THE ROCK GARDEN 130

January 2013

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Members' subscriptions are payable annually on 15th October and provide membership of the SRGC until 30th September in the following year.

Subscription rates from 1st October 2012

	UK	OVERSEAS
Single annual membership	£16	£22
Junior membership *(Under 18 on 1st October 2012)*	£3	£7
Family membership *(Two adults and up to two children under 18 on 1st October 2012)* *Each additional adult or child*	£19 £3	£24.50 £7

A three year membership is available at three times these annual rates. Further renewals will only be accepted at the end of the three year period.

All payments to the club must be in GB Pounds Sterling.

Cheques should be made payable to 'The Scottish Rock Garden Club' and must be drawn on a UK bank. Because of the high commission now charged, we are unable to accept cheques or credit card payments in US dollars or Euros.

Where subscription payments are made by Visa or Mastercard they can only be accepted if all the following information is given: the number on the card, the name of the cardholder as shown on the card, the address of the cardholder as recorded by the credit card company, the card expiry date and the cardholder's signature.

Visa or Mastercard subscription payments can also be made via the secure order form on the Club's website at **www.srgc.org.uk**

No card details whatsoever are retained by the club after a transaction.

Applications for membership and all subscription payments or authorisations for payment from a Visa or Mastercard account should be sent to:

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The ROCK GARDEN

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Scottish Rock Garden Club
January 2013

Number 130

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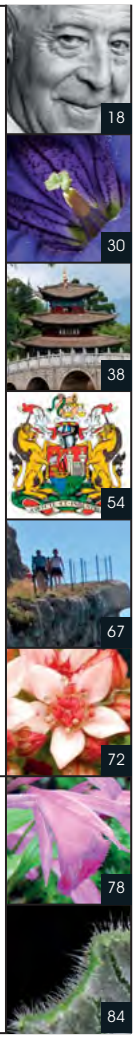

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The Editor welcomes articles, photographs and illustrations on any aspects of alpine and rock garden plants and their cultivation. Authors are encouraged to submit material electronically but articles may also be submitted in manuscript. Digital images are particularly welcome but 35 mm slides, high quality prints or drawings may also be submitted.

The normal deadlines for contributions are 1 November for the January issue and 1 April for the July issue. These dates also apply for material for the Yearbook & Show Schedules.
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President's Introduction

Hello to all alpine and rock garden plant lovers. It is a great honour for me to be elected president of the Scottish Rock Garden Club which has entertained and educated me and given me friendship for over thirty years.

My sincere thanks go to Liz Mills, our immediate past president, who worked so very hard to keep the club's affairs in good working order over the last three years. She has looked after our interests through challenging times, managed our participation in the International Conference and several *Gardening Scotland* shows and managed the team that makes up our Council and helps run the Club - with a firm but friendly touch. She will be a hard act to follow.

Over the next three years the club needs to look in two directions: forward to the future and the challenges of new technology but also back to ensure that we maintain all that has been and still is good about the club - participation, friendship and the sharing of knowledge.

The Scottish Rock Garden Club has great strengths in the learning and friendship it offers to alpine and rock garden plant enthusiasts around the whole world. The website is a great resource, allowing people to participate in the life of the club, to make friends and to share information wherever they may live. Our thanks go to all who make this happen and also to all the members who help to ensure that the club continues to run, through the journal, local shows, lectures and events. I hope we can be welcoming to all who share our love of plants and encouraging to all to participate in the life of the club by getting involved and sharing ideas.

I will work hard to live up to the trust placed in me to help keep our club in good health and spirits. So if you have any questions, ideas or concerns you may contact me directly through the web site at www.srgc.net or at my own greenscenedesign@hotmail.co.uk.

This year is a special year – our club is 80 years young so I look forward to celebrating our 80th birthday with you all.

Carole Bainbridge

The Discussion Weekend
4th – 6th October 2013

After two splendid years with the Reivers, the new organizing team invites you to Grantown-on-Spey for Highland hospitality to celebrate the 80th birthday of the Scottish Rock Garden Club. Grantown is a 'planned' town built in 1766 by Sir James Grant. It features a broad high street with the town square at its northern end and is perhaps unique amongst Scottish towns in that it has no chain stores, but just a range of independent shops, cafes and bars. The town is small and, having suffered little from modern housing developments, still enjoys a peaceful woodland location alongside the River Spey.

The Grant Arms Hotel, part of the original town, sits in the middle of the square and has recently been refurbished to a very high standard. As well as being guests of the Grant Arms we will also be guests of the Bird Watchers and Wildlife Club (BWWC, www.bwwc.co.uk), and their facilities will be available to delegates. The hotel is cosy, with forty-eight rooms, two of which suit disabled guests, while six are available as single rooms. When all rooms in the Grant Arms have been filled, delegates will be placed in the equally agreeable eighteen bedroom Garth Hotel just a hundred metres away across the square.

Delegates arriving by car will leave the A9 at Aviemore, simply following the A95 to Grantown. If you are coming by public transport we recommend the scenic train journey through the Grampian mountains to Aviemore and onwards by the frequent bus service to Grantown square.

Saturday morning is, as usual, free time for delegates and organizers to enjoy some arranged visits. At Grantown we have a problem – there is just *so* much to recommend! Firstly, the Grant Arms is the base for Bird Watchers and Wildlife Club and they will provide guides to take you on a wildlife walk in the neighbouring Anagach Woods and by the River Spey; both long and short walks are planned. Did you know that there is a native plant garden to be found at 600 metres on Cairngorm mountain? The gardener will be waiting at Cairngorm to tell you all about his garden, after which you might like to ride the funicular to the Ptarmigan station to see the views and enjoy their world famous hot chocolate. A distillery tour is always popular and we are arranging one at the Glenlivet Distillery for you.

Actually, we suggest that Grantown is a place to come for a longer break, with the Discussion Weekend as the 'jewel in the crown'; there is just so much to see and do. Are you interested in fishing? We can arrange a day's fishing on the River Spey - but remember that the season ends on 30 September. Is golf your or your partner's secret vice? Grantown has its own magnificent eighteen-hole course; or you can drive up to Nairn to try the two links courses, or even the new home of the Scottish Open at Castle Stuart.

Provisional Programme

Friday 4th October

1500 Registration
1945 President's welcome
2000 ***The Jim Archibald Lecture*** **- Elsa Pooley**: Bulbs of South Africa
2100 The small bulb exchange

Saturday 5th October

0800 Plant staging
0930 Local woodland walks, excursions and visits
1030 Show, plant sales (open to the public)
1345 **Clint Callens**: The quiet charm of Paris and Podophyllum
1445 **Alan Furness**: Growing celmisias in a Northumberland garden
1600 ***The Harold Esslemont Lecture*** **- Martin Sheader**:
Exploring for plants in Patagonia
1830 Drinks reception, conference dinner and plant auction

Sunday 6th October

0915 **Elsa Pooley**: Plants of the Drakensberg
1100 ***The William Buchanan Lecture*** **- Chris Brickell**: Cultivating daphnes
1200 Show and plant sales open
1330 **Malcolm McGregor**: A world full of saxifrages?
1440 ***The John Duff Lecture*** **- John Mitchell**:
Rock gardening developments at the RBGE
1530 Closing comments and show presentations

We are delighted to have been able to retain the cost of the weekend at under £198 per person for the weekend for two persons sharing (see the Secretary's pages for full price details and order form). The preceding Thursday night or following Sunday nights are both available at £65 ppn DB&B. Outside this period the Grant Arms will welcome your company at the normal rate.

If you have any further queries please contact Carol Shaw at: (srgcsec@googlemail.com). We look forward to seeing you all in October.

The SRGC 80th Birthday Party

2013 is our 80th anniversary. We are holding a birthday party at the Pitlochry Festival Theatre on Sunday 23rd June. The day will include talks by two of our long-standing supporters, picnic lunch and a chance to visit the Explorers Garden.

Reception starts at 10:00 a.m. with tea and coffee. The welcome at 10:45 will be followed by a lecture by Ron McBeath. There will be a picnic lunch at 12 noon (bring your own food), followed by a lecture from our friend Panayoti Kelaidis from Denver Botanic Garden. We will finish with refreshments in the Douglas Pavilion at 3:30 p.m.

Pitlochry is a great place with spectacular scenery, a warm welcome and many things to see and do. So why not come to the party and take the opportunity to make a long weekend of it? You may meet friends, hunt some Scottish alpines and take in some culture by seeing a performance at the Pitlochry Festival Theatre (www.pitlochry.org.uk).

Above: *Silene acaulis* (Photo: Leif Stridvall, by permission of his wife Anita; see www.stridvall.se/flowers/gallery/Caryophyllaceae_1)
Below: *Saxifraga oppositifolia* (Photo: David Crossley)

Loiseleuria procumbens (Photo: Todd Boland)

The nearby Scottish Wildlife Trust reserve at Keltneyburn is a good place (www.scottishwildlifetrust.org.uk/reserve/keltneyburn) to see orchids in June. We will arrange a visit there on the Saturday for anyone choosing to come for the weekend. *Saxifraga oppositifolia* and *Silene acaulis* should be in flower on the drive from Glen Lyon to Loch Tay. The four hour walk up Ben Vrackie has orchids and *Loiseleuria procumbens* growing at your feet. To top it all, why not visit the famous Cluny Gardens (www.clunyhousegardens.com) to see their amazing primulas?

Two hotels in Pitlochry offer a discounted rate for anyone attending the party. On Saturday the 22nd and Sunday the 23rd June, Fishers Hotel (www.fishershotelpitlochry.com) offers DB&B on Saturday for £54 per person per night and on Sunday for £44 per person per night (quote Scottish Rock Garden when booking). The Green Park Hotel (www.thegreenpark.co.uk) offers a 10% reduction on the normal tariff for the 22nd and 23rd June (mention the SRGC weekend when booking).

We hope you will join us to celebrate being 80 years young and we look forward to seeing you all in Pitlochry.

Please remember that the party is by invitation so, if you would like to attend, please contact Mike Kendall who is managing the invitations. His details are in the Secretary's pages, or contact (mike@kendallpl21.fsnet.co.uk).

Members interested in Himalayan blue poppies should also note the **Meconopsis Open Day** on Monday 3rd June at Harlow Carr. Speakers will be Andrew Willocks and Evelyn Stevens. Ian Christie will give a practical demonstration, sponsored by the SRGC. This programme will be repeated in the afternoon with the exception of Andrew's presentation. Guided tours of the Alpine House and the Meconopsis trial will be available morning and afternoon. The charge is £20 for RHS members, £25 for non-members; please book on RHS membership services 0845 612 1253.

Dunblane Snowdrop Day and Early Bulb Day

Friday 15th and Saturday 16th February 2013

These club events will run on consecutive days in February at the Queen Victoria Hall, Dunblane

Snowdrop Day Friday 15th 10 a.m. to 4.30 p.m.

- Gerard Oud (Netherlands) on his Snowdrop Collection
- Chris Brickell on Snowdrops in Cultivation and the Wild
- Ian Christie on New Snowdrop Finds around Angus
- Catherine Erskine on her Ambitious Plans at Cambo
- Sandy Leven will demonstrate Snowdrops in Pots
- Susan Band will reflect on Life after Snowdrops

There will be some bulbs in pots to show, with nursery sales

Tickets cost £25 to cover lunch and hot drinks and are limited, so please apply quickly to Ann Christie, Downfield, Westmuir, Kirriemuir, DD8 5LP, with a cheque payable to SRGC

Dunblane Early Bulb Day Saturday 16th 10 a.m.

The Early Bulb Day offers our usual group of nurseries and great speakers, with pay-as-you go lunches

Photos: Ian Christie

Above: *Galanthus plicatus* 'St Andrews Cross'
Left: *Galanthus elwesii* 'Fred's Giant'
Below: *Galanthus poculiformis* 'Annielle'

A Prague Spring
Judith Broome

Four members of the South West of Scotland Rock Garden Group decided to attend the first International Rock Garden Conference in Beroun. Allan and I were relative newcomers to the SRGC so we thought that it would be an informative break. A very interesting time was had by all. The beautiful gardens of all the leading Czech alpine gardeners were visited, with plants for sale at them all.

Now this is my amusing follow up to the problems that this brought: Our friends bought about forty plants, while Allan and I bought sixty five. Others at the conference even went above a hundred plants. Now you have to bear in mind that these were specialist plants averaging about fifty pence each. Could *you* have resisted?

When you prepare a bucket of soil and grit for potting up your precious alpines, how many pots does it fill? Now reverse the process. Are you getting the picture of the amount of soil I am talking about in our pots? Before we get to that point though, the question arises of how we are going to transport them when soil-less. Let me tell you that Beroun had a complete sell-out of plastic boxes. The supermarket just had an empty shelf where the boxes had been but we found a shelf that had some plastic boxes with two dozen buns inside - and we bought one. The buns were offered to everyone at the next coffee break. We also needed kitchen roll, rubber bands and plastic bags.

So now we were all set. I removed the soil from the plants while Allan wrapped them in wet kitchen roll, put them in a plastic bag and then in the boxes. I was starting to struggle after twenty plants. What to do with the box full of soil? Julia Corden (she of Explorers Garden) was going to solve the problem by disposing of her soil in some empty planters outside the hotel. However, on returning from one of our many fascinating tours, a groan came up from Julia - the council had been that day and planted them up.

So Allan and I decided that our solution was over the wall. The wall in question was over the road from the hotel. On the other side of this wall were two yards of riverbank and then the river. Can you imagine the strange looks from the receptionist in the foyer? Seeing all her guests with boxes full of soil. I can tell you that the Seven Hills of Rome were nothing compared to our mounds on the river bank.

It all worked rather well, as we had very few losses. We had a wonderful break in the Czech Republic and made some very good friends at the same time.

Anyone tempted by or wondering about going to the 2013 Prague Conference should book now – you will not regret a moment. Bohemia's woods and fields await you - with rock gardens!

Second Czech International Rock Garden Conference 2nd to 5th May 2013

The conference will be held in the Hotel Dvořák in Tábor, the mediaeval county town of Southern Bohemia. There will be high level lectures, interactive workshops and themed evenings. The program will give participants plenty of time for networking of all sorts. Participants will have the opportunity of seeing the most charming countryside of the Czech Republic. Tábor is 90 kilometres south of Prague and is well served by express trains and buses. The Hotel Dvořák is about five minutes walking from the main square of Tábor and its historic building is in walking distance of all the main sights of this historical town.

Speakers

Martin Sheader (England) - Flowers of the Patagonian mountains; Rock plants from South to North along the Patagonian Andes.
Ian Young (Scotland) - Small bulbous plants in cultivation. Sponsored by the SRGC.
Dieter Zschummel (Germany) - Plant exploration in Iran.
Peter Korn (Sweden) - Growing in sand. Rock and scree garden construction near Göteborg.
Vladimir Epiktetov (Kazakhstan) - Top plants from the flora of Kazakhstan & Central Asia. Partly sponsored by the SRGC.
Michal Hoppel (Poland) - Rock gardening in Poland. Rock garden construction in practice - rocks, crevices, troughs, walls and their plants.
Zdeněk Zvolánek (CZ) - American Golden West. A song to remember Zdeněk´s late partner, Joyce Carruthers.
Vojtěch Holubec (CZ) - Chinese flowering paradise. The best of the flora of China and Tibet.
Jiří Papoušek (CZ) - Czech crevice gardens. A guide to interesting gardens.
Jaroslav Klíma (CZ) - Growing of alpines in the field - from rock gardening to industry.
Zdeněk Zvolánek (CZ) - Charm of the Balkans - in memory of Czech sources of alpines within the iron curtain, and freedom in the new century.

See Czech Gardens – Post-conference Tour 5th to 10th May 2013

There is a post-conference tour designed for a maximum of 120 delegates who will make a circular tour of rock gardens in coaches with our experienced guides. The tours are organized for five days and will visit twenty rock gardens (many of them selling alpines, rock garden plants, dwarf shrubs and dwarf conifers/witches brooms) and downtown Prague – including the famous May Rock Garden Show.

The first day of the post-conference program starts from the Hotel Dvořák in Tábor and finishes at the Hotel Academic in Roztoky.

It is still possible to book for the conference and tour in this engaging and friendly get-together of the world's rock gardeners. There are full details of how to book at www.czrgs.cz/conference.html.

The SRGC - The Next 80 Years
Sandy Leven

The club is eighty years old! So let's look ahead. This issue of *The Rock Garden* is number 130 in a set dating back to 1933. At one time anyone with a complete set of the SRGC journal was thought lucky to have in their possession such a compendium of knowledge about rock gardens, their plants and the people who grew and still grow them. Today, anyone may consult back issues on our web site. The knowledge is freely available to members and non-members alike. Glassford Sprunt even maintains an up-to-date index to make it as easy to use as possible. The advantage that members have over non-members is that it takes a couple of years for each new edition to make it to the web site. The history of *The Rock Garden* or *Journal of the Scottish Rock Garden Club*, as it has always been known, illustrates several things.

First, things get better as time passes. Printing and publishing have changed from the early days of issues that were little more than pamphlets, through a whole series of improvements driven by technology. Progressively, line drawings, black and white pictures and colour plates have been introduced until today the journal can have colour anywhere, on any page. The widespread use of digital cameras and phones has enabled many members to contribute their pictures to the journal.

Second, cultivation techniques change, also driven by developing technology. New materials have altered our greenhouses and gardens. Various insecticides and fungicides have come and gone as we learnt their powerful effects on us and the environment as well as on the pests at which they were aimed. We are now encouraged to fight pests and diseases with natural remedies. The over-riding principle must be to keep our greenhouses and gardens as tidy as possible, to reduce the need for chemicals. However, this contradicts modern-day exhortations to leave rotting wood, piles of leaves and weedy areas to benefit wildlife. At home, Anne and I feed the birds but expect the fauna to find solace elsewhere. Having experienced the loss of crocuses and other bulbs through predation by '*wee sleekit*' but not so '*cow'rin*' and less than '*tim'rous*' mice has taught me to encourage neighbours' cats to prowl around the garden.

