labels! We have arranged for sales at shows to continue, probably at club plant sales stalls. On the other hand, Glassford's sales of old journals are now almost nil. If you want any, please act soon and contact the secretary. The journals are all available on the club website, and surplus paper copies will be recycled.



And Finally Have you noticed how many names of people appear in this article? Thank you to them all and to the scores not mentioned. Our club flourishes because so many folk contribute. So don't forget that nominations for council members this year can be made until October 12th. But don't leave it until then. Would you like to help? Don't be embarrassed to offer yourself ... or to nominate other people – but do please ask them first.

Another Peak behind the Scenes - *Cima della Madonna*, as depicted by the much-loved late SRGC artist Duncan Lowe





Platystemma violoides



Codonopsis purpurea



Silene helleboriflora



Spathoglottis ixioides

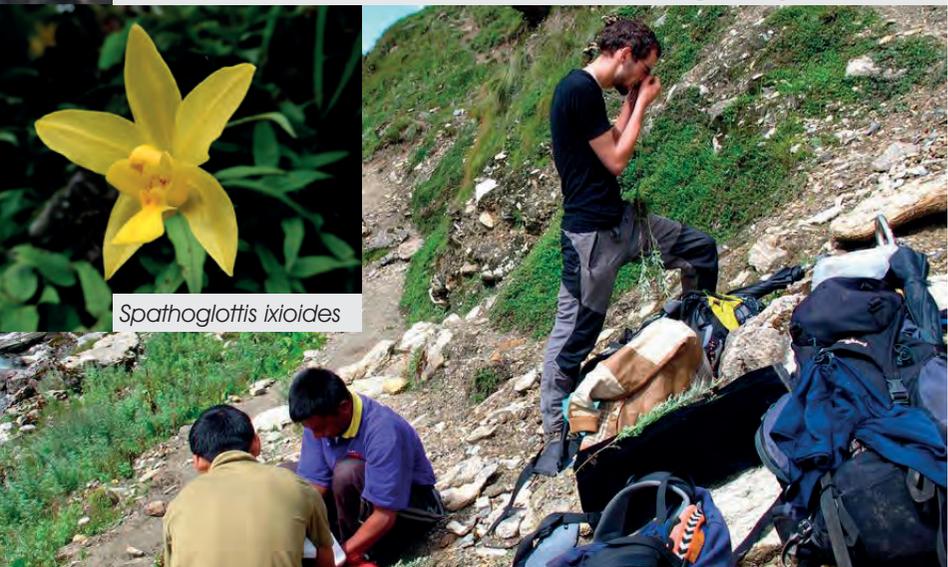
The SRGC Exploration Fund

Liz Mills

The young and the adventurous often need financial help to fulfil their rock plant dreams. The Exploration Fund was set up in 1985 to give grants to help finance projects or trips relating to rock garden plants, and over the past thirty years it has helped many people. But the traffic is not one way - the experience and knowledge that these travellers have passed on to those of us 'at home' through their reports, articles, talks, experience and exhibitions have all added immensely to the pool of shared knowledge among SRGC members and the wider public.

This year, as a trial, the previously applied fixed deadline for applications has been abolished so that applications to the fund may henceforth be submitted at any time. The fund committee normally meets twice a year (in January, and July or August); urgent single applications that are received between these meetings may also be considered. Because the fund has a limited amount of money available in any one financial year, early application is advisable; the next financial year starts on 1st July 2016.

Alan Elliott photographing in West Nepal





Primula munroi



Primula reidii



Rhodiola prainii

In the year ending in 2016, eleven individuals received grants for expeditions to Spain, Iran, Tajikistan, the Caucasus, USA, Yunnan, Sichuan and Bhutan. The maximum grant given was £1000.

Typical of the heroic and character-building ventures of the fund's beneficiaries are Alan Elliott, whose 2014 pictures from West Nepal are shown here, and Elspeth Mackintosh, who described her Bhutan expedition in Issue 131 of *The Rock Garden*.

Application forms and guidelines for applicants are available from our website www.srgc.net or by contacting the club secretary (until November 2016, Carol Shaw findhorncarol@icloud.com).

And last – but very much not least – if you have been inspired by the activities that the Exploration Fund supports or if you have perhaps have benefitted from an Exploration Fund grant in the past, I ask you to consider donating directly to the fund or to consider leaving a bequest in your will to enable the next generation of explorers to fulfil some of their dreams. Please contact the club treasurer (rkpgreen@aol.com) if you wish to help in either way.

Elspeth Mackintosh in Bhutanese yak country





Bohemian Crevices

Zdeněk Zvolánek

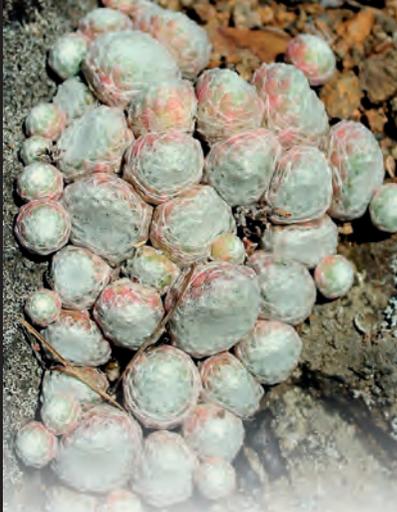
The love of rock plants for dwelling in deep and cosy crevices is an old and well-known refrain among European rock gardeners. The first proper researches in the Alps and prolonged intelligent garden trials were made in the nursery of James Backhouse in England in about 1870. The published result of these studies was that the majority prefers to live in a well-built crevice.

For many rock dwellers, called petrophytes, saxicoles or saxatiles, the crevice is matter of life or death. It is important to emphasize that any horizontal crevice in stratified rock work or in a dry wall is not at all cosy but is instead too dry, forming a frontier that stops roots of the plants from travelling in their natural way towards the centre of the Earth. **Think vertical!**

Above: *Daphne cneorum* 'Peggy Fell'

Below: The boundary of two styles





The western part of the Czech Republic is called Bohemia and the best Bohemians (free-minded artistic or musical folk, with Celtic blood) prefer to keep their rock garden plants in crevices. A classification of rock gardeners follows naturally here. The highest caste grows and shows its plants in holes drilled in soft travertine stones (called in England tufa rock) or keeps plants in artificial fissures well filled with pure travertine grit and dust. The best growers usually prefer the challenge of the most difficult cushion-forming species such as *Dionysia*, *Androsace*, alpine *Campanula*, *Eritrichium* and the elite *Draba*. The owners of tufa walls are the high priests of the religion of rock gardening. The second caste are fighters against bad continental weather in well-made crevice gardens

Think vertical!

Above: *Sempervivum arachnoideum*

Left: *Armeria caespitosa*

Right: *Pulsatilla vulgaris* var. *alba*

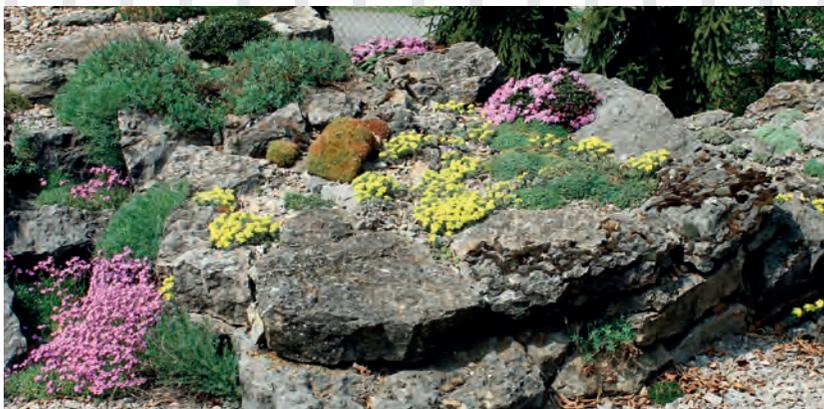


Crevices at 90°

constructed with nearly vertical stratification of the layers. The third caste has large gardens, large boulders and large frames of plants for sale; this caste prefers expensive woodland Lady's Slippers, old bonsai plants and larger plants in large crevices of their rock gardens. The last caste grows a rich goulash of perennials and bulbs in relatively small rock gardens using small individual stones (usually stolen) without proper planning or design; these are happy gardening folk with few responsibilities who play for low stakes.

The idea of crevice gardening is still young and, on first sight, the design of the freshly made outcrops looks weird to strangers. Many of the leading growers in western Europe have built a crevice bed to promote better plants and their usual mistake is to make crevices that are too broad with the wrong kind of surface grit. The result can look like notes in a musical score for a drum player or – in extreme cases – like a big mouth with many missing teeth. It is crucial to split softer stones into small flat pieces and to hammer them into crevices so as to close them up well. Of course, it takes plenty of patience and time to perfect these essential details in your rock work. Many *Sempervivum* species with small rosettes can successfully close and cover crevices in a very artistic way; *S. arachnoideum* in mineral soil is one of the best for this job. But - never mind - patches of Czech *Phlox* x 'Alenka' would, if you so wished, soon hide even gutters or canyons: what our eyes do not see, our heart does not miss. Overall, experience and practice now tell us that the finest cushion-forming plants hate too broad crevices or any large areas of the rock garden that are filled with heavier soil.

Crevices at 30°





Phlox x 'Alenka' covers even wide crevices effectively

Larger crevice gardens made with parallel layers of stones are comfortable if you have some practical access to all their parts. It is easy to design parallel paths dividing this kind of construction and my idea when building in England and Denmark was to pave all paths with parallel layers of stones. I present to you here, as an example, one rock garden from the Czech Karst, where limestone stones may be bought in a local quarry. This rock garden was first built as parallel layers of 30 degrees sloped slabs. Martin Brejník later changed the style and single-handedly built a more classical crevice garden with the tilt at 90 degrees (vertical stratification). There is a deep canyon to retain rain water within the design but at the time of writing in 2015 the construction is not concluded. We hope that this large and very distinct rock garden will be finished in time to be part of the planned conference tour for the Third International Rock Garden Conference in May 2017.

Building rock pavement in Denmark (Kirsten Andersen)





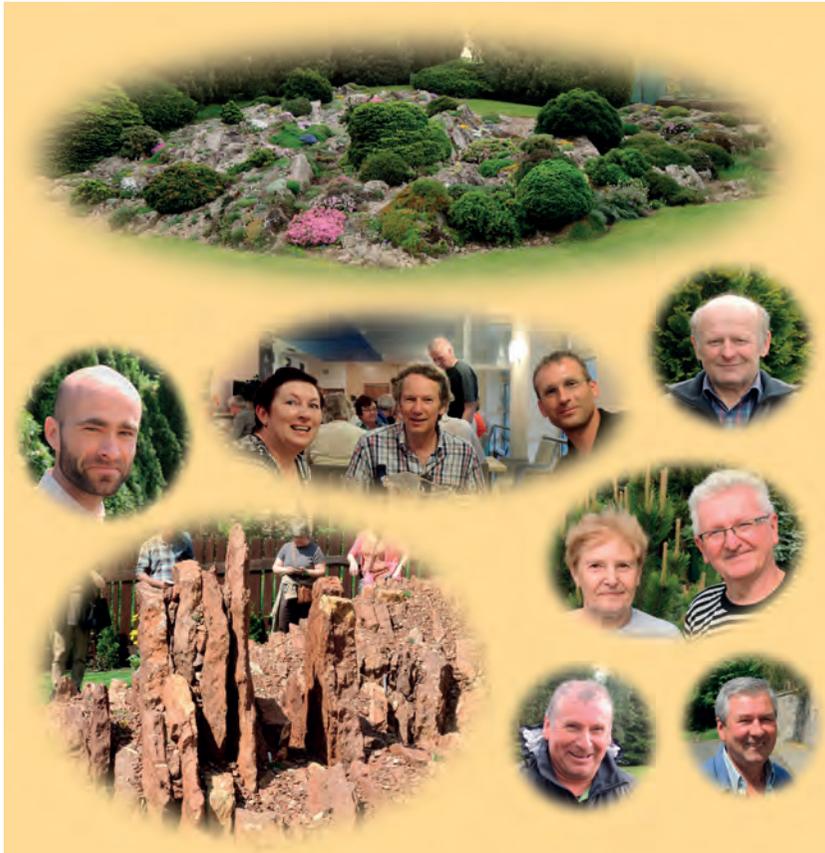
Check out the Czech Conferences

The Editor

As members may know too well, I write with little authoritative experience of plants or of the intricate subtleties of nurturing them to the pinnacles of perfection that Nature intended for them. From my naïve viewpoint, I am only able to enjoy Nature's show and the engaging company of the people who know so well about these things.

I attended the first and second Czech conferences and was overwhelmed by the magic of the flowers, the plants, the growers and the company of all those who attended. These pages show only a few of the faces, growers and places that were always welcoming and cheerful during these events and I can only thank them by encouraging readers to attend the third conference.

The Czechs tell a tale against themselves. One hot day, a Czech fisherman catches a carp in the Black Lake in the Šumava region. *"Release me and I will grant you three wishes"* says the carp. *"OK, it's a deal, give me a cold bottle of beer"*. A bottle of beer appears and the fisherman drinks it all in one swallow. Magically, it fills itself up again. *"It's a magic bottle"*





says the carp, *"It'll never run dry. What do you want for your other wishes?"*
"Give me two more of these" says the Czech.

And so it is that our Czech colleagues, strangely unsatisfied by the enormous goodwill engendered by their first conference in Beroun in 2007, went on to repeat the effort at Tabor in 2013 and now are arranging a third event in 2017 for those of us rock gardeners who are lucky enough to attend. Now read on ...

Flavours of Průhonice

At the time of going to press it was clear that this conference will offer participants many interesting and authoritative presentations. To take but three examples: the preceding article gives us a brief preview of the always stimulating views of Zdeněk Zvolánek; the two following summaries give more samples of the delights in store for participants.





Panayoti Kelaidis will be “Keeping in Steppe”, describing cushions and rock plants from the semi-arid plateaus of the world, and how to grow them in a garden setting. Panayoti is a plant explorer, gardener and administrator associated with Denver Botanic Gardens where he is now senior curator and Director of Outreach. He has designed plantings for many gardens. He has made seven collecting trips to southern Africa, researching high mountain flora, as well as travels to the Andes, the Himalaya (both Pakistan and China) and throughout much of Europe, Turkey, with dozens of expeditions throughout North America from Alaska to Mexico. Many of his introductions are available through *Plant Select*, (a plant introduction program that has sold over 100 million plants in America and Europe). Panayoti has lectured widely and has featured in dozens of television, newspaper and magazine pieces. He has published in many popular and technical horticultural journals and has discovered a half dozen plants that have proved new to science.

David Rankin, our SRGC president, is sponsored to speak at the conference by the club. David is a modern plant hunter who has - among other things - searched for long-lost primulas. Several species not seen for many decades or even more than a century have been rediscovered. Finding them is a combination of hard work at home and in the field, and good fortune. As more and more information becomes available on-line, the original collection sites of plants can sometimes be identified from the comfort of home. Herbarium specimens are being scanned and made freely available, old diaries and notes enable the routes of the old plant hunters to be worked out, and on-line maps and satellite images reveal possible sites. It helps if you can speak half a dozen languages but eventually you have to put your boots on and head for the mountains - where the local people may know more than you do. Seeing live plants and photographing them, perhaps for the first time, provides insights that are not possible when using only herbarium specimens.

The tradition of rock gardening is very strong in the Czech Republic and the post-conference tour will give many opportunities to admire gardens belonging to some of the castes of rock gardener mentioned by Zdeněk Zvolánek in the preceding article. We confidently expect to see many garden gems, remarkable rock plants and some astonishingly ambitious rock work, the like of which is rarely seen elsewhere.

“Eat a Czech meal and a week later you’re hungry” - The conference organizing team takes a snack while working hard (... or hardly working?)





3rd Czech International Rock Garden Conference, Průhonice, 10th to 15th May 2017

Four years after our successful second international conference in Tabor, we have arranged yet another in the hotel Floret in Průhonice, just outside Prague. We will offer a cocktail of high level lectures and themed evenings with a program designed to give participants plenty of time for intensive discussions and networking of all sorts.

We have chosen this place because of its convenience for Prague and for its long-lasting rock and gardening traditions. There are two competing institutions: the Botanical Institute and the Sylva Tarouca Institute for Landscaping and Ornamental Gardening. The oldest (natural) rock garden founded by Sylva Tarouca about 130 years ago is in the most famous Czech park belonging currently to the Botanical Institute. The conference will be followed by three days of garden visits.

Speakers

David Rankin (Scotland) *Searching for long-lost primulas - expeditions to rediscover plant species for cultivation* (SRGC lecture)

Robert Wallis (England) - *Reaching the heights of Turkey - bulbs and other plants in simultaneous flower at times such as snow-melt or autumn*

Brigitte Fiebig & Michael Mauser (Germany) – *Plant exploration in Iran with the Botanical Garden Tübingen*

Henrik Zetterlund (Sweden) – *Bulbs in Nature, the Gothenburg Botanic Garden and my private garden* (Göteborg Botanical Garden lecture)

Panayoti Kelaidis (USA) – *Keeping in Steppe: cushions and rock plants from the semi-arid plateaus of the world, and how to grow them in a garden setting* (Denver Botanical Garden & NARGS lecture)

Martin Hajman (Norway) – *The arctic rock garden in Tromsø: Building a rock landscape & growing high altitude plants, a tribute to Czech plant hunter*

Vojtěch Holubec (CZ) – *Chinese flowering paradise. The best of flora of China and Tibet*

Jiří Papoušek (CZ) – *Rock gardening in a tunnel: a tufa rock garden in a glasshouse*

Zdeněk Zvolánek (CZ) – *Czech crevice gardens. Nature and rock gardens in the Czech Karst region*

For more information

please see <http://www.czrgs.cz>

or find us on Facebook <https://www.facebook.com/czrgs/>

The 2016 Powdery Mildew Survey

Oliver Ellingham

Your help is needed to map and identify the powdery mildews! Here is why and how to do it.

Powdery Mildew Biology

Powdery mildews occur commonly on garden plants, are unsightly, and can cause serious damage. To help understand how widespread powdery mildews are, both in terms of geography and hosts, the Royal Horticultural Society and the University of Reading are working together to identify and map as many powdery mildews as possible. You can help by supplying us with infected plant samples and in exchange we will do our best to tell you what mildew is infecting your plant.

With over nine hundred named species occurring on more than ten thousand different plant hosts, even experts struggle to identify them effectively. I am able to collect and analyze many powdery mildew samples around my university campus and further afield in Reading. However, we need more samples, from more UK locations, on more host plants, in order to better understand this problem in UK gardens.

Using DNA sequences, I will be able to identify and map their occurrences to discover where and when they are most prevalent. This will ultimately allow the development of short DNA sequences allowing for easy identification of similar samples in future.

Quick, accurate and efficient identification of these fungal garden foes will help to track the presence of British based species on their host plants, perhaps discovering new species invasive to this island. It will also allow us to track which of them have recently expanded their host ranges to infect new plant species.

UK gardeners and plant enthusiasts can help to build the global knowledge of fungi and plant diseases. To help this important research please collect and send your infected plant material to me!

The Powdery Mildew Citizen Science Scheme

Now entering its third year, the Powdery Mildew Citizen Science Scheme is gaining more momentum, more followers and more samples. May we hope for more again this year? The inaugural 2014 Powdery



An infected *Monarda*

Mildew Survey produced a total of 160 powdery mildew samples resulting in 51 different species. This was followed in 2015 by a further 353 samples giving 54 species. In 2015 we identified powdery mildew on new hosts and concluded with the adoption of the scheme by GCSE course conveners; students will now have the opportunity to contribute to science and to learn via this novel method.

So, with two years of Citizen Science collection records and a baseline of recorded species in the UK behind us, once spring had arrived, what better time was there to launch 2016's *Powdery Milwho?* So please send in your powdery mildew infected plant material for identification: will yours be a common UK species, a species shifting to a new host, an invasive species, or even a new species?

How to send samples

- Locate powdery mildew on the plant host
- Prune off several whole leaves
- Put the fresh leaves in a slightly inflated sealed bag
- Send to: *PowderyMildew Survey, Oliver Ellingham, Harborne Building, School of Biological Sciences, University of Reading, RG6 6AS*

Please include the postcode, grid reference or GPS of where the sample was found, your email address and the name of the host plant. Photos of the plant are also happily received! I will record the appearance of your sample and pulverize a small part of it to analyze its DNA. Once identified, your mildew will be added to a national powdery mildew database and you will be sent a link to the relevant record. Your results will be emailed to you when available; this may take several weeks.

Your information will help to form a more complete picture of powdery mildew presence in the UK and to develop cutting-edge molecular identification techniques. For further information and news, please see <http://blogs.reading.ac.uk/crg/powdery-mildew-survey-2016/>

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Please try to pick a significant portion of the infected plant: an entire leaf or shoot is best



Adding fresh leaves to a slightly inflated bag helps preserve the sample

Growing *Disa uniflora* and its relatives

Peter Maguire



The genus *Disa* is wide-ranging across southern Africa with over 160 species; the familiar *D. uniflora* and its hybrids represent only a small part of the variety within the genus and fall into a group of evergreen species found mainly around the Western Cape. In this article I deal mainly with *D. uniflora* but also draw your attention briefly to others.

Disa uniflora

Disa uniflora has long been known as a spectacular South African orchid from the Cape floral kingdom, being found from the Cederberg Mountains to Betty's Bay and having first been described in 1767 by the Swedish botanist Peter Berg. Unfortunately, the specimen he used for the description had only a single flower, which led him to use the specific epithet of *uniflora*, whereas in reality a multi-flowered stem is the norm. Difficulties in cultivation have limited its popularity, although early hybrids were registered in 1894 (*D. veitchii*) and 1895 (*D. kewensis*), these being crosses of *D. uniflora* with the pink-flowered *D. racemosa* and *D. tripetaloides* respectively.

Facing: The typical habitat for *Disa uniflora* is at the higher levels of these gorges above Kirstenbosch Botanic Garden

Below: *Disa uniflora*, exhibited by Sue Simpson at Dunblane in August 2015





Washing old compost off roots when repotting. At this point I was using a mix that also contained Seramis and composted bark



Compost removed, showing old tuberoid and shoot with new tuberoid and roots behind. The white shoots will develop new tuberoids next season and provide a way of multiplying plants. They should not be damaged!



To understand the basics of *D. uniflora* cultivation, an appreciation of its natural habitat is important. While it is now fairly uncommon in the wild, being found in some of the less accessible gorges, it is classically found alongside streams flowing off Table Mountain, particularly the south and east facing slopes and alongside deeper pools where the water flow is not too rapid. The water in these streams is runoff from the Table Mountain plateau and as such is constantly replenished; the clouds that form the 'tablecloth' for Table Mountain are well-known and slightly acidic.

The conclusion therefore is that there should be a regular supply of water to the roots, and that the roots should be kept cool, below 20°C. This I achieve by standing the mainly plastic pots in a large tray in the alpine house in which the water level fluctuates around 3 to 5 mm depth during most of the year. In the winter I allow the water to evaporate completely before replenishing the supply, but on the whole the plants are kept very slightly drier during this season. This is a regime that I substitute for the very cold (anything down to 4°C) water that often floods the plants at this time in their natural environment and this approach has proved successful

A new tuberoid and root have been cleaned of old material and are ready for repotting

for me for over five years. Various growers, particularly some in South Africa, seem to use automated arrangements so as to maintain the water level, temperature and circulation; they are effectively creating a hydroponic system – but I have not found this to be necessary. The plants have proved hardy in a frost-free alpine house which receives no heat unless the outside temperature is forecast to drop below -3°C .

The quality of the water is also vitally important because *disas* do not tolerate high levels of dissolved salt. I use rainwater to re-fill the trays and indeed for several years was so acutely aware of the need for pure water that the plants received nothing else. Recently however, as a response to lower flowering levels, I have begun tentatively feeding the plants with a very dilute (1/4 strength or less) feed every couple of months, and the plants are taken out of the tray in which they normally stand. They are then watered with the diluted feed and allowed to drain for some time to allow excess chemicals and water to drain away before they are replaced in their water tray; this prevents a build-up of excess inorganic salts in the tray. It would probably be possible to use a higher strength feed if the level of dissolved inorganic salts (TDS) in the feed could be measured and kept below 150 to 200 μS (micro-Sieverts) but, although TDS-meters are cheaply available online, the empirical method has worked well for me so far.

Other important considerations are the compost and repotting requirements of the plants. *Disa uniflora* and its hybrids have an underground tuberoid from which the leaf rosette and new flowering stem emerge. After flowering in early to mid-summer, a new tuberoid develops adjacent to the old one on a short 'dropper' shoot; initially this new tuberoid does not develop roots, so that feeding is not required at this time. In mid to late-autumn, new shoots begin to emerge from



A potful of *Disa uniflora* ready for repotting. Note the presence of the old flower stalk and the numerous young plants that are developing. Dead leaves should have been removed before this point to reduce the risk of fungal disease



Recently repotted young plants in a small drip tray for closer monitoring. They spend the rest of the year in larger drip trays to maintain a more even water temperature

these tuberoids as well as the new and delicate roots which will anchor the tuberoid in place during the winter floods. This is both the optimum time to replot the plants and also to commence gentle feeding. Because the roots, the shoots connecting the tuberoids, and also any new side shoots which allow you to bulk up plant numbers are very brittle, this is a delicate procedure.

The main nursery source for these plants in the UK (Dave Parkinson Plants) seems to use a peat compost, and indeed plants in this compost flower very well for several years if they just receive rainwater. However, repotting from this compost is challenging to carry out without damaging the new growths, and when repotting I use a mix that I read about on a now-defunct American website. It comprises equal parts of perlite and Supersphag and produces a compost that is water-retentive but open to allow air circulation. Supersphag is produced in New Zealand from the milled shoot tips of sphagnum moss that are cleaned and compressed into dried blocks, popular with carnivorous plant growers and easily

Facing: *Disa tripetaloides* – a parent of *Disa kewensis* 🇨🇦

Below: *Disa kewensis* 'Milkmaid'









available by mail order in the UK. The dried blocks arrive looking like large stock cubes and when boiling water is added they regain their former bulk and can be mixed with the perlite once cool. There is no feed in this compost and, as I am now realising, some supplementary feeding is necessary as described. However, it does make repotting very simple because the compost can easily be washed from the delicate roots with a water spray. When repotting, do not compress the compost, just tap the pot on a bench to settle the contents, and water once from overhead with rainwater to settle it further. One drawback to this compost mix without topdressing is that of moss growth on the surface but as the plants should ideally be repotted every year this should not become a major issue. Also, as the plants receive most of their water from below, the moss contamination is reduced.

This approach to growing *Disa uniflora* works well for this species, its hybrids and several other species that are evergreen and summer flowering. *Disa uniflora* is classically red to orange-red in colour, although yellow forms are known. The hybrids introduce other colours to the

Preceding pages:

left - *Disa kewensis* 'Alice' 

right - *Disa Watsonii* gx 'Don' is *D. kewensis* back-crossed with *D. uniflora* 

Below: *Disa aurata* was originally described as a subspecies of *D. tripetaloides* from the Langeberg Mountains, but was upgraded to a species in 1993



palette, especially pinks and the orange-yellow shades in various clones, and all are worth growing. I would recommend starting with *D. uniflora* and its hybrids before attempting other species that are more intractable in cultivation and have significantly different requirements.

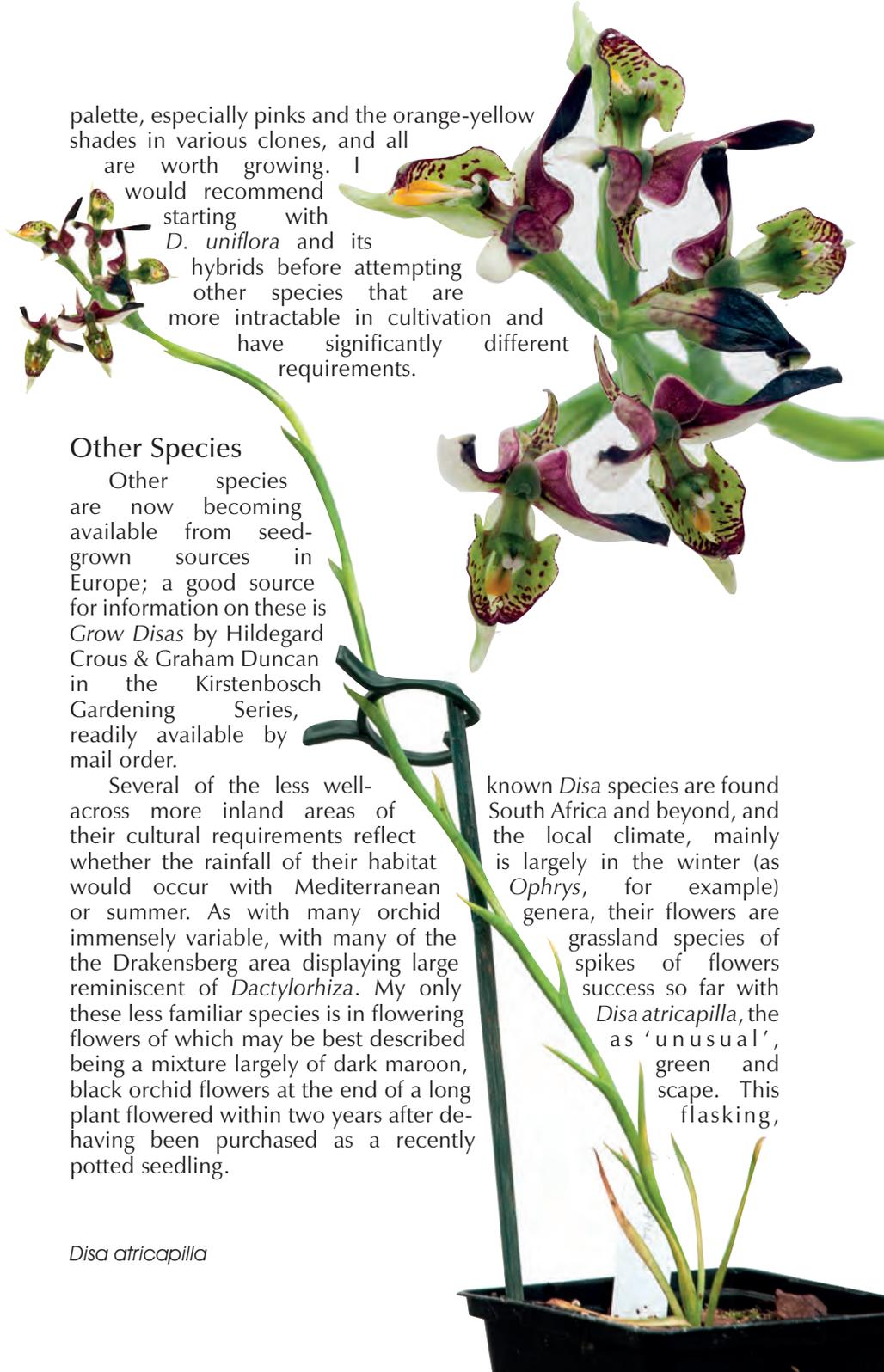
Other Species

Other species are now becoming available from seed-grown sources in Europe; a good source for information on these is *Grow Disas* by Hildegard Crous & Graham Duncan in the Kirstenbosch Gardening Series, readily available by mail order.

Several of the less well-known *Disa* species are found across more inland areas of South Africa and beyond, and their cultural requirements reflect the local climate, mainly whether the rainfall of their habitat would occur with Mediterranean or summer. As with many orchid genera, their flowers are immensely variable, with many of the the Drakensberg area displaying large spikes of flowers reminiscent of *Dactylorhiza*. My only success so far with these less familiar species is with *Disa atricapilla*, the as 'unusual', green and black orchid flowers at the end of a long plant flowered within two years after de-flasking, having been purchased as a recently potted seedling.

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Disa atricapilla



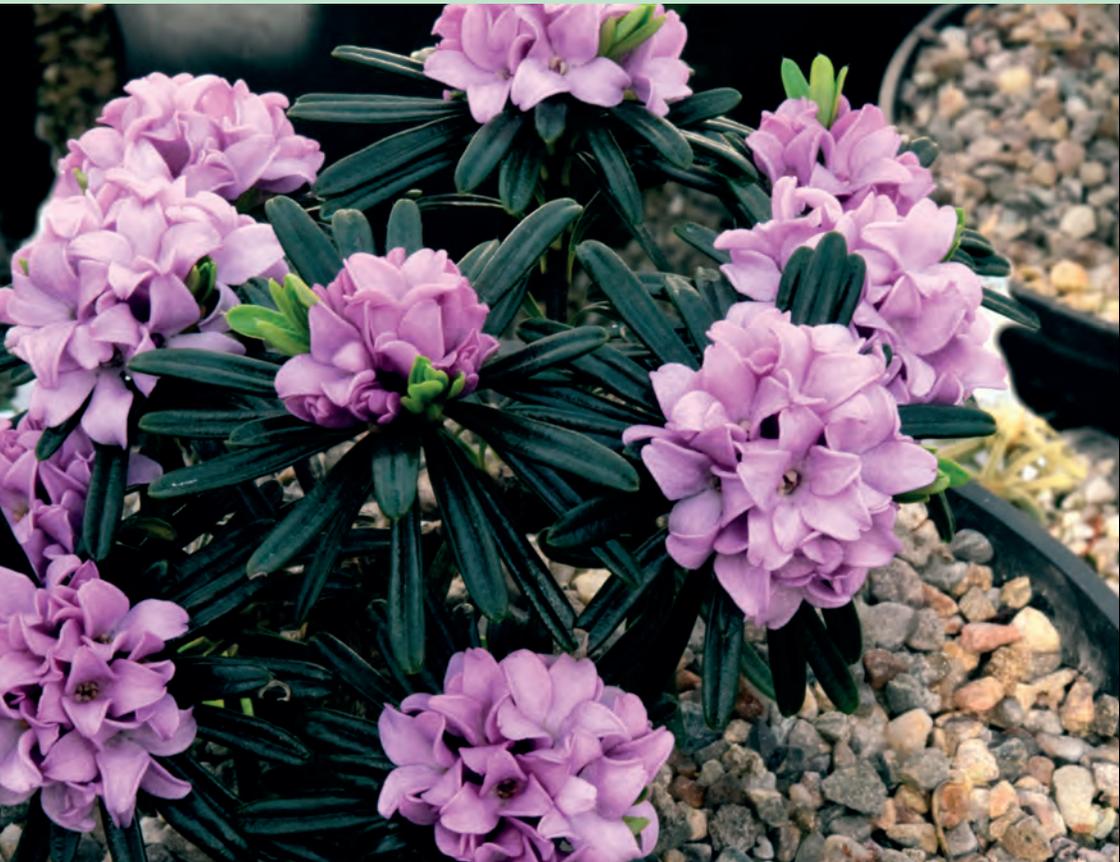
The Various Charms and Relations of *Daphne arbuscula*

Ian Christie and Cyril Lafong

In this shared article we feature forms of *Daphne arbuscula*, along with a few interesting recent introductions. We owe a special debt of gratitude to our enthusiastic colleagues in the Czech Republic who have been so generous with their time and expertise in bringing these wonderful daphnes to a wider audience.

All daphnes dislike heavy clay and waterlogged ground, preferring free-draining soil that may be humus rich, although many growers - especially the Czechs - avoid humus. Indeed, many excellent daphnes have been grown with most of their roots in pure grit. A leafy annual mulch may be beneficial. We hope members will emulate our efforts to grow and to share these particularly delightful and often fragrant plants.

Daphne arbuscula 'Jochen Herdramm'



Growing *Daphne arbuscula*

Ian Christie

I have known and grown this intensely beautiful dwarf evergreen shrub for many years, obtaining my first plant of *D. arbuscula* forma *grandiflora* from the late Kath Dryden. It has survived our weather for around twenty years, never reaching more than a 30 cm spread; the clusters of scented deep pink flowers in April are a delight.

All forms of *D. arbuscula* have linear dark green shiny leaves a bit like large pine needles; compact woody stems are brittle, short branching with the leaves terminating in tufted groups. The superbly scented flowers are borne in April and May in small clusters with the colour varying from pale pink to deep rose. It was not until we visited several gardens in the Czech Republic with Cyril & Annielle Lafong that we were blown away by the magnificent new forms that we saw. We later visited these gardens again and were very lucky to be presented with a few scions (small cuttings), which

Daphne arbuscula forma *grandiflora*





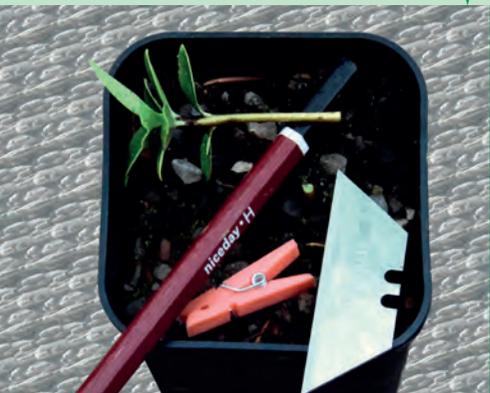
Seeds on plants



Daphne tangutica seedlings



Daphne scions ready for grafting



A notch is cut for the scion



Ready to graft



Pegged and stored grafts



I grafted when I got back home. Cyril and I had several discussions about grafting methods. *D. arbuscula* can produce its own roots from cuttings, so I am sure a few people will disagree that grafting is necessary. For example, our great friend Robin White of Blackthorn Nursery is probably the best *Daphne* grower in the United Kingdom and has produced countless new varieties. He has taken cuttings at the end of September, removed them from the plant at the base of the current season's growth, and rooted them in a frame with bottom heat without hormone use. On this particular occasion, my view was that we only had a little material to risk in rooting whereas we were confident that we could succeed by grafting. We were fortunate to have more *D. arbuscula* scions from Robin and also from the Czech Republic.

Grafting

What you will need: small clothes pegs such as may be obtained from craft shops, sharp blades, and a cheap propagator.

We grow *D. tangutica* every year from seeds, sowing as soon as we have harvested most of our crop. Luckily, we also get a generous seed donation from another friend. Germination usually occurs in May. When large enough, the seedlings are potted in 8 cm pots in a John Innes soil-based compost mixed with Melcourt bark and plenty of grit. They are left outside and by September or October it is usually possible to use the biggest ones to graft. Using a very sharp 'Stanley' knife blade, place a pencil behind the slim trunk and cut the top off as near to the soil as possible. With great care, cut down the trunk vertically in the middle for about one cm. Take a scion (cutting), cut the base of the scion on either side to form a V-shape, like you might sharpen a pencil, then insert the scion into the rootstock's cut. Use a small clothes peg to secure the scion and stock together and place your young grafts in the propagator for around six weeks.

I leave all young grafts on the floor of a cold glasshouse over winter and cover with fleece when frosty. Once plants are established I repot into 9 or 10 cm pots, making sure the graft is below the rim. After potting, top dress with sharp grit over



Growing outside



the new graft. The scion produces its own roots in time; the grit prevents rotting of the graft. We also try deep plastic pots, which seem to suit *Daphne*.

Growing in Pots

Compost mix: two parts *John Innes number 3*, two parts gravel, and one part good leaf-mould or *Melcourt bark*.

Apply a good top dressing of gravel. I feed in spring and summer with *Maxi-Crop liquid tomato fertiliser* once a fortnight (or when I remember).

Growing Outside

I have created some troughs with a good raised landscape. I used the white quartz stones that were so popular twenty-five years ago in one sink where I have planted several daphnes including *D. arbuscula* and *D. petraea*. I have also built a raised island bed with increased drainage, which has quite a bit of old tufa and marle (the local limestone). The bed is in a sunny site that is shaded in mid-afternoon. There are already several nicely established plants growing here: saxifrages, cushion *Dianthus*, a large *Helichrysum* and daphnes including *D. x hendersonii*, *D. petraea* forms and three *D. arbuscula*, all quite small



Daphne tangutica seedlings



Daphne arbuscula 'Divá'

Daphne arbuscula 'Star of Žižkov'





An attractive hybrid of *Daphne arbuscula* and *Daphne cneorum*:
Daphne x schlyteri 'Hans Bauer'

plants. This area is top-dressed with pumice that came from a volcanic eruption in Iceland. Luckily for me a local building company had brought in a boatload of this pumice to make concrete blocks - such a waste. I paid quite a lot to get about one tonne for my garden.

I have recently cleared another raised area where old neglected saxifrages were growing. I intend to leave this over the winter and then create a *Daphnetum*. I have added a quantity of pumice to increase drainage in all my new plantings. I will add a generous top dressing and have also managed to find a few more pieces of tufa and marle. I am sure that good water-washed gravel would do the same job but I love to experiment with new ideas.

***D. arbuscula* 'Diva'** is a good compact well-branched plant. It produces superbly scented pale pink flowers. It is perhaps slow to get going but is wonderful.

***D. arbuscula* 'Brno'** seems stronger growing with large tubular flowers opening a very pale pink then fading to a rich deep pink.



Daphne arbuscula 'Jurajda' (previously *Daphne arbuscula* 'Alba')

***D. arbuscula* 'Star of Žižkov'** is a magnificent plant with an upright habit and rich deep pink flowers. It is a sturdy plant that is now growing well on one of our raised beds.

***D. arbuscula* 'Jochen Herdramm'**. This is a recently named form that I have grown for four years but I found out that it has never been written up. It is a magnificent aristocrat that I have admired ever since it first flowered. It is a very distinctive form with large satin-pink flowers that are quite tubby and cluster together to form a rounded ball. The flowers themselves are large and some can be semi-double with a few florets having five petals. The petals glisten against the deep green shiny foliage. The leaves are longer and wider than other variants of this species, and plants are strong-growing but I have yet to try it outside. Jiří Papoušek explained the origin of my plant: "It has been selected by Czech collectors, probably Jurášek or Halada (not Halda) in Slovakia. My plant comes from cuttings from Halada's garden. Jochen Herdramm was an enthusiastic German grower who visited

Robin White regularly. Unfortunately, he died a few years ago, he was a really fine man."

D. x schlyteri 'Hans Bauer', a hybrid between *D. arbuscula* and *D. cneorum*, I feel to be something of a curiosity. It forms cockscomb-like foliage and produces pale pink flowers. The branches have flattened stems covered in rich dark brown bark - this is known as fasciation; normal foliage also occurs commonly on the same plant.

I graft a few young plants each year, trying to increase stock and to give a few to other enthusiasts. If any reader is interested, please contact me, although I will only send by mail order as a last resort because the plants are susceptible to the harsh postal systems. It would be possible to send in either early spring or autumn. Please contact me at 01575 753977, ianchristie@btconnect.com or at Ian Christie, Downfield, Westmuir, Kirriemuir, DD8 5LP.

White-flowered Variants of *Daphne arbuscula*

Cyril Lafong

Daphne arbuscula grows in a restricted area in the Carpathian Mountains (Muran Hills) in Slovakia but is very variable and several forms have been introduced to cultivation by various growers, mainly Czech. Only very few white forms have been found in the wild. There is a fasciated form with flattened stems and creamy-white flowers described by Halda as '*platyclada alba*'. This is a much smaller plant than '*platyclada*' (pink) but it appears to be no longer in cultivation.

Czech rock gardener František Holenka, a former president of the Czech Rock Garden Society (CZRGS), discovered the plant known as *D. arbuscula* forma *albiflora*, described by Josef Halda as a botanical form. It has been in cultivation for over forty years but Zdeněk Zvolánek named it 'Czech Crystal' in 2011⁽¹⁾. The plant has a prostrate habit. When grown in a dry sunny place it is characterized by dense hairs on the upper surface of the older leaves - making them appear dull green - and also on the bark, which appears grey-brown. The flowers are crystalline white and sometimes age to pale pink.

Another white-flowered variant was introduced by Josef Jurášek in the late 1990s as *D. arbuscula* var. *alba*. The leaves are up to 25 mm x 4 mm and are glossy green when young, forming clusters 40 mm in diameter towards the apex of the stem. Older leaves develop hairs but are less hairy than in *D. arbuscula* 'Czech Crystal'. Adult grafted plants are 100 mm high and have a prostrate habit. The superb white flowers (15-18 mm diameter) usually age to pink, especially in cold weather. In his 2001 book *The Genus Daphne*⁽²⁾, Josef Halda mentioned 'Jurajda' - "the most beautiful snow-

white blooming cultivar of *D. arbuscula*, discovered and introduced by Josef Jurášek". After checking with Josef, it turns out that this is the same plant, 'Jurajda' being an affectionate nickname of 'Jurášek'.

I exhibited the plant at the Glasgow show on 2nd May 2015 as *D. arbuscula* var. *alba* and submitted it to the Joint Rock Plant Garden Committee for consideration. It was awarded a preliminary commendation, subject to a clonal name being given. So the plant will now be known as *D. arbuscula* 'Jurajda'.

Cultivation

Many albino forms have a weak constitution. The white-flowered forms of *Daphne arbuscula* are no exception, being harder to grow and propagate compared with the normal pink form.

Grafted plants are easier to grow than plants on their own roots but, even so, growth is very slow. In the wild, *D. arbuscula* grows among limestone rocks. Full sun in scree, trough or a crevice with well-drained, humus-rich and slightly alkaline soil offers the best chance to grow these plants in the open garden. Alternatively, in areas with high rainfall, a raised bed with overhead protection in winter or a clay pot plunged in sand in the

Daphne arbuscula 'Jurajda'



alpine house may be tried. It is more difficult to manage the watering in a plastic pot but using a deep pot (long tom) can be useful in this situation. A suitable compost for growing these plants in pots is a mixture of loam, leaf mould, bark, perlite and coarse grit with a little dolomitic limestone. The main flowering occurs in spring but, if the plant is growing well, there will be a second flush of flowers on new growth in summer. All forms of *D. arbuscula* are very hardy and have no difficulty coping with low temperatures in Britain.

Daphne arbuscula 'Jurajda' perhaps grows slightly more robustly than *D. arbuscula* 'Czech Crystal', but I have only grown the plant for about three years.

Propagation

Seeds are rarely produced on *Daphne arbuscula* in Britain but if different clones are grown it is possible to get a few by cross pollination. I have attempted cross pollinating *D. arbuscula* 'Jurajda' and *D. arbuscula* 'Czech Crystal' on a couple of occasions without success, nor have the plants shown any willingness to hybridize with other *Daphne* species. *D. x suendermannii* is a hybrid between *D. arbuscula* and *D. petraea*.

Daphne arbuscula 'Czech Crystal'





Daphne arbuscula forma *radicans*

However, the pink-flowered hybrid *Daphne* x *suendermanii* 'Chris Brickell' has the parentage *D. arbuscula* 'Czech Crystal' (forma *albiflora*) x *D. petraea* 'Tremalzo' (white-flowered) which indicates that *D. arbuscula* 'Czech Crystal' was the seed parent.

Unlike the normal form of *D. arbuscula*, propagation by cuttings is difficult. Cuttings take several months to root and only a small percentage is successful. Rather than waste precious cutting material, grafting using *Daphne tangutica* or *D. retusa* as stock plants offers a more reliable means of increase. Rooted cuttings or seedlings of *D. arbuscula* may also be used as stock plants with the advantage of being fully compatible. *D. mezereum* and *D. longilobata* do not make suitable rootstocks as there is partial incompatibility.

Variants of *Daphne arbuscula*

D. arbuscula 'Brno'

D. arbuscula 'Czech Crystal'

D. arbuscula 'Diva'

D. arbuscula 'Fialka' (means violet, crossed by Fritz Kummert, 'Wetter' x 'Libussa')

D. arbuscula 'Franceska' (*D. arbuscula*, Typ Tschechei x *D. arbuscula*, Typ Zwergform - Dirk Jockel)

D. arbuscula 'Grandiflora'

D. arbuscula 'Jochen Herdramm'

D. arbuscula 'Jurajda'

D. arbuscula 'Jurášek' (? original clone)

D. arbuscula 'Kabschia' (Milan Halada)

D. arbuscula 'Libussa' (Fritz Kummert)
D. arbuscula 'Maritkina'
D. arbuscula 'Mountain Peak' (*D. arbuscula*, Typ Tschechei x *D. arbuscula*, Typ Zwergform - Dirk Jockel)
D. arbuscula 'Muran Castle' (Wrightman Alpines)
D. arbuscula 'Muran Pinnacle'
D. arbuscula 'Muran Pride'
D. arbuscula 'Siskiyou'
D. arbuscula 'Star of Žižkov'. There is a possibility that this variant is very similar to the material which was exported to England by Harry Jans from the nursery of Marie Sládková with the incorrect name 'Sladhova'. 'Koryto' (creeping variant) = Star of Žižkov.
D. arbuscula 'Vera'
D. arbuscula 'Wetter'
D. arbuscula 'Ziroid'
D. arbuscula ex Mayr
D. arbuscula ex Paddy Ryan (Brian Burrow)
D. arbuscula ex Plestil (small flat)
D. arbuscula ex Sládková (the spelling is correct)
D. arbuscula No. 17 red, high anthocyan (Vojtěch Holubec)
D. arbuscula No. 20 short growth around terminal bud (Vojtěch Holubec)
D. arbuscula No. 6 short leaves compact form (Vojtěch Holubec)
D. arbuscula, compact form (? same as dwarf form)
D. arbuscula, dwarf variant
D. arbuscula, flat variant (ex GBG)
D. arbuscula, light pink (could be the same as 'Brno')
D. arbuscula, Typ Tschechei (Czech variant) (Dirk Jockel)
D. arbuscula, Typ Zwergform (dwarf variant) (Dirk Jockel)

The following were mentioned by Josef Halda many years ago but do not seem to have been described correctly. They should (at the time they were named) have had descriptions published and type specimens deposited in a herbarium; these could not be found in the Prague herbarium. However, the names are better left here as they are in current circulation.

D. arbuscula f. *hirsuta*
D. arbuscula f. *platyclada*
D. arbuscula ssp. *septentrionalis*
D. arbuscula var. *radicans*

References

- (1) Zdeněk Zvolánek (2011) The Best Form of *Daphne arbuscula*. *The Rock Garden* 127
- (2) Josef J Halda (2001) The Genus *Daphne*. First Edition. SEN Dobré, 49; 231pp.



Among the many beneficiaries of the Aitchison Fund is Kathryn Braithwaite, who describes here the very effective use she made of her grant to expand her horticultural and alpine horizons. Kathryn's account is a particularly good example of the best reports that the club receives from recipients of awards. It has been slightly abridged here.

A Study Tour from Wellington, New Zealand

Kathryn Braithwaite

I particularly thank the Scottish Rock Garden Club and the Diana Aitchison Fund, who supported me in the trip I am about to describe. Without them it would not have been possible. Around 2012 I decided to embark on a project that would take me into a journey of experience and education in horticulture, botany and conservation. It would take me to New Zealand to explore the botanical gardens of the North Island, to visit the Taurarua mountain range to see alpine plants in their native habitat, and to hone my knowledge of plants in this region. I constructed my plan, researching, and communicating my ideas with peers, colleagues and experts. Once I had a clear vision, I made contacts in New Zealand, with staff at Wellington Botanic Gardens, Otari Wilton's Bush and various alpine societies. This consolidated all my ideas, and then it was full steam ahead with making my dream a reality! February 1st 2013 arrived and I began my adventure. This trip evolved naturally and became more than I could envisage, both personally and professionally. I met wonderful people, absorbed a wealth of information, inspired new ideas. I challenged myself daily to learn something new: plant identification; practical skills; the complex relationship between the Māori community, settlers and the history of plant usages in New Zealand society; debated concepts; explored the land; collected plant samples; witnessed ranging and new practical techniques; learned about the history of New Zealand's botanical gardens; toured the herbarium at Te Papa and truly had a life-changing experience.





A succulent plant display at Wellington Botanic Garden

This opportunity fed back into my work at The Royal Botanic Gardens (RBG) in Kew and provided me with enduring professional networks. There were endless reasons for taking this trip, with a broad focus of research and study. However, my ultimate goal was to observe and collect native alpine plants in their natural growing environment. At this stage in my professional development I had no specialism, therefore the act and process of study was as important as the plants I was able to observe. As you will see in this article, the process of learning evolved in unseen ways.

During my preliminary meeting with Rewi Elliot, the curator at Otari Wilton's Bush, we sketched out an active itinerary, involving work there, Wellington Botanic Garden, Te Papa Museum, a meeting of Māori Council to offer advice on site restoration to its original native flora and fauna, collecting trips at Maungakotukutuku, Taurarua and Ruahine Mountain Ranges, and various other visits.

Otari Wilton's Bush

I spent most of my working time here, because Rewi was my guide for the duration of my stay. Otari Wilton's bush is New Zealand's most significant native botanic garden and Wellington's largest area of original native forest. Five hectares were created for the collection and preservation of New Zealand's native plants, and nestle against the largest block of natural forest on the Wellington peninsula to survive the initial settlement. The garden is celebrated

An 800 year old Rimu (*Dacrydium cupressinum*) found in the bush land at Otari Wilton's Bush



internationally as the only botanic garden dedicated to the cultivation of New Zealand's unique flora and has been registered as a Garden of National Significance by the Royal New Zealand Horticultural Society.

The gardens were the brainchild of Leonard Cockayne and have been developed since 1926 with a focus on amassing as large a representation of New Zealand flora (common and rare) as possible. They boast 1200 species collected from as far afield as the sub-Antarctic Islands in the south of New Zealand to Cape Reinga at the northern tip. Staff tend 19 distinct collections, including North Auckland plants, an alpine garden, a fernery, *Hebe* and flax cultivars, and a magnificent rock garden. Otari is a Māori word, meaning *Place of Snares*, referring to the hunting that took place here for hundreds of years. As the fever of European colonization in the mid-1800s reduced most of the lush forests of Wellington, one farmer - Job Wilton - fenced a portion of his bush to protect it from development. Now, over a century later, more than half of all Wellington's original native forest lies within Otari-Wilton's Bush. This ancient forest includes towering Matai and Rimu, as well as Tawa, Rewarewa and Kohekohe.

These gardens are maintained to the highest standard by only four full time staff and two part timers; innovation is the source of their ongoing development and evolution.

Wellington Botanic Gardens

The Wellington Botanic Garden features 25 hectares of unique landscape, protected native forest, conifers, specialized plant collections and colourful floral displays. With grand vistas over Wellington city and a unique topography, I found this to be a distinctive garden, more akin to a public park than botanical. In 1844, the New Zealand Company set aside a 5.26 hectare strip of land for a reserve. At that time it was covered in dense podocarp forest including Rimu, Totara and Matai. The garden was established in 1868 and was managed by the New Zealand Institute. The trees growing today on Druid Hill and Magpie Spur grew from seedlings planted at this time and are some of the oldest exotic trees in New Zealand. In the 1870s the fledgling garden was boosted with a further 21.85 hectares of reserve. Wellington City Council has managed the Botanic Garden since 1891.

Auckland Botanic Gardens

Auckland Botanic Gardens opened to visitors in February 1982. It is a young garden but has received many awards and recognition. In a site of 60 hectares, the small team is focused on conservation, education and sustainability, with several impressive collections of plants. The gardens merge into a vast bush land that offers visitors the chance to engage in a range of environments. There is a strong focus on the local community and lot of the work is aimed at the educational needs of Auckland. With a turnover of 1.2 million visitors a year this really is an impressive garden!

Akatarawa Forest, Maungakotukutuku Scenic Reserve: the forest covers 15000 hectares of wilderness area between Upper Hutt and the Kapiti Coast and is a rugged blend of natives and exotics. The Maungakotukutuku scenic reserve is set in a rural locality on the Kapiti Coast. This is not a greatly used area, the tracks are rough and the bush is unmaintained.

East Harbour Regional Park: Eastbourne is a suburb of Lower Hutt city in the southern North Island, west of Wellington. It is home to the East Harbour regional park. I visited the area and explored the Days Bay tracks, a steep climb through mature beech (*Nothofagus* species) and Rata (*Metrosideros robusta*) forest, giving spectacular harbour views.

Ruahine Ranges: the Ruahine Forest Park covers an area of 94000 hectares and consists of tussock tops, craggy peaks, bush covered ranges and picturesque rivers. Sunrise Hut sits on the tops in a tussock basin beside the bush edge at 1280 m; it offers excellent views across Hawke's Bay. There is a short route from here up to the sub-alpine herbfields at Armstrong Saddle.



Taurarua Range: this is the largest (116535 hectares) conservation park managed by the Department of Conservation in the North Island. The ridge runs parallel with the east coast of the island between East Cape and Wellington. In spite of its reputation for gloomy bush, impenetrable leatherwood and wet snow tussocks on mist-shrouded tops, the Taurarua Range has widely diverse vegetation from alpine tussock grasslands and subalpine shrub-lands to forests of montane Miro and Kamahi, or beech or lowland broadleaf forests with emergent podocarps and Kamahi. Reaching the top of a 1475 metre mountain peak isn't easy, but Mount Holdsworth is one of the most spectacular peaks to reach in the Taurarua Ranges and possesses a vast range of native alpine plants.

Te Papa Museum and herbarium is New Zealand's national museum, renowned for being bicultural, scholarly, innovative, and fun. Its first predecessor was the Colonial Museum, which opened in a small wooden building in 1865. From these humble beginnings Te Papa became the vast museum



and gallery it is today. Its collections span five areas: Art, History, Pacific, Māori, and Natural Environment. The exhibitions are interdisciplinary and interactive and, with millions of visitors every year, it is an all-round experience of New Zealand life, past, present and future. Te Papa's herbarium contains some 270 thousand dried plant specimens. It has a wealth of historical collections; it was founded in 1865 and has more

Te Papa: "What is given by the land should return to the land"



Collospermum hastatum (Photo: Phil Bendle, licensed under Creative Commons 3.0 New Zealand)

Planting while at Te Papa

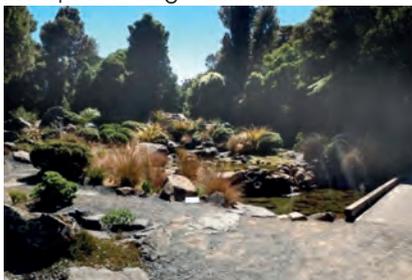
type specimens of New Zealand plants than any other institution in the country. Together with similar collections around the country, it underpins knowledge of what plant species occur where in New Zealand and how that has changed over time.

One of my aims was to engage with alpine plants in their native environment. My work ranged from weeding through watering, trekking and botanizing. At Otari Wilton's Bush, much of my time was spent in the gardens at the bush. The garden has around 60% of the native species from New Zealand. It offers free admission, funded by the local council and accessed by more than one hundred thousand visitors per year (measured by sensors). My volunteer role was relaxed and based on the tasks of the day. I tended the alpine section; here there is a wide range of alpine plants including *Raoulia* species, *Epilobium melanoaulon*, *Brachyglottis*, *Halocarpus bidwillii*, *Melicactus lanceolatus* & *Acaena microphylla*, to name only a few. I took care of the *Celmisia* collection, which was housed in a sheltered location and required careful watering (on the dry side!); I planted a bed of *Pellaea rotundifolia*; I helped with the removal of two trees (*Rhopalostylis* sp.) and had the opportunity to climb with the tree surgeon – scary but exciting. At Te Papa I helped plant out coastal plants around the museum, including *Hebe*, *Coprosma* and *Phormium*. When it came to nursery work, I learned to 'bag' plants, including *Olearia virgata*, a new technique for me.

An important part of my trip was observing and collecting. As someone who has rarely engaged with plants outside gardens, I relished these outings like a child in a toy shop! At Eastbourne I travelled in my free time to Days Bay, taking a boat to explore the bush around the area. There was no possibility of alpinism but this was an opportunity for me to see the environment and plants in a relaxed and focussed way; because of the intensity of my study programme at Kew, I often find it difficult to do

An alpine rock garden at Otari

Dracophyllum filifolium





The propagation of *Brachyglottis kirkii* var. *kirkii* – unknown in this area

this as I wish. I found my first ever orchid in situ - the Easter orchid, *Earina autumnalis*. I went on to discover *Macropiper excelsum* (Kawakawa), a medicinal plant used in Māori culture; *Blechnum fraseri* (Maukurangi), a miniature tree fern; *Amanita muscaria* (Fly Agaric), unintentionally introduced to New Zealand as a symbiont of the pine plantations; *Earina autumnalis*; and *Dracophyllum filifolium* (Needle-leaved Grass Tree). Of all the plants during this trip it was the *Dracophyllum* that most impressed me.



Euphrasia revoluta

At Akatarawa Forest, the Maungakotukutuku Scenic Reserve, I had a serendipitous opportunity. A local botanist had recently found a new population of *Brachyglottis kirkii* var. *kirkii*, so we went to collect material for propagating at Otari. We also collected *Coprosma rotundifolia* and *Melicytus micranthus*. While there I observed other plants like the 'Widow Maker', *Collospermum hastatum* (a very



Phyllachne colensoi

View from top of Mount Holdsworth





Wahlenbergia congesta



Celmisia incana

heavy epiphyte that can kill you if it falls out of the trees) and *Astelia solandri*. On return to the gardens I spent the rest of the day propagating the material as cuttings, so that I had seen the whole process of finding, collecting and propagating.

Taurarua Range – Mount Holdsworth Track

We set out to Mount Holdsworth at around five o'clock with the intention of doing the tour in one day. The climb was steep and increasingly treacherous as we climbed. We spent around eight hours walking and two hours in the alpine zone. Many of the plants were common and familiar to Rewi and Finn but were all completely new to me apart from what I'd seen in books. The climb was as enjoyable as seeing the plants and it combined two of my favourite activities (botany and exercise). The top of the mountain was cold and windy, making observing and photographing very difficult. The terrain was an amalgamation of grasses, sedges, closely packed alpine plants and scree, and was occasionally difficult to traverse.

Other plants I saw during this trip included: sedges such as *Carex ovalis*, *Uncinia filiformis*; grasses – *Agrostis muscosa*, *A. personata*, *Chionochloa flavescens*, *Poa anceps*, *P. annua*, *P. kirkii*, *Holcus lanatus*; Rush – *Juncus effusus*; dicots – *Brachyglottis bidwillii*, *Dracophyllum uniflorum*, *Gaultheria antipoda*, *Olearia arborescens*; *Hebe* species; *Pittosporum*; *Coprosma* and a variety of ferns.

Ruahine

Our trip to the Ruahine was similar to Taurarua but shorter because of the nature of the pathways. Because of travel time from Wellington we only had an hour at the summit. The weather was much different, very hot with little wind. The summit terrain was also different, with far more scree, some boggy areas and a less tramped area (thus, hazardous sections). Plants had some similarities although the diversity of *Celmisia* was more apparent. I found *Phyllachne colensoi*, *Wahlenbergia congesta*, *Pentachondra pumila*, *Dracophyllum recurvum*, *Luzuriaga marginata* and *Celmisia incana*. My list of New Zealand plants seemed endless. Others included sub-alpines and alpines such as *Acaena glabra* (Biddy Biddy), *Cladia retipora* (Coral Lichen), *Usnea capillacea*, *Brachyglottis lagopus*,



Pentachondra pumila



Erosion around *Celmisia spectabilis*

B. bennettii (syn. *Senecio bennettii*), *Celmisia spectabilis*, *Astelia nervosa*, *Ranunculus insignis*, *Chionochloa* species, *Coprosma microphylla* and *Pentachondra pumila*.

Problems

My whole trip was surprisingly stress free with no lost bags or muggings. I only had a couple of minor concerns. At Taurarua the weather is notoriously changeable. Our first planned trip had to be rearranged because of a storm over the mountains. This was not a huge problem as everyone was flexible and relaxed (that's New Zealanders for you). I was challenged by the different weathers of Taurarua (very windy) and Ruahine (very hot). This was not a huge problem but made it difficult to collect and photograph, particularly atop Mount Holdsworth.

Two Discoveries

The two most important plants I observed were *Aciphylla colensoi* and *Leucogenes grandiceps* (New Zealand or North Island Edelweiss). *Leucogenes* is a genus of three or four woody-based evergreen perennials from New Zealand. They have excellent silver foliage. Known in New Zealand as Edelweiss due to the striking resemblance of their flower heads to those of the genus *Leontopodium*. These 'Flannel Flowers' consist of clusters of tiny, tubular hermaphrodite florets surrounded by large woolly bracts.

Acknowledgements

I am grateful to the crew I went with. I was quite overwhelmed by the whole process of plant collecting and look forward to another trip with more time. I achieved all I set out to do and I have grown intellectually, professionally and personally. I challenged myself to step away from horticulture and invest in my own education, learning about plants, botany and the international aspects of this industry. My report only hints at my appreciation to all who contributed. I stress my thanks to the SRGC for its support and hope this report gives a flavour of what can be achieved with kind funding.

Nursing Alpines in Japan, July 2014 ...

Susann Nilsson



A very fortunate day in July gives me the pleasure of visiting the specialist grower Yuzawa Engei. It becomes a long and interesting day and the more I see the more impressed I am. The nursery, a family business, is not far from Sapporo in Hokkaido, the northernmost of the large Japanese islands. There are about ten specialist nurseries in the island, all with their own niche, but I dare to say that none of them meets the high standards of Yuzawa Engei. The first thing that strikes me on entering through the gate is how neat and well organized everything is. It is more like a miniature botanical garden than a contemporary nursery. I can't help thinking of what it would be like if I were to run such a business. I can hardly keep order in my own cold frames where, let's say, there may be space for a thousand pots. I constantly move the poor plants around trying to find the best organization.

Sachiyo Yuzawa, the daughter of the family, gives me a guided tour of the property. She is also my occasional interpreter. Her parents have a limited English vocabulary while my Japanese is shamefully non-existent. But I believe that we - thanks to our mutual and burning interest in alpine plants - would have understood each other even had we been born on different planets. For what I meet is pure love and understanding for the most difficult-to-grow plants we can ever come upon. And here they are cultivated with success. There is not just one struggling individual fighting for its life as in my garden back home, but rows and rows of healthy good-looking plants of the most delicious species.

The family father, Saturo Yuzawa, began as I guess we all did: with a genuine interest in cultivating and understanding the needs of alpine plants. But - and this is the difference from most of us - he developed and built on his knowledge thirty or so years ago to create a small nursery. Slowly but steadily, the nursery and its reputation grew until it became

needful to move to a new and bigger place about ten years ago. And what a place! Is there a better location for imprisoned high altitude plants than being surrounded by lush and beautiful mountains? I am convinced that the joy of the surrounding view must give the plants strength, not only to survive, but to flourish, imprisoned or not.



Naturally, it takes more than a stunning landscape to grow such specialized plants successfully. As we all too sadly know, we need a big portion of patience, long experience and the humility to dare to fail, if we are to achieve knowledge. The Yuzawas have all this with – moreover - precision in every detail. To give you but one example: every single pot is weeded by hand instead of using pesticides.

Of course, the nursery also offers species that are easy to keep in cultivation. This is a commercial necessity to satisfy the customers who are at that early stage in their growing careers. In this spirit the nursery keeps what is probably the widest collection of auriculas; one greenhouse is dedicated entirely to growing these easy beauties. If visiting at the right time of the year, in another greenhouse one might sing for joy at seeing hepaticas of all imaginable colours. That said, please forgive me, all friends of *Primula auricula*: I am totally aware of the need of the skills that I mentioned above to grow auriculas to perfection. I merely base my rather patronizing expression “easy” on my own experience that even I can manage to keep them alive without any great efforts.

Saturo San tells me that Yuzawa cultivates around three thousand species of which about one third are raised every year from seeds. Unfortunately, many of the nursery’s specialized species grow only in national parks where for understandable reasons one is not allowed to collect. This forces the Yuzawa to propagate plants from nursery seeds. Of



course, whenever possible, they use wild-collected seeds to get genetic variation and keep the stock strong and healthy.

