

NORTH AMERICAN ROCK GARDEN SOCIETY

The Rock Garden

QUARTERLY

SUMMER 2016



CONTRIBUTORS

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

Bill Beuerlein is a long-time gardener and retired mechanical engineer who enjoyed transforming his technical writing expertise to writing about something he has loved for years. Gardening runs in the family. In fact, Beuerlein translates to “little farmer” which could be taken loosely to mean gardener. Bill gardens in Cincinnati and his garden is always open to visitors.

Malcolm McGregor lives and gardens in the UK in East Yorkshire from where he edits this journal. Long-time saxifrage enthusiast, he has been editor for the Saxifrage Society, is now their Honorary President, and he has also edited the journal of the Scottish Rock Garden Club. Apart from plant-related activities Malcolm lectures on literature and in particular on the novel.

Susann Nilsson says that her garden of rockeries, woodland, and perennials is very neglected due to her studies of *Pulsatilla* for which she travels widely. In the wild she prefers high mountains, well above the tree line. She prefers to grow plants from seed and is very interested in “How plants work - that is, botany. Plants are much more than just growing them.” Susann runs a small B&B in a village in the countryside in southern Sweden.

Barry Starling has had a lifelong association with plants in spite of the fact that at age three he was soundly spanked for pruning the opening blooms from a bed of tulips. He ran a nursery in southeast England for 30 years before moving to a seven-acre plot on the northeast corner of Dartmoor in Devon, in southwest England. A member of NARGS for 43 years, his first article for the *Bulletin* (now *Quarterly*) was published just two years after joining the Society!

Jacques Thompson and his wife Andrea are lifelong gardeners and have lived and gardened in Pittsfield Township, just southeast of Ann Arbor, for 27 years. They are life members of NARGS and have an extensive garden, including a great deal of tufa.

Pamela Yokome retired from almost 40 years in the engineering field to fill her days with Darts Hill Garden projects. She is Vice Chair of the Trust Society there as well as Guide Coordinator and a member of the propagation group. Her special love is growing unusual plants from seed or cuttings. Another interest of Pam's is her ever-expanding bonsai collection.

Front cover: Jacques Thompson working on a stone trough

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The Rock Garden
QUARTERLY

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From the Editor

SO, JUST WHAT is NARGS for? What, if you like, is NARGS's prospectus? What's its platform? Every plant and garden society has to keep asking itself the same questions if it wants to stay alive.

At the core of any society such as ours are fantastically enthusiastic gardeners and plants people who want to share their love of what they do with others of like mind. For many this is through chapter meetings with a program of speakers, garden visits, show-and-tell, plant sales, book sales or chapter libraries, which form the core of activities for their members. Every chapter has a different mix and it's one of the joys of travelling round and meeting different groups that they do: meeting people, seeing plants you'd never otherwise see, meeting great growers. But many members, and that includes me, don't have a local chapter to visit. For us, the value of NARGS is still that we belong to a community of like-minded enthusiasts.

This issue of the *Quarterly* has articles that relate to many aspects of what NARGS does:

- seed exchange,
- project funding,
- information about new plants and North American plants,
- gardening methods and techniques,
- annual meetings,
- awards

and then there is the *Quarterly* itself.

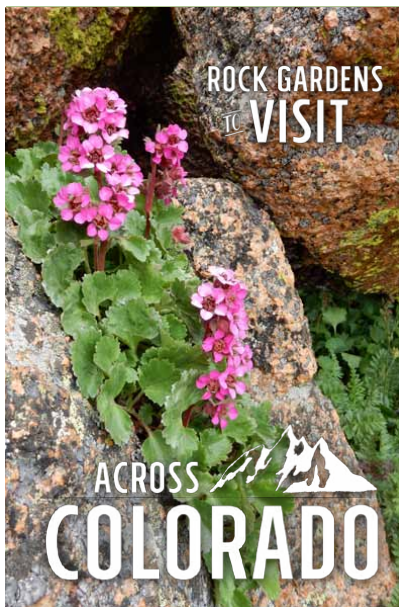
The seed exchange is a perfect exemplar of what NARGS is about: by members, for members. The continental core of members from North America supplemented by the intercontinental reach of non-North American members, provides the fabulous range of seeds available. The SeedEx team led by Joyce Fingerut and Laura Serowicz organise, with help from one or more chapters, the documentation for customs, collection of donations, recording of donors, packeting and then distribution of seeds. And then there is the follow-up of the Second Round. With thousands of plants on the seedlist, and whatever their enthusiasm, no specialist nursery can ever provide such a range of plants although they can make available rare gems that would otherwise not be possible to source. Bill Beuerlein writes about growing seed but you don't have to wait until December to start making your desired seedlist. The website has previous years' lists on it from 2005 to 2015. So there's no excuse – you can check out just what might turn up – you can always get your list sorted in advance.

Next up is the role of the NARGS in supporting projects through the Norman Singer Endowment Fund. This issue features the results of

two such projects – one is Susann Nilsson’s journey which was partly underwritten by the Fund; and the other project was enabling the purchase of the plants for the tufa crevice bed at Darts Hill Garden in Vancouver which is reported by Pamela Yokome..

NARGS has supported many rock gardens through the Fund. In the Winter 2015/2016 issue we featured Yampa River Botanic Garden in Steamboat Springs, for example, where the Fund helped pay for the labelling of their collection.

In passing it is worth mentioning that the Fall 2015 article ‘Public Rock Gardens Across Colorado’ formed the basis, re-edited and redesigned including a title panel by Matt Mattus, and with extra sections and photographs, for an 18-panel, 12 x 18 inch, folded “Rock Gardens to Visit Across Colorado” leaflet. The leaflet also included information and membership details about NARGS. This was printed by *Colorado Gardener* to be included with their publication. With 50,000 leaflets printed, and 25,000 of those available to the gardens themselves, this is an innovative way for NARGS to market itself. Our input was the work in designing the leaflet; the magazine and the gardens paid the costs. In a similar vein are those chapters that produce their own leaflet marketing themselves and NARGS.



This year’s Annual Meeting is in Colorado and was heavily previewed in the Winter *Quarterly*; but last year’s great meeting in Ann Arbor is still bearing fruit. In the last issue of the *Quarterly*, Don LaFond discussed the propagation of *Daphne* which had featured as a workshop during the meeting, and in this issue it is the turn of Jacques Thompson whose demonstrations of stone trough making were of enormous interest among the attendees. Annual meetings like chapter meetings bring people together, to share, to make new friends and contacts.

Another aspect of NARGS that should be recognised is that it honors rock gardeners, writers, nursery owners, plant explorers both from among our own membership but also more widely. At the time of going to press most of this year’s award winners are still embargoed but two Chapter Award for Service winners are honored in this issue in the

Bulletin Board: Tom Stuart and Baldassare Mineo. These awards are by chapters to those members who contribute so vitally to the work and life of their chapter.

Finally for this issue there is of course the fundamental job of keeping people informed about North American plants, plants from around the world, and new plants of interest. Susann Nilsson, writing about her travels, brings a spectacular array of plants from Mongolia and Japan, even though, surprisingly they are not pulsatillas. Barry Starling takes on alpine vacciniums from North America, with some additional photographs from Todd Boland, and there is a brief introduction to a new intergeneric Saxifrage family hybrid which is just hitting the retail trade.

Anyway, next time someone says “I can’t see that there’s much point belonging to NARGS,” you’ll be able to tell them differently.

Siskiyou Chapter Award for Service recipient Baldassare Mineo in front of his spectacular rockery in Medford, Oregon



I have for a long time brooded over a nice opening for an article about my journeys in Central Asia and Japan. I have twisted and turned different angles of approach searching for the perfect one. My idea was to begin with saying what a privilege it is to be able to study the plants in their natural habitat. Or to create a vivid introduction that leads us to the gratefulness for nature's variety. Still, I would like to briefly describe some of the areas where I have been in my search for pulsatillas. Even though pulsatillas are not the focus of this article, the places I visited are.

Let us please begin in the Altai mountains, the Golden Mountains that "In the beginning of times, were mighty warriors. But as time went on, with the arrival of the River, the warriors got weakened and now the only thing left is their souls." The Turkmenian tribes that live in Altai still believe that if they are moved away from their mountains they die inside as their connection with the mighty warriors is broken. And I believe this is the best introduction ever – if we lose our connection to nature, we lose our souls. We must never forget this.

No Pulsatillas

*"the strangest headline ever
for a person who knows the writer"*

SUSANN NILSSON

PART ONE: MONGOLIA

Rhododendron ledebourii clothes the hillside







Erythronium sibiricum en masse (opposite) and two forms (above) with differently-colored anthers

The Altai has always been important for the nomadic people of the region and was a northern outpost of the Silk Road as the Altai stands at the conjunction of Russia, Mongolia, China and Kazakhstan. The Denisov man, contemporary with the Neanderthal, with which they seem to be a parallel branch, and the first *Homo sapiens* lived in this area. It is not unusual to stumble upon beautiful petroglyphs while visiting the mountain chain.

The mountains have a quite soft appearance, resembling Scandinavian *fjälls* their forms shaped by extensive glacialiation. They are also comparable with the *fjälls* in not being so high as, for example, the Tien Shan or the Himalaya. The highest peak in the Altai reaches only to something above 4000 m (13,000 feet).

Even if considerable parts of the Altai consist of grass steppe there are also big areas covered by *Picea abies* subsp. *obovata*, *Larix sibirica*, *Betula pendula*, *B. pubescens*, *B. rotundifolia* and various *Pinus* species.

The Altai mountains offer a lot of interesting endemic plants, but we will concentrate on what we as gardeners tend to be drawn to. Of course, one of the first species that would catch our attention is the *Erythronium sibiricum*. In the northern part one will find fields painted in pink in early spring while in Kazakhstan it is on the national Red List of

Chorispora bungeana



species under threat. It is interesting to notice that there are specimens with yellow stamens and pollen and others with red, often growing side by side. Some populations also show a wide variety of flower color. Another color splash that is impossible to miss is the *Gentiana grandiflora* with its big blue flowers decorated with the most beautiful green spots in the throat. There is also a representative of the *G. verna* group: *G. uniflora*.

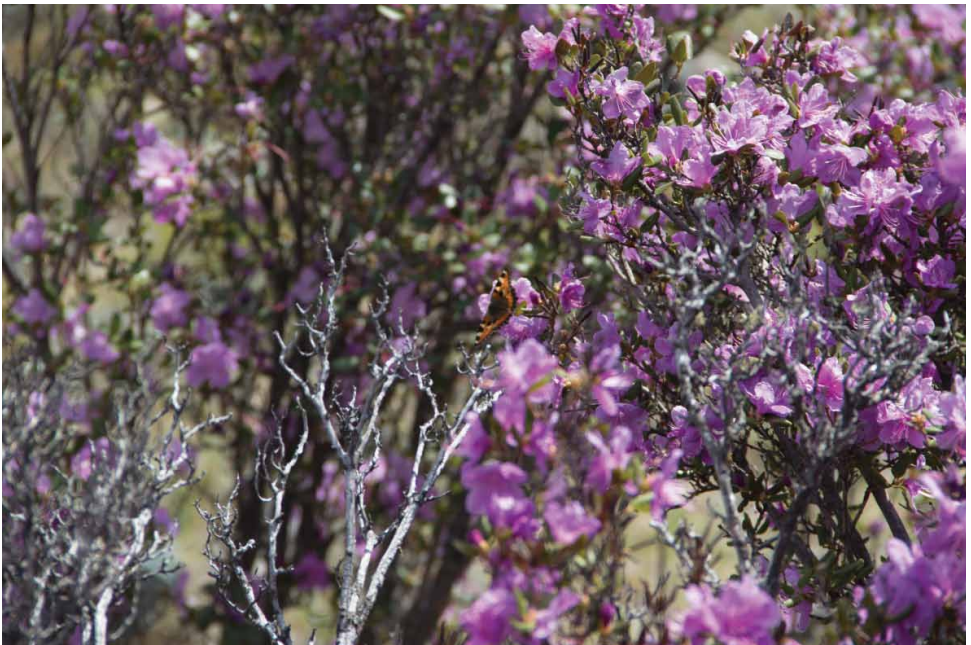
A really choice, and not very common, species of the Altai mountains is *Chorispora bungeana*, a cruciferous relative to some of our vegetables: such as cabbages, kale, and greens.

There are many woody plants of interest in the Altai, as anywhere else. *Rhododendron ledebourii* is one beautiful species and *Daphne altaica* another.



Gentiana grandiflora

Rhododendron ledebourii



Paeonia anomala



Mongolia is a very exciting country for its flora because, although the whole country is situated on a high plateau, the landscape is divided into sixteen distinct biomes. By comparison, its much bigger neighbor Kazakhstan only accounts for six, the same amount of diversity that tiny Sweden shows.

Populus euphratica is an interesting example of the flora of Mongolia; it is one of the few trees that can grow in what we would consider to be desert. The roots go very deep to find moisture.

Another survivor, belonging to one of the genera that has been longest in cultivation is *Paeonia anomala* or *P. intermedia*, the name depending on whether you are European or Russian. It grows not only in Mongolia but all over Central Asia, and always in light shade. A not-that-common, but interesting, species is the super tiny annual *Gentiana karelinii*. Finally from this area I was attracted by *Panzerina lanata*, a member of the Lamiaceae, a Mongolian speciality I wish we would see more of in our gardens.

Khasagt Kharikhan is an outpost of the Altai massif where it reaches the Gobi desert. Khasagt Kharikhan is like an island embedded in steppe and desert country. Still, its highest peak reaches



Daphne altaica

Populus euphratica





Oxytropis bungeana

close to 4000 m (13,000 feet). So, it is a considerable mountain but with very poor vegetation. However, here you will easily find more members of the Fabaceae than almost anywhere else; for example, *Oxytropis bungei*. (In the image still with some flowers but also already forming the swollen fruits). Many *Astragalus* also thrive in the harsh circumstances.

To find something as beautiful as the southern European *Eritrichium nanum* is difficult, but the Mongolian *E. villosum* is not that bad either; especially not when in this white form.

Eritrichium villosum



Astragalus and *Heteropappus* species





Androsace lehmanniana

There is a Swedish saying that “A dear child has many names” and this certainly goes for an *Androsace*. You will find this perfect cushion as *Androsace olgae*, *A. chamaejasme* subsp. *lehmanniana*, *A. bungeana* or, eventually, and currently, as *A. lehmanniana*.

Otgontenger, Younger Sky Mountain, is the most sacred mountain in Mongolia and one should not pronounce its name as it is the home of

Caragana jubata



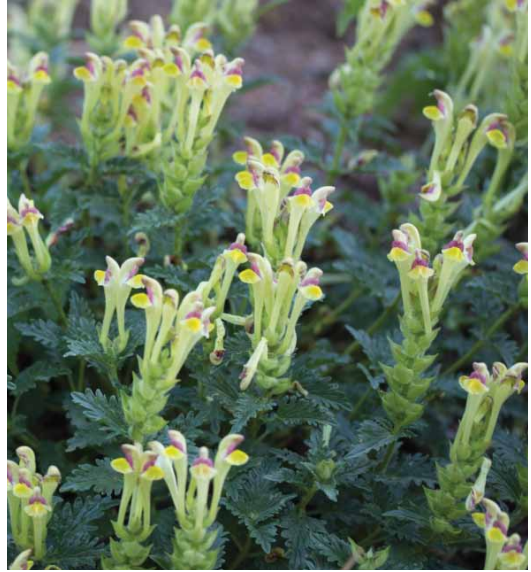


Caragana jubata in landscape

a very angry Buddhist deity. The peak is above 3000 m (9900 feet) and holds Mongolia's only permanent glacier. Otgontenger is also home to an interesting relict, a *Caragana* that dates back to before the last ice age 300,000 years ago: *Caragana jubata*. But one of the most stunning experiences in these mountains is the never-ending high altitude hills covered with *Pulsatilla multifida* forma *flavescens*; although by the time I got to photograph them they were in seed.

Tian Shan, the Heavenly Mountains, are situated much more towards the south than the previously discussed mountain chains. The range is at a similar latitude to southern Europe. The Tian Shan also reaches higher than the others, with two peaks reaching up to over 7000 m (23,000 feet). But we will visit lower elevations, around the tree limit at 2600 m (8600 feet).

To represent the flora of the Tian Shan without showing some bulbous plants would not be possible but the beautiful *Scutellaria transsilvanica* with its cheerful "cobras" rising above the foliage also deserves to be displayed. The bulbs can be represented by *Ixiolirion tataricum* and *Tulipa heterophylla*; one among many tiny yellow tulips that thrive in the wet early spring meadows.



Scutellaria transsilvanica

Ixiolirion tataricum

Allium atrosanguineum





Cortusa brotheri

Tulipa heterophylla

Stunning *Allium atrosanguineum* and the most beautiful grass ever seen, probably a *Carex*, will give us some dark colors and *Cortusa brotheri* will be the only species shown from the Primulaceae although many primulas grow in the Tian Shan.



Darts Hill Garden Park

NARGS Norman Singer Endowment Fund recipient 2014

Pamela Yokome

Darts Hill Garden Park is a plantsman's garden that had its beginning over 70 years ago on a logged piece of land, was turned into an award-winning orchard and then into the unique garden that is Darts Hill today. In 1994, Edwin and Francisca Darts donated their 7.5 acre garden to the City of Surrey, British Columbia, and its citizens. Their intention was to give Surrey its own garden to be used as a horticulture centre for the preservation, enhancement and development of plants. The non-profit Darts Hill Conservancy Trust Society works to ensure that Darts Hill Garden is operated in perpetuity in the spirit of Edwin and Francisca Darts.

Mrs. Darts was an honorary life-time member of the Alpine Garden Club of British Columbia (AGC-BC) and a long-time member of NARGS with many issues of the *Rock Garden Quarterly* still residing in her personal library.

Old alpine bed



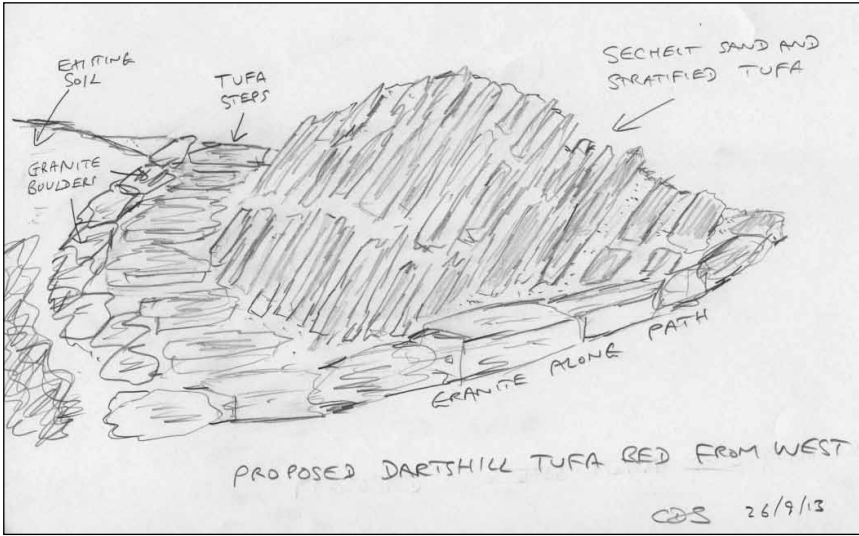


Alpine bed with volunteers from AGC-BC

It was a garden tour stop at the nearby award-winning alpine garden belonging to Wendy and David Sellars that inspired the Darts Hill Society to invite the AGC-BC to help design, build, and plant two rock garden beds in an area of the garden that was in decline. In the spring of 2012 members of both of these groups built and planted the first bed using basalt rock and yards of Sechelt sand. Both of these projects

Site of tufa bed before construction





were joint ventures, with the City of Surrey responsible for the costs of material, the volunteers providing the labour, and the plant cost covered by the Society or donated by the Alpine Garden Club members.

The second bed was to be even more ambitious – a small mountain of tufa trucked in from Brisco, around 800 km away, and constructed in a crevice-style bed to provide ideal growing conditions for saxifrages and similar plants that would enjoy the semi-shaded location. A design was drawn up; existing soil removed; underground water supply

Volunteers starting crevice-style placement of tufa





Construction completed

added; yards of sand wheelbarrowed down the hill; and many, many stones carefully selected to construct the crevice bed. The bed was built in October of 2013 and left to settle in over the winter before any planting took place. The bed is approximately 30 x 20 feet, 7 feet high,

Starting planting





Beautiful packing by Ann Earnshaw of Mendle Nursery, UK, ensured the plants survived two weeks in transit

with built-in stone steps leading up to the top of the mountain.

The Society applied to the NARGS Norman Singer Endowment Fund in 2014 to help with the purchase of the hundreds of plants it would take to fill this bed.

Planting completed





Selection of the saxifrage cultivars planted in spring 2015 and flowering in spring 2016:

'August Hayek'
(top left)

'Leonardo Da Vinci'
(top right)

'Gregor' (centre left)

'Allendal Bamby'
(centre right)

'Brno' (right)



recipients of US\$1480 to purchase plants to complete this project. It was decided to do something special with these funds and establish a collection of *Porphyron* (Kabschia) saxifrages which we ordered from Ann Earnshaw at Mendle Nursery in England. With import permits and phytosanitary certificates arranged and our order in to Mendle Nursery we did suffer a fair bit of angst as the bareroot plants got sidetracked for almost 2 weeks by a snowstorm at JFK in New York.

Happily, most survived and almost 100 saxifrages were planted in the spring of 2015. We also purchased a number of plants from Wrightman Alpines Nursery in New Brunswick, Canada and from the Alpine Garden Club of BC's plant sales. This spring we are delighted to see quite a number of the *Saxifraga* in bloom for the first time.

The tufa garden bed project is ongoing. The City of Surrey gardeners have built a beautiful rock path with stepping stones up to this bed to attract more visitors to the area. In February 2016 we added a vertical tufa wall to enclose the old and unattractive concrete retaining wall.

These two alpine beds attract a lot of new visitors to the garden including international alpine gardeners who have come as speakers to the AGC-BC for whom David Sellers has held workshops on planting alpines as he has for Darts Hill members. The experience of building, planting, and maintaining these beds has also spurred Darts Hill volunteers to build their own home rock gardens and to become members of the AGC-BC. The Darts Hill Propagation Group, with their access to both the local club's seedlist as well as that of NARGS through memberships, has been growing alpine plants both for use in the garden and to sell in our fund-raising plant sales.

Darts Hill Garden Trust Society thanks NARGS and the Norman Singer Endowment Grant that made it possible for us to purchase this large collection of very desirable plants to enhance the crevice-style tufa alpine bed at Darts Hill Garden Park. The addition of alpine garden beds at Darts Hill has certainly increased the knowledge and appreciation of alpine gardens and their plants with our community, membership and visitors.

More information and pictures of Darts Hill Garden at <www.dartshill.ca>

Photos: Scarlet Black and Pam Yokome







Vaccinium angustifolium

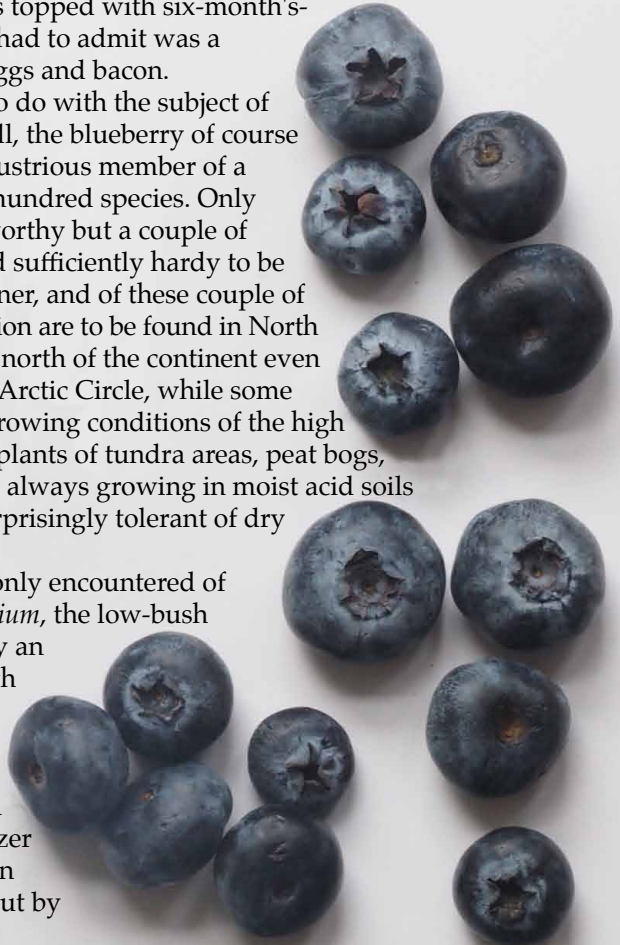
Alpine
Vacciniums of
North America

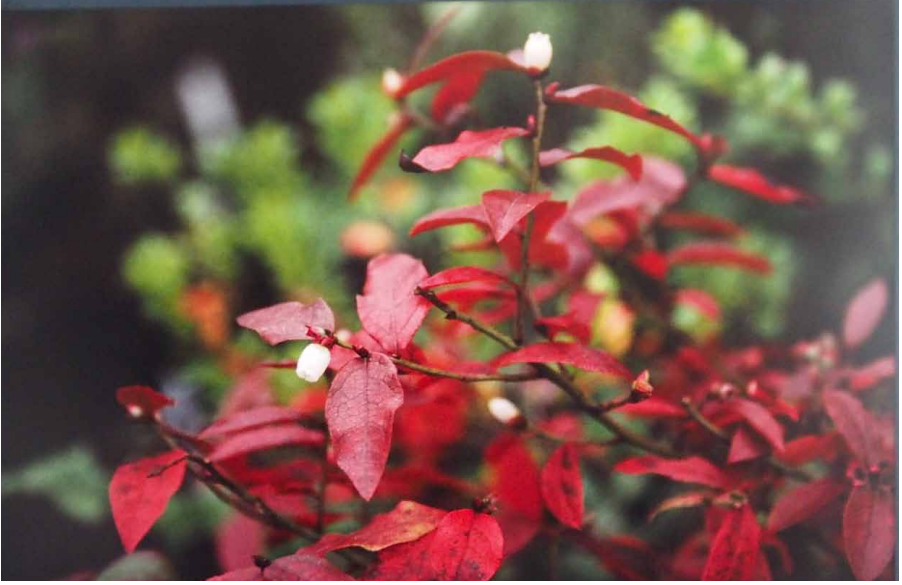
BARRY STARLING

DURING A VISIT to southern Oregon in the early 1990s, my host Boyd Kline, one time proprietor of Siskiyou Rare Plant Nursery, suggested a trip to Crater Lake to search for *Ribes erythrocarpum*, a rare creeping currant species with copper-colored flowers, which is endemic to that area. We were to set out early, breakfasting along the route - a disconcerting idea for someone who needs firing up with eggs and bacon to start the day. After about an hour we pulled off the forest-bordered highway into a clearing at the center of which was a log cabin seemingly held together by a huge wooden sign on which, in big letters, were the words "Martha's Pie Place." On entering, a motherly Martha welcomed us, recognising Boyd as an old customer. "Two blueberry pies" said Boyd without consulting me, then adding "with cream please." We sat down at a long trestle table where overweight truckers and ruddy-faced lumberjacks were already tucking in. Soon we each had in front of us a portion of pie four times the size of an average restaurant helping. Delicious shortcrust pastry supported a two-inch layer of luscious blueberries topped with six-month's-worth of cholesterol. This I had to admit was a worthwhile substitute for eggs and bacon.

But what has all of this to do with the subject of my article - vacciniums. Well, the blueberry of course is *Vaccinium corymbosum*, illustrious member of a genus containing over one hundred species. Only a handful of these are pie-worthy but a couple of dozen are small enough and sufficiently hardy to be of interest to the rock gardener, and of these couple of dozen a substantial proportion are to be found in North America. Most are from the north of the continent even reaching as far north as the Arctic Circle, while some seek out the cool summer growing conditions of the high mountain ranges. They are plants of tundra areas, peat bogs, or alpine moorlands, nearly always growing in moist acid soils but in cultivation can be surprisingly tolerant of dry but not arid conditions.

Among the more commonly encountered of these is *Vaccinium angustifolium*, the low-bush blueberry. This is not strictly an alpine plant, growing at high latitudes rather than high altitudes. It is at home in the northeast of the North American continent in open peaty barrens or as a colonizer after forest fires, where it can predominate until shaded out by





Vaccinium angustifolium



forest regrowth. A deciduous species, its season starts in spring with the appearance of fresh green leaves tinged orange-brown, soon to be topped by clusters of ¼-inch long creamy-white bells stained on the sunny side with a similar orange to the leaves. Flowers give way to

similar-sized berries, sweet and flavored like grapes, black with a bluish bloom. The orange theme of spring carries through to the autumn when golden leaves are flushed with the same warm tone.

Vaccinium angustifolium is very hardy and reasonably tolerant of dry soils although these must be acid, a characteristic it shares with most of the Ericaceae, the heather family, to which vacciniums belong. Equally it can take very wet conditions; I remember a colony on boggy woodland adjacent to the Memorial University Botanical Garden in St. John's, Newfoundland, where it was in flower sharing the space with *Cornus canadensis* studded with its inch-wide 4-bracted flowers, while close by *Clintonia borealis* sported 8-inch long stems of green-tinged cream bells. Even *Cypripedium acaule* entered the fray with one or two stems shouldering their way through the vegetation to hold aloft sumptuous slippers of dusky rose-pink. Would that I could reproduce that in the garden.

Among subtaxa of *Vaccinium angustifolium* that have been recognised are var. *laevifolium* (although now generally treated as no more than an ecotype of the species), a taller variety reaching about 3 feet in height, while f. *nigrum* differs in its attractive glaucous foliage. While visiting Lunenburg Heath, Nova Scotia, in 1994, I was taken to see a wild colony of the latter growing among sand dunes. It was out of flower but impressive due to its incredibly blue foliage. Glaucous-leaved plants are favorites of mine and I was able to collect some seed that grew well enough but only produced green-leaved plants under my garden conditions. For fifteen years I persisted, trying plants in a variety of soils and situations but the foliage remained stubbornly green.

Vaccinium boreale, northern blueberry, also from eastern North America but with a distribution confined to rock areas and alpine meadows of Newfoundland and Labrador and like places in northern

Vaccinium boreale



Vaccinium boreale



New England, resembles a small version of *V. angustifolium* and was only given separate species status in 1961. It makes a wiry tangle of branches usually no more than 3 inches high on which narrowly elliptic leaves, deciduous and bright green, are borne sparsely. Tiny green-tinged white bells come in May as the leaves expand and these give way to equally small blue-black fruits. Horizontal branches root as they spread with annual growth of no more than 1.5 inches, *V. boreale* is well behaved in the rock garden and not likely to outgrow its welcome.

Vaccinium caespitosum, dwarf bilberry, is a little more adventuresome than the previous species: in peaty gritty soil it will form carpets about 8 inches high, its twiggy green stems being better clothed with obovate 1.5 inch-long leaves. Small pink pitcher-shaped flowers, 1/4-inch long are offset by pale green leaves. Later, in the fall, the foliage creates a vibrant colorful canvas carrying it high onto the mountain slopes of much of North America as well as descending to sea-level in northernmost areas. At this time flame and gold foliage hides the sweet, blue-bloomed, inky black fruits. In the garden it is a worthy dwarf shrub if a pocket of peat or leafy acid soil can be provided. Here it will charm with its flowers and wow with a bonus of fiery fall color.

Vaccinium myrtilloides (syn. *V. canadense*, *Cyanococcus canadensis*), sour top or velvet leaf, is very similar to *V. angustifolium* though its 2-inch long, narrowly oval leaves are downy, hence the colloquial name "velvet leaf."

Vaccinium caespitosum



Vaccinium crassifolium came into cultivation here in the UK just twenty-five years ago in the form of a cultivar of its subsp. *sempervirens* called 'Well's Delight'. But it remains uncommon in British gardens, I suspect, because others have found as I have that Britain is too cold and it hankers for its southeastern US homeland from Virginia south to Georgia where it inhabits leafy sandy soils of the pine forests. Growing 6 to 8 inches high, twigs are crowded with oval light green leaves up to an inch in length and half that in width. Young leaves have a reddish tinge and short racemes of flowers that are typically bell-shaped, 1/3-inch long and rosy-red where in plenty of light but paler where they huddle down into the foliage. Flowers are borne in May and June followed by small black berries. Superficially it resembles the more amenable *V. vitis-idaea* in habit and foliage.

Vaccinium deliciosum, the Cascade bilberry, is very similar to *V. caespitosum*, albeit a little taller, and with a range confined to moist mountain slopes of western North America. Flowers, carried in the leaf axils, are 1/3-inch pink globes that appear at the same time as the bronze-tinted new leaves. As with *V. caespitosum*, fall color is spectacular

Vaccinium deliciosum



while the black fruits, as the specific name suggests, are sweet and most palatable. This is an alpine species which performs as well in cultivation as in the wild giving two seasons of beauty and requiring nothing more than not too dry, acid soil.

As a lad on holiday, I can remember picking baskets of whortleberries, *Vaccinium myrtillus*, from shrubby little plants covering acres of moorland in Exmoor, in the UK West Country. Now, with farmers increasingly burning off the moors, *V. myrtillus*, also known as bilberry, has largely retreated to verges, banks and dry stone walls. However, it is very widespread over the Northern Hemisphere including much of the more westerly regions of North America where its range is from the west coast of the US and Canada through the northern Rockies.

In 1980 I visited Iceland and while walking in the hills above Dalvik I came across plants with much larger than usual globular flowers of glowing amber. Sadly I was unable to establish this excellent variety in cultivation.

Vaccinium myrtillus is deciduous and no more than one foot high except where it inhabits light woodland when shadier conditions can double its height. Its green, angled branches bear ovate leaves up to 1-inch long, $\frac{2}{3}$ -inch wide, that turn to warm shades of yellow and flame in autumn. Its globular flowers, about $\frac{1}{4}$ inch in diameter, are whitish to wan yellow, or salmon-tinged to amber, depending on the amount of light they receive, as they are frequently tucked down amongst the foliage. Up to $\frac{1}{3}$ -inch diameter black fruits can provide a pleasurable taste while walking around the late summer garden. White-fruited forms are said to be not uncommon in the wild although in twenty-five years my albino has produced but one berry. Sufficient, however, to prove that its label which reads "*V. myrtillus* f. *leucocarpus*" is correct.

Vaccinium scoparium, the grouseberry or grouse whortleberry, comes from above or just below the tree line in western North America, as ground cover between the thinning forest or in the company of other dwarf Ericaceae, dodecatheons, gentians, and so on, in the wetter areas of rocky alpine meadows and slopes. Its 6- to 8-inch wiry, green, sparsely foliated stems bear tiny globose, pale salmon flowers in June

Vaccinium scoparium





Vaccinium uliginosum in fall color

and July followed in the fall by bright red ¼-inch berries. Seldom seen in cultivation, this is a modest but attractive, well-behaved little shrub which adds bright points of color to the garden later in the year.

Vaccinium ovatum is a tall-growing (up to 10-12 feet on occasion) shrub from the edge of the coniferous forests of the Pacific coast from British Columbia to California. Generally it is too large for the rock garden but a dwarf cultivar 'St. Andrews' from the UK is well worth considering. Its origins are obscure but at just 8 inches high with the habit of a low-growing thicket it is quite distinct. In twenty-five years I have never seen it flower but this detracts little from its value in the garden. Throughout late spring and summer, new shoots are produced, glowing orange-red above the neat shield-shaped cushion of evergreen leaves. This sport of the species somehow found its way from the western coastal ranges of North America to the University of St. Andrews Botanic Garden in Scotland. Bob Mitchell, then curator of the garden, generously gave me cuttings in 1987 which rooted well. An alternative method of propagation is to divide plants as the short upright stems root down as they spread.

The deciduous *Vaccinium uliginosum* is found across the Northern Hemisphere mainly in cool temperate regions. It is similar in habit to *V. myrtillus* and can be about 12 to 15 inches tall, tending to grow on



Vaccinium uliginosum

exposed moorlands in rocky soils or on high sphagnum bogs. More generally it grows as with a prostrate habit, forming dense mats although stems may be up to 24 inches long. Its leaves are oval to round, up to almost an inch in diameter and are particularly attractive in the glaucous form. In May, tiny pendant salmon-red flowers hang singly or in clusters like lanterns on slender branchlets and are followed by black fruits which are plump, sweet and scrumptious. In fall, the leaves turn to warm crimson, or purple-red in the glaucous form. Miniature forms occur

Vaccinium macrocarpon



from more rugged environments but these tend to be less happy in most garden situations.

Vaccinium macrocarpon, the cranberry, has in its history spent time as a member of the separate genus *Oxycoccus* but though different in its flower structure to other species in the genus it appears to have now settled in the genus *Vaccinium*. The type plant is no alpine and is of limited use in the garden except for fruit production when it needs a very moist situation. Here its questing runners will rampage, smothering choicer plants as it goes, while its floral display is too sparse to make any impact. As if to counter these criticisms, a form has cropped up that is a gem among vacciniums. This is *V. macrocarpon* 'Hamilton' in which all of the stems are contracted to just a few inches, bringing the leaves together in crowded whorls to form a compact mat above which the plentiful flowers are displayed, each pendant on a short wiry pedicel. The corolla is deeply split and each of the lobes is recurved, split almost to the base giving the appearance of ¼-inch wide pinky-white starfish, while reddish stems are clasped against the stigma protruding from the center of the flower. Later, small red cranberries nestle among the foliage which, at the onset of winter, turns russet red. At home amongst other Ericaceae in the peat garden, or equally so in a pot, *V. macrocarpon* 'Hamilton' is a plant for all seasons: flowering in spring; fruiting in late summer through fall and providing a dramatic contrast in its red foliage throughout the winter.

Vaccinium vitis-idaea





Vaccinium vitis-idaea



Probably the most widespread species is *Vaccinium vitis-idaea*; partridgeberry, cowberry, or lingonberry, being the best known of its colloquial names. It can vary in stature from an upright thicket of 15 inches in height to a tiny creeping shrublet barely 2 inches high. In leafy soil it can

quickly spread by underground runners to engulf its neighbors in a blanket of dark green leaves and in light woodland it excels as a ground cover, the clusters of scarlet fruits in late summer glowing on the sylvan floor. The dwarfest forms can be used in the rock garden by preparing a pocket of soil for them from which they will not attempt to escape.

The division between the typical form of *Vaccinium vitis-idaea* and those identified as subsp. *minus* is somewhat arbitrary but the latter epithet is usually applied to plants that do not naturally exceed 6 inches in height and are smaller in all their parts. Some of these, from high altitude or rugged exposed tundra landscapes in northerly latitudes, are little gems with a great deal of appeal to alpine gardeners. Two clones collected and named by the late Capt. Dick Steele of Nova Scotia, are perfect examples. 'Red Dome' will do in a pot just what the name suggests, making a perfect hemisphere of tiny-leaved branchlets which, towards the end of the year, are smothered in bright red fruits. Let loose in the garden it will lose that shape and spread gently to form a 2-inch high carpet weaving its way between rocks in a most natural way. 'Betty Sinclair' named after one of Capt. Steele's forbears, is another

choice miniature with dark lustrous oval leaves, 1/3-inch long, on a very compact plant no more than 2 inches high.

There is a white-fruited form, *Vaccinium vitis-idaea* 'Leucocarpa', but this so far has eluded me despite several purchases of plants labelled thus. Seed-raised plants from this form rarely produce white fruits, Several variegated forms have been introduced over the years but these tend to revert to green unless all green shoots are removed as soon as detected.



Propagation of most vacciniums is not difficult. Clean seed, with all remnants of the fleshy berry removed, can be sown in pots of peaty, gritty compost (half and half) and placed in an open frame or sheltered area outside where good germination will occur in May or June. Pots of seed may also be placed in a heated propagator but not all species respond well to this treatment and germination may be erratic or not occur at all. However, seed treated in this way can be sown in January with seedlings that do appear having a head start on those sown and put outside. Such seedlings, by the end of the first growing season will be of a size that open-germinated seedlings will take two years to attain. Seedlings should be potted separately in a peat-based compost when the first true leaves appear, then kept in sheltered accommodation such as a closed frame or greenhouse until late May or June in the UK when they can be put out into an open frame out of direct sunlight. Use fertiliser sparingly as vacciniums do not have a large appetite, a half-strength liquid feed about once every two weeks being adequate.

Most small vacciniums are clump-forming or increase their spread by stolons. They can therefore be propagated by removing well-rooted stolons or by dividing plants but such propagations are best treated like newly rooted cuttings, that is, kept moist and sheltered from wind and strong sunlight until well-established. Semi-ripe cuttings of evergreen vacciniums root easily in late summer providing they are kept moist and given light shade. As with seed, a mixture of half grit or coarse sand to half peat gives good results. Deciduous species do not always root so readily but firm young shoots taken in June will root within 4 to 6 weeks when they should be potted and kept sheltered from extremes of weather to encourage them to produce new growth before the fall.

Vacciniums in flower, with colorful new shoots, and spectacular foliage or berries in the fall have a lot to offer beyond blueberry pie – just ask a turkey at Thanksgiving!

Photographs by Barry Starling and Todd Boland



Vaccinium angustifolium



A Stone Trough of Your Own

JACQUES THOMPSON

My fascination with stone troughs began in western rural Ireland in 1980. It was there, while roaming through gorse-studded pastures, that I would come upon these ancient looking, timeworn blocks of stone. Usually half filled with water, I quickly realized they were water tanks for livestock. I thought it was incredible that someone could have chiseled such wondrous and practical vessels, from massive chunks of stone.

Years later, during a trip to London, England, while Andrea and I were visiting Kew Gardens, we were awe-struck by an impressive collection of various-sized old stone troughs. They were all staged on the courtyard outside the Alpine House, and each one had been repurposed as a planting container, featuring its own miniature rock garden.

After returning home I tried to construct massive troughs of my own (out of hypertufa), but they just would not hold together, so I switched to making large-ish troughs out of concrete. Those concrete troughs have proven themselves to be most serviceable, they have held up very well, weathering our Midwestern continental climate for over two decades, and yet for me they fall a bit short of the mark, when it comes to looks.

It was a year or so after I had been making troughs out of concrete (this would have been the mid 1990s), that I was introduced to a cut-off saw. It is essentially a chain saw in which the bar and cutting chain have been replaced with a 12–14-inch circular blade with diamond encrusted cutting teeth.

At my place of employment, we use these cut-off saws to cut any and everything that's not wood, such as: chain, bolts, ductile-iron pipe (used for water mains), plastic sewer pipe, concrete storm water drainpipe, as well as concrete curbing and sidewalk.

The very first time that I had operated one, I knew exactly what I wanted to use one of these babies for, and a very short time later I did! After a few trials and some errors, I've worked out a procedure in which I can start with a large chunk of stone, and in 25–30 minutes have an actual stone trough. However, the first couple of troughs took considerably longer to carve out.

Opposite: Selection of troughs, prepared by Jacques Thompson for the Ann Arbor Annual Meeting in 2015, that attendees were able to work on

Sandstone is my preferred stone for cutting into troughs, though I have cut limestone and even tufa. I would not recommend using granite. The harder the stone the more the saw blade gets worn down cutting it. If you are renting the saw blade, you will be charged by the millimeters of wear off the blade, which is why I now buy my own blade. The important thing is to find a stone free of visible cracks. It does not have to be a block of stone, but I do think that they make better looking troughs, if you can find them. The type of stone, in addition to its size and shape, will determine the tools you will need, as well as how to precede. Here is what I recommend:

TOOLS

Gas powered cut-off saw (also called rescue saw)
for cutting larger troughs

Aggregate-composite blades or a diamond blade depending on the stone's hardness

Electric powered hand grinder with 4–6-inch blades
for smaller troughs and dishes

Hearing protection

Safety glasses

Assorted chisels

(I recommend buying a brick chisel if you don't have one).

Hammer

Buckets or wheelbarrow (for debris)

OPTIONAL

Gloves

Apron

Dust mask

CUTTING YOUR TROUGH

The first thing to determine is the stone's presentation; by that I mean finding out which side of the stone (as it sits on the ground) will make the best-looking trough. Often it's obvious, but you may have to try out several different positions to find the one that looks best. Having done that, the wall thickness of the trough has to be considered. This is often just a matter of personal taste. However, due to possible hidden imperfections within the stone, or an unevenness of the exterior sidewalls, I tend to make my troughs with somewhat thicker walls (3–3.5 inches thick on larger troughs).

Once I've eyeballed the desired dimensions, I will quickly scratch out an outline of the trough's walls on the topside of the stone. The corner of a chisel or an old screwdriver does the job well enough. Inside of this etched outline is the cavity that's to be carved out, and those etched lines are where the first cuts will be made.

With the saw running, line up the spinning saw blade above one of the scratch lines and slowly ease the saw downwards onto the line to be cut. This is called a plunge cut; I usually start cutting along in the midpoint of the line. Once the blade starts cutting into the surface of the stone, I ease the saw forward cutting along the line for several inches. Then pull the saw backwards and continue in that direction for several inches past my starting point, all the while continuing to cut downwards in the same saw cut, or kerf. There is no need to apply downward pressure I simply allow the saw's weight to supply that for me.

Using this back and forth motion I carefully guide the cutting, saw blade along the length of the line, paying special attention not to allow the leading edge of the cutting blade to cross over either scratch line running perpendicular to my cut (these lines will make-up the interior corners of the trough). This overcut error is an easy one to make, especially when guiding the cutting blade backwards towards the end-wall. If this occurs you'll have a saw-cut mark across the topside of one of the trough walls.

Continue cutting in this back and forth manner until the spindle nut (the nut that secures the cutting blade onto the saw) is riding on top of the stone for the length of the cut. This is as deep a cut as can be made at this point. When cutting our local sandstone it takes about 2 minutes to make a cut roughly 24 inches in length at a depth of 5 inches.

Repeat the above process to cut the remaining 3 scratch lines. When all 4 lines have been cut, the trough's cavity boundary has been established. Use care in keeping all future cuts within this boundary.

You will notice that the saw-cuts at the inside corners of the trough are quite shallow. This is due to the curvature of the saw blade. We'll deal with carving out these shallow corners a little later.

The next step is to make a series of parallel cuts running the length of the trough's cavity. I make the first of these cuts about 1 inch inside and parallel to the end or side outline cut (as I stand straddling the trough). Once I've made the cut closest to the sidewall on one side I make the next cut about 1 inch inside from the opposite sidewall. I continue making parallel plunge cuts the full interior length of the trough cavity spaced 1.5–2.5 inches apart, across the entire topside of the stone, making sure not to run the cutting edge of the saw blade into the end-walls of the trough. When that task is completed, the saw is shut off and set aside.

Looking down at the topside of the stone, there should be cut lines in the shape of a rectangle with more cut lines running within the interior length of the rectangle. All of these lines are centered in the topside of the stone, framed by what will become the top of the troughs walls. Between all those parallel cuts are essentially standing wafers of stone attached only at their bases to the rest of the stone below. It is these stone wafers that we will remove next.

First I remove the thinner 1-inch-wide wafers that are closest to the sidewalls of the trough as they are the most critical. Their proximity to the sidewalls offers the greatest opportunity for things to go wrong, such as cracking the sidewall. That is the reason that I make these wall-bordering wafers thinner than all the others, the thinner they are the easier they will be to break away from their base attachments and remove.

My tools of preference to accomplish this task are a brick chisel and a 2-pound hammer. A brick chisel has a 2.5–3 inch-wide blade and is used for cleaving, or breaking bricks in half. A 2-pound hammer is just that, a hammer that weighs 2 pounds and resembles a miniature sledgehammer.

Start by taking the brick chisel and insert its cutting edge into the second saw cut from the trough wall, at roughly the midway point of that saw cut. Then grasping the 2-pound hammer begin to firmly tap the brick chisel downward, driving it into the saw cut, and wedging the wafers on either side of the chisel apart. There is no need to go whaling away with the hammer strokes; I practically let the hammer's head fall onto the chisel, letting the weight of the hammer itself do the work.

Continue to wedge the chisel down into the saw cut with firm hammer taps until enough pressure is built up to break the wafer's attachment point; you should hear it snap. It's really quite un-dramatic; in point of fact you may have to repeat the process and break the second wafer before you will have enough room to wiggle the broken pieces out. When one side of the outermost wafers has been cleaved free, I switch to the other side of the trough and remove that side's outer wafers. I work in this back and forth style removing wafers from the outer edge of the cavity towards the interior until there is only one wafer, standing like a ridge of stone running down the middle of the trough cavity. A couple of carefully placed hammer blows to either side of the wafer are usually sufficient to cleave it free.

Depending on the length of the trough being carved out, and hence the length of the saw cuts and resulting wafers to be removed, you may well need to reposition the brick chisel a few times, as long wafers rarely cleave off for their entire length. Simply reset the chisel

Jacques using brick chisel and hammer to break out some of the wafers of stone
– heavy hammer, gentle touch



Troughs showing depth of first saw cut (this page) and trough with array of cuts ready for breaking out of wafers. The cuts at each end of the trough can be seen to be closer together so that the wafers are thinner and easier to break out.



further along in the saw cut where the wafer hasn't broken away and resume wedging

the chisel down into the saw cut with the hammer. After all wafers have been cleaved off and removed, it may be necessary to clear off portions of the wafers that did not break away and are now sticking up from the bottom of the trough cavity like rows of broken teeth. For this stage, I begin clearing the trough floor in the center. Setting the cutting edge of the brick chisel at an angle along the base of the "tooth" to be extracted, give the chisel a short sharp hammer blow; technique not power is what's required here. I clear away these stubs so that they are not in the way for the next step.

Once the trough's bottom is somewhat clear, (no need to make it smooth), it's time to make a second series of parallel saw cuts. Then those resulting wafers can be removed and the trough made deeper. Some of my largest troughs required 3 or even 4 series of parallel cuts and wafer cleaving in order to achieve the depth I wanted. Any trough's depth will be determined ultimately by the thickness of the stone you're working with. I like to leave the bottom 4 inches or so of the stone uncut in order to insure the trough's integrity.

Usually, before I can proceed on to the third or fourth series of cuts, I will first have to carve out those shallow corners, before I can continue cutting on downwards into the stone. This too is a fairly



straightforward process; however before the saw is restarted, the shielding around the cutting blade will require some adjustment.

The shield (which shrouds 50% of the blade) is there to protect the operator from flying stone chips and dust. Its position can be altered to allow different sections of the cutting blade to be exposed (it pivots on the same spindle that the blade is mounted onto). Grasp the front section of the shield and pull the shield back; now the forward-facing half of the blade is exposed.

With the front of the cutting blade exposed, it's a simple matter of guiding the saw in a forward motion, angling slightly down, right into the center of the interior corner (at 45 degrees to the two walls that make up that corner), and make a cut line into the upward sloping stone. Watch closely that the cutting blade does not cut into the vertical portion of the corner. Once the cut's been made, back the saw out and swing the saw around 22.5 degrees (half of 45 degrees) to either side of the cut line and make another cut, once more only into the sloping portion of the stone, and not cutting past into the corner itself. Then make another cut on the opposite side from the first cut. Follow this with as many cuts between the previous cuts as you like; remember the thinner the wafers the easier they are to remove.

As the kerfs, the saw cuts, between these corner wafers are usually too shallow to wedge the chisel down into, use the same side-cleaving chisel method employed when clearing the trough floor of broken wafer teeth.

The same principles apply when cutting a trough from a more rounded, natural piece of stone. First determine which side-up makes for the best presentation. Decide on the wall thickness and scratch an outline of the trough's outer wall. A rectangular cavity would not be suitable in a more rounded stone; therefore make all the plunge cuts in the center of the stone's top, rotating the saw 15–20 degrees after each cut so that there is an asterisk-like pattern of saw cuts on the top of the stone. Use the same forward and back motion in guiding the cutting edge of the blade up to the cavity outline but don't cut past it.

Cleave off the triangular shaped wafers using the brick chisel and hammer as well as clean out the broken wafer teeth as described before.

No matter the shape of the trough, when the cavity has been cut and cleaned out, about all that's left is a bit of cosmetic work.. I don't care for the look of a sharp, clean, saw cut edge on the interior walls of my troughs. There are a number of ways to address this. One way is to use the brick chisel and dress these edges. Set the cutting edge of the chisel along the side of the sharp edge to be rounded, at a 45-degree angle and back about ¼ inch from the edge. One short concise hammer blow will take that portion off; then just continue to work your way all the way around the inside edge of the trough dressing that edge. Another method is to use a wire wheel, or small grinder.

I usually just take the saw and align the spinning cutting blade perpendicularly to the troughs' sharp wall edge, tilt the saw to about 45 degrees, lower the saw until the side corner of the blade makes contact with the inner wall edge and drag the cutting blade down along the length of the edge as one would with a grinder.

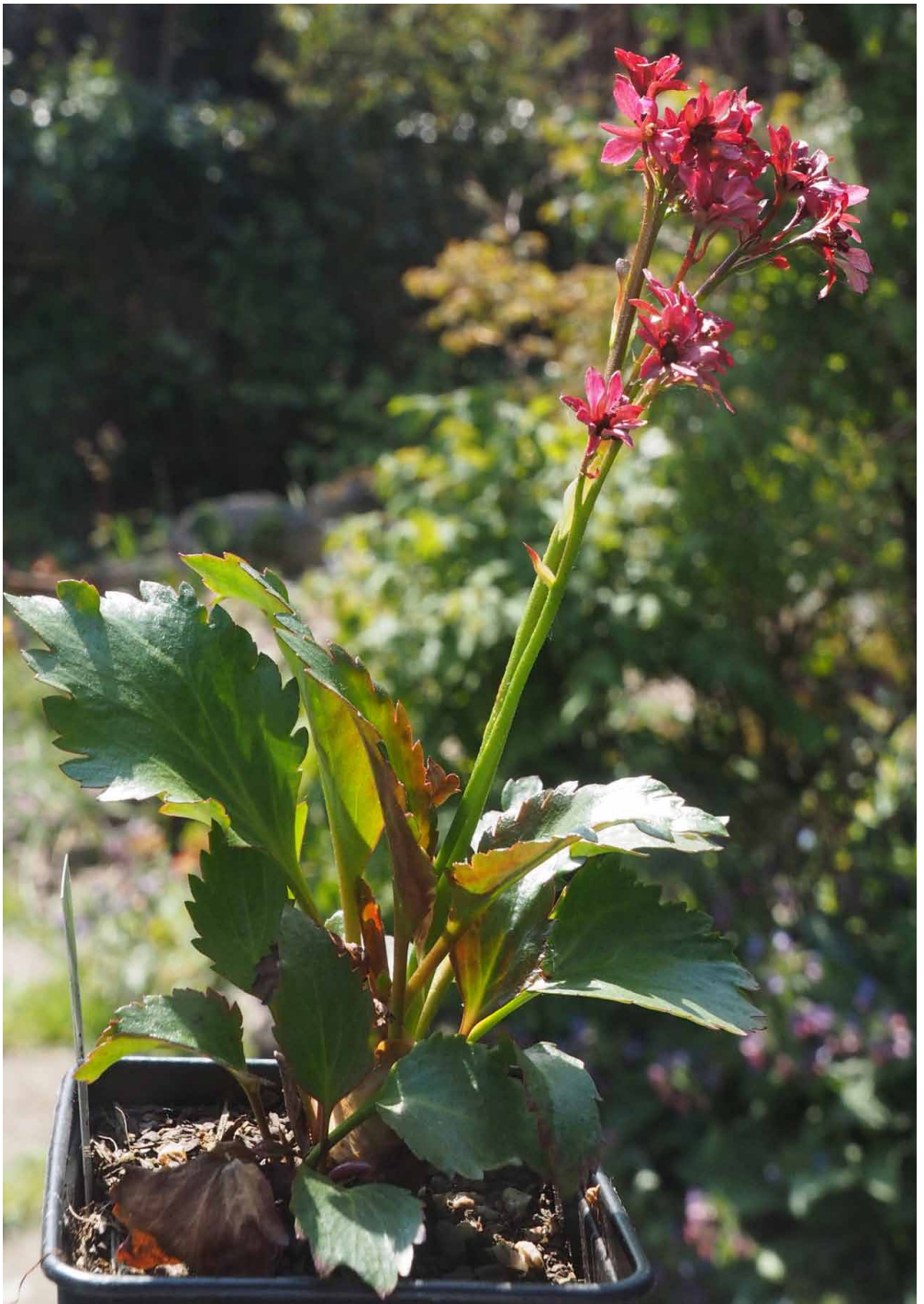
Whichever method is utilized, a follow-up of sanding the edges finishes the job, and for this I use one of the wafer chunks to do the sanding with. Bore a couple of drainage holes with a masonry drill-bit, and that's pretty much about all there is to it!

My only regret is that I didn't purchase a cut-off saw for myself years ago, because with as many times as I have rented one I've just about paid out the cost of one in rental fees. Enjoy!

Breaking out the last pieces in a trough







New Hybrid (\times *Mukgenia*) from the Saxifrage Family

MALCOLM MCGREGOR

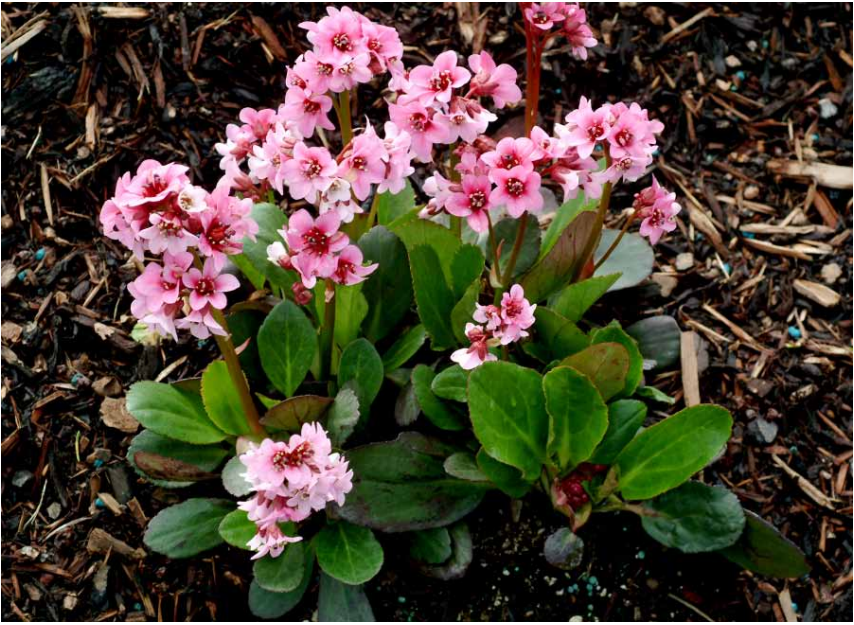
AS MANY MEMBERS will have realised, my abiding enthusiasm is for the Saxifrage family: apart from writing about them and populating the garden with them, they have determined the location of family holidays, and have led me to some remote places in search of them in the wild.

North America is wonderful for saxifrages with one quarter of all the species in the family being North American. Not just *Saxifraga*, but *Heuchera*, *Micranthes*, *Tiarella*, *Tolmiea*, *Boykinia*, and *Darmera* are among two dozen different genera from the Saxifrage family represented in the North American flora. All of these have their place in the rock garden of the enthusiast, along with some species from purely Asian genera such as *Rodgersia*, *Mukdenia*, and *Bergenia* (most closely related among the North American Saxifragaceae to *Darmera*).

There are few intergeneric hybrids in the family. Hybrids between *Tiarella cordifolia*, an eastern North American species, with *Mitella* and *Heuchera* species have been recorded from the wild. In cultivation the hybrids of *Heuchera* and *Tiarella* have become well known and widespread along with the dramatic proliferation of *Heuchera*, *Tiarella*, and \times *Heucherella* hybrids and cultivars launched in the last decade or so with over 400 named varieties available today compared with just a couple of dozen in the mid-1990s. Along with the rise of so many new fall-flowering Japanese saxifrage cultivars (reported in the Fall 2015 edition of the *Quarterly*) this has been the focus of much attention among growers of members of the Saxifrage family. But if they are treading well-established paths this new hybrid of *Bergenia* and *Mukdenia* is not.

This new and exciting intergeneric hybrid is intriguing. An artificial hybrid (not occurring in the wild), this was first carried out as a test in 2008. The plant now introduced into cultivation is the result of a follow-up in 2010. As with so many of the spectacular array of *Heuchera* hybrids it has come from Terra Nova Nurseries of Canby, Oregon. The cross, \times *Mukgenia* 'Flame', is between *Mukdenia rossii* 'Crimson Fans', with red-tinged foliage throughout the season, and *Bergenia* 'Pink Dragonfly', a small-leaved, early-flowering cultivar.

Opposite: The new hybrid, \times *Mukgenia* 'Flame', in flower this spring



Bergenia 'Pink Dragonfly'

A splendid specimen of *Mukdenia rossii* in the garden of Paul Krystof



It has taken a couple of years for plants to become available through the nursery trade for the retail customer (Terra Nova is a purely wholesale nursery). But they have become so this year and the photograph shows a plant I bought this spring. When it arrived it was fairly dormant, rather like *Bergenia ciliata* which in some forms loses its leaves for winter, but soon started into growth and threw up the flower spike which produced a head of deep pink flowers. The leaves, leathery like those of *Bergenia*, have toothed margins, which they get from *Mukdenia rossii*, and are more persistent to late in the season than those of *M. rossii*. They are said to color dramatically at the edges in fall although I have yet to see that. The flower stem on the pictured plant is about 6 inches tall. Not drought tolerant but apparently hardy from Zone 3 through Zone 9, noticeably smaller than the average *Bergenia*, this should win a place in lots of rock gardens.



x*Mukgenia* 'Flame' - the complexity of the
floues can be seen here

Photo of *Bergenia* 'Pink Dragonfly' courtesy of TERRA NOVA® Nurseries, Inc.
<www.terranovanurseries.com>



Grandpa der Gartenmeister and an answer to world hunger

Going to Seed

BILL BEUERLEIN

ONE OF MY earliest memories of my grandparents' house was of their window sills lined with wooden cheese boxes from which were sprouting seeds of the coming year's vegetables. It was exciting to see tiny seedlings sprouting from the soil. I watched as they got their first true leaves and grew to stocky little plants. Grandpa was a *Gartnermeister* before master gardeners were ever given a title. Between his small yard and two Victory gardens he fed our family and the entire neighborhood. When I was maybe five he let me sow radish seeds (and later pull and eat them dirt and all). Perhaps these early experiences left me with the urge every spring to put seeds in the ground.

Maybe that is why I was somewhat surprised to find out that only about 25% of the Society's membership participates in the Seed Exchange. Here it is right in front of you and you don't take advantage of it.

Paraphrasing David Letterman let me give you ten reasons why you should. Starting with number ten:

10. Thanksgiving is over, you survived Black Friday, and it's cold outside. What else do you have to do?
9. Anticipating the Seed List release on December 15 gets you all a-tingle, just like your first date (and just as disappointing when it is postponed again and again).
8. Opening the online list is like opening early Christmas presents (or late gifts in some cases).
7. Picking 25 out of 3300 entries is more exciting than playing Powerball (better odds, too, and it sharpens your computer skills and your botanical Latin).
6. Getting twenty-five packets of seeds from Norway to Tadjikistan and from gardens of "rock stars" for only \$15.00. Where else can you find a bargain like that?
5. Finding a manila envelope in your mailbox and discovering how many of your first choices you received will make you forget bowl games.
4. Planting seeds on a late Midwestern winter day gives you hope and something to watch as seeds begin to pop up.
3. Watching your seedlings "turn overnight to sunflowers" is like watching your children become adults (except if the plants get weedy there's Roundup).
2. Enjoying the moment when some visiting garden snob asks "What is that?" and you can answer, "Oh that. That is an *Arisaema heterophyllum* that I grew from seeds collected in China by my friend, Panayoti."

And finally, assuming that you will one day contribute seeds from your garden to the exchange, here is number one:

1. Seeing the look on your wife's face when you tell her that you are going to be a seed donor.

And no excuses either, and certainly not age. Even though my wife says that at my age I should not buy green bananas and nothing smaller than gallon-size plants, I can't wait to get started each year and a friend who might have a few years on me says the same thing. Some years from now my kids might find that their inheritance is predicated on caring for seedlings.

So, assuming that I have convinced you to join the game let me offer advice from one who has been there. What follows is my way of doing things. It is by no means the only way but it seems to work reasonably

well for me. As the old pilot's bromide goes, "Learn from the mistakes of others. You will never live long enough to make them all yourself."

Let's talk first about the seed list and making your selections. As I mentioned above, the 2015 list had 3300 entries ranging from tiny alpines to small trees. The list is released as a printable PDF file and as an online order form. Those of you familiar with online shopping will have no trouble selecting your seeds that way other than the long wait between selections. My friend, who admits to being "digitally challenged," receives a printed copy, fills out an order form and orders by snail mail. This year the PDF list was released several weeks before we were allowed to place our orders so I made a list of my choices using Excel by copying and pasting and using the sort function to organize first and second choices and arrange my selections in numerical order. It is handy to have this list on file.

You will order twenty-five first choices and an equal number or more second choices in case your first choices are gone when your order is filled. (After seed donor's orders are filled, orders are filled in the order they are received so order early.) All names are in botanical Latin. Aside from familiar Latin names such as *Dianthus* and *Campanula*, how do you know what's what? Fortunately the plant names listed on the online order form are actually links to the web. Click on the most obscure Latin name and up will pop pictures, growing instructions and even, in some cases, medicinal uses.

I recommend that neophytes choose at least twenty plants whose seeds germinate reliably, relatively quickly, and whose seedlings are easy to "grow on." It is discouraging to wait and wait and have nothing to show for your effort. Erigerons, and drabas fit that reliability mold. So do *Dianthus*. Most campanulas and poppies do also. Your remaining five choices may be chosen methodically, randomly, or by whim. I often choose plants that have been featured in *Quarterly* articles although it does mean there may be more competition. Do as I do and check the box that allows volunteers to fill your order if all your choices are gone. One year my order was completed with a pack of seeds I had donated.

A second-round listing of leftover seeds is released in early March. This is sort of a grab bag. You may find a gem but usually they are long gone. I usually use the dartboard approach. While you can order up to 100 packets I recommend limiting yourself to twenty or so. It is better to grow a few well than many poorly.

Seeds come in small glassine envelopes bearing the name only. Planting instructions are not included but help can be found online. The "Seed Germination Database" is very informative. Try Googling "Growing XXX From Seed." I Googled "Growing Arisaemas from Seed" and found complete instructions. You may also get lucky as you search a plant name and find a seed house offering the same which has



My pot of choice

straight from the bag and have been very pleased with the results although there will be others who protest that I should have added grit or sand or whatever.

Next, label the pot. I use a Brother P-touch GL100 label maker that prints plastic adhesive labels. These adhere to plastic markers (labels) and the printing is permanent. Names written with a Sharpie pen will not last. I learned that the hard way. Many of my markers are cut from an old venetian blind.

While large seeds are dropped singly into holes made with a pencil, small seeds are sown directly on top of the mix. Sow seeds thinly. You are not growing bedding plants. Four or five good stocky seedlings will

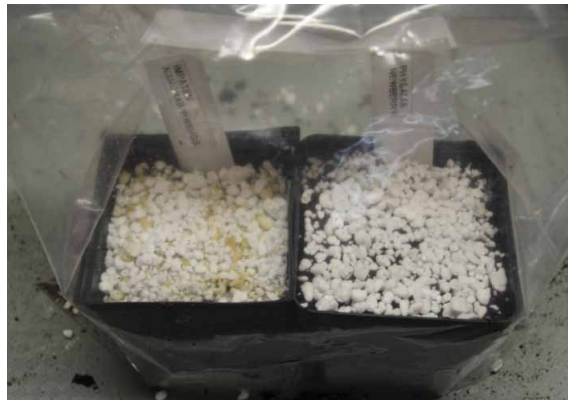
included planting instructions. If not then you just have to treat them all as intelligently as you can – and you'll learn.

While I plant my seeds in 3¼-inch square pots (because they fit nicely in gallon-size freezer bags and most plastic trays) you can use pots from last year's annuals, or any others, but whichever you use make sure they are clean. I wash mine thoroughly and soak them in a bleach solution. I fill the pots with a commercial potting mix and lightly tamp it down with the bottom of another pot. This year the garden center carried Fertilome potting mix and I used it



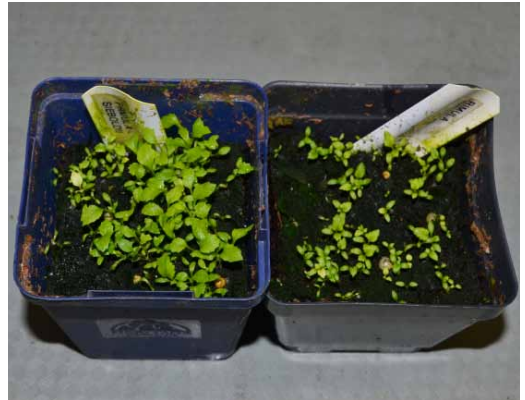
Seed sown, tagged spritzed, and covered with perlite

Bagged with a "buddy"



do better than spindly seedlings salvaged from a tangled mat. I then spritz them lightly, press them into the soil with a pot bottom and cover with a layer of perlite. I then place two pots in a gallon-size freezer bag, seal it, and wait. (You will see other sources recommend covering seeds with chick starter-grade chicken grit. This I tried, unsuccessfully, to find in an urban area and substituted the perlite. Again, I have been pleased with the results. Even very small seedlings work their way through the perlite.)

The bags seal in moisture and I do not add water until the bags are outgrown. For the hell of it I increase the level of carbon dioxide by blowing into the bag from time to time. A side-by-



The pot on the left was treated to extra carbon dioxide for two weeks



We have lift off! Germination, in this case in four days

A shelf full of pots



side test seems to indicate that my carbon dioxide accelerates growth.

As you look through the Seed Germination Database you will notice that it recommends sowing some seeds where the temperature ranges between ± 4 C. These are seeds that nature has programmed to germinate in the spring. I sow these as soon as they arrive in January and put them, in baggies, in a sheltered spot on our deck and wait for spring. The others are sown around March 1 and placed under fluorescent lights. Lights start out about 4 inches from the pot tops and are on for fourteen hours per day. As seedlings grow the lights are raised. You could also wait a few weeks (depending on where you live) to start and put your pots in a shaded, sheltered location outdoors. Most alpine plant seedlings are



A light stand made from easily obtainable materials

surprisingly tough and the bags give some protection from cold. (Bags also protect against squirrels.)

Be careful, however, to avoid cooking the seedlings in the bag. If you plan to grow them under lights check pots daily for germination to make sure you do not leave them in the dark. My dianthus seeds sprouted in four days.



Thinning out with tweezers

Seedlings ready for a pot of their own, in this case after three weeks

If you cannot find out if one of your varieties requires cold conditioning, plant some of the seeds early and the rest later.

While you can buy nice light stands mine was made by my son from materials available at any big-box hardware store. Two 2" x 6"s and a 2" x 4", six shop lights, six wire shelves and fasteners is about all that you need. A heavy duty timer controls the lights. The bulbs are the standard daylight type that came with the shop lights. Trays were purchased from McMaster-Carr, a commercial online hardware house. I did not smuggle them out of a





Seedling ready for a pot of its own after three weeks



Newly transplanted seedlings three weeks after sowing in various pots scrounged from friends

These are one month old and planted in plug trays cut to fit on my drip trays. Being deeper the individual cells provide more room for roots



Standing tall after one more week



cafeteria under my coat.

I confess that I, too, occasionally dump an entire envelope of seeds into a pot. When that happens I am forced to thin the seedlings with a tweezers. I feel heartless as perfectly good helpless little seedlings are destroyed. If you get a lot seeds in a packet, save some in case of a disaster, or trade with another gardener.

Remember the list I spoke of earlier, that I produced in Excel from the online PDF? I use it to record the dates that I sowed the seed and the dates that germination occurred and the occasional failure. I also record which of my choices I received. Those that I missed might become first choices next year.

Now, as the seedlings get bigger, comes the hard part: growing on. I transplant seedlings to individual pots when the seedlings are large enough to handle. I can't

describe it better than that. You will know it when you see it. Larger seedlings go into 2-inch pots; smaller ones are planted in cell packs that held last year's annuals. You will probably have more of any one variety than you can use or care for and triage will be necessary. If you are worried that some deaths will occur during this process and you have extra seedlings, plant two per pot and pinch off the weaker later. Be cautious when you use small pots or cell packs as they can dry out very fast. After a few weeks in intensive care under lights it is mid-April in Ohio and they are moved to a protected area outside. In my case this is the deck, and protection comes from the deck umbrella much to my wife's dismay. In addition to keeping the seedlings handy, the deck is virtually a slug-free zone. One slug + one night = no seedlings. You might also cover the pots with metal mesh to discourage squirrels and other varmints. Now you care for them as you would your containers and wait, and wait, and let nature run its course.

When determining when to plant your little guys in your garden, size really does matter. Generally, by late summer some should be big enough. Make sure they are watered frequently. If you have potted several of a variety and are unsure, plant some in the garden and hold the others in their pots until spring. I have had success planting the smaller ones in troughs instead of the garden. Overwinter the pots in a sheltered place where they will not get overly wet. I put the pots of

Various *Arisaema* seedlings. These will be ready for the garden in two or three years. Thanks to all the donors.





Arisaema consanguineum seedlings probably needing two more years in pots

plants that die to the ground back in freezer bags and hold them in our attached garage until early March.

One advantage to growing from seeds is having a number of small plants of a given variety. This allows you to try planting them in crevices and tight places that would not accommodate larger plants or you might be unwilling to try with a \$15.00 gem. It also allows you to plant groupings. While one *Arisaema* looks good a group of five or so looks great.

While you will have successes and failures remember even the best hitter misses more than two-thirds of the time. Since nature intended for seeds of some species to be in the ground as soon as they ripen, some failures can be attributed to when your seeds arrived. Other failures can be caused by the nature of the Seed Exchange itself. Donors are generally amateur gardeners doing the best they can. Some seeds may not be fertile. This year I planted seeds of *Arisaema sikokianum* from two donors. Those from one donor germinated, those from the other did not.

Do not discard pots of seeds that failed to germinate. Some seeds need a year or more to germinate. Seeds are fascinating. What clock ticks in a seed that causes all the seeds in a year old pot to germinate on the same day? This year, when I checked pots that had overwintered outside I found one bag that had opened and had water halfway up the pots. When I went to dump them out I found the soggy mess covered with seedlings of *Primula sieboldii*. And, I continually wonder why

corydalis and hellebore seedlings pop up all over the garden like weeds while corydalis and hellebore seeds lovingly cared for in pots in my basement fail to come up at all.

Surprises will occur. You may receive mislabeled seeds or you may find strange plants coming up among the labeled variety; since seeds are often collected by fans of a particular genus, bee-pollinated crosses can occur. It all adds to the fun.

As you become a “seeder” you will find other seed growers at club meetings and other events. This will give both of you a chance to talk shop and learn from each other. Never stop learning.

Enjoy and good luck.





No Pulsatillas

SUSANN NILSSON

PART TWO: JAPAN

It is a big jump from Mongolia to Hokkaido, the northernmost of the Japanese islands, and it is very difficult to decide what to show as Japan has such a rich flora but let us give it a try and make a very narrow selection.



Cladothamnus bracteatus

Drosera rotundifolia

We will begin our exploration at Tarumae-san (Mount Tarumae) in the Shikotsu-Toya National Park. The volcano is a Hokkaido Natural Monument and is very popular for hiking. Although Tarumae-san is not higher than about 1000m (3300 feet) it is more than impressive with its sulphurous smoke slipping out from the top of the lava dome but also from cavities along the slopes. The last big eruption was as late as in 1982. The mountain has a varied flora with some surprising species for a Scandinavian visitor.



Cladothamnus bracteatus is certainly unknown to someone from northern Europe. It resembles nothing else that I know, but still is very beautiful with its red color and tiny flowers. However, *Lycopodium clavatum* and *Drosera rotundifolia* are very common in Scandinavia but the latter would never be found in a non-super-moist place as in Tarumae-san. We would be very happy if beautiful bulbous *Clintonia udensis* were to be found in our latitudes and choice *Campanula lasiocarpa* would be more than welcome. At least, now I understand why it is such an unwilling guest in the garden. In Tarumae-san it grows in pure lava; very acid and very rich in minerals.

Campanula lasiocarpa





Aletris luteoviridis

Aletris luteoviridis (syn. *Metanartheceum luteoviride*) somehow gives the impression of *Tofieldia* but maybe it is not that strange as they both belong to the Melanthiaceae.

Last, but not least, a few images of plants from central Hokkaido where there is a wonderful mountain range: Nipesotsu-Maruyama. It consists of volcanic rock and is part of the Pacific Ring of Fire. Does this not sound beautiful? "Pacific Ring of Fire?" But, also with a dangerous

Nipesotu-Maruyama mountains (photo Sachiyo Yuzawa)





Nipesotsu-Maruyama

hint. The Nipesotsu-Maruyama range does not reach higher than 1967 m (6500 feet) and therefore the very crest is covered by *Pinus mugo* subsp. *pumila*. In these mountains we will find among others *Cardiocrinum japonicum*, a smaller relative of *C. giganteum*. Another and even smaller lily, a shiny turk's-cap lily might fit in here: *Lilium medeoides*, like



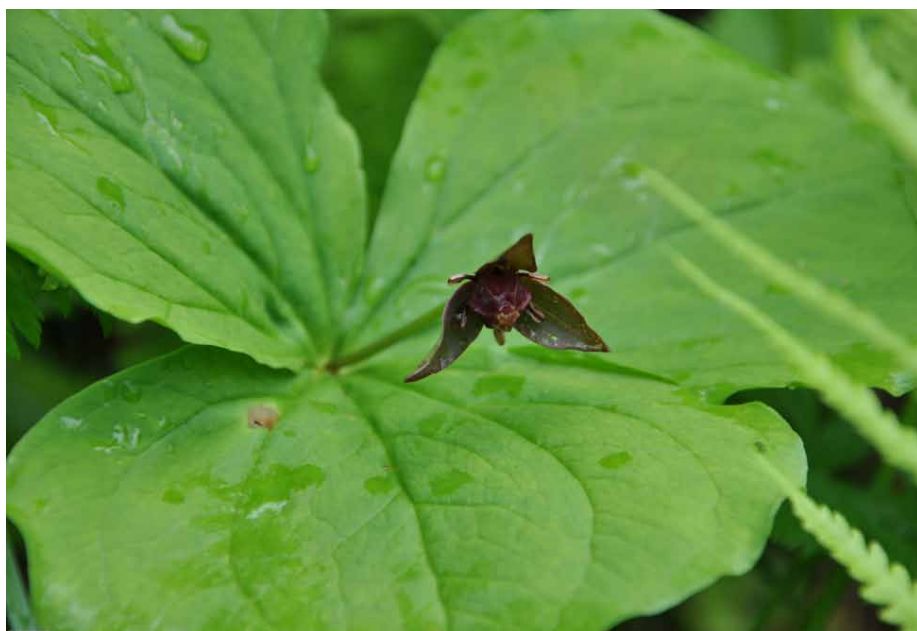
Cardiocrinum japonicum

many Asiatic lilies growing in deep shadow. And of course, showing pictures from Nipesotsu-Maruyama without *Trillium apetalon* would be almost a crime. Am I being rude by assuming that only the most freaky *Trillium* fans could possibly love the strange flower? On the other hand, I dare to say about *Rhodothamnus camtschaticus* that it is one of the most beloved species there is. This could be the reason for it having at least three names. The Japanese call it *Therorhodium camtschaticum* while most still consider it to be a *Rhododendron camtschaticum*. It does not really matter. I am sure we all just love it.



Lilium medeoides

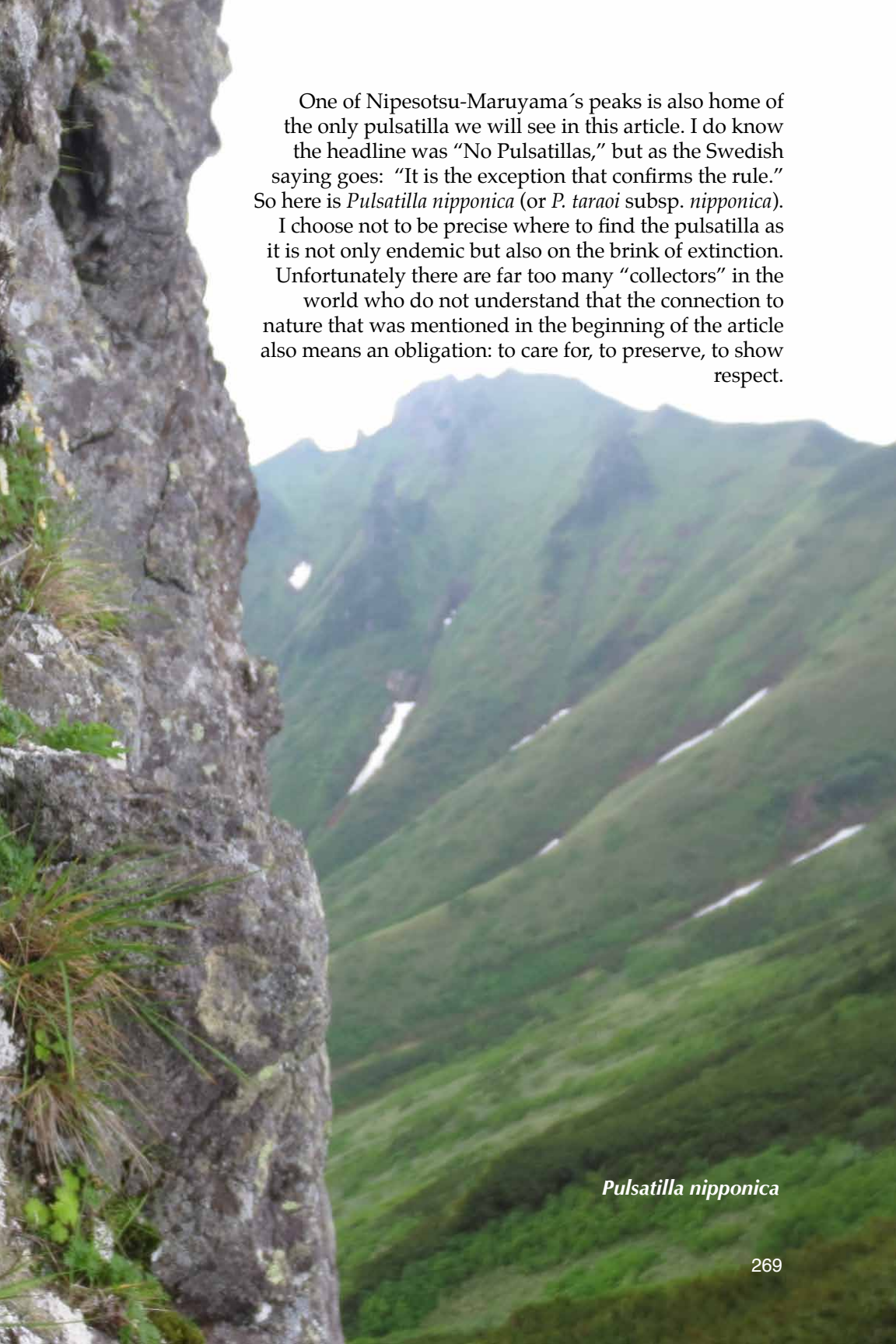
Trillium apetalon



Rhododendron camtschaticum (*Rhodothamnus camtschaticus*)







One of Nipesotsu-Maruyama's peaks is also home of the only pulsatilla we will see in this article. I do know the headline was "No Pulsatillas," but as the Swedish saying goes: "It is the exception that confirms the rule." So here is *Pulsatilla nipponica* (or *P. taraoi* subsp. *nipponica*).

I choose not to be precise where to find the pulsatilla as it is not only endemic but also on the brink of extinction.

Unfortunately there are far too many "collectors" in the world who do not understand that the connection to nature that was mentioned in the beginning of the article also means an obligation: to care for, to preserve, to show respect.

Pulsatilla nipponica

Treasurer's Report

Introduction and Summary

Included with this report you will find a Balance Sheet as of December 31, 2015 and a Profit & Loss Statement for year ending 12/31/2015.

As of 12/31/2015, all Bank Accounts and Investments have been recorded into our QuickBooks accounting system and all accounts have been balanced to the appropriate year end statements.

Below, I have listed those areas of Net Income and Net Expense that have a significant impact on our operations:

Net Income:		2015	2014
	Memberships	64,683	\$57,358
	Donations	29,683	\$21,921
	Interest & Dividends	4,965	\$1,405
	Advertising	1,950	\$1,420
	Book Service	826	\$543
	Amazon Payments	1,114	\$756
	Seed Exchange	1,196	\$1,235
Net Expense:			
	Bank Fees	3,868	\$3,775
	Speakers Tour	1,595	\$6,789
	Internet Services	14,810	\$16,837
	Annual General Meeting	0	\$5,831
	Quarterly:	63,168	\$65,775
	Grants/Awards	1,000	\$5,867
Administration:			
	Exec. Sec.	14,689	\$14,570
	AdCom	0	0
	Other	2,315	\$2,534

The activities of NARGS in 2015 resulted in a profit of \$2,727.32. A deficit of \$20,540 was projected in the 2015 Budget. Three areas were primarily responsible for this net profit are as follows:

- Donations to the organization totaled \$29,683 versus a budget of \$10,000. An appeal late in 2015 resulted in \$17,000 in donations.
- Membership revenue totaled \$64,683 compared to a budget of 61,100 due to the increase in dues in the fourth quarter of 2015.
- The speaker tour was discontinued in mid-2015 resulting in a total cost of \$1,595 versus a budget of \$5,500.

Unplanned web maintenance in support of the AGM, Seed Exchange, and general support totaled \$11,395 versus a budget of \$5,000 reducing surplus by \$6,395.

In general, other income and expense categories were in line with Budget projections.

Respectfully submitted April , 2016

Richard Lane, Treasurer

Balance Sheet

As of December 31, 2015

	2015
ASSETS	
Current Assets	
Checking/Savings	
CASH IN BANKS	
Wells Fargo-Membership	36,571.37
Wells Fargo - Amazon	5,718.68
Wells Fargo Money Market	55,061.53
TOTAL CASH IN BANKS	97,351.58
Total Checking/Savings	97,351.58
Other Current Assets	
INVESTMENTS	
Norman Singer Endowment	
Fidelity - Cash – NS Endowment	4,930.42
Investment Account - NSE (MKT)	
Investment Bal - NSE (Cost)	149,838.36
Unearned Capital Gain/Loss - NSE	(2,542.86)
Investment Account - NSE (MKT)	147,295.50
Total Norman Singer Endowment	152,225.92
Adjustment – Unearned Capital	2,542.86
TOTAL INVESTMENTS	154,768.78
Total Other Current Assets	154,768.78
Total Current Assets	252,120.36
TOTAL ASSETS	252,120.36
LIABILITIES & EQUITY	
Equity	
UNRESTRICTED (retained earnings)	94,873.20
RESTRICTED FUNDS	
Norman Singer Endowment Fund	
Norman Singer Endowment-Corpus	149,431.87
Norman Singer Endowment-Income	474.47
Total Norman Singer Endowment Fund	149,906.34
Robert Senior Award Fund	1,275.72
Carleton Worth Award Fund	3,337.78
TOTAL RESTRICTED FUNDS	154,519.84
Net Income	2,727.32
Total Equity	252,120.36
TOTAL LIABILITIES & EQUITY	252,120.36

Profit & Loss

January through December 2015

	2015
Ordinary Income/Expense	
Income	
CONTRIBUTED SUPPORT	
Memberships	64,653.28
Donations & Special Requests	29,713.61
TOTAL CONTRIBUTED SUPPORT	94,366.89
EARNED REVENUES	
Interest	162.92
Dividends	4,802.44
Advertising revenues	1,950.00
Program Revenue	
Book Services	825.84
Amazon Payments	1,113.76
Seed Exchange	12,651.04
Annual General Meeting	0.00
Total Program Revenue	14,590.64
Total EARNED REVENUES	21,506.00
TOTAL INCOME	115,872.89
Expense	
EXPENSES	
GRANT & AWARDS	1,100.00
BANK FEES	3,868.22
ADMINISTRATIVE EXPENSES	
Executive Secretary	14,689.21
Legal & Filing Fees	37.99
Insurance	1,691.00
Supplies	277.04
Telephone & Electronic Services	299.00
Postage, shipping, delivery	9.80
TOTAL ADMINISTRATIVE EXPENSES	17,004.04
PROGRAM SERVICES EXPENSES	
Annual General Meeting	0.00
Book Service	144.09
Seed Exchange	11,455.84
Speakers Tour	1,594.85
Internet Services	14,810.27
Quarterly	63,168.26
TOTAL PROGRAM SERVICES EXPENSES	91,173.31
Total Expense	113,145.57
Net Income	2,727.32



The Rock Garden
QUARTERLY

summer
2016

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NARGS Bulletin Board

President's Letter

My hope when I was first elected president two years ago was that I would be able to help NARGS look to the future – after all that's what I do at work – visioning what members valued and then developing and strengthening those things. And we have done some of that.

One thing we have done pretty well in the last year is bring the finances of NARGS into a much healthier situation. In 2015 this was due in no small part to the generosity of members through donations. This generosity enabled us to manage the projected deficit for 2015 and give us enough breathing space to approach the 2016 budget in a rather more positive frame of mind. It has not been painless. There have been some fierce discussions about what the future should hold: what can be maintained, what has to be sacrificed even if temporarily.

Expenditure has been trimmed to an absolute minimum consistent with maintaining most of the much-loved elements of what we do. The things that have been maintained are those with the widest reach amongst the membership and in particular the Quarterly and the Seed Exchange.

Longer term, our future depends on our ability to generate income. Above and above this has to be from membership. We need to tell people just what a great society NARGS is.

Put simply NARGS provides North American rock gardeners with information about methods, plants, and gardens in North America and from across the world. It provides members with access to seeds and hence plants they would never be able to buy. In an era when small nurseries have suffered despite the reach of the internet this all matters more than it has ever done.

Right now we are in the run-up to the Annual Meeting in Steamboat Springs. It's a sellout with 250 members attending and sellout tours before and after the meeting to alpine habitats around Cody, Wyoming, for 80 of those attendees. It just goes to show that there is plenty of demand for the right things.

The job of AdCom (NARGS Administrative Committee) and the Board, and for me as President, is to capitalize on this pent up enthusiasm and for you to spread the word.

With one more year as President I'm determined to help consolidate what we've done and leave NARGS in a stable situation.

Matt Matthus. NARGS President

2016 Election Results

The election ended at midnight on May 15, 2016, in the online voting managed for NARGS by <Associationvoting.com>.

Below are the results of the voting:

President - Matt Mattus : 178 (elected)

Vice-President - Betty Spar 177 (elected)

Board of Directors: (3 vacancies)

Dave Brastow: 154 (elected)

Julia Caroff: 152 (elected)

Verna Pratt: 145 (elected)

Martha Oliver: 106

Thanks to all the candidates. The results will be certified by the NARGS Board at the Steamboat Springs meeting.

NARGS Donations

Donations between February 1 and April 30, 2016: \$3,605

Designated for the general fund, seed exchange, *Rock Garden Quarterly*, Website, and in memory of Harry Dewey.

Bush, Allen (Kentucky)

Ferree, Louisa (Massachusetts)

Ferris, Terry & Ron (Minnesota)

Graffeo, Giuseppe (Italy)

Great Lakes Chapter of NARGS (Michigan)

Griffith, Chuck (Minnesota)

Gustafson, Phyllis (Oregon)

Hampton, Sandra Kay (Illinois)

Konen, Sally (Idaho)

Larsen, Finn (Norway)

LaValle, Steven (Wisconsin)

Mattila, Juliet (New Mexico)

Sachtjen, Donald W. (Indiana)

Siskiyou Chapter of NARGS (Oregon)

Sliter, Lizette (New Hampshire)

Stephenson, Laura L. (Pennsylvania)

Ward, Bobby (North Carolina)

Wulff, Ella May T. (Oregon)

Yokome, Pamela (British Columbia)

SEED EXCHANGE

The level of success of this year's Seed Exchange was reasonable, considering the slow decline in membership. But fewer donors, each sending fewer donations, with fewer seeds for each taxon, resulted in a smaller Seed List. Orders were also in decline, with the percentage of members who participate continuing to fall. We believe that this has been at least partially due to the unreliability of the electronic ordering system, especially the delayed opening, while new features were added to make the ordering process easier for members.

In spite of the delay, as well as additional problems once the system went live, 550 members placed orders in the Main Round and received their seeds in January and February. With further modifications to the program, the Surplus round was able to open on time, and then proceeded smoothly. The number of orders, at 272, was slightly higher than last year, perhaps because the ordering system was functioning better and because choice seeds were still available.

Work has since begun to address the remaining issues attached to the seed-ordering program, so we are expecting to open this year's Main Distribution promptly on December 15, and to run problem-free thereafter.

For those who do not wish to order from our website, a printed copy of the Seed List will be mailed upon request. There will be a limited number of these printed lists, so you must contact Joyce Fingerut by December 1:

537 Taugwonk Road
Stonington, Connecticut 06378-1805
U.S.A.
Email: <alpinegarden@comcast.net>

Donating Seed

There obviously cannot be a Seed Exchange without seed donations. We certainly hope that Mother Nature will cooperate during this gardening season and produce a bountiful crop of seeds. But we must rely on you, our members, to gather and clean and ship them to the seedex.

You will find that the instructions and form for sending your seeds to NARGS are tucked into this issue of the *Rock Garden Quarterly*. If you send at least five packets of different kinds of seeds (with enough seeds of each to be divided into several packets), you will receive Donor status, which nets you ten additional packets of seed (a 200% return on investment) as well as priority in having your order filled. You may send the seeds in multiple shipments, as soon as they are ready, so that the Intake Manager doesn't receive them all at the deadline.

International members will also find the seed import permit to include with their donations, as well as the green & yellow mailing label for the shipping envelope. Please follow instructions carefully, and securely attach only the green & yellow mailing label to send the seeds to the US inspection station, where the seeds will be inspected and then forwarded to Laura Serowicz.

International members who plan to donate more than 50 packets of seed (which would be wonderful!) or more than one shipment, should contact Laura as soon as possible for an additional permit and label; seed import regulations state that each shipment may contain no more than 50 packets.

If you have any questions, or if any of the forms failed to reach you, contact Laura Serowicz:

15411 Woodring Street
Livonia, Michigan 48154-3029
U.S.A.

Email: <seedintake@mi.rr.com>

Seeds must arrive at Laura's address no later than November 1 in order to be included in the Seed List. U.S. members should mail their seeds by October 25. Canadian and overseas donors will need to allow extra time for postal services and inspections, and will need to mail their seeds by October 15.

Members who are planning to collect late-ripening seeds (e.g.: rhododendron, some native plants) should send Laura a list of those seeds when they send their other seeds before the November 1 deadline. The late-ripened seeds themselves should reach Laura before December 1.

Check our fall issue of the *Quarterly* or the NARGS website for further information about ordering seed, either online or by mail.

Enjoy your summer and your gardens.

Joyce Fingerut, Director
NARGS Seed Exchange
Email: alpinegarden@comcast.net

Patrons

The following recently became NARGS patrons:

CHUCK GRIFFITH (MINNESOTA)

MARTIN JONES (COLORADO)

JAMES H. LOCKLEAR (NEBRASKA)

LILLIAN & ALEX MAKSYMOWICZ (OREGON)

SARAH NAVARRE (WASHINGTON)

New Members

*Welcome to all those who joined between
February 1 and April 30, 2016.*

Baxter, Derek, Denver Zoo, 1255 19th St., Denver, CO 80202-9998
Bickham, Mike, 8 Welsh Farm Rd., Long Valley, NJ 07853-6124
Carlson, Charles, 1001 Hackman Cir. NE, Fridley, MN 55432-5759
Cass, Maxine, POB 111, Gold Hill, OR 97527-0111
Chan, Jonathan, 3146 68th St., Woodside, NY 11377-1225
Clarke, Ethne, GardenPages, 2909 Drakestone Dr.,
Colorado Springs, CO 80909-1358
Detrick, Emily, 105 Enfield Falls Rd., Ithaca, NY 14850-8757
Dueck, Jon, 9607 W. Trailmark, Littleton, CO 80127-5909
Eliason, Rochette, 5930 Taft Ct., Arvada, CO 80004-4237
Ferriss, Terry & Ron, 20900 Red Wing Blvd., Hastings, MN 55033-9004
Flaum, Lisa, 3355 Keim Rd., Waterloo, IL 62298-4645
Frisch, Marjory Sue, POB 351, Norfolk, CT 06058-0351
Fugalli, Claudia, 689 Columbus Ave., Apt. 11E, New York, NY 10025-7066
Godbolt, Lisa, 520 Bearview Ct., Steamboat Springs, CO 80487-4926
Gorman, Joseph, 221 Park Ave. NE, Wise, VA 24293-5115
Haberman, Donna, 2254 McKinley St. NE, Minneapolis, MN 55418-4024
Heller, Reid, 6740 Harvests Glen Dr., Dallas, TX 75248-5421
Hemauer, Joseph, W7782 County Road N, Plymouth, WI 53073-4443
Holladay, Kenneth, 2736 NE 22nd Ave., Portland, OR 97212-3409
Hollander, Margaret, 5012 Valhalla Dr., Boulder, CO 80301-4328
Holly, Heather, 2835 Brittany Dr., Grand Junction, CO 81501-6849
Houten, Charlotte van, Olde Town Grdn Club, 1 Ridgewood Ln.,
Hampton Bays, NY 11946-2412
Howard, Bob, 4690 Granville Rd., Granville Beach, NS, B0S 1K0, Canada
Hynum, Jill, 446 S. Midvale Blvd., Madison, WI 53711-1448
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 West, Truel, 1050 Camino Rancheros, Santa Fe, NM 87505-0349
 Zaujec, Jan, POD Lipami 841/22, Jarok 95148, Slovakia

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

Gwendolyn Krahnke Farrier, age 90, Raleigh, North Carolina
 Samuel B. Jones (Piccadilly Farm Nursery), Bishop, Georgia
 Joan King, Pequea, Pennