NORTH AMERICAN ROCK GARDEN SOCIETY

The Rock Garden

QUARTERLY

FALL 2021

CONTRIBUTORS

All illustrations are by the authors of articles unless otherwise stated.

Erika Schroedersecker developed a passion for plants, especially bulbs, as a young girl. She built a rock garden, water garden and designed perennial beds. As a teenager she began buying bulbs from throughout North America. Erika quickly took over her parents' garden and branched out from there, growing rare and challenging plants. Erika's present garden comprises a cold greenhouse, perennials beds with woodland and herbaceous plants as well as alpine troughs and containers.

Kathy Purdy, the queen of colchicums, gardens in upstate New York and publishes the award-winning website ColdClimateGardening.com. She is available to speak on colchicums and other cold-climate gardening topics.

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Front cover: *Colchicum* 'Giant', Kathy Purdy

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NORTH AMERICAN ROCK GARDEN SOCIETY

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From the Editor

I'M WRITING THIS letter from the editor from my office in my new home in South Bend, Indiana. After four years in Williamsburg, Virginia, my husband and I have moved back to the north for a fantastic new job that he started here this summer. The new house comes with a small, sunny lot with glorious, well-drained sandy loam soil: perfect conditions for a rock garden. I can't wait to get my new garden started. Planting will have to wait until spring, however, as the previous owner let a nearly complete catalog of the invasive weeds of the Midwest take over the space. I have a lot of cutting and clearing and digging out to do before I can start getting beds ready for planting.

Growing up in northern Ohio and then living and gardening in Michigan for a decade, the Great Lakes region, in USDA Zones 5 or 6, is the gardening climate I'm most familiar with. Our four-year stint in the hot, humid, land of Zone 7b was quite the learning experience. I think, more than anything, I've learned to get over zone envy. Yes, it was quite delightful to be able to grow winter-flowering camellias and have four different species of aloes (or former aloes, depending on which taxonomist you talk to) thrive outside in my rock garden. Yes, I loved walking around town and seeing huge specimens of *Magnolia grandiflora* covered with absurdly huge fragrant flowers. But, now that I'm back in a colder zone, I'm excited to plant a collection of dwarf spruces and firs, indulge in alpine daphnes, and grow the biggest, bluest delphiniums you've ever seen. No *Magnolia grandiflora*, but my new home has a huge sugar maple in the front yard, and I can't wait to soak up the incredible display of fall color. One set of plants isn't better than the other, and frankly, I'd rather spend my time enjoying the plants that love the zone I am in than mourning the ones that hate it.

I hope all of you take a moment to appreciate the plants that are the wonderful, carefree, locally-adapted stars of your garden, appreciate what is working rather than longing for what you can't have.

Tender Bulbs in a Cold Climate

Erika Schroedersecker

SEVERAL YEARS AGO I acquired a small greenhouse, just 8.5 feet (2.6 m) long and 4.5 feet (1.4 m) wide that a friend had built and used for cactus. He no longer needed it and offered it to me while he built a huge walk-in greenhouse. I jumped at the chance and was giddy with delight. It was something I had dreamed about for years, but I wondered how would I convert this unorthodox greenhouse into something I could use year-round and make it work for what I wanted to achieve?

The process was trial and error in the beginning, but I finally got what I needed. I use a heater during cold weather and a fan during the winter to take out the warmer air on sunny days. I installed two thermostats; one for heating and one for cooling. I heat the greenhouse to between 41°F and 50°F (5-10°C). When it reaches approximately 54°F (12°C) in the winter the fan turns on to bring in cooler air. I also have two fans on the floor of the greenhouse to circulate air continuously. As anyone with a greenhouse can attest, I worry about losing power in winter and my collection perishing. This happens at least once each winter, but luckily I've always been able to resolve it in time to save my plants. Since the pandemic began I've been taking advantage of working from home, doting on my plants even more, and nipping any potential disaster in the bud.

The greenhouse faces south to collect the most light possible, particularly during the winter. I have a bit of whitewash over the polycarbonate panels to provide some shade. In the summer months, when many of my plants are dormant, I take some of them out of the greenhouse and place them on my stairs as well as amongst the troughs and other containers in the garden. The smaller pots tend to stay in the greenhouse. Because I have the whitewash it gives slight shade but still enough sun to ripen the bulbs. Most of my bulbs require a hot summer dry baking which I provide by ferrying them back into the greenhouse or garage when it rains. This can be tedious but necessary to keep them dry. For soil I use a well-drained mix of compost, grit, and coarse sand equal parts, sometimes making tweaks by adding pumice depending on the species grown. I fertilize with tomato fertilizer as I find this to be an excellent bulb fertilizer.

Once I got the greenhouse in place and figured out the heating and cooling, I could, at last, indulge my passion for growing bulbs and other plants under glass that are tender, fussy, and require controlled conditions. I live in Toronto, Ontario, Canada where we have a

continental climate marked by cold winters and hot, humid summers. I have always been drawn to bulbs since I was a child and began collecting and importing at age 14, something which has never changed.

What I love about bulbs is that they bloom in all seasons and most (but not all) have a dormant period. I grow bulbs from all over the world with a particular focus on bulbs from South Africa and the families Amaryllidaceae and Iridaceae.

Just a small greenhouse allows a wide range of tender bulbs to thrive.

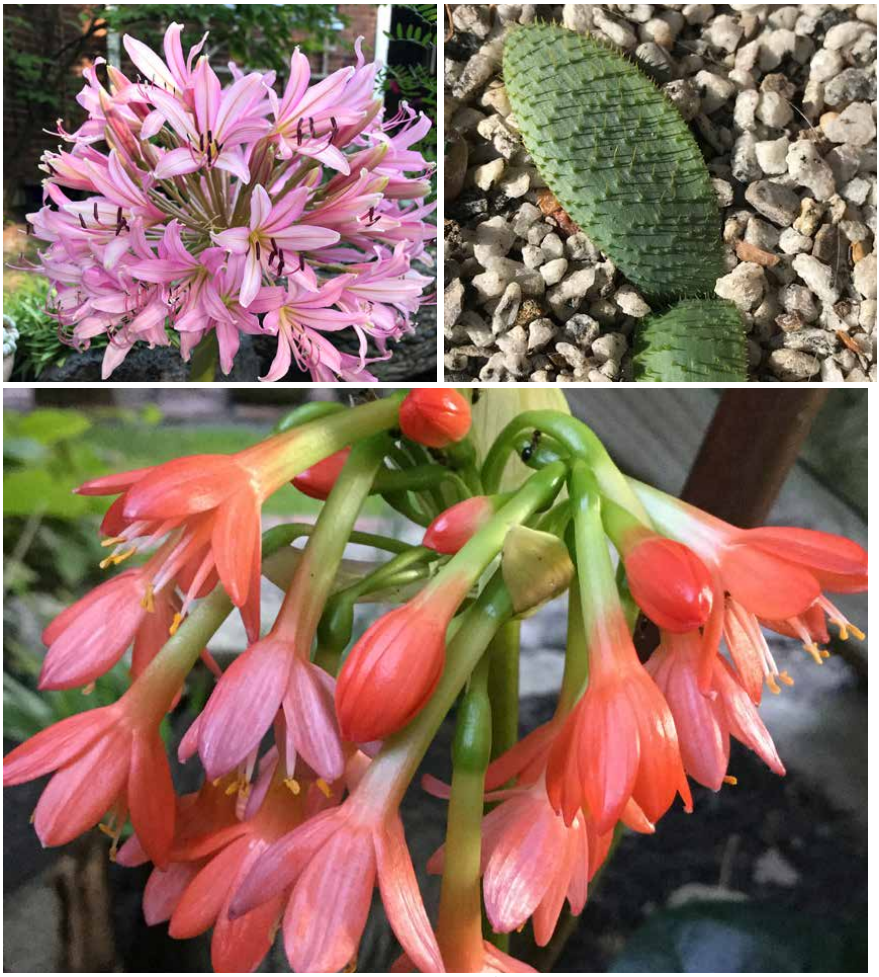
The undulating foliage of *Boophone disticha*.

Amaryllidaceae

Many years ago, with permission, I collected the seeds of *Boophone disticha* in the Eastern Cape of South Africa. It is now nine years old and has beautiful glaucous undulating foliage. It has not yet bloomed and usually takes anywhere from 10-12 years to flower from seed. I am aware of other growers who have flowered it in less time; however, they live in warmer climates where it can be planted in the ground. Another species I collected seed of is *Cyrtanthus smithiae*. This elegant spiral-leaved species flowers in the summer and is also distributed throughout the Eastern Cape. *Strumaria prolifera*, called the cape snowflake in South Africa, has striking white campanulate blooms. It is found in the Northern Cape and flowers in late fall. *Nerine laticoma* subsp. *huttoniae* flowers in late summer to early fall and has a large umbel of pink flowers. It is one of my favorite *Nerine* species, reminiscent of the genus *Brunsvigia* which also comes from the Eastern Cape.

Cyrtanthus smithiae (top left), *Strumaria prolifera* (top right), and *Nerine laticoma* ssp. *huttoniae* (bottom)

The genus *Brunsvigia* is bold and spectacular with a widespread distribution in southern Africa. *Brunsvigia bosmaniae* is a stunner with a huge umbel of bubblegum pink, scented flowers in late summer. In Nieuwoudtville, South Africa, it is a spectacle to behold when they flower en masse. Several different bee species here in the Northern Hemisphere are drawn in to its scent. My bulb is approximately 12 years old. Another species, *Brunsvigia namaquana*, the smallest in the genus, also flowers in late summer and has unique prostrate leaves covered in bristles. It is native to the quartzite and granite outcrops of Namaqualand. It flowered for the first time last year and I'm hoping for a repeat performance. *Brunsvigia* species can be fickle about flowering and do not necessarily do so each year.



Brunsvigia bosmaniae (top left), *Brunsvigia namaquana* (top right), and *Scadoxus cyrtanthiflorus* (bottom).

Leucocoryne vittata (top), *Phaedranassa dubia* (bottom right), and *Narcissus viridiflorus* (bottom).

Moving away from southern Africa we have *Scadoxus cyrtanthiflorus*. This beautiful and highly sought-after species is endemic to the Rwenzori Mountains of Uganda and the Democratic Republic of the Congo. Its long green-and-red tubular flowers resemble some species in the genus *Cyrtanthus,* hence its specific epithet. It blooms in early autumn.

South American amaryllids are represented in my collection by the fragrant flowers of *Leucocoryne vittata* from Chile and *Phaedranassa dubia* with its long red and green tubular flowers native to Colombia and Ecuador.

A final amaryllid in the collection is *Narcissus viridiflorus*, an unusual fragrant species that has green, night-blooming flowers in the fall. This gem comes from southern Spain and Morocco.

Iris kirkwoodiae (top right), *Iris paradoxa* forma *choschab* (top left), *Iris acutiloba* subsp. *lineolata* (bottom left), and *Iris nicolai* (bottom right)

Iridaceae

The genus *Iris* has a special fond spot in my heart, particularly those from section Oncocyclus due to their large flower to leaf-size ratio, mesmerizing colors and patterns. *Iris kirkwoodiae* has heavily marked falls and a chocolate colored signal patch. This species comes from Turkey and Syria and flowers in late May. *Iris paradoxa* forma *choschab* is a unique form from eastern Anatolia and northwestern Iran with small blackish purple falls, a brown beard, and exquisite purple venation. *Iris acutiloba* subsp. *lineolata* comes from Turkey, Iran, and parts of central Asia and blooms in early June. *Iris nicolai* from central Asia is a Juno and is considered a color form of *Iris rosenbachiana*. It blooms in January and has deep violet falls with a bright orange crest.

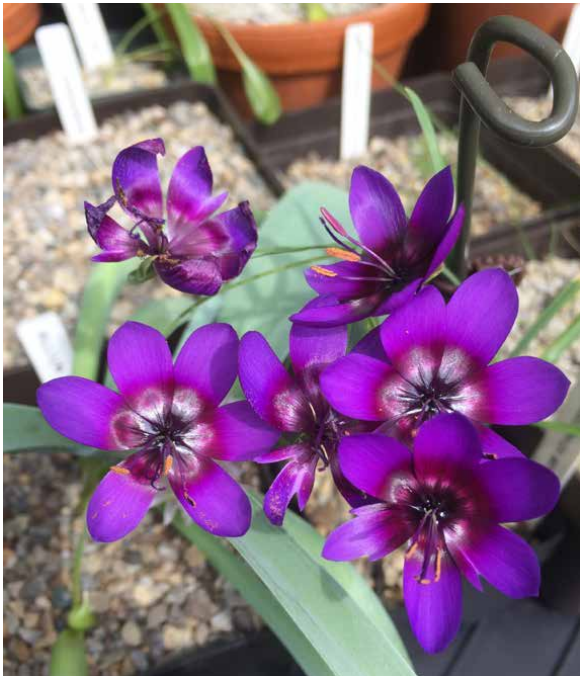
Southern Africa has no shortage of Irids. *Lapeirousia oreogena* from the Northern Cape has striking purple flowers in February with white and blackish markings in the center.

Lapeirousia oreogena

Romulea hantamensis is endemic to the dolerite flats of Hantamsberg, South Africa. This stunning species blooms in February with magenta flowers marked at the petal edges with crimson. *Gladiolus equitans* comes from Namaqualand, South Africa, and has beautiful sweetly scented orange flowers. The lower petals have greenish to yellowish markings. It blooms in early April. *Sparaxis elegans*, endemic to the Bokkeveld Plateau, South Africa, is the most beautiful in the genus. The flowers are salmon or white, though the white form is rarer. There is a purple circle at the base of the flower which is dotted with yellow and black markings. Flowering in February, the irresistible *Geissorhiza monanthos* from the western Cape has rich purple flowers with a white throat surrounded by crimson. The diminutive *Syringodea longituba* is a rare gem found in Namaqualand. It is called the cape crocus but is not a crocus. Their only affinity is that they belong to the same family. They have beautiful purple cup-shaped flowers with twisted leaves.