Third, travel articles show us that over time our members have visited many different countries to look at plants. Politics and wars have meant that over the past 80 years almost every country has at one time or another been open and then closed or closed and then opened to plant-hunters. The exceptions are the countries of the Commonwealth and the USA, although holiday travel during World War II was clearly limited. Even during wars plant enthusiasts managed to bring or send back plants,

seeds and cuttings. From the earliest days of exploration people have taken plants with them and returned to their home lands with foreign species. The Romans brought food crops and decorative plants to Britain. One enormous benefit from this is that hybridizing between plants from well-separated homes has produced progeny more suited to horticulture. In future, restrictions on collecting may diminish the number of new hybrids. Perhaps we will have to raise them using pollen sent round the world in the same way that a bull in Scotland can sire calves in Australia, South Africa or Argentina. Oh to be the owner of that champion pollen donor plant! Will this be the future impetus behind growing and showing Forrest medal plants? We might have stud books for plants. The pursuit of the curious has encouraged foreign travel since Victorian times or before. Long may this continue!

Fourth, we - the general public and many governments - are more aware of the natural world and its resources. We understand now the need to protect wild places with their plants and animals. Whereas once upon a time clumps of alpines could be dug up, brought back to the UK and planted in a garden, nowadays it may be illegal to collect even a few seeds. The laws are tougher. Various governments have decided to protect their native plants. In these days we are encouraged to look at and photograph the flora of distant lands rather than dig them up as up trophies.

Perhaps it is thought that unscrupulous foreigners will make a fortune from the pharmaceutical properties of some rare gentian or primula. I am baffled by the apparent inconsistency of some countries who allow locals to dig up tubers for food but prevent plant hunters from removing a couple of the same tubers for propagation, so that the beauty of their flowers may be enjoyed around the world. I understand that the conditions attached to seeds collected under licence in some countries require that their progeny must be grown only in specific – usually botanical - gardens. Time and experience have shown us that spreading plants around several gardeners and gardens is the best way to ensure the plants are maintained in cultivation. Good examples of this are the hundreds of rhododendron species growing in gardens all over Scotland and northern England, Wales and Ireland that were raised from seed collected in the inter-war years. Perhaps in the future, members of clubs like the SRGC will be included in the lists of permitted growers? This would certainly be good for our recruitment.

Fifth, the number and identity of professional nurseries change over time. Names come and go. Old favourites sink into oblivion while new and enthusiastic propagators open their doors. I hope there will always be those among us who enjoy raising and propagating plants for all to enjoy. Club plants stalls will always be treasure troves. The pleasure of raising new things from seed and increasing plants by cuttings will always ensure

that we have some specialist nurseries. Improvements in postage and delivery times, including faster air travel, modern packing materials and changes in the law may make it possible to import legally plants from almost anywhere in the world. We must treasure those nurseries we have but should not be surprised if hardy herbaceous plants become a bit more expensive in future. Costs at all stages of plant production increase annually for professional nurseries. An exception seems to be orchids, where plants that at one time were difficult to raise from seed are now produced by the shed-load (or should that be greenhouse-load?). Once again this owes much to new techniques and scientifically developed production methods.

One thing that has not changed is our members' love of small hardy plants and bulbs and their desire to see them growing in gardens and in the wild. We still crave new things but I hope we appreciate all the species and varieties already in cultivation. A quick look at the SRGC seed list proves that no one grows everything. The ways in which we share our plants also change, although shows and group meetings are often the best places to find some special treats.

The Future

All this makes me wonder what will happen in the future? Membership numbers rose steadily until perhaps the late 1980s before entering a slow but steady decline. Accompanying this is a rise in our average age. This shows that we are quite successful at retaining older members but have been less successful in replacing those who lapse with new younger ones. Perhaps it is true that those of us just entering retirement are part of a very privileged generation. Its members had time for gardening and attending club meetings and shows while they were working and raising their families. Possibly few other generations '*had it so good*'! Various reasons are advanced for this decline in membership but I believe that today's young families have much less leisure time and less disposable income. However, our club - like many other organisations - will have to reinvent itself in the modern world. This will involve changes in the things we do and how we do them. We must provide information about our hobby to modern people in the ways in which they want it. Rock gardening could become part of stress reduction lifestyles.

Since few nurserymen have made their fortune from the progeny of imported plants, laws might be modified so that only those plants which prove to be commercially exploitable, usually as medicines or for industry, are taxed. A portion of the profits could be returned to the region of origin to better the living conditions of poorer people.

The Digital World

Technology won't stand still for us. We now live in the world of instant communication and hi-tech gizmos, instant access to information, facts, videos and photographs and - if you believe TV - instant gardens. We

need to embrace the iPad and its inevitable successors. The SRGC has already taken a big leap into the world of electronic communication with its world-leading web site. I am sure that if we included all those using the SRGC forum and web site as members and then averaged our members' age, we would come to a much lower figure that would truly reflect the vibrant community of the web site. If we were to include the web enthusiasts in our statistics, SRGC membership would probably soar to new heights. Anyway, we all know that SRGC membership keeps us young and ~~beautiful~~ enthusiastic.

Since it was established over a decade ago the web site has had to move host and upgrade its bandwidth because of the massive increase in traffic. Thousands visit our site every month and our forum has innumerable threads covering the whole gamut of rock gardening topics. Some of them cover topics I never even thought about! These threads could form the basis of articles for *The Rock Garden*, be it paper or digital. There must be hundreds of untapped authors out there. Many people think that digital communication is the way of the future. I still think that many will want paper copies of books and journals, especially of publications like *The Rock Garden*. However, an increasing number of people look for all their information on-line and they won't want paper. This is why the club is introducing the new electronic subscription to give members all the benefits except hard copies of *The Rock Garden*, the seed list and other notes. I am now used to reading novels on a Kindle and still find several drawbacks with it but it is certainly very handy and space saving. I can see that tablets like iPads have a great advantage even over laptop computers but my own worry is about vulnerability to breakages and theft. In the future, more and more communication with members will be digital and, as postage rates increase, more people will demand digital versions of every document. It is seems almost magical to sit in the living room, touch a few buttons and keys, and make *The Rock Garden* appear on our laps. Most of us are delighted to read *The International Rock Gardener* on screen and don't print it. I suspect this is because we first encountered it on screen and we know where it is. Maybe all information will be treated in the same way. Nevertheless, I must say that I do like books!

The internet will play a huge part in our future. Will we have lectures on the web to download and run on our televisions? We might use them as a substitute for, or addition to, local group meetings. The lecture could go to the meeting without the lecturer. It happens already. Ian Young will be lecturing in New Zealand in the spring (late summer there) while remaining in Aberdeen. There may be video conferences between members. Special interest groups will form and members will pick and choose their discussion. Live conferences via voice-over-internet systems such as Skype can be almost cost-free and are already well used; practical gardening demonstrations can be screened anywhere. All may be

uploaded via video sites such as YouTube and shared around the world. In the same way we could 'walk around' members' gardens. Look them up on Google Earth, knock on their door, ask for a digital peep thro' the garden gate and - hey presto - a new garden to enjoy! Nurseries will increasingly move in on the technique to show their stock to web visitors and to highlight new and special plants. Members will make their choices instantly, clicking as they go. Orders will be made up during the 'visit' to the e-nursery while admiring the plants and will be sent at the end of the visit after payment with the least possible fuss. In the case of organizations like the Royal Horticultural Society and the National Trust for Scotland, e-visitors and on-the-ground visitors could ask for plants in the garden to be specially propagated for them. This would be an excellent way to make sure that more unusual plants, not just the easy-to-propagate, entered wider cultivation.

Software will improve in many ways we do not always imagine. In my own world, for example, I need a cheap way to catalogue individual 'slides' in my PowerPoint presentations. I would then have a slide for every plant in my garden or my travels and they would assemble easily into new presentations. This is possible for individual digital pictures but, once combined with the name, animation and other views in a PowerPoint presentation, the only way to find a slide cheaply is to run through the whole programme. Special horticultural blank slides will be produced so that we can all make perfect presentations with several views and easily-read unobtrusive plant names.

The Media

Imagine '*From my Alpine House*' becoming a worldwide hit! Interactive programmes could be broadcast at published times to allow maximum participation and could be available on the iPlayer. In '*Strictly Come Gardening*', professionals will give novices intensive tuition to transform them into enthusiastic expert gardeners in only three months. Then there will be '*The Apprentice Naturalist*' where students are given different '*improve the environment*' tasks. We will have new media gardening personalities. Why not university courses in horticultural media studies?

The Soft Gardener

Travel spends time and money, causes pollution and risks catching diseases, especially for plant hunters. Many special and desirable plants seem to be native to the less well developed parts of the world where diseases are endemic. We could travel there via a world wide web of webcams, perhaps on drones or robot roamers. Look up Switzerland, choose Zermatt, zoom in, fly around, discover androsaces and gentians on your screen, choose the best angle and take a photograph. Remote cameras will have better and higher powered lenses, increasing their usefulness. Instead of flying hostile warmongering drones over Afghanistan, rock gardeners could control their cameras to hunt for

dionysias ... it is perhaps more likely that members on holiday will upload pictures and video to websites where they interact with folk at home. Plants might be identified *in situ* (this is already done using mobile phones, Google and online encyclopaedias). A repartee might develop between the plant hunters in the hills and people at home using iPads. Questions about soil types, aspects, sun or shade, wet or merely damp ground and other growing conditions could be asked and answered; areas for further exploration could be pointed out. One day, people might be dispensed with, just like the Mars Rover but now controlled by Scottish Rockers ... or maybe not. All this electronic information could be catalogued and made available in short pieces on srgc.net.uk!

Perhaps less farfetched is the opportunity to use the roads being built for the wind farms and pylon lines to open up more hillsides to walkers. If the windmills continue to spread over the world and their roads were open to the public, who knows what new plants might be discovered at the new roadsides? Much of the botanizing done in the USA is within walking distance of motor roads, so discovery of new plants seems very likely as the road network expands.

In times to come, holographic images will be projected into rooms where we will wander through distant places as if we were really there. '*Star Trek*' already has this technology. Don't laugh! When Captain Kirk spoke via his wee hand-held plastic communicator from a planet to Scotty on the *Enterprise*, mobile phones were still to come. When Lt Ohura retrieved information from plastic discs in wall slots, CDs, DVDs and computer discs had not been invented. Computers filled whole rooms and it was ridiculous to believe you could carry one around. Now most of us have mobile phones with cameras and gizmos with phenomenal computing power. We already have cameras with built-in projectors as well as 3D cameras and TVs. Hologram cameras will be along soon.

Horticulture

Leaving technology behind, there will changes in horticulture. We will understand the specific needs of more plants and be better able to raise them from seed and grow them to perfection. Micro-propagation techniques are developing and improving. Thus, plants which are rare today may become widely available in garden centres and nurseries. A new huge electronic garden shopping site like today's Amazon is bound to appear on the internet. If Amazon is for books and records the new site for plants could be 'Sierra' or 'Cairngorm'. Plants won't be sent to garden centres to be ignored until bought but will be dispatched direct from growers to gardeners. Nurseries and amateurs alike could 'post' their plants on the site. I must buy shares in delivery companies (delivery companies? I think he means '*logistics solutions offering a fully integrated nursery and distribution service, providing order fulfilment facilitation tailored to your market requirements*'. Ed.)

Erecting a tent with ropes and poles used to take a long time but now we have tents that pop up in seconds. Why not pop-up cold frames and greenhouses? Use them where and when they are needed and pack them away until next time. The glass in greenhouses might be integrated with solar panels to generate free electricity for the house and garden.

Science will produce new insecticides and fungicides, probably more species-specific than today's sprays, which tend to kill indiscriminately. We will have chemicals to target only pests and not harm birds, animals or 'good' invertebrates. New composts with better properties will be developed from waste products. Present-day bags of compost are heavy and expensive to transport. We already have dried Coir blocks on sale but they can be difficult to re-wet. I foresee a new era when water will be removed from the composts before sale. Absorbent granules in the compost will allow the gardener to rehydrate it readily. There will be new and rapid composting methods for all household waste. In the future we might be able to use food containers as plant pots or they too might be bio-degradable. Today, we use fleece to cover and warm the ground to get earlier crops but perhaps we will have granules to absorb heat during the day or transform sunlight into heat in the soil.

Imagine a future when amateurs have home kits to make gene transfers between species. Instead of searching for better yields from food crops, which is the aim of the commercial world, amateurs would be seeking new flowers and better foliage. Look at how traditional selection has changed daffodils. This has been achieved by generations of selection and crossing. We may not like all the resulting double and deformed varieties but they exemplify what is possible. How would we feel if someone introduced genes for colour into snowdrops? Would we like blue and red snowdrops? Would they still be white and have red markings or would the petals and markings both change? How about big snowdrops half a metre tall? *We* might not like them but if they were easy to grow in Scotland in February they could become commercial florists' flowers. The idea might apply to a whole range of species. One advantage is the saving of thousands of gallons of fuel used to fly flowers from developing countries in Africa and South America to Europe and North America. Instead, the areas cleared of natural forests might produce food crops. If we raised sterile flowers they would last longer in florists' shops and the home; we would need fewer bunches. Transport costs and environmental pollution would be reduced. I am sure that gene therapy will result in plants resistant to certain diseases and, hopefully, 'anti-freeze genes' may be inserted into species that we in Scotland find tender.

One of the curses of the international horticultural trade is that diseases are carried across borders. It happens everywhere and is particularly poignant in the UK; as an island we have been isolated from many continental diseases such as Dutch elm disease. More recently we have been warned about *Phytopthera* that affects rhododendrons and

larches; other diseases affect pines and ash. We will need to reintroduce effective plant inspection at our borders or make sure we have sufficient home-grown trees and shrubs. Monoculture leads to the spread of diseases as well as being aesthetically boring. Naturally produced seed from a multitude of sources, such as that in the SRGC seed exchange, will become increasingly important; every seed gives a plant that is slightly different genetically and probably physically from all others. We need to maintain diversity in all gardens.

We must ensure that the species and varieties we grow in our gardens are maintained in cultivation in the future, in case it becomes impossible to reintroduce them from the wild. Industry will patent various new plants but we should try to resist depending on cloned lines. Variety is and always should be the spice of gardening - unless you are into carpet bedding. The most important thing all members must do is to enthuse new generations of gardeners. They may be children, adults whose families are older, or even the recently retired. We already know that gardeners tend to be happier and more content, with lower blood pressure and stress than the general public. '*Get gardening – reduce your stress!*' may be the slogan to replace '*Brush your teeth, twice a day*'. Would the British National Health Service pay for gardening courses? We could become consultants in stress reduction. Whatever else happens in the future we may be sure that people will always be keen to visit distant lands to find new introductions and gardeners, and to grow beautiful plants in their own gardens. If gardens are small, attention will focus on smaller plants and bulbs. Rock plants, alpines and their environment will continue to fascinate photographers and artists. Poets will still dedicate rhymes to them.

We will keep 'The Rock Garden' at the forefront of horticultural innovation. If our descendants in the SRGC get it right our club will be just as vibrant, necessary and relevant in 2093 as it is today. As always, the SRGC will change with the times but surely it will always remain the 'World's Friendly Garden Club'.

What's nicer
than a dionysia?
It's hard to get,
and needs a bit
of grit.
A primula's
not so similar
but worth a try.
One expires in wet,
the other in the dry.

Anon

A Founder Member: Roland Edgar Cooper (1890–1962)

Alan Elliott

I have been working in the herbarium of the Royal Botanic Garden Edinburgh (RBGE) as a member of the Global Type Initiative team funded by the Mellon Foundation. More than 150 herbaria are creating an online database of high resolution images of type specimens. A 'type' is a herbarium specimen used when describing a new species; it becomes permanently linked with the given plant name. In six years we have processed 47000 specimens, all to be accessible via the RBGE's herbarium catalogue at www.rbge.org.uk.

While working on Bhutanese types I came across material collected by Roland Edgar Cooper in 1914 and 1915. Cooper has not received such a fanfare of recognition as the Himalayan giants Forrest, Kingdon-Ward, and Ludlow & Sherriff but he deserves our attention. The literature and his RBGE archive reveal new details about his collecting trip to Kullu and Lahoul (I have modernized the spelling of place names). He wrote very little about this trip and the resulting herbarium collections have been largely ignored relative to his specimens from Sikkim and Bhutan, which were extensively used in the writing of Long's *Flora of Bhutan*.

Cooper was born in 1890 and orphaned by the age of four. At sixteen he came under the guardianship of his aunt Emma Smith (née Wiedhofft), his mother Jessie's half-sister, and her husband, the botanist William Wright Smith. Cooper ended up in India when his uncle became keeper of the herbarium at the Royal Botanic Garden Calcutta in 1907. Here, and later in the Lloyd Botanic Garden Darjeeling, he studied botany and horticulture under the tutelage of George Thomas Lane, curator in Calcutta. He accompanied his uncle on collecting trips to Sikkim and the borders of Nepal, Bhutan and Tibet, gaining early experience of the diversity of the Himalaya.

Cooper returned to Scotland in 1910, when Wright Smith took up a post at RBGE to describe George Forrest's collections then being received from Yunnan. Intending to become a fruit farmer in British Columbia, he was tutored by Professor Isaac Bayley Balfour. However, before finishing his studies, and with the encouragement of Wright Smith and Balfour, he agreed to lead a collecting expedition to Sikkim, sponsored by A K Bulley of Ness Gardens.

