

# Alpine Garden Club of British Columbia



*Actaea elata* growing at UBC Botanical Garden.



## AGC-BC 2021

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**Please Note:** Personal contact information such as phone numbers will no longer be published in the Bulletin, but will be available to members on the website [www.agc-bc.ca](http://www.agc-bc.ca)

## Membership Renewals

If you have not already renewed your membership for 2021, 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. Please contact Jane at [membership@agc-bc.ca](mailto:membership@agc-bc.ca) for the mailing address.

Or renew online using your credit card through PayPal on our website [www.agc-bc.ca/membership-renewal](http://www.agc-bc.ca/membership-renewal)

**Membership status can be checked on the website, after you sign in.**

**AGC-BC meetings** are typically 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 check Upcoming Events or website for information during the pandemic. To accommodate members and presenters from different time zones, meeting day and times may vary.**

## 2021/2022 AGC-BC Upcoming Events

- **Nov 10, 7:00 pm - 9:00 pm** -AGC-BC **AGM** Annual General Meeting
  - David Sellars: Hunt Mountain: The Crowning Glory of the Bighorns.
  - Zoom Meeting
- **Dec 8 - TENTATIVE - Holiday Event and Plant Auction**
  - In person event, UBC Botanical Garden, Reception Centre.
  - Confirmation and details closer to event date. Please watch email and website for more information.
- **Jan 12, 2022, 7:00 pm - 9:00 pm** - AGC-BC General Meeting
  - Angela Atkinson: The Magic of Seeds - germination and dormancy
  - Zoom Meeting

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

## From the Editor

Laura Caddy

Hello everyone! I hope this finds you all safe and well. Autumn is often a time of great relief for me both personally and professionally, because it means the end of summer - my least favourite season. After the very hot, intense summer we had in Vancouver, it doesn't bother me that we seemed to have skipped past fall and jumped straight to winter rains. But I've heard our friends to the east (Alberta and Ontario specifically) have had an amazing autumn - I hope our members there were able to soak it up.

In this issue of the Bulletin we have a couple articles that compliment the Seed List. The first is a wonderful, detailed article on how to grow those lovely but troublesome Ericaceae plants from seed. Dennis Bottemiller is an expert in this field and generously shared his tips and tricks. In anticipation of this I collected a few of my favourite little *Gaultheria* in the UBC Alpine Garden and contributed their seed to the Seed List. Perhaps those tentative to grow these in the past will feel inspired and empowered to take on the challenge after reading Dennis's piece. The second is an article on *Actaea elata*, a rare native plant that will also be available to order from the seed list. And in addition to our regular Gardens Rock and ID Challenge, we have a review of a new publication from the Cyclamen Society in the UK. It contains in depth information on the genus as whole, including information on collecting and growing *Cyclamen* from seed.

Finally, in the New Year I will be transitioning out of the role of Editor and Chris Byra will be stepping in until we can find a permanent replacement. It has been a pleasure to serve as Editor and I still plan to contribute and share what's growing at the UBC Alpine Garden.

Thank you so much for the support I've received in the role as editor and an extra thank you to everyone that have contributed articles. Our group has incredible knowledge, and what makes our Bulletin unique is when members share their stories, pictures and garden experiences.

## Editor's ID Challenge



Too easy? Too hard? Let me know at [bulletin@agc-bc.ca](mailto:bulletin@agc-bc.ca)

