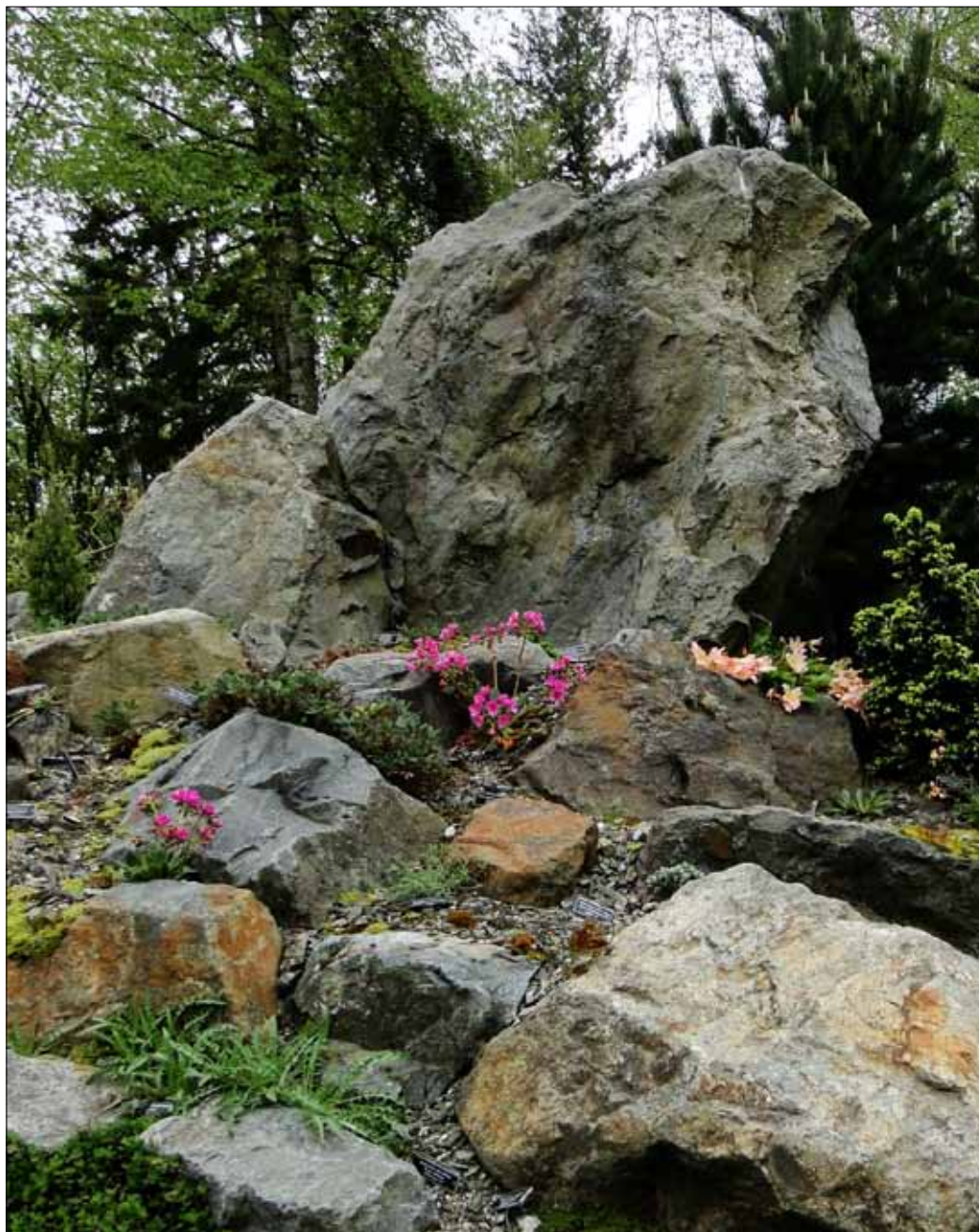


# Alpine Garden Club of British Columbia



*Entrance to Jane and Chris Byra's garden*

**Volume 59, Number 1 Quarterly Bulletin, Winter 2016**

## AGC-BC 2016 Membership Renewals Due

If you have not already renewed your membership for 2016, please send a cheque for \$30 to Membership Secretary, Jane Byra, with your name and contact info. Cheques should be made out to the Alpine Garden Club of BC. The address is:

Jane Byra  
AGC-BC Membership Secretary  
43212 Honeysuckle Drive  
Chilliwack, BC V2R 4A4

A quicker and easier way to renew is to do it on-line using your credit card through PayPal on our website [www.agc-bc.ca/membership-renewal](http://www.agc-bc.ca/membership-renewal)

**AGCBC meetings** are held on the second Wednesday of each month except July and August in the Floral Hall, VanDusen Botanical Garden. Doors and Library open at 7:00 p.m. and the meetings start at 7:30 p.m.

Please bring plants for the plant draw; the proceeds of which go toward paying for the hall rental. Don't forget to bring your coffee/tea mug.

## 2016 Upcoming Events

- **February 10 – Philip MacDougall on “Yunnan Calling”**
- **March 9 – Linda Verbeek on “A Plethora of Seeds”**
- **April 2, 12:00-4:00 PM – Annual Spring Show and Plant Sale**  
One of the top events not only in the AGC-BC calendar year but for all gardeners in BC. Don't miss it! Be sure to tell your friends. Visit [www.agc-bc.ca/shows-sales](http://www.agc-bc.ca/shows-sales)
- **April 8 and 9 – VIRAGS Spring Show and Sale** in Victoria. Check for full details at [www.virags.ca](http://www.virags.ca) A must see.
- **April 13 – Malcolm McGregor on “Rock Gardening or What’s a Heaven For”**
- **May 14 – Alpine Garden Club members invited to picnic at Byra’s Garden** (see page 9 of this newsletter). In the afternoon a visit has been arranged to Pacific Northwest Propagators Inc. in Chilliwack, a wholesale nursery raising conifers and deciduous plants, mostly trees.

## From the New Editor

My name is Valerie Melanson and I live in Qualicum Beach on Vancouver Island. I am honoured to have been chosen to be the new editor of *The Bulletin*.