Romulea hantamensis (left) and *Gladiolus equitans* (right)






Coral and white forms of *Sparaxis elegans* (top),
Geissorhiza monanthos (bottom left), and *Syringodea longituba* (bottom right)

Allium materculae (top left), *Allium callimischon* subsp. *haemostictum* (top right)
Massonia hirsuta (bottom left), and *Daubenya aurea* (bottom right)

Colchicum kesselringii (left) and *Colchicum hungaricum* 'Valentine' (right)

Others

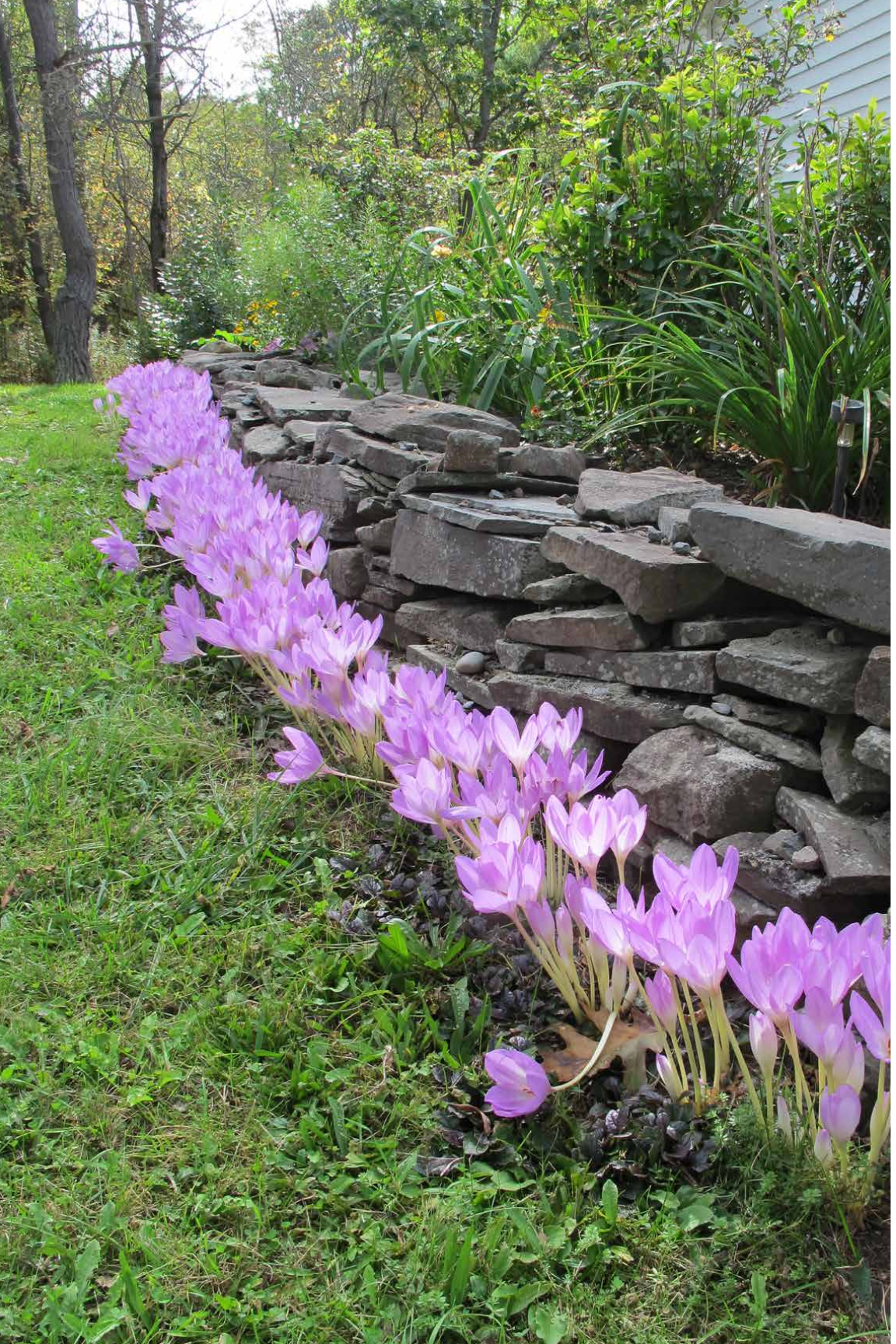
I'm also very interested in *Allium* species, particularly those from Iran and Turkey. *Allium materculae* is a rarely grown species with a scented pink umbel and beautiful glaucous leaves. *Allium shelkovnikovii* is another rarity coming from northwestern Iran with flowers of a metallic pink sheen. Both flower in April. *Allium callimischon* subsp. *haemostictum* is a real treat with its white flowers marked with red dots on the tepals blooming on dead-looking stalks in early fall. It's found in Crete and Turkey.

Massonia hirsuta (Asparagaceae) is a very fragrant species with a scent reminiscent of laundry detergent but more pleasant. It blooms in November and comes from the Eastern Cape. *Daubenya aurea,* also from the same family has both yellow and red flowers. The red flowers are more common in habitat. It flowers in February and comes from the Roggeveld Mountains in the Northern Cape.

Colchicum kesselringii (Colchicaceae) is found in central Asia. It has white flowers with a purple stripe on the back of the petals. The color of this stripe varies in habitat from lighter to darker purple. *Colchicum hungaricum* 'Valentine' is so named because it usually blooms around Valentine's Day. Both of these colchicums start blooming in late January for me.

Having bulbs flowering in fall and winter brightens up the dreariest of days. This is just a smattering of the bulbs I grow. I am always changing things up and trying new genera. Collecting is an insatiable habit even when you tell yourself you have no more space.

You can see more of Erika's bulbs (and other plants) on her instagram: https://instagram.com/brunsvigia



Colchicums 101

Kathy Purdy

OVER THIRTY YEARS ago, I moved into a 19th-century farmhouse shortly before snow started falling, burying whatever remained of the previous owner's garden. I patrolled the yard daily once the snow melted, and among the earliest sprouts were points of green that I initially thought were hyacinths. As they emerged further, the leaves became wider and I guessed they were tulips. As they grew to their final height, over a foot (30 cm) tall and six inches (15 cm) wide, with no sign of flowers I had to admit I didn't know what they were.

A neighbor came over and I showed the leaves to her. "Oh, I have them in my garden, too. The leaves will die back in summer. Then, in the fall, these crocus-like flowers will bloom, kind of pinky-purple. But I don't know what they're called." From my winter-long study of the White Flower Farm catalog (no internet back then), I thought I remembered a similar description. I looked it up and sure enough, they were colchicums, a cormous plant with a summer-dormant period and, typically, a fall bloom.

At first, I was content to observe these plants through their life-cycle. After a couple of years, I noticed White Flower Farm was not the only place selling these bulbs, and I started adding more kinds to my garden. I currently have a mix of over fifty species and hybrids and compulsively add newly listed varieties to my collection. Yes, I'm a colchicophile.

Fall blooms (opposite) and spring foliage (above) of *Colchicum* 'Giant'

Parts of a colchicum in bloom.

Before we get into the weird and wonderful ways of colchicums, I'd like to get something off my chest. Please don't call these plants autumn crocuses. They are not crocuses. They are in the Colchicaceae family, not the Iridaceae as crocuses are. Colchicums have three styles and six stamens; crocuses have one style and three stamens. And colchicum leaves are much broader than crocuses' grass-like leaves. Furthermore, there are bonafide crocuses that bloom in the fall as well as colchicums that bloom in spring. Readers of this journal are more comfortable with botanical names than the average gardener, so I doubt colchicum is too much of a mouthful for you. They have many amusing common names (naked ladies, naked boys, sons-before-the-fathers, among others) so when speaking with someone averse to botanical Latin, you need not resort to something confusing like "false autumn crocus".

Colchicums bring an element of freshness and surprise into the autumn garden. Most plants that bloom in autumn have been growing all season, and while their flowers may have just opened, their leaves and stems are worn and tattered. Colchicums, on the other hand, emerge with no advance warning, no sign to the casual observer that a plant was growing there, and suddenly there they are, pristine and pretty. Occasionally someone who has inherited colchicums when they bought their home doesn't even realize the leaves and flowers belong to the same plant.

Developing colchicum seed pod (left) and fading foliage in the spring garden.

The morphology of the flowers is a little strange. They have no stem, only a tube of tepal tissue called a perianth tube that goes all the way down to the corm. The flower's ovary is underground. If seeds are formed they will emerge above ground the following year in a pod nestled among the leaves.

Colchicums contain a chemical, colchicine, that makes them poisonous to deer, rodents, and humans, although colchicine used to be a common treatment for gout. Slugs do dine on the leaves and flowers, though in my garden this is only a sporadic problem. Colchicums prefer full sun but seem to tolerate any aspect except full, deep shade. The most common varieties are happy in average soil, but the fussier ones prefer well-drained soil. If I'm having trouble growing a new one the first thing I will do when I try again is improve the drainage.

Colchicum are unusual, fun, and relatively easy to grow: why don't more people grow them? One downside is that, compared to the flowers, the leaves are huge, and when they go dormant, they make a mess. In my garden, while the colchicum leaves are turning yellow and flopping over, the peonies, bearded irises, and Oriental poppies are in peak bloom. If you don't site them properly, those floppy leaves are not just unsightly, they can smother surrounding plants. For some people, this is a deal-breaker. I prefer to think of it as a design challenge.

Best for beginners

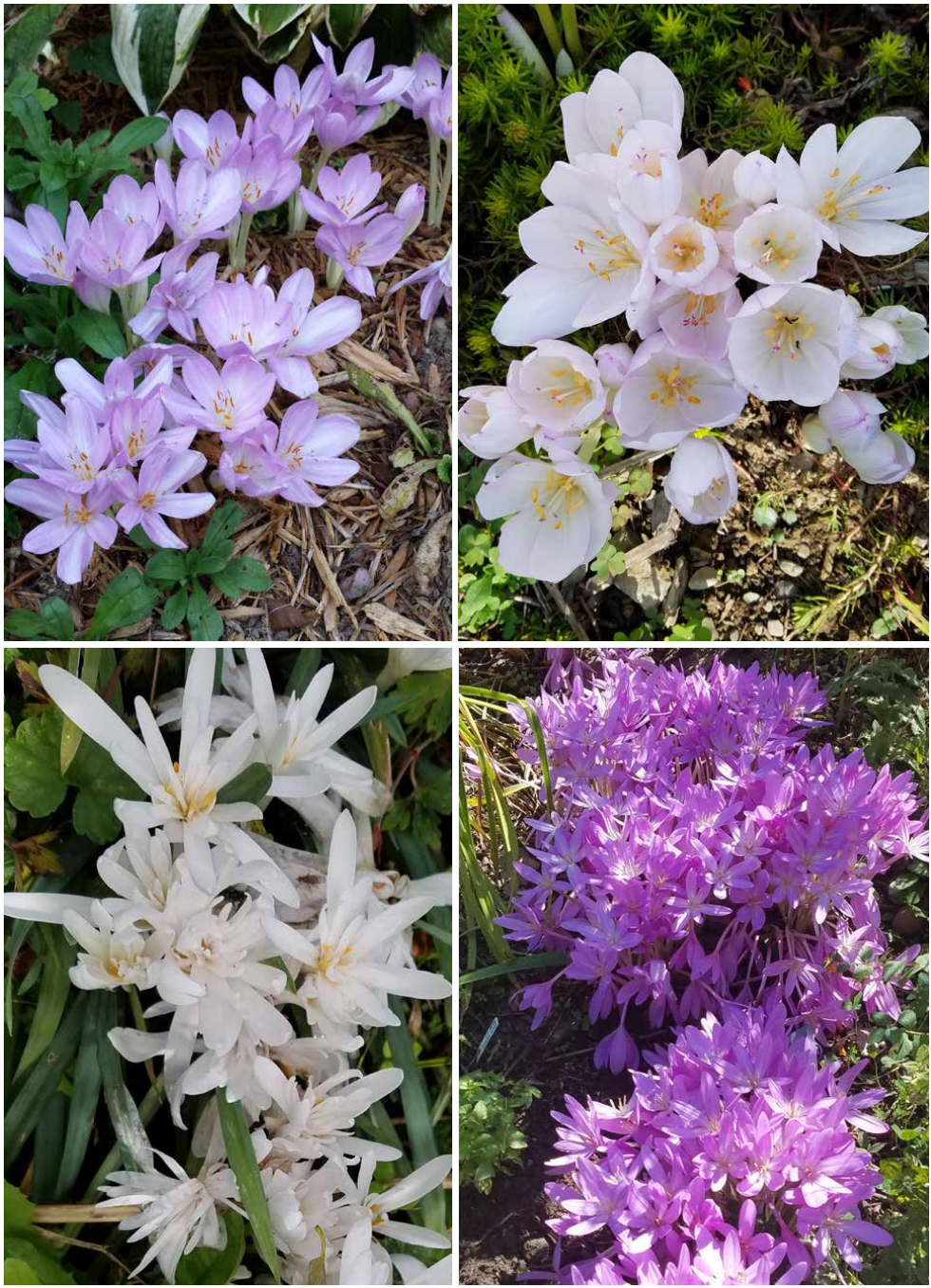
If you're just getting started growing colchicums, begin with one or more of the following. These colchicums in particular have been growing in gardens for decades—sometimes centuries—multiply rapidly, and tolerate a wide range of conditions. For nomenclature, I follow *Colchicum: The Complete Guide* by Grey-Wilson, Leeds, and Rolfe (see the review in this issue). All of them are listed as hardy to USDA Zone 3 by a Wisconsin bulb seller, except for *C.* x *byzantinum*, which is hardy to Zone 4.

Colchicum* x *byzantinum is the one I discovered growing in my first home. Any bulb that can survive ten years of neglect, USDA Hardiness Zone 4 winters, and clay soil, is one tough plant. Individual lavender-pink flowers are small but come up in bunches so the effect is showy. It was first described in 1601 by Clusius, who got his corms from some Viennese ladies, who in turn got them from someone from Constantinople (Byzantium). Talk about plant swapping! Since *C.* x *byzantinum* does not set seed, all of the corms in the world are descended from those originally from the Byzantine empire. Growing it is having a piece of history in your garden.

***C.* x *byzantinum* 'Innocence'** is pure white at first glance, then you notice that the tips of the styles and the tips of each tepal are touched with purple. There is some debate whether a pure white form exists, but 'Innocence' is the only published name. 'Album' is supposed to be pure white, but the ones I bought under that name also had purple tips.

Colchicum autumnale is native to moist meadows in Great Britain. Over the centuries many natural variants have been discovered and perpetuated. The straight species is pink and crocus-like in shape. Mine tend to get a bit leggy and I've been told they need more sun. 'Alboplenum' is a double white form that is very vigorous. It blooms later than the species and spangles the late autumn garden like stars. 'Album' is a single white. According to Grey-Wilson et al., several variants go by this name, some of which are whiter than others. 'Pleniflorum' is a double pink form that blooms later than the species. However, the hybrid 'Waterlily' is much showier and more frequently available. *C. autumnale* subsp. *pannonicum* 'Nancy Lindsay' is an improved version of the species: sturdier, pinker, and multiplying faster. Even better, the flower color continues all the way down the tube.

Colchicum autumnale 'Album'



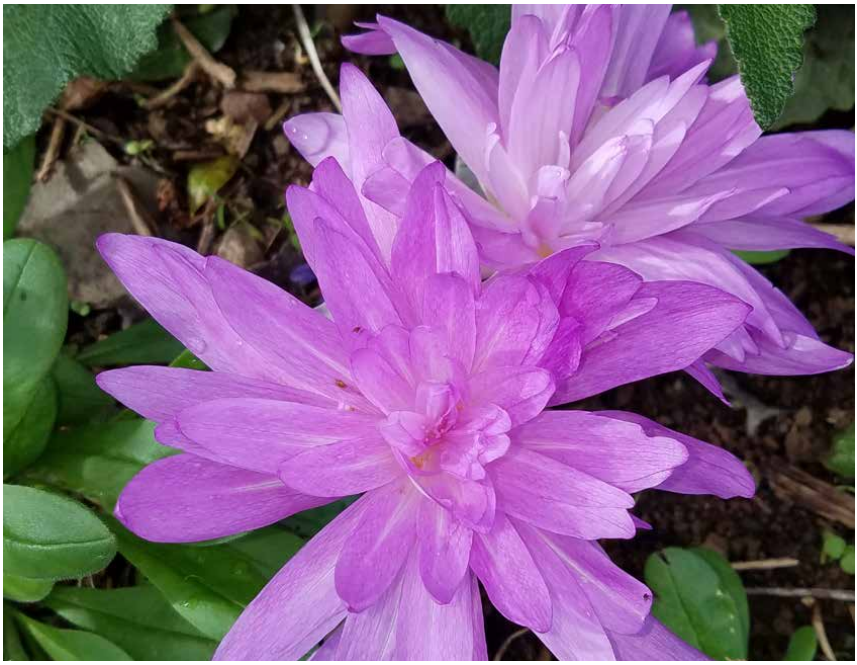
Colchicum x *byzantinum* (top left), *C.* x *byzantinum* 'Innocence' (top right), *C. autumnale* 'Alboplenum' (bottom left), and *C. autumnale* 'Nancy Lindsay' (bottom right)

Colchicum speciosum is native to the Caucasus, northern Iran, and northern Turkey but was introduced to western Europe around 1850. Like *C. autumnale*, it has a lot of natural variants and has also been parent to many garden hybrids. It's a bigger plant than *C. autumnale*, with a thicker floral tube and a white throat. 'Album' is pure white with green filaments and a lime-green tube. Larger and more elegant than any of the other white colchicums, Grey-Wilson et al. says it multiplies freely, but it has been a slow grower for me and it's not often available in the trade. 'Atrorubens' is a darker form with the color extending all the way through the tube. It is not always available, but I find it much more attractive than the straight species.

***Colchicum* 'Giant'** (also sold as 'The Giant') is a hybrid, truly head and shoulders above mere mortal colchicums. The pale lavender-pink is not my favorite, but it multiplies very fast and can quickly make a spectacular show visible from across the yard.

***Colchicum* 'Waterlily'** really does look like a waterlily, with over 50 rosy-lilac tepals. Try growing it through a ground cover, such as a dark-leaved ajuga.

Colchicum speciosum 'Album' (left) and 'Atrorubens' (right)



Colchicum 'Waterlily'

Rock garden potential

I don't have a rock garden. I have acidic clay soil, one bed I've amended to be (hopefully) better-drained, and one trough in which I grow "tricky" colchicums. I'm guessing the following colchicums would be good for a rock garden because either they are petite and less likely to overwhelm their neighbors or I have trouble growing them, presumably because my soil is not free-draining enough. The spring bloomers are also good candidates for a rock garden.