# Club News

## Fall Sale

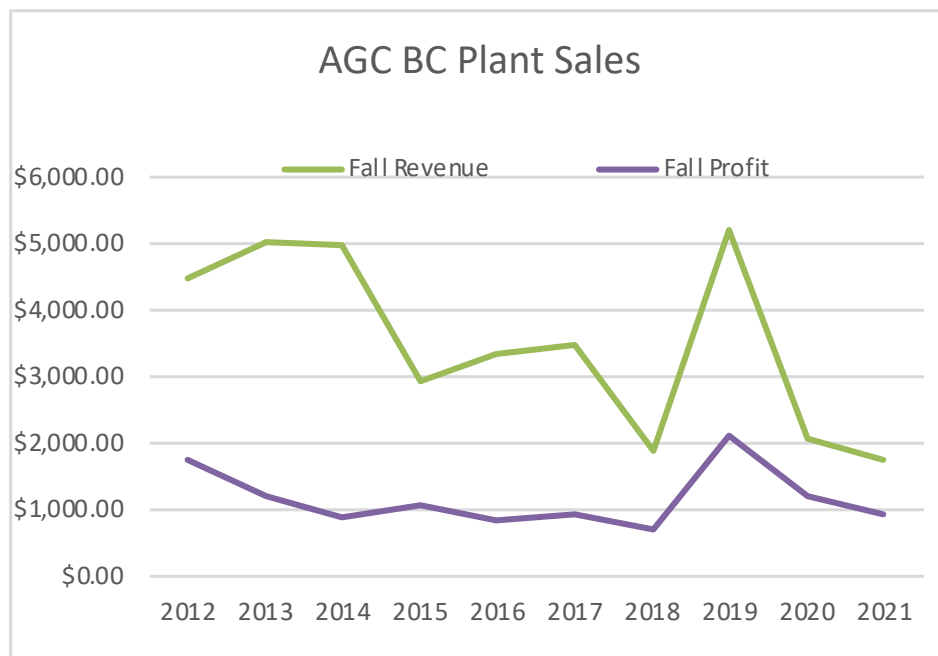
Chris Byra

The AGC BC Fall Plant Sale, held at Dart's Hill Garden Park, was an interesting affair. Not only did we have a great selection of plants but everyone had an opportunity to watch Paul Spriggs build and plant three different types of crevice gardens in large troughs. The demonstration can be watched on YouTube at:

<https://www.youtube.com/watch?v=Il9CPOJuuyA>



The rain mostly held off but resulted in a modest but enthusiastic turnout. Our net from sales was similar to previous years, \$926. The chart below describes the last nine years revenue and net profit from fall sales. Note that the high sales in 2019 were achieved when the sale was held in conjunction with the Treasured Bulb Sale at the UBC Botanical Gardens. Oh, how we long for a return to normal times so we can, with the approval of FOGS, revisit this location for future fall sales. There were only five sellers however the club table was larger than normal with donations from members that often sell (Linda Verbeek, David Sellers).



## Club News

### **Proposed Bus Trip to Victoria to visit Vancouver Island Rock & Garden Society Show & Sale Saturday April 2, 2022**

Our club is tentatively looking at booking a bus for members to travel to Victoria on Saturday April 2, 2022.

Members would need to travel to Tsawwassen and park at the ferry terminal and be a foot passenger on the 9 am ferry. Bus would pick our group up at the Swartz Bay ferry terminal at around 10:30 am, take us to the VIRAGS plant show and sale and also visit several Victoria members' gardens. We would be back at the ferry terminal to get the 5:00 return ferry to Tsawwassen.

Cost would be \$20 per person and group is limited to 24 people. Our club will be subsidizing part of the bus cost. All members participating will need to show proof of vaccination and trip/travel will of course be subject to any and all prevailing health requirements at time of travel. This trip is for members only, due to our club insurance requirements and restrictions.

VIRAGS is celebrating its 100<sup>th</sup> birthday next year, and the club is planning a great show and sale.

Please contact Rosemarie Adams at [rose\\_marie\\_adams@hotmail.com](mailto:rose_marie_adams@hotmail.com) and let her know if you are interested in participating in this bus trip. Our bus seating limit is 24 people, so first come, first served.

## Woody Ericaceae Grown From Seed

*Dennis Bottemiller*

To grow a rhododendron from seed, and rhododendron seed is very small, is thing of great beauty. The process I mean but the plant too in the end. I have used the process I will describe here on many different species within Ericaceae (the *Rhododendron* family), but I will use rhododendron as the reference genus as that is where most of my experience lies.



Good seed and strong germination in a rhododendron seed pot.

It is often easy to find seed on plants you would like to grow. It ripens on your garden plants or can be found while hiking at the right time of year. Here is the process that has worked for me in 24 years of seed growing for the Rhododendron Species Botanical Garden.

