Alpine Garden Club of British Columbia

The recently renovated Rock Garden at RBG, Ontario.

Volume 61, Number 4 Quarterly Bulletin, 2018

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AGC-BC 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.

2018 AGC-BC Upcoming Events

- **Nov 14 - AGC-BC Meeting**
  - Laura Caddy: The E.H. Lohbrunner Alpine Garden
- **Dec 12 - Annual Christmas Potluck and Rare Plant Auction**
  - **NOTE:** Location Change:

    Reception Centre
    UBC Botanical Garden
    6804 SW Marine Dr
- **Jan 9 - AGC-BC Meeting**
  - Howard Wills: The Wonderful World of Flowers

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

Club News

AGC-BC Members Fall Plant Sale Report

Chris Byra

Holding the AGC Fall Plant Sale for our members only during our regular meeting was an experiment. The change in format was deemed successful by most, but not all, members. Only club members could sell and buy and the time was restricted to one hour with sellers handling their own transactions. There were seven sellers in addition to a large club table. The AGC BC earned $706 net compared to $936 last year. The shortcomings included: inadequate time to shop, handling their own cash did not allow sellers to shop, and not allowing public participation reduced sales as well as exposure for the club. About half of members at the October meeting would like a regular fall sale. We are considering several options for next year and will provide an update shortly.

From the Editor

Laura Caddy

Autumn is here, and I, for one, couldn't be happier. It has definitely helped that the weather in Vancouver this autumn has been outstanding. Both in the city and at the UBC Botanical Garden, fall colour has been breathtaking since mid September. I'm enjoying watching dwarf larch needles change to a spectacular yellow, admiring the reds of *Vaccinium*, and the occasional pop of colour from fall blooming bulbs such as *Nerine, Crocus* and *Sternbergia.* But it's not just the visual pleasures that I love about this time of year; the weather has cooled, the weeds slowed down, and I'm not losing sleep over watering.

This time of year is also when I start project work in the Garden again. It usually begins with fall plant out, then dividing and moving plants within the garden before I start renovation work. This year I'm excited to be tackling some path maintenance. Yes, I said excited. What can I say, I'm passionate about paths.

Renovation is something most gardens go through. It can be as simple and routine as dividing plants and topping up the mulch, or more complex, such as installing a crevice area. It may even be an extreme makeover, such as when one moves and takes on a whole new property. The Rock Garden at Royal Botanic Gardens (RBG) in Ontario recently underwent a large renovation. Jon Peter, Curator and Plant Records Manager at RBG, shares with us the history of that garden, as well as the recent changes.

Further in this issue, we have the pleasure of escaping to Armenia, if only in our minds, with Egan Davis. I knew very little about the country before reading this article, but I now have yet another destination on my must see list. How can one possibly get to them all!

There are so many wonderful plants to see around the world, and let's face it, some of the best grow close to home, as highlighted in a new book about the plants of the Rocky Mountains. And who better to review it than Daniel Mosquin? Known for his great photography and botanic excursions, he also (among many other responsibilities) oversees the library at UBC Botanical Garden.

For those of you wondering why you haven't seen David Sellars at the monthly meetings recently, turn to Gardens Rock to find out what he's been up to. And finally, my plant ID challenge is returning. Have a look at the picture below, and see if you can identify it. Turn to the very last page to check your answer.

Enjoy!

Too easy? Too hard? Let me know at bulletin@agc-bc.ca

The Ongoing History of the RBG Rock Garden

Jon L. Peter

The Early Years

Royal Botanical Gardens (RBG) Rock Garden began with visionary civic leadership in Hamilton, Ontario. In 1917, Noulan Cauchon singled out the Burlington Heights, a peninsula at the westernmost top of Lake Ontario with Dundurn Castle at its southern end, as one of three outstanding physical features in Hamilton. A decade later the City of Hamilton bought up available land on the Heights to create a grand landscaped entrance to the city.

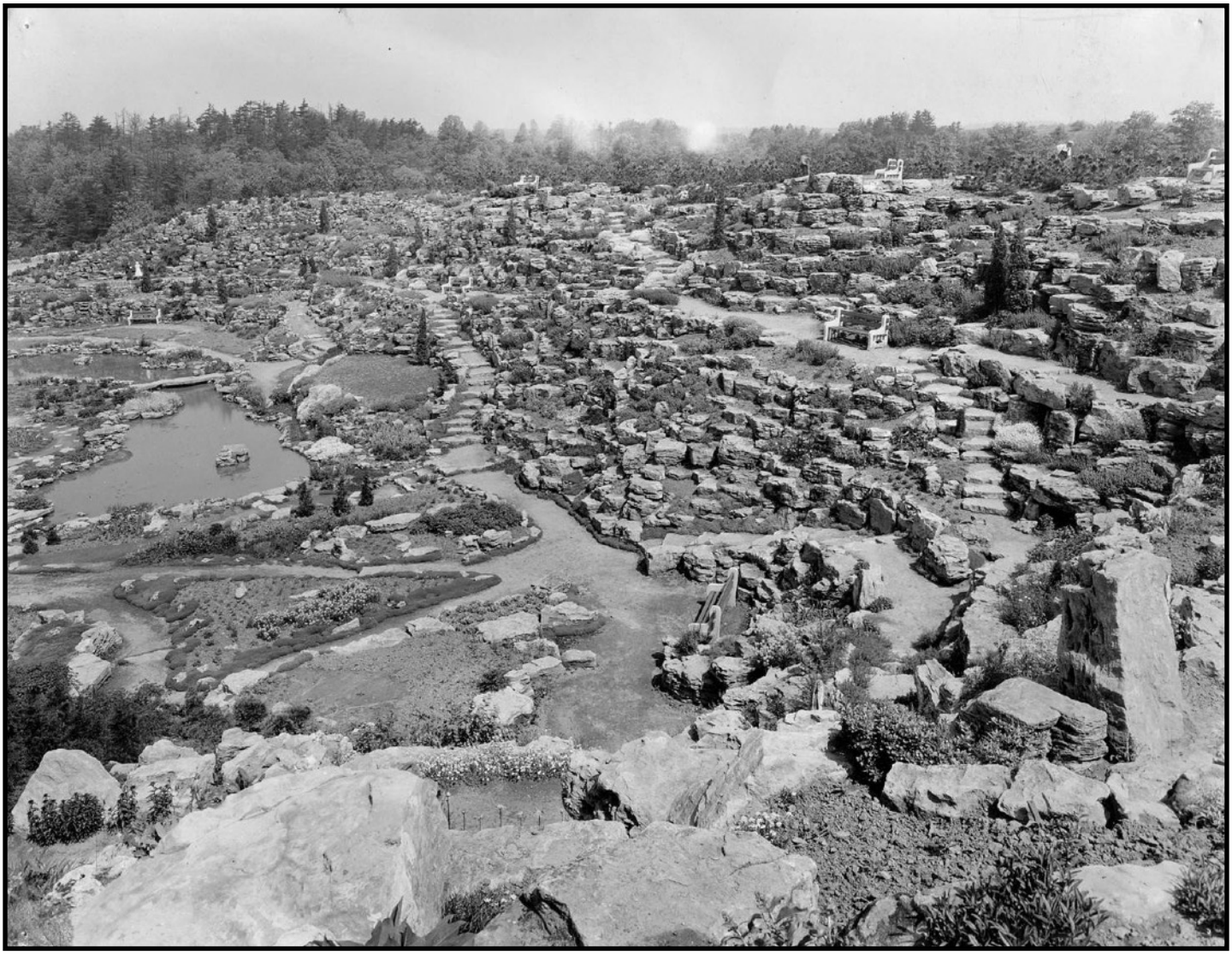
Led by Thomas Baker McQuesten, the City of Hamilton Board of Park Management launched a design competition in 1927 for Canadian architects to give Hamilton the most beautiful entrance to any city in Canada.

Several gravel pits along the Burlington Heights operated in the 19th Century to extract “ballast”, or coarse gravel, for the beds of railways, according to a mid-19th Century map of the heights. The Rock Garden’s location was identified specifically on that map from 1859 as a source of railway ballast. By the 1920’s the gravel being extracted from the pit that was to become the Rock Garden, operated by the Hamilton Sand and Gravel Company, was being used to build the City of Hamilton itself. The gravel pit was 35 feet deep and covered about 5.5 acres when gravel extraction was stopped sometime after 1920. The abandoned gravel pit was just one of the “eyesores” along the Burlington Heights, which also was the route of Highway 2, the main road connecting Toronto to Hamilton.

Different solutions were proposed to reshape the Burlington Heights from a mass of billboards, telegraph wires and shacks into a grand, beautiful boulevard. John Lyle, who designed Toronto’s Union Station, wanted to fill it with water for a lily and duck pond with a tea house on the shoreline. Howard Dunington-Grubb, designer of McMaster University Campus as well as the Oakes Garden Theater in Niagara Parks, thought the gravel-lined hole in the ground would make a great amphitheater. It was Carl Borgstrom, famous for a naturalistic garden style (influenced by Frederick Law Olmstead), who thought to make it a rock garden. Borgstrom’s company won the overall design competition and was hired to build the expansive landscaping projects. The

Rock Garden was undeniably the biggest challenge, requiring 10,000 tons of limestone from the Niagara Escarpment be quarried and moved up to 10 kilometres to the garden.

Rock Garden construction began in late 1929 – just a week after “Black Tuesday” and the onset of the Great Depression. Borgstrom's unique vision for the Rock Garden was implemented by landscape architect K. (Knut) Mat (Matthias) Broman, who as foreman oversaw the actual construction of the Rock Garden from 1929-1932. Broman was a landscape architect in his own right, and likely played a significant role in the final design of the garden in addition to overseeing construction work.



Rock Garden pictured in 1931 during initial construction. Thousands of conifers and herbaceous perennials had already been planted. Image courtesy of RBG Archives.

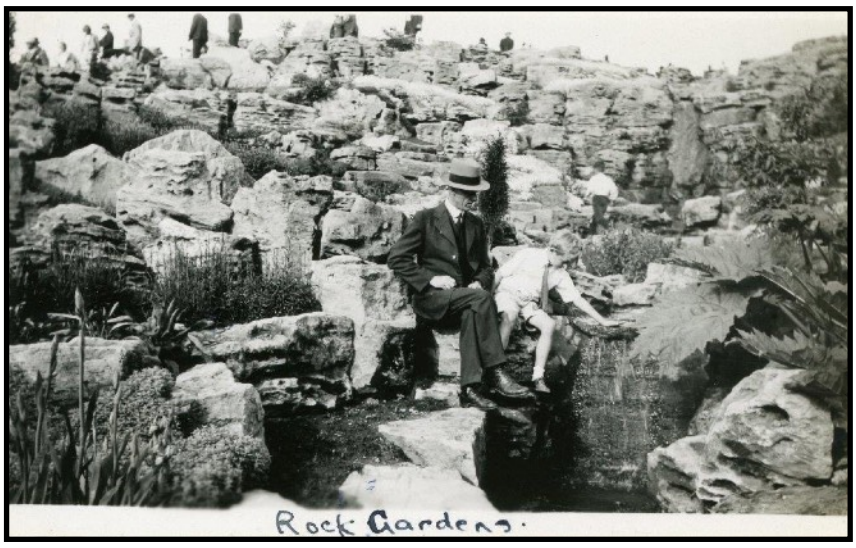
The Rock Garden opened to visitors in 1932: over five acres of beautiful limestone, magnificent plantings, and an extensive water feature. Early plantings included alpine plants and other typical rock garden offerings, and a wide variety of woody plants. The first Plant Records book of accessions at RBG are those from 1930 at the Rock Garden. They show that among the first plantings were Japanese cedar (*Cryptomeria japonica*), maidenhair tree (*Ginkgo biloba*), Japanese yew (*Taxus cuspidata*), beautybush (*Kolkwitzia amabilis*) and bottlebrush buckeye (*Aesculus parviflora*). It is noted that approximately 45 000 perennial plants were installed in 1932.

At the same time as the Burlington Heights projects were being built, McQuesten and his colleagues had an even grander vision: the creation of a great botanical garden in Hamilton. Securing a larger property on the south shore of Cootes Paradise Marsh in 1927, the Board of Park Management received permission from King George V to call this area Royal Botanical Gardens. From then on, the Rock Garden has been the “jewel in the crown” of Royal Botanical Gardens.

The Middle Ages

A list of recommendations prepared by Borgstrom for RBG in 1942 was largely implemented over the next twenty years. It included important components such as formal, rose, and climbing gardens, an arboretum, and a lilac garden all while continuing to enhance the Rock Garden.

Over the subsequent decades the Rock Garden became synonymous with public gardens in Hamilton, and many people didn’t realize (and many still don’t) that Royal Botanical Gardens was in fact many hundreds of acres (1400 acres in 1940 and currently 2700 acres), not just the 7 acres of the Rock Garden itself.



The McMillan family enjoying the waterfall features on May 28th, 1933. It appears gardeners were trying to cultivate a species of *Gunnera,* as seen growing to the right of the lower waterfall. Image courtesy of RBG Archives.

Although initially considered as an alpine garden, the sheer scale of the Rock Garden didn't allow for it to be maintained as such. As the years went by and the plants grew, the staff experimented with various planting combinations and the horticultural displays within the Rock Garden evolved as tastes changed and also as the microclimate of the garden evolved. Many of the beds were changed from herbaceous, conifer and alpine plantings to annual displays and clipped hedges with the goal of creating a memorable, but always fresh, garden experience. The Rock Garden became famous for its "flower power" annual show of hundreds of thousands of tulips, followed by extravagant summer annual displays and concluded with a fall *Chrysanthemum* display.

Rock Garden pictured in 1957 with Austrian pine lining the upper rim and masses of tulips carpeting the lower bowl. Image courtesy of RBG Archives.

The lower portion of Rock Garden pictured in April 2010 with multitudes of tulips. Image courtesy of Dr. David Galbraith.

There were only minor changes to the garden during this phase. In 1949, the entire stream bed was re-planned and renovated and a number of over-mature trees and shrubs were removed to make room for plants of special interest. As noted in the RBG Special Bulletin #5 from 1949, the plants of "special interest" included "nine new Junipers, a group of recently introduced *Daphne* 'Somerset' and *Viburnum Burkwoodii*. Certain alpines including *Androsace sarmentosa*, two varieties of *Helianthemum nummularium*, and a number of encrusted Saxafrages were introduced….New and attractive moisture-loving plants replaced the weedy inappropriate discards. These included the very successful re-introduction of our native *Lobelia cardinalis*, several Primulas, moisture loving Irises, and *Astilbe*."

In 1962, a Tea House was constructed and opened within the lower garden. In 1972, the parking lot was reconfigured and a new underpass entrance to the garden was completed. In 1976 a lookout platform and gazebo were built on the south wall of the garden. These are the major highlights of the improvements completed since its opening, not much else had been significantly upgraded or improved.

Conceptual perspective drawing of the `Tea House` prior to construction. The Tea House opened in 1962 and was included in the rejuvenation in 2013-2016, now renamed the `Garden House`. Image courtesy of RBG Archives.

Time wasn't kind to the celebrated garden. By 2013, the 1930-era irrigation system, water features, and many of the stairs and pathways were in serious need of renovation, and even the more ordinary features of the site like washrooms needed restoration.

The Rejuvenation

After many years of planning, the Rock Garden was closed to visitors in 2013 for its first major rejuvenation. A generous agreement between the Government of Ontario, Government of Canada, and Royal Botanical Gardens itself funded the work to replace aging pipes, redesign and rebuild the garden beds, and repair signs of aging in stairs and resurfacing of paths.

Far more than a facelift, the project included a brand-new visitor centre, designed by CS&P Architects, overlooking the garden bowl, new plantings of woody plants (2 800+), herbaceous plants (22 000+), and perennial bulbs (14 200), and a lot of tender care for the long list of historic plantings which remained in the garden. Several of the plants accessioned in 1930 have survived, including the very first plant in the records of RBG: *Cryptomeria japonica*, accession number 30-001. An 84 year old *Aesculus parviflora* (accession number 30-004), which was the favourite plant of our longest serving director, Dr. Leslie Laking, was dug and lifted by crane to a new location in order to preserve this important and cherished accession.