Colchicum* x *agrippinum has flowers on the small side but they are distinctly tessellated. (Tessellated is the scientific term for checkered.) I smile every time I see them. While these do prefer well-drained soil they aren't really fussy, and I make them happy by growing them on a slight slope.

Colchicum davisii is pale pink and petite. The flowers I grew had more pointed tepals than those shown in Grey-Wilson et al. The corm looks less like a bulb and more like a lump with legs called soboles.

Colchicum graecum has a pale pink flower and is not very vigorous for me; but hey, it's still alive and that's saying something since it's reputed to only be hardy to USDA Zone 6 and I'm Zone 5. It's one of the few that bloom in August for me.

***Colchicum* 'Antares'** is a slow-grower with charming flowers that are mostly white with pale lilac-pink tips. They bear close inspection which suits them for a rock garden or trough.

Colchicum 'Glory of Heemstede' (left) and 'Jochem Hof' (right)

My favorites

My favorite colchicums are strongly colored. It's even better if they are distinctly tessellated and the tepal color extends all the way through the tube. I don't think any of these are fussy, but they're harder to find.

***Colchicum* 'Disraeli'** and the similar varieties 'Princess Astrid', (Grey-Wilson et al. says syn. 'Autumn Queen'),'Glory of Heemstede', *C. bivonae* 'Apollo', and 'Beaconsfield' (listed roughly in order of bloom time) all have white throats, saturated raspberry color, and distinct tessellation. The differences between them are subtle and they all make visitors exclaim and stroll over for a closer look.

Colchicum macrophyllum has smaller flowers than 'Disraeli' but similar coloring with very big leaves in spring. This has proven hardy in my free-draining bed and I look forward to trying it in the regular garden.

***Colchicum* 'Jochem Hof'** has flowers that are almond-shaped in bud and deep pink with no tessellation. Grey-Wilson et al. say this is a synonym for 'Poseidon' but in my garden they are different in bloom time, flower shape, and intensity of color.

***Colchicum cilicicum* 'Purpureum'** is a s smaller, late-blooming flower with no tessellation but a white line through the middle of each vividly colored tepal.

***Colchicum* 'Dick Trotter'** has a lovely goblet shaped bloom whose magenta color extends down its tube in a more muted shade.

Spring bloomers

By all accounts, the spring-blooming colchicums are more challenging to grow than the fall-blooming ones, and my experience bears this out. You may already grow a spring-blooming colchicum: *Bulbocodium vernum*, now designated *Colchicum bulbocodium*. The leaves of spring-blooming colchicums emerge in the spring with the flowers.

***Colchicum hungaricum* 'Valentine'** (syn. *C. doerfleri* 'Valentine') is supposed to be pink but for me, it's more like white flushed with pink. The similar *Colchicum hungaricum* 'Velebit Star' is white. Both have a bit of hairy fuzz on the edges of the leaves, charming when it holds the dew (or melted snow, as the case may be). I'm on my second attempt at growing both of these. These species blooms in February (near Valentine's Day) for some people but mid-March to mid-April for me.

Colchicum munzurense, grown in a trough, came back after the first winter when the trough was moved to an unheated, detached garage for the cold months, but did not come back this year when the trough was left outdoors during a mild winter. I had the same experience with *Colchicum soboliferum* (formerly *Merendera soboliferum*). Both were considered hardy to USDA Zone 6 from my source and my garden is a cold Zone 5. I'm not sure whether it was the cold or the wet that did them in, but I learned my lesson: get that trough into the garage for the winter! I know a rock gardener in Zone 6 who grows *C. szovitsii* 'Tivi' but hers hasn't multiplied enough that she's willing to trade, and I haven't found it for sale.

Colchicums I covet

The life of a colchicophile is full of frustration. Between the images shown on the Crocus and Colchicum Facebook group and the hybrids pictured in Grey-Wilson et al., I have a list of colchicums that I would love to acquire but are not available in the United States. If you have already obtained the permits necessary for importing bulbs, check to see if your vendor can supply any of the following. Once the corms are in the U.S., I'm sure we can agree on terms.

My current wish list includes 'Artur Clark', 'Benton End', C. autumnale subsp. pannonicum 'Dorothee Kersen' (variegated leaves!), 'Emerald Town', 'Felbrigg', 'Glory of Threave', 'Herbstkugel', 'Jenny Robinson', 'Kiss Me Quick', 'Little Woods', and 'Redgrave'.

Oh, who am I kidding? I want them all!

Oregon Outcroppings

Leigh Blake

MY HUSBAND, WALTER Blake, and I started working with cement thirty years ago after I'd seen articles on trough making using Portland cement, pumice, and peat. We made these beautiful wire boxes that I formed into toughs freehand, molding and sculpting the goopy cement mixture and letting it set up. I didn't like the way the styrofoam that everybody was using made it look like an unnatural box. I wanted a natural rocky appearance that emulated a cliffside or boulder. This inspired me to create my own natural-looking bonsai containers too.

In the 1980s, a landscape architect started making his own boulders for his garden in Los Cerritos, California, inspired by the natural granite outcroppings in his beloved Sierras. *Sunset Magazine* ran a wonderful article on Harland Hand's magnificent creation and it is still visited by people that have loved his garden for years. I was enraptured by the idea and we started making boulders for gardens that we were designing in Oregon and Arizona. We designed a cliff 110 feet (33.5 m) long amd ten feet (3 m) high with a waterfall that fell into a sculpted pond for a client in Oregon. We sculpted several waterfalls and ponds for various clients over several years.

In 2000, we moved back to Oregon, buying a wonderful acreage with a little house and forested with douglas firs, madrone, ponderosa pine, and dogwood. The back area behind the house was a grassy, weedy expanse, surrounded by forest. It was great for football and frisbee, but I envisioned our own sculpted, handmade outcroppings

Handmade, naturalistic outcroppings in the garden

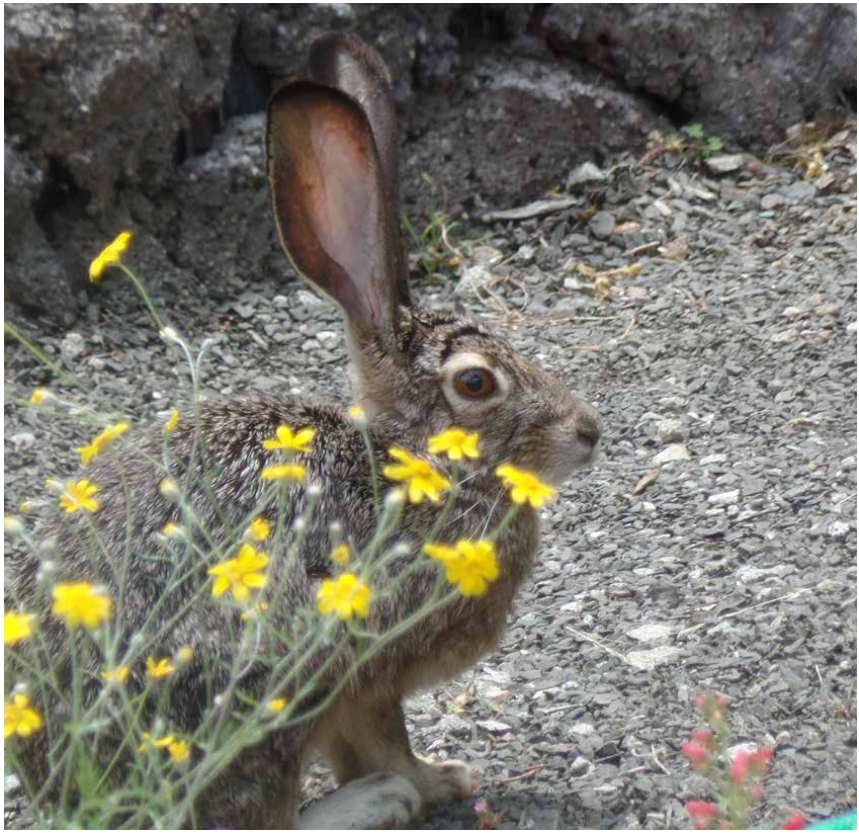
Walter Blake works in the concrete rock garden.

Concrete crevices make great homes for many rock garden plants.

pushing up through ground filled with our natives and many rock garden plants. I wanted it to look as natural as possible, naturalistic crevices filled with tiny treasures, and massive boulders that looked as though they've been pushing up for a million years.

After several years of getting other items accomplished, we started on the back garden, one boulder at a time. Meanwhile, my son, who is a building contractor, installed a huge deck that overlooks the garden and gives us views of creatures coming and going such as our lizards, snakes, jackrabbits, and birds.

Some favorite plants that we use often in the garden are *Lewisia cotyledon, Asarum marmoratum, Ribes lobbii, Achillea tomentosum, Tanacetum densum* subsp. *amanii*, *Iris douglasiana, Iris cristata*, *Euphorbia myrsinites*, and *Penstemon rupicola*. All the above plants are fairly common in this garden, and are easy, establish well in drought conditions and have nice textural features. We focus on ease of growth rather than acquiring rarities.

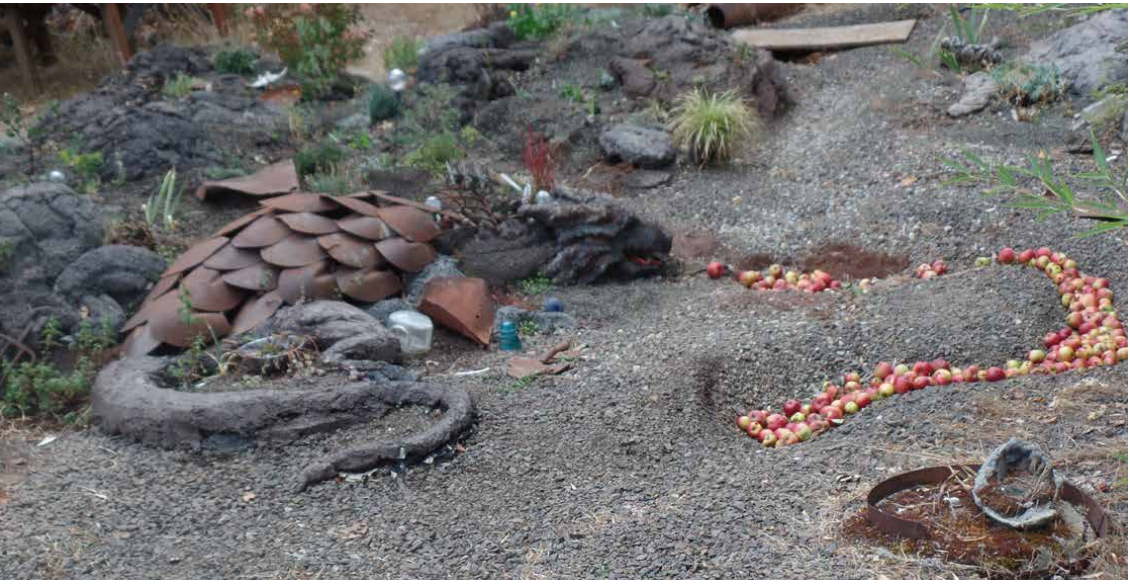


A jackrabbit visiting the garden.

To build our structures, we set up armatures made up of wire, filled them with ecologically sound fillers, and shaped them into what would be the series of boulders and the eventual pond. We even created our dragon, Darcy, who is constructed with our cement mix and shovelheads. She is about 20 feet (6 m) long and designed to be a part of the outcroppings. I know. We are crazy.

We use Portland plastic cement (not regular Portland cement) for all our sculptures. It has become harder and harder to obtain but it works very nicely. We mix one part plastic cement with one part pumice (no peat needed) and add in Davis Cement colors (browns, blacks, and/or reds) to create the colors we want. We use a consistency that will keep its shape when you work it with your gloved hands. We make an armature out of fencing wire which is rigid but can be bent into the shapes you like. We then fill the wire armature with cardboard or paper to keep the cement from collapsing through this mesh and cover it with our cement mixture. We use this same formula for all our troughs, bonsai pots, and whimsical creatures. It takes practice to create the shapes you want, but play around with shapes, use photos of boulders and cliffs that you admire for inspiration, and, most of all, have fun!

The garden measures about 120 feet (36 m) up a gentle slope and about 70 feet (21 m) wide. We are far from done. At this point, the outcroppings are only about seventy percent complete with several more areas to finish.



Darcy the dragon, made of cement and shovelheads, breathing apple fire.

Top: The pond in progress
Bottom: The “bench” outcropping mimics natural rock formations.

The "bench" outcropping is designed with crevices slanting back into the hillside with layers of cement shelves that mimic the way they fit together in nature, We have also formed a large pond, 20 feet long by 16 feet wide by four feet deep (6.1 x 4.8 x 1.2 m) that is not completed yet. We have designed and sculpted a stream bed that works its way downhill into this pond which we hope to finish this year. My husband Walt has been the guy who has done most of the work and added ideas as we created this garden.

This garden probably will never be finished but we have had a wonderful time imagining and designing our little half acre. There's always another idea and another bag of cement.

The Lake Merritt Rock Garden

John Tsutakawa

THE GARDENS OF Lake Merritt (GLM) is a seven-acre public garden in the City of Oakland, California, next to Lake Merritt, managed under the Department of Public Works. The Oakland East Bay Garden Center (also known as the Friends of the Gardens at Lake Merritt) helps to support the gardens and the various garden groups that make it up.

Thirteen individual gardens, each supported by different member clubs or volunteers, make up the GLM. These include an enclosed Bonsai and Suiseki garden featuring an extensive collection of trees and stones, a Japanese garden and Oakland-Fukuoka sister city garden, a pollinator garden focused on native bees and butterflies, the Mediterranean, sensory and palmetum gardens, as well as areas that grow vireya rhododendrons, succulents, dahlias, and roses. There is also a large community garden, a collaboration section with Merritt College, and many smaller groups specializing in particular plants.

The Board encouraged our rock garden group to create a demonstration rock garden at the GLM. The site is at a central point in the garden between the community gardens, pollinator gardens, bonsai, and the Fukuoka sister city gardens. The site is shaped like a half pear around 50 feet (15 m) long and 30 feet (9 m) across. It is a nice space for a trough garden. It has full sun and has been connected to water by Public Works. Given its location surrounded by paths, many visitors can view the rock garden up close.

View of the rock garden and the surrounding troughs

The central crevice garden.

Rock gardening in the Bay Area

The San Francisco Bay Area has a range of microclimates from the cool and foggy coast, to an intermediate zone around the Bay, to the hot and dry inland regions. Oakland is in the intermediate zone. It rarely freezes and on occasion may go above 90°F (32°C). In general, the summers are warm and dry, and the winters have rain, with less precipitation during droughts. With climate change, it is likely that our region becomes warmer and drier in future decades.

Most alpines can grow in the cooler regions of the Bay Area, and a few can grow in the heat. New Zealand alpines such as *Raoulia* do particularly well in the area, given regular watering. Plants that require dry winters or freezing cold while dormant are more challenging.

Design and Planning

The basic design is a perimeter of 12 large troughs on a gravel bed, with a crevice garden in the center. Much inspiration was drawn from the trough garden at the University of British Columbia, with its elegant set of troughs over a gravel bed.

In creating the crevice garden, we studied many pictures on the internet. Locally, the Regional Parks Botanical Garden (sometimes called the Tilden) in Berkeley has a crevice garden focusing on California native plants on a much larger scale (See the article in the Summer 2021

Site of the future rock garden before construction began.

issue of the *Quarterly*). We studied Zdeněk Zvolánek's great book *The Crevice Garden and its Plants*. His book is invaluable and has a lot of technical advice on soil composition and how to construct layers.

The most natural-looking crevice gardens seemed to have a uniform stone color, a general alignment of the slabs, parallel ridges and curves of stones, few jagged points or corners, limited gaps, and thin rocks wedged among thicker slabs. All of these elements together give the illusion of a solid rock mass. We used these concepts in building our bed.