Sikkim (1913)

The main purpose of Cooper's trips was to introduce horticultural novelties into cultivation, with botanical collecting only a secondary concern. He started at Kurseong, headed north to Darjeeling, then west to Pallut on the border of Nepal, before returning to Darjeeling. He went northeast to Gangtok and explored valleys and passes around the Chumbi Valley. He also explored the Lachen and Yamgtang valleys, respectively northwest and northeast of Chungthang, visiting ground

Table 1: New taxa collected by Cooper in Sikkim

Number	Type collection	Currently accepted name
20	*Primula calderiana* Balf.f. & R.E.Cooper	*Primula calderiana* Balf.f. & R.E.Cooper
118	*Poa cooperi* Noltie	*Poa cooperi* Noltie
160	*Euphorbia luteoviridis* D.G.Long	*Euphorbia luteoviridis* D.G.Long
166	*Sedum bhutanicum* Praeger: Sedum *cooperi* Praeger	*Rhodiola bupleuroides* (Wall. ex Hook.f. & Thomson) S.H.Fu
299	*Physospermopsis bhutanensis* Farille & Malla	*Physospermopsis kingdon-wardii* (H.Wolff) C.Norman
349	*Primula cooperi* Balf.f.	*Primula cooperi* Balf.f.
438	*Primula lacteocapitata* Balf.f. & W.W.Sm.	*Primula capitata* Hook.f. ssp. *lacteocapitata* (Balf.f. & W.W.Sm.) W.W.Sm. & Forrest
440	*Sedum pseudostapfii* Praeger:	*Sedum filipes* Hemsl.
508	*Salvia campanulata* Wall. ex Benth. var. *hirtella* E.Peter	*Salvia campanulata* Wall. ex Benth. var. *hirtella* E.Peter
593	*Potentilla tapetodes* Soják var. *decidua* Soják	*Potentilla microphylla* D.Don var. *microphylla*
605	*Delphinium aureopilosum* Chowdhury ex Mukerjee	*Delphinium viscosum* Hook.f. & Thomson
714	*Salvia sikkimensis* E.Peter var. *chaenocalyx* E.Peter	*Salvia campanulata* Wall. ex Benth. var. *fissa* E.Peter
725	*Euphrasia chumbica* R.R.Mill	*Euphrasia chumbica* R.R.Mill
772	*Lalldhwojia cooperi* Farille	*Lalldhwojia staintonii* Farille
793	*Lactuca cooperi* Anth.	*Youngia depressa* (Hook.f. & Thomson) Babc. & Stebbins
845	*Corydalis changuensis* D.G.Long	*Corydalis changuensis* D.G.Long
884	*Pedicularis cooperi* P.C.Tsoong	*Pedicularis cooperi* P.C.Tsoong
893	*Primula cooperi* Balf.f.	*Primula cooperi* Balf.f.
907A	*Parnassia cooperi* W.E. Evans	*Parnassia cooperi* W.E. Evans
923	*Sedum crassipes* Hook. f. & Thomson var. *cholaense* Praeger:	*Rhodiola wallichiana* (Hook.) S.H.Fu
951	*Primula crispata* Balf.f. & W.W.Sm.	*Primula capitata* Hook.f. ssp. *crispata* (Balf.f. & W.W.Sm.) W.W.Sm. & Forrest

previously covered by Joseph Hooker. A list of new species and varieties from these Sikkim collections includes almost two dozen species, although some are no longer considered to be distinct from earlier taxa.

Through Bulley, RBGE received over 500 seed collections from this trip, many of which neither germinated nor persisted in cultivation at Edinburgh. However, two forms of *Meconopsis simplicifolia* (D.Don) Walp. grew there for some years; Cooper attributed its eventual decline to a lack of moisture in Edinburgh relative to that of its home. Despite the number of collections, this trip was deemed a failure, yielding few 'novelties'. Horticulturally, his best known discovery from Sikkim is *Primula calderiana*, described by him and his mentor Bayley Balfour.

Copper later paid tribute to an important member of his company, Rohmoo Lepcha. Lepchas are indigenous to Sikkim, renowned for their knowledge of and respect for nature; several were employed as collectors by the Calcutta Botanic Garden. Rohmoo worked for William Wright Smith and George H Cave during their 1909–1910 collecting trips in Sikkim. Cooper first met Rohmoo during the preparations for his 1913 trip to Sikkim and employed him as his chief collector on his four trips in Sikkim, Bhutan and northwest India.

The literature surrounding Cooper refers to his visits to the Tibetan border while accompanying

Primula calderiana
(Photo: R E Cooper)

Rohmoo with *Meconopsis wallichii*

Wright Smith. His own pass did not allow him into the Chumbi Valley but Rohmoo was able to enter and collected what later became *Primula chumbiensis* W. W. Sm. - probably from the same spot that he had collected it in 1912 - and which forms part of the Edinburgh type collection.

Bhutan (1914–15)

After William Griffith in 1837, Cooper was the second major plant collector to enter Bhutan. He covered much of the same ground but explored more of the country than had Griffith. In 1914 his itinerary took him to the centre and western regions. The 1915 excursion repeated some of this before heading northeast. He much later (1929 to 1955) published a

Table 2: New taxa collected by Cooper in Bhutan

Number	Currently Accepted Name	Number	Currently Accepted Name
1454,1545, 3936	*Rhododendron maddenii* Hook.f. ssp. *maddenii*	3816 3885	*Rhododendron papillatum* Balf.f. & Cooper
1601,1771, 3470,4056	*Primula bellidifolia* King	3837	*Primula atrodentata* W.W.Sm.
1670	*Physospermopsis kingdon-wardii* (H.Wolff) C.Norman	3903	*Rhododendron anthopogon* D.Don ssp. anthopogon
1695	*Potentilla spodiochlora* Soják	3937	*Rhododendron dalhousieae* Hook.f. var. *rhabdotum* (Balf.f. & R.E.Cooper) Cullen
1878,2952	*Silene indica* Roxb. var. *bhutanica* (W.W.Sm.) Bocquet	3943	*Leucophysalis yunnanense* (Kuang & Lu) Averett ssp. *bhutanica* Grierson & Long
1994,2990	*Swertia staintonii* Harry Sm.	3959 4083	*Rhododendron camelliiflorum* Hook.f.
1996	*Saxifraga tsangchanensis* Franch.	3981	*Primula bracteosa* Craib
2134,4042	*Primula umbratilis* Balf.f. & R.E.Cooper	4000	*Primula calderiana* Balf.f. & R.E.Cooper
2148,3990	*Rhododendron flinckii* Davidian	4072	*Primula calderiana* Balf.f. & R.E.Cooper ssp. *strumosa* (Balf.f. & R.E.Cooper) A.J.Richards
2224,4009, 4285	*Rhododendron baileyi* Balf.f.	4099	*Lobelia nubigena* J.Anthony
2294	*Delphinium cooperi* Munz	4115	*Rhododendron argipeplum* Balf.f. & R.E.Cooper
2367	*Primula denticulata* Sm.	4154	*Buddleja forrestii* Diels
2508	*Corallodiscus bhutanicus* (Craib) B.L.Burtt	4173,4273	*Primula dickieana* Watt var. *aureostellata* (Balf.f.& Cooper) Fletcher
2508A	*Corallodiscus cooperi* (Craib) B.L.Burtt	4236,4975	*Primula eburnea* Balf.f. & R.E.Cooper
2524	*Berberis praecipua* C.K.Schneid.	4247	*Primula dryadifolia* Franch. Ssp. *jonardunii* (W.W.Sm.) Chen & Hu
2744	*Pedicularis microloba* R.R.Mill	4268	*Cortiella hookeri* (C.B.Clarke) C.Norman
3227	*Silene purii* Bocquet & Saxena	4304	*Pedicularis sanguilimbata* R.R.Mill
3240	*Kedarnatha oreomyrrhiformis* (Farille & S.B.Malla) Pimenov & Kljukov	4344	*Rubus cooperi* D.G.Long
3301	*Indigofera pseudoreticulata* Grierson & Long	4393,4977	*Primula xanthopa* Balf.f. & R.E.Cooper
3311 3315	*Cotoneaster bacillaris* Wall. ex Lindl.	4533	*Keraymonia pinnatifolia* M.F.Watson
3449	*Erysimum afghanicum* Kitam.	4806	*Gentiana lacerulata* Harry Sm.
3499	*Gentiana prolata* Balf.f.	4807	*Primula sikkimensis* Hook.f. var. *hopeana* (Balf.f. & R.E.Cooper) W.W.Sm. & H.R.Fletcher
3517	*Rhodiola bupleuroides* (Wall. ex Hook.f. & Thomson) S.H.Fu		

series of accounts of these expeditions.

Cooper's main objective in Bhutan was again to collect horticultural novelties, focusing on *Rhododendron* and *Primula*. However, as Bhutan was almost completely unknown, his collection of 3958 numbers was both significant and substantial. Letters from Balfour to Cooper in the RBGE archive convey the excitement of his being allowed access to Bhutan, and McLean recounted Bulley's near euphoria at securing permission for Cooper to enter the reclusive kingdom. Once there, he collected an astonishing 42 species of *Rhododendron* - eight of them new to science, and 51 species of *Primula* - 19 new to science. Subsequent taxonomic research has found most of these not to be distinct and they have sunk into synonymy. In total, 63 of his Bhutanese collections helped describe new species or varieties, with 32 still recognised as distinct.

Cooper's most important horticultural introduction from Bhutan was that of *Viburnum grandiflorum* Wall. ex DC. This was used as one of the parents for the cross that created *V.* x *bodnantense* Aberc. ex Stearn. The original cross of *Viburnum farreri* Stearn (syn. *V. fragrans* Bunge) and *V. grandiflorum* was made in 1933 at RBGE by the then assistant curator Charles Lamont, and again in 1934/35 at Bodnant Garden in North Wales, from which the cross derives its name.

Cooper attributed some of his most famous collections to what he called '*Plant Hunter's Luck*', when

Lobelia nubigena type locality (Photo R E Cooper)

'Baleful influences masked as livid beasts & ogres who are vanquished by the good in the dance'. Words and photo (R E Cooper)

unique plants could literally be '*fallen upon*'. In 1942 such an accident resulted in a new find. While crossing steep scree the ground gave way, he was thrown to his back and began to slide, grabbing vegetation to stop his fall. Once retrieved by his men, part of a branch was pulled off a shrub to help him along. The branch had flowers and appeared to be something new – it was pressed and subsequently described by Wright Smith as *Buddleja cooperi*. Cooper commented that his '*party were so happy-go-lucky and casually careless resulting in frequent acts of dare-devilry which might easily have meant mutilation or worse*'!

One of Cooper's most interesting discoveries was a large member of the family Campanulaceae on the Black Mountain, subsequently described by John Anthony as *Lobelia nubigena*. This has a 'pachycaul' (thick-stemmed) growth habit and was then thought to be related to the tree lobelias of the mountains of equatorial Africa. Cooper described this plant's occurrence in Bhutan as '*a problem yet to be resolved*'. On the southern mountain ranges of Bhutan he found *Rhododendron rhabdotum* Balf.f. & R.E.Cooper, now treated as a variety of *R. dalhousieae* Hook.f. He described this as '*a marvel with large red stripes down the 4 inch white corolla*'.

Cooper published how *Primula eburnea* Balf.f. & R.E.Cooper was discovered and introduced into cultivation and he paid tribute to another member of his party, a Lepcha called Paulo. Paolo was stranded on the wrong side of a river after a bridge was washed away; he then walked for a month, the long way round, to bring Cooper the seed. During the trek Paulo fell ill with a fever and spent eight days in delirium; ignoring advice to rest from the monks who were caring for him, he returned to re-join Cooper's party. It is testament to Cooper's good relations with his collectors that Paulo volunteered for the 1916 trip, despite his still being ill.

Cooper also was fascinated by Bhutanese people. In 1933, well after the event, he wrote about the '*Daktas*', people living in the east of Bhutan who had been described to him as '*tailed men*'. Initial excitement at possibly discovering the '*missing evolutionary link*' was short lived. The tail '*consisted of a flat, round pad nine inches in diameter, made of either yak or goat hair. The wearers said that the pad was put on in their youth and was never removed. It was said to be used as a resting pad when loads were carried.*'

Kullu & Lahaul, Himachal Pradesh, India (1916)

Cooper's 1916 trip was sponsored by Bulley and took him to the northwest of India in search of horticultural novelties in what is now Himachal Pradesh. He travelled roughly north from Shimla up the Kullu valley following the Beas River, crossed the Rohtang Pass and joined the Lahaul and Spiti Valley. From here he headed northwest to Keylong and then northeast to the border with Kashmir. He took the opportunity to explore a number of side valleys off the main route north.

This trip has largely been forgotten so it seems worthwhile to quote from Cooper's diary. He left Calcutta on the 29 May on the mail train for Shimla, where he spent two weeks gathering supplies. Shimla was still the summer capital of the Indian Empire, and European news reached there quite quickly despite its remoteness. He wrote: '*The rains appeared to break prematurely & helped to deepen the general depression caused by the death of Lord Kitchener*'.

The landscape and climate of the northwest Himalaya are distinctly different to monsoon-soaked Bhutan and Sikkim. The 1916 herbarium collections are therefore characterized by plants adapted to drier parts. The major families in his collection book are Asteraceae, Lamiaceae, Apiaceae, Fabaceae, and many of the normally under-collected Poaceae. From his frequent references to it, *Cedrus deodar* (Roxb. ex G.Don) G.Don seems to have been of particular interest. However, '*Plant Collectors Luck*' was not with him this time: many seed gatherings were lost to grazing animals, although some made it back to the UK. Fifty nine seed collections were sent to Kew and *Gypsophila cerastioides* from Lahoul ended up in wider cultivation. The most impressive plant still growing at RBGE is *Rhododendron campanulatum* D.Don, collected a few miles from the Rohtang Pass in the Kullu Valley. Large and mauve-coloured with pinkish dots in the corolla, it flowers profusely in mid-April.

Unlike earlier trips, Kullu and Lahaul yielded no new species. There are a number of possible reasons for this: the collections were not as comprehensive as those from Bhutan and Sikkim; botanical diversity of the drier western Himalaya is significantly less than the wetter eastern Himalaya; and plants in the western Himalaya tend to a wider range whereas in the East they tend to a higher level of geographical endemism. Moreover, many botanists had previously worked over the area, using Shimla as a base: Alexander Gerard in the Punjab in 1812 and 1817; his brother James in Spiti Valley in 1821; William Moorcroft in Kullu in 1819; Victor Jaquemont in the mountains from Shimla to Spiti in 1829; William Parish collected ferns from Kullu in 1847, which he passed on to Joseph Dalton Hooker and Thomas Thomson for inclusion in the *Flora of British India*; Lord William Hay collected from Shimla to Kashmir; and a man called Lance collected in Lahaul and Spiti, both latter passing their collections to the Indian civil servant Michael Pakenham Edgeworth.

Cooper's Herbarium Collections

Cooper's trips were cut short by war in Europe and his collections and notes entered storage at the Calcutta herbarium. Letters written in 1952 from Wright Smith to George Taylor at the British Museum reveal the unfortunate fate of his material:

9th Feb 1952. '*Cooper was in Bhutan during the first war and his collections were all sent to Calcutta when he joined the army. There in Calcutta they were treated in an abominable fashion. They were stored in boxes in one of the outhouses attached to the herbarium and were simply neglected. Most of them were eaten to bits by insects and in some cases reduced to powder. Somehow or other certain specimens, including the Primulas, were sent to Sir Isaac Bayley Balfour and they were not so very bad but still very imperfect. The material was kept in Calcutta for some years after the war before being forwarded to this country. What was reduced to powder was, of course, simply burnt.*'

22nd Feb 1952. '*I wrote you on 9th Feb regarding Cooper material. What I said therein applied very fully to the material left in Calcutta but during the 1914-18 war Cooper, towards the end of it was on Military service and I was at Timber under the Board of Trade. But Sir Isaac must have got about that time some cases of Bhutan plants collected by Cooper which were stored away at the herbarium as Sir Isaac could not touch them and nobody seems to have much knowledge of them. The result is that there is quite a good lot of material collected in Bhutan which would be very worthwhile for Mr Ludlow to go over. It is far more extensive than I had any idea of.*'

Mclean mentioned that parts of the Sikkim collection were lost on the sinking of the *City of Westminster* in 1914. Cooper's own notes in the RBGE archives show that it was fairly intact, so the loss may relate to seed collections rather than preserved specimens. Cooper later described the material that reached Balfour during the Great War as '*the cream*'. The bulk of remaining badly neglected material was sent to Edinburgh in 1924.

The Great War (1916–1919)

Cooper was commissioned as a lieutenant in the Indian Army Officer Reserve and served initially with the 1st Reserve Ghurkha Rifles on the North West Frontier of India (now in Pakistan). He was later seconded to the 4/3rd Ghurkha Rifles attached to the Royal Flying Corps and transferred to Alexandria. He remained in war service until 1919. The *Scotsman* newspaper mentioned in 1934 that he trained in Egypt as a flying officer, though he '*never flew as high as he walked*'. Cooper himself mentioned his time in Egypt when he saw temple inscriptions that were the earliest record of a plant introduction. It was a time '*...spoilt by the outbreak of the riots in Egypt at the end of the Great War*'.

Rangoon (1921–1930)

Instead of joining the RAF or continuing work for Bulley, Cooper was appointed by the India Office in 1921 to be superintendent of Maymyo Botanic Garden in the Shan Hills of Burma; he was the first British-trained officer to hold the post. He also worked for the Rangoon Development Trust helping the transfer of the Agri-Horticultural Society of Burma to a new site in Rangoon. Once this was completed, he resigned his government post and took up a post with the Society. The RBGE history states that the happiest time of Cooper's life was as superintendent of the Maymyo Botanic Garden. This is probably true – he married in 1921 and his only son was born in 1922. A touching picture of him and his son Billie at their Rangoon home has survived from 1925.

