

Alpine Garden Club of British Columbia



Wildflower Meadow
photographed by Daniel Mosquin at Botany BC 2017

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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.

2017 and 2018 AGC-BC Upcoming Events

- **December 13 - AGC-BC Meeting** - Annual Christmas Potluck and Rare Plant Auction
- **January 10 - AGC-BC Meeting** - Howard Wills on California National Parks: Amazing Plants and Scenery
- **February 14 - AGC-BC Meeting** - Chris Byra on Mountain Gardening: Amateurs Building a Garden
- **March 14 - AGC-BC Meeting** - Paul Spriggs on Rock Gardens of the Czech Republic

For more information, visit <http://www.agc-bc.ca/events>



Rock Garden in winter

From the Editor

Dear Readers,

As I wrote in the cover letter of the last issue, this fall issue is my last, due to commitments at home. The happy news is that Laura Caddy, Curator-Horticulturalist of the E.H. Lohbrunner Alpine Garden at the UBC Botanical Garden, will be the new Editor. Laura's expertise will be a big plus for the Bulletin. She has kindly asked me to stay involved as the Associate Editor. This is happy news for me, to still be involved with writing, without the pressure of deadlines. Thank you, Laura, for taking the helm, starting with doing some writing and proofing for this issue.

As Associate Editor, I will continue working on those promised articles on "Using Hardy Orchids in the Garden" (might as well wait for spring to update their progress) and "Using Carnivorous Plants in the Garden" (ditto). I also have growing files of photos and reports from our members towards articles on cyclamen and gentians, so those will appear in due course. And I will be knocking on doors (cyberwise), looking for more ideas and contributions from you, our knowledgeable members.

In the meantime – it is the start of Seed Sowing Season. So once again there are a number of Plant Portraits in this issue to whet your appetite to 'try something new' (to paraphrase Chiltern Seeds). For these, a big thank you to Ger van den Beuken, Linda Verbeek and David Sellars. Laura Caddy reports on the talk given last month by Tony Reznicek and has edited a report on Botany BC 2017, with photos from Daniel Mosquin, June Strandberg reports on the annual AGCVI trip to Whistler – Blackcomb. And as an end piece David Sellars gives us his 'Gardens Rock'.

THANK YOU ALL for the contributions and support over the last two years. My especially BIG THANK YOU to Wendy Sellars, whose prowess with layout has made the Bulletin a pleasure to peruse for the last two years.

Happy Seed Sowing and Happy Holidays!

Valerie Melanson
Qualicum Beach, BC

Report on October Speaker

Laura Caddy

*Curator-Horticulturist, E.H. Lohbrunner Alpine Garden,
UBC Botanical Garden*

Tony Reznicek: Rock Garden and Woodland Plants under the Lights of Modern Evolutionary Biology

Anyone who has spent time in Ontario botanizing likely recognizes the name of the Alpine Garden Club of BC speaker from October 11. Likely also if you've spent time scratching your head trying to key out a *Carex*. Anton (Tony) Reznicek holds multiple positions at the University of Michigan, including Herbarium Curator of Vascular Plants, is author of the *Field Manual of Michigan Flora* (often used in Ontario, in lieu of its own flora) and is a contributor to *The Flora of North America Treatment of the Sedge Family*.

To my delight, as demonstrated in his presentation, he is also an avid gardener. All his photos were taken in the wild, or, it seemed more commonly, in his own garden. And what a challenge it appears to be, gardening in Michigan. The heat and cold extremes are severe, and can seem to fluctuate significantly. Tips he included to manage this included building crevice gardens, creating especially narrow sections between closely placed rocks, and using tufa troughs semi-submerged into existing grade to conserve moisture in their dry summers. He outlined many advantages to growing in troughs, such as the level of control over soil type and water, and also the opportunity exclude pest and problems such as voles, slugs and tree roots. Though they don't solve all pest problems, as deer seems to be as large a problem for him as they are for many gardeners. He recommended deterring them by utilizing poisonous plants such as the genus of *Daphne*. Another strategy he presented was planting species too small for them, such as the diminutive and adorable *Eritrichium howardii*.

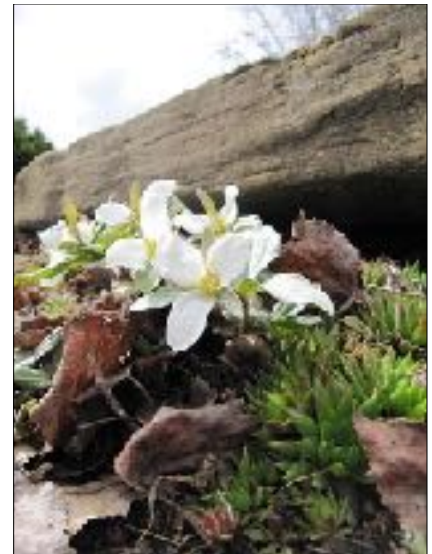
Tony's presentation focused on using deciduous forest plants in the rock garden. One may initially think that these understory plants would not be suited to the often open and sunny aspects of the typical rock garden, but Tony explained why this isn't so. In their natural habitat, they flower early in spring, before the canopy of the trees above has filled, allowing them to take advantage of the sun. Therefore, many of these plants can be grown in full sun in the garden. They have a small stature, interesting leaves and flowers, and are ephemeral. This means they often are dormant by mid-summer, preventing the need to nurture them through the drought of summer.