Three things are necessary: good materials, space for proper conditions and speed.

The most important item in the materials category is the seed itself. Seed can be collected from garden plants anywhere but presents a problem, you only know one of the parents. Open pollinated garden seed can be wildly variable, and plants grown from it may have little resemblance to the plant the seed came from. Rhododendrons are notoriously promiscuous. This problem can be mitigated somewhat by controlling who the parents are by hand pollination which takes a little more planning and foresight. This of course is how hybrid plants come about and you can breed desirable traits into the plants you grow if that is your purpose but that's a different topic. If you are looking for plants of a particular species, then it is best to find a native population of it and collect from there. Ethically. Yet another topic.



Next in order of importance for materials is the germination medium. I have tried many different media for seed production of ericaceous plants, both commercial products and things I have dreamed up on my own, and the one thing that has proven to be outstanding is live sphagnum moss. Second in line is dried and re-constituted sphagnum and from there effectiveness of medium drops off steeply. Live sphagnum is not necessarily easy to come by, but there are ways. We currently grow our own which turns out to be only moderately difficult but entirely worthwhile. After harvesting the sphagnum, we let it dry a little and then rub the moss through a riddle of ¼ inch hardware cloth which creates a fluffy and beautifully textured material that is highly absorbent, gives up its water easily and suppresses fungal growth to boot! Two things to watch out for: weed seeds in collected moss and the speed at which the moss grows can sometimes overtake the seedlings. We'll talk more about speed and timing later. Other media can be used but anything that becomes dense with time and excludes abundant oxygen should be avoided.

Seed germination is driven by chemical reactions. Those reactions are sped up with heat and slowed by lack of heat. Most ericaceous seed requires light to germinate and lots of oxygen in the rhizosphere and yet in the early stages of growth they need an atmosphere of very high humidity so tender tissues do not dry out.

To achieve these conditions, I fill small square germination pots to just below the brim with the processed slightly damp sphagnum, sprinkle clean seed evenly on top and place them in a mesh flat which fits inside a watertight flat. A clear plastic lid fits tightly over the top to let in light and keep in moisture. In our greenhouse these enclosed flats are placed on bottom heat at 70 F (21C) with sodium vapour lights about 6 ft. (2M) above. With creativity, these conditions can be scaled down even to the size of a bookshelf if need be.

Most rhododendrons and many other genera within Ericaceae will germinate in 2-5 weeks of being placed in proper conditions. Seed can be germinated any time of year but in artificial conditions conducive to production of plants on a nursery scale, late November through December works best. If sown in that

time frame most of the plants can be grown quickly enough to be transplanted twice and moved outside into cold frames before the following winter. In this way they will quickly adjust to their natural rhythms and become saleable or ready for the garden by their 3<sup>rd</sup> year. If seedlings must be overwintered indoors, they will often languish and deteriorate and by the time they are able to move out it will take 2-3 years to recover enough to grow properly again - if they ever do.

As germination begins, I look at the seedling pots every day and segregate the growing ones into their own flat. I have done close to 300 germination pots at once so segregating them into flats with similar growth rates helps to keep treatment of plants at different stages of growth more uniform. I leave the lids on the flats 24 hours a day until I have strong germination, then I will take the lids off for an hour in the morning to let the cotyledon surfaces dry and then replace the lids. My lights are on a timer to run 16 hours and off for 8 to rest the young plants.

As the first true leaves develop, I allow an increasing amount of time for fresh air with lids off. This drying and air circulation helps to harden the tissues and reduces the probability of fungal growth which can easily defeat young plants. At the same time, I also begin fertilizer treatments. I start fertility with a bottom soak of  $\frac{1}{4}$  strength soluble acidic fertilizer such as Mir-Acid every week. Weekly – Weekly. And remember those mesh flats I placed the pots in? I just fill a watertight flat with solution and lift the mesh flat full of pots into the solution and let it sit for 15 minutes. The sphagnum medium is super-efficient at absorption, then I remove the mesh flat, set it tilted at an angle to speed drainage and put another mesh flat in to soak. This is also how I do regular watering between fertility treatments. Did I mention that I collect and use rainwater for early seedling growth? I used city water when I first began using sphagnum and the moss did not like it and the seedlings didn't either, so I tried rainwater and the difference was dramatic. Vulnerable young plants have a negative reaction to chlorine and fluorine so an easy solution to this problem is to collect rain for them.