THANK YOU - It will be a big challenge to walk in Grahame Ware's footsteps. I have so enjoyed his insightful articles, gorgeous photos, beautiful prose, and the very interesting bulletins that he has pulled together. Thank you, Grahame, for all the enjoyment you have given us all for the last three years. And I hope you will enjoy having the additional time to devote to your garden and other passions.

Fortunately I am not alone by any means in crafting *The Bulletin*. David and Wendy Sellars, Jo Turner and Lynn Batt are the other members of an Editorial Committee that will bring you each quarterly.

And even more importantly, all AGCBC Members are a great part of each *Bulletin*. I invite you to continue to make submissions—whether some photos, a source or link, book review, plant portrait, growing techniques, travel report or... Please contact me at [bulletin@agc-bc.ca](mailto:bulletin@agc-bc.ca). Next submission date: April 15th for the Spring issue.

## Seed Exchange 2015 Report

*Diana Hume*

Our seed exchange is over for another year, with the mailing done at Patricia North's on Wednesday, January 6th, and the posting, on Friday, January 8th. The remaining seeds will be packaged up by Ruth Anderson and sold at various venues over the spring—club meetings, Seedy Saturday at Van Dusen, our spring show and sale, and the Victoria show, etc.

Several people mentioned that they thought we had an extremely good seed list this year. Thank you to all the wonderful donors who made this possible. They are listed on the second page of the seed list. And, of course, a big thank you to Linda Verbeek, who put it all together.

Some of the most popular seeds this year were: *Arisaema sikokianum*, *Campanula lasiocarpa*, *Dianthus callizonus*, many of the Erythroniums, *Galanthus* sp. ex 'Primrose Warburg', *Lewisiopsis tweedyi* and L. t. - yellow, *Oxytropis nigrescens*, *Narcissus cyclamineus*, *Paris polyphylla*, *Primula minima*, many of the Trilliums, and *Viola delphinantha*. There were many other popular ones as well, too numerous to list here.

I would like to thank all the workers who helped with packaging and order filling too. On the North Shore we had Rosemarie Adams, Ruth Anderson, Geri Barnes, Lynn Batt, Dawn Bergen, Dana Cromie, Margot Ketchum, Wendie Kottmeier, Angela Miller, Lyn Noble, and Pam Yokome, who came all the way from Surrey! In Vancouver, Pam Frost hosted packagers Jo Bridge, Gill Collins, Ann Dies, Marilyn Plant, Karen Thirkle, Jo Turner, and Patricia North. And on the Sunshine Coast, Bill Terry hosted a group—Sue Evanetz, Verity Goodier, Beverley Merryfield,

Ruth Rodgers, Ali Thompson, Karin Tigges, and Nancy Webber. Thank you so much everyone! It couldn't have been done without you.

And one last thing—Linda Verbeek and I would like to take this opportunity to remind donors that to qualify for donor status, they need to send in a minimum of five species. And donors from North America need to send in a minimum of five species from North or South America. We have been a bit lax with this requirement over the last few years but feel we need to get back to it again.

## Speaker Review

*Jo Turner*

### Howard Wills - AGCBC - December 9th, 2015

*Report by Jo Turner, photos by Howard Wills*



*Small Bear*

Attendees of the December meeting had the distinct pleasure of hearing UK plantsman Howard Wills talk on *Sempervivums* and Related Plants. Mr. Wills is a long-time expert grower of *Sempervivums* and *Jovibarba*. Howard runs Fernwood

Nursery, in Peters Marland, near Torrington, Dorset, UK. He holds the NCCPG collections of *Sempervivum*, *Jovibarba* and has also held the *Phormium* collection until not long ago.

The genus *Jovibarba* is closely related to *Sempervivum*, and, as Howard noted, some experts say they are too similar to warrant a separate genus designation. The main differences are displayed in the floral structures. While the flowers of *Sempervivums* are open, *Jovibarba* flowers are cupped, and have fewer petals, joined at the base. Unlike *Sempervivum* flowers, which are most commonly found in shades of red, pink or purple (some species are yellow or white as well), often with a dark stripe in the center, *Jovibarba* flowers are usually yellow, though they can range from almost white to a deeper yellow shade.

Howard has participated in many of Britain's most prestigious garden shows, and won Gold medals at Chelsea in 2005, 2006 and 2010. Howard, with his wife, Sally, wrote a book, 'An Introduction to *Sempervivum* and *Jovibarba*: Species and Cultivars', which he had a few copies of for purchase. It is chock full of information about all aspects of growing and displaying these plants. I would highly recommend it.

Mr. Wills' enthusiasm for the genus he has specialized in for many years is infectious. Throughout his talk, his passion for all aspects of this genus shined. Over the course of the evening he shared tips on their cultivation and propagation, a variety of cultivars, history, including medicinal uses, how they relate to Fibonacci series, and how to display them to best advantage, along with a mass of stellar photos illustrating his points.

*Sempervivums* (common name houseleeks), are members of the Crassulaceae family, and have been grown in the UK for centuries, although (strangely), there are no species native to Great Britain. Native to higher elevations, in Morocco and Central Europe, across the Balkans, Caucasus and Iran, they are found nowhere else in the world. Howard stressed that although *Sempervivums* have succulent leaves similar to many more similar genuses, they are much



*Sempervivums in trough*

hardier than most. Subsequently they are not nearly as tender as *Echiverias*, *Agaves*, *Aeoniums* and other succulent plants. He noted that *Sempervivums* are actually very tough and relatively easy to grow, with their only essential requirements being sun and good drainage. Snow and cold seem to not present any lasting problems either. As far as predators go, Howard displayed his love of wildlife when he mentioned that when blackbirds occasionally dig up his plants (often looking for vine weevils), he will check the roots, remove any larvae he finds, replant and leave the larvae nearby for a tasty meal for the birds.

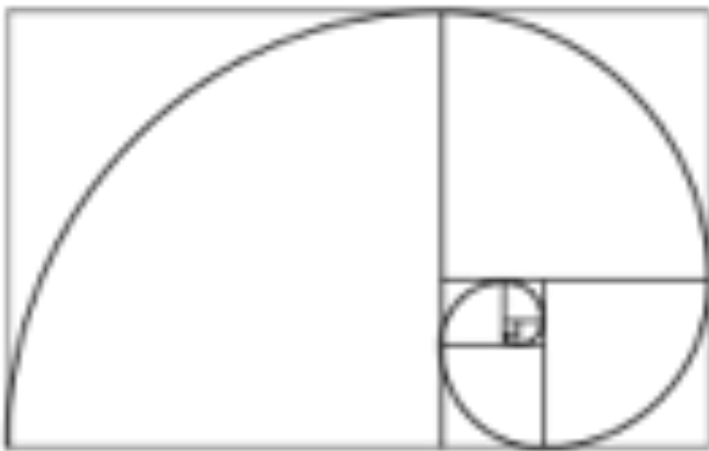


*Sempervivum cultivars*

*Sempervivums* reproduce mainly by producing offsets, the proverbial ‘chicks’ when we see a clump of hens and chicks. He noted that to encourage even more offshoots you may remove the monocarpic flowers, which usually appear in the second or third year of a plant’s life. A cautionary tip he passed along is that, as *Sempervivums* do die after flowering (being monocots), one might not want to purchase one in flower, although, with the presence of offsets on many plants, only the actual flowering portion would be affected. Regarding the leafy offshoots, a new set of babies should appear each year, on the periphery of the original plant. He illustrated with a photo how you can easily distinguish each year’s new stolons, which are easily removed and potted up. If new plants are desired, late summer is the best time to make cuttings. Of course one can also just let the clumps get bigger and bigger, filling a pot or area in a

planting, which happens quite quickly. Howard stressed that growing from seed is also very easily done, although cultivars won't come true, and so aren't usually propagated that way.

Having entered *Sempervivums* in many garden shows over the years, Howard really knows how best to arrange a planting for maximum interest. He shared his enthusiasm for creating patterns with red/green rosettes, geometric arrangements, tighter/looser textures, and a variety of designs with us, in a series of stellar photos. He also told us about his fascination with the mathematical repetitions created by the spirals and rosettes of these genera, and made reference to their affinity with Fibonacci spirals. The Fibonacci spiral is described as the 'Golden Mean' and describes a pattern made when certain numbers are repeated in sequence. Here is a link showing some Fibonacci spirals in nature: <http://www.goldennumber.net/spirals>. The Fibonacci sequence is where each number is the sum of the previous two numbers.



*The Fibonacci spiral:* an approximation of the golden spiral created by drawing circular arcs connecting the opposite corners of squares in the Fibonacci tiling;[3] this one uses squares of sizes 1, 1, 2, 3, 5, 8, 13, 21, and 34.

All in all, a fascinating and highly informative presentation by a man whose enthusiasm for *Sempervivums* is definitely contagious...

'An Introduction to *Sempervivum* and *Jovibarba*: Species and Cultivars' by Howard and Sally Wills. Published 2004. ISBN 0-9547533-0-5.

Website: [www.fernwood-nursery.co.uk](http://www.fernwood-nursery.co.uk).

Email: [hw@fernwood-nursery.co.uk](mailto:hw@fernwood-nursery.co.uk).

The nursery and garden are open by appointment. Fernwood offers a full mail-order service.



*Variety of different Sempervivums*



*View from the deck*

## **A Garden to Take the Breath Away**

*David Sellars*

Imagine the ultimate British Columbia garden. It would be on a mountainside high above a mighty river with views to snow-covered peaks.

There would be gullies graced by rhododendrons and steep slopes with rocks retaining colourful perennials and rare trees. A large waterfall feeding a rippling stream winding through the garden would draw the eye to other delights hidden behind curving yew hedges. Gravel paths retained by rock walls would cling to the steep slopes and a huge tufa garden spotted with exquisite alpines would be a centrepiece.

Such a garden to take the breath away exists on the north slope of Chilliwack Mountain overlooking the Fraser River. Chris and Jane Byra started their garden on a wooded lot in 2002 and have transformed it into an outstanding garden with an eclectic range of plants and superb design. As a dedicated rock gardener, Chris loves rock and has



*Tufa crevice garden with Rain Shelter*



built winding trails with rock walls and extensive rock gardens. Like many of us he is obsessed with tufa. The tufa crevice garden in the centre of the driveway is built with very large tufa rocks with Saxifrages, Dianthus, Draba and other alpines tucked into crevices and drilled holes.

At the entrance to the 2.5 acre property is another massive rock garden with a huge leaning rock left the way it fell off the truck. It now provides the perfect backdrop for *Saxifraga longifolia*, *Lewisiopsis tweedyi* and other delightful rock plants.

Jane has planted a wide range of perennials including rare Paeonies, Arisaema and Epimediums, many sourced from Free Spirit Nursery. On this spectacular site Jane and Chris demonstrate the value of design using garden rooms. Chris notes that “We both recognized gardens and garden rooms that felt peaceful and liked specific focuses, vistas, and lots of rock.” For those who appreciate good plant labelling, the Byras have done a marvellous job of labelling almost all their extensive collection so that the experience for the serious garden visitor is enhanced.



*Saxifraga longifolia*

The garden has expanded significantly over the years and now extends to planting of Magnolias along their road to the delight of the neighbours. Chris observed that: “We had many debates on the size of the garden and what to plant where, related to ensuring that food production would not be usurped by ornamentals. From my perspective I think we compromised well but, a few times, I think ornamentals just somehow showed up unexpectedly in undiscussed areas.”

This is a large garden with so much variation in topography, planting habitats and views that it is challenging to characterize. The photos of the garden with this article cannot totally capture the magic

and complexity of the Byra garden so we have added more photos of the garden on the website here: <http://www.agc-bc.ca/byra-garden>

We are very fortunate that Chris and Jane have agreed to open their garden to Alpine Garden Club of BC members on May 14, 2016. Bring your bagged lunch, discover the diverse wonders of the garden and enjoy the view from the patio over the Fraser River.



*Chris moving rocks*

# What Makes Northwest Colorado So Special?

*Mike Kintgen*

## A HIGHER STATE



Steppe to Alpine



Steamboat Springs  
June 22nd-27th 2016

**NARGS**  
Rocky Mountain Chapter



**For full details please email**  
[kintgenm@botanicgardens.org](mailto:kintgenm@botanicgardens.org)  
**or visit** [www.nargs.org/2016-annual-general-meeting-steamboat-springs-colorado](http://www.nargs.org/2016-annual-general-meeting-steamboat-springs-colorado)  
**or join us at** [www.facebook.com/2016NARGSmeeing](http://www.facebook.com/2016NARGSmeeing)

**Come explore North-western Colorado in prime wildflower season with hikes and trips to see steppe, montane and alpine plant communities along with tours of private gardens as well as both Denver Botanic Gardens and Yampa River Botanic Park. Lectures and book sales and signings by local and international experts discussing the importance of the world's steppes and continental mountain ranges in both the garden and wild in the evenings.**

Some people would say it's the Champagne Powder that falls on the ski slopes in the winter, others would say it's the curse the Utes supposedly placed on the Yampa Valley, wildflower lovers would say it's the sheer magnitude of displays and the variety.



*Late June wildflowers, Senecio and Bistorta*

Whatever the reason, Northwest Colorado has been drawing humans for millennia to partake of its natural beauty and restorative settings.

Northwest Colorado is special since it lies at the meeting point of several biomes: flora from the South Rockies form the backbone of the flora, with a broad stroke of Great Basin flora brushing through the lower valleys and steppes, while the Great Plains flora sweeps in from the Northeast and

rubs up against the Park Range. At higher elevations, flora from the Pacific Northwest and Northern Rockies can be found hundreds of miles south of their normal range. *Trillium ovatum*, *Rhododendron albiflorum*, and *Mimulus lewisii* are a few of the flagship plants from the NW biome. Mixed into the rest of the landscape is a cast of classic western flowers from bright blue Penstemon, to scarlet Paintbrush (*Castilleja*) and Scarlet Gillia (*Ipomopsis*) and yellow composites of infinite variety.

Steamboat Springs and Denver will be the locations of the 2016 NARGS Annual Meeting, June 22-27. The conference opens the afternoon of June 22 in Denver with lectures by Kenton Seth and Mike Kintgen, two of NARGS's youngest members. On June 23 participants have the option of driving in their own vehicles or taking a van trip to Steamboat Springs. The conference resumes in the evening with plant and book sales, and two lectures by internationally known Johan Nilsson and Nick Courtens. National superstars Kelly Norris and Jim Lochlear will be speaking Friday night, June 24, followed by Saturday and Sunday hikes. Sunday night's lecturer will be the very special and heart-warming Marcela Ferreyra from Patagonia. This will be her first lecture to a North-American-wide audience.

Garden tours and visits of Denver Botanic Garden's renowned alpine collection, along with the fabulous Yampa River Botanic Park and several wonderful private gardens in the Steamboat area will round out the conference.

For details and information visit the NARGS website

<https://www.nargs.org/2016-annual-general-meeting-steamboat-springs-colorado>

or the conference Facebook page [www.facebook.com/2016NARGSmeeing](http://www.facebook.com/2016NARGSmeeing)

Direct questions to [kintgenm@botanicgardens.org](mailto:kintgenm@botanicgardens.org)

*We hope to see you in Colorado June 22-27, 2016—it promises to be a wonderful and memorable conference.*



*Detail of Crevice Garden, Yampa River Botanic Park*

# The Guts of a New Crevice Garden in the Dry Western USA

*Kenton J. Seth, Grand Junction, Colorado*



*Crevice Beds with Visitor from the RHS*

Denver, Colorado, USA, is not exactly in the mountains—it's at the edge of the Great Plains; the skyline only gets tucked into those snow-capped peaks with the magic of a telephoto lens. Its precipitation is 430 mm (17 inches) compared to Vancouver's 1117 mm (44 inches). That makes it semi-arid, and the reason that progressive horticulture here begs everyone to go dryer with their gardens, and why we in Colorado can grow the desert wildflowers so easily. The

dry continental climate doesn't make a Crevice Garden any less attractive. In fact, our mountains are a sturdy inspiration for them and the style is gaining great traction here. (I can think of five Colorado Botanical Gardens offhand which have them, and another slated for May.)

The largest yet, and the only free standing Crevice Garden in the state, I had the great fortune to design and oversee. I was not alone, and summoned the legacy of great rock garden innovators: I had incredible aide from friends and colleagues, including Vancouver Island's own Paul Spriggs, and the support of my local Rocky Mountain Chapter of NARGS to execute it through concept, construction, and maintenance.

Arvada, a northeast suburb of Denver, is building a new community sports complex, the centre of which is a world-class Pickleball set of courts. The showpiece garden between it and the main building and parking lot, taking up 280 sq. metres (3000 sq. feet) of footprint, about 93 (1000) of that in pure stone. It's the APEX (Arvada Parks and Rec) Crevice Garden at Community Heroes Park. The Park Overseer wanted a destination garden, something totally unique, and sent the Landscape Architect to find such a thing. What he, in turn found, was Colorado's growing fascination with the Czech art form of vertical crevice gardens, and no one else nearby was free, willing, and nuts enough to dive in to making one happen.

Crevice gardens are so popular down here that about half of my yearly work now is making them. It's a real dream come true.

My goal was to service both the layperson and the plantsman, push the envelope, to find a void which had not been bulged into, or an idea yet manifested. Colorado has great xeric (dry) demonstration gardens, and a few great crevice gardens. But not a xeric crevice garden.

*All new things are still made of the blood of its progenitors.*  
Zdeněk

Zdeněk Zvolánek (ZZ), of course and his style of the Czech crevice, is the basic format of the stones, as described completely in his book. The footprint and lines and shape of the overall design are borrowed from those seen on an individual stone. The crevices are vertical. (These days, I am seeking the opportunity to experiment with diagonal construction, which looks more like many of Colorado's natural crevices in nature, but is more difficult to build and provides more limits for shape and contour. But in the case of the APEX garden, we needed great control over shape of each bed.) The soil approach is the internal layer-cake concept pioneered by Stephanie Ferguson of Calgary, Alberta.

I had to find an overall aesthetic to match the site, a mostly flat area with a semi-southwestern building nearby and the Rocky Mountains dominating the horizon. I recalled the way that the individual mountain ranges in Arizona stand up like islands out of a "sea" of flat desert. This was the natural aesthetic I'd miniaturise to imbed giant heaps of rock between flat paths which go to ball courts. The angles and repetition of gentle peaks on the mounds echo the real horizon which is seen plainly from the site. Another consideration I made about the real view of the place was an overabundance of strong verticals nearby—many light posts, fence-posts, flag-poles and even a church steeple. These were the hard constraints.

Now, to the nitty-gritty details. We used 55 tonnes (60 tons) of Dakota formation sandstone from southern Colorado. I forget how many dump trucks of loam, compost, sand, and gravel we used. Lots. There are five separate mounds, two surrounded entirely by paths, and the tallest stands 1.8 m (6 feet) tall, of the others three being enclosed by path, concrete, gravel, or wall. The shape of the mounds was derived from creating paths to invite sports players to "cut across" the garden, so that it was easier to walk through it than around it. I still need to bug the landscape architect, who accidentally cut off one of those inviting routes... Anyhow, the resulting shapes left in-between were bulged or shrunk to avoid equality in size and nudge them off-centre from the rectangular area the whole garden occupies; both design concepts I learned in art school ("Never, ever, paint a portrait with identical eyes," my professor said. "That's not how they are and not how we see them.")

Having been unable to find a spectrum of gravels to match the stone, and finding that crushing the stone yields more sand than gravel chips, I had an entire dump truck



*First mound (#5) under construction*

of pea gravel come 400 km (250 miles) over the mountains from my hometown of Grand Junction.

The Arizona-inspired look begs to have many of the “cliffs,” as they “return” to the ground (as ZZ says) in a dramatic way. That is, the edges are sharp. Lots of steep cliffs. Elsewhere there are flat and gentle returns, too, so as to compliment, but the northwest side of most of the mounds is a collection of steep, dramatic cliffs—all of them echoing one

another is another design trick my composition professor called “matrix composition.”

Maintenance was a huge (enormous, huge, giant) consideration and limitation I imposed on the garden. Allan Taylor, a Colorado rock-garden contemporary of Josef Halda, once said “a garden is one-tenth construction and nine-tenths care afterward.” I absolutely didn’t want care for the garden to ever be a chore. I wanted it to be fun, so I’ve attacked any possibility of use of aggressive plants nearby, and designed the beds to resist weed invasion. Conceptually, I tried to reign in the loose horse of overwatering which has become popular in the field of xeriscapes, where wildflowers wind up getting overwatered, so I settled upon a “once every two weeks” water regime which would be easily understandable as well as a compromise between going un-irrigated and watering some to widen the plant pallet to include Montane, Mediterranean and African plants.

Five mounds gave us a chance for five different soil schemes. Two mounds have compost in them, the rest are devoid of added organics. One is solid sand. The largest has the two fattest layers: A sand and expanded-shale mix over a layer of old loam which came from a demolished historic prairie-hill garden at Denver Botanic Gardens. You can visit the website for more details on our mounds, but know that when using the layer method, it is imperative that heavier textures are below lighter, otherwise drainage will be absolutely sabotaged!

We built the beds starting on one side to keep heavy equipment access open—a front-end loader is better than dozens of wheelbarrow loads! We started each bed with its perimeter/border/footer/foundation stones, however you want to think of the lowest, outermost ring, followed by large keystones within the beds. Then we worked

from the bottom/edges up to the peaks. (They are compass-oriented in the ZZ school—300 degrees northwest was chosen to offer maximum dramatic cliffs facing the parking lot and first sight of average passers by.) We placed stones on top of soil mix and then shoveled the crevices full by hand, then top dressed with different sizes of gravel to resemble a gradient of natural decaying stone, since the samey-ness of pea-gravel almost never happens in nature.

There are deep, shallow, steep, and level crevices. The variety of aspect and position is a microclimate gallery. As a result, an offhanded measurement shows 5.5°C (20°F) surface temperature difference between the average north and south faces!

We had a changing crew of 3-6 people each day, borrowed heavy equipment, and occasional volunteers, all in just over two weeks. This was too fast. I think it would have simply been more enjoyable to do it broken into a couple phases—perhaps I would have been able to fine-tune rock microclimates more. I flew



*Paul with Silene acaulis on Mt. Elbert*



*Sidewalls*

Paul Spriggs down from Canada, and I didn't regret it. His fresh eye kept me from staying in a formulaic rut. We chased every workday with Indian food and chased every curry with a microbrew, and chased his week of help with a hike to the highest peak in Colorado—Mt. Elbert, and despite being from sea-level, he beat me up there! Maybe just then I regretted asking him to come down to Colorado!

Halfway through, I realised I grossly miscalculated tonnes of stone needed. My math, which worked for small-scale, car-sized home gardens, was based on square footage, and failed, for lack of cubic footage, to compensate for the added footage of the added dimensionality of a mound. Thirty-eight specified tonnes (42 US tons) had to become 54 (60), to the consternation of the park director, and a few more dump trucks of stones came in. Paul was the one who asked what the largest crevice garden was, and our inquiries then found Montreal, at a

matching 54 tonnes (60), but only recently did I read, if we are going to measure by weight of stones used, that Denmark's Bangsbo garden used 200 tonnes (220)! By my eyeball estimate, we used a variety including smaller stones than Bangsbo, which were consistently large, and that overall area/volume/mass looks like they would "feel" much the same, but I'd like to know by actual comparison.

I brought one employee of mine from home to work the job, and many people from the Rocky Mountain Chapter of NARGS came to help for a few hours or give emotional support. Gwen Moore (formerly Kelaidis, NARGS editor for over a decade) generously put me up in Denver for the duration.

"How about those actual plants?" you may wonder. The plant selection, I felt, must be limited to an army of buns and cushions, to forcibly introduce onlookers to the glorious aesthetic appreciated more internally by rock gardeners. For scale, a few smallish trees or tall elements were needed to soften the hardness of so much stone, in addition to making a little shade for people in the summer sun, with just a few but incredibly necessary intermediates between small trees and buns: shrubs. This was an opportunity to showcase and accommodate the charismatic and fussy Manzanitas, as well as a traditional, yet local and xeric showing of dwarf native conifers. The shade tree would be one Curl-leaf Mountain Mahogany, and the vertical tie would be four 'Woodward' Junipers, looking intuitively like Italian cypress but not casting shade on the crevice plants, and lastly, to drive home the desert element—several *Yucca faxoniana*—a bold tree species of Yucca, and a Joshua Tree, all of which come from the desert and cast little to no shade to imperil the crevice garden. After all, our natural desert/mountain crevice gardens have some, if sparse, tree presence.