Many plants from the great deciduous forest of eastern North America are quite suitable for the rock garden. Examples include: *Erythronium albidum*, *Dicentra canadensis*, *D. cucullaria*, *Uvularia grandiflora*, *Sanguinaria canadensis* and the vast array of *Trillium* species native there. One of Tony's favourites, as it is low growing, does well in gritty soil, takes full sun and has attractive flowers and foliage, is *Pachysandra procumbens*. Many gardeners are familiar with its Japanese cousin, but the native North American one is underused in gardens, in his opinion.



Left: Sanguinaria canadensis in the wild, Right: Uvularia grandiflora
(Photos courtesy of Laura Caddy)

Horticultural selections of these plants are suitable for the rock garden as well. Colour and flower variations of *Trillium* are very interesting, the cut-leaf forms of *Podophyllum peltatum* allow more sunlight through which aids companion planting, and double forms of various taxa, such as *Sanguinaria canadensis* 'Plena', extend the blooming period significantly.



Sanguinaria canadensis 'Plena'

Trillium nivale

(Left photo courtesy Ben Stormes, Right photo Laura Caddy)

He included great plants beyond the spring bloomers, such as the goldenrods *Solidago caesia* and *S. flexicaulis*. These species add flower colour in the garden for the end of the season. Sedge species, such as *Carex plantaginea*, *C. platyphylla* and the lime loving *C. eburnea* are plant choices recommended by Tony. They can fill the graminoid niche in a garden, adding design elements of texture, form, and authenticity. This group of plants play important roles in alpine and subalpine communities but aren't often included in a rock garden. One of the benefits of the sedges he recommends is they don't run as some grass species do.

Although he reported the European deciduous forest has a lower diversity, there are still great plants to be grown from that continent. *Cardamine pentaphyllos*, *C. uniflora*, and *Corydalis pumila* are among the ones he recommends. The classic *Cyclamen purpurascens* has the added benefit of keeping its leaves year round in his Michigan garden. Species such as *Lathyrus vernus* and *Corydalis solida* naturally have lots of variation, and are great plants to try your hand at selecting your own favourite colour form.

His third focus, the Asian temperate forests, has the highest plant diversity, especially of evolutionarily primitive flora. He attributed this to a lack of continental ice sheets in its history, and the mountain ranges that run north to south. In other parts of the world, mountain ranges end in deserts, but in Asia, they terminate in tropical regions. This results in a tropical element in the flora, such as Gesneriads and the hardy *Begonia grandis* and *sinensis*.

Some species in Asia have a close relative in eastern North America, such as *Liriodendron chinensis* and *L. tulipifera*, and *Jeffersonia dubia* and *J. diphylla*.



Jeffersonia dubia



Jeffersonia diphylla

(Left photo courtesy of Laura Caddy, garden planting, Right photo courtesy of Ben Stormes)

The monotypic North American *Sanguinaria canadensis*' closest relative is the Chinese *Eomecon chionantha*, also the only species in its genera. Quite often, the genera that span both continents have a significantly higher diversity in Asia.

Arisaema, *Polygonatum*, *Corydalis*, and *Podophyllum* are all examples. Amazingly, some of these species are inter-fertile and hybrids have been produced between them. The selection *Shortia* 'Leona' is a hybrid between the North American *S. galacifolia* and Japanese *S. uniflora*; incredible, considering they were geographically separated 20 million years ago!

Tony also included a selection of shade loving plants, though not forest plants, he recommends for a rock garden. These included the ferns, *Adiantum pedatum* and *Asplenium trichomanes*, and *Astilbe simplicifolia* and *Ramonda myconi*, which he grows on a shady, limestone wall. Porophyllum saxifrages are practically obligatory shade plants in Michigan, despite their natural habitat. He has the best success with them when grown in tufa.

Despite the title of his presentation, "Rock Garden and Woodland Plants Under the Lights of Modern Evolutionary Biology", Tony admitted his presentation was geared more to be an admiration of the woodland plants than a modern evolution lecture. However, he did review how our understanding of the evolution of plants has changed from the theory that there are only two categories of flowering plants (monocots and dicots) to the realization that there are actually three: old dicots, monocots and new dicots. The old dicots, which he also referred to as "paleoherbs", include well-known plants such as *Magnolia*, *Sassafras* and *Nuphar*.

Tony concluded his presentation full of great images (over 140 photos), with introductions to new plant species and reminders of garden favourites. Despite the very different growing conditions he faces in Michigan to most of us lower-mainlanders, I'm sure all who attended learned a few new tricks and left with new ideas to try ourselves.