Post-war, there was no opportunity for large-scale collecting; however, he collected a small number of specimens from the interesting and isolated peak of Mount Victoria in southern Burma and three collections from Mount Victoria were subsequently described as new species endemic to the mountain.

Cooper's most significant horticultural introduction from Burma came in 1927 when he despatched rose seed to the UK. He referred to it as '*Rosa Cooperi*' and mentioned it was cultivated in the RBGE rock garden but the specific name was never published validly. Presumably, it is the cultivar listed in the *RHS Plant Finder* as *Rosa* 'Cooperi' (Cooper's Burma rose), a natural hybrid between *Rosa gigantea* and *R. laevigata*.

Table 3: New taxa collected by Cooper in Burma

Number	Type Collection	Current Accepted
5969A	*Vitex burmensis* Moldenke	*Vitex burmensis* Moldenke
6002	*Potentilla montisvictoriae* H.Ikeda & H.Ohba	*Potentilla montisvictoriae* H.Ikeda & H.Ohba
6073	*Agapetes moorei* Hemsl. var. *glabrescens* Airy Shaw	*Agapetes moorei* Hemsl. var. *glabrescens* Airy Shaw

Royal Botanic Garden Edinburgh (1930–1950)

In 1930 Cooper returned to Edinburgh so that his son might benefit from a Scottish education. His first job was to lay out the grounds of the Astley Ainslie Hospital in Edinburgh for its official opening. He then re-joined the RBGE as an assistant curator, becoming curator in 1934 until he retired in 1950. During this time he oversaw the redevelopment of the rock, peat and heath gardens, and renovation of the woodland garden.

The RBGE accession books contain relevant entries from Bees Ltd (Bulley's firm) or from Cooper himself. Occasionally, his herbarium specimens are cited as a source - these must have been shaken to release precious seed! Much that the RBGE received unfortunately failed to

germinate but Cooper himself wrote about material that was successfully cultivated; at one time seventeen species of his *Rhododendron* collections grew there. There is further evidence of his living collections still in the RBGE herbarium in dried material from specimens growing in the garden.

Cowan's (1953) and Davidian's (1960) two-part article *Rhododendrons at the Royal Botanic Garden Edinburgh* overlooked Cooper's contribution to the rhododendron collection. Both omitted his plant hunting, his redevelopment of the areas essential for rhododendron cultivation, and only his introduction of *Rhododendron nivale* Hook.f. was credited for its performance in the rock garden. Nevertheless, even today, a small number of Cooper's plants still grow across the four RBGE gardens.

During his curatorship, Cooper lived in the East Gate Lodge with his wife Emily and Billie. There were numerous pets: budgies, fantailed doves, guinea pigs, hens, rabbits, a Pekinese and a Red Setter; a world away from the building's current dual role of coffee bar and garden rangers' station. Pauline Scott recounted how during the Second World War Cooper would organize school holiday garden tours for family groups. After a 1941 mid-air collision over Edinburgh between two Spitfires, one crashed into Inverleith Park and the other into the garden of the East Gate Lodge. During redevelopment of the East Gate entrance in 2010 an archaeological dig recovered parts of the Spitfire. However, the war had a more personal

Table 4: Cooper collections growing at RBGE (various accession numbers)

Name	Cooper	Garden	Country
Viburnum grandiflorum Wall. ex DC.	3023	Inverleith	Bhutan
Rhododendron maddenii Hook.f. ssp. *maddenii*	3601	Inverleith	Bhutan
Ligustrum compactum Hook.f. & Thomson	3563	Inverleith	Bhutan
Euonymus grandiflorus Wall.	3562	Inverleith	Bhutan
Rhododendron campanulatum D.Don 'Roland E. Cooper'	5768	Inverleith	India
Rhododendron barbatum Wall. ex G.Don	3507	Inverleith	Bhutan
Viburnum grandiflorum Wall. ex DC.	3023	Logan	Bhutan
Rhododendron maddenii Hook.f. ssp. *Maddenii*	3601	Logan	Bhutan
Rhododendron maddenii Hook.f. ssp. Maddenii	3601	Benmore	Bhutan
Rhododendron campanulatum D.Don 'Roland E. Cooper'	5768	Benmore	India
Rhododendron barbatum Wall. ex G.Don	3507	Benmore	Bhutan
Rhododendron campanulatum D.Don 'Roland E. Cooper'	5768	Dawyck	India
Rhododendron campanulatum D.Don ssp. *Campanulatum*	5926	Dawyck	India

and tragic aspect because Billie, who followed his father into the RAF volunteer reserve, was declared missing in action on 12 September 1942.

Founder Member of the Scottish Rock Garden Club

Cooper was one of the seven who discussed and founded the SRGC in July 1933. He likened the concept to the formation of societies during the Scottish Enlightenment, when like-minded people would meet in Edinburgh's teahouses to discuss and share ideas. However, he conceded that the club started in the less salubrious surrounding of a '*darkish parlour at the back entrance to a pub at the west end of Princes Street, where we sat below the high windows of the Rutland and commenced proceedings with a glass of beer*'. He was its second official speaker in November 1933, wrote the Club's first leaflet in January 1934, and was an editor of the club's 1935 '*George Forrest Book*'. He became the first editor of the *Journal of the Scottish Rock Garden Club*, a post he held until 1937, and contributed eleven articles to the journal. His earliest three were devoted to heaths and heathers: introducing them (1937); cultural requirements (1938); and their growth at RBGE (1947).

Meconopsis bella collected by Cooper as a type specimen, in the herbarium at the RBGE

In 1949 Cooper described the landscape and plants of the western Himalaya on the basis of his 1916 expedition to Lahaul and Kullu. An article followed on plants from the eastern Himalaya, primarily based on his early work in Sikkim and Bhutan. During the 1950s he wrote several pieces about his beloved primulas - a theme he continued in the *Quarterly of the American Primrose Society*. In 1953 he wrote an amusing and sentimental article about the development and

evolution of the rock and heather gardens as well as some of his plant introductions that did well in Edinburgh.

Cooper's entry in Hadfield's *British Gardeners* mentions his thesis on the influence of the landscape painter John Constable on the RBGE garden at Inverleith. This is overstated and simply refers to Cooper's final short article in the SRGC journal. Once his impenetrable prose is deciphered, he speculates that William McNab (who laid out the Inverleith garden in the 1820s) may have been influenced by Constable's paintings through McNab's Ayrshire-born friend, the landscape painter John Thomson of Duddingston. Another of Cooper's legacies to the SRGC is the award at the Edinburgh show for the best Asiatic primula. This impressive trophy incorporates a wooden drinking cup with silver base and lid, another gift that Cooper received from the Maharajah of Bhutan in 1915.

Final days (1950–1962)

After retiring from the RBGE, Cooper moved to the Essex resort of Westcliff-on-Sea. His retirement became his most prolific period of articles for the SRGC, the American Rhododendron Society and the American Primrose Society (APS); in 1955 he became the 'English Editor' for the APS. He died at Southend-on-Sea in 1962 aged 71. Some of his papers remain at RBGE, but unfortunately the whereabouts of his pioneering photographs of Bhutan is unknown.

I would like to hear from any members with further information about Cooper or who know the whereabouts of any of his photographs. We know that Henry Tod was gifted a set of landscape shots from Bhutan just before Cooper died but have been unable to trace them. If you can help, please contact me at a.elliott@rbge.org.uk.

Space does not permit the long list of references relevant to this article but they may be obtained directly from me on request.

Cooper's official RBGE portrait

Classic Lime-loving Gentians

Zdeněk Zvolánek

When I first fully opened my mind to the smallest perennial plants in 1968 and placed my horizontal layers of limestone on a baking hot southern slope, I was sure that gentians from the Section *Megalanthe* were not naturally designed for a weekend-serviced rock garden thirty kilometres from my home in Prague. At that time - a time of blind intuitive beginnings - the literature was obscure about these classic trumpet gentians (*Enzian* in Bavaria); I felt that they would be happier in a wrapping of milk chocolate and cheese from the Alps than in a hot and irregularly watered lowland garden. Lacking proper advice, my problem was that the so-called *acaulis* Group contains plenty of lime-hating and fussy alpine gentians such as *Gentiana kochiana* and *G. excisa* that were known to flower in some gardens and to collapse without clear reason in others. '*It was the subject of endless speculation and argument*' wrote Will Ingwersen in 1979.

Today, the term *acaulis* Group is happily out of its malfunction because *Gentiana acaulis* L. (syn. *G. kochiana* Perrier et Songeon and *G. excisa* C Presl) is valid and a type species in the Section *Megalanthe*; it is the species with the widest area in Europe, growing only on acidic substrates. Any rock gardener with common sense avoids trying to tame this symbolic alpine meadow species in a garden that has lime in the soil or in the tap water. An even bigger troublemaker is the dwarf, mostly stemless and lovely *Gentiana alpina* Vill., also restricted to the acid rocks and granite substrates of alpine tundra.

Thirty years later, I had developed a large horizontal area with vertically placed layers of diabase stones when a happy accident happened to me: the fine Czech plantswoman Anna Jílková gave me a big plastic pot labelled '*Gentiana angustifolia* forma *alba*, 72 pricked seedlings'. I planted this battalion of limestone-adoring species and half of them survived my tough steppe conditions. So I changed my mind and opened my eyes to the other lime-loving big trumpet gentians.

Left:
Gentiana occidentalis

Crevice garden
with gentians

My ten lazy years of long observation of this lime tolerating or loving species has had such positive results that I must now spread their quiet evangelium via this friendly and nippy journal of the SRGC ...

Gentiana occidentalis

This western trumpet gentian hails from the western Pyrenees of the Spanish Cordillera Cantabrica and is the prettier sister of *G. angustifolia.* Some botanists have treated it as a subspecies of *G. angustifolia* using the synonym *G. angustifolia* ssp. *occidentalis.* We believe that it is a species unto itself. It is a lime-loving (calciphile) subalpine or alpine plant occurring at elevations of 800-3100 metres that may be found in stony-gravelly ecological zones favouring, amongst other things, sunny and short grasses. The classic place of collection is in the Picos de Europa mountain range at about 2000 metres. The trumpets may be seven cm long and have minimal green spots in the throat. The blue of the flowers is bright azure combined with deep violet walls outside of the tubular form of the flowers. My own plant is a treasured gift from plantsman Rudi Weiss of Waiblingen in southern Germany. I was surprised by its nearly stemless flowering overture. The flowers display its superb quality for a long time and my pleasure in them seems eternal. On July 24th this year (2012) I collected a good amount of healthy seeds.

This *G. occidentalis* spreads quickly with its underground stems in my slightly alkaline and mineral-rich soil. This is a most promising habit for propagation. It is not a thirsty character in my rock garden so I do not water it. All it asks is loamy clay and plenty of sun - this is essential for good flowering. Despite its obvious beauty, it is a robust plant that seems at home in the steppe climate of central Europe. Because of my tough-love diet, its leaves are smaller than many I have seen in other gardens. The plant, however, is obedient to its lazy Bohemian owner and, most importantly, is bone hardy. This approach seems to suit both of us well.

Gentiana angustifolia

This is a vigorous and free-flowering species from the limestone Alps of Western Europe, probably the best of this group suitable for beginners. All the seedlings, which I had obtained from Mrs Jílková, were planted in sunny positions in broader crevices. Only a few were quite white with some greener decoration of their throats; the majority had the colour of bluish icebergs while a smaller part was dark blue. One form showed nicely contrasting white-sulphur spots in the throat of its sky-blue fat trumpets. All my samples of this valuable species with longer narrow leaves are well-behaved rock garden plants but with stolons and running tendencies they are unsuitable for miniature rock gardens.

It was perfect luck to select one outstanding natural form with icy blue flowers, one that the Austrian plantsman Fritz Kummert called 'Mrs Vorger'. The eponymous lady lived near Grenoble in France and gave her

Gentiana angustifolia ssp. *angustifolia*

ice-blue *Gentiana angustifolia* to one of the rare Belgian rock gardeners - Jules Fourage - and he spreads it in cultivation. The plant was collected in the vicinity of the Vercors Massif, a limestone plateau south of Grenoble. Paler ice-blue forms are nowadays in circulation with the cultivar name 'Iceberg'. My darker ice-blue seedling is very shy and slow in growth: if it propagates well from cuttings, it will be described as cultivar *G. angustifolia* 'Karlik'.

My seedling from Le Charmant Som - a tiny limestone mountain north of Grenoble - has smaller and nearly sessile flowers. In France, I saw this species in short grass communities in the open northwest-facing slopes. Division of large carpets is possible and seed is available in good years.

Gentiana dinarica

The Czech-Austrian botanist-aristocrat, Günther Beck von Mannagetta und Lerchenau, described this species in the Dinaric Alps of the western Balkan peninsula in 1887. The original description mentioned the unspotted throats of flowers, lacking green spots. Later, in *Flora Europea*, the population from the Italian central Apennines marched under the banner of *G. dinarica* G Beck, even though the flowers have green spotted throats. I visited Italian limestone ridges in the Majella and

Violet seedling of *Gentiana dinarica*

Gran Sasso, looking for some distinct colours, but found only a few plants with light azure-blue blooms. Flowers of this species are five to seven cm long and some individuals in lower altitudes formed mats one metre in diameter. Dieter Zschummel found a good violet form near the Corno Grande (the highest peak in the Apennines) and gave me one seedling with this particular violet shine. The seedling does not grow well in my dry and hot garden and always produces only one flower. I bought a cultivar with a strange (and invalid) name 'Typ Beck'; it has a spotted throat but a nicely suffused blackish-violet outside to the flowers. This plant has running stolons and some sensitivity to my criminal growing conditions but the rich flowering in my older specimen is not permanent. My late partner Joyce Carruthers bought in England a compact and slowly increasing cultivar *G. dinarica* 'Colonel Stitt'; it has short stems and darker violet blue flowers (and once, this clone obtained Farrer´s medal).

I saw this *Gentiana dinarica* in seed on grassy limestone slopes in Bosnia (Mounts Vranica and Magli) and on Monte Negro (Komovi Mountains) but the best compact form flowered on the eastern flank of Mount Korab, just a few minutes before Macedonian soldiers marched me away to their barrack under discreet gun control. Nevertheless, today you may go there freely in June - if you have a strong will and plenty of time - to see this form in bloom. If so, please, bring me a sample!

Gentiana clusii

This lime tolerating species is quite variable and for the neglected and unwatered rock garden we need select only one subspecies – *Gentiana clusii* ssp. *clusii* - but not the Bavarian forms with honey-yellow to pink coloured flowers, just a form collected in Eastern Austria by the Linzmajers (an active Czech couple). Alena Linzmajerová introduced a robust and intensely dark violet-blue seedling that obtained an Award of Merit at the Prague May Show. It was much better in all respects than a *Gentiana acaulis* seen there in competition. Alena asked me to select some of its seedlings from the winning exhibit and to name it 'Zdeněk' in honour of her obedient husband and propagator of alpines, Zdeněk Linzmajer. I made the selection and you may now admire this unusually strong and richly flowering clone. Its very compact growth is interesting: after four years it is only twenty cm in diameter with no visible stolons. I grow it in a crevice in full sun with no artificial watering or feeding. I added some mycorrhizal fungi to the root zone last year because I believe in friendly fungal and bacterial cooperation with rock garden plants.

Another subspecies I met on the dolomitic limestones of the Malá Fatra mountains in Slovakia is *Gentiana clusii* ssp. *rochelii*, which is quite a dwarf plant with at most seven flowers in nature, only on western slopes) and three flowers in my garden, where it suffers visibly but survives bravely.

Gentiana clusii ´Zdeněk´ (named after Zdeněk Linzmajer)

Gentiana clusii ssp. *rochelii* (Photo: Michal Hoppel)

Gentiana hybrid from Fritz Kummert

Gentiana hybrida 'Alba'

Gentiana ligustica

This species is also calcicole and grows at altitudes of 1300 to 2900 metres. It shelters among rocky limestone slopes and pastures of the Maritime Alps and North Apennines. The species was described in 1956 and more details are available in the Scottish monthly electronic journal *The International Rock Gardener*. I have had no chance to try this species in my particular conditions, so you, dear reader, must try it yourself when it is available.

Coming to the end of this eulogizing report I must mention a hybridizing effort of Fritz Kummert, who gave us one good dark-coloured specimen with slim long flowers on relatively short stems. This plant is happy in my flat mineral bed in the Czech lowlands. Similar success comes with an unnamed hybrid from Moravia, which has bold white and yellow flowers above a thick cushion.

Travels in Yunnan: Part 1

A Photo Essay

Harry Jans

Rhododendron yunnanense is a large showy plant that is the national flower of Yunnan. It tolerates dry and shady conditions quite well and is impressive in large group plantings.

Stellera chamaejasme var. *chrysantha* is only found in Yunnan. It has a very thick carrot-like root and a big plant may be very old indeed. In some areas you may find many, many plants because the yaks do not eat them. This stellera is a wonderful garden plant but poses one big problem: it is only possible to propagate it by fresh seed - which does not set in cultivation.

One of the most common orchids in Yunnan is *Cypripedium flavum.* It is mostly found among small shrubbery in half shady positions although it also occurs in more open sites. There is a deal of variation in the flowers.

Cypripedium yunnanense is not so often found as *Cypripedium flavum*. It is also much smaller. It is always found growing very close to small shrubs and it is not an easy species for cultivation.

Cypripedium guttatum is one of the smaller Lady's Slipper orchids in China. Whereas most cypripediums make strong compact root systems, this one makes underground runners. There are reports of pure white specimens.

Rhododendron racemosum

One of the most desirable shrubs is *Syringa yunnanensis.* It can grow up to two metres tall and is a widespread species in Yunnan.

One of the twenty-six minorities in Yunnan province is the Yi; they sport very vibrant and characteristic headgear. Coming from a varied, mountainous and rural background, they have a saying *'The weather is different a few miles away'.*

China is known for its natural medicines. Plants such as *Saussurea, Fritillaria* and *Cypripedium* are valued for their supposed or real medicinal properties - such as stimulant, sedative or anti-inflammatory - and may be bought at every market.