I had the idea of a set of early-stage, "temporary plants," if you will, for instant colourful impact, like *Penstemon eatonii*, but a club colleague talked me out of it with the sound opinion that this would outshine and create the wrong expectation of the garden's long-term plants: tiny, slow-growing buns.

A few of the big plants went in that fall of 2014, (as *Arctostaphylos* seem to prefer), but the real planting happened the following March and April 2015, happening almost entirely with the hands of RMC-NARGS volunteers. My labour budget was exhausted by plant material by then, so they saved my hide!

Rock garden plant selection is perhaps the most fun to determine. We have a mound of



*Filling in*



mostly mesembs, a mound heavy in cactus, and one is heavy in mediterraneans. I avoid any which will be too rhizomatous, too thirsty, or too herbaceous, to keep cutting-back to a minimum. We want cushions and buns here. Half the plants are a zoo, a wide-ranging menagerie; but the other half are repeats of reliable, crowd-pleasing stalwarts which will bring colour to the garden all year, like reblooming *Ruschia*, *Delosperma*, and *Heterotheca jonesii*.



*Delosperma sean-hogani*

itch with their glochids. *Echinocereus* are almost always growing in crevices in nature, too. We had to place them very, very thoughtfully to avoid accidental human injury or plant destruction with these glorious, slow-growing mounders.

I confess—I planted some seed-mad plants, but these are deliberate. And tiny *Eriogonum compositum* and *Townsendia* ‘Jeane’s Purple,’ for example, as so small, they play well with others and will not subsume a cushion. *Eriogonum compositum* is creating wonderful puddles at the bottom of the cliffs in the paths already, usurping weeds for that water-rich position!

We have recorded every last plant, its source, date planted, its mound, and aspect, in a simple spreadsheet, which is available online. My dear friend, Marla of Roots Medicine Gardens, bravely entered all of those latin names for those 1,200 plants, 200 taxa.

So far, the *Arctostaphylos patula* and *A. pungens* are doing great (and I’ve experimentally added soil from wild plants to give them mycorrhizae), the choice *Eriogonum kennedyi* has grown phenomenally, *Delosperma basuticum* blooms wildly, *Wyethia scabra* grew ten-fold, and even the gambit of my heart—*Castilleja integra*—has established to bloom a bit.

Weirdly enough, the few *Sedum* we planted are looking depressed and unpromising, and our path-edge use of *Paronychia kapela* ssp. *serpiphyllum* resulted in most of them drowning from unusual heavy summer rain.



*Eriogonum kennedyi*

and my newest heartthrob, *Junellia succulentifolia*, has exploded in one year to look like an ancient geometric scabby bush and even bloom its musky blooms. We also enjoy the fresh growth of *Acantholimon caesarium*, are experimenting with *Aloe aristata*, and

A strange by-product of being low-maintenance has been that individuals of us who look out for the garden can completely forget to look at it for weeks or months at a time with no real consequences. We will probably come up with a regular, organised schedule of “maintenance” in future. When we do go visit, the event is really more social than laborious.

Of less known plants, *Neohenricia sibbettii* has yielded its fussiness a bit to find a few happy spots, *Asperula boisseri* and *A. gussonii* are spreading, *Muhlenbergia torryi* enjoys life,



*Castilleja in there, in the middle*



*Junellia succulentifolia*

a new introduction from dry Asia: *Dendrolobium triangulare*. Shocking us to bloom its first year was *Moltkia caerulea*, a choice Czech favourite new to us in Colorado, *Stomatium* spp feel quite at home, and we're tickled to have found the sweet spot for *Lepidium nanum*.

Weeding has been minimal, and done in between our fits of social laughter and exclamations of “oh, look at this!” and “See how well that has done?” when we visit the garden. The passing pickleballers on their way to their matches are always vocally complimentary, and now that we are seeing a year's worth of growth on the plants, we are excited to see what else we can try in this ever-open new crevice garden. I look forward, probably many years from now, to stepping back from my interim role as garden overseer and let another person take the helm and lend a fresher vision to the evolving course of this Noah's Ark of plants, but more so, I am excited to see what this mound of stone, a new breed, with all its own inertia and momentum, will mature into on its own devices.

Official Website: [www.communityheroesgarden.com](http://www.communityheroesgarden.com)

Construction documented: [http://kentonjseth.blogspot.com/2014\\_08\\_01\\_archive.html](http://kentonjseth.blogspot.com/2014_08_01_archive.html) and see the “September 2015” archives.

# The New Alpine House at the Royal Botanic Garden Edinburgh

*John Mitchell, Garden Supervisor, Alpine Section, RBGE*

*(Editor: Here follow two building reports from 2013 followed by an all new update.)*

## January 2013:

In July 2012 ground works for the new Alpine house got under way. After waiting for more than nine years for this to materialise it was great to see the project starting to take shape. Forty-eight trailers of soil were removed from the site to get levels right. Twenty-six cube of concrete was used to make six reinforced concrete pads, which would hold the six steel beams in place.

In September the Deforche construction team travelled with the prefabricated steel frame all the way from their base in Belgium to Edinburgh to start work on the new alpine house. The main construction was erected and glazed in three weeks.

In October, Monteiths, a local building company, came back on site and started erecting the brick walls around the steel frame. The back wall where the tufa wall was to be built had a plastic damp proof course pinned to the wall and stainless steel ties were randomly placed along the wall so we could tie in the tufa blocks. Work progressed well and by the end of October the site was handed over to RBGE so we could start the main tufa build inside the house. Having seen lots of tufa displays in Europe, I had a rough idea of how I would like the wall to look, but as we all know, what we like is sometimes harder than we think. A telehandler was hired in to move the large blocks of tufa from the nursery to the site and then used to position the blocks on the wall. Work progressed fairly well. Some days the tufa would just fit in perfectly and we would have four stones in place, other days we would struggle to get one in. A diamond-tipped chainsaw was used to cut some of the tufa blocks in half. All the blocks were tied in with stainless steel banding and screws so they will never rust. Once the layers of wall were built, a mix of sand, seramis, perlite and handfuls of Osmocote (a slow release fertiliser) were filled in the back of the tufa, and we did a heavy watering to compress the sand and this was repeated every layer. A drip irrigation system has been installed on the back wall and this has been made into four zones so we can control the amount of water for each section. Once the tufa had been placed, a hypertufa mix of one part sand, one part cement and one part peat was used to make the blocks look like they were all one and then a light cover of tufa dust was used to cover the grey colour of the mix. All this took three staff five weeks to complete.

This is where we are just now. We hope to commence the next part of the work in February, which is the outside tufa area with stream and pond and a crevice garden. Progress on the next part will follow shortly. (NB: the Tufa came from Bavaria in Germany.)

*(The above article was originally published in *The Crevice* #14, January 2013.)*

*Steel and glass goes up in September*



*Back Wall in place in November*



*The tufa wall in place in December 2012*

## **June 2013:**

I am pleased to say that the new alpine house at RBGE is now open to the public. After seven months from when the building went up, the new Tufa house is almost nearly planted. We have drilled 300 holes in the vertical tufa wall and roughly the



*New Alpine House complete*

same outside which gives us a great opportunity to grow a diverse range of species.

We have started off with a Gesernacea area, growing species like *Corallodiscus lanuginosus*, *Jankaea heldreichii*, and *Ramonda myconi*. We have also tried growing some of the *Corallodiscus* outside, so fingers crossed. On the rest of the wall we have planted the rare cushion plants lower down. These include the *Dionysia zagrica* from Iran, *D. tapetodes* as well as some of the cultivars like *D. 'Marika'*, *Daphne petraea* species and cultivars, *Primula allionii*, *Saxifraga ilonakhensis*, and near the top of the wall where some rain gets in we are growing *Campanula dzaaku* from Georgia, *Physoplexis comosa* and *Paraquilegia anemonoides*.

All these plants have been planted in a 1-inch hole so the plants are put through quite a stressful time as all the soil is washed off the roots. We



*Drilling one of the 600 holes*



*Tufa wall close up*

then put our compost in the hole. The compost is made up of John Innes based compost with added grit and tufa dust. This is rammed into the hole so no air pockets are left, then we water the compost so it is nice and moist. After this is done we insert a small rod to make a hole in the compost and now the tricky part—you have to get all the roots into the hole carefully so as not to break them and add soil and gently press this around the roots, again add water, then we use a piece of clay to cap the soil and the plant tight in the hole. This is a very time-consuming job meaning only planting about 30 a day.

Moving onto the other side of the house we have planted bigger plants into a sand mix with clay granules and tufa dust to make the house look a bit more established but also drilled holes to add smaller plants and we have planted lots of saxifrage as this side is open to the elements.



*Ramming home the compost mix*



*The other side with larger plants in sand-clay-tufa mix*

The outside tufa planting is part finished. By the pond we have planted *Sarracenia* and *Darlingtonia* and *Cypripedium*.

By the side, under the wing that provides shelter from the wet, we have tried *Daphne petraea* outside and *Wigstromea*. There is also *Iris*, *Tulbaghia pulchella* and bread and butter plants like *Saxifraga longifolia*, which will give the area a very lovely spectacle when in flower.

The only other parts we need to complete are the crevice garden which we are planning to build in the next couple of months and this is to show the public different ways of growing alpine plants if you have a small garden or slope as this is a great way of utilising the space. Also on the top area we are having an alpine meadow



*The Pond area*





*Bulb area*

with species *Narcissus*, *Tulipa* and *Crocus* then moving to more steppe vegetation like *Panzeria* and *Echinops humilus*.

So there is still a bit of work to get finished around the new alpine house but we are very pleased by the comments made by the public and they are looking forward to seeing it change over the next decade and more.

(The above article was originally published in *The Crevice* #19, part 1, June 2013.)

## **December 2015: Update on the Tufa House at RBGE**

With the new tufa house at Edinburgh now in its third growing season all of the plants are looking good. The first year when we originally planted over 250 plants in the tufa wall we had one of our warmest summers for at least 10 years which did not help the delicate plants that we planted into the wall and after making a quick fix with temporary shading the plants have survived extremely well. Over the first year we lost roughly 10% of plants. This was expected but still disappointing. Over the next year we replanted and have had better results. It was very interesting that in the first year, plants like *Dionysia* and *Draba* established very quickly in the tufa and have formed



*Tufa wall December 2015*

large patches, some of the more difficult species like *D. iranica* have taken longer to establish.

Plants that I would have thought would have grown very quickly were the *Primula allionii* but these plants have sulked but now are starting to put growth on and the intention is for these plants to form large mats covering the tufa. *Daphnes* are extremely slow to get their roots down but there is light at the end of the tunnel, we are starting to see lots of new growth on the *Daphne petraea*



*Primula allionii*



*Daphne jasminea*

and we have very nice small domes starting to appear on the wall. *D. jasminea*, both forms, have flowered and are looking stunning.

European Campanulas have taken over—*Campanula rainieri* with its very large white flowers, *C. morettiana* with purple flowers and the largest of all is *C. fragilis* with extremely large blue flowers and it has a trailing effect on the tufa.



*Campanula rainieri*



*Campanula morettiana*



*Campanula fragilis*

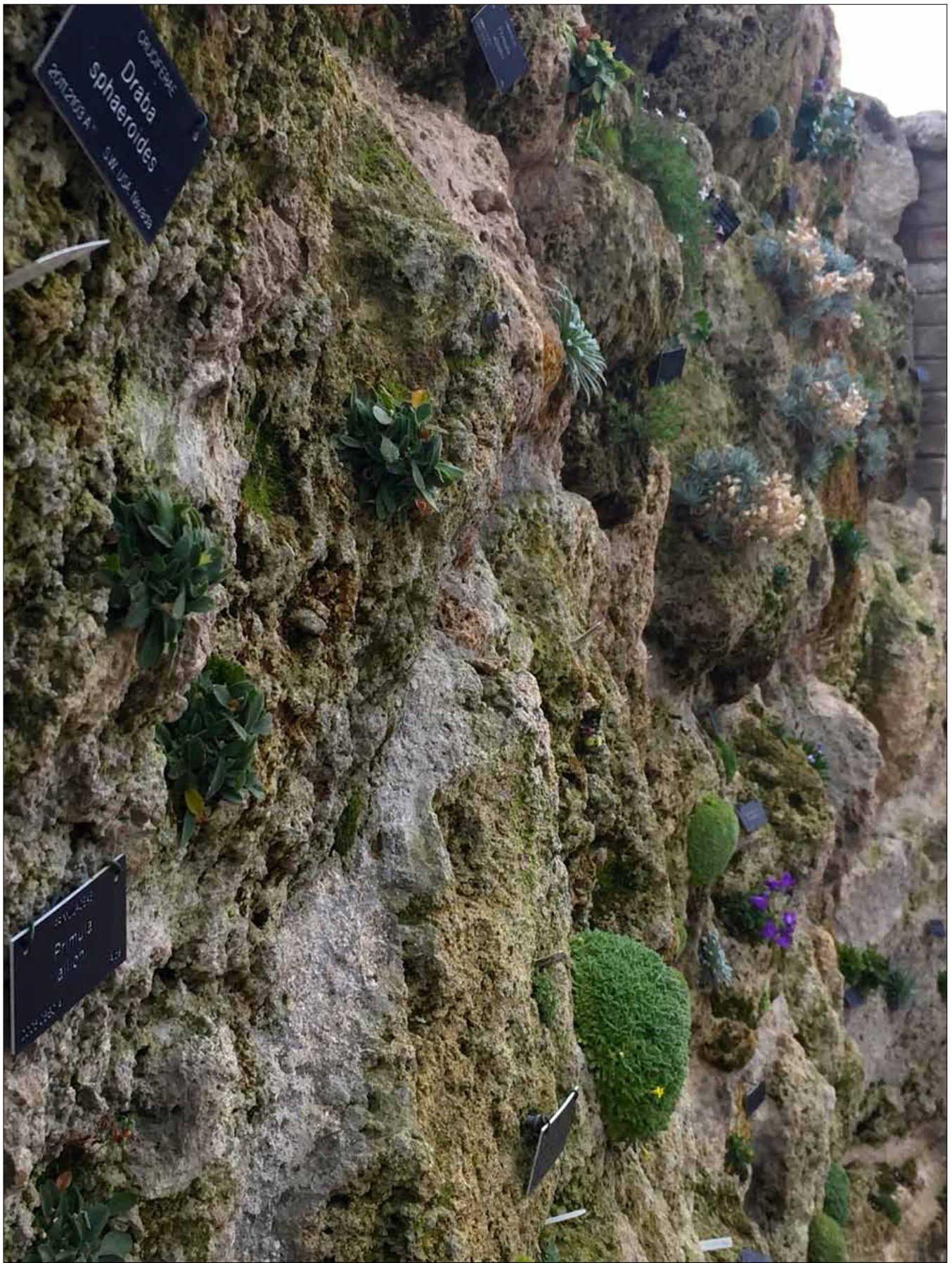
The rest of the species in the wall are growing from strength to strength—*Paraquilegia anemonoides*, and *Physoplexis comosa* have started seeding about the house, which is great to see.

The rest of the area has established and plants are seeding around. *Saxifraga longifolia* is the main plant planted through the whole area and these rosettes are looking stunning and when they flower will produce an amazing display. *Edraianthus* sp. has also been sown on the tufa outside and when this gets established will cover the tufa in blue and purple.

*Physoplexis comosa*



*Saxifraga longifolia*



*View of tufa wall*

One of the newer areas, which we are progressing, is the alpine meadow above the crevice garden. We have planted in various Frits, Tulips, Narcissi and the idea was to have steppe herbaceous growing as well. But we have had a slight problem with the grass growing too vigorous so we have stripped back the grass and will resow and hopefully this will give us a chance to be able to grow some of these plants.

Since we have built this new house the response from the visitors has been great. We have had great comments about the landscape and plantings. Our next project is to refurbish the traditional alpine house which was built in the mid-1970s by the late Alf Evans. We are in the process of applying for grants to rebuild this area to exactly the same specifications as this was a very traditional way of growing and showing alpines.



*Summer 2015*

*David Sellars*

## **Where have all my daffodils gone?**

Have you ever wondered why daffodils often fail to flower after the first year? We have found that all that appears in subsequent years is some straggly foliage and little else. We have been invaded by the Narcissus Bulb Fly which occurs throughout the world wherever Narcissus are grown. A single egg is laid at the base of the fading leaves during late spring/early summer where it hatches a few days later. The larva crawls down the leaf and bores into the bulb and begins to eat the centre of the bulb turning it into a mush. The following spring as the soil temperature warms, the larva moves into the soil to pupate for two weeks and then emerges as the adult fly. Destruction of the bulb by the larva will often trigger the outer scales into growth and a number of small leaves will emerge the following spring but no flowers.

Available control methods are generally unsatisfactory. You need a pesticide licence for effective chemical control and, anyway, who would want that stuff in the garden? Commercial growers dig the bulbs and treat them with hot water which kills the larvae. Other methods are only partially successful and include planting bulbs deeper and planting in the shade because the Bulb Fly likes it warm and sunny when laying eggs. Floating row covers can also help if you can tolerate their appearance in the garden in late May/early June when the rest of the garden is often at its best.

Fortunately the Bulb Fly does not seem to lay eggs on the smaller daffodils such as *Narcissus rupicola*. This excellent species with narrow leaves is often available in the seed exchange and does well in the rock garden.

When bulb planting last fall I decided to try a new method to discourage the Bulb Fly. I interplanted the large daffodil bulbs with bulbs of a vigorous *Colchicum* which flowers in the fall and produces great mounds of thick leaves in the spring. I am hoping that the dense foliage will disguise the fading daffodil leaves and make it more difficult for the fly to access the base of the leaves. I also planted some bulbs among Hellebores and am hoping I can report on the appearance of masses of daffodil flowers in Spring 2017.