Eomecon chionantha
(<http://www.flickr.com/photos/>)

British Columbia Alpine Plant Portrait:

Lewisia rediviva

David Sellars, Surrey, BC

Our most beautiful native wildflower, *Lewisia rediviva* can be found in semi-desert areas throughout much of western North America. In early June, the flowers carpet dry, rocky grassland like water lilies.



Habitat on Mt. Patterson, near Winthrop, Washington

The easiest place to see *Lewisia rediviva* in British Columbia is on Highway 3 where it crosses Richter Pass west of Osoyoos. At the height of land, a wide gravel road heads north up to the summit of Mount Kobau. Turn left from Highway 3 onto the gravel road and after about 100 m, park beside the road. The main areas of *Lewisia rediviva* cover a rocky ridge just west and east of the gravel road.

The best time to go to Richter Pass is on a cloudless day normally in the first week of June. The flowers of *Lewisia rediviva* will open more when it is warm and sunny. In some years the main flowering may be slightly earlier or later depending on the spring conditions that year. Both pink and white forms can be found at this location. If you miss the spring flowering on Richter Pass *Lewisia rediviva* can be found in flower in July further up the road near the summit of Mount Kobau.



Pink form



White form

The life cycle of the plant is unusual. The flowers unfurl in spring after the narrow leaves shrivel up and disappear. After insect fertilization, the withering flowers form papery capsules which enclose the black shiny seeds. The capsules then disengage from the plant and are carried away in the wind.

The plant then becomes completely dormant so that it can survive the summer drought conditions in the semi-desert with the short thick stem (caudex) totally below ground. Cool weather and rain in the fall trigger the plant out of dormancy and the thin leaves appear above ground with growth continuing throughout the winter.

Lewisia rediviva has a reputation of being a difficult plant in the garden but in fact it is relatively straightforward to grow and long lived if is given the right growing conditions. We grow *Lewisia rediviva* in Sechelt Sand in raised beds in full sun.



Seed capsule



Lewisia rediviva leaves emerging from dormancy in October in the garden.



Seedling of Lewisia rediviva in October showing new leaf growth, the developing caudex and withered leaves from the initial spring leaf growth. The seed was planted the previous November.

This ensures that even with summer rainfall, the plants remain dry when dormant. Once the leaves appear in October the plants need no special protection all winter as they are in full growth and are quite happy to receive heavy rain, freezing and snowfall. This is quite the opposite of most alpine plants which are not in active growth in winter and have trouble tolerating our wet, cold conditions on the BC coast. The cultivation requirements of *Lewisia rediviva* are similar to dryland *Fritillaria*. They need to be dry when dormant in the summer and start growth with the fall rains.

Lewisia rediviva germinates easily from seed but it needs special care to produce a specimen that can be planted out in the garden. Seed is best planted in the fall but winter seed planting is also feasible. I use dilute liquid fertilizer for alpine seedlings to maintain growth. In May the leaves wither away and the seedlings become dormant. During the summer period of dormancy, the seed pots should be kept cool and only slightly moist. The seedlings resume growth in October and they can then be potted on. Planting out is normally possible in late winter/early spring the following year. In our garden, *Lewisia rediviva* flowers around the middle of May.

Our intrepid seed collectors often donate wild seed of *Lewisia rediviva* to the AGC-BC seed exchange. Why not give it a try?



Lewisia rediviva at home in the Sellars garden

International Alpine Plant Portraits:

Dionysia aretioides

Ger van den Beuken, The Netherlands

The home base for *Dionysia aretioides* is the Elburz Mountain Range in northern Iran. There it grows in shaded, vertical, limestone cliffs at an altitude of more than 3000 m. Dense cushions more than 40 cm across are to be found in the wild. The rosettes are hairy with a wooly farina beneath. The sessile yellow flowers are solitary, occasionally two per rosette.

In the past I have grown some young plants from seed, collected by the JLMS (Jäger, Löbke, Mayr, Stopp) expedition. These forms did not have any meaningful difference from forms already in cultivation. The best cultivars in my collection are 'Phyllis Carter' and 'Bevere'.



'Phyllis Carter'



'Bevere'

'Phyllis Carter' is a very compact cushion plant with tiny rosettes and small bright yellow flowers 1 cm across, that flowers in early spring.

My favourite, 'Bevere', in contrast, has bigger rosettes and flowers that are up to 2 cm across. 'Bevere' is a selected seedling from the collection of Ron Beeston in the UK. Some other good cultivars are 'Paul Furse' and 'Gravetey'.

Culture: *Dionysia aretioides* is one of the finest, floriferous and fast growing species and is overall reasonably easy to grow. Sometimes plants can reach a size of more than 30 cm across. There are documented results of cultivation in rock gardens where they were planted in an overhanging tufa rock or protected the whole year round with a piece of glass. Myself, I have no experience with this practice and grow my plants in

the alpine house in clay pots, inserted in a sand bed and provided with water from beneath. The pH 7 medium I use is a mix of coarse sand, seramis, pumice, perlite and a small amount of fine peat. A mix of 70% coarse sand and fine perlite is the substantial rooting medium for my cuttings. The best time for this job is the spring immediately after flowering when the plants start growing. Keeping the alpine house well ventilated is important to avoid fungal infections.