A main staircase had been degraded to the point of being unsafe. Image above is of staircase upon renovation completion. Image courtesy of Jon Peter.

Fundamental to the rejuvenation is the new garden design by Janet Rosenberg and Studio from Toronto. Taking inspiration from ideas popularized by Dutch garden designer Piet Oudolf and the “New American Garden” style innovated by Wolfgang Oehme and James van Sweden, the renewed Rock Garden concentrates on beautiful mixes of perennials, shrubs, conifers and specimen trees mingled among the historic plant architecture found throughout the space.

The garden design embraces environmentally friendly trends in garden design and management while respecting the integrity of its heritage setting. The design is focused on employing a low-environmental-impact philosophy that does not require disturbing the soil several times per year with tilling to install annual plantings. Plants selections are based on a few important things with the environment and climate change in mind. Preferred plants included during the renovation are generally drought tolerant and pollinator friendly. Featured are native plants and non-invasive introduced species from around the world. There was also a desire to push our hardiness limits by trialling species like *Davidia*, *Halesia, Pseudolarix* and *Stewartia,* which resulted in mixed success after the difficult winter of 2014-2015.

The David Braley and Nancy Gordon Rock Garden opened to the public at the end of May 2016, ready to delight visitors and provide wonderful garden experiences for another eight decades.

Left: *Stewartia serrata*, the sawtooth stewartia, is a marginally hardy species from the southern islands of Japan. It has persisted through difficult winters and continues to flower beautifully.
Right: Unique trees and shrubs from around the world are showcased throughout the Rock Garden, including this stunning *Xanthoceras sorbifolium*. Images courtesy of Jon Peter.

Rock Garden Today

Early morning sunlight peeks through the trees as the magnificent new Visitor Centre sits watch over the stunning spring perennials below. Image courtesy of McNeill Photography.

As with many major renovation projects, budgets became exhausted by the end of the project, which resulted in empty planting beds and less prominent sections of the garden remained unplanted. As well, some of the plants failed, became infected with disease, succumbed to old age, or suffered from transplant shock to the point of death. With these blank spaces of soil, opportunity arose to expand the collection, experiment with further species and trial unique plant combinations. Since the garden re-opened, another 696 trees and shrubs of 102 taxa, 5 913 herbaceous perennials of 227 taxa, and 17 894 perennial bulbs of 62 taxa have been planted throughout the landscape.

This brings the totals to over 65 000 individual plants which grow within the Rock Garden representing 90 families, over 280 genera and over 600 species for a grand total of 1 268 unique taxa. This diversity of species, hybrids, and cultivars makes for an outstanding display of beauty during all seasons.

Spectacular views from the upper rim abound throughout the seasons. February 15, 2018 (above) and August 14, 2018 (below). Images courtesy of Jon Peter.

In 1930, the entire Burlington Heights entrance was planted with hundreds of Austrian pine (*Pinus nigra*) and Scots pine (*Pinus sylvestris*) and today this forms a dominant and important evergreen canopy along the upper rim of the garden. Unfortunately, with 88 years of growth, these species are in decline and have become more susceptible to insects and disease. In response to this, we have developed a 'Conifer Canopy Succession Plan' to trial a variety of conifer species that we can densely plant and train to reach for the canopy for the eventual replacement of this historic conifer canopy which protects as well as accentuates this space.

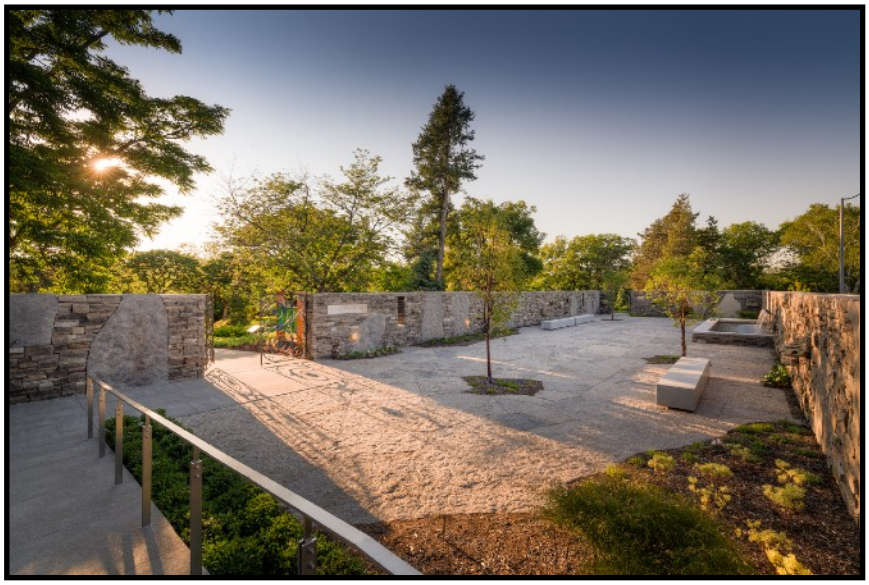
In 2016, we were able to clean out a long-neglected area of our nursery which yielded some accessions which were not represented in the garden collections. This presented us the opportunity to preserve some of these accessions by including them as features within the Rock Garden. Some examples were two individual plants of *Geranium* 'Blushing Turtle', a Blooms of Bressingham introduction which is the result of cross-pollination which took place in the summer of 1999 in Nanoose Bay, BC. This cultivar has not yet gained much support and is difficult to find for sale in Ontario. Another significant taxon which was rescued from the neglected nursery was *Spiraea nipponica* 'Halward's Silver'. Twelve struggling plants were found in 1 gallon containers and were planted out along a fenced border of the garden. This beautiful spirea was selected by Ray Halward in 1966 and introduced in 1972. Ray Halward was among the first students to graduate from the Niagara Parks Commission School of Horticulture in 1939 and became RBG's second ever employee in 1946 and held the title of Plant Propagator at RBG until his retirement in 1982. The planting of this *Spiraea* cultivar is now thriving in the garden and pays tribute to the many years of service as well as the multitude of plants that Ray Halward acquired and propagated for RBG over those years.

Geranium `Blushing Turtle`, a hybrid originating in Nanoose Bay, BC provides flower colour from June through October in a gently shaded section of the garden. Image courtesy of Jon Peter.

Another objective in our plantings has been the addition of spring flowering ephemerals. Layered amongst the herbaceous perennials and shrubs, these spring flowering bulbs add to the delight of the visitors, some of whom truly miss the 200 000+ tulips which had been planted annually in decades prior. With a total of over 30 000 perennial bulbs representing 80 different types thriving in the garden, the early spring combinations don't match the quantities of the past but they definitely capture the beauty.

Above left: Masses of herbaceous perennials have been chosen as much for their structure and texture as for their amazing flower displays. *Monarda '*Blue Moon' and *Stachys* 'Pink Cotton Candy' are pictured here with a wide array of textures featured in the background. Image courtesy of Jon Peter. Below: *Allium* 'Ambassador' interplanted with *Liatris spicata* and *Echinacea pallida. Aralia cordata* 'Sun King', *Geranium* 'Spessart' and a variety of conifers in the background. Image courtesy of Thomas Bollinger.

The Dalglish Family Courtyard was the last feature to be constructed during the renovation and was meant to be an area that could be rented for events as well as a microclimate to feature true alpine plants. As time and funding dissipated late in the project, the plants that were obtained for this space did not turn out to be a good representation of true alpine species. We are working with the Ontario Rock Garden & Hardy Plant Society to rework this space into something all alpine plant enthusiasts can appreciate in the future.



The stunning stone work of the Dalglish Family Courtyard makes for an impressive backdrop for a future collection of true alpine plants. Image courtesy of McNeill Photography.

As the garden evolves from year to year and season to season, there is always something new, improved or unique to experience. The rejuvenation of the historic Rock Garden has been a tremendous undertaking, the largest renovation project in RBG history, and it has been very rewarding to see its realization. While respecting the heritage of the old garden, the rejuvenation has brought with it a new era of sustainability within our gardens and the RBG Rock Garden now serves as a valuable resource for garden lovers, historians and plant enthusiasts throughout the year. Stand by for what the future holds in the Ongoing History of Rock Garden.

Jon L. Peter holds diplomas in horticulture from the University of Guelph and from the prestigious Niagara Parks Commission School of Horticulture. Jon has worked at some of the finest botanical institutions in North America, including the Arnold Arboretum, The Morton Arboretum and New York Botanical Garden. Jon is currently Curator & Manager of Plant Records at the Royal Botanical Gardens, Ontario.

Armenia Trip 2018

Egan Davis

Late in 2017, A group of friends and I planned a botanical excursion to Armenia for May 2018. The group included Peter Korn, Julia Andersson and Mona Wembling from Sweden, and Jonathan Froines from California. Peter and Julia have been developing a new garden called Klinta in Sweden. I saw this garden in 2016 and was very impressed. Based on pictures I have seen, it is developing into a unique world class garden that is exceeding the potential one would expect from these two. Mona is a Swedish landscape architect who has an interesting portfolio including very progressive churchyard plantings. I met Jonathan, a landscape architect, on a plant trip to the Sonoran Desert in 2015. He is a terrific person and a passionate plantsman. His residential garden designs reflect his keen understanding of plant ecology and his flair for creative design.

Flights were booked and the planning began. Peter had been to Armenia a couple of times and knew the country well. He proposed the route and we all deferred to his experience. We were travelling at a time of year that Peter had not been previously, so we were all in for new experiences. I began doing my homework researching the flora. Armenia is roughly the size of Vancouver Island and has over 3500 native plants. Compared with Canada, which has just over 4000 native plants, the botanical diversity is astounding. It is a country that is in the crossroads of North and Western European, West Asian, and Middle Eastern plant distributions. With the Lesser Caucasus mountain range in the north, a high plateau dotted with extinct volcanoes, and the arid borders shared with Turkey and Iran, the landscape and plant habitats in Armenia change dramatically over very short distances. We were looking forward to seeing steppe habitat, oak and oriental beech forests, alpine tundra and arid deserts.

Planned travel route through Armenia.

Within the weeks prior to our trip, Armenia was making headlines in the news because people were staging anti-government protests in reaction to president Serzh Sargysan's suspicious amendments to the Armenian constitution. Sargysan had already been in control of Armenia for ten controversial years that were characterized by corruption and violence. His recent political moves guaranteed him continued power and the country responded with overwhelming protest. Led by Nikol Pashinyan, the Velvet Revolution of 2018 took place. Armenians peacefully protested in enormous numbers. At times, the whole country seemed to shut down, with reports of flights being cancelled, stores shutting down and roads being blocked. Following the news closely, I was encouraged that people coming together could peacefully derail a corrupt politician and steer a country towards a brighter future. Admittedly, I was selfishly hoping that the Velvet Revolution would resolve itself so that we could continue with our travel plans. People are peacefully fighting for basic human rights in their country and I am worried about my vacation. This is the epitome of "first world problems". In the end, the Velvet Revolution concluded on May 08. Pashinyan and the Armenian people were successful and Sargysan stepped down. We arrived in Armenia on May 17 and apart from a few t-shirts and posters, there was very little evidence that the revolution had even taken place.

Quickly upon arrival, we picked up our rental vehicle and headed north. Yerevan, the capital city, is dense and crazy yet only a half an hour car drive outside it, we were in the middle of the vast steppe landscape. I will never forget my first impression of rolling hills of *Stipa turkestanica* blowing in the wind. These plant communities are a matrix of grasses, mint and aster family plants. The smell of *Nepeta* permeates the air and unfamiliar bird songs cut above the sound of the wind blowing through the grasses. Characteristic of the entire country is the sense of being able to walk forever without seeing anything or anyone. Looking in every direction, as far as one can see, there are uninterrupted views of grassy plains with mountains in the distance begging for exploration.

Stipa turkestanica

Above: *Onobrychis cornuta*

As the soils across the landscape vary in fertility, plant communities change. We learned how to spot areas with good plant diversity from a distance, just by gauging the density and types of grasses. In areas where resources are high, highly competitive plants, such as grasses, tend to dominate and outcompete other plants. Where soil is infertile and plant growth resources are limiting factors, grasses become thinner, and in the absence of competition there is an inversely high proportion of plant diversity.

A ubiquitous plant in Armenia is the Fabaceae subshrub, *Onobrychis cornuta,* which thrives in infertile soil. As with all legumes, it associates with the nitrogen fixing bacteria rhizobium.

Phelypaea coccinea is in the Orobanchaceae family.

I am always fascinated to observe the ecological role of nitrogen fixing species in environments with infertile soils. *Onobrychis* is a lovely mounding plant that can be a bit prickly to touch. It typically grows in arid and rocky areas and is an indicator species of a very rich plant community including geophytes and the hemiparasitic Orobanchaceae family.

Iris paradoxa

Using grasses as an environmental indicator was helpful in finding good populations of *Iris paradoxa.* When travelling east of Lake Sevan, at the base of the mountains bordering Azerbaijan, we quickly saw that the best iris populations occurred in areas of serpentine soil. Serpentine soil originates from deep under the earth's surface and contains heavy metals, often in concentrations so high the soil is toxic to many plants. Where it was found the plant cover was thin enough so as to not out-compete the irises. Where grass populations were thick and the soil rich, there were no irises.

Our most fabulous iris find was the rare species, *Iris iberica* subsp. *lycotis*. It was growing in hot and arid conditions just south and east of Yerevan. This is a stunning plant with enormous flowers featuring darkly veined standards and even darker, almost black, falls. Peter spotted the specimen photographed here while I was driving. He yelled for me to pull over and we found a nice population of *I. iberica* subsp. *lycotis* and *I. iberica* subsp. *elegantissima* that had gone to seed already. It was an incredible feat for him to spot this plant as there was only one flowering and it was behind a large rock. His vision was so finely tuned that a split second glimpse of those dark, shadowy petals was enough for him to recognize the plant and have us stop. In that moment, I gained a new respect for his super-human ability to spot plants from inside fast moving vehicles.

Iris iberica subsp. *lycotis*

Armenia is a landscape that is punctuated by hundreds of extinct volcanoes. These large hills rise up above the plateaus and are very easily climbed. This provided us with many opportunities to compare differences in plant communities as elevation and aspect changed. The south sides of mountains being hotter and drier with less organic soils supported good habitat for bulbs and the north sides, with more shade and moisture, featured lusher plant habitats and richer, more organic soils.

Left: Soil from south side of mountain. Right: Soil from north side

We saw this again on a mountain we climbed south of Lake Sevan, where the dry south face was populated with geophytes of different species depending on the elevation. Half way up the south slope, we found a good population of *Tulipa julia*. My friend, Julia, was thrilled and felt like it was her special day. The north side was moist with rich soils and lush plant growth dominated by the robust Apiaceae species, *Prangos ferulacea*.

Above: *Tulipa julia* with *Myosotis asiatica*. Right: *Prangos ferulacea* growing on the north side of a mountain.

Also south of Lake Sevan, we hiked in high elevation alpine areas. The highlight of this area was the sizeable cushion plants growing in limestone soils. On one occasion I split from the group to satisfy my curiosity of this deep and steep talus slope. Making my way back up to the group was tough but worth it as I was rewarded with great bulbs including endangered *Allium materculae*.

Egan with *Gypsophila aretioides*.

The high elevation Armenian Plateau is my favourite landscape in Armenia. There is very little population in this region and the air feels thin and cold to breathe. In many areas there is no sign of people in any direction, as far as you can see. Rising up out of the vast landscape are perfectly shaped and snowcapped extinct volcanoes. The grassland steppes are populated with *Muscari, Pedicularis, Primula, Androsace* and *Pulsatilla* species.

Androsace villosa and *Pedicularis* sp.

Images from previous page, clockwise, starting at top left: *Allium materculae, Muscari commutatum, Colchicum bifolium* and *Puschkinia scilloides.*

On Mount Arabat we climbed even higher, and it provided opportunities for us to view alpine plants at greater elevation. We were hoping to find bulbs and were not disappointed. Slopes covered with *Puschkinia* and *Muscari* rewarded our efforts and near the peaks, popping up in the seeps below receding snow caps, were *Crocus, Pulsatilla* and *Colchicum*.

In areas that were more inhabited it was interesting to observe the plant response to human disturbance through agriculture. Fields one or two years out of crop rotation had become incredible flower meadows of poppies, delphiniums, orlaya and wild carrots.

Agricultural fields out of crop rotation transform into meadows.

On our last couple of days, we stayed near Yerevan and explored the Symphony of Stones UNESCO World Heritage Site and Neighbouring National Ecological Reserve. Here we saw plants growing in stunning basalt crevices, ate wild almonds and relaxed after 10 days of pretty intense plant hunting.

Our trip to Armenia was everything that we hoped it would be and more. It is a small country with good food and friendly people that is relatively easy to travel in. The landscape changes dramatically so that it is not necessary to travel far to find new areas to experience. We identified hundreds of species growing in very diverse compositions. For anyone wanting a one or two week plant-hunting trip, I highly recommend Armenia. We were there for the last two weeks of May, but based on plants that were already going to seed and buds that had not opened, there is a wide window of opportunity to see different things. Perhaps there is a return trip in my future.

Anemone narcissiflora subsp. *fasciculata* f. *rosea*

Egan Davis is an award-winning gardener with a lifelong passion for horticulture. His diverse background includes garden design, landscape construction, botanical garden operations, and greenhouse and nursery production. He managed collections at VanDusen Botanical Garden and was the foreman at Park & Tilford Gardens. Egan is currently the Principal Instructor for the Horticultural Training Program at UBC Botanical Garden. When Egan is not teaching or working in the garden, he loves to explore the natural world by hiking and travelling to exotic ecological destinations.

All images provided by the author.

Book Review

Daniel Mosquin

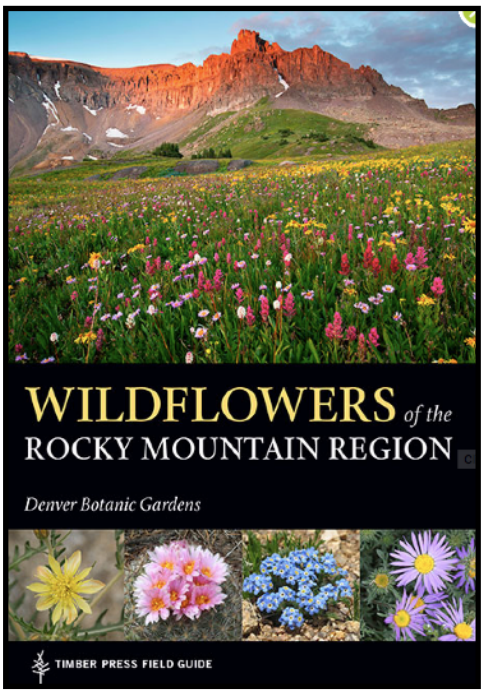


Image from www.timberpress.com

Wildflowers of the Rocky Mountain Region

by Denver Botanic Gardens
Paperback - 499 pages (August 21, 2018)
Timber Press
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Twelve years ago, I wrote a glowing book review for the first of Timber Press's Field Guide series, *Wildflowers of the Pacific Northwest* (see the summer 2006 issue of *Menziesia,* published by the Native Plant Society of BC). In the time since, Timber Press has added a dozen or so more volumes to the series, varying by organisms (e.g., wildlife, butterflies) and US & Canadian regions. *Wildflowers of the Rocky Mountain Region* is the fourth volume on wildflowers in the series (following PNW, New England and Texas) and the second volume for the Rocky Mountain region, after a work published on mushrooms of the area.

Wildflowers are at the heart of the book, although some of the showier flowering shrubs are also included. The area covered by the book spans the Rocky Mountain Region, including parts of British Columbia, Alberta, Washington, Idaho, Montana, Wyoming, South Dakota, Utah, New Mexico, and, of course, Colorado.

To the original adjectives I used to describe the first volume (must-have, quality, user-friendly, colourful), I think "timeless" must be added. Timber Press discovered a winning formula with the very first volume in the series, and little has evolved in the structure and layout over twelve years. In a side-by-side comparison, I note only a few changes: the addition of a small "What do the scientific names mean?" section, one page on the impact of climate change to the region's flora, an additional introduction by Panayoti Kelaidis drawing upon his years of experience in the Rocky Mountains, and the removal of cross-referencing to differently-coloured species of the same genus at the bottom of the field guide pages (allowing for a few more words in the species descriptions).

Presuming the physical quality of the publication is the same as the first volume, this should be a long-lasting book. My copy of *Wildflowers of the Pacific Northwest* has held up to twelve years of moderate use, and I expect it to last at least a dozen more. The trade-off for the higher quality of paper and a larger-than-pocket size, though, is a heavier book. This can make it impractical for longer hikes. Where both books excel is as an accompaniment to road trips that span multiple states / provinces, removing the need to carry along books for every jurisdiction.

Each of the main 1189 wildflower entries includes the scientific name and synonyms, scientific family name, common name, habitat information, abundance, time of year in flower, height, description of the plant, and status as native or introduced. Human uses of the plants are occasionally added. Although the descriptions are primarily factual, some poetry can be found from time to time; regarding the insides of the flowers of *Calochortus nuttallii*, "Intricate patterns vary: highly ornamented specimens are reminiscent of gazing through a kaleidoscope."

All entries are accompanied by an in-focus and properly-exposed photograph, with an overall photographic emphasis in showing a flower or inflorescence with leaves (and sometimes a small aspect of habitat, if practical). The third component for every entry is a distribution map, which is shaded based on presence within state counties or provincial forest districts. For practical reasons, only the core rectangle of the Rocky Mountains is included in the distribution maps. This means that only perhaps 5-10% of the Rocky Mountains in South Dakota are present in the maps, and the northern parts of the Rockies in BC and Alberta are absent. However, one can easily extrapolate the range from bordering county or district occurrences.