Constructing the garden

As part of a public garden, permission for volunteers to garden on a public site was obtained through Oakland's Adopt-a-Spot Program. We provided a plan to the Oakland Department of Public Works (DPW) section overseeing the Gardens for approval and coordination with City staff. A funding request was submitted to the GLM Friends Board which provided matching funds for the project.

In February 2020, we started building the 12 troughs. We wanted to make large troughs and took into consideration the weight for moving them later. After researching hypertufa formulas to balance weight and strengths, we settled on a formula with 30% Portland cement, 40% perlite, and 30% coconut coir. Coconut coir was used instead of the traditional peat moss for both environmental reasons and strength. A local trough maker and Western Chapter member, the late Shigeo

Kubota, had noticed that coconut coir had long fibers that would reinforce the hypertufa, and so we added even more coconut fibers in the mix.

The troughs were made in four shapes: straight and tapered rectangles, tapered squares, and rounds. For the box shapes, we created molds out of plywood and for the rounds we used a 64-gallon circular tub. The hypertufa was reinforced internally with hard wire mesh, chicken wire, screens, and various concrete reinforcement fibers to make the troughs as strong as possible. Empty, the troughs weigh roughly 125-275 pounds (57-125 kg) each. After a major delay from COVID closing access to the gardens for a few months, the troughs were completed by October 2020.

Clearing the ground began in March 2020, but was interrupted

Wooden mold for trough construction (top) and a finished trough (bottom)

Construction in progress

by the COVID pandemic. The work resumed in December and was completed on weekends by January 2021. Groundwork included clearing the plants, leveling the ground, and excavating an area for the crevice garden. Landscape fabric was laid over the entire garden site in conjunction with the irrigation lines placed by the City. Cinder block platforms were placed where the troughs were to be located.

The major work was conducted over a three-week period in late January to early February 2021. Bill Castellon, a local landscaper and Japanese garden specialist, led a volunteer crew to move the heavy troughs from our production area to the garden site. His large tripod, pulley, and a heavy-duty cart made the job much easier. With the troughs in place, drip tubing was installed as we filled the troughs with soil and amendments, and all 12 troughs, demonstrating various trough gardening styles, were planted in February 2021.

The stone and materials were delivered, and a group of volunteers laid out the crevice garden. The crevice garden was built layer by layer. The crevice garden was built on a slight mound rather than flat ground which allowed us to get greater height in the middle. The bottom layer was made of ledge stone and rubble. The second and third layers used more vertical slabs.

Once the troughs and crevice garden were mostly completed, gravel was brought in to cover the main bed. The Department of Public Works advised us to slope the gravel bed down to the path with a small depression around the perimeter to decrease gravel from spreading out to the surrounding pathways. This required a little more digging and groundwork. Once construction was finished, Ray Deutsch and Nancy Havassy began to plant into the crevice garden mainly using plants from the propagation collection and a few from private collections.

Planting Conditions

We designed the soil mixes and watering regimen to match the local conditions, the type of garden, and plant needs. There was heated debate on how lean and dry the soil mixtures should be. The main disagreement was between those who grow alpines in wetter conditions and those who use much drier conditions. Compromises were made and we were able to move forward with the project.

The soil mix is a little on the rich side to retain moisture. The mix uses a soil mix from a local landscape company as well as perlite and pumice to provide drainage. The general proportions are about 50% organic and 50% inorganic. While there was a preference for a much leaner mix, the inconsistency of watering was a driving concern. A couple of times during COVID in 2020, water lines in the Gardens were damaged and water was cut off in the gardens. Many of our plants would not be able to handle three to four days of dry heat. There are a few hidden catch basins in the troughs so that they can hold water in extreme heat if needed. Currently, the plants in the rock garden are hand watered every other day in the summer. A drip irrigation system was installed but the timers are not connected at this point.

The soil depth in the troughs is around 9 to 12 inches (23 – 30 cm) to give the plants some root space. In the crevice garden, the soil runs around 12 inches (30 cm) below ground level and the rock formation reaches 6 to 24 inches (15-61 cm) above ground level. From the top to the bottom, the soil depth in the crevices is between 18-24 inches (46-61 cm) depending on the location. There is a layer of landscape fabric under the crevice garden to prevent weeds and gophers from entering the crevice garden from below.

Descriptions of the troughs

Troughs in place, ready to begin on the crevice garden.

A trough inspired by the landscape of a mountain glade.

The first trough is a miniature landscape, sort of a mountain glade. This is similar to a style chapter member Wally Wood used at the San Francisco Botanical Garden many years ago. The front mat plants, representing grass in a mountain glade, include *Raoulia lutescens, R. australis, R. hookeri*, and *R. apice-nigra*. Floral color comes from *Dianthus* 'Blue Hill', *Erigeron vagus*, *Centaurium scilloides*, and *Erigeron leiomerus*. The planting has *Juniperis communis* 'Compressa' as trees behind the meadow with triangular flagstone pieces used to represent a mountain range in the background.

Another trough features vegetable sheep, the cushion forms of *Raoulia*, not to be confused with the many flat-growing *Raoulia* (scab weeds). The closest plant we have to the vegetable sheep is the hybrid *Raoulia* x *loganii*. The initial planting used black rock for contrast with the silver cushions. This may have become too warm and the initial plants died off. We recently replanted with a lighter stone and a new set of *Raoulia* x *loganii*. The new rock also features colorful lichen which we will try to maintain. While the trough is still a little warm in the sun, hopefully this group will be able to make it.

Acantholimon litvinovii with red rocks (top) and a crevice-style trough (bottom).

Acantholimon litvinovii is paired with red stones and amendments in another trough. These plants have thrived in the first six months, filling out into tight spiny mounds. The red stones were provided from suiseki (a Japanese tradition of collecting small interestingly shaped rocks) collectors Janet Roth and Steve Nelson. They create a nice contrast to the silver cushions.

The trough crevice garden shows how to use the crevice style in a container. By aligning the rocks and creating parallel ridges, the slabs create the sense of a solid mass. It uses the same stone as the larger crevice garden. Currently, it has a *Leontopodium alpinum, Campanula bellidioides, Dianthus arpadianus* var. *pumila, Raoulia apice-nigra* and various succulents.

Troughs featuring a mosaic of alpines (top left), a winding river bed (top right), a Japanese-inspired planting (bottom left), and *Raoulia lutescens* (bottom right).

Another trough shows a mosaic style of alpine plants including various Raoulia and other mat plants. These fill in and change over time. This planting includes *Raoulia australis, R. haastii, R. hookeri, R. lutescens*, *Scleranthus uniflorus*, *Dianthus* 'Blue Hills', *Sempervivum arachnoideum* 'Minor'. At this time, the *Raoulia australis* is a little too aggressive and will get swapped out with other plants.

Local rock planted to suggest a winding river bed within a canyon defines another of the troughs. A number of cushion and mat plants are tucked in between the rocks, including *Scleranthus uniflorus*, *Arenaria alfacarensis*, *Silene acaulis* 'Frances', and *Arenaria* 'Wallowa Mountains'. These will grow over time and blend in as part of the rock formations.

The Japanese garden trough reflects the Japanese gardening influence at the GLM. Historically, there was a strong involvement of local Japanese gardeners in the GLM as can be seen in the Oakland-Fukuoka sister city garden section, Japanese garden, and the Bonsai and Suiseki collections of the larger Gardens. This trough imitates the island style of Japanese garden, using the green *Raoulia lutescens* as moss. The island is surrounded by a sea of white dolomite gravel.

The flat green trough uses *Raoulia lutescens* in a minimalist style featuring just a single plant species. Over time, the trough will have a flat top of green flowing over the edges.

Troughs featuring European (top) and North American (bottom) alpines.

We have a trough garden designed around a large stump. The stump will age and decay over time, and contrast with *Papaver alpinum, Linaria alpina, Thymus camphoratus, Aquilegia chrysantha*, and other plants.

The trough featuring mostly European alpines is currently dominated by *Leontopodium alpinum*, but also includes *Gentiana acaulis, Gentiana verna, Saxifraga paniculata, Saxifraga cochlearis* 'Minor', *Salvia caespitosa*, and several *Edraianthus*.

A trough of North American alpines includes *Eriogonum kennedyi, Aquilegia jonesii, Erigeron leiomeris*, and other plants. In time, the *Eriogonum kennedyi* will spread over the trough.

The final trough is in transition. Originally planted with five large *Gypsophila aretioides* to form a dense green formation, these were removed after one of the plants was stolen. We couldn't stand the idea of someone coming back and taking the rest. Currently, the trough has a mix of annual alpines and Meconopsis horridula. This will likely be replanted in the winter.

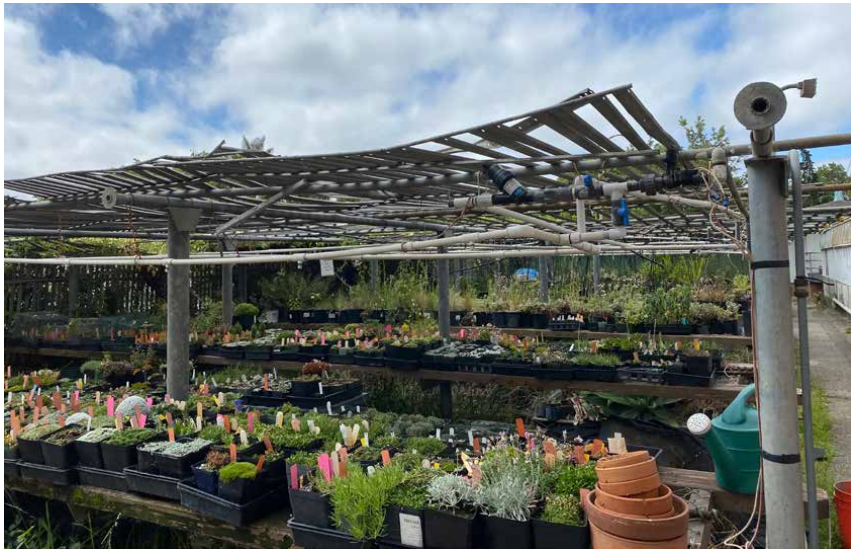
The Crevice Garden

The crevice garden is around 12 feet (3.7 m) long and 9 feet (2.7m) across. It uses about 8 tons of stone. It has three layers: a base uses a mix of ledge stone and local rock (rubble), vertical slabs, and finally shattered pieces of flagstone and gravel scattered over the top to help fill in gaps.

Volunteer Kyle Milligan and others helped place the rocks to create a natural look. The rocks are packed so tight that the mound can hold weight from above. A mix of soil, sand, and pumice was usedto fill under and in between the slabs. The soil was placed under and between the layers, and prodded and hosed down into the gaps in the slabs. We tried to avoid any air pockets.

Ray Deutsch and Nancy Havassy planted in a wide variety of small rock garden and alpine plants on the crevice mound. Plants that grow too large are pulled and replaced.

In a related project, we planted meconopsis in another section of the gardens. We planted mainly *Meconopsis baileyi*, M. 'Lingholm', and *M. grandis*, with a few other varieties. The plants took hold under some



The propagation collection of alpines suited to the Bay Area

redwoods where we have automatic watering and a thick mulch. Over the next several months, we will be expanding this patch and enriching the soil. The plants will go dormant from December to February. We look forward to next year's bloom in April and May as the plants will have had sufficient time to establish.

The future

The garden will mature over the next several years. In the meantime, we will continue to add and remove plants, and to provide ongoing care for both the garden and collection. With the collection and the new demonstration garden in place, we will establish the Gardens at Lake Merritt as the new base for the Western Chapter in the next several years. The rock garden demonstrates what can be done with trough and crevice gardening. The propagation collection holds many alpine and rock garden plants that do well in the Bay Area. There will be opportunities for workshops on rock gardening, trough making, and plant propagation as we come out of the pandemic. And as the garden matures and becomes established, we welcome our fellow rock gardeners and NARGS members to visit our garden and collection!

We would like to acknowledge the many people who helped build the garden and contributed funds or materials.

The project was organized by John Tsutakawa and Kiamara Ludwig. Thank you to Tora Rocha, FGLM co-president who provided major support, coordination, and advice on setting up the garden. Thank you to DPW supervisor Lydia Swann and DPW staff Juan Cana-Cruz, Bali Kashmiri, and Jay Tubbs for their assistance in clearing the ground, laying irrigation lines, moving materials, and selecting the site.

Thank you to our core group of regular volunteers and friends for maintaining/moving the propagation collection and working on the project which includes Ray Deutsch, Nancy Havassy, Pat Clinton, Alice Eastman, Emi Tsutakawa, Dottie Lovett, Ray Dyer, Troy Smith, Nancy Chu, Owen Smith, Diane Glaub, and Kerry Barrs. Special thanks to Bill Castellon for moving the troughs, John Keefer on the irrigation, John Kirkmire on the video, and Kyle Milligan and Kevin Takakuwa for the long hours on the crevice garden. Many volunteers helped with the troughs, the groundwork, and the crevice garden. These include Tomas Zillman, Danny Morton, Barry Luck, Becky Babb, Tu Le, Mary Mortimer, Tracy Johnston, Leslie Elledge, Woody Miller, and Brandon Casbeer.

Thank you to the Friends of the Gardens at Lake Meritt, John Tsutakawa, and David Deutsch for financial support and to Janet Roth, Steve Nelson, Kiamara Ludwig, Haru Kubota, Pat Clinton, and Kevin Takakuwa for their material contributions to the project.

If you want to keep up with activities at the garden, follow the Western Chapter's Instagram: https://www.instagram.com/NARGS_western_chapter/

Photos from the Edge of the Rockies

Photos by Tim Alderton

In August, 2021, NARGS members gathered in Durango, Colorado, for a socially distanced Annual General Meeting. If you didn't get the chance to attend, here is a little bit of what you missed, as photographed by Tim Alderton.

NARGS members can also watch videos from the conference for FREE: log on at www.nargs.org and follow the link to the videos.

Above: Two views from hiking Engineer Mountain
Opposite: Long House At Mesa Verde National Park

Above: Alpine meadows and lunch on Indian Trail Ridge.
Opposite top left: *Gentianopsis thermalis* Opposite top right: *Gentiana algida*
Opposite bottom: White-tailed ptarmigan (*Lagopus leucurus*)

Alpine Visions: Exploration and Inspiration is the theme of the 2022 NARGS Annual General Meeting to be held June 14-16, hosted by the Adirondack Chapter and co-hosted by Cornell Botanic Gardens in Ithaca, NY. If our program feels like "déjà-vu all over again"…well, in a way it is! The enthusiasm for the 2020 AGM that we were forced to cancel was so overwhelming that we're willing to give it another go and we've tried to retain much of the original itinerary. That's why you may see some resemblances, yet with some important differences, too.

All rock gardens start with a vision, often one inspired by what we've seen in nature. Therefore, we are emphasizing the "exploration" side of our theme. The experience of seeing plants growing in their native habitat can be revelatory, even inspirational. So you will see us welcoming a new line-up of plant explorers as our speakers and we hope you'll be as excited about them as we are.

The three-day meeting will be based on the north campus of Cornell University, voted one of the most beautiful college campuses, with its own botanic garden and arboretum a short walk away. Many of our activities will occur in the Robert Purcell Community Center or nearby. Residence hall lodging is offered literally steps away from this building.

Unofficially, this AGM, like those of the past, provides NARGS members with an annual opportunity to share our gardening experiences with others, to renew friendships, and to form new ones. Together we will share our own plant explorations, inspirations, and visions.

What to Expect: daytime field trips, evening talks (line-up below), plant sales by choice vendors, plus an optional pre-AGM tour to visit three exceptional private gardens in the Syracuse area.

Speakers

F. Robert Wesley, botanist at the Cornell Botanic Gardens, is one of our area's foremost experts on native plants of New York State. He spoke at Taproot 2020, a NARGS virtual conference, on the native plants of the Finger Lakes gorges and the flora of the Chaumont Barrens alvar preserve. This time he will speak about the rich diversity of native orchids in New York State.

Eleftherios Dariotis (aka Liberto Dario, the name he invented for use on his Facebook page) is a horticulturist, botanist, and plant explorer from Athens, Greece. He owns a small nursery and bulb business, travels extensively around the world to study and photograph plants in their native habitats, and leads plant tours, including a NARGS Tour to Greece in 2019.

Buttermilk Falls Gorge

Bill Stark's garden

Sue Milliken and Kelly Dodson are the owners of Far Reaches Farm in Port Townsend, Washington, whose extensive collection of plants is spectacularly unfocused and a plant collector's paradise. They are also founding directors of Far Reaches Botanical Conservancy, a non-profit whose mission is the acquisition and conservation of vulnerable plants of wild and cultivated origin that are new or rare in North America. They travel the distant corners of the world to acquire and conserve horticulturally and botanically important rare plants, learn about them, and teach what they know.

Field Trips

Ithaca is gorgeous! Wednesday is field trip day, which will include a guided walk to explore one of our reknown gorges, visits to choice private gardens, and a lakeside lunch on the shores of Cayuga Lake.

On Thursday, we visit the Cornell Botanic Gardens plant collections with their docents on hand to answer questions. Free time in the afternoon allows you to further explore the Gardens and Arboretum, or to venture to other on- or off-campus attractions.

Additional Activities

NARGS awards, election of officers, and annual report.
Plant sales, book sales and signings.
Thursday evening banquet and open bar.
Post-AGM on-your-own tours of ACNARGS members' gardens.

Schedule

The meeting schedule will be posted on the NARGS website (www.nargs.org) in the forthcoming Winter 2021/22 *Quarterly*.

Registration

Ready to sign up? Online registration will open about January 15, 2022. At that time, further information and the registration link will be posted on the NARGS.org Home Page under Events, listed as Annual Meeting and Tours 2022. The registration fee of $450 payable by credit card will be due at registration.

Lodging

Residence hall lodging is available nearby, literally steps away from the AGM lecture hall. A block of rooms at a special NARGS rate is also being held until May 14 at two nearby hotels (the Homewood Suites by Hilton and Best Western University), subject to room availability. Both offer limited shuttle service to the airport and campus for their patrons.

Pre-AGM Day Trip to Syracuse area gardens

Tuesday, June 14, 8 am – 3:30 pm

We will visit the same three too-good-to-miss private gardens as were scheduled in 2020. They were described with photos and descriptions in the Winter 2020/21 *Quarterly*. Registration will open simultaneously with AGM registration in January, 2022.

- Minimum of 35 to make it a go; maximum of 42.
- $50 includes charter bus and box lunch.
- Breakfast can be purchased for an additional $10.

Questions?

More information about the 2022 AGM will be published in the Winter 2021/22 *Quarterly*. We will also post Frequently Asked Questions on the NARGS website in early 2022. In the meantime, any preliminary questions can be addressed by contacting John Gilrein, registration coordinator, at agmithaca2022@twcny.rr.com.

Natural crevice garden in Buttermilk Falls Gorge

Botanizing the Adirondacks

June 12-14, 2022
$495 double occupancy or $595 single occupancy

Summary

This tour will occur immediately prior to the NARGS Annual General Meeting at Cornell University. The tour well focus on the native flora of the Adirondack region and includes guided hikes to see alpine vegetation on Whiteface Mountain (one of the "High Peaks" of the Adirondacks) and to two bogs in the western Adirondacks. The tour will also visit the Chaumont Barrens alvar and the Adirondack Experience Museum that highlights the history and culture of the region. The tour will use a professionally driven bus and will be limited to 25 participants.

Sunday, June 12

The tour will depart from the Syracuse airport at 12:30 pm and will travel to the Chaumont Barrens to see one of the world's finest examples of alvar grasslands. Alvars are highly unique, prairie-like landscapes consisting of a thin layer of soil above highly fractured limestone bedrock. Here you can see rare plant communities that are not found elsewhere in the Northeast. Among the plants that we hope to find are *Cypripedium parviflorum, Geum triflorum, Phlox divaricata, Sanguinaria Canadensis*, and others. The barrens are also home to an array of warblers and other bird species. Following our time in the barrens, we will continue on to Wilmington, NY, for dinner and lodging.

Monday, June 13

We will leave the hotel at 8:00 to meet our guide (tentatively Kayla White from the Adirondack Mountain Club) for a botanical tour of on Whiteface Mountain. Plants that should be in bloom include *Rhododendron groenlandicum, Vaccinium uliginosum, Trichophorum cespitosum* subsp. *cespitosum*, *Carex scirpoidea* subsp. *scirpoidea*, *C, bigelowii*, and *Salix uva-ursi*. Notable plants we may also see include *Prenanthes boottii, Sibbaldiopsis tridentata, Solidago leiocarpa*, and *Minuartia groenlandica*. After the hike, we will stop in Saranac Lake for lunch and then drive to Blue Mountain Lake to visit the Adirondack Experience Museum. We will end the day in Inlet, NY, for dinner and lodging.

Tuesday, June 14

Our guide for the morning will be Gary Lee, retired New York State Forest Ranger and avid naturalist. We will leave the hotel at 7:30 to meet Gary at Ferd's Bog, where we will hike on a boardwalk to enjoy a wide variety of native plants and birds. Plants that should be in bloom include *Sarracenia purpurea, Drosera rotundifoliam, Rhododendron groenlandicum, Andromeda polifolia,* and more. We will depart at around 10:00 to drive to Remsen, NY. Be prepared to get your feet wet at Remsen Bog while looking for *Cypripedium reginae, Calopogon tuberosus* var. *tuberosus*, and *Liparis loeseliias* as well as pitcher plants and sundews. We will depart from Remsen Bog at roughly 12:30 and hope to be at Cornell University by 3:00.

Other information

• Meals: The tour price include breakfast at both hotels as well as water and snacks on the bus. We will provide transportation to recommended local restaurants for lunch and dinner, but each participant will be responsible for selecting and paying for these meals.

• Lodging: Cadence Lodge in Wilmington and Marina Motel in Inlet. Both hotels are highly rated by Trip Advisor. Single participants may be asked to share room if necessary for all participants to stay at the same location (if room sharing is required, the double occupancy rate will apply).

• Transportation: Air conditioned bus driven by professional driver. The bus is equipped with bathroom facilities.

• Guide and Entrance Fees: Guide and entrance fees to all tour sites are included.

• Hikes: Tour participants should be in reasonable shape and able to traverse uneven terrain. Whiteface Mountain summit is 4,867 ft. versus 4,600 ft at parking area. The goal of the tour is to botanize and is not a test of endurance or climbing skills

• Group Size and Price: The tour price is based on 20-25 participants. If there are fewer than 20 participants, NARGS may need to cancel the tour or increase the price.

Registration for the tour will be handled directly by NARGS and will open concurrently with registration for the AGM.

The Greek Plantsman

Interview of Eleftherios Dariotis by Eric Hsu

Interview first published on the website Plinthe et al www.plinthetal.com
Photos by Eleftherios Dariotis and Eric Hsu
Eleftherios will be speaking at the 2022 AGM in Ithaca, New York.

Please introduce yourself.

My name is Eleftherios Dariotis, albeit many people know me as Liberto Dario, a Facebook name I invented some years ago which has almost overshadowed my real name!

How did you become interested in plants?

I remember as a little child expressing the desire to become a horticulturist and people in my hometown (small town of Peania next to Athens, Greece) looking at me strangely. I usually say it's something I was born with. But I think what sparked the flame in me was a trip to Chicago, Illinois, when I was eight years old that made me realize how dramatically different plants could be in contrast to what I was used to in Athens.

Eleftherios Dariotis, aka Liberto Dario.

Nothing surpasses the power of observation where plant identification is concerned. Did you develop an early routine of botanizing in Greece before you gardened?

Up until quite recently, six or seven years ago, I hadn't developed an affection for the Greek flora. Hence, although I've traveled extensively around Greece when I was younger, the real botanizing trips started only recently. But that wealth of images in my mind of the world flora, much of it coming from my own gardening, really helped to track down the minute differences that separate one species from another in our native flora.

There seems to be a divide in the strength of the horticultural and botanical communities in northern and southern Europe. Northern Europeans appear to have well-developed outlets for disseminating information and plants but southern Europeans depend on a more disparate network, although the Mediterranean Garden Society has redressed this imbalance. How has social media like Facebook or Instagram helped you close the north-south gap?

It's magical how the internet social media have brought plant people together. When I was young it was just me, my plants, and my books. Nowadays I get to contact and exchange plant information with people all over Europe and the world, even people I've looked upon as plant idols as I was growing up. And if it weren't for all those people I wouldn't even consider taking the step from gardening in my backyard to leading plant tours, doing plant sales online, and traveling abroad for plant lectures. And you've probably sensed it, plant people are a special group in general, there is a certain kindness and passion that characterizes them, which makes me feel comfortable.

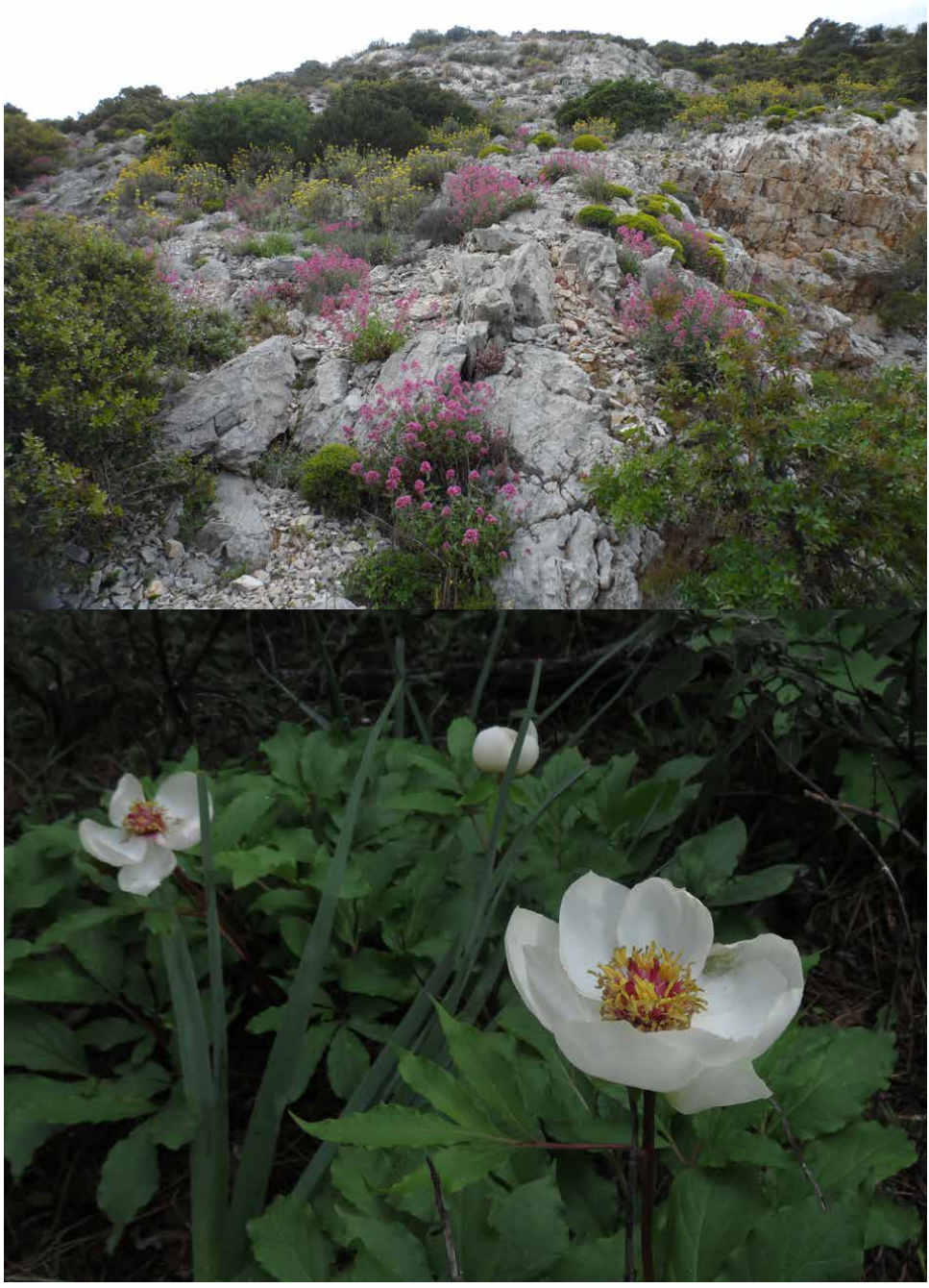
Dariotis admiring wild flowers with a canine companion.

Greece has successfully promoted itself as the ideal Mediterranean getaway for its sun-kissed islands, simple and tasty cuisine, and classical ruins (you know how a decrepit pile of rocks isn't the same everywhere!). How well publicized are its nature treks or the biodiversity in the marketing campaigns?

Apart from some very well-known landmarks like the trek up on Mt. Olympus or the one in Samaria Gorge in Crete, not much is well known. There have been some decent campaigns to promote the importance of Greece as a biodiversity destination but we still have a long way to go. Greece has always been known for its high plant diversity (highest in Europe actually) and many botanists of the previous decades have traveled around to describe it. However, ask a random person – even a plant person – if he considers the country a summer vacation or a plant exploration destination and most will say summer vacation. Obviously, the strength of the images of white-washed island villages and fabulous beaches is stronger. Visiting the country in the blazing heat of August doesn't help you realize what lies beneath those naked soils and dried-up shrubs. But come in April and see how Santorini explodes with color from pink stocks and yellow daisies and you'll be amazed. In fact, correctly timing your trip to Greece to perceive the wealth of its flora is key. And you don't have to forget about the sea; add a small side trip in August to an alpine area of some of our highest mountains and you'll be shocked at the variety of alpines flowering with a backdrop of the sea you've been swimming in 8,200 feet (2,500 m) further down!

I recall you saying that Greece is a different country in spring after winter rains. Most people visit Greece for summer holidays but few come in spring. How would you describe a Greek spring in terms of the landscape?

Spring here is pure madness! You simply can't take in what's going on within those few months of the year. For me what characterizes it is the speed of how things are changing. You visit a hillside one day and you come back after two weeks only to realize that almost everything you see is different. You can 'blame' our weather for that. For an average site, a change from regular night freeze in February to temperatures over 90°F (32°C) in May is not unusual. So everything has to go fast. As soon as the bulbs dare to rise above the ground the annuals come running above them, then the shrubs thicken and overshadow everything. Add to that the dramatic landscape of thousands of islands, mountains, and cliffs dispersed throughout the country and you realize how abundant and diversified plants can be in this small country. I can't remember a single time I've gone through the same trail or dirt road for the tenth time or more and hadn't found myself saying "Wow, this grows here as well? How come I've never noticed it?"



Top: *Centranthus ruber, Phlomis fruticosa* and *Euphorbia acanthothamnos* on Mt.Hymettus
Bottom: The cinnamon scented blooms of *Paeonia rhodia*

Mountains are like islands in the air because they have endemic flora not seen elsewhere, and Greece, being a mountainous country is therefore floristically rich. For an overseas visitor looking for a short botanical outing from Athens, where would you suggest as a starting point or introduction? I imagine that timing is important.

You don't have to stray much from Athens to appreciate our flora. The city is built in a basin surrounded by three big mountains: Hymettus, Parnis, and Pentelikon. They all have very rich flora. In fact, Mt. Parnis has been turned into a National Park, but my favorite has to be Mt. Hymettus, the mountain I grew up looking at from my village. Once covered by extensive *Pinus halepensis* forests, which are still present at the northern end of the mountain, it was severely burned by wildfires during World War I and II, only to reveal and strengthen the populations of bulbs and shrubs that were hiding underneath. Get ready to fill your camera with pictures of orchids. The mountain claims to have the richest orchid diversity in Europe. Forty-plus species of mainly *Ophrys* and *Orchis* are to be found between its limestone

Ophrys tenthredinifera, one of the many orchid species on Mt.Hymettus

Salvia pinnata

rocks. And a walk through the 'frygana' (maquis shrubs) will lift your nose into mint heaven: *Salvia, Satureja, Thymbra, Micromeria*, and more Lamiaceae genera occupy every space available. Or visit in autumn to enjoy the abundant displays of autumn bulbs like *Cyclamen, Sternbergia, Urginea, Crocus*, and *Colchicum* following the first rains.

What are your favorite mountain ranges in Greece you enjoy seeing again and again? Why?

The mountains of central Greece is an area known here as Roumeli. It is a series of never-ending peaks, with a range between 6,500 and 8,200 feet (2000-2500 m), with a difficult-to-cross trail and dirt road network that holds a very rich plant diversity, as they combine elements from the Peloponnese in the south and northern Greece and the Balkans in the north. It is an area I've been traditionally visiting since I was a child for Easter vacation - the area is known to have the most traditional Easter celebrations in Greece - and learned to appreciate it early on. I never get bored visiting the slopes of Mt. Giona turning blue and yellow with *Salvia ringens* and *Scutellaria orientalis* in spring or the high valleys of Mt. Oeta, rich in streams and small freshwater lakes edged by *Gentiana asclepiadea* and surrounded by *Abies cephalonica* forest.

Some endemic alpine plants, like *Campanula oreadum* or *Aquilegia ottonis* subsp. *amaliae* highlight the joys of seeing them thriving in their natural habitats. Do you have a wish list of plants you are keen to see?

A really long one! With a current count of 6,600 species and subspecies and a 15 percentage of endemism in the county, it's hard not to always dream of finding that special plant when I venture into the wild, like *Lilium rhodopaeum*, a yellow lily growing near our northern borders. I'd love to see a number of our very rare fritillaries like the mainly Turkish endemic *Fritillaria elwesii* (only to be found in Greece on the tiny most eastern island of Kastellorizo), *Fritillaria pelinaea (*endemic to the island of Chios*), F. rhodokanakis* from the island of Hydra, and *F. theophrasti* from the island of Lesvos; *Stachys pangaea* only to be found on Paggaion mountain in northern Greece. There is also a beautiful thyme, *Thymus laconicus,* from southern Peloponnese; a beautiful pink, *Dianthus arpadianus*, from Samothrace; *Cephalaria squamiflora,* a really peculiar species in the genus endemic to some Aegean islands; *Centaurea pseudocadmea* with bright purple flowers over a mat of silver foliage found only on three mountain tops in central Greece; and the list goes on! I should stop now.

It was encouraging to see a large number of Greek youth hiking the trail during the EU budget crisis. Have outdoor pastimes typically been popular with the young Greeks?

This is one of the few sectors where the crisis has helped. Following a developing trend of reconnecting with nature via gardening, hiking or leaving city centers to find agricultural work in the countryside, young Greeks are slowly rediscovering the Greek mountains. Islands like Ikaria and Samothrace where hikes are a 'must' are in fashion; and groups of young Greeks arranging to hike Mt. Olympus or the dragon lakes of Mt. Tymfi in northern Greece isn't something you would normally hear about ten years ago.

It is easy to build a reference library of books on Greek flora in no time, although carrying them around isn't convenient. Are there specific lightweight guides you like to tote on your botanical excursions?

I don't go anywhere without two of my books. *One is Vascular Plants of Greece*; an annotated checklist of species in the Greek territory, but carefully designed to help you figure out what is growing where. The other is an older Greek book, *The Botanical Paradises of Greece* by George Sfikas, in which each chapter refers to a particular plant diverse area of Greece, some info on access, and then lists of most important plants to be found there.

The Campanulaceae is one of the largest flowering plant families in Greece. Do you have a reliable way to eyeball the differences among the genera in the field?

That's true, Campanulaceae has its center of speciation around this part of the world, counting many many species, especially in the genus *Campanula*. Some are quite obvious to key. For example, *Asyneuma giganteum* is too big to confuse with the rest in the genus, or *Campanula columnaris* and *Campanula incurva,* which are simply too beautiful to forget. But there are many species, usually rock-dwelling, mat-forming, monocarpic species that need a very careful eye, if not a microscope. In fact, botanists in Greece have been puzzled by those species for years and new research is currently taking place as to whether some, like *Campanula celsii*, are sole species or many different species merged together. It is an exciting family.

Campanula incurva

Eastern Turkey shares similar flora, as the region is part of the Mediterranean basin. What surprised you during your first visit to Turkey?

I was excited to find out that even though I could tell what genus everthing was, the species found in the area were different. Although we share many plants with our neighboring floristically rich country, evolution has created a wealth of different species on each side of the Aegean.

In addition to leading botanical expeditions, you maintain two gardens, one at your parents' and another at your uncle's home in an Athens suburb. Besides water rationing and mosquitoes, what challenges do you face gardening in the climate?

Perhaps the most irritating gardening factor in our local climate is the constant northern winds, especially in summer. That means that your watering needs are multiplying; they are already high with a five-month period of day temperatures between 86 and 109°F (30-43°C). Mulch is usually blown in the air and nothing seems to hold upright by itself. But as in all gardening situations, you learn to live with it.

Your garden at your parents' home doesn't resemble a usual plant collector's garden. The plants aren't lumped together like a hodgepodge in a curiosity cabinet. The view from the top terrace shows masses blurring together and you practiced restraint in having a central gravel patio whose space otherwise would have been given over to more plants. Did you have an edict from your parents regarding the space or did they entrust you to do the job?

The original garden was a fruit tree/vegetable garden with some lawn and the classic rose borders that my father, who took care of it, was very fond of. So my 'eradication' plan had to be done step by step and it took years. One day a rose bush or two went missing, another day a bit of lawn was removed to plant a salvia. I've completely taken over the space now but you can still find some of the old lemon and orange trees that I now appreciate for the shade they provide to my potted bulbs. The truth is that by August the garden is practically inaccessible in most parts, as many plants are left to do their own thing, despite my daily pinching walks around the garden. But that's what I mostly love about this garden; those that are very confined and clipped into perfection just drive me crazy!

The garden in bloom

The range of plants sold in local nurseries or garden centers looks limited to the usual suspects, and it seems that specialist nurseries outside of Greece are the source of your plants. Do you have favorite sources you wish to share with readers?

Practically, visiting one local garden center here is like having visited all around the country. They are packed with traditionally favorite shrubs and climbers like bougainvilleas, oleanders, and gardenias; of course lots of petunias and other annuals for the spring gardening frenzy, which will be sacrificed by June/July to the heat, and not much more. A couple of specialists have sprung up here and there, but essentially if you need diversity you need to search outside the borders.

I'm very fond of the specialist nurseries in France and a number of them are specializing in Mediterranean shrubs and perennials that my mind is set on these days. Apart from the perfection of quality and variety you can find in Pépinière Filippi (their catalog can turn you into a Cistus lover in seconds), I enjoy the specialized offerings of Les Senteurs du Quercy, Pepiniere de l'Armalette, and Pépinière botanique de Vaugines. And of course, if you love salvias, you'll have to get in touch with Elisa Benvenuti and her nursery Le essenze di Lea in Italy.

Olivier Filippi is one noticeable name associated with Mediterranean or dry climate gardening, and the number of plants listed in his book shows how limited the diversity of garden plants is represented as oleander, geraniums, and bougainvillea are used again and again. Does tradition have a restricting influence?

It certainly does in Greece, where people have cultivated the same garden plants for years and their vision is very limited. There is also a lack of wanting to love things that look different. I'll give you an example. Many people in the north of the country have problems keeping their gardenias alive in winter with the freezes. Let's say you present them with a single gardenia that can be hardy for them. You'll hardly get any buyers as the flower is simply not double, hence not beautiful enough. In addition to that, there is literally no culture of xeric or dry climate gardening here, so that makes it more difficult. Try to convince a person to plant the well-adapted *Phlomis fruticosa* in their garden. You'll only get "but this stuff grows everywhere around in the mountains, it is a weed!" Thankfully there are exceptions and the Mediterranean Garden Society has done much to change it.

The mint family (Lamiaceae) is a specialty of yours. What genera currently capture your interests?

There's just something unique in the form of a Lamiaceae flower that attracts me. I'm still looking for that Lamiaceae member that I wouldn't like! Even weedy things like *Stachys arvense* and *Lamium amplexicaule* can make me happy.

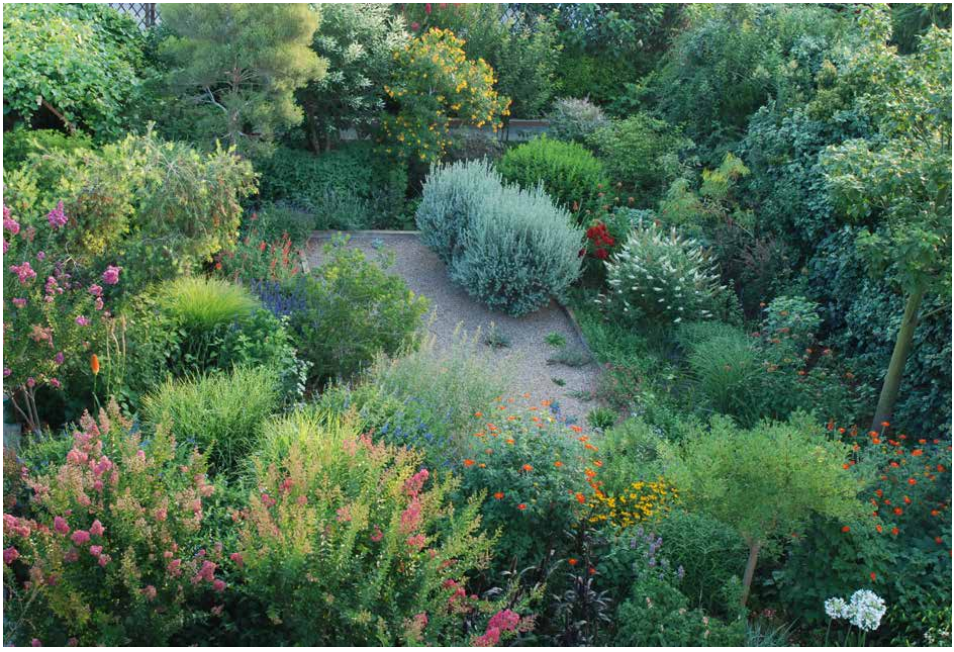
I've been collecting salvias for many years, although I'm slowly turning my attention towards the Mediterranean species and giving up on many of the New World species that just refuse to stay alive with the summer heat or, when they do, stop flowering and look miserable. But the trio of *Teucrium*, *Sideritis*, and *Stachys* is what I'm in love with these days.

As I collect new species, I am amazed at how different their foliage textures and scents are and how much neglect they can take.

Androcymbium rechingeri covers the ground of Elafonisi in western Crete.

Bulbs are another obsession of yours. I recall seeing several dozen pots of dormant bulbs in your propagation area.

A set of 50 mixed tulip/daffodils/muscari bulbs was probably the first plant purchase I did for myself when I was a child. I planted them all in pots, one by one, and then waited. Most did terribly. I was furious! Back then I dedicated myself to grow tulips beautifully, and I managed, but that obsession lasted only a few years. It wasn't until I grew again some *Sparaxis tricolor* bulbs some ten years ago that it hit me again. It opened my mind to South African bulbs. In our similar climate they can grow excellently, and they are so easy to multiply or grow from seed, which also gave me the idea of helping my income by growing and selling them online. I have now lost count of the number of bulb species and varieties in my pot area, probably around 1,000. My favorite genus though is *Oxalis*, of which I grow around 150 species and constantly adding more. It is a pleasure to watch them filling their small pots and there are always some species in flower from September to May.



View of the garden from above

I can't help test your knowledge of Greek mythology. What Greek deity do you identify the most with and why? It doesn't have to relate to your interest in plants.

I'll forget my constant Dionysian appetite for eating good and dancing and I'll go with Hermes, due to his affiliation with traveling and moving fast, much as I like to do in my everyday life.

Umbellifers are very popular in today's gardens for their loose wild feel and pollinator benefits. *Ferula communis* and *Orlaya grandiflora* from Greece are two species widely grown. Any potential species you would like to see cultivated more that don't have an aggressive potential?

The first one that comes to mind is *Thapsia garganica*, which looks like a dwarfed more refined version of *Ferula communis*. Watching it unfurl its umbels from its thick stems in spring is a joy. Then *Malabaila aurea*, a fast-growing, intense yellow annual species with the most attractive seed heads. And *Seseli gummiferum* subsp. *crithmifolium* for its beautiful grey foliage and fat flowerheads - you'll just need a constant drying sea breeze to make it look perfect - good luck.

What is your desert island plant?

It's a very spiny one! *Carlina tragacanthifolia*, an endemic species of the southeastern Aegean islands, which I have seen growing magnificently around the coasts of Karpathos. Huge, lethally spiny, silvery grey cushions, dotted under the baking sun with big shiny yellow daisies, this is one of the few plants that can look amazing in that situation in the middle of August.

What do you look forward to the most?

More plants, more plants, more plants. Growing them, seeing them in the wild, and talking about them.

Thank you Eleftherios!

Carlina tragacanthifolia

Cornell Botanic Gardens

Connecting plants and people to create a world of diversity, beauty, and hope

Emily Detrick

Cornell University is located on the traditional homelands of the Gayogo̱hó:nǫ' (the Cayuga Nation). The Gayogo̱hó:nǫ' are members of the Haudenosaunee Confederacy, an alliance of six sovereign Nations with a historic and contemporary presence on this land. The Confederacy precedes the establishment of Cornell University, New York State, and the United States of America. We acknowledge the painful history of Gayogo̱hó:nǫ' dispossession, and honor the ongoing connection of Gayogo̱hó:nǫ' people, past and present, to these lands and waters.

From the top of Conifer Slope, with Cornell University campus behind you, the land gently falls away at your feet to offer sweeping views of the gardens below. Lush beds of vegetables and fruits are visible at the base of the steep terrain. From there, your eye travels northeast for glimpses of elegant stonework through the birches in the Winter Garden, the orderly edge of the historic Robison Herb Garden, and the deep shade of the Groundcover Collection, then down the colorful annual trial beds lining the driveway to the verdant Bioswale Garden that filters stormwater before it enters Beebe Lake. Towering in both the foreground of the slope and the far background of your view atop Comstock Knoll are majestic white pines (*Pinus strobus*), their feathery fascicles of five needles sighing with the wind that rises off the lake to create waves of cool green against blue sky.

For the people of the Haudenosaunee Confederacy, the white pine is a powerful cultural symbol. The tradition holds that the Peacemaker came among the original five warring Haudenosaunee nations to enact a lasting union by laying out a new way of thinking, a new law and order. As a gesture to continue this practice, the Peacemaker asked them to bury their weapons under a white pine tree, whose sets of five needles represent the five original members of the Confederacy. Known as the "Great Tree of Peace," its branches, cones, trunk, needles, and roots all carry deep significance to the Haudenosaunee people.

White pine is native to the eastern United States, dating back about 10,000 years in the Great Lakes region. Today, only 0.65% of their original density remains. Habitat loss, climate change, and invasive species continue to erode global plant and animal diversity and they are simultaneously leading to the loss of the world's cultural diversity.

As of 2018, nearly 7,000 languages were still spoken worldwide, 50% of which are endangered. Languages are disappearing at a rate of one every three months, faster even than most estimates of extinction risks to plants and animals.

To maintain biodiversity, it is not enough to solely focus on the effects of environmental threats on plants and animals. It is essential that we also consider the impacts of plant endangerment and extinctions on the human cultures that depend on them. Loss of cultures and languages results in lost knowledge of the plant world, uses of plants, and traditional ecological knowledge. Understanding – and celebrating – the link between human culture and biodiversity is necessary for the conservation of each.

How does a garden make a difference?

Cornell Botanic Gardens fights the loss of biological and cultural diversity through increasing awareness of "biocultural diversity." As our Executive Director Christopher Dunn states, "the world demands that we engage with communities and peoples to save plants and their habitats. We are committed to raising awareness, inspiring action, and sowing messages of hope."

Our mission is to inspire people through cultivation, conservation, and education to understand, appreciate, and nurture plants and the cultures they sustain. Advancing this mission helps us realize our vision: a world in which the interdependence of biological and cultural diversity is respected, sustained, and celebrated. This philosophy guides our programs, collaborations, living collections, plant conservation, and stewardship of thousands of acres of diverse natural areas across Tompkins County, New York.

Connecting conservation, curation, and culture

When you first set foot in the Brian C. Nevin Welcome Center at the heart of the cultivated gardens, you enter a bright, airy foyer with cool stone walls and large glass cases that house rotating exhibits. Our current exhibit, Ash Trees: A Story of Relationships, Loss, and Hope illustrates how the invasive pest emerald ash borer (*Agrilus planipennis*) has upset the intricate relationships ash trees (*Fraxinus* spp.) have with the world around them. Ash trees provide shade for understory plants, habitat for nesting birds, and food for over 150 species of butterflies and moths that in turn support birds and other animals, including humans.

Just as importantly, ash trees are significant to many indigenous communities in the northeastern United States and eastern Canada, including the Haudenosaunee. People in these communities use splint from black ash trees to make baskets, a fundamental way knowledge is transferred about plants, tradition, and culture to the next generation. This relationship with ash trees is vital to sustaining their closeness to the land and ancestors.

In our gardens and arboretum, we celebrate the link between biological and cultural diversity by cultivating and interpreting diverse living collections of plants. Our collections feature plants that thrive in our region's current and changing climate and soil, demonstrate resiliency, and, where possible, even help mitigate the effects of the climate crisis. Multifaceted horticultural displays that offer both aesthetic inspiration and function – such as stormwater management – along with accessible interpretation inspire people to positively impact the health of their communities and local ecosystems. Outdoor interpretive books in the Young Flower Garden share cultural legends and lore of deeply symbolic flowers such as tulips, peonies, irises, and roses. While inhaling the sensory delights of the Robison Herb Garden, visitors learn about each plant's use and cultural significance through intensively researched interpretive labels.

Additionally, from the gorges that cradle the Cornell campus to bogs, glens, meadows, old-growth forests, and wildflower preserves, we steward over 3,600 acres of biologically diverse landscapes that represent the full range of ecological communities found in the Finger Lakes region. Our natural areas staff and volunteers protect dozens of locally, regionally, and globally rare plants including the American globeflower (*Trollius laxus*) and fringed gentian (*Gentianopsis crinita*) through in situ and ex situ conservation in collaboration with the Center for Plant Conservation and the Smithsonian Institute.

Summer interns Alexander Schaef, Carolyn Roche, and Degianni Fleming work in the Gardens. Photo: Justin James Muir.

In our accessioned collections, we grow 12 taxa that are classified as globally rare, vulnerable, or endangered, such as Virginia round-leaf birch (*Betula uber*), one of the

Cornell students in Seed to Supper class harvest beans in the Pounder Vegetable Garden.

most endangered of North American trees, and *Quercus oglethorpensis*, another endemic species of the southeastern United States that is threatened by land use changes, competition, and blight. We collaborate with other botanic gardens to collectively preserve maples (*Acer* spp.) and oaks (*Quercus* spp.) as part of nationally accredited, multi-site groups within the National Plant Collections Network. Genetic material from plants in our collections is available for taxonomic studies, evaluation, breeding, and other research. These ex situ conservation efforts help to safeguard these species from extinction.

Partnering with Indigenous communities

In June in the Pounder Vegetable Garden, the emerging tendrils of beans twine elegantly upwards on arching trellises. Sown by Steven Henhawk (Gayogo̱hó:no̱'), instructor for Cornell's first Cayuga Language course, these heirloom beans, grown by his family for generations, will provide not only a living laboratory for students to learn the language and culture of the Cayuga people but will provide hundreds more seeds that will be "rematriated" back to Haudenosaunee community members.

Through partnerships with Cayuga and Tuscarora faculty members, the Pounder Vegetable Garden has been home to traditional Cayuga plantings since 2016, including tobacco, sunflowers, corn, beans, and squash. We work closely with Cornell's American Indian and Indigenous Studies Program (AIISP) to develop demonstrations, interpretation, and programs such as our Fall Lecture Series, which brings diverse speakers and storytellers to the stage to weave the connection between art, lore, food, and plant science.

In 2019, Sean Sherman, James Beard Award-winning chef and founder and CEO of The Sioux Chef, shared his research and insights on indigenous food cultures at the annual Audrey O'Connor Lecture.

An Oglala Lakota born in Pine Ridge, South Dakota, Sherman co-wrote the acclaimed cookbook, "The Sioux Chef's Indigenous Kitchen." After noticing that Minneapolis boasts restaurants from all over the world, "but nothing from the land on which we're standing," he was inspired to conduct years of research into indigenous food cultures. He discovered that the best way to reconnect with those traditions is through learning more about plants.

In his lecture, "The Evolution of the Indigenous Food Systems in North America," Sherman explored the regional differences among various indigenous cultures from around the continent, noting that each area's geography – coastal, swamp, desert, forest – led to distinctive approaches to food. Indigenous foods play a central role in protecting biodiversity, by raising awareness of native plants and their value as foods and to the ecosystems they support. By protecting and using these vital plants for nutrition, we also conserve the cultures that traditionally have relied upon them.

Sherman's visit to Cornell was co-sponsored by the American Indian and Indigenous Studies Program and the Cornell Atkinson Center for a Sustainable Future; organizations that also share an understanding of the importance of indigenous food systems to the health of people and the planet.

At Cornell Botanic Gardens, we bring these connections to life through our Cultures and Cuisines program, a partnership with local chefs featuring food from the gardens. Rich, layered meals connect participants to not only unique flavors and creative combinations, but also the history, cultivation, and use of lesser-known edible plants such as the ancient grains amaranth, quinoa, and chia.

Cultivating a new generation of environmental leaders through stewardship, co-creation, and sense of place

Perhaps the most important effort we can pursue is to ensure the fight to sustain biocultural diversity will be carried on. Cornell University students are both our audience and our allies. We strive to create space for many levels of experience in the gardens and natural areas, from NatureRx to rigorous research and everything between. Former Botanic Gardens intern Alex Schaef reflected "as the summer unfolded, the internship became an embodiment of creative liberation, a source of imaginative passion, and a landmark of personal and enlightened growth."

Like an ecosystem, our internship program is evolving. Our new Learning by Leading (LxL) program is a network of student-led teams — supported by Cornell Botanic Gardens' staff and resources — that are passionate about environmental issues, skilled in collaboration and communication, and capable of adapting to and overcoming challenges.

Heasley Rock Garden at Cornell Botanic Gardens in June 2019.

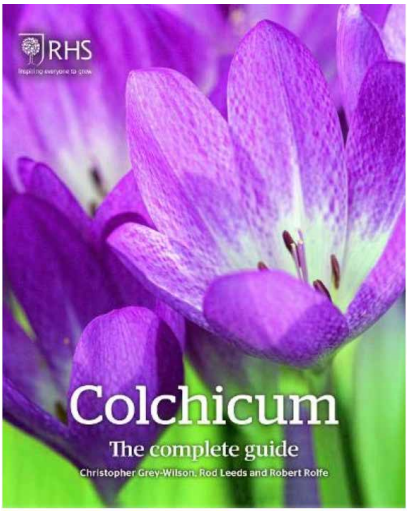
Learning by Leading students are actively developing sustainable landscapes, horticultural enterprises such as plant sales that support our mission, and connecting to broader audiences through programs. One example is the new Garden Stories initiative, which invites visitors to share personal stories of their special connections to plants in the gardens, recorded via digital media to be shared more broadly with the community.

Perhaps it will be this next generation of environmental leaders who propel our rock garden forward. Like houseleeks (*Sempervivum tectorum*, whose botanical name literally means "live forever" and "on roofs,"), this garden has weathered many storms. Leek, and spelling variants such as leac, is an old Anglo-Saxon word for plant. Perhaps the original "house plant," succulent *Sempervivums* were grown by the Romans atop their thatched dwellings and believed to ward off lightning strikes and fire, a tradition that persists today among some Welsh communities to preserve the health and prosperity of a household.

This small but enduring rock garden (which you can read about in the Fall 2019 *Quarterly*) is underfunded and struggling but is sustained by the generous energy of several local NARGS Adirondack chapter volunteers who join me weekly to weed and plant when we can. It is a labor of love that has strengthened bonds between us, the plants, and each other. We are currently seeking a donor to rename, expand, and renovate this garden so that we can preserve the existing collections and grow it into a demonstration that better supports our mission, enriches our programs, and connects people to alpine plants, ecology, and culture.

Bookshelf

Colchicums: The Complete Guide



Colchicums: The Complete Guide by Christopher Grey-Wilson, Rod Leeds, and Robert Rolfe, (Royal Horticultural Society, 2020).

Two decades ago I purchased *Colchicum speciosum* and *C.* 'Giant' from a bulb firm that guarantees its bulbs to be true to type. When they bloomed, they looked exactly the same to me—same height, same color, same bloom time. My insecurity as a new gardener made me think I must not be noticing some small detail, so I never complained to the company. Eventually I concluded they were both 'Giant'.

If I had had *Colchicums: The Complete Guide* when those colchicums bloomed, I would have had the confidence to ask for a replacement. At the time, my only reference work was E.A. Bowles' *Crocus & Colchicum*, first published in 1924. My copy was a 1985 reprint with just four color photos of colchicums (but not of 'Giant' or *C. speciosum*). *Autumn Bulbs* by Rod Leeds (2005) had many more color photographs of colchicums, though not of every kind described. The descriptions in the book were intended for general readership and lacked measurements of flowers and leaves.

Yes, it was high time for a monograph on colchicums. The Royal Horticultural Society of Britain gathered 132 accessions of five corms each and evaluated them for three years at "an open, sunny bank adjacent to the dry garden at RHS Garden Hyde Hall." The first job was to make sure each accession was correctly named. Forty percent of them were not, which gives you an idea of the job ahead of them. They addressed questions like why doesn't 'Violet Queen' look violet, is *C. giganteum* a species or a cultivar, what the heck does *C. bornmuelleri* really look like, and how do I know if this is *C. byzantinum* or *C. cilcicum*? All burning questions if you're trying to collect colchicums and don't want to order one you've already got.

I had this idea that a monograph was a pedantic, dry textbook. This book proves it doesn't have to be. The photography is excellent and the writing is clear, concise, and as free of jargon as it can be and still be

scholarly. (There is a glossary of botanic terminology if, like me, you don't know what infundibuliform and loculicidal mean, among many others.)

And make no mistake, it is scholarly, all 576 pages of it. Species are lumped and split, taking the latest research on chromosomes into account. There is a key for identifying species and a chart summarizing the most significant characteristics of each. There is a thorough discussion of colchicum's cultivation history, its morphology, best cultivation practices, and the role of colchicine in human affairs. Each species is discussed in turn, with at least one photo and usually more, and a thorough description of its characteristics and history. There is a section on cultivars, where the vast majority of garden-worthy colchicums are found. As with the species, each cultivar gets its own portrait, a general description of its history and appearance, and a detailed description of its characteristics. If there has been any confusion about identity in the past, that problem is addressed. A bibliography and a checklist of epithets (current names, previous names, and synonyms) are found at the end.

For North American gardeners, there is one drawback to this book: it was written by British scientists for British gardeners. I love watching British gardening shows and reading British gardening magazines, and one thing is clear: when it comes to climate, the Brits don't know how good they've got it. Their concept of "cold winter" and "hot summer" is skewed. They have a USDA Zone 4 summer and a USDA Zone 8 or 9 winter. They don't have the capability to evaluate the colchicums' limits of cold or heat tolerance.

Furthermore, colchicums behave differently in my colder climate (USDA Hardiness Zone 5). The authors note that leaves of some cultivars emerge right after flowering. In my climate, none truly emerge in winter. Some colchicum leaves may emerge an inch by late November, but then go into suspended animation as they are covered with snow. As soon as the snow melts, all colchicum leaves grow rapidly, no matter what species or cultivar. It is also unclear what other effects the more moderate British climate may have had on the trials they conducted. The authors call *C. speciosum* 'Album' a prolific grower, but it grows slowly for me. 'Lysimachus', the authors say, is slow to increase, but I find it multiplies much faster than 'Album'. *C* x *agrippinum* is "one of the first to flower" for them, but I would call it a mid-season bloomer. I really don't know to what extent these differences are due to climate. It's possible our race of 'Album' is genetically inferior, for example.

The bottom line is, you'll just have to do what rock gardeners always do: pay attention to the plants' native range, and choose plants whose native climate most closely matches your own. Experiment and accept that there will be losses. *Colchicums: The Complete Guide* is indeed complete; so if you are just dipping your toes in the colchicum waters, this may be too much book for you. But if you have grown a few varieties and want to delve deeply into the genus, this is exactly the book you want.

Kathy Purdy

NORTH AMERICAN ROCK GARDEN SOCIETY

Bulletin Board

fall
2021

volume 79 | 4

President's Message: fall 2021

Imaginary gardens with real toads in them

-- "Poetry" Maryanne Moore

Over the last year or so, while so many of us were "safe at home," more and more people discovered the enormous healing power of gardening. Botanic gardens have garnered gangbuster attendance, and nurseries can't keep up with the demand for plants. NARGS was blessed to have the visionary leadership of immediate past president, Elisabeth Zander, who inaugurated the world's first rock gardening Zoom Virtual Symposia that attracted tremendous attendance and expanded NARGS membership. On the first week of August this year 180 rock gardeners attended an in-person Annual General Meeting in Durango, Colorado, that was a rousing success. The program began on Thursday when Craig Childs, the author of over a dozen extraordinary books did a presentation on rock art, and rocks as art which was itself performance art. Two native American botanists (Arnold Clifford and Adriano Tsinigine) presented on Friday, providing a resonant context in human culture for the regional flora we were traversing on field trips during the day. (You can garner a glimpse of the richness of these field trips from Piedmont Chapter's Tim Alderton's photographs in this issue). Anthony Culpepper of the Mountain Studies Institute in Durango presented dramatic documentation on the impact of climate change on the alpine. Saturday concluded the program with Mike Kintgen sharing spectacular highlights of three decades of his exploration in the Southern Rockies and Marcela Ferreyra dazzling us with images of the Patagonian Andes and their extraordinary flora. Twelve awards were handed out, and best of all, these presentations were recorded, and all NARGS members will able to watch them on the internet—free of charge! (Check our website at www.nargs.org to access these Durango presentations.)

A productive meeting of the NARGS Board and the Administrative Committee (Adcom) launched the beginnings of a campaign for increasing membership and services. A return of winter study weekends along with the AGM (two meetings a single year!) is planned for 2024.

When I was a child first awakening to the beauty of wild plants, there were still vacant lots in Boulder, Colorado, where I grew up. A block south of my house, adjacent to the 40th Parallel (Base Line Road) a quarter-acre plot was studded with hundreds of Languid Ladies (*Mertensia lanceolata*), which I illustrated on the summer, 1978, cover of the *Quarterly* (back then it

was just a "Bulletin"). Forty-three years later I've been elected president of NARGS. During the half century of my participation in this organization I have visited rock gardens and the homes of members across most of the United States and countries around the globe.

The variety of styles, the breadth of plants grown by our members, and above all the exquisite artistry of members' gardens around the world never cease to inspire me. The rock garden community possesses a fantastic store of knowledge, experience and wisdom about the plant kingdom, cultivating all manner of wild plants, which we share through our unique Seed Exchange (the only one indexed by donor!). NARGS members possess an intimate knowledge of the ever-threatened, frail, and precious wild places where these plants grow.

The vacant lots of my childhood are no more. A house sits where I marveled at *Mertensia lanceolata*. Apartment houses, mega-mansions and strip malls have smothered so many of the precious wildflower haunts of my childhood. Who in this Society has not witnessed and mourned similar losses? I suspect that part of the engine that drives NARGS is a desire to somehow compensate for the enormous impacts that humanity has had upon the natural world. We seek out and cultivate the wildlings that fill our gardens as acts of exploration, study and science. In the process we learn the needs, the importance and often the plight of wildflowers in the natural landscape. The beautiful settings we create in our gardens can't in themselves compensate for the damage of the Anthropocene, but I'd like to think they constitute a sort of to the caustic aspects of civilization. Aren't our gardens an intensification, a bold recreation of the natural world in the very heart of humanity?

In the last few decades, millions of young people around the globe have become devoted to "plant parenthood," just as the Boomer generation launched the perennial boom of the last century. I hope NARGS will become the vessel that will welcome a new generation of passionate gardeners to re-wild our cities. Let us open our arms and gardens to them! I don't necessarily expect to see a crevice garden in every back yard, but every home should have some manifestation of nature: a pocket prairie, a xeriscape with succulents, a woodland corner with trilliums and toad lilies, or a miniature bog in a barrel. I see no reason why there shouldn't be an alpine trough alongside annual containers on every patio, or balcony even on the loftiest alpine skyscrapers of New York where our Manhattan Chapter flourishes!

It's time to take our plants and gardens out from under the bushel basket and let them shine!