Forms of Dionysia aretioides

(Previously published in "The Crevise", # 44, Winter 2016-2017)

Androsace jacquemontii

Ger van den Beuken, The Netherlands

This very nice species, introduced in 1952 from the western part of the Himalaya in India, is now widespread in cultivation and in rock gardens. It is one of the most beautiful and appreciated species in my collection. Descriptions say that it should be grown in the alpine house, but this, of course, depends on climatic conditions. Here, in The Netherlands, it is completely hardy and grown in the rock gardens and the trough.



It is a mat-forming species, spreading on silky, hairy stolons. During winter the rosettes are tight and spherical, swelling in the spring to 10-15 mm. The inflorescences grow from the centre of the rosette and form up to 4 cm long peduncles, bearing umbels of sometimes 10 flowers. The corolla is bright purple with a greenish yellow eye.

A few years ago I obtained a good pink flowering form. Propagation by cuttings during summer is an easy way to grow many new plants in one season. Cut off the



Good pink flowering form

stolons with a stem length of 2 cm. Insert the cuttings in coarse sand and keep the slightly moist tray away from direct sunlight. 100% rooting is guaranteed in a period of 5 to 6 weeks. Later in the season you may expect good looking young plants ready for planting in their new home in the rock garden.

Culture: In regards to soil: the plant is not selective at all. Well drained soil with a neutral pH works well. Semi shade is an important condition. If you are living in a country with wet conditions keep your plants protected during winter. A piece of glass is adequate.

Hesperantha

Two surprising South Africans

Linda Verbeek, Burnaby, BC

In general we think of plants from South Africa as tender or, at best, iffy in our climate here in Greater Vancouver. Of course, there are some exceptions, like *Hesperantha coccinea* (used to be *Schizostylis*) which has been around for ages. One disadvantage of it is that it blooms so late that often the flowers are surprised by the first frost. Another disadvantage is that it runs quite extensively. Today I want to mention two other *Hesperantha* species, which are actually much more amenable. *H. baurii* and *H. huttonii* are quite similar - both have corms and don't run, both have clear pink flowers and both are summer growing. They are also hardy in my garden - having survived last winter. Of the two, I think *Hesperantha huttonii* is the better one. It flowers a couple of weeks later than *H. baurii* (starting around the middle of August), and it is



Hesperantha in the writer's garden

still going. The flowers look quite a bit like *H. coccinea*, except that they are pink, and somewhat smaller. The flowers of *H. buttonii* have more pointed tepals than either *H. baurii* or *H. coccinea* and so look a little more star-like. The plants are quite dainty, the leaves narrow and upright, and the stems slender, so they don't impose themselves, just quietly display their pretty flowers. And moreover, they come quickly and easily from seed. Both species would make a lovely addition to the summer garden when perennials aren't so much in evidence.

South American Plant Portrait:

Calceolaria arachnoidea, aka *Capachito morado*

Valerie Melanson

I have been interested in the South American *Calceolaria* genus since starting growing alpines from seed and have been successful to a degree in growing and keeping some species alive long enough to flower a year or two. Now to work on their long-term survival in my garden where their cheery little yellow 'Mary's slipper' flowers add a bright spot!

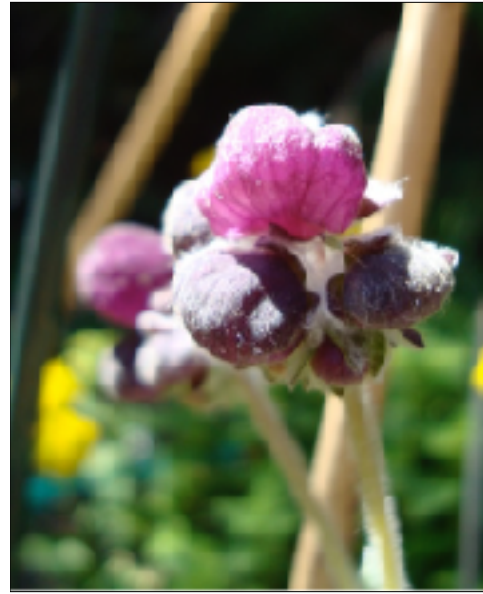
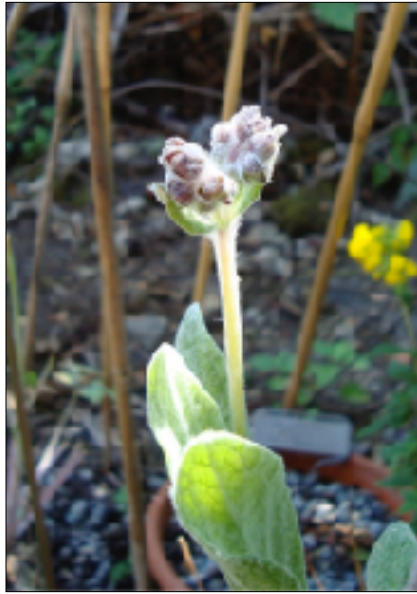
Anything with a species name of *arachnoidea*/*arachnoideum* (= like a spider's web) intrigues me. Last year I found out it applied to a **red-purple** flowered *Calceolaria*, a native of Chile. The colour change is a bonus too! This species also differs from its yellow flowered broad and green leaved cousins in having woolly leaves that give it a greyish cast.