If you are lucky you may be able to visit a horse festival in Yunnan, attended by many colourful and photogenic minorities.

The Cangshan mountains near Dali hide exciting plants like this *Nomocharis pardanthina,* one of Delavay's discoveries. It grows up to fifty cm but in 2012 I found plants only twenty cm tall. It is not a plant to cultivate in hot lowlands.

The Bai Ma Shan (White Horse Mountain) is one of the richest mountain ranges in north-west Yunnan with an altitude around 4500 m. It was always fairly easily accessible but the Chinese are now building a big tunnel and I expect that the road to the pass will be blocked by landslides in the future.

Good stands of a widespread species in Yunnan, *Nomocharis aperta,* may be found on the Zhongdian plateau (3300m). It grows in open scrubland and is very variable in flower colour. Some plants grow up to eighty cm high.

Nevertheless, I hope that it will be possible to visit this treasure grove in the coming years, as I expect to find fine plants of *Saussurea medusa, Androsace delavayi* (pink form), *Lilium euxanthum* and *Paraquilegia microphylla*. For me the highlight here is *Chionocharis hookeri.*

Near Zhongdian, the large Napa Hai Lake (660 square kilometres) lies at 3270 metres. Around here you can find many different forms of *Cypripedium tibeticum*. Although the best known colour form is a good red-pink, some forms that occur in this area are almost black.

Zhongdian, now called Shangri-La, is very close to Tibet. In the last ten years it has become a very big city at 3300 metres whence you may start some very good day trips. Tianchi Lake and Shika Shan will surely be two of these destinations. If you are interested in Tibetan culture you should certainly visit the monastery, a drive of only fifteen minutes from the centre of the city. The 300 year old Songzanlin monastery, owned by the Yellow Hat sect of Tibetan Buddhists, was partly destroyed in the cultural revolution but has now been completely rebuilt and is sometimes called the Little Potala.

Around Zhongdian you can find nice plants of *Daphne calcicola,* another of Forrest's introductions. These are very compact plants about fifty cm wide and only ten cm high. Unfortunately, in cultivation the species does not retain this compact growth habit.

Close to Zhongdian, Tianchi Lake at 3850m is a treasure grove full of exciting shrubs and plants. *Rhododendron phaeochrysum* is showing its flowers at their best in this photograph.

Tim Lever has described the Tianchi lake as *'very eerie and a little macabre'.* However, in small moist valleys around the lake grows *Adonis davidii,* first described as *A. brevistyla.* Coming from this background, the species is not easy to grow in those gardens with high summer temperatures.

Hemerocallis forrestii is found near Lijiang and is a real beauty. It is growing here in a half shady position under *Pinus armandii* and *Rhododendron yunnanense.* I have never seen this plant in cultivation. It is growing at an altitude of 2900m and is between fifteen and forty centimetres high.

One of the treasures growing in and amongst dwarf rhododendron around Tianchi lake is *Lilium souliei*, an almost black lily. It was in cultivation, but only just! I continue to hope that some plants still lurk around in private collections or in botanical gardens.

Near Lijiang, *Rhododendron cuneatum* is one of the very attractive rhododendrons to be found on the slopes of the Yulong Xue Shan (Jade Dragon Snow Mountain). One of the larger ones (up to 2.5 metres) is *Rhododendron yunnanense,* which flowers first and shows its leaves later. Usually it is white but I have also seen some pale pink forms. Two of the dwarf ones in the same area are *Rhododendron racemosum* and *Rhododendron cuneatum.*

In Lijiang is a very attractive little park, the Black Dragon Pool park, with a small museum and some nice old tea houses. The pool itself was built in 1737 during the Qing dynasty; an old bridge made of granite stone brings visitors to a small temple. In 2012 when I visited this place, there was no water in the pool as there had not been enough rain in the last two years.

One of the most spectacular orchids, *Cypripedium margaritaceum,* is found around the Yulong Xue Shan at around 3200m. It is almost extinct in this locality now because of unscrupulous digging, despite being almost impossible to grow. It makes wonderful large leaves and always grows in half shady positions.

Ponerorchis uniflora is a real dwarf gem that I have only once seen in the Yulong Xue Shan near Lijiang.

In the next part of this essay I will go to higher altitudes and reveal some of the wonderful colour and form of the plants in more adverse surroundings.

Among the *Abies delavayi* is found a beautiful display of *Rhododendron wardii.* This species grows very well in our gardens and some very good cultivated forms have been derived from it.

Near the Yulong Xue Shan and around Zhongdian you may come across the beautiful *Primula bulleyana* ssp. *beesiana*. The species was first introduced by George Forrest and was named after George Bulley, who features in Alan Elliott's article on page 18 of this issue.

Go West, Young Man: Part 3

Graham Nicholls

Idaho

Driving west from Montana comes Idaho, the only western state in which I haven't hunted plants. However, plants know no state boundaries. That said, several species are endemic to this state. *Phlox kelseyi* may be found in Montana, Colorado & Wyoming but the colour form of which I was given cuttings and subsequently introduced into Britain is the cultivar 'Lemhi Purple', found by Betty Lowry in Birch Creek Valley. Easy to grow in the alpine house or outside in a container, it covers itself in purple flowers.

Androsace (*Douglasia*) *idahoensis* can be found in the Salmon Mountains. It inhabits granitic gravel soils on ridges and slopes and many colonies occur where snowmelt lasts late into summer. This gives a clue to its cultivation and I have found it difficult to grow to any reasonable size. Outside the alpine house in a north facing position is best, but if inside watch for the aphids that tend to gather under the stems. An easier cultivated form is the cross with *Androsace laevigata* that is seen at many late spring shows, but even this species may have aphids that love to crawl under the foliage.

Phlox kelseyi 'Lemhi Purple'

Androsace laevigata x *idahoensis*

One newly described and recent Idaho find is a species, *Lewisia sacajaweana*. Its habitat is montane and subalpine ranging from 1500 to 3000 metres in the Boise National Forest of central Idaho (Sawtooth Mountains). Although similar to *L. kelloggii*, genetic analysis has shown it sufficiently different to be considered a separate species. There are just over two dozen known populations, roughly three quarters in the Boise National Forest. Scattered populations also occur in the Payette, Sawtooth, and Salmon-Challis National Forests. It is reported to die down after flowering and its new shoots emerge just after snowmelt, so when this species becomes available it will probably require similar cultivation to that of *Lewisia rediviva*.

Lewisia sacajaweana
(Edna Rey-Visgirdas)

Calochortus tolmiei

Fritillaria glauca

Delphinium menziesii
on the trail to Lower Table Rock

Oregon

Idaho to Oregon (whose flag has different sides) is a long drive especially if seeking tourist things such as flying a kite on the beach or visiting the Coast Aquarium in Newport. If you miss that there is nothing like hanging out with the hospitable members of the Medford chapter (especially Meridel and Dan Hedges), as I did on my NARGS tour in 2005. Field trips had been arranged by the very knowledgeable Phyllis Gustafson who led a hard climb to the top of Lower Table

Erythronium oregana

Dicentra uniflora

Viola hallii

Phyllis's garden

Rock and on to the Rough and Ready Creek Forest State Wayside, a protected area containing more serpentine endemics than anywhere else, after which we visited Lone Mountain Road. All these had a great range of flora such as *Calochortus tolmiei*, *Fritillaria glauca*, *Delphinium menziesii*, *Erythronium oregana* and a tiny *Dicentra uniflora* spotted by a keen-eyed member. This last plant grows, flowers and dies back below ground in a very short time so it was a privilege to have seen it.

I loved the Medford chapter because as soon as someone found a plant they would shout out '*Graham, Graham, another one for you!*'. I got to see *Fritillaria pudica* that, despite filling pots on the show bench, only displayed two to three flowers in a group at any one time in the wild. There was *Trillium ovatum* - a pure white that gradually faded to pink, with *Olsynium* (*Sisyrinchium*) *douglasii* in purple and white forms and the much sought *Viola hallii* that grows like *V. beckwithii*.

Saying goodbye to Phyllis and her garden we left the Interstate for Crater Lake. The lake was formed by the collapse of Mount Mazama, a volcano in southern Oregon once 3300 metres tall. A series of destructive eruptions around 5000 BC collapsed the peak into its lava chamber, leaving a caldera nearly ten km wide. Snowmelt and rain collected to form the lake, almost 600m deep and the deepest in the USA. The first known white man to reach the lake was prospector John Hillman, who found the lake in 1853 -

we may only imagine what he thought on sighting it. Nowadays, tourists of all nationalities park not far from the entrance, get out, look, get in - and drive away. I was different and left my wife in the car reading her book to take a look at a large basin with lots of colour showing. I climbed down to find *Phlox diffusa* growing in lumps of pumice. Moving on, I spotted what looked like white lollipops that puzzled me before realizing they were the buds of *Pulsatilla occidentalis* - and there were dozens of flowers fully out all around the bottom of the basin. I have tried growing this pulsatilla from plentiful supplies of seed from Rick Lupp, long-time friend and owner of Mt Tahoma Nursery in Washington State. Fresh seed sown in autumn germinated easily but aftercare was not quite correct. If the caldera basin is filled with snow in winter, the plants must start growth during snowmelt, which may be the trigger. Every time I have had a reasonable size plant and thought *'this year it will flower'* I watered it too early and it rotted off - I have never been able to grow it to maturity. A road runs around the rim but each time I have visited I have been foiled by snow, even in late July. Along the rim I found vigorously flowering plants such as *Penstemon davidsonii* which, unlike the *Pulsatilla*, is easy in the garden, and another fairly easy one, *Eriogonum umbellatum*.

We drove north again to Bend to call on Ken Sherman, who had written a wonderful article on growing castillejas without the need for a host

Crater Lake (Wikimedia Commons)

Phlox diffusa

Pulsatilla occidentalis in full bloom

Penstemon davidsonii

Eriogonum umbellatum

Balsamorhiza deltoidea

Loren Russell with *Phlox speciosa*

Penstemon rupicola

plant. He showed me his techniques for propagation and cultivation of this difficult genus and introduced us to his wife who drove the crane for their landscaping business. They supplied great lumps of lava and built them around houses owned by the rich so as to look like a natural phenomenon. This skill came in very handy when the NARGS Emerald chapter built the Sebring Rock Garden, a joint venture with the City of Eugene. When we were at the opening, the garden was extremely well done with lots of mature plants. On returning during the 2005 NARGS tour I found it, unlike many public gardens left to volunteers, to be superb, clean and full of flowering plants. It was a marvellous advert for the Emerald chapter.

On both visits to Eugene, Loren Russell stood out. He took me on a hike along the Illinois River Trail to see *Kalmiopsis leachiana*, hitherto only seen in small pots at shows. Its discovery was enthusiastically described by Lilla & John Leach in '*The Botanist and her Muleskinner*' - a darn good read about two pioneer botanists in the Siskiyou Mountains from 1928 to 1938. Along the trail were many plants including *Iris chrysophylla*, both blue and yellow, and a large *Phlox speciosa*. After several miles we reached the *Kalmiopsis*, only to be disappointed by a few buds and only a couple of flowers. Feeling deflated, Loren took me to see other plants and within twenty minutes of leaving the trailhead car park we found *Allium falcifolium* at the side of the road and *Silene hookeri* in an adjacent field.

Members of the Emerald chapter took me on a very interesting and productive hike to Horse Rock Ridge led by Tanya Harvey. We saw *Erythronium oregana* by the thousand and the large yellow flowers of *Balsamorhiza deltoidea*. We found a large flowering form of *Erigeron compositus* right on the edge of a large rock with wonderful long views. A steak sandwich was very satisfying up in the thin air before moving on.

Many Brits seeing Oregon in the spring, lovely and green, move here, to find everything burnt up in the summer, so I wasn't too sure what to expect in July. I shouldn't have worried because field trips into the Cascades were wonderful with flora of every shape and size. The two peaks of Bohemia Mountain and Fairview Peak are just under 1800m and were to be viewed during one field trip. Inside information said that the flora on Fairview was nothing like that on Bohemia and that I should take my packed lunch, stay on Bohemia and forget Fairview. Planned with military precision, no one had to know this in advance. The bus took us to Bohemia Mountain trailhead and while my wife stayed to read her book about fifteen of us toiled single file about a kilometre up the narrow trail. Plants amongst rocks at the side of the trail such as *Trillium ovatum* and *Erythronium grandiflorum* took our mind off the gradient. Approaching the top we were met with a lovely lightning-dead pine before reaching a large plateau amongst the summit trees. What a feast of plants we saw there! *Calochortus subalpinus, Sedum*

From Bohemia Mountain

On top of Bohemia Mountain

Trailside *Erythronium grandiflorum*

Saxifraga bronchialis

Dodecatheon jeffreyi

Pedicularis groenlandica

oregonense, Allium crenulatum, Silene campanulata, Penstemon rupicola, P. cardwellii, Lomatium hallii and many more. I was drooling and my tripod worked overtime. At the end of the plateau was a short drop to another rock where I found *Saxifraga bronchialis* ssp. *vespertina* growing in a long crevice down the cliff face. I sidled up to the trail guide, told him I had brought my lunch and promised not to fall off the top. Despite claiming he would get it in the neck if anything happened to me, he allowed me to stay while the others went to Fairview. Another three people appeared later but, too tired after Fairview, didn't stay long, so many folk missed this wonderful rock garden. Readers who know my book '*Alpine Plants of North America*' have perhaps admired the scene on the front dust cover; it is part of the plateau on Bohemia Mountain with other views beyond.

Later that day we were taken to Hemlock Butte on a ridge connecting the Western Cascades and the High Cascades, also reaching about 1800m. This is a wetland area where *Dodecatheon jeffreyi* and

Butterfly and an eastern phlox

Pedicularis groenlandica grow. Before leaving Oregon I visited Dancing Oaks Nursery, which grows some fabulous plants. I noticed a pale swallowtail butterfly landing on a clump of eastern phloxes in flower as if to say '*Take me*'. How could I resist?

Washington State

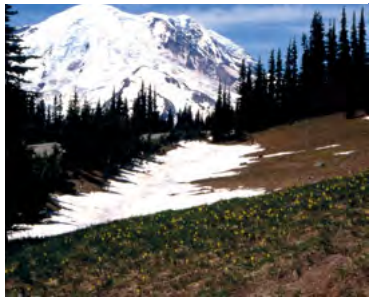
Continuing north into Washington State we took a look at Mount St Helens. At the visitor centre the photos, videos and newspaper reports were so impressive that the 1980 eruption felt like yesterday. Botanists didn't expect flora to come back until at least 2010 but in 1998 there were flowers everywhere: lupins have the reputation of being one of the first to come back after a fire; masses of *Penstemon cardwellii* thrived, possibly from seed brought in by birds; and castillejas painted the ground red. A trail had artifacts from the eruption and descriptive signs warning visitors to steer clear of the flora. The comment that '*plants grow by the inch and die by the foot*' was quite apt.

Mount St Helens took a day. The next we were on the road again to Mount Rainier. I hadn't realised it to be an active volcano that had last erupted in 1854. Technically it is a stratovolcano, sometimes called '*composite volcano*' because of the composite layered structure built from sequential outpourings of eruptive materials. At 4400m it can be seen from a long way and has a very impressive approach. I chose the Sunrise Centre for its access to the Burroughs Mountain trails that had

Penstemon cardwellii

Castilleja species return to Mount St Helens

Non-metric exhortations



Rainier with *Erythronium grandiflora*

Smelowskia calycosa

Viola flettii

Phlox diffusa

been recommended for their wide range of plants. There was plenty of snow around in June and we lunched at picnic tables with our feet on packed snow - not to my wife's liking.

Hiking along the Sunrise Rim trail with views of Mount Rainier and the Emmons Glacier was fairly flat at first, with scattered moisture lovers like *Caltha biflora* and *Erythronium grandiflorum*. Then the trail climbed, leaving the meadows and becoming more scree, featuring two unexpected plants, *Phyllodoce empetriformis* and a cassiope. Eventually the trail became narrower with a steep drop on my left. *Smelowskia calycina* grew out from the rocks as I approached a large patch of snow over the trail. I stopped, looked, stepped tentatively onto the snow, stepped back, forward, back, forward a third time and looked at the steep drop to my left. '*How far would I roll...*' I thought '*... before I stopped?*' That did it - my wife would have ran out of books by the time anyone found me - and so I turned around. '*Enjoy yourself?*' was her question on my return. If only she had known.

For the day after Mount Rainier, Rick Lupp had promised to take me on one of his favourite hikes to Townsend Ridge with its lovely white form of *Campanula piperi,* named after it. It took about an hour to reach the trailhead where the trail climbed immediately. It is classed as difficult, with about 900m elevation and a switch-back all the way to the summit. It climbs six km from a rhododendron-speckled forest to a

meadow ridge with spectacular views over Puget Sound, the Strait of Juan de Fuca, and the higher summits of the Olympics. Clouds drifted across the valley below and I felt as if I were flying. I had not hiked for years since my scouting days so gritted my teeth and climbed. It's an up & down trail and with almost twelve km of tough hiking under my belt I felt in good shape. Lots of good plants grew up there including *Phlox diffusa* and *Phlox hendersonii* but the best was the *Viola flettii* that was growing in a tight rock crevice.