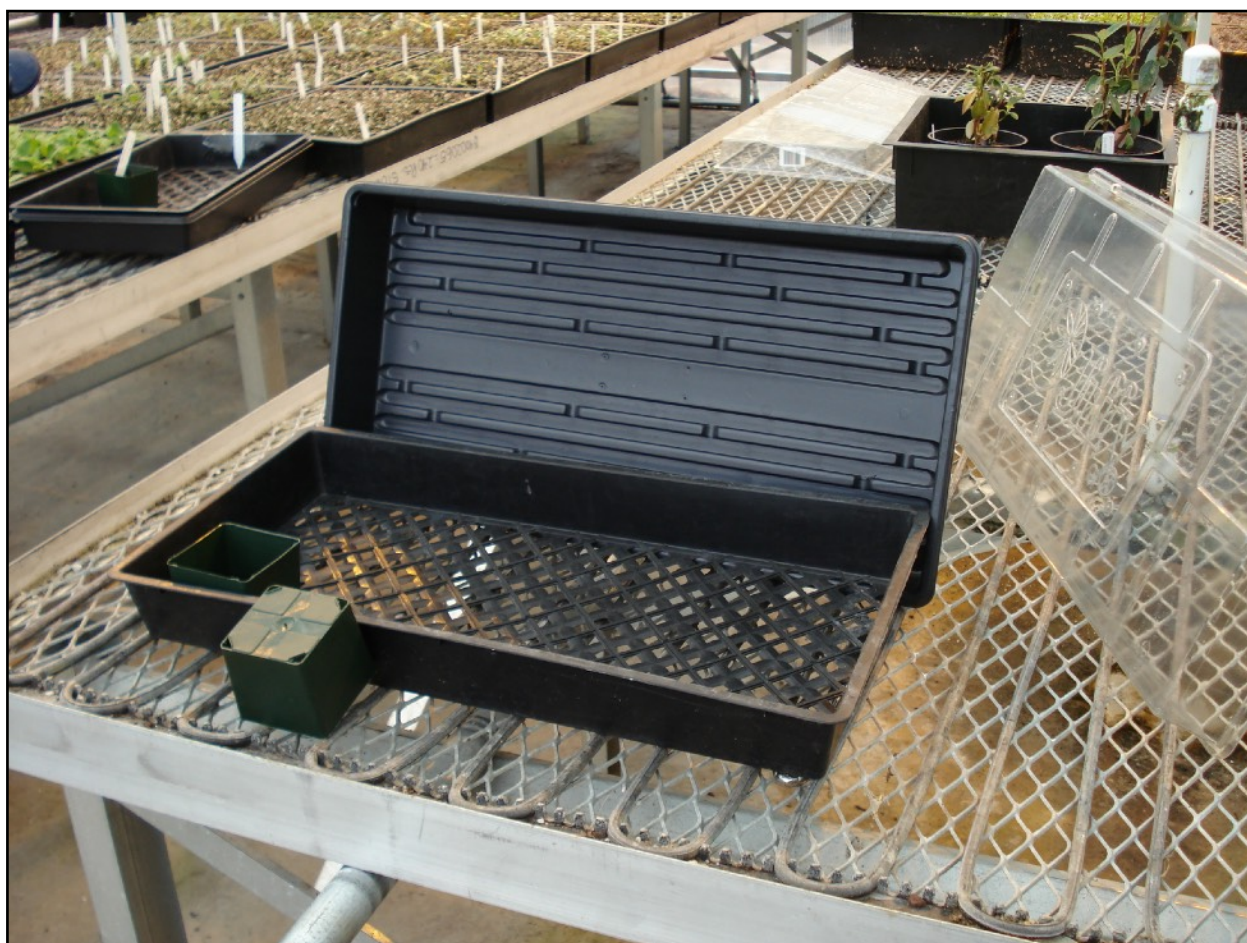
As the seedlings continue to grow, so does the moss. It may become necessary to do some careful moss pruning with fine pointed secateurs. Again, it is important to keep the seedlings growing fast to keep ahead of the moss.