chileflora.com describes the species as being a high alpine for part shade/shadow (20-40%), and needing damp roots - inhabiting bogs, marshes and river-banks. The flowering stems grow to about 40 cm. The website notes it can survive short periods of drought.

I was fortunate to obtain seed from the AGC-BC 2012-13 exchange (seed #394), and sowed some on February 8, 2013. I started them as a scatter of seed, surface sown for light germination, 20°C on a hot mat, under a vented dome, under a grow light. There was one sprout on February 14 and I potted up 10 on April 6, 2013.



Status on June 20, 2013.

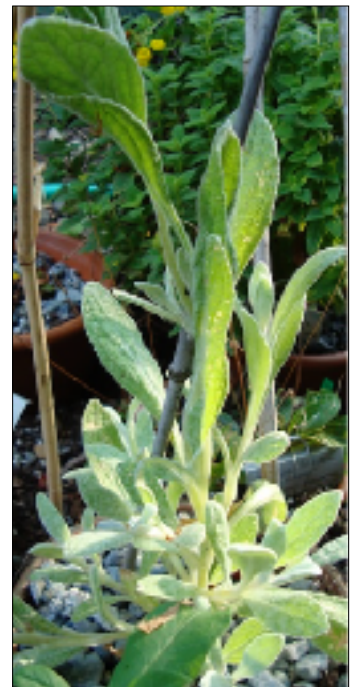


Rapid flower development – Left: July 24; Right: July 29.

I decided to pot up a plant (and used some Spanish River Carbonatite that Wrightman’s recommends – was this helpful? Time will tell) and position it where it gets morning sun, but mostly shade the rest of the day, and where I can keep it damp with judicious waterings.

Flowering success was achieved in late July 2013. Unfortunately a visiting deer decided the flower heads would make a lovely snack – but I got the photos first, which is what I ask of the local family.

The plant is bulking up happily and I will repot, dig it in again and rig up better defences for next year, in hope of achieving full flowering and seed set.



August 1st – a good healthy plant

(Originally published in “The Crevice” # 22:2, September 2013)

Plant Portrait:

Symphyandra zanzegura

syn. *Symphyandra zangezura*, *Campanula zanzegura*, *Symphyandra zanzegur*, aka Caucasian Ring Bellflower

Valerie Melanson

This beautiful Campanula family member came to my garden several years ago when I purchased a Rock Stars plant at Brentwood Bay Nursery, down Victoria way, while on a 2008 QBGC bus trip.

In my garden this species is biennial and monocarpic, but self seeds so I always have a baby or two coming along. This is fortuitous as I have not succeeded yet in collecting viable seed. It blooms and blooms and blooms all summer. The buds blow up like little lilac balloons before bursting open and the petals reflex prettily. It enjoys sun to part sun, regular, well-drained soil and moderate moisture. It can tolerate drought but the flowers last longer with moisture.

From Wikipedia: “*Symphyandra* is a genus of 10-12 species of flowering plants in the family Campanulaceae in the family, mainly native to the eastern part of the Mediterranean region in Asia Minor, the Balkans, and Crete, but with one species in eastern Asia in Korea.”

Their leaves are arranged in a basal rosette (hence ‘ring’ bellflower) and are commonly heart-shaped with toothed margins.

The species name derives from a region in Armenia. *Armeniapedia* notes: re: “*Simfiandra Zangezuri*”: “Formerly widely spread in Zangezur and Meghri regions. Now the natural habitat has decreased. The population in Kajaran has completely disappeared. It is on the list of Rare and Endangered plants of



Close-up of bud inflating before opening.

Armenia. These are the Endangered and Rare plants of Armenia, as listed in the Red Book. These plants may or may not be rare in other parts of the world, and the list is about 20 years old, so it is already out of date, but it is the best information available. Information on where the plants were found, etc., will be added in time. Grows on rocky and shadowy hill slopes, in the sub-alpine zone. It is a highly decorative species due to its very beautiful leaves.

Full control over the populations should be established.

Should be included in the Botanical park of Yerevan.”

I recommend this one for your rock garden but allow an area of two to three feet as, if happy, it will fill the area with its heart shaped leaves and lilac blooms.



Above, the fused anthers typical of a Symphyandra genus member. In Campanula they are separated.