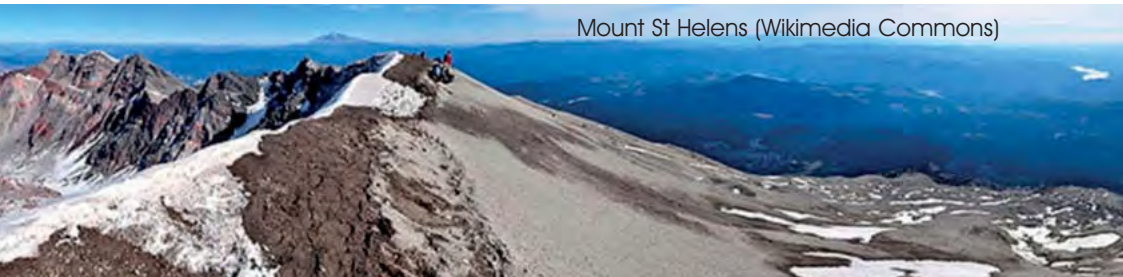
With no rest for the weary, Rick Lupp, Janet Logg and I set out early the following day, picking up Rick Wagner and Ron Ratko on the way, to go to Burnt Mountain. At the trail head the terrain was quite gentle, undulating and occasionally surprising us with snowdrifts, but allowing a moderate pace to admire the plants. *Eriogonum umbellatum*, *Campanula scabrella* and *Lewisia rediviva* were just a few of those we saw. Ron's enthusiasm was unbelievable - he would race ahead of us to be found ten minutes later with identification book and dissected flower - all in the interests of botany you understand!

Phlox hendersonii

Steve prepares for the chapter

Erigeron chrysopsidis 'Grand Ridge'

All too soon I had to leave and find another alpine enthusiast, the late and great Steve Doonan, who had long ago set up Grand Ridge Nursery with Phil Pearson. This nursery was famous for many plant introductions including *Erigeron chrysopsidis* 'Grand Ridge', now seen regularly on the show benches, and *Campanula piperi* 'Townsend Ridge', a nice vigorous white form of *C. piperi*. I was only



Mount St Helens (Wikimedia Commons)

Jankaea heldreichii

with Steve for a day but I was overwhelmed with his generosity as he gave me the run of the nursery to have whatever plants I wanted, following me around with a fork and trowel and digging up pieces of anything I fancied. Dozens of seed trays were jam-packed with *Anemonella thalictroides* in both double and single forms. His method for growing *Jankaea heldreichii* was unique in that he grew them in tufa in a shaded bucket with water at a correct level to be soaked up. Conversely, I find these plants impossible to grow.

Alaska

And so to the final leg of my journey with a three hour flight from Seattle to Anchorage. Many people I talk to think Alaska to be permanently covered with snow, an impression reinforced by some TV films. The Alaska that met me in May was nothing like that. There was snow in the mountains but in and around Anchorage was clear. My hostess Carmel greeted me at the airport with the news that the Alaskan chapter would welcome me that evening with a pot luck supper. I couldn't resist photographing them later in Carmel's garden against the mountain backdrop. What wouldn't we give for scenery like that at home? The following day Verna Pratt, author of books on Alaskan flora, and her photographer husband Frank took me on a tour of local gardens as snow in the mountains prevented any form of high plant hunting. I would have needed at least a week for a visit to Denali National Park even to scratch the surface, especially after reading their '*Wildflowers of Denali National Park*'. These gardens were lovely but one

stood out for me where the chapter member's house is in a cul-de-sac and she had appropriated the pavement as an extension of her rock garden. Amazing!

A visit to Rhonda Williams's large nursery is a must for any gardener worth their salt, just to see the large demonstration rock garden at the entrance with a big nearby waterfall. Two plants grow there that are an advert for her skill but impossible for me: *Aquilegia jonesii* and *Androsace constancei* (AKA *Douglasia gormanii*) that grows in the Ogilvie Mountains, as does the lovely *Primula eximia*.

After my talk in Anchorage Assembly Chambers I had to leave these lovely people and move on to a more frontier town, Homer, known as the halibut fishing capital of the world. Rather than the '*safe*' way by road I went '*seat of the pants*' by air. The short journey was around forty minutes and in no time I was met and lunched before meeting my host & hostess for the evening, Rita Jo and Leroy. Rita Jo runs a hardy perennial nursery and they live in a house they built themselves next door to the log cabin they built on first moving to Alaska. I toured Homer, saw eagles looking for food near the Spit and gave my talk at the Pratt Museum next to its small botanical garden. '*Standing room only*' reflected the true pioneer spirit that everyone seemed to have. Next day I hitched a lift back along with a large order of roses to a customer in Anchorage. What a place to live.

Kathy Swick's pavement garden

Some of the Alaska chapter

Overlooking Kachemak Bay

The trail steepens

Bristol!

So we come to the end of a thirty-year journey that took us through the western USA. We experienced wonderful scenery, visited umpteen National Parks, met hundreds of wonderful and generous people - especially NARGS members, played snowballs in shorts & T-shirts, went dizzy on mountains at 4600m, waited in queues at airports and drove around about forty thousand km. I also wrote a book on western alpines, gave talks to many chapters and three NARGS national meetings. And still I haven't really scratched the surface of life out west. We have memories that will last forever. And to think none of this would have taken place if Ev Whittemore hadn't said to me back in 1980 '*Go West young man*'.

I dedicate these articles to all those wonderful people I met over the years, many of whom have now passed away. They all gave up time to host me, to take me on field trips to places I would never have visited, and all passed on their knowledge of western alpines, increasing my understanding of these fascinating plants. I thank them all.

Androsace constancei (Caroline Parker)

In the Footsteps of the Grenadiers

Michael Almond

Val d'Astico –
La Granatiera
- the Grenadiers' Trail

High above the Val d'Astico, north of Vicenza in Italy, a mule trail winds along the flanks of Monte Cengio, on the south-western rim of the Altopiano dei Sette Comuni, at a height of about 1300 metres above sea level. What is remarkable about this track is that it goes along a ledge cut into the vertical limestone cliffs and through tunnels cut through these cliffs. This is the *Granatiera*, the *Grenadiers' Trail* – built during the First World War to control the valley below and prevent the Austrians from invading the plain of Vicenza, and named in honour of General Pennella's Brigata Granatieri di Sardegna, whose heroic defence of the plains below did so much to determine the outcome of the war in this theatre.

Numerous plants have colonized the not quite century-old cliffs formed by this remarkable feat of engineering and endurance, most notably *Physoplexis comosa* or the Devil's Claw Rampion. It is a plant which seems normally to delight in growing just out of reach, making it difficult to photograph. Here, however, there is an *embarras de richesses* at eye-, waist-, and even knee- or foot- level; with the surface of the track providing a firm base for a tripod this means that photography is simple.

Opposite: *Epipactis atrorubens* and *Physoplexis comosa* habitats
Below: *Physoplexis comosa*

Potentilla caulescens

However, as we only visited the area in August and September, nearly all of the flowers were over – but what a sight it must be when they are all in flower! Also along the path, on the rocks and cliffs, but not usually on those stretches of bare vertical rock favoured by the *Physoplexis*, we found *Campanula carnica, C. trachelium, Dianthus sternbergii* (in various shades of pink and white), the white *Potentilla caulescens* and *Lomelosia* (*Scabiosa*) *graminifolia,* all still in flower together with plants of *Paederota bonarota* and *Saxifraga hostii*.

In the woods at the top of the cliffs were still to be seen a good quantity of flowers among the masses of *Cyclamen purpurascens.* We

Gentiana asclepiadea

Dianthus sternbergii

Campanula trachelii

also found flowers of *Epipactis atrorubens, Parnassia palustris, Gentiana asclepiadea, Gentianella anisodonta, Astrantia major* and *Aconitum variegatum*. In the pastures beyond, as everywhere around, were innumerable flowers of *Colchicum autumnale*. Altogether it was a very interesting and unexpectedly floriferous excursion, which I can thoroughly recommend to you anytime you are south of the Dolomites.

Dianthus sternbergii

Choice Alpines – Unfamiliar Names?

Ray Stephenson

In the 1990s it became possible to use DNA studies to prove or disprove the close relationships between living organisms. Alpine enthusiasts realize that non-related high altitude species often resemble each other – so much so that, when out of flower, cushion-forming plants are sometimes almost impossible to differentiate. DNA studies quickly differentiated species where convergent evolution has resulted in each mimicking others. Crassulaceae was one of the first families to which detailed DNA analysis was applied. As a national collection holder, at the turn of the century I forwarded more than a hundred taxa of indisputable identification to Vladivostok for DNA analysis. This study and many that followed showed irrefutably that Sedum in the widest sense is polyphyletic (contains groups of plants not of the same lineage).

Even Linnaeus thought that Rhodiola, comprising mostly sub-Arctic or high altitude dioecious herbs with hefty rootstocks, should be treated separately from Sedum. He was right; the test results show Rhodiola to be quite remote from Sedum in the strictest sense. However, *Rhodiola* is a name that most specialist nurseries accept and, except for a couple of common species, plants are incorrectly named. Interestingly, the rosette-forming and creeping evergreen *Rhodiola pachyclados, R. saxifragoides* (*S. trollii*) and *R. primuloides* are rarely labelled *Rhodiola*, the first invariably (and unnecessarily) being marketed as *Sedum* 'White Diamond'. Sedums,

Rhodiola amabilis, from Lahul, a twenty five year old plant which in winter dies back to an underground caudex

Tall *Hylotelephium spectabile* attracts butterflies and hoverflies in late September

unlike rhodiolas, are not herbaceous; they rarely have flat leaves and very rarely have stocky rhizomes.

Even in the earliest herbals, *Telephium* were considered to comprise an entity. Praeger (1920-21) compartmentalized the herbaceous, flat-leaved autumn flowering species. Sadly, in the gardening world the word *Sedum* too commonly conjures up a general public picture of tall and herbaceous border plants like *S.* 'Autumn Joy'. Between the two species *Hylotelephium spectabile* (Asian) and *H. telephium* (European), scores of cultivars like 'Matrona', 'Munstead Red' and 'Iceberg' have been developed and they flood garden centres labelled as '*Sedum*'. *Sedum* plants do not have carrot-like rootstocks, herbaceous stems or stipitate carpels.

Russian taxonomists like to separate the yellow-flowered Asian, flat-leaved herbaceous species from those with white and purple flowers further west. European taxonomists are happy to call them all *Phedimus*. In Russia, *Aizopsis* is often retained for the yellow-flowered species. Most readers will be familiar with names like *Sedum spurium, S. kamtschaticum, S. selskianum, S. middendorffianum* and *S. ellacombeanum*. All of these succulents are common in British

A form of *Sedum dasyphyllum* from the High Atlas Mountains

Above: Sedum 'Red Raver' is a wild selection of *Sedum spathulifolium* var. *yosemitense*

gardens but should be labelled *Phedimus*. *Phedimus selskianus* is extremely rare in cultivation but thanks to a famous Scottish nursery the label '*Sedum selskianus*' is commonly encountered. The true plant is easy to identify as it is hairy in all its parts. Some *Phedimus* plants retain a number of leaves in winter although more often than not a twisted net of stems over-winters at ground level. *Phedimus*, unlike *Sedum*, always have flat leaves.

In 1998, Urs Eggli had cytological data in his Rosularia monograph that questioned the entity of the genus. Two distinct and unrelated

Below: *Sedum amplexicaule, S. forsterianum, S. montanum, S. ochroleucum, S. pruinatum, S. rupestre,* and *S. Sediforme* (shown here growing in South Anatolia) are now *Petrosedum*

Left: The true, exceedingly hirsute *Phedimus selskianus*

chromosome bases existed. Later DNA studies showed two distinct genera. An old (1817) name *Prometheum* was used for the tightly packed cushion-forming plants and several biennials.

Sinocrassula is much more closely related to Hylotelephium, Rhodiola, and Phedimus than to Sedum. In recent years *Sinocrassula yunnanensis* has become fairly common in the trade with its almost black

In cultivation, *Sinocrassula yunnanensis* often cristates, or flowers itself to death

Japanese Hylotelephium sieboldii, often grown as an indoor windowsill plant, is alpine in its natural habitat and is fully hardy. Photographed in mid-October

foliage. Several other species are in specialist collections and the rosetted plants resemble *Sempervivum* more than *Sedum*.

Once Hylotelephium, Rhodiola, Phedimus and Sinocrassula have been removed from Sedum, the remaining species still form a large and often highly contrasting group of taxa. Tree sedums from alpine Mexico grow taller than a person and quite happily hybridize (in cultivation, although rarely in the wild) with minute stonecrops. North American species tend to be rosetted while European and Asian species tend to be tufted plants with small terete or semi-terete leaves.

A recent discovery within the Crassulaceae involves the Rupestre group of Sedum. De Candolle thought these plants to be Sempervivum rather than Sedum because of the large number of flower parts. DNA studies have shown these European stonecrops to be far closer to Sempervivum than to Sedum; they should be called Petrosedum.

Phedimus stoloniferus photographed in the upper Çoruh valley of Turkey thirty km from the Black Sea at about 1500 metres. Difficult in cultivation, but Scottish growers manage better than those from south of the border

Further Reading

Urs Eggli (1988) *A monographic Study of the genus Rosularia*. Supplement to *Bradleya* 6. *BCSS.*
Urs Eggli (2003) *Illustrated Handbook of succulent plants: Crassulaceae*. Springer, Berlin.

The Sedum Society

SRGC members who share an interest in sedums are invited to join the non-profit-making Sedum Society. The principal aim of the society is to preserve as many species and hybrids of the genus Sedum and related genera as possible. The society is international and publishes four newsletters per year, covering every aspect of Sedum: nomenclature, taxonomy, cytology, cultivation, history, medicine, literature, habitat and location. The society covers closely related genera including Rhodiola, Hylotelephium, Rosularia, Orostachys, Mucizonia and Sinocrassula. There are regular authoritative articles from authors in most continents. Over 25 years the newsletter has become an indispensable reference source acquired by a growing number of botanic libraries.

There is a seed distribution scheme; members send in seed and may acquire material on offer from botanic gardens throughout the world. A cutting exchange scheme allows members to offer, request and exchange root cuttings when available. If you are unsure of your sedum, there is an identification service. A slide library offers many slides to use. There is a well-curated list of relevant books, papers and journals, with back numbers, binders, and free downloads of Berger's *The Genus Sedum*. Members have established a lively correspondence via the members' list.

Please contact the membership secretary: Les Pearcy, 43 Hawleys Close, Matlock, Derbyshire, DE4 5LY, England. Pearcy@btinternet.com.

Like all very high altitude plants, *Prometheum tymphaeum* is difficult for those growers who live near sea-level

Branklyn Rock Garden Renovation

Steve McNamara

As they say, you need to spend at least a year or so watching a garden through the seasons to ascertain the necessary improvements. This is indisputably true at Branklyn, where we still live with the vision and legacy of Dorothy & John Renton, who worked for almost fifty years from 1922 – sometimes even fetching rock with traction engines – to shape the form and intimacies of our two-acre garden. When I arrived at Branklyn in January 1997 it was hard to see the work that was required. Time went by; there were lots of general improvements and maintenance to deal with. So much so that it was only about six years ago that we finally decided to tackle the rock garden, which by then was crying out to be renovated properly. Many of the large plants and trees

Above: General view over the rock garden (John Dyson)
Below: *Meconopsis* 'Slieve Donard'

Cypripedium formosanum

Harsh realities: lifting and moving large rocks during the winter

were unsuited to a rock garden. Some conifers and other trees had been planted in the past so as to screen off the rock garden from the top lawn. I think most people will agree that large plants such as these either bring too much shade to the rock garden or are greatly out of scale with the normal run of rock plants.

Our other problem was that the original scree soil had become very heavy and sticky through over-working and too much compaction. The original idea of the scree was a mix of six parts gravel to one of soil, and in many areas this certainly was no longer the case. The rock garden project was therefore to remove the heavy and compacted soil and to rearrange the rocks so as to make strata lines and, if possible, to join up sets of rocks so that they formed continuous rather than isolated groups. The help of the well-known and local Scottish Rock Garden Club member Jens Neilson was invaluable both for his knowledge and his

Lewisias, gentians and castillejas coexist in the rock garden at Branklyn

Phylliopsis 'Sugar Plum'

correspondingly great ability to move large rocks. We felt it was not right to create a modern crevice garden; it would be anachronistic in an older garden such as Branklyn; nevertheless there were plenty of gaps in the rockwork that provided the right environment for crevice type plants.

Over the winter season we transplanted the larger plants and moved them to more suitable locations elsewhere within Branklyn. My own experience suggests that the easiest way to kill rock garden plants is to plant them in heavy soils - they languish for a month or two and then disappear. We therefore removed the soil and recycled it to other areas, replacing it with sand to a depth of 15 to 20 cm. In one of the SRGC group lectures I had heard mention that in Sweden they sometimes use sand as a base for their rock gardens (see Peter Korn's article in issue 119). It made sense to us to use sand to give plants good drainage without drying their roots out as they might do in gravel with large air spaces. Sand of course does not hold much nutrient and we therefore top dressed with a slow

Opposite. Left: *Arisaema sikokianum*
Opposite Top: *Arisaema griffithii*
Opposite Below: *Podophyllum hexandrum* var. *chinensis*
Below: *Trillium grandiflorum*

release fertilizer that breaks down over several months to ensure the plants would grow well over the season.

We worked on the second rockery further down the garden in the following year. Once again we removed the larger plants. This rockery is built in two halves with an in-between path. In this case the lower part was originally a limestone rockery. We were fortunate to find enough river-worn limestone under the gravel that had built up over the years. We raised it to the surface and built a small outcrop of limestone that we now call the Danish Mountain in Jens's honour. It is a massive sixty cm tall.

By nature, Branklyn mostly has acid soil so this lower part of the rock garden is useful for growing the saxifrages and other lime-loving plants. The upper part was made up of the local Kinnoull Hill rock and needed quite a lot of reworking to build convincing strata and a traversing walkway, allowing plants to be viewed at close quarters. The edge of this rockery borders on the peat garden so we thought it would be useful to have some peat blocks sunk at the edge to make a natural transition between the otherwise contrasting peat and rock areas. The plants we used here were typically dwarf rhododendron and cassiope. We were anxious to include some of the plants that have long been associated with Branklyn, such as *Cassiope wardii* and *Stellera chamaejasme*.

So far, the new rockery development has worked well and our plants are thriving. We are already getting favourable comments and the area is providing very good summer colour after the spring rhododendrons. The rockery area is only a couple of years old but I think the plants are already settling in and that there will be opportunities to provide for more rare plants in the future as they are obtained. Our eventual goal is to retrieve more of the original plant material that the Rentons had grown over many years, especially the material that came to them from Ludlow and Sherriff, the main plant collectors.

At the time of writing we are clearing out a bit further down the garden and it is amazing what we find once the shrubs have been cleared. It has become clear that the Rentons designed the two rock gardens to be joined by another area of rock and soil so as to display the

Scoliopus bigelovii

Andromeda polyphylla 'Macrophylla'

more moisture loving plants but also to provide a continuous link of rock between the two different rock gardens.

The Trust is trying at the moment to write a collections policy for the garden. We have to discover from the records what the Rentons had in the past, what we have at the moment, and what we should be collecting for the future. Given that the garden is now ninety years old with most of the plants at maturity, the other obvious feature of our garden is that the space is limited and that we only have space for a correspondingly small number of plants.

The comments from our visitors in recent summers were very favourable, especially to the new and open prospect downwards from the lawn now that the screen of trees has been removed. As always in a garden like this, the work needing to be done is never over. We have some fantastic volunteers – it's impressive how much knowledge they have and how loyal they are. Branklyn would not be as good as it is today without their important help.

View over the renovated rock garden

Primula wollastonii

Ian Scott

The soldanelloid primulas are amongst the most beautiful of flowers but also the most challenging to grow. Sixteen of the eighteen species have been flowered in cultivation, yet only *Primula reidii* is commonly grown - and that with difficulty (Richards, 2002). I was therefore delighted to realise that several unidentified collections from Chris Chadwell's 2010 Himalayan seed gathering expedition were of *Primula wollastonii* (CC. 6741, 6766, 7100, 7107).

Primula wollastonii is named after Dr 'Sandy' Wollaston, a Fellow of King's College, Cambridge, and an all-round naturalist. Although Wollaston was medically qualified, he never saw this as his vocation, preferring the role of medical officer for several scientific expeditions in the early 1900s. In 1921 he accompanied Harold Raeburn, Guy Bullock, Edward Oliver

Above: *Primula wollastonii:* the flowers are thimble-shaped, which may make access difficult for pollinators

Wheeler and the young George Mallory on the Everest Reconnaissance Expedition and found this new species at 5000 metres in southern Tibet. Major Lal Dhwoji made later collections in Eastern Nepal but this plant has always been one of fleeting introductions. Almost forty years ago Roy Green (1976) complained that '*in cultivation, Primula wollastonii rarely sets seed and is probably not now in cultivation*'.

My previous experiences with *Primula wollastonii* had been lamentable. Most of the young plants had succumbed to the vagaries of the full Scottish winter and, of those that had survived, only two flowered before perishing the following autumn. Almost needless to say, my two successes flowered months apart. Even keeping pollen on a finely-haired paintbrush in the fridge was to no avail; no seed was produced.

Above: Even un-flowered plants develop farina on the underside of their leaves, which can be a diagnostic feature

Given some protection from rain, the petals, calyx and stem become coated with farina

All the seed packets from Chris Chadwell had been labelled merely as 'unidentified Primula', but the high altitude of collection combined with the small seed size suggested that this might be something special.

The seed was surface-sown in mid-March using ordinary, commercial, peat-based compost that had been sieved to remove the larger fibres. The trays were bottom soaked and left on a lower shelf in the greenhouse to provide some shade. Germination took place within three weeks and the young seedlings were transplanted into individual fifteen ml modules at the two leaf stage. Using modules seems to encourage strong development and minimizes root damage when finally transferring to seven cm pots. Once the plants had started to put on growth and weather conditions permitted, the pots were taken out to a shady stock-bed of moist sand. Here they remained for the rest of the year.

By early summer the small hairy leaves suggested that they belonged to the Soldanelloid section, but their grey-green colour was not that of *Primula reidii*. Finally, by mid-summer the appearance of farina on the underside of leaves identified them as *Primula wollastonii*, confirmed when a couple of plants flowered bravely in September. At this time of year the large flowers on *P. wollastonii* wither away but not cleanly as do those of *P. reidii*. They tend to hang onto any potential seed head and consequently the whole structure rots in the wet conditions.

The following year there were over a dozen plants in full flower at the same time yet none of them set seed by natural pollination. The stock-bed also housed a block of about fifty *Primula reidii*, and in stark contrast virtually all these bore ripe seed heads by the autumn. So what is the natural pollinator? Is it a nocturnal moth? It certainly doesn't seem to be bees or hover-flies, both of which were abundant.

Perhaps the problem is with the shape of the corolla. The petals of *Primula reidii* flare outwards forming an open bell, whereas the flower of *Primula wollastonii* is more like a rounded thimble. It may sound like sacrilege but, if part of the corolla were to be cut away, would insect access and hence pollination become more likely?

The almost crystalline appearance of the petals makes this a real gem of a plant

An alternative explanation may be that the majority of my plants were 'thrums'. Why there were not roughly equal numbers of 'pins' and 'thrums' is unclear. Repeated hand pollination of 'pin' against 'pin', 'thrum' against 'thrum', and 'pin' against 'thrum' succeeded only once with a 'pin' and 'thrum' pairing. This looks encouraging and next year the pots will contain coloured labels to identify the 'pins' and 'thrums' more easily.

As the leaves die back in autumn, the stock-bed is covered with glass lights to keep the resting plants in a fairly dry condition but still sitting on damp sand. This aims to provide something similar to their natural over-wintering, where they spend five months under a blanket of protective snow. Bitter experience has shown me that if the resting crown becomes wet during this period, the growing tip will be damaged and liable to rot away leaving an 'empty' pot in the following spring. The normal reaction is to ditch such pots but if the plant is of reasonable size the remaining roots are still capable of producing numerous plantlets.

Stoloniferous rosettes need to develop their own roots before being detached

Smith and Fletcher (1942) mentioned that *Primula wollastonii* can be successfully propagated by root cuttings, and this is certainly the case. Many of the roots seem to spread out just below the surface of the potting medium, much more so than with other Soldanelloid species, and this may be an adaptation to their normal virtually soil-less habitat. When the roots come into contact with the edge of the pot, they are forced to bend and at this point start to produce rootlet plants. This process can be encouraged by restricting root spread in a seven cm pot rather than potting on into something larger. The same effect may be produced in the garden using a few well-placed rocks or pieces of slate.

The natural temptation is to try and separate these rootlet plants at too early a stage while their attachment is still brittle. Waiting until late summer is likely to be more rewarding as by that time the small plants have established their own root system. The young plantlets are easy to remove with a pair of sharp scissors and, if transferred to a fairly gritty medium containing a slow release fertiliser, growth should be rapid enough for the new plants to survive the following winter.

There must be a fair number of people who also subscribed to the expedition and received this seed, so *Primula wollastonii* may become more readily available again. In any case a small quantity of seed will be in the SRGC seed exchange, so have a go yourself, and see how you get on!

Further reading

Green, R (1976)
'Asiatic Primulas',
The Alpine Garden Society

Richards, J (2002)
'Primula',

Batsford Smith, W W & H R Fletcher (1942)
'The Section Soldanelloideae of the Genus Primula', J. Linn. Soc., Bot. **52**

Primula wollastonii still growing in the garden and trying to flower in mid-October

Show Reports

Edinburgh & the Lothians 14th April 2012

The range of plants on the bench changes yearly with the rather fickle weather, this year characterized by a very warm March that left many show favourites finished for another year. Ericaceous plants, saxifrages, crocus, narcissus and fritillaries were few, as were *Primula allionii* forms. However, other primulas still featured prominently including old favourites such as *P.* 'Clarence Elliott' along with florists' hybrids and the rare, pink-flowered *P. chapaensis* from Vietnam grown by David & Stella Rankin. We were privileged to welcome Pam Eveleigh, primula expert from Canada, as a guest judge during her visit to the UK as travelling speaker. It was perhaps fitting that several specimens of the lovely native North American *P. rusbyi* were shown, including one that was part of Cyril Lafong's winning six-pan entry in Class 1. This entry also included the Asiatic species *P. bracteata* which Cyril grows exceptionally well. A superb second pan of this same species was part of Cyril's entry for which he was awarded the Henry Archibald rose bowl for class 2 and the R E Cooper Bhutan drinking cup for the best Asiatic primula.

Tommy Anderson from Kendal won the K C Corsar challenge trophy for best European or American primula with an unnamed deep purple-flowered hybrid. A particularly fine pan of Scotland's very own *Primula scotica* formed a central feature of the Edinburgh Royal Botanic Garden's gold medal display. Strangely, this latter had never received a Joint Rock award, but this was put right when the Committee met later that day.

The Alfred Evans quaich for best ericaceous plant except rhododendron was won by John Lee with a nice *Cassiope* 'Beatrice Lilley'. Stan da Prato won the Midlothian vase for best rhododendron with *R.* 'Dora Amateis'. Stan also picked up the Reid rose bowl for most points in section 1. The Bill Mackie quaich for best saxifrage was awarded to Carol & David Shaw for *S. federici-augusti*.

Facing: *Primula bracteata*; *Saxifraga federici-augusti*; *Lewisia tweedyi* '*Rosea*'
Previous: Ian Christie's *Lilium mackliniae* 'Saramati'

Primula scotica

Anemonella thalictroides

In part, it felt as though the show could have been staged much later in the year, with several tulips, several forms of *Lewisia tweedyi*, *Anemonella thalictroides*, along with *Ramonda nathaliae*, *Cypripedium parviflorum* var. *makasin* and *Astragalus utahensis*. Another plant usually seen at a later time received the top honour of best plant in show and the Forrest medal for Tommy Anderson. This was a superb specimen of the hairy *Lamium armenum*, an inhabitant of high screes in the Turkish mountains and considered not to be easy to grow.

Lamium armenum

Pleione grandiflora

There were of course many other plants of interest both to the specialist and the public. *Calceolaria* 'Walter Shrimpton' attracted much public admiration for both its flower shape and colour and particularly while Ian Bainbridge was on hand to explain that he had watched one of the parents of this beautiful hybrid (*C. uniflora* x *fothergilli*) being pollinated by seedsnipes in Patagonia. Another much admired exhibit was a fabulous pot full of *Pleione* 'Britannia' gx 'Doreen'; this won a certificate of merit for local members Jane & Alan Thomson.

Iris always make for a spectacular display with *II. attica, bucharica, camillae, orchioides, meda, paradoxa* and *sari* performing well. But the striking plant on the day was the deep blue *Iris babadagica,* which hails from the eastern Caucasus mountains. Shown by Sam Sutherland from Kincardine, this is as yet rarely seen in shows but is certainly a show-stopper when grown as well as it was here.

Pleione 'Britannia' gx 'Doreen'

Leucojum aestivum 'Gravetye Giant'

The grown-from-seed classes are always worthy of close inspection for interesting plants. For me it was the delightful, small and tight cushion of Tom Green's *Draba cappadocica* in the A O Curle memorial trophy-winning entry from Class 5 that took my eye. Also from seed was Cyril Lafong's *Erythronium multiscapideum* hybrid that was awarded the Henry Tod Carnethy quaich for best bulb, corm or tuber in section 1.

The number of entries in Section 2 was smaller than in recent years, though there were many fine plants on display. Of particular note was Struan Harley's *Paris polyphylla* var. *wallichii.* A lovely pot of *Trillium grandiflorum* won Jeanne & Ewan Mason the Midlothian bowl for best plant in the section. The Boonslie cup for the best miniature garden was won by another local member, Lynn Henderson.

In a year that brings big changes to the alpine department at the RBGE, we were pleased to once again host their gold medal display. Among many fine plants were several of particular note: the *Primula scotica* noted above, the stunning *Iris meda* from Iran and the rare, five-petalled and yellow-flowered relative of the daphnes, *Wikstroemia gemmata* from Western China.

Iris attica

Although the plants rightly take centre stage in a show, we must also thank the team of local members who, under the guidance and leadership of the show secretaries, helped to make this yet again a very enjoyable and successful Edinburgh show.

David Millward (with photos by Liz Cole)

Facing, from top: *Lewisia tweedyi* 'Lemon'; *Paris polyphylla* ssp. *wallichii*; *Erythronium multiscapideum* hybrid

Aberdeen 19th May 2012

The day dawned bright but cold – it's always cold in Aberdeen, the one thing you can rely on. At least it was sunny and that's always a bonus. As usual there was some apprehension amongst the show secretaries and their helpers as to whether, because of the very odd season, there would be any plants left to put on the bench; many had pledged but a good plant is only good once it's arrived on the bench. In the event there was nothing to worry about, many excellent plants appeared and the benches began to fill, eventually making a reasonable show.

Aberdeen has always been proud of its Section II and this year proved no exception. There was a first class range of plants, many of which would have been at home in Section I. In fact, for one plant, a *Campanula nitida* 'Alba' shown by Angela Townsley, no place could be found in Section II so it was put into class 20 in Section I, subsequently winning the class and a certificate of merit. Angela also managed to bag the Aberdeen quaich for the best plant in Section II with *Cypripedium* 'Karl Heinz'. There were no less than three first time exhibitors - Tom Macleish and Ian & Lillian Chapman, a husband and wife team each showing separately. Tom managed to walk off with both Class A and Class B six-pans; I am not sure whether that has been done before. We hope they enjoyed their day and wish them all the very best of luck in future shows. Most points in Section II were carried off by John Owen of Askival. Three of the youngest exhibitors, Erica, Primrose and Rowan Beaton displayed their separately magnificent miniature gardens; the judges could not decide between them and finally awarded three joint firsts, leading on to the award of the Elizabeth bowl for the best exhibit from a junior member.

Angela Townsley won the Brian Bull trophy for the winner of Class 63 Section II, 2 pans rock plants, distinct, with *Silene hookeri* and *Aster natalensis*. John Owen, in addition to providing an excellent selection of plants for the bench, managed a very welcome Askival Nursery plant stall that created a lot of attention throughout the day. I must also mention the other nursery plant stall, that of our stalwart and very popular Jim & Agnes Sutherland from Ardfearn, who have for many years graced the Aberdeen show. As usual the group's own plant stall was bountiful and ably managed by the Aberdeen members. Our thanks go to all the plant stall holders who between them must attract a lot of paying guests.

Not to be outshone by Section II, Section I did not disappoint, producing no less than six plants for consideration by the Joint Rock Plant Committee and a further five certificates of merit. Such a number of certificates of merit included *Lewisia leana* 'Alba' and *Cypripedium* 'Maria' - both by Cyril Lafong, *Cypripedium* 'Aki' and a trio of *Meconopsis*

Cyril Lafong's *Daphne calcicola*

quintuplinervia, *M. cookei* 'Old Rose' and *M. punicea* by Ian Christie; *Campanula nitida* 'Alba' has already been mentioned - and bringing up the rear was my own *Lewisia* 'Joyce Halley'.

It will be no surprise to any reader to learn that the winner of the George Forest medal was - of course? - Cyril Lafong with his magnificent *Daphne calcicola*, a plant well deserving of its prize. Cyril's collection did not end there and he took the Craig cup for the best primula, *Primula forrestii*, and the Esslemont quaich for his Class 6 (three new, rare or difficult): *Linum boissieri*, *Haastia pulvinaris* and *Iris* aff. *babadagica* var. 'Alba'. It is also increasingly unsurprising to hear that the winner of the most points in Section I was Stan da Prato, consequently carrying off the Walker of Portlethen trophy. Included in Stan's haul was the Simpson salver for the best rhododendron, a stunning white *Rhododendron* 'Ermine'.

Last but in no way least, I thank each of our hardworking volunteers for all their help in setting up and managing the many functions, most of which are seamless and transparent, so necessary for a successful show. Top of the list here must be the suppliers and distributors of varied delicacies, without which none of us would have survived the day. Our special thanks go to David Aitken for the website photographs.

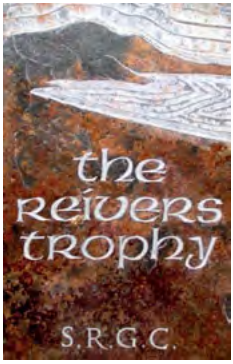
By now many members will be aware that, owing to several factors, there will be no Aberdeen show in 2013. This is not to say there will not be something to replace it in future years but at the moment we have no clear idea of what it might be despite several mooted possibilities.

Mike Hopkins

Cyril Lafong's *Cypripedium* 'Maria'

Discussion Weekend
28th – 30th September 2012

The Reivers Return



Autumn – and once again steering the show to success was the skipper Jennifer Watson aided by first mate Derrick her husband. Colour, form and texture are what plants give us at shows; this one was no exception. Colour, not just from flowers - mainly *Cyclamen* and bulbs - but from a wide and interesting range of foliage plants, texture and form. How varied can foliage be: the greys and silvers of celmisias and saxifrages, the bronzes and reds of shortias and heucheras and all the shades of green that exist.

A splash of yellow in the hall gave me a touch of *déjà vu* ... *'I saw that last year'* ... it was Jean Wyllie's *Sternbergia lutea*. But as she told me, it was a different potful this time. Jean also benched a fine large pot of *Cyclamen intaminatum* from seed sown in 2004. Worth the wait.

The J L Mowat trophy was won by the knowledgeable Diane Clement with her *Tsuga canadensis* var. *minuta*. This contrasted with the foliage of ferns on the next table including some from fern specialist Harvey Shepherd. Diane also showed a little *Myrtus nummularia* with delightful berries. The versatile grower Stan da Prato won the Logan Home trophy with his miniature garden. Of course there was more than this from Stan, including a delicate *Cotula potentillina* with feathery foliage. It stood in contrast to his fine collection of varied coloured heucheras. Judy Humphreys, who showed for the first time last year, continued her progress by being awarded the East Lothian cup for her *Saxifraga longifolia*.

Aruncus aethusifolius Border: *Cryptomeria japonica* 'Tenzan-sugi'

More colour and contrast came in the same class with two fine shortias from Jean Wyllie and Carole & Ian Bainbridge but the judges chose *Aruncus aethusifolius* (shown by a singularly handsome couple who don't want the publicity). Jean again - with *Celmisia hectori* and *C. holosericea*, and Tony Rymer brought a very neat *Draba longisiliqua*.

Gentiana 'Gowrie'

But what about more flowers? I can't mention them all but can select some highlights: a fine *Cyclamen cilicium* grown by David Millward won the Jim Lever memorial trophy; another good cyclamen from Tony Rymer; a neat and compact *Cyclamen hederifolium*; Roma Fiddes had *C. hederifolium* and the less common *C. rohlfsianum*. No stranger to cyclamen growing is Sandy Leven. He had a three-pan of two *C. hederifolium* with *C. africanum* and offered more with an attractive three-pan that won the East Lothian trophy. It consisted of *C. africanum*, *Colchicum speciosum* and *Rupicapnos africana*, which I have not seen for some time.

Finding a six-pan for a show is never easy but along with all their other entries Jean Wyllie, Sandy Leven and Stan da Prato rose splendidly to the challenge, Sandy taking the red sticker.

As to gentians, a lovely three pan from Beryl McNaughton won the Peel trophy. It comprised *Gentiana* 'Braemar', *G.* 'Balmoral' and *G.* 'Oban'. A plant with only one flower that was awarded a certificate of merit was Lionel Clarkson's *Gentiana szechenyii* (*I can't pronounce it either*). Lionel told me that earlier last season it had fourteen flowers, which would have

Berberis thunbergii Border: *Pinus glauca* 'Tiny'

From above: *Myrteola nummularia*; *Calluna vulgaris* 'Kinlochruel'; *Shortia galacifolia* x *S. uniflora* 'Kantoense'; *Shortia uniflora*

Margyricarpus pinnatus

been a pleasant sight to see. There were rather more flowers on Fred Bundy's *Petrocosmea* aff. *iodioides*. Several others were exhibited, this being their usual flowering season. There were lots of fine *Crocus* including *C. kotschyanus* for which Kath Rimmer got a well-deserved red sticker. And what would a Scottish show be if staged without heathers? Several were benched, the best being Margaret & Henry Taylor's *Calluna vulgaris* 'Kinlochruel'.

Although this is a show report, I am compelled to mention the first rate speakers this weekend. What performers! I must also applaud the skilled and rapid work of Ian Christie and his team who created a wonderful crevice bed in the hotel garden. As last year, there was an eye-catching display of photographs. All thanks go to the judges who deliberated hard and long before giving their impeccable verdicts. A jolly good show, a jolly good weekend.

Brian Smethurst

The SRGC's Discussion Weekend legacy at the Cairndale Hotel

Newcastle 12th October 2012

Mike Dale's autumn garden

The last show of 2012, just two weeks before the clocks changed and after what has been for many a wet and sun-deprived year, had me

Oxalis perdicaria 'Cetrino'

Biarum marmarisense

wondering just how many quality flowering plants would be produced for us to admire. Let me tell you there were plenty!

Empodium flexile

Gaultheria crassa 'John Saxton'

The show attracted entries from all over the country and invaders from Wales and Scotland came to carry away the significant spoils. Those long term supporters of this show, Bob & Rannveig Wallis, produced *Biarum marmarisense* in pristine condition to take the Farrer medal against some stiff competition; this was an entry that required close inspection to appreciate its quality but once scrutinized it left you in no doubt. Last year's winner, David Boyd, was once more up for the premier award with the much showier *Colchicum speciosum* 'Album', in lovely condition and as big a panful as I have seen but he had to be content with a certificate of merit. Among other exhibits by the Wallises, and more to the eye of many, was the eye-catching yellow South African *Empodium flexile*, perhaps not quite as open at judging time as it was later in the day. Other exhibitors felt they were unlucky not to have won the 'small six' with the only entry in the class but, as they say, such is life. Among that six were two arresting plants of *Sternbergia sicula* and *Colchicum cupanii* ssp. *glossophyllum*.

The other long term supporters of this show (indeed, of *every* AGS show, and also from Wales) to carry away spoils were Keith & Rachel Lever. Gentians made a welcome return after last year's modest showing and the Levers produced *Gentiana sino-ornata* 'Gorau Glas' (Welsh: 'Best Blue') to win the L W Browne memorial trophy for the best gentian in the show, together with an award of merit from the Joint Rock Committee. Another Lever plant was my personal '*must have*' from this show, *Gaultheria crassa* 'John Saxton', an outstanding combination of red berries and green

Gentiana 'Gorau Glas'

foliage ... needless to say with another red sticker. As if this were not enough they also gained a preliminary commendation from the Joint Rock for *Oxalis perdicaria* 'Cetrino'.

Keeping within the Celtic theme, other exhibitors, this time from Scotland, were Beryl & Ian McNaughton who showed several *Gentiana* 'The Caley' - one of their own hybrids. One received a preliminary commendation and is a cultivar to watch out for in the future. Going even further they also gained another preliminary commendation for *Gentiana* 'Oban', a white hybrid of their making.

Two fine displays at the head of the hall, produced by local group members, deserved a visit. This year was the ruby anniversary of the Newcastle group and Mala Janes produced an educational display on the 'Ruby' theme based around photographs provided mainly by local group members. It was a delightful reminder to all of what an interesting and diverse hobby we pursue. Mike Dale had built an autumn foliage colour garden from scratch, tree trunk included, that looked like an established planting of some years standing.

Autumn flowering crocus has always been a strong element of this show and once more we had some fine examples. There were fewer exhibits in large pans but Jim McGregor had a lovely pan of *Crocus kotschyanus* in just the right condition that persisted throughout the day. In the nineteen cm size classes *Crocus banaticus* was to the fore with a prime example exhibited by Martin Rogerson.

There was a significant increase in the number of cyclamen compared to the previous year, both in large and small pans. Among the several 'First' stickers that carried Ian Kidman on to win his 16th bar to a gold medal were *Cyclamen hederifolium* f. *albiflorum* in class 2 and *Cyclamen hederifolium* 'Lysander' (bought from Ashwood nursery in 2004 because he liked the foliage) in class 9, both lovely plants. There were large pans of *Cyclamen graecum* but they probably fell short of their best performance. Nevertheless, I was struck by differences in their foliage, with that of *C. graecum* ssp. *anatolicum* in marked contrast to a form of *C. graecum* ssp. *graecum* from Rhodopou in Crete. The Ewesley salver for the best cyclamen in a nineteen cm pot was won by Don Peace with a neat and pristine *C. mirabile*.

Foliage and cushion classes are an integral part of autumn shows but to an extent they were probably not as well supported as in the past. The Millennium trophy for the best foliage plant was won by *Celmisia hectori* (George Young) in a thirty cm pan of silver 'perfection' but other large pans were sadly lacking.

There were other plants that caught the eye. In marked contrast to the *Cyclamen speciosum* 'Album' was the much daintier and compact *Colchicum autumnale alba* grown by Andrew Ward, the winner of the Newcastle bowl for the most points in the novice section. The unblemished perfection of *Rosularia serpentinica* won class 37 for Ivor Betteridge, on his way to his 23rd gold merit bar. Ferns make a quiet contribution to every show and a personal favourite, *Cheilanthes eatonii* (Dave Newsome), stood out from the crowd whereas *Polystichum setiferum* 'Plumosum Densum' from John Fitzpatrick in class 101 looked good enough to eat! Last, but by no means least, the SRGC bronze medal 'special awards' for section two went to Georgina Instone.

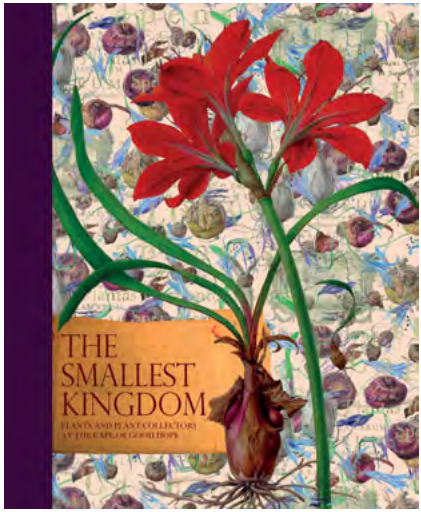
Lest readers think that all spoils went to the Celts, joint show secretary Alan Newton 'effortlessly' won the Ponteland bowl, against stiff opposition, for the most first prize points in the open section. Alan is a leading exponent of the genus Petrocosmea, viewed by some as not being hardy. As the plants had survived the severe winter of 2010/11 and are, for me, floriferous and attractive, I asked Alan for his cultural advice, which is as follows. He grows them in plastic pots standing on the sand plunge (not plunged) in a well-drained compost of leaf mould, perlite, bark and grit; he only re-pots when the plants fill the pot, because the roots rarely come out the bottom. They like to be kept on the dry side over winter, November to March, because this enables them to tolerate some frost. Even when in growth they do not need a lot of water - Alan says they go 'floppy' if they need a drink. Propagation is via leaf cuttings or easing a small rosette from the base of the plant.

George Young

Nerine pudica
Allium thunbergii 'Alba'
Cyclamen graecum ssp. *graecum*

Oxalis speciosa
Habranthus martinezii
Rhodophiala bifida

The Smallest Kingdom
Plants and Plant Collectors at the Cape of Good Hope
Mike Fraser, with illustrations by Liz Fraser.
220 pages
ISBN-778-1-84246-389-5
Royal Botanic Garden Kew £28



Within this book is a quote from Carl Peter Thunberg, written between 1788 and 1793, which expresses his reluctance to write about the Cape with, even then, '*so much, therefore, having been written and consequently so much being known concerning this country*'. Over two centuries later I wondered if *The Smallest Kingdom* could offer anything fresh; since the 1980s scarcely a year has gone by without the appearance of a sumptuously illustrated book on the Cape and its flora.

The first part of the book concentrates on the history of the exploration of the Cape and its flora by Europeans. This is an interesting read and includes the contribution made by Scots such as Francis Masson. The second part is devoted to the plants themselves, their habitats in the wild and their mixed fortunes in cultivation. There are some astounding facts. For instance, the number of Erica species in South Africa approaches 700, and more amazing is the information that in 1826 some 458 of them (or their hybrids and cultivars) were in cultivation in Britain. Nowadays they have all but disappeared whereas other genera such as Pelargonium have continued to be popular. Also examined in some detail are bulbs and Protea plus assorted daisies and annuals. Finally, the book ends with an overview of the various habitats that contribute to the diversity of the Cape flora, and of their ecology and conservation.

The text is well written and researched, with the author's love of the Cape very evident. The reader should also take care to read the quotations in the inset boxes as they are well chosen and interesting.

What of the illustrations? There are many; from the vintage paintings of the early exploratory era through to modern photographs and even the future if one includes the picture from Star Trek! The thread of consistency throughout this is provided by the original illustrations of Liz Fraser. It is hard to select a favourite but of the flowers my choice would perhaps be the delicately rendered image of *Protea pityphylla* on page 196. For me,

though, more interesting still throughout the book are the pictures of seeds, corms, bulbs and others. It is great that these fascinating structures are not neglected. Liz Fraser has also provided numerous pictures of accompanying fauna such as insects and amphibians.

The picture captions contain interesting nuggets of information. Useful too is the caption accompanying *Moraea villosa* that cites over-watering as a cause of loss of this species in cultivation. My own experience confirms that this species is especially sensitive to excess moisture and it demands a clay pot in the UK climate.

Any criticisms I might have are minor; a few of the illustrations are not to my personal taste and I was unlucky to receive a copy with a loose block of pages, suggesting an issue with the binding.

Even for those with a long-standing interest in the Cape flora there is a lot to be learned here, and a great deal of pleasure to be had from the remarkable illustrations alone. *The Smallest Kingdom* occupies a space between the coffee-table book and the more encyclopaedic tomes and it even works as an introduction to the Cape flora. I enjoyed this book immensely and recommend it to you.

Darren Sleep

Cacti & Succulents for Cold Climates
Leo J Chance
366 pages, 306 colour photographs
ISBN-13: 978-1-60469-464-8
Timber Press £25

It would have been much more appropriate to call this book *Cacti & Succulents for Cold and Dry Climates*. In writing this otherwise excellent book, both the author (from Colorado Springs and Pueblo) and Panayoti Kelaidis (who wrote the foreword and is responsible for Denver Botanic Gardens) are relying on their terrific successes and their long experience - but in areas with zero humidity in winter. They give some thought to wetter areas of the USA but the majority of the information and detail will be of little use in the more challenging higher humidity climates of temperate latitudes such as the United Kingdom or New Zealand unless the reader realizes and allows for this underlying approach.

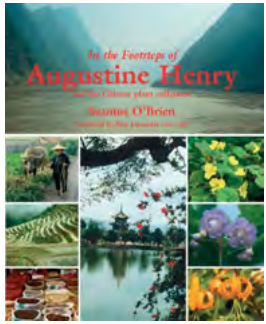
Nevertheless, this is a splendid book that depicts succulent flora in US gardens. For the UK lover of cacti, this is an ideal way to choose species that are unlikely to perish in an alpine house, cold greenhouse, or garden frame. With spiralling fuel costs this choice is becoming more of a necessity. In areas with very high winter humidity such plants may mark, even under glass, but will recover. South American cold-hardy cacti are

also described and well-illustrated. More than 130 pages are dedicated to cacti, followed by Agave, Yucca and near relatives; only a few pages are given over to Sedum and Sempervivum, then to Lewisia and near relatives. Strangely, this is all followed by 34 pages of '*companion*' non-succulent American natives.

This book is beautifully illustrated but I did hear the following note of regret from a friend: '*Many pages are more than 25% blank and space that could have been used for larger than postage-stamp sized illustrations has been wasted.*' As always, Timber has produced a charming gardening book that happens to be about the right price for the Christmas stocking of anyone interested in succulent cultivation.

Ray Stephenson

In the Footsteps of Augustine Henry and his Chinese plant collectors
Seamus O'Brien
367 pages, 500 colour photos, colour & black & white illustrations
ISBN 10: 1870673735 / ISBN 13: 9781870673730
Garden Art Press £40



This is a weighty volume in all senses of the word! It is large and heavy book, which makes curling up with it on the sofa and a glass of something warming much more difficult than a smaller volume would be but it is well worth persisting with.

It is weighty in terms of the content – the author has used the mass of papers left by Augustine Henry to trace his time in China and beyond in great detail, and then followed in his footsteps collecting and recording plants along the way over four expeditions. Many of the plants collected this time round are now being grown in gardens in Ireland, and there are very many I'd love to grow myself.

It is also weighty in terms of the sheer volume of illustrations; every page includes photographs - of plants, places and people. Some are contemporary photos and drawings from Henry and his contemporaries; others are recent ones taken during the author's expeditions. The combination of close-ups and panoramas together enhances and enriches the story told in words; you see the settings, the changes that time and people have made to the landscape, and the plants growing in the wild, in temple gardens and in botanic gardens.

Henry was interested in a huge range of plants, tropical lianas and alpines, all falling within the scope of the book and his huge collections. Their sheer scale is awe inspiring - over 158050 specimens of more than

6000 species, almost a third of which were new to science and were collected by him and his Chinese assistants. The emphasis on his collectors is important: Henry was employed as a medical officer in the Chinese Imperial Maritime Customs Service; his botanizing was a hobby that he undertook wherever he was posted; his collectors gathered many of his specimens. Although his time in China is Seamus O'Brien's focus, it was only a small part of his life and the book sketches his subsequent career as a forester and academic.

Just as fascinating as the plants and places are the connections Henry had to other plant hunters and botanic gardens. The book places him in this context, giving an idea of the relationships that he had with other collectors as he developed his interest in plants and as he passed that interest on to those who came after him. It is fascinating to see the modern expedition using Henry's *Notes on Economic Botany of China* to buy herbal medicines.

The richness of the content makes it a book to dip in and out of. Like Christmas lunch, it can be just too much to digest at a single sitting and you'd probably be crushed by the weight as well! Take it slowly, enjoy each section and the gems of information included on every page. After an initial reading my current favourites are *Epimedium sagittatum* as an aphrodisiac for sheep (!) and carrying your eggs home in Mengzi. I'm looking forward to re-reading chapters and finding more nuggets like this.

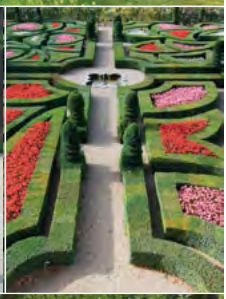
My only (tiny) niggle is that one or two of the illustrations are really too small to see detail and one or two are not quite in focus, but these are very minor drawbacks that do not detract from this splendid book and the achievements it celebrates.

Sue Gill

Letter to the editor: *Callianthemum farreri*

I thoroughly enjoyed *The Rock Garden* 129; on page 71 there is a description of *Callianthemum farreri*. However, one thing about this plant was not mentioned in the notes - it makes runners! A friend of mine in Oslo bought a plant several years ago for his garden. For a couple of years it behaved, but now it turns up everywhere in its bed. He does not mind, as it gives him possibilities to exchange it for other goodies. I, among others, have planted on out in one of my beds, and I look forward to see it turning up here and there wherever it fancies.

Kari Wang



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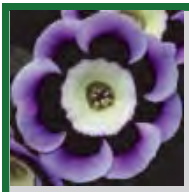

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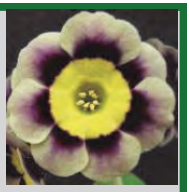

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