Not long after the true leaves are fully expanded some of the plants will be ready for their first transplanting. The tiny plants are ready to move after they have been hardened off by increasing their open air-time to 24 hours per day for a week or two. I use shallow open flats for this, and the seedlings are placed about an inch (2.5cm) apart in rows. The medium I use for this is a mixture of fine bark and pumice at 3:1 ratio. In the moss the fragile roots are easily teased apart as I separate the plants. I plant them in the new medium burying the stem right up to the cotyledons. At this stage of growth roots will arise from a buried stem much like a cutting and the seedling should sit upright and tight in the new flat. They are watered in gently with a water can that has a fine rose with rainwater and re-placed on bottom heat. After they have settled in for a couple of days, I continue fertilizing them with soluble and rain. I use rainwater collected from the roof of the greenhouse until the season dries up and I am forced to use city water. When we experience a dry spring and the seedlings are weaned too early from rainwater, I notice a marked increase in the occurrence of botrytis and powdery mildew. At some point in the spring growing cycle, it becomes too much work to fertilize with a watering can and my back hurts from carrying water all the time, so I top-dress the flats with a meagre amount of an encapsulated slow-release fertilizer to save myself from the tyranny of too many seedlings.

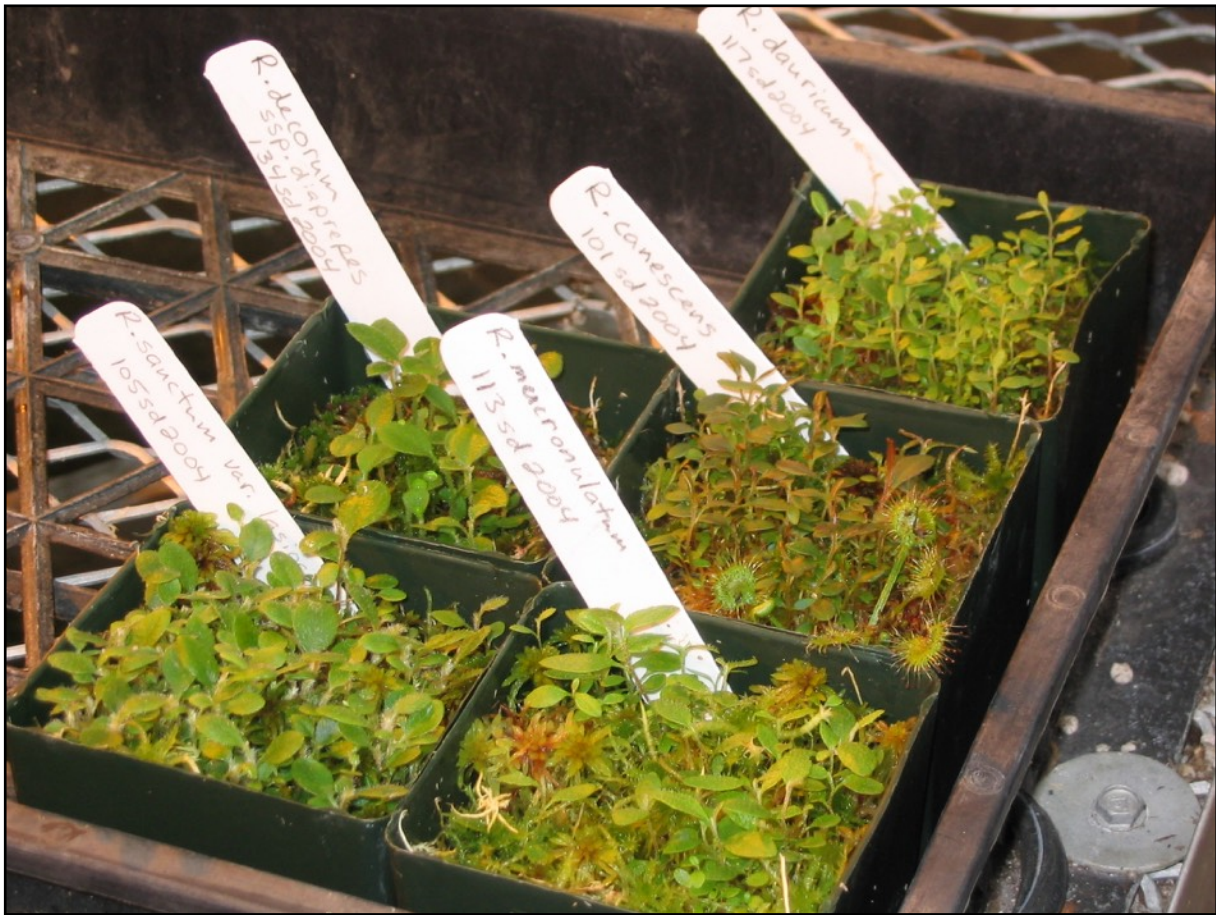
Again, speeding the new plants along is important here so that we can get them out of the greenhouse environment and into the “natural” world before cold weather sets in, so we leave them on bottom heat and under lights and make sure they are well fed. I watch them carefully as summer approaches to determine when the root masses just begin to grow together and then they are ready to move again. This time they are moved into what we call band pots that are 3”x3”x5” deep and fit into flats of 25, using the same medium as in the open flats. Now the plants are removed from bottom heat but remain in the greenhouse under lights for at least a few weeks and then moved outside to

poly-tunnel houses, (cold frames) in the August / September time frame. This way they can spend their first winter in natural light and temperatures. We begin fertilizing again early the following spring in late February, early March and by 15 to 18 months from the sowing date many of the plants will be ready to transplant again into saleable size containers and then be ready for sale or placement in the garden the following spring.

There are many variables to think about for growing seedlings, but with thoughtful creativity the methods described here can be modified to any scale and you can successfully grow woody plants all for yourself. The journey is rewarding!



Germination equipment and hardware.



Above: Strong germination in the seed pots, with *Drosera* as a weed.  
Below: Size of seedlings at first transplant.





Above: Spacing of seedlings at first transplant.  
Below: First transplant into a shallow open flat.





Above: Second transplant into individual pots.  
Below: Third year seedling.



## Plant Portrait

### *Actaea elata*

Ben Stormes

The genus *Actaea* (Ranunculaceae) is composed of 30 species found throughout the temperate Northern Hemisphere. The genus as it is understood now was once represented by three genera; *Actaea*, *Souliea*, and *Cimicifuga*. Shifts in taxonomy have ebbed and flowed, lumping and splitting these plants over the decades. Regardless of what we choose to call them, they are all beautiful plants and many species have become reasonably common in the horticultural trade.



Canada is home to four species, with two of these native to British Columbia. *Actaea rubra*, commonly known as the red baneberry, is the more common of our provincially native species and is frequently found in lowland and montane forests throughout the entirety of the province. As lovely as it is, red baneberry is not the focus of this article.

The much rarer of our provincially native *Actaea* is *Actaea elata*, so rare that it is recognized provincially and nationally as a critically imperiled endangered species. An endemic to the Pacific Northwest, the range for this species in BC is limited to seven known populations, all located in the Cultus Lake - Chilliwack River area of the lower Fraser Valley. It is found on mid-slope benchlands in mesic to wet-mesic forests. Recent (2004) taxonomic work has recognized two varieties within this species. The distribution of *Actaea elata* var. *elata* is British Columbia, Washington, and northern Oregon, while *Actaea elata* var. *alpestris* has a very restricted range to just southern Oregon. Morphological differences between the varieties require close inspection, mainly the absence/presence of sheathing scales at the proximal stem node, the nature of leaf vein pubescence, and number of pistils per flower.



*Actaea elata* var. *elata* is a herbaceous perennial, growing from a central crown forming modest clumps over time. Happiest growing in rich organic soils in bright open shade, this long lived species persists for decades, waxing and waning in vigor as the forest canopies open and close over time. Large, boldly textured biternately compound leaves create mounds about 40 cm to 60 cm tall and equally as wide. Above this, flowering stems arise to a height of between 120 cm - 180 cm, with a few cauline leaves of decreasing size appearing up the stem. These stems terminate in a sparsely branching panicle of small, delicate white flowers in mid-summer and last for a month or so. Each flower is quite small, and the showy aspect of the flowers is largely due to the abundantly produced glisteningly white stamens, numbering 20 - 30 per flower and giving each an explosive pom-pom like appearance. Though tiny, these flowers are closely packed along the panicle branches and may number from 50 up to 900 on mature healthy plants in good light. As the season progresses, the flowers are replaced by small brown follicles, each containing up to 10 dark brown seeds.

In 2019 UBC Botanical Garden was fortunate to receive numerous plants of wild-collected origin from BC Wild Heritage, a native plant nursery that at the time was growing a sizable crop of this plan for reintroduction purposes. Since planting, many of these plants have flourished, producing larger and healthier plants each season. A good flowering in 2021 has resulted in abundant seed and some of this was harvested and shared with the Alpine Garden Club of BC for the seed list. Germinating the seeds will be most successful with a two week warm moist period followed by a 3 month cold moist stratification. Germination may be erratic, and plants may take a few years to reach blooming size. But when they do you can enjoy these beautiful, rare native plants in your own garden, and continue to share seed with others keen to appreciate them as well.



*Actaea elata* var *elata* received as plants in 2019, now established at UBC Botanical Garden. Look for seed from these plants on this years Seed List.

## Book Review

Laura Caddy

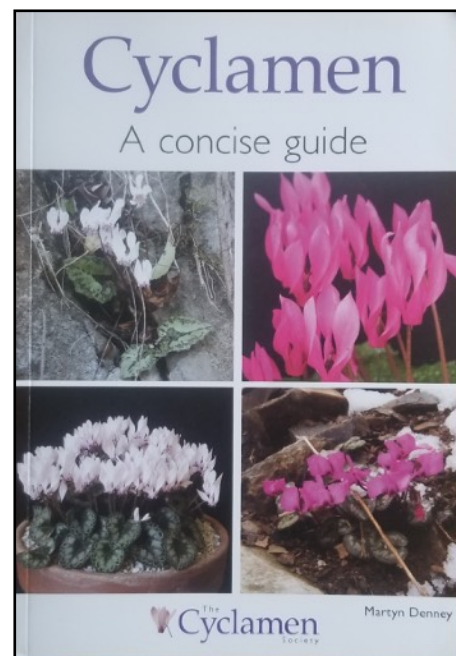
### **Cyclamen - A Concise Guide**

Martyn Denney, The Cyclamen Society, London, 2021

This summer I received an email from Martyn Denney informing me of a new publication from the Cyclamen Society, which is based in the UK. He offered to send a copy to the AGCBC for review and I happily accepted.

Certainly a lot of information can be found online these days, but I still turn to books very often, especially monographs. Because monographs focus on a specific topic (e.g. a genus of plants) they are a fabulous resource for gardeners. I use them especially for identification purposes, particularly when the plant is not of known, wild origin (which therefore excludes the use of Floras as they focus on plants within a specific region). Beyond identification, genus specific publications offer a deep dive into a group of plants and this *Cyclamen* guide is no exception.

I am amazed at what was able to be packed into a relatively small (about 16 cm x 24 cm) soft cover book. The beginning of the book focuses on the genus as a whole, including basics such as plant morphology, with drawings as well as pictures. I especially appreciate that these are labelled with genus specific terminology, such as floral trunk and auricle. Growing information is inclusive, covering home (indoor), conservatory/greenhouse, and outdoor gardens, as well as a chapter on pests and disease. There is also a detailed section on growing *Cyclamen* from seed, where I learned that all *Cyclamen* fruit ripen at the same time of year, regardless of flowering time. How neat! Before the chapter on the individual species there is information on the classification of *Cyclamen* with descriptions of the subgenera, but does not include a dichotomous key. This is a bit of a disappointment for me, as I use keys a lot in my work, but not surprising, considering this is a guide and only 104 pages.



The majority of the book is dedicated to the individual species. All the expected topics are covered, including distribution and habitat; description and yearly growth cycle; forms, varieties and cultivars; and cultivation information. Even tuber (yes - they have tubers, not corms) and root morphology is included, which is handy when identifying dormant plants. Personally, this came up for me this last summer when I was wanting to move *Cyclamen coum* out of area where it was mixed with *C. hederifolium*. One can spot the difference between the two based on where the roots arise from the tuber. Twenty four species in total are recognized, including *Cyclamen confusum*, *C. elegans*, *C. maritimum*, and *C. rhodium*. Even the rare *Cyclamen somalense* has a page. I had never heard of it and though it is unlikely I will ever see or grow it, it was great to read about it.

With the publication being compact and concise, one may think it is short on images, but it is not! I'm amazed at how many they were able to pack in of plants in their natural habitat and in cultivation. I was quite taken by an exceptionally lovely photo *Cyclamen elegans* perfectly at home and very happy on a mossy log in the Hyrcanian forests of the Elburz Mountains, northern Iran.

In conclusion, if you're at all interested in *Cyclamen*, I think this little book is a steal of a deal at only UK£5.00 (plus shipping at cost). It can be ordered from the Cyclamen Society directly (<https://www.cyclamen.org/publications/>) and payments can be made through Paypal.



*Cyclamen hederifolium* in the Alpine Garden at UBC Botanical Garden. Photo by Laura Caddy



## Plants for pollinators

David Sellars

In early September I noticed an exotic looking bee on one of our *Agapanthus* happily finding nectar in this South African plant. Many of our late flowering plants are non-native but the insects don't seem to care. The current politically correct trend is to cultivate native plants for insects but many of our native plants have finished flowering by the summer and others have to take over. For example bees love the late flowering onions such as *Allium senescens*. But are native plants better for sustaining pollinators?

Happily there are researchers from the Royal Horticultural Society who have been looking into this.

<https://www.sciencedaily.com/releases/2015/08/150811092048.htm>

The research reveals a mixture of native and non-native ornamental plants may provide the best resources for pollinating insects in gardens, as native plants aren't always the first choice for pollinators visiting gardens. In addition, non-native plants can prolong the flowering season providing an additional food source. By tending to flower later than native and Northern Hemisphere varieties, Southern Hemisphere plants provide much needed nectar and pollen long after other plants have gone to seed.

However plant-eating insects that account for most insect diversity, depend on a limited number of plants for survival. Host plant specialization is attributed to several factors, including the need for feeding insects to develop ways to get around plant defences, like the production of chemical compounds that would be fatal to other species. Plant-eating species would prefer you to grow native plants but who wants those insects in the garden anyway?



A bee visiting an *Agapanthus* flower.

## Editor's ID Challenge

Does it look familiar? Perhaps it would be helpful to know the picture was taken in October, and that it is one of only a handful of plants that regularly and reliably bloom in the autumn in the Alpine Garden at UBC. This fact is reflected in its common name.

As David mentioned in Garden's Rock, there are not many native plants that bloom this late in the season. This plant is no exception - it is native to Japan and can be found in the Asian section of the Alpine Garden. It is quite happy on the hot, south westerly, irrigated slope where it resides.



Some may know this plant as *Allium virgunculae*, or as a variety of that taxon. It was elevated to the status of species in 2009 (inquiring minds can read the paper here: [https://www.jstage.jst.go.jp/article/apg/60/2/60\\_KJ00005878344/\\_pdf](https://www.jstage.jst.go.jp/article/apg/60/2/60_KJ00005878344/_pdf)). The most notable feature that separates it from *Allium virgunculae* is that its flowers open upwards and out mystery garlics flowers sideways or downwards (picture left). That definitely doesn't deter insects - it is often covered in bees, especially on a warm sunny days.



*Allium kiiense* is also known as fall-flowering Kii garlic.