(Originally published in “The Crevice” # 21, August 2013)

Report on our 2017 Whistler Trip

June Strandberg, Qualicum Beach, BC

Members of the AGCVI (Alpine Gardeners of Central Vancouver Island) have been to Whistler half a dozen times over the last few years but this is the year I enjoyed the most. We went earlier, July 10 to 13, in time to ride the Seventh Heaven lift on Blackcomb and see the ice walls on Whistler Mountain. The weather was cooler and we saw flowers we have never seen there before.

Monday we rode the Seventh Heaven lift up to Horstman Hut, where we had lunch. It's quite cool up here so we were glad to get into a warm place! We wanted to see the skiers jumping and somersaulting as we looked down on the glacier but this time only plain skiing and snowboarding was going on. From where we were, by the hut and above the clouds, we could see that the clouds closed right in over them by the time we left. No flowers on Horstman Peak - at this time of year anyway.



Skiing on Horstman Glacier

On Tuesday we took the 'Alpine Walk' loop on Blackcomb and, for the first time, saw *Anemone occidentalis* in bloom, like very fuzzy little yellow balls just out of the snow.



There were lupins, violets, *Claytonia lanceolata*, *Pedicularis* spp., *Solidago multiradiata*, *Phlox diffusa*, *Silene acaulis*, and *Ranunculus* spp., heathers and other flowers, but no paintbrush out yet, up this high.

We saw wildlife too - Marmots and Canada Jays, even a Robin.

Then a ride over to Whistler on the P2P where two of us took a short trip to Whistler Peak. Back on the P2P and down the Blackcomb chair.



We never take the gondola up to Whistler Mountain – too restricted a view of the flowers and wildlife under our feet! On Wednesday



Left: Claytonia lanceolata – I never seen this in flower before either, Right: Cassiope sp.

from the Blackcomb chair, we saw two bears as well as masses of flowers. It's fun trying to guess what they all are. There was lots of paintbrush and arnica. The views were not as good as usual as a lot of cloud was around.

Then, we took the P2P across to Whistler and had a view of the tree tops. Construction galore on Whistler Peak, they are building a suspension bridge!



Left: Mike Miller touching the ice walls on Matthew's Traverse; Right: the mini inukshuks on Pika's Traverse.

So most of it was closed off and what wasn't closed off was snowed in. Still we found an area to botanize with all kinds of flowers: several *Draba* and *Saxifraga* spp., large patches of white heather and even larger masses yellow mountain heather (*Cassiope* spp. and *Phyllodoce glanduliflora*), pink heather (*Phyllodoce empetriformis*) was mostly still in bud, *Potentilla*, *Penstemon procerus*, *Phlox diffusa* and even a dandelion. There was a Marmot making a meal of a very nice *Silene acaulis*. We walked down Matthew's and Pika's Traverse roads from the Peak to the Roundhouse, which was about one and a half miles and all down hill! Large snowy patches and high snow walls were interspersed with steep flowery banks, little alpine meadows, and rocky spots filled with flocks of mini Inukshuks.

One little ledge held a beautiful garden with *Silene acaulis*, *Oxyria digyna*, *Phacelia sericea*, *Romanzoffia sitchensis*, and *Phlox diffusa*.

Back on the P2P and down the Blackcomb chair lift where we saw another bear. We were home on Thursday.



Left.: Romanzoffia sitchensis; Right: Phlox diffusa.

June Strandberg is one of the founders of, and past president of, The Alpine Gardeners of Central Vancouver Island, as well as being a long-time member of the AGC-BC. June recounts: "My mother and two cousins in England had rock gardens - I was just an interested spectator! Coming to Canada my first love was the mountains. One day, in the '60s when living in Kaslo, Norm and I went up Mt Idaho (from the top New Denver looks like a Dinky Toy village) at exactly the right time of year and I met with Cassiope. I had to have her! I took some cuttings and grew her in a big pot. She is still my favourite alpine. I didn't have a rock garden until 1974 when we moved to Parksville and there was one at the house we bought. I joined the AGS and Scottish club then. One day Eswyn Lyster phoned me to find out about this new person on the AGS membership list. Big celebration and alpine plant exchanges!"

Botany BC 2017

From: Elizabeth Easton, Daniel Mosquin and Jenifer Penny c/o botanybcinfo@gmail.com

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Edited for republication by Laura Caddy

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Photos supplied by Daniel Mosquin

On Tuesday July 18, 2017, 56 enthusiastic participants gathered at the Cathedral Lakes Lodge, in Cathedral Provincial Park, for the start of Botany BC (BBC) 2017. BBC is an annual meeting of botanists and plant enthusiasts and is open to anyone interested in plants. Although the meetings are focused on British Columbian flora, we welcome plant enthusiasts from neighbouring provinces/states, and from elsewhere in the world.

In keeping with Botany BC's credo of being highly flexible, the start of the 2017 BBC session was slightly delayed while the final run of participants was brought up the mountain via a comfortable Suburban truck after the Lodge's trusty, but old, military transport Unimog stalled out on the long and winding private road between base camp and the beautiful Cathedral Lakes Lodge. Undaunted by the slight delay, the start to a wonderful Botany BC was under way.