I mentioned that this is a family business. And in this case it really is so in the true sense of the words. Besides Saturo, his wife Kiyoko and their daughter Sachiyo, the two sons Masaru and Hiroshi also work at the nursery. Even the daughter-in-law, Yoshie, is employed. In my experience it is uncommon to find all members of a family engaged in one and the same interest. At least, not in Scandinavia.

The division of labour is rather flexible even if everyone has their special responsibility within the business. But, as plants do not behave like humans, often with a rhythm of life evenly dispersed over the year, the former are those who set the rules of work. Most seeds mature during the same short period and must be collected and sown. In that case it does not help if your main interest is accounts, for you will find yourself turned into a sowing specialist. In Yuzawa's nursery all seeds are sown as soon as they mature, regardless of their being warm or cold germinators. This is not only rational but also the plants' natural way of propagation. As far as I know, nobody has never found any Pergamylene envelopes "*kept cold and dry*" in nature? Naturally, seeds drop to the ground when mature and then germinate when circumstances are propitious. In this nursery there is no long menu of sowing substrates. The only thing used is volcanic *kazanreki*, a substrate with very low pH, from a volcano in southern Hokkaido.

Why not make a feature of the watering pond?



Once everything is sown and ready for the next season it is time to prepare and pack the plants that are to be exported. The procedure is not that easy. First, the plants must be kept in quarantine for several weeks. The authorities must be contacted to get an individual phytosanitary certificate for each packet. Eventually, the plants are shipped as dormant, in November. Perhaps some readers shrink back when hearing about this unusual season for receiving delicate plants? But it does not cause any great problems. It usually takes five days from sending the parcel to pick-up time for the yearning recipient. If you happen to live in the mild United Kingdom and if the plants are destined for outdoors but are still dormant on arriving, just pot them up and keep them in a cool place such as the alpine house, cold frames or even the rockery. However, people living in America or Scandinavia may have to wait until the thaw to be able to plant out the new treasures. If you are unlucky, the plants might wake up during transportation but that is not a big deal either. Just pot them up and keep them frost-free until spring or tell them kindly to go back to sleep by gradually putting them in cooler places with less water until dormant again. Alpine plants are very aware of spring's treachery, seducing with a few fraudulently warm days before turning back to cold and snow.

The Yuzawa also provide a smaller collection of seeds should that suit you better; these are sent to Europe without any certificate or other procedures. But let us return to the nursery routines. The warm germinating seeds are kept in a greenhouse at a rather high temperature, between 10^o C and 20^o C. The breeding stock and plants left over from the selling season are stored in what look like big meat refrigerators. Here the plants overwinter in darkness, cold, un-watered and frost free.

As a grand finale I share Sachiyo Yuzawa's tricks for success with the rather difficult-to-raise *Dicentra peregrina*. If the seeds are sown fresh in acidic substrate with low pH the germination will be very good. *D. peregrina* is a species that wanders about, hence its botanical name. These plants are therefore not happy if left in the same soil year after year. Every year it should be repotted or replanted and have its roots barbarically trimmed to about ten cm.

If you cannot visit, I recommend a virtual visit to the online catalogue of desirable species (<http://www.yuzawa-engei.net/07Overseas/index.html>)

Not only alpines grow in pots





Primula scotica: Thoughts and Observations

Bob Moore

I lived and worked in Orkney for 25 years and am fortunate to know of a site where *Primula scotica* grows near one of my favourite walks along the cliff tops at Yesnaby. Here it grows in the short maritime heath, some 150 to 200 metres back from the cliff edge but well within the salt spray debris area. From observation I would describe the soil in the area as a thin layer of clayish soil over a base of Stromness flagstone. The immediate area looks relatively level but *Parnassia palustris* (Grass of Parnassus) may also be found here, indicating that the drainage is not uniform. The area is stripped of soil at the cliff edge and, as the cliff is unfenced, the vegetation is not grazed by cattle or sheep. In addition to the wind, a few rabbits perhaps help to keep the vegetation under control.

I have seen it in flower from May to August. When the flowers first opens the stems are fairly short but they lengthen with maturity (could this be a reproductive mechanism?) In addition the flowers can have styles of different lengths and I have observed some pin flowers, as may be seen in my illustrations.

Above: Habitat back from the cliff edge

Below: *Parnassia palustris* (Grass of Parnassus)





I have grown *Primula scotica* from wild-collected seed, which germinates easily, but I have found the plant to be short-lived in cultivation. *Primula scotica* is a floral gem that I feel is best appreciated in its natural habitat. Perhaps it is not the most floriferous of the genus but, for me at least, it has a lot of appeal, particularly as it survives in a harsh environment and is a plant you have to search for and look at, unlike its family member *Primula vulgaris*, which brightly adorns most shaded banks in Orkney during April and May; although less visible, *Primula scotica* has the benefit of being able to be enjoyed over a longer period.



The image shows two dried, brown flowers of Viola volcanica resting on a surface of volcanic ash and small stones. The flowers are pressed and flattened, showing their intricate petal patterns. The background is a mix of fine ash and larger, light-colored rocks.

An Exploration Fund Report from Patagonia

Mike Kintgen

Viola volcanica in volcanic ash

My colleague Dan Johnson and I left Denver on January 9th for Buenos Aires with a return ticket for February 8th. On arriving in Buenos Aires we met up with our long time contact Marcela Sanchez of the Instituto Nacional de Tecnología Agropecuaria (INTA)

Alstroemeria aurea on Cerro Challhuaco





Senecio argyreus on the slopes of Cerro Challhuaco

and spent a day looking at the subtropical flora of the Tigre Delta, a welcome relief from the snow that we had left behind in Denver. We soon flew to Bariloche and were met by our friend Marcela Ferreyra, who immediately welcomed us by taking us to see *Viola volcanica* east on Route 40. Although too late for flowers, the rosettes were beautiful against the volcanic ash.

The next day we climbed Cerro Challhuaco, a drier mountain than the better known Cerro Catedral, but one with its own specialties. *Alstroemeria aurea* filled the *Nothofagus pumilio* forest at the trail head, creating a photographic sensation wherever we looked. Climbing the mountain, we passed into *Nothofagus antarctica* forest and left behind the masses

of *Alstroemeria*; open areas soon revealed the first *Viola columnaris* and assorted high elevation plants. Pressing on above the treeline we encountered *Acaena macrocephala*, various senecios such as *Senecio argyreus*, *S. baccharidiflorus* and *S. bipontinii*, *Perezia recurvata*,

Loasa nana on Cerro Challhuaco





Pozoa coriacea

beautiful bright green mats of *Discaria nana*, *Mulinum echinus*, *Loasa nana*, *Moschopsis caleopuensis*, *Valeriana moyanoi*, *Pozoa coriacea* and a few *Nassauvia pygmaea*.

Further up, one of the real treasures of the mountain revealed itself in the white form of *Chaetanthera villosa*, whose yellow forms are found

Below: *Chaetanthera villosa*

Facing: *Menonvillea rigida* 🍁







north of Lago Nahuel Huapi. From amazingly silver rosettes it produces an occasional but astonishingly large white flower with a yellow centre. Nothing could be a better metaphor for the ability of alpine plants to produce so much beauty on such a harsh-seeming barren scree slope. On climbing higher we found a few *Nassauvia pulcherimma* in what had been a late-lasting snow field. Reaching the summit, what had been a rather warm hike became cooler with a buffeting westerly wind. Here more of the mountain's treasures were present: *Oxalis erythrorhiza* and the amazingly woolly *Nassauvia lagascae* var. *lanata*. On a previous trip I had dubbed the regular form of *N. lagascae* the most beautiful *Nassauvia* ever and now it was as if my dreams were answered, taking an already beautiful plant and making it ever better with its incredibly tight woolly rosettes. One of the best things about plant hunting is discovering that Mother Nature has developed plants that go beyond your wildest dreams.

Climbing along the ridge of Cerro Challhuaco, we headed toward the saddle with neighbouring Cerro Blanco while along the way more senecios, *Azorella madreporica*, *Menonvillea rigida* and *Adesmia parvifolia* brightened our passage. Having turned round we picked our way down the mountain a slightly different way, coming across the regular form of *Nassauvia lagascae* - more *N. pulcherrima* - and *Azorella lycopodioides*. Cerro Challhuaco was a wonderful first hike for the trip and I highly recommend it to anyone who loves alpine flowers.



Facing: *Oxalis erythrorhiza* 

Above: *Adesmia parvifolia*

The next day we drove east about 500 km from Bariloche to Valcheta near the coast for a trip up to the remote and very interesting Meseta de Somuncurá. Along the way we passed through all the various forms of the steppe from sub-Andean, through the occidental to the central, into the monte-steppe transition and finally into the monte itself. It had been a super dry year and many of the plants that we encountered were dormant or pondering dormancy. Nevertheless, *Grindelia anthemifolia*



Rhodophiala mendocina

and *Grindelia chilensis* still provided us with some bright patches of yellow colour along with the bulb *Rhodophiala mendocina* in the far western reaches of the steppe near Bariloche. The amazing annual *Doniophyton anomalum* looked like a bright gold straw flower in spots along the road. It would surely be a welcome addition to any rock garden for its long season of interest, as it was actually in seed when we saw it. *Viola volcanica* also was present at one site. Moving ever east, the steppe became drier and drier, especially noteworthy in the severe drought that the region was experiencing. In the central part

Larrea ameghinoi





Daniophyton anomalum on the road to Valcheta

of the steppe we came across a plant that we had seen on our first trip to Patagonia in 2011: *Larrea ameghinoi* is another of those really amazing plants that you never thought could exist until you saw it. An endemic of Rio Negro and Central Chubut, this completely prostrate Creosote Bush would make an excellent bright green ground cover in its native Patagonia and possibly in other arid cold regions around the world. Arriving in the monte proper I was reminded of southern New Mexico with its sea of *Prosopis* and *Larrea*, both genera native in the North American Southwest and Patagonia.

Stipa humilis and *Ephedra frustillata* on the Meseta Somuncurá





View from the summit of Meseta Somuncurá

Facing: Red-spined form of *Austrocactus* on Meseta Somuncurá 🍁

The next day we were met by Martin of Expedición Somuncurá who was our guide and driver for the next four days. I highly recommend Martin to anyone who wants to visit the meseta. He knows the landscape very well, and where all of the interesting sites are for botanical, animal and human aspects. Once joined by Natalia from Buenos Aires, we piled into Martin's Land Rover and spent the next six hours climbing the slopes and crossing the meseta to the house where we spent the next two nights. The meseta is not as dramatic as the better known Meseta del Lago Buenos Aires near Los Antigos, Argentina. It has small cliffs and noticeable slopes in many places but elevation is gained in a more gradual step-like fashion or by simply climbing up a gradual incline for miles. Meseta del Lago Buenos Aires is guarded by high cliffs in many places or, at least, by high steep slopes with switch backs.

The meseta is supposedly the part of the Patagonian steppe most similar to the North American steppe, with its cold winter (-30°C) and hot summer (35°C). While much of Patagonian steppe is similar to the other four steppe regions around the world - and at times the likenesses

Silver *Senecio gilliesii*, *Aceana* species, and *Phyllipiella*





of plants and landscapes are uncanny - it is in reality much more temperate than the steppe of western North America or Central Asia because it lacks a large expanse of land. Summers are generally cooler and winters generally milder. *Trachycarpus* palms may be found in many Patagonian towns whereas in western North American steppe they would be dead by late November, with temperatures often well below -18°C .

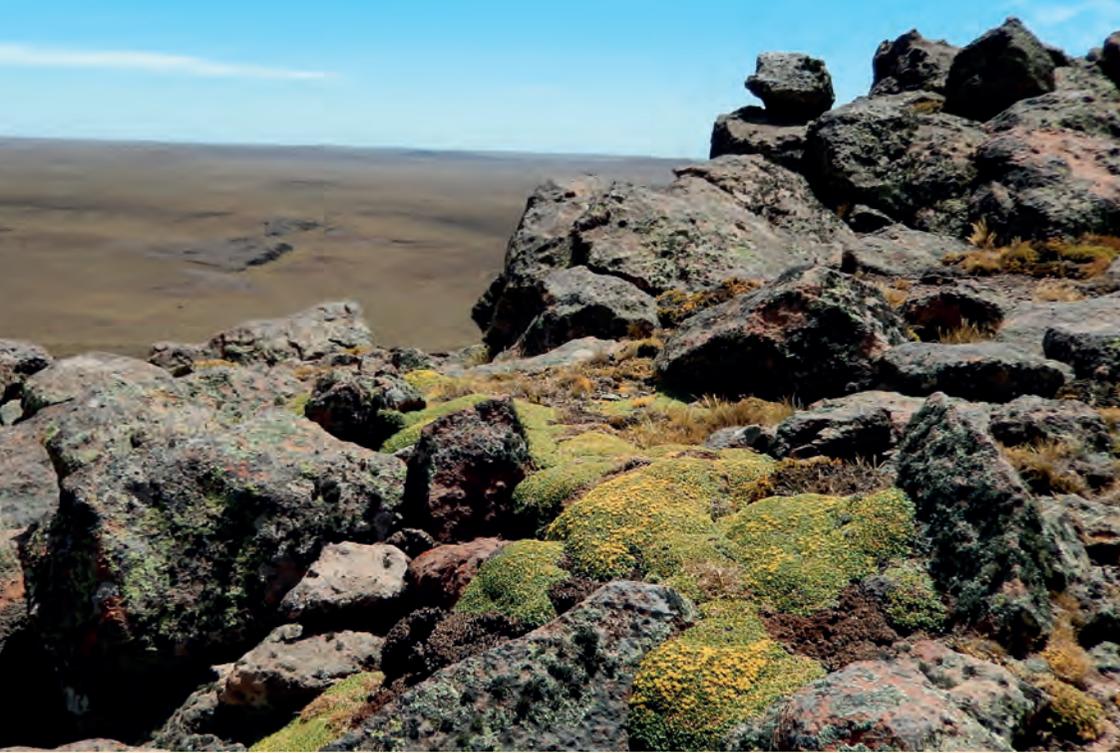
Continuing with our journey up the meseta we passed from monte to the monte-steppe transition and finally into steppe proper with more grasses and no more *Larrea*. *Larrea* shrubs are one of the key components of the monte and its ecotones. The steppe was especially beautiful with the various *Stipa* in shades of gold and rust, the two most noteworthy being *Stipa humilis* and *Stipa speciosa* in two varieties. Climbing ever higher but rather slowly, the steppe changed with the increase in elevation and precipitation. Various silvery *Senecio*, *Aceana* and *Adesmia* added silver elements to the blonde and brown landscape. The reddish

Guanacos around a lake on Meseta Somuncurá. The region was in a drought so any watering hole was full of wildlife



or gold spines of *Maihuenia patagonica* caught the sun. A stop in a dry wash revealed a large population of *Gutierrezia baccharoides* in its final flower for the season and the last pink flower of *Pleurophora patagonica* in the *Lythraceae* family. Up on the rock slopes beautiful red-spined *Austrocactus* plants vied for our attention. We finally reached the top of the plateau proper, and the immense flatness punctured by the isolated summits of mountains scattered across the surface was interesting, feeling much like parts of the western Great Plains of North America with their scattered buttes and hills.

Here the vegetation became more dominated by grasses and the shrubs were smaller, generally less than one metre in height. A drought



Laretia acaulis on the shoulder of Cerro Corona
Pantacantha ameghinoi near the summit of Cerro Corona

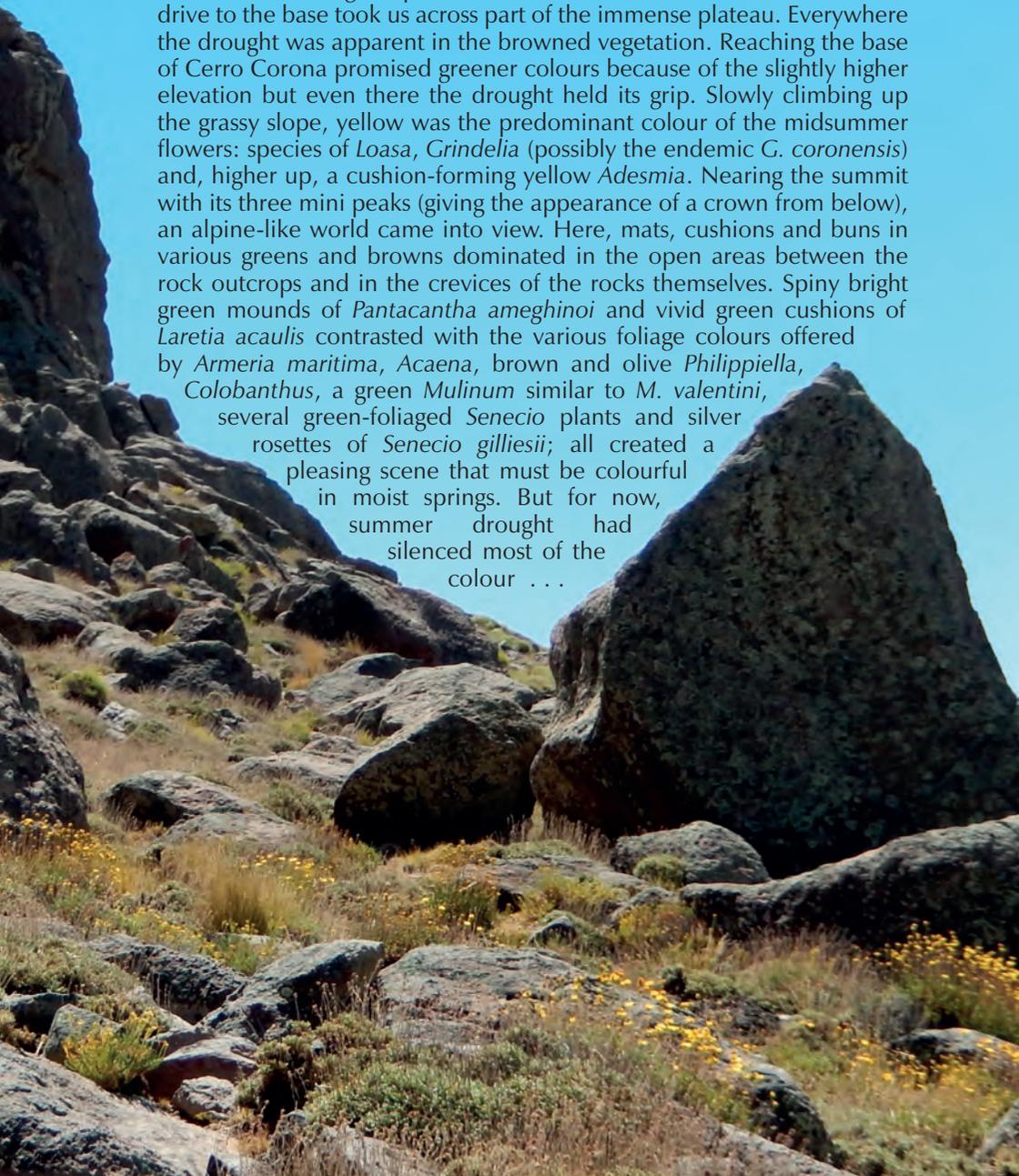




added to the usual summer brownness, and only a few hardy yellow *Senecio* and *Adesmia* plants added colour to the predominantly bleached hues of the parched landscape.

The next morning, we rose with the promise of climbing Cerro Corona (Crown Hill) the highest point on the meseta at 1649 metres. An hour or so drive to the base took us across part of the immense plateau. Everywhere the drought was apparent in the browned vegetation. Reaching the base of Cerro Corona promised greener colours because of the slightly higher elevation but even there the drought held its grip. Slowly climbing up the grassy slope, yellow was the predominant colour of the midsummer flowers: species of *Loasa*, *Grindelia* (possibly the endemic *G. coronensis*) and, higher up, a cushion-forming yellow *Adesmia*. Nearing the summit with its three mini peaks (giving the appearance of a crown from below), an alpine-like world came into view. Here, mats, cushions and buns in various greens and browns dominated in the open areas between the rock outcrops and in the crevices of the rocks themselves. Spiny bright green mounds of *Pantacantha ameghinoi* and vivid green cushions of *Laretia acaulis* contrasted with the various foliage colours offered by *Armeria maritima*, *Acaena*, brown and olive *Philippiella*,

Colobanthus, a green *Mulinum* similar to *M. valentini*, several green-foliaged *Senecio* plants and silver rosettes of *Senecio gilliesii*; all created a pleasing scene that must be colourful in moist springs. But for now, summer drought had silenced most of the colour . . .



Fifty Years Ago

Richard Green



Our club has endured, and long may it do so.

But it is changing and it will change more. Looking back fifty years at our journal, it is easy to see how some things alter – who would now write prose in the exact manner of Harold Esslemont? On the other hand, other things vary but little – advice such as S G Lilley gave may be as valid today as it was half a century ago, whether delivered to us on the printed page or via social media.

Harold Esslemont ... on a visit to the Dolomites

“By this time it was past mid-day and as the sky was darkening ominously, I thought it prudent to retrace my steps. I had barely reached the hotel when one of the most severe thunderstorms that I have ever witnessed broke. For half an hour or more the thunder crashed and the lightning flashed in the sky immediately overhead. The rain was torrential. At the height of the storm, two ladies of the party, who had visited the summit, were caught while descending the chair lift. The operator, perhaps on account of the severe electrical storm, had temporarily switched off the current and the two unfortunate passengers found themselves suspended in mid-air while the storm beat down upon them. Eventually the chairs started moving again, and the two ladies stepped back on dry land. I thought they took the whole affair in a most sporting manner, for after a hot bath they related the incident as a good joke.”

(April 1966, Volume 38, Page 79)

S G Lilley ... on *Dionysia curviflora*

“Watering has, to me, been rather a puzzle. We have been told that not one spot of water must touch the foliage and for a number of years I was most careful to follow this advice, but now during the growing season from April to October, I literally pour water on them and even though the foliage is saturated, the plants thrive on the treatment and I have far less trouble with those annoying brown patches that so often appear to mar the look of a healthy cushion. I may be wrong, but it is my personal opinion that the brown patches are caused through lack of water and consequent burning of the foliage. During the winter months watering is practically discontinued other than to keep the sand in which the pots are plunged, moist.”

(September 1965, Volume 37, Page 307)

Richard Green

Dionysia curviflora and habitat at 3200 m in the Shir Kuh in Iran (Photo: Kok van Herk)



Saxifraga oppositifolia the Purple Saxifrage

Mike Kendall and John Owen

Even before landing, it was easy to see that the ground around the Polish polar research base in Hornsund on the island of Spitzbergen (78°N) was covered by a purple haze. Coming ashore from the boat, it was evident that the colour came from vast numbers of Purple Saxifrage. We are far more used to seeing it high in the Alps, in small numbers. In Spitzbergen it forms extensive mats covering everything from stony terraces above the seashore to the tussocks that rise from wet summer meadows and the edges of snow banks. It is so common that, given a few days, an alpine gardener can actually bring himself to walk across the vibrantly-coloured flowers while moving around the scientific base. It is hard to treat a plant this special in the same way as you would the dandelions or daisies on your lawn but, if you are on your way to the dining room after a hard day in the field, inhibitions are easily overcome!

Here in Scotland we also find Purple Saxifrage close to the sea. If you visit Invernaver or Faraid Head in Sutherland in the spring, the show will not be as spectacular as that in the Arctic but you will easily find plants not too far away from your car. Skye also has this species close to the coast but there it is easier to find it in the Cuillin or Trotternish mountains.

Further south still, it can be found on most Scottish mountains, in the Lake District and even in Snowdonia. Purple Saxifrage tends to be a plant of cool, moist, northward and eastward facing corries. In the Alps it is a high mountain plant, flowering briefly as the snow melts. The later in the year that you visit, the higher you have to go to find it.

We have encountered *Saxifraga oppositifolia* in so many places, from skyline to coastline, that it is scarcely surprising it has become a personal favourite in the garden. It was a struggle to keep it happy in a well-drained trough in Devon but when the same plant was moved to the Highlands in a large pan, it suddenly began to thrive. It was not long before it needed to be vigorously divided! It now occupies two large patches of alpine bed. Every spring, just before the Nairn show, it covers itself with flowers, reminding us that even the most common of alpine plants is to be treasured.

Saxifraga oppositifolia is relatively simple to cultivate ... if it is happy. It likes a wide range of conditions, both acidic and calcareous, although forms may reflect their origins in their preferences. Composts need to be quite gritty to ensure good drainage, but moisture-retentive enough to prevent it from drying out.

Full sun all day is not its first choice. This far north, that is not likely to be a problem but a cool root-run is nevertheless essential, especially if grown

in a trough. Very weak feeding in spring if it is in a container will maintain its vigour. Overfeeding is not recommended.

Propagation by cuttings in spring is easy, using a similar, low-nutrient compost. Again, ample moisture is essential. New plants should be able to be potted on within four to six weeks.





Hexham 2nd April 2016

Arriving early on the morning of the Hexham show, you are confronted with a flurry of purposeful activity. Cars disgorge a vast array of plants, all packed ingeniously for their journey to the Wentworth Leisure Centre. People rush past, pausing to greet other competitors. The hall itself is large, with long rows of tables set out for the prized offerings. Plants are temporarily deposited while competitors decide which class will best suit their plants. By 9.30 the hall is ready, plants perfectly aligned in their allotted categories and all transportation materials stowed out of sight.

And what a feast for the eyes. Wandering up the first aisle, the nurseries' and members' stalls beckon. At the top of this aisle may be found the six pan class – whoppers in 36 cm pots. North of England growers are well-known for their 'mega-saxifrages' and this class was no exception, with the two exhibits that competed for the AGS medal showing five superb specimens between them. However, this time it was a Scot, Stan da Prato, who entered three of the well-grown saxifrages in his six pan entry. George Young however took first prize with his well-balanced display of *Primula* 'Broadwell Milkmaid', *Callianthemum anemonoides*, *Sebaea thomasii*, *Trillium rivale*, *Saxifraga grisebachii* and *Saxifraga* 'Coolock Gem'.

White flowers seemed to be the order of the day for the Forrest medal. Strongly scented *Corydalis glaucescens* and pretty *Pulsatilla vernalis* vied for the honour with large pans of *Tecophilaea cyanocrocus* 'Storm Cloud', *Primula* 'Pink Aire' and the yellow-flowered *Trillium chloropetalum* 'Val



Mulvihill' but Mark Childerhouse took the medal with a faultless *S.* 'Coolock Gem'. Among other contenders, Frank & Barbara Hoyle's perfect *Saxifraga* 'Coolock Gem' won class 16 and Sue Simpson's fluffy *Pulsatilla vernalis* gained a first in the one pan *Ranunculaceae* class.

Tommy Anderson's six pan rock plants (class 50) won him the AGS medal and his white-flowered trio in class 69 helped him to gain the R B Cooke plate with another white saxifrage, *S.* 'Allendale Jinn', paired with the aforementioned well-flowered *Corydalis glaucescens* and *Trillium rivale*. In contrast, Tom Green showed a very attractive *Corydalis solida* sporting tight spikes of brick-red flowers. And in the bulbous category, the white flowered *Ipheion* 'Alberto Castello', often floppy in appearance, stood up very nicely.

There were primulas aplenty. Frank & Barbara Hoyle's magnificent *Primula* 'Pink Aire', one of their winning three pan *Primulaceae* entry in class 4, had to be the largest plant in the show while Ian Kidman's *Primula* 'Maria Talbot' had the richest colour with its large pink-red flowers. Class 58, the three pan *Primula allionii* class, was beautiful with the eighteen pots entered showing sheer species perfection. Don Peace's *Primula* 'Broadwell Milkmaid' with its fine bunnet of cream flowers won the one pan *Primulaceae* class. His delicate pink-flowered *Primula petelotii* (native to Vietnam) also won as did his superb *Primula* 'Netta Dennis', its leaves bearing perfect unmarked farina. The fresh charm of *Primula elatior* bedded in moss won



Primula 'Pink Aire'
Primula 'Netta Dennis'



Iris bucharica





Tecophilaea cyanocrocus 'Storm Cloud'

Mike Dale the Scottish natives class 27. This plant in its subspecies *cordifolia* form with its elegant sprays of soft yellow flowers gained second place in the one pan Asiatic class, being beaten by Stan da Prato's electric-pink *Primula warshenewskiana*. The *Primula marginata* group was well-represented

Pulsatilla vernalis



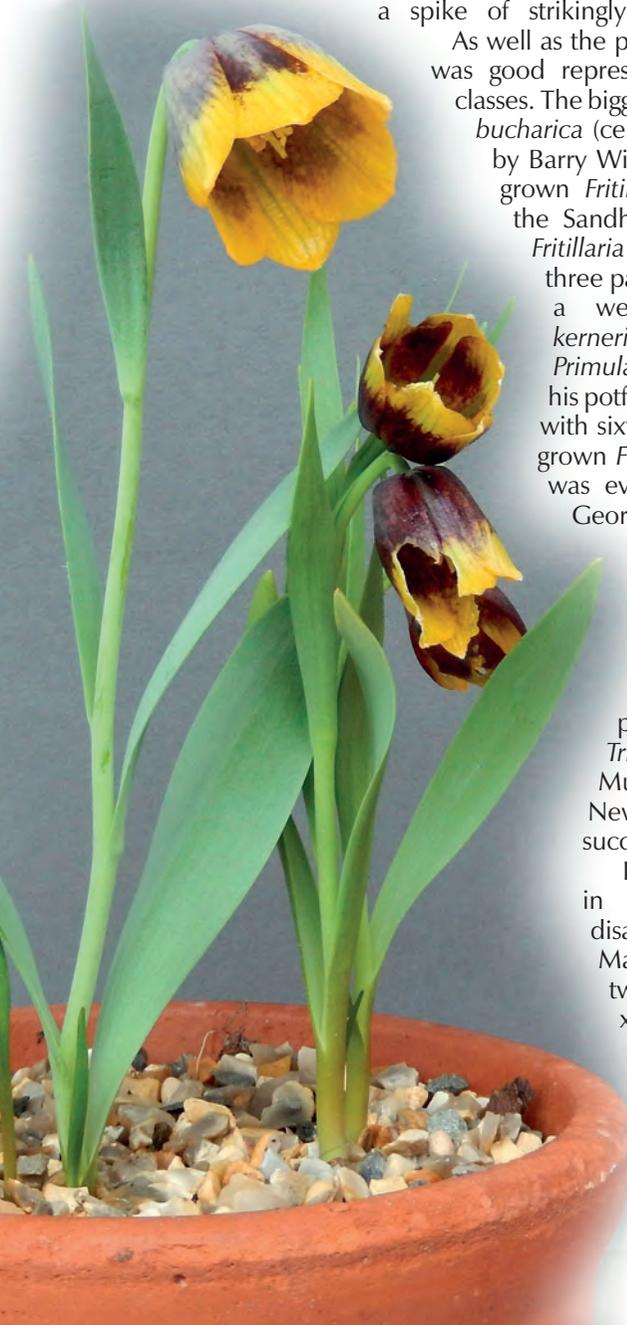
with beautifully-flowered specimens of *P. marginata* 'Napoleon' and *P. marginata* 'Mrs Carter Wolmsley'. It was a great pleasure to see a primula, not seen very often now, shown by Ian & Carole Bainbridge: their *Primula palinuri* (from south-west Italy), sported distinctive large rosettes, each of them bearing a spike of strikingly attractive yellow flowers.

As well as the primulas and saxifrages, there was good representation from the bulbous classes. The biggest pot I have ever seen of *Iris bucharica* (certificate of merit) was shown by Barry Winter. There were very nicely grown *Fritillaria* and Don Peace took the Sandhoe Trophy with his superb *Fritillaria crassifolia* hybrid, part of his three pan entry to class 51 alongside a well-flowered *Callianthemum kernerianum* and an immaculate *Primula* 'Netta Dennis'. I coveted his potful of *Fritillaria aurea* x *pinardii* with sixteen large flowers. His seed-grown *Fritillaria hermonis* (class 106) was evenly large-flowered as was George Young's winning *Fritillaria tubiformis*, also seed-raised.

The *Trillium* family held its own with dense pots of *Trillium ovatum* var. *hibbersonii* and *T. rivale*. I was pleased to see three pots of the yellow-flowered *Trillium chloropetalum* 'Val Mulvihill'; the original plant in New Zealand is thought to have succumbed to the *Trillium* virus.

I am always interested in dionysias and was not disappointed. Ian Kidman and Mark Childerhouse showed two lovely *Dionysia viscidula* x *freitagii* and Derek Pickard won the one pan *Dionysia* class with his *Dionysia bryoides*. Two almost

Left: *Fritillaria michailovskyi*
Facing: *Hepatica* x *schlyteri*







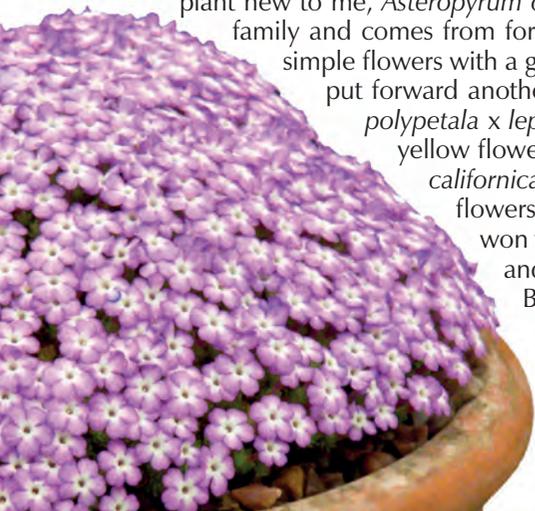
Caltha hybrid

identical specimens of this were shown in class 63 and demonstrated differing approaches to cultivation, one in a standard depth pot and the other in a long tom.

It would not be a spring show without *Hepatica*. Diane Clements showed a lovely intense blue *H. x schlyteri* and Christine Boulby a super *H. 'Millstream Merlin'* in Section 2. Brian & Shelagh Smethurst won class 23 (three pans distinct rock plants from one continent) with their Japanese hepaticas. Their semi-double *H. 'Hohobeni'* had petals shading from strong pink through to almost white.