The book is organized in a way that is approachable for all users. Sections of the book are first organized by wildflower colour. These are shown on the page edges, making it easy to quickly start in the appropriate section when necessary. The sections are then grouped by number of petals, general inflorescence type, and flower symmetry. I prefer a taxonomic approach, but (and I'll quote directly from my previous review) "the user-friendly approach accompanied by the emphasis on scientific names and plant families throughout the book is a far better way to design a book for mass use while simultaneously promoting the importance of scientific terminology and organization."

While the bulk of the book consists of these wildflower entries, the taxa are placed in the context of their habitats by a detailed chapter on the area's ecoregions. The introduction by Panayoti Kelaidis provides facts and figures on the area, as well as reminders on how to safely and responsibly interact with nature. There is also a section summarizing the plant families featured in the book, a couple pages on sources and resources, a glossary, and basic plant morphology illustrations on the inside covers. A ruler in both inches and centimeters lines one edge of the back outside cover for easy measurements while exploring.

Taxonomically, almost all of the scientific names and families have been updated to modern assertions, e.g., all *Dodecatheon* are subsumed into *Primula*, *Polanisia dodecandra* is placed within a valid Cleomaceae, and *Triantha glutinosa* (syn. *Tofieldia glutinosa*) is placed within Tofieldiaceae. There are a few exceptions; it seems *Chamaenerion* should have been used instead of *Chamerion* for what some may know as *Epilobium angustifolium* or its closest relatives, and *Rubus parviflorus* is still used instead of *Rubus nutkanus*. The effort by the authors to follow this approach is appreciated by those like myself who prefer names to best reflect current scientific understanding. For those familiar with names used for taxa of the region from older field guides or floras, it presents an opportunity to see the modern names in use, even if one doesn't agree.

It is hard to find any criticism for books in this series. Perhaps one can wonder why the spirit of innovation with respect to field guides found in the first book in the series hasn't continued with these subsequent volumes, but that is hardly something the publisher can be faulted for. Why mess with something that meets all reasonable expectations for a field guide and more?

Highly Recommended.

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Gardens Rock

By David Sellars

Show Plants in the Fall

Many of us enjoy the AGC-BC Spring Show but can you imagine enough entries from our club for a plant show in the fall? We get some nice plants brought in for the fall meetings but they barely cover a couple of tables. In October I was invited to speak at the Scottish Rock Garden Club (SRGC) annual Discussion Weekend in Pitlochry and the event included their regular Autumn Show. A large room in the stately Atholl Palace Hotel was full with a great diversity of plants many in full flower.

Fall flowering gentians and a large variety of *Cyclamen* species provided a palette of blue, white and pink with various hues in between. *Crocus* and *Colchicum* were well represented and there were a large number of plants new to me. *Massonia pygmaea* subsp*. pygmaea* has short tufts of white flowers between prostrate leaves. Pink flowered *Oxalis polyphylla* var. *heptaphylla* caught the eye and an amazing *Townsendia exscapa* was flowering out of season. The *Saxifraga fortunei* cultivars had a startling variety of foliage and flower particularly 'Silver Velvet' which had huge soft purplish leaves. We were delighted to see a tiny pink *Clematis heracleifolia* 'Pink Dwarf'. We grow *Clematis heracleifolia* at home as a medium sized fall flowering shrub with tiny white flowers so it was interesting to see a miniature cultivar in a pot. The Best in Show was awarded in the category of distinct autumn coloured foliage. *Larix kaempferi* 'Nana' was at a perfect golden stage and was a deserving winner of the SRGC Forrest Medal.

There were also some outstanding sale tables of bulbs and plants including a number of *Dionysia* species. I was particularly taken with the huge octopus-like root crowns of *Eremurus* 'Joanna' for sale. The *Eremurus* root crowns available to purchase in BC are tiny by comparison and it can be difficult to get them established.

Attending our first SRGC Autumn Show was an inspiration to try growing some of the wonderful fall flowering plants on display. And I would love to get my hands on some of those plump *Eremurus* tentacles!

Images, clockwise, starting at top left: Show table, *Townsendia exscapa* flowering out of season, *Eremurus* roots, and *Clematis heracleifolia* ‘Pink Dwarf’. Images by David Sellars.

Editor's ID Challenge

Do you know it?
If you're not familiar with this plant, but your instinct is to yell WEED, I wouldn't blame you. But this little autumn bloomer (a trait many of the ornamental plants in it's large family are grown for) has been no trouble in the Alpine Garden at UBC. It grows at a moderate rate, only really getting about 25 cm tall, and doesn't seed around at all. Quite well behaved.

It does resemble and is closely related to the genus *Centaurea*, often called knapweed (there are two species in this genera listed by the Invasive Species Council of BC). One of the features *Centaurea* and the mystery plant have in common (a trait of all Asteraceae), is a whorl of bracts (phyllaries) below the flowers. It's my favourite feature of *Centaurea montana,* and what you grab and rip off *Cynara cardunculus* (artichoke), to get at the delicious heart. It is also one of the features that taxonomically separates the mystery plant from *Centaurea.* As you'll notice, unlike a *Centaurea* (or *Cynara*), each phyllary is smooth, without a spine or membranous appendage.

Serratula seoanei is a subtle, but welcome addition to the European section of the Alpine Garden.