After a creative and delicious dinner, everyone gathered in the cozy dining/lounge area of the Cathedral Lakes Lodge and settled in for a review of the coming week's activities and the first of three nights of botanical presentations.

Jenifer Penny kicked off the night with an overview of the rare plants in the park, highlighting the ones we were likely to encounter at this time of year in the subalpine and alpine. Next, our two esteemed speakers for the evening took the stage: Dr. Markus Heinrichs and Therese Ohlson.

Markus Heinrichs gave insight into the *Postglacial Vegetation History at Cathedral Provincial Park* (part of the topic of his PhD thesis). Through palynology—the study of pollen—he helped us journey through postglacial landscapes of the area, starting with dominant steppe vegetation and some spruce/fir, followed by pine forests in the early Holocene, and finally to the present with the Engelmann Spruce-Subalpine Fir association (ESSF).

Markus and others were involved with a research project some years ago investigating Holocene climatic change and landscape response at Lake of the Woods, which is located in Cathedral Park. Markus concluded that Cathedral Park, unlike other dry ESSF sites close by, has seen little change since the late Holocene with cores from Lake of the Woods showing a high climatic threshold to geomorphic change.



Group out on a day trip.

Therese Ohlson, botanist/plant ecologist from Twisp, WA, provided a very relevant and interesting look at the Plants and Ecosystems of the Pasayten Wilderness. Lovely photos of local plants were accompanied by anecdotes illustrating the ways that plants at high elevations adapt to their situations. Many of the plants and ecosystems Therese has studied for so many years are just over the border from Cathedral Provincial Park (i.e., Cathedral Peak, Spanish camp), so provided a basis for practical botanizing over the next two days. In particular, for the rare plant hunters, we were wondering if she could detect a rare sedge common in her area that has been potentially reported for Red Mountain in the park in BC (blackened sedge, *Carex epapillosa*), however the mystery of this plant in BC continues as it was not seen. Therese provided copies of the plant list for the area so that everyone could take it out on their walks and compare with what they were seeing. Some of the BBC organizers also updated the 1997 plant list.

Wednesday morning saw the group gather after breakfast to head off on one of three offered field trips.

Trip One was a more intensive day hike led by Judith Holm and Frank Lomer. They took the group up past the waterfall at the end of Lake Quiniscoe, and then out onto the Rim Trail to enjoy spectacular views and mountain goats.

Some of the group made it to the top of Quiniscoe Mt. whereas others got behind climbing up other faces in search of rare plants. The entire group eventually all continued down the slippery but scenic trail above Glacier Lake where they had

excellent photo opportunities of the lake en route back to the lodge.

Trip Two, billed as a slightly shorter, moderate day hike was led by Ken Marr and Therese Ohlson. This hike wandered up the shoulder of Red Mountain onto the Rim Trail. After a quick peek at Quiniscoe Lake and the Lodge and, of course, the hummocks on the beautiful meadows of Red Mountain, the group headed off down, which offered spectacular wildflower meadows (of *Lupinus burkei*, *L. arcticus*, *Arnica* and *Castilleja* spp.) in full and beautiful bloom, completely filling in the understory in places.



Phyllodoce x intermedia, on the shores of Quiniscoe Lake.



Subalpine meadow of *Lupinus*, *Castilleja* and *Arnica*.

Rare plants were seen (the park has over 20 taxa listed by the BC Conservation Data Centre from lower to upper elevations): Mount Hood pussy paws (*Cistanthe umbellata*) and alpine buckwheat (*Eriogonum pyrolifolium* var. *coryphaeum*) are almost completely restricted to Cathedral Park (*Cistanthe* also occurs on Placer Mt.). These two low growing species are found on scree just as Centennial Trail starts to open up to the alpine meadows.

Trip Three was a half-day hike led by Olivia Lee and Daniel Mosquin around Quiniscoe Lake examining "small things" (mosses, lichens and little vasculars) and wildflowers along the lakeshore and adjacent forest. Despite being a short loop, the hikers experienced a number of plant communities: montane meadow openings (with hints of the lupine and arnica displays at slightly higher elevations), streamside and waterfall (with a favourite, the uncommon *Cardamine cordifolia* var. *lyallii*), a boulder field (where *Silene acaulis* hung on to its last blooms), and wet slopes (with *Primula latiloba*). The folks who collected mosses (with permits) had their packs full with the diversity of species!

Photos from the day's activities were shared at a special evening session put together by Daniel Mosquin. Everyone had the opportunity to show off and identify photos of interesting, beautiful and/or rare plants that had been taken during the day. After another amazing dinner provided by Cathedral Lakes Lodge everyone settled in to listen to Dr. Ken Marr provide



Primula latiloba

an enlightening talk on *New Plant Discoveries from Northern BC Alpine*. The talk was very informative about the habitats and conditions controlling the distribution of plants in alpine environments in general and echoed and carried on with ideas presented by Therese the day before. It featured many stunning plant photos and anecdotes for each. Ken also went into some detail describing how the Royal BC Museum teams operate their plant collecting forays with interesting insights into their tools and techniques. Discoveries presented included new plants species for the northern part of the province and additional locations for rare species including range extensions. He briefly touched on the genetic work into mapping out the origins/movements of some select species including mountain sorrel (*Oxyria digynia*), and how there may have been some glacial refugia in northwestern BC evidenced by the high genetic diversity of the samples from BC. Ken illustrated well the very stark conditions of the alpine yet how beautiful a setting it is for botanical research.