The new and rare class exhibited an interesting group of plants. A plant new to me, *Asteropyrum cavaleriei*, belongs to the *Ranunculus* family and comes from forests in China. It bears creamy-white simple flowers with a green boss of stamens. Graeme Butler put forward another 'Buttercup' with his hybrid *Caltha polypetala x leptosepala* with very attractive creamy yellow flowers. In contrast, Brian Burrow's *Silene californica* bore hot-orange ragged-petalled flowers. *Primula renifolia* from Alan Furness won the class. It had kidney-shaped leaves and mauve flowers with a yellow eye. Belonging to the *megaseifolia* section and native to rocky slopes in the

Dionysia bryoides





Above: *Hepatica* 'Millstream Merlin'

Below: *Silene californica*





Callianthemum farreri

Russian Caucasus, it was discovered in the 1970s but lost to cultivation in the 1990s. It has since been reintroduced into cultivation by Gothenburg Botanic Garden. Another primula entered in the new and rare class, originally collected in China as the white form of *Primula odontocalyx*, has since turned out to be a new species.

Walking down the aisles, heavily-flowered plants jostle for attention but sometimes a less obvious specimen catches the eye. I was delighted to see two well-grown specimens of not often seen *Anisotome imbricata* var. *imbricata*, one of them winning the umbellifer class for Alan Newton. He also showed an attractive pot of the aroid *Asarum maculatum*. In its raised position the dark-maroon flowers could be seen clustered at ground level under the umbrella of nicely patterned leaves. Another striking plant, George Young's *Dactylorhiza* 'Cruikshank's form' with finely black-spotted leaves competed in the foliage effect class. Don Peace took first place in the one pan *Compositae* class with his attractive silver-hairy *Haastia pulvinaris*, which beat a well-flowered *Hymenoxys torreyana*.

I had a tutorial on judging conifers and was very taken with *Juniperus horizontalis* 'Newmann', a neat little grey-green bun with red leaf tips. Nearby was Stan da Prato's frothy *Rhododendron* 'Lucy Lou', winner of the





Hepatica 'Hohobeni'

Tubbs trophy for the best ericaceous plant. Alan Newton's winning entry in the natural effect class, *Androsace vandellii*, was clearly very happy growing vertically in his slate-creviced broken pot. Further up the aisle the cut alpine flowers in tiny vases were as cute as buttons as were the miniature gardens in the next class. The winning garden shown by John & Clare Dower was planted with a good selection of over twenty-five alpinas.

Section 1 totalled a remarkable tally of 500 plants in 385 entries shown by 56 exhibitors. Sections 2 and 3 had fewer exhibitors (17 and 3 respectively) and plants (116 and 19) but nonetheless exuded quality. Heather Barraclough showed a lovely *Primula* 'Clarence Elliot' in class 111. Lawrence Peet's name appeared often and his superb cushions showed off his growing skills. His *Androsace lehmanniana* and well-flowered *Paraquilegia anemonoides* helped him to win the Gordon Harrison cup and the SRGC bronze medal. And in section 3, Iain Matthewson from Dumfries won the Northumberland cup as a new exhibitor.

To sum up, it was a wonderful show and a fitting finale for Peter Maguire's tenure as show secretary. We had a good day, enjoying meeting friends old and new and enjoying a delicious lunch, courtesy of the Newton family. We left inspired by the beautifully grown plants and gratified to bring home a Gold medal for the Royal Botanic Garden Edinburgh.

And the plant I wanted to take home with me? It was Don Peace's *Haastia pulvarinaris*.

Elsbeth Mackintosh

Photos: Mike Dale and Peter Maguire





*Androsace
vandellii*
Sown June 2004

Edinburgh and the Lothians, 9th April 2016

A tinge of sadness was in the air at this year's Edinburgh show, with the death of former president of the club J Harley A Milne two weeks before. Harley & Winnie supported the Edinburgh group for many years, with Harley serving as both group convenor and latterly as show secretary from 1992 until 1997. Following the well-attended memorial service held on the Friday before the show, group members then set about preparing the halls and hoping for a colourful display as a fitting tribute. Any apprehension about a successful show following a very mild winter and cold spring was soon dispelled as the benches filled up to give a gloriously colourful spectacle. Almost all of the classes had entries, but *Primula* classes in particular bulged at the seams and bulbs and saxifrages were aplenty.

The strong competition in many classes was no better illustrated than in the five entries in the small six pan class 1. Sue Simpson (Dronagan) took the first prize with *Primula allionii* 'Crusader', *P. a.* 'Eureka', a white *P. marginata* 'Casterino', *Dionysia* 'Lycaena', *Androsace muscoidea* 'Schacht's form' and *Saxifraga* 'Mollie Broome'. She was also awarded the Bill Machie quaiach for a large and very well flowered specimen of *Saxifraga* x *biasolettii*. Though not the prettiest of its kind, this *Porphyron* section hybrid between *S. frederici-augusti* and *S. sempervivum* originated in cultivation in the early twentieth century but has since been recorded from wild populations near the Albania-Macedonia border.

Rhododendron 'Lucy Lou'





Facing: *Arum creticum* 🍁

Cyril Lafong (Glenrothes) took the Henry Archibald rose bowl for class 2, three pans of rock plants, with *Trillium rivale*, *Pulsatilla grandis* 'Budapest Blue' and *Pleione x confusa*. His winning entry in class 3, new and rare, for the Elsie Harvey memorial trophy, consisted of *Saxifraga quadrifaria*, *Primula* 'Coolock Snowball' and *Primula renifolia*: in other classes were the white-flowered form of *Crocus cvijicii* and a perfect dome of the compact form of *Dionysia aretioides* for which he received a certificate of merit. Also in class 3, David & Stella Rankin (Lasswade) included a distinctive dwarf form of *Meconopsis* cf. *pseudointegrifolia* with exceptionally hairy leaves and crinkled petals. The A O Curle memorial trophy for class 5, three pans from seed, went to Margaret & Henry Taylor (Invergowrie) for *Fritillaria moggridgei*, *Primula marginata* 'Alba' and their own hybrid *Narcissus* 'Ballet Girl'. Tom Green (Rowlands Gill) received a certificate of merit for a pale flowered form of *Primula henricii*.

The Edinburgh show has been long associated with plants of the family *Ericaceae*, though numbers of these plants on the bench in recent times have been small. The Alfred Evans quach for the best plant of the family, excluding

Meconopsis cf. *pseudointegrifolia*







Primula allionii x *pubescens* 'Lilac Fairy'

Facing: *Pterostylis curta* 

Vaccinium retusum





Facing: *Bellevalia paradoxa*

Rhododendron, went to Alan Furness (Wooley) for *Vaccinium retusum*. Stan da Prato (Tranent) won the Midlothian vase for best rhododendron with 'Lucy Lou', but Sue Simpson's *Rhododendron megeratum* 'Bodnant' with its waxy yellow flowers just beginning to open held much promise for the next show in Perth. The Kilbryde cup was presented to the club in 1955 by R B Cooke, that renowned grower of plants of this family. Previously presented for class 120, a bowl of cut flowers, the trophy was, for the first time this year, presented for the best plant in a pan less than 17.5 cm diameter. A difficult choice faced the judges, particularly with the large class 1 entry, but John di Paola's (Glasgow) superbly grown *Fritillaria aurea* 'Golden Flag' was judged the winner.

Section II included some excellent plants among the modest entry, with Iain Mathewson (Dumfries) winning the prize for the best plant shown by a first time exhibitor with his very well grown *Primula elatior* 'David Valentine'. The best plant in the section and winner of the Midlothian bowl was *Fritillaria amana* from Mala Janes (Ponteland). The bronze medal was awarded to Tony Taziker (Thornton-Cleveleys).

A splendid gold medal display of spring bulbs from the Royal Botanic Garden, Edinburgh, graced the hall. Among the jonquils, other *Narcissus*, *Fritillaria* and *Erythronium*, a selection of the many forms of *Iris bucharica* collected on the joint RBGE–KEW expedition to Tajikistan in 2014 was shown for the first time. John Mitchell and Kit Strange collected these plants

Cushions of *Androsace vandellii* and *Dionysia aretioides*





Facing: *Iris magnifica* 🍁

from 1650 to 1850 m above sea level on Gorno-Badakhshan in the Darwas mountain range in Tajikistan. These forms vary greatly in stature, flower size and colour, with the very pale yellow-flowered plants altogether taller than the small-flowered, dark yellow forms. All are significantly different from those usually seen in cultivation.

The show is always supported strongly by local members, both behind the scenes and in exhibiting. Many thanks go to those that provided the wonderful home baking and plants for sale, and to those who helped out during the day. Stan da Prato's massive haul of eighteen first prizes ensured that he gained the most points in section I and retained the Reid rose bowl for the eighth year running, beating the previous longest run of seven years by Maggi & Ian Young. He also picked up the Boonslie cup for the best miniature garden. Among the many fine European *Primula* on display the best was judged to be *Primula allionii* 'Lilac Fairy' from David & Stella Rankin who were awarded the K C Corsar challenge trophy. Your reporter (East Linton) won the R E Cooper Bhutan drinking cup with *Primula bracteata* x *dubernardiana*. Former Edinburgh group members, Carole & Ian Bainbridge, now of Gatehouse of Fleet, took the

Primula bracteata x *dubernardiana*





Facing: *Fritillaria amana*

Henry Tod Carnethy quaiach for best bulb, corm or tuber with *Narcissus rupicola* ssp. *watieri* 'Abaleish'.

The day, however, belonged to Jane & Alan Thomson, whose stunning bowl of *Pleione* x 'Britannia Doreen' was awarded the Forrest medal. Apparently, they bought one pseudobulb of this vigorous grex at the first *Gardening Scotland* event at Strathclyde Park. This was their first such accolade and their skill in cultivating this plant to the size and perfection seen was acknowledged by the Royal Horticultural Society's Joint Rock Garden Plant Committee later that day with the award of a first class certificate to the plant and a cultural commendation to Alan & Jane. A certificate of merit was also awarded to their *Hepatica* 'Millstream Merlin' in class 26. Alan & Jane have been great supporters of the Edinburgh group and its shows for many years, and it was particularly pleasing to see their success.

David Millward

Photos: Liz Cole

Pleione x 'Britannia Doreen'



Perth 16th April 2016

Noticeable on the show benches were several pots of large and well grown *Tropaeolum tricolor* and a large number of pans of *Erythronium*. The class for a miniature garden was well-supported with four entries and there was a good collection of tulips on show. The judges were Carole & Ian Bainbridge, Tom Green, Ian Christie, Peter Maguire and John Lee.

In section I, a Forrest medal could not be awarded to the most meritorious plant of the show, an outstandingly large pan of *Pleione* 'Britannia Doreen' exhibited by Jane & Alan Thomson, because it had already been given it at the previous week's Edinburgh show. It was, if anything, looking better and more floriferous than in Edinburgh and was awarded a certificate of merit. The condition of many plants that had been to Edinburgh reflected a period of cold weather that had kept plants in good condition from one week to the next.

Stan da Prato gained the L C Middleton Challenge trophy for most first prize points in the show, with 660 points. Without his entries, the fraction of benches covered by plants would have been considerably reduced! The Alexander Caird trophy also went to Stan as the winner of class 1. There was an outstandingly perfect rhododendron in the show; it was Sue Simpson's bright and punchy-coloured *Rhododendron megeratum* 'Bodnant' with brilliant lemon-yellow flowers and red anthers forming a most dramatic colour combination.

Fritillaria roylei





Cyril Lafong won the Dundas quail for class 2 and was also successful in the 'New, Rare and Difficult' class with his *Berneuxia thibetica*. His notes, exhibited with the plant, told us "*B. thibetica* grows in wet *Abies* forests, broadleaved deciduous forests and thickets from 1700-3500 m in NW Guizhou, Sichuan, SE Xizang and N Yunnan. It is closely related to *Shortia* and needs an acid soil and semi-shade. It is grown in a mixture of Swedish peat and grit. Rare and seldom available commercially." This species has rather thick deep green leathery-looking leaves and white flowers with red stems and petioles, and prominent white anthers. Cyril also won class 4 with *Saxifraga columnaris* and *Primula bullata* var. *bracteata*. His less frequently seen plant was an American member of the Asteraceae, *Hymenoxys acaulis* var. *caespitosa*, which received a certificate of merit. This very attractive flat cushion plant has typical yellow daisy-like flowers and grey woolly rosettes. The species grows in high mountains from central Canada south to Texas, mainly on limestone.

Peter Maguire exhibited *Pterostylis curta*, a tuberous Australasian orchid which when last re-potted had a total of 89 tubers in the pot! The flowers are green and hooded making them look superficially rather like aroids. As far as Peter could remember, this perfect-looking pan had been cultivated in a mixture of perlite, composted bark and grit, a type of compost that he also uses for Mediterranean plants.

Margaret & Henry Taylor won the Perth trophy. In class 5 they had an interesting *Trollius ranunculinus*, from seed originating from Gothenburg Botanic Garden and sown in February

Rhododendron megeratum





2012; in the wild it grows in moist places in Turkey and Iran. Margaret & Henry also had another interesting plant, *Fritillaria moggridgei*, to which the Joyce Halley award for the best plant grown from seed was presented. It is interesting to comment on some of the plants in class 3 – here the Taylors were second with a *Fritillaria roylei* - a dwarf form from high altitude: “Seed collected 13,508 ft, Burren Pass, NW Himalaya. Grown in a cold frame and not dried off in summer”. Third was *Callianthemum kirigishiense*, a Japanese woodland plant grown from SRGC seed in 2010 and making its first flowering this year.

Andrew Radley from Auchterarder was the winner of the R S Masterton trophy and the Major-General Murray-Lyon trophy with his large *Primula aureata*. This is not an easy plant to keep going from one year to the next so we quote Andrew’s reply to our query as to how he grew the prize-winning





Primula aureata

plant. "My *Primula aureata* was grown from Scottish Rock Garden Club seed sown in January 2010 (lot 3025) in 50:50 J1 no.3 and granite chips as is my wont. The seed germinated in February 2011 and will have been grown on in my seed compost until August 2011. I will have then potted the young plants into my normal witchcraft mix of equal parts multi-purpose compost, granite chips, J1 no.3 and Ian Christie's composted bark chips. For years I have wanted to recreate the photograph of *P. aureata* from John Richard's book *Primula* (plate 34) so I planted the seedlings in a large alpine pan with the intention of letting them grow into an obvious colony. The pan of *aureata* usually sits outside on the shady side on my house during most of the year but is over-wintered on the bottom shelf of my greenhouse shading. I showed this pan at Perth show in 2015 and got a second prize. One of the judges pointed out that one of the plants in my little colony was particularly





Fritillaria moggridgei

nice and had rosettes that faced out in multiple directions. I thought about this when I was re-potting in August 2015 into a single plastic pan. This was the plant I showed at Perth in 2016." Andrew managed to cross-pollinate the plant with another at the show, so watch out for seed in the list for this year's seed exchange.

The Bulb trophy was won by your correspondents, Barry & Cathy Caudwell, with an *Erythronium helenae* that has been steadily bulking up over a number of years; it is handsome and very free-flowering; the white flowers have a yellow centre and are held well above the foliage, unlike some snow-melt species such as *E. grandiflorum* which in some years tend to open their flowers where they are hidden down amongst the leaves. It seems to be happy growing in rather gritty compost in a long tom protected in a frame. In the wild it grows in California and Oregon amongst scrub or lightly wooded slopes around 500 m high in the coastal mountains.

In section II, it was a pleasure to have entries of a very high standard from Francis & Margaret Higgins (Berriedale) along with three other entrants. Francis & Margaret had enough points to be awarded the Perth salver and bronze medal, despite the very high standard of other exhibitors. Their pan of *Primula* 'Beatrice Wooster' was huge and in good condition and received a certificate of merit.

One member whose initials are S H but who shall remain nameless was at one point asked for his overall impression of the show and suggested "nice cakes"; this was indeed true and there were lots to enjoy. The show would not be the same without the army of Perth group and other members who contribute in many ways and produce the lovely home baking. We also had some very helpful stewards to assist our busy show secretary, Julia Corden, with organisation of the benches and the collection of results.



Cathy & Barry Caudwell

Facing: *Muscari aucheri* 🍁



The Diana Aitchison Fund and the training of horticultural students

Mike & Sue Thornley

This article describes our experience in one garden of providing twelve-month placements for horticulture students with assistance from the Diana Aitchison Fund. We hope it may encourage other garden owners and organisations to offer much needed work experience to trainee gardeners.

Diana Aitchison was a keen gardener and plantswoman who ran her own nursery at Spindleston near Belford in Northumberland. She left a generous bequest to be used to help young people further their careers in gardening, particularly in respect of alpine plants. The Diana Aitchison Fund was established and is administered by the Scottish Rock Garden Club. Grants may cover fees, living expenses, and outlays in respect of placements in establishments of horticultural excellence, such as botanical gardens, colleges and nurseries in the United Kingdom and abroad.

Returning one day from a meeting of the 'Glorious Gardens of Argyll and Bute' group, Sue Thornley and Joanna Gough started to discuss the training and employment of student gardeners. Both their gardens - Glenarn (*The Rock Garden* 112) and Geilston - could provide complementary but different experiences and both would benefit from an extra pair of hands. However, neither had the resources, time or money to take on a full time student, so why not share? They decided to commit to a three-year period, taking students from the Scottish Rural College horticultural course at Ayr to combine four days of paid practical training with one day at college. This partnership between a private and a National Trust for Scotland (NTS) garden proved attractive to funding bodies and significant grants were received in the first and third years from the Catternach Trust and the Stanley Smith (UK) Horticulture Trust, whose financial support is gratefully acknowledged.

During this period the NTS established its School for Heritage Gardening at Threave and it was hoped that the partnership between the two gardens could continue, taking students from the new course. In the event, this did not materialise and Glenarn decided to continue training on its own. In the meantime, the course at Ayr had changed, dropping the practical experience. Nevertheless, there was sufficient time within the new HND horticulture course to allow a placement for one day per week, and we have worked on that basis, with awards in two of the last three years from the Diana Aitchison Fund, whose support is also cordially acknowledged.

The course supervisor identified the prospective students, who were given an introduction to the gardens and interviewed formally even if, as

was often the case, there was only one candidate. All those who applied have been mature students, embarking on a new career. Their previous employments included printing, publishing, computer technology and public utilities - a litany of Scottish industries that have contracted, closed down or been taken over. The students were consequently highly motivated even if sometimes a little unused to physical outdoor work.

Students arrive at the beginning of the academic year, late in September, a good time as it is the end of one gardening year and the beginning of the next. Their initial tasks include taking in the garden signs - a useful orientation exercise, cutting out the old fruit canes and training the new, gradually clearing the vegetable patch and tidying the rock garden, all traditional gardening activities early in the placement, along with plant work such as potting on and taking cuttings. By the end of October, the leaves that have been stored in circular bins in the woodland areas for the last twelve months are barrowed in and mixed with the current year's grass cuttings in large compost bins, to be used after another three seasons for top dressing beds. A local farmer supplies a load of dung that is laid over the four-foot beds in the vegetable patch, as much to stop the rain leaching the soil as to provide manure: a smelly, slippery job. It is for tasks like these and the subsequent job of raking leaves, first from the paths and then from all the grassed areas, that extra help is so useful. The calendar year finishes with the clearing and sometimes re-digging of all the drainage channels, essential if the paths and gravel are not to be swept away in the winter rain.

January and February are the months for woodwork such as raising the canopy,

Willie Sinclair, the first student



pruning and dead-wooding or clearing up after storms, the former too often morphing into the latter these days. For instance, on 3rd January 2012 we came back to find the garden devastated, the cedar at the top of the drive smashed, *Eucalyptus* trees blown out of the ground and more than thirty trees knocked over or so badly damaged that they had to be removed. Andy McGinty, Sue and I worked for three months at cutting, dragging, burning and winching, a change from the previous year when the student and I had spent a cold January in deep snow taking down old hybrid rhododendrons that had outgrown their sites.

We start planting in February and as the re-opening date on 21st March approaches all the paths are re-raked. This is when the students start to see the benefit of their earlier efforts, the emerald moss glowing in the spring sunshine. At this time sections of path are re-cut, step fronts are replaced and gravel is topped up. Sometimes paths have to be completely reconstructed; one such is now known as Gillian's path, after the student (Gillian Little) who did the work. The pond is drained down and cleaned out, another case of many hands making lighter work of an intimidating task. This was especially so when with David Jamieson we reconfigured the surroundings to the pond and its planting. It is also a time for bonfires and watching the bees fly from their hives, a good omen.

The pace accelerates through spring: still planting, beds to be top dressed, sweet pea and bean frames constructed, taking deliveries of plants. Suddenly it is early summer, when we tend to lose direction as the garden coasts along for a while. The mowing starts, although we try to avoid delegating this to the students. Finally comes the big strim in August, when all the long grass is removed, weeks of fly-ridden and tedious work which we and the students are glad to see completed.

And the rock garden? In the 1930s the Gibsons developed a rock garden in the quarry that had provided stone for the house. There are photographs of extensive screes and pebbled areas, small neat plants and a youthful *Sciadopitys verticillata*. With the rampant west coast growth, it must have been difficult to maintain such an intimate scale. When we arrived in 1983 the upper part was dominated by the now mature Umbrella Pine while, elsewhere, self seeding birch had invaded, dwarf rhododendrons were no longer dwarf and paths had disappeared under brambles and encroaching moss. Initial work was more archaeological investigation than gardening. The paths were excavated to provide a framework for the gradual restoration and replanting to create what is now more of a clamjamfry of plants that build up from small to large, layer on layer through the seasons to give continuous colour and interest from early spring to late summer.

However, we aspire to being rock gardeners and inspired by - but by no means matching - Steve Macnamara's example at Branklyn, we took out a number of *Picea glauca* var. *albertiana* 'Conica' that had grown into huge chess pieces, and formed a new scree. This involved digging out countless *Camassia* bulbs that lay deep down above the clay, the few we missed

exploding like mines later. With the help of Willie Sinclair, our first student, large boulders were moved to form retaining walls and tons of gravel were barrowed to the site to create a perfect environment for small alpinines - and a propagating bed for birch which still appear in their thousands and require hours of weeding out.

A student provides structure to the week and ensures that at least on one day we are out of bed and ready to start in the garden at eight o'clock, not forgetting that the student, travelling from Glasgow or as far away as Ayrshire, has probably been up since six. It also encourages planning, with tasks set out for two months ahead on a whiteboard so that we can all see what we are trying to achieve and how the student's work fits in. Sometimes we can help with course work by lending books and airing our too-well-rooted horticultural opinions over lunch. There is also an element of scrutiny by the students who are not slow to tell us when our practice does not accord with what is currently taught at college, and in that way we learn too. Of our five students only one has not currently been able to find employment in horticulture. Two are in charge of large estate gardens, one looks after university grounds and another, Jackie Coupe, has set up her own garden maintenance business in the south side of Glasgow. Our current student, Colin Whiston, may continue his training at the degree course in Edinburgh.

The newly completed scree bed



Glenarn attracted us, all those years ago, as a west coast garden with its constituent parts: lawns, vegetable patch, orchard, rock garden and woodland, with a wonderful collection of plants, notably *Rhododendron* and *Magnolia* but many others too. But it was not until we went to north-east India, to trek on the border with Bhutan and Tibet, that we really understood our own garden. After a long journey from the plain of Assam we arrived at our destination in the night. The following morning revealed a strangely familiar alpine landscape: habitation and cultivation in the valleys, summer pasture at higher level, deciduous woodland giving way to pine forests, and then the moors running up to scree and steep mountain faces. The garden, although it comes with a different history, mimics all of these environments. 'Alpine' and 'Alpine plants' are generous and wide terms, which we believe Diana Aitchison appreciated, as well as understanding the importance of gaining practical, hands-on experience for employment in horticulture.

The Diana Aitchison Fund

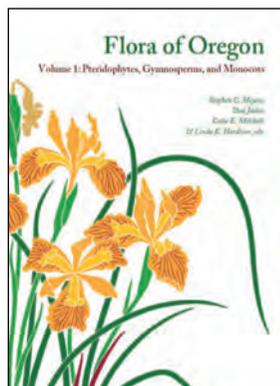
The Fund provides grants and bursaries to support young people who want to pursue a career in horticulture, and especially to further their knowledge of alpine and rock garden plants and their cultivation. The fund was established with a very generous sum of money from the estate of Diana Aitchison, a keen gardener and plantswoman who set up and ran her own nursery at Spindleston near Belford in Northumberland. The fund is managed by the Scottish Rock Garden Club.

Grants are typically from a few hundred up to two thousand pounds or so depending on need. They may go towards fees, living costs or travel expenses, either on a full-time course or at another location, such as a year placement or summer work experience at a botanic garden or nursery. All recipients are expected to make personal contribution toward the cost of courses.

There have been many beneficiaries of the fund. As examples: Alan Elliott visited a Turkish botanical garden for work experience; Nick Courtens from the Vail's Betty Ford Garden spent two weeks visiting alpine houses in the United Kingdom; Kathryn Braithwaite (see page 42) was supported for her 2013 study and working trip to Wellington Botanic Garden in New Zealand. Droni Amcho, a student at RBGE and Scottish Agricultural Colleges, is one of the Tibetan medical students who were helped and readers may remember that Droni described her experiences in issue 127 of this journal. She is now working on a thesis that includes cultivation of some of the Tibetan medicinal plants. Many of our grant holders have written similarly of their experience in this journal for the enjoyment of members over the years.

We warmly encourage anyone interested to apply for a grant.

Book Review: Flora of Oregon, Volume 1
Stephen C Meyers, Thea Jaster, Katie E
Mitchell, Linda K Hardison & Tanya Harvey
Botanical Research Institute of Texas (2015)
<http://shop.brit.org/products/floraoforegon1>
ISBN-10: 1889878464
ISBN-13:978-1889878461



This first volume of a set of three covering all vascular plants in Oregon from ferns to flowering plants covers ferns, conifers and monocots. The attractive book feels good in the hand. The sleeve has a beautiful serigraph of *Iris innominata* by Bonnie Hall, under which on the hardcover is a prestigious foil-stamped *Erythronium*, the Flora's logo. The introductory sections start with a history of the project and an account of some of the botanists and taxonomists of importance to Oregon.

The first 64 pages are printed in full colour on thicker paper than the rest, covering the regions of Oregon and their different habitats, as well as a few notable examples of where to see a great deal of wildflowers. Keying out species I photographed on my visit to Upper Table Rock in March 2015 would have been a lot easier had I had this book!

The following treatments of 1054 taxa in 46 families are written by a variety of authorities. This section is printed on thin paper that is mildly transparent - not much of a distraction, but perhaps best not taken into the field. Pteridophytes are followed by the gymnosperms and then the monocots, arranged alphabetically by family. I wish it had been organized by taxonomic order, resulting in the separation of wind pollinated grasses and sedges (order Poales) from the (mostly) insect pollinated plants.

There are dichotomous keys for every level from the main plant groups to family, generic, species, subspecies and varietal level if applicable. The keys are quite thorough and comprehensive. Many pages carry illustrations of a few representative taxa, albeit not for every entry. The illustrations are highly detailed and show the parts necessary for positive identification. What the various artists illustrate differs from taxon to taxon. For instance, many *Allium* illustrations reveal details of the bulb coat, crucial for identifying New World species. The book excludes out-of-state taxa (only 5 of the 8 species of *Toxicoscordion* are in the flora) but includes a plethora of non-natives such as *Muscari* and *Narcissus*. Every species includes a dot map showing where herbarium specimens have been collected. There are several interesting appendices and a well-organized and comprehensive index. Though I perceive a few small discrepancies with this volume, I would definitely recommend it to any Oregon native plant enthusiast. Happy botanizing!

The Art of Botanical Illustration
Wilfred Blunt & William
T Stearn
Antique Collectors' Club (ACC)
ISBN: 9781851497607
Size: 9.25 in x 11.75 in
Illustrations: 134 colour,
157 b&w
Hardcover 368 Pages

This splendid volume encompasses the whole of the history of the subject from some of man's earliest representations of plants to the late 20th century, concentrating largely on European works from mediaeval times onwards.

The Art of Botanical Illustration by Wilfred Blunt

first appeared in 1950 in the *New Naturalist* series; the title reflecting the relationship of art with science. It was well illustrated for its time and the text is both scholarly and very readable; the book was soon regarded as the classic authority on the subject.

Wilfred Blunt was art master at Eton (and a keen advocate for teaching italic handwriting in schools). William Stearn (later the author of *Botanical Latin*), with whom he collaborated closely on *The Art of Botanical Illustration*, was then librarian of the RHS's Lindley library, moving in 1952 to the Natural History Museum, where he made a great contribution to plant taxonomy. He was an authority on botanical art - of which both institutions hold important collections.

After Blunt's death in 1987, the book was enlarged and revised by Stearn, and published in 1994 in a larger format by ACC. The text is essentially Blunt's original, but is now amplified and augmented. The section on the 20th century extends to countries outside Europe, there are more notes on the chapters, and the bibliography (Appendix on Further Information) is considerably enlarged. The 2015 reprinting is in an even larger and welcome format.

With the artists, and the advance of scientific knowledge, the book traces the evolution (and decline) of the successive printing techniques that determine the appearance of published illustrations. Usually the artist and engraver were different individuals - and watercolour was superimposed by a team, but we learn that Ferdinand Bauer had to draw, engrave, print and hand-colour his own work for *Illustrationes Florae Novae Hollandiae*.



There are glimpses into the world of exploration, as well as accounts of success, fame - and bankruptcy.

Since the original *New Naturalist* book, the colour illustrations have more than doubled in number; they have mostly benefitted enormously from the larger format (e.g. Jacquin's letter to Dryander on page 173). Modern printing technology means better colour reproduction and the freedom from having to group pictures on pages of specially coated paper. We now have three of Hans Weiditz's sensitive drawings for the woodcuts of very real - and often slightly the worse for wear - plants in Otto Brunfels's *Flora*, and six images from Thornton's ambitious, lavish - and financially disastrous - *Temple of Flora*, as well as a chance to see a page of Francis Bauer's scientific orchid dissections.

Unfortunately, some of the black and white illustrations have fared less well, with the white spaces between the lines of hatching disappearing into lumps of solid black. Fitch's demonstration of shading technique (p 335) is reproduced larger than in the *New Naturalist* version, but is actually much less informative.

It would have been nice to know the original sizes of the works that are reproduced. As examples: Basilius Besler's *Hortus Eystettensis* (p104) has a page size of 57 cm x 46 cm; James Sowerby's *English Botany* (p216) is 24.5 cm x 15 cm.

Would I recommend anyone interested in botanic art to buy this volume? Of course I would!

Claire Dalby





Pulsatilla zimmermannii



Ranunculus calandrinoides

This page celebrates the club's success in winning a premier gold medal and best display of alpines at Gardening Scotland 2016. More in the next issue!

Pulsatilla 'Budapest Blue'

Pulsatilla vernalis



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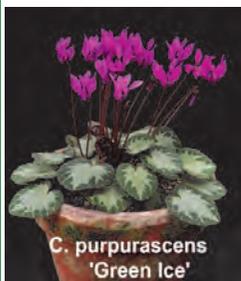
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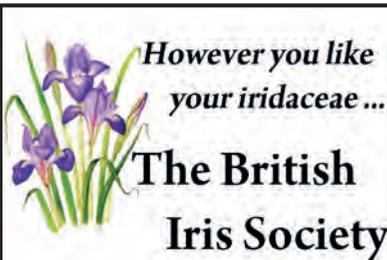
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A Celebration of *Cyclamen*:

The Evergreen Hall, Bluebell Lane, Penrith, CA11 7LH,
September 24th & 25th 2016

This conference has been organised by the Cyclamen Society and the Scottish Rock Garden Club. Both days will start with coffee or tea and biscuits at 10 am. The lunchtime break will allow time to obtain lunch from one of the nearby restaurants or supermarkets.

Saturday programme

10.30 am: *Spring Bulbs of Greece* - John Richards (Past President of the AGS and author of *Mountain flower walks in Greece*)

11.30 am: *Growing Cyclamen in England* - Vic Aspland (President of the Cyclamen Society)

2 pm: *The Cyclamen Society Field Studies* - Martyn Denney (Secretary of the Cyclamen Society)

5 pm: A visit to Holehird Garden

Sunday programme

10.30 am: *Autumn Bulbs of Greece* - John Richards

11.30 am: *Cyclamen - a Scottish Perspective* - Sandy Leven (Past President of the SRGC) & Anne Bush

2 pm: *1500 Years of Cyclamen in Botanical Art* - Martyn Denney

Competitive show The Cyclamen Society will organise a competitive show for members of both societies. The hall will open at 8 am on Saturday morning for staging, and judging will begin at 8.45 am.

Display Members are asked to bring as many plants as possible for a non-competitive display. This is a unique opportunity for members to share their knowledge and enthusiasm for some of their favourite plants.

Plant sales We ask members to contribute plants, bulbs and tubers to the plant sales table (50% of proceeds go to the societies) and to bring special plants for the raffles. At least two professional nurseries will be attending; at the time of writing, Hartside and Rumbling Bridge are booked.

Cost There will be no fee, but members are invited to make a donation.

Directions If travelling on the M6 from North or South, leave at Junction 40 for Penrith and take the exit for A592 (Penrith); follow the A592 through a roundabout opposite Morrisons Supermarket and after 180 m take the second turn right into Bluebell Lane. The hall is on the right after 90 m. Car parks are on the left and right and also at the end of the road.

It was not possible to find a hotel suitable for a residential conference, so the event will be non-residential. Penrith offers many hotels of all sizes and Vic Aspland (publicity@cyclamen.org) is happy to supply a list of some of them, although internet search will reveal many more.

When it is finalised, Vic is also happy to supply a schedule for the competitive show on request.



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passed through on their way to collect plants from Tibet.

This exhibition features beautiful images of blue poppies (*Meconopsis*), local people and wild, exotic mountains from this remote country in the Himalayas.

See the exhibition in the David Douglas Pavilion at *Explorers Garden*, Pitlochry.

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