We tend our garden, we set the sun
This is the only place on Earth blue bonnets grow
And once a year they come and go
At this old house here by the road
-- From "Gulf Coast Highway" by Nanci Griffith

New and Rejoining Members

Welcome to all those who joined or rejoined between May 19 and August 22, 2021

Amrhein, David, Allison Park, PA
Arbogast, Belinda, Littleton, CO
Bolton, Sharon, Denver, CO
Bregar, John, Durango, CO
Campbell, David, Olympia, WA
Cifelli, Dante, East Hanover, NJ
Clark, Linda, Philadelphia, PA
Clark, Marilyn, Culver, OR
Conrad, Jane, Durango, CO
Croce, Baum, Mount Desert, ME
Danielson, Roxanne, Douglas, MA
Dorje, Ananda, Seattle, WA
Eitner, Paul, Norristown, PA
Fouts, Bryant, Sylva, NC
Geurtz, Sarah, Springdale, AR
Hartigan, Mary Ann, Boulder, CO
Henning, Jack, Bronx, NY
Hibbard, Jennifer, North Stonington, CT
Hunter, James, Snoqualmie, WA
Isaac-Luke, Kathie, Sonora, CA
James, Mary, Port Angeles, WA
Klein, Mary, Incline Village, NV
LeClerc, Barbara, Smithtown, NY
Lotko, Anna, Boulder, CO
Matin, Kyra, Seattle, WA
Maynard, June, Coventry, CT
McKelvey, Michael, Hillsboro, OR
Milliman, Jane, Rochester, NY
Montane, Eva, Durango, CO
Morrison, Katy, Eagle River, AK
Negri, Lisa, Denver, CO
Olsen, Johnathon, Milwaukee, WI
Parish, Margaret, New Hope, PA
Randolph, Logan, Winter Haven, FL
Randolph, Mary, Maple Grove, MN
Redding, Helen, Cookeville, TN
Santos, Carol, Big Bear City, CA
Scoggins, Holly, Newport, VA
Shrauner, Kathy, Seattle, WA
Sworden, Kathleen, Napoleon, OH
Tapp, Elaine, Aurora, CO
Traylor, Cheryl Capaldo, Cary, NC
Urda, Alene, Wyandotte, MI
Versteegh, Gerard J. M., Vorwerk, Germany
Wheeler, Charlotte, Tenafly, NJ
Wiegand, Charlotte, Norristown, PA
Young, Ann, Colorado Springs, CO

Upcoming NARGS Meetings:

Ithaca, New York, June 14 - 16, 2022

Nova Scotia, Canada, 2023

Special Note on Email Messages from NARGS

We appreciate your patience. We are currently experiencing difficulties with getting email through various email servers like Hotmail, Outlook, MSN, etc. Please contact us directly for assistance with difficulty logging into the web site.
Email: membership@nargs.org

NARGS Donations

Donations to NARGS between May 1 and July 30, 2021.

To support the seed exchange, *Rock Garden Quarterly*, the general fund, and in memory of Nari Mistry (Ithaca, NY).

Adirondack Chapter of NARGS (New York)
Allegheny Chapter of NARGS (Pennsylvania)
Urban Forestry Organization (New York)
Boley, Linda Gay (Colorado)
Burch, Ronald (Washington)
Clark, Thomas (Massachusetts)
Friberg, Shirley (Minnesota)
Hagan, Patti (New York)
Hoeffel, Joan Z. (New York)
Kidd, Cameron (British Columbia)
Lewis, Mary (New Hampshire)
Love, Stephen (Idaho)
Rifkin, Gerald B. (Pennsylvania)
Rodich, Richard T. (Minnesota)
Schmidt, Loren (Alberta)
Schueler, Lynn (Washington)
Ulmann, Mary Ann & Chuck (Pennsylvania)
Wulff, Ella May T. (Oregon)
Yates, Richard (United Kingdom)
Zander, Elisabeth (Connecticut)

Save The Date: Virtual Study Days

Saturday, November 13, 2021
NARGS Rocks: Woodlands

January 15, 2022
NARGS Rocks: Succulents
Check the website for details

Seed Exchange

Record-breaking heat waves around the world or unending days of rain have meant misery for gardeners and their gardens. We do hope that the inhospitable weather did not diminish your seed crops, although it probably reduced your time to go out and collect. But, in the often perverse way of Nature, it probably didn't make a dent in the populations of weeds (or ticks).

Thank you, to those who have already sent donations to the Seed Exchange. But it's not too late for other members living in the U.S., as seeds mailed now should reach Laura Serowicz by the November 1 deadline. If you're almost set but running slightly (only slightly) behind schedule, you can email her the list of your seeds now and then send the seeds themselves as soon as you possibly can.

This also applies to any seeds that ripen late in the fall: send list and ripe seeds now, late-ripening seeds soon (definitely by December 1).

If you receive your copies of the *Quarterly* digitally, then you will need to either download and print a copy of the seed exchange donation form from the nargs website, or request one from Laura. And if you reside anywhere outside the U.S., you will also need to request copies of our Small Lots of Seed import permit and the green&yellow mailing label – which can be sent to you either electronically (for you to print in color) or by mail. This will need to be done each year, and can be requested from Laura Serowicz:

15411 Woodring Street
Livonia, Michigan 48154-3029
U.S.A.
seedintake@mi.rr.com or seedintake@gmail.com

Then watch for the Seed List on our website, which will be posted for your perusal a couple of days in advance of December 15, when online ordering will go live. While you're waiting, do make certain that you can log in to the nargs.org website's members pages using your username (or email address) and password. If you need to change your email address, contact our Executive Secretary Bobby Ward (nargs@nc.rr.com).

We are anticipating website upgrades, in the near future, that will make it easier to log in. If you encounter any difficulties, contact our webmaster Elisabeth Zander (nargswebmaster@gmail.com).

If you prefer to place your seed order by mail, send a request for the print copy of the Seed List and order form by December 1 to:

Joyce Fingerut
537 Taugwonk Road
Stonington, Connecticut 06378-1805
U.S.A.
alpinegarden@comcast.net

Be sure to include your postal address.

Once all the seeds have all been received and recorded, several of our chapters and individuals will set to work, dividing and packaging the donations. It generally takes around 15 groups, plus some individuals working alone, to complete the thousands of labeled packets that will go out to our members. This year, seed orders in the Main Distribution will be handled by volunteers in the Delaware Valley Chapter, and we are grateful that they were willing to step in and take over this responsibility. The doughty members of the Great Lakes Chapter will again handle the Surplus Round of orders.

Our warmest thanks to all who help keep the Seedex going strong!

Members in Australia, please take note: You must pay close attention to BICON's list of permissible taxa and be vigilant about requesting only those items that are acceptable within your country's regulations. If an offending packet is included in your order, it can doom the whole order – not just the restricted packet – to being confiscated. The rejected seeds are not returned to us, and we cannot re-fill and re-send your order.

Overall, governments are becoming more stringent about the seeds entering their countries, with some (Japan, the UK, and the EU) enacting new import restrictions. This has added delays at both ends of the process: obtaining phytos here, and customs inspections at the point of entry in your country. So please be patient.

--Joyce Fingerut, director NARGS Seed Exchange
Email: alpinegarden AT comcast.net

NARGS Book Service

Kalmia - Mountain Laurel and Related Species by Richard Jaynes - Details on propagation, pests, crosses, soil, pictures, etc. Hardcover, 295 pages. Originally $35, now $10. 2 copies

Lewisias by B. LeRoy Davidson. Hardcover, 236 pages. Originally $35, now $10. 3 copies

Buddlejas a Royal Horticultural Society Plant Collector Guide by David D Stuart. Hardcover,192 pages. Originally $35, now $10. 1 copy

Timber Press Pocket Guide to Ornamental Grasses by Rick Darke. Soft cover, 226 pages. Originally $20, now $10. 1 copy

Handbook On Troughs by The North American Rock Garden Society. Paperback, 76 pages. $7 each, or 10 for $35 for NARGS chapters. 150 copies

Rock Garden Design and Construction by North American Rock Garden Society. A collection of monographs by various authors. Originally $30, now $20 each, or 10 for $150 to chapters. 69 copies

The Caucasus and Its Flowers by Holubec and Krivka. A coffee table book of pictures with detailed descriptions of plants. Hardcover, 390 pages. Originally 96 Euros, now $40. 1 copy

The NARGS cloth Dodecatheon patch. 4x2.25 inches. $5 each, or 10 for $40 to chapters. 85 patches

The NARGS metal Dodecatheon pin. 1x 5/8 inches. $5 each or 10 for $40 to chapters. 75 pins

Questions or orders? Contact Dave Collura:
NARGSBOOKS@gmail.com

Sorry, but mail-order sales in the U.S. only.

Call for NARGS Nominations for 2022 Three Directors

NOTE: The deadline for nominations is November 1, 2021

The NARGS Nominating Committee announces its call for nominees for the 2022 election of three directors. It is up to all members to consider whom they might nominate. Self-nomination is also acceptable. Please refer to the By-Laws at <nargs.org/laws> to read a description of the duties of directors.

Directors serve for three years. Every year three new directors are elected as three directors have completed their term. The Directors may be elected for a second three-year term.

The mission of the Nominating Committee is to select candidates for the position of directors and officers who want to serve, have the qualifications to serve, and who fulfill as much as possible the need for geographic diversity between the continuing board members and new members. Geographic diversity can not always be achieved.

We will accept names submitted by any current member of NARGS for these three positions. The nominee must be a member of NARGS.

Please provide the following information for each nominee:

1. Name, chapter (if applicable) e-mail address, and position for which each person is nominated.
2. Bio of nominee (100 words or less written by nominee)
3. Picture (shoulder length face shot)
4. Note of acceptance from the nominee indicating a willingness to be a NARGS Director (three-year term)
5. Your own reason for nominating the person.

Note the bio and the picture will be published in the *Rock Garden Quarterly* and on the NARGS website if such nominee is on the final slate or subsequently stands from the floor. All the above is for use by the Nominating Committee. The deadline for nominations is November 1, 2021. Nominations should be emailed to Ed Glover, chair of nominating committee: glover@oncology.wisc.edu

Timetable

STAGE 1: Timetable and call for nominations are published in the fall 2021 *Quarterly*. Nominations to Nominating Committee by deadline of November 1, 2021.

STAGE 2: Nominating Committee agree on a slate to be published on website on December 31, 2021.

STAGE 3: From the floor nominations January 1-31, 2022.

STAGE 4: Combined list of candidates to be published in spring 2022. *Quarterly* (deadline February 1 for dispatch late March) and on the website.

STAGE 5: Election online: Monday, May 2 through Sunday, May 15, 2022.

STAGE 6: Announcement of election results subsequent to ratification at Board Meeting in June 2022.

The following recently became NARGS Patrons:

Caroff, Julie (Michigan)
Eitner, Paul (Pennsylvania)
Fitzpatrick, John (Maryland)
Forbes, Holly (California)
Gaffney, Kathleen A. (New York)
Gresham, Cyane (Pennsylvania)
Henning, Jack (New York)
Riehl, Deborah (Washington)
Rousseau, Margaret (Maine)

Book of the Month

Do you like to read about rock gardening and horticultural subjects? Please share your useful insights with other members and get a free review copy of the book for your efforts. Reviewers are always sought for the NARGS website Book-of-the-Month feature. In return for submitting a 300-400-word review of the book of your choice, the book will be sent to you free of charge. Select your own title for review or suggestions can be provided.

Please contact Steve Whitesell at elysium214@aol.com for more information.

Email Address

If you have never supplied your email address to NARGS or it has changed, pleased email it to: nargs@nc.rr.com . We do not share our email addresses outside of NARGS. Your email address helps us communicate with you.

2021 NARGS Awards

Panayoti Kelaidis, chair of the NARGS Awards Committee, announced the 2021 recipients at the Durango, Colorado, annual meeting:

Award of Merit
Nick Courtens (Colorado)
Gayle Lehman (Colorado)
Mariel Tribby (Missouri)

Linc and Timmy Foster Millstream Garden Award (Special Garden)
John Stireman (Utah)

Linc and Timmy Foster Millstream Garden Award (Alpine Garden)
Tony Stireman (Utah)

Frank Cabot Public Rock Garden Award
Betty Ford Alpine Gardens (Colorado)

Marcel LePiniec Award
Bill Adams, Sunscapes Nursery (Colorado)

Edgar Wherry Award
Al Schneider (Colorado)
Rocky Mountain Biological Laboratory (Colorado)

Carleton Worth Award
Brian Bixley for "Minding the Garden" book (Ontario)

Marvin Black Award
Elisabeth Zander (Connecticut)

Geoffrey Charlesworth Writing Prize
Mike Smedley for "Battling Clay on Garage Hill" (Colorado)

Norman Singer Endowment Grants
Tower Hill Botanic Garden (Massachusetts) to develop rock garden collection and crevice garden display
Paul Spriggs (British Columbia) & Kenton Seth (Colorado) to support book on crevice gardening in North America
Scraps-to-Soil Crevice Garden (Colorado) to create a crevice garden at the Idaho Springs, Colorado, Community Center

NARGS Traveling Speakers Program

The Regional Chairs of our Traveling Speakers Program are working on plans to bring speakers from abroad and across North America to chapters in 2022, assuming the state of the COVID pandemic allows this travel. We will post information about speaker schedules on the NARGS website and in the *Quarterly* as plans develop. Elisabeth Zander, Chair of the Northeastern Region, is planning on using that region's funding to bring crevice garden gurus Kenton Seth and Paul Spriggs to chapters in early June 2022, and then Gerard van Buiten from Utrecht Botanic Gardens in the Netherlands in the fall. Stay tuned for details from other regions as they are available and check with your local chapter leadership for updated information.

Rosemary Monahan
rosemonahan AT comcast.net

We have learned of the death of the following NARGS members:

Billie Jean Isbell, Santa Fe, New Mexico (Adirondack Chapter)

Nari (Nariman) Mistry, Ithaca, New York (Adirondack Chapter)

Wanda Mae Decker MacNair, Cambridge, Massachusetts (New England Chapter)

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION
(Required by 39 U.S.C. 3685) 1. Publication title: Rock Garden Quarterly. Publication number: 1081-0765. 3. Filing date: Sept. 6, 2021. 4. Issue frequency: quarterly. 5. Number of issues published annually: four. 6. Annual subscription price: $40.00 (USA, Canada), $45.00 (overseas). 7. Address of known office of publication: NARGS, c/o B.J.Ward, 214 Ashton Hall Lane, Raleigh, NC 27609-3925 / P.O.Box 18604, Raleigh NC 27619-8604. 8. Address of headquarters or general business office of publisher: NARGS, c/o B.J.Ward, 214 Ashton Hall Lane, Raleigh, NC 27609-3925 / P.O.Box 18604, Raleigh NC 27619-8604. 9. Names and addresses of publisher, editor, and managing editor: Publisher: NARGS, c/o B.J.Ward, 214 Ashton Hall Lane, Raleigh, NC 27609-3925 / P.O.Box 18604, Raleigh NC 27619-8604. Editor: Joseph Tychonievich 1629 Sunnymede Ave, South Bend, IN 46615-1327. Managing editor: None. 10. Owner: North American Rock Garden Society, c/o B.J.Ward, 214 Ashton Hall Lane, Raleigh, NC 27609-3925 /P.O.Box 18604, Raleigh NC 27619-8604. 11. Known bondholders, mortgagees, and other security holders: None. 12. The purpose, function, and nonprofit status of this organization has not changed during preceding 12 months. 13. Publication title: Rock Garden Quarterly. 14. Issue date for circulation data below: July 2021. 15. Extent and nature of circulation. A. Total number of copies: Average number of copies each issue during preceding 12 months: 1720; No. copies of single issue published nearest to filing date: 1786. B. Paid Circulation (1) Mailed outside-county mail subscriptions stated on form 3541: average during preceding 12 months, 1586; issue nearest filing date, 1677. (2) Mailed in-county subscriptions stated on Form 3541: average during preceding 12 months, 0; issue nearest filing date, 0. (3) Sales through dealers, carriers, street vendors, counter sales, and other non-USPS distribution: average during preceding 12 months, 0; issue nearest filing date, 0. (4) Other classes mailed through the USPS: average during preceding 12 months, 129; issue nearest filing date, 94.
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