The Thursday field trips focused on the Diamond Trail from a couple of different aspects, as it was agreed by many that this was the site of the best floral displays in the

park. Judith Holm and Frank Lomer led a hike up Centennial Trail to see different habitats and species than the previous outing including the two rare plants seen by others the day before (*Cistanthe umbellata* and *Eriogonum pyrolifolium*) which were lifers for Frank Lomer, who is on a mission to see every vascular plant taxon in the province.



The rare, blue-listed, Cistanthe umbellata.

Simultaneously, Daniel Mosquin and Reg Newman headed a group up Diamond Trail and completed their circuit in the opposite direction. This less strenuous approach also afforded the same views of the amazing meadows, rare plants, moss campion mounds, etc., while Agnes Lynn led a group which took the lower route to Diamond Trail for the wildflower tour.

Thursday's half-day walk was led by Ken Marr. He took a small group around the nearby lakes for a half-day botanizing tour to collect material for the Plant ID workshop scheduled for the afternoon, a new, special activity for Botany BC. The identification workshop focused on plant families, providing users with knowledge that will help them get to the right keys when they have unknown plants. The engaged group gathered in the Lodge lounge area where they spent an exciting couple of hours examining plant collections and learning trade secrets of plant identification. It was generally agreed-upon that the workshop was a fantastic addition.

After yet another amazing dinner by the team at Cathedral Lakes Lodge, the group gathered one last time for the evening presentations. Tanis Gieselman provided an

organizational update for Botany BC 2018 in Haida Gwaii, and people were clamoring to get their registrations in now if possible. PS: it not possible yet but it looks as though it is going to be a popular trip!

Our main presentation for the evening was Julia Chandler who summarized her doctoral research, *Reducing ecological complexity of forest flora; through the looking glass of plant functional traits*. Julia was able to take a complex idea about tracking the succession patterns of plant species to see if different ecosystems are more productive or better adapted to fire and make it very understandable for the group. It was much appreciated!

Once again Daniel Mosquin put together a collection of fantastic photos and presented the day's trophy shots for admiration and identification! Many thanks to all those who took the time to sort their photos and get them to Daniel during dinner so he could make the photo slide show a reality.

Due to the logistics of shuttling down the mountain, people departed from Botany BC 2017 at different times. Those who didn't take the morning shuttle spent time getting in one more hike or walk before departing in the mid- or late-afternoon. This is easy to do, as there is so much to see in Cathedral Provincial Park, and it is all so accessible from the lodge. Eventually everyone found their way out of the park and headed home or to wherever their next destination was.



Left: Lupinus lyallii; Right: View from Scout Mountain.

David Sellars

Cuttings from Kabschia Saxifrages

I wrote about growing kabschia saxifrages in the Winter 2017 edition of the Bulletin. While most grow well given the right conditions, they occasionally expire or develop dead areas of foliage. To get around this it is advisable to make cuttings to replace lost plants. Extra plants are also useful for experimenting with growing saxifrages in different locations.



I use a 50:50 mix of sand and vermiculite for cuttings. Sechelt Sand has too many large angular pieces and should be sifted to use for cuttings mix. I use sharp garden scissors and snip off rosettes at the base of the plant to get as long a stem as possible. Sometimes you are left with no stem at all and it seems surprising that the rosette would ever root. I try and trim off any dead material and gently press the rosette onto moist cutting mix. If there is a stem I first make a small hole in the mix. The mix around the cuttings should be firmed in but you have to be careful not to damage the growing points of the rosette. I then water in the cuttings using a rubber squeeze bottle to control the amount of water added. Normal methods of watering tend to dislodge or drown the cutting.

I place the cuttings in a plastic dome propagator with occasional misting. Cuttings should root in 8 to 12 weeks depending on the cultivar. No bottom heat is necessary and in fact is undesirable as it could dry out the mix.

According to Adrian Young, kabschia roots start to re-grow as soon as the cool evenings start, the rosettes grow during spring and early summer when maximum light is available. Thus, the best time for taking cuttings is in the fall. The cuttings are well-rooted by late February/early March and have time to become established in the spring before any hot weather. Cuttings can also be taken in the early spring but the hot summer months should definitely be avoided. In the winter, a cool greenhouse is the best location for the propagator as cuttings should not be allowed to freeze. Direct sunlight should also be avoided.

While it may seem daunting at first to make cuttings from very small rosettes, it actually works well and creating lots of new kabschia saxifrages is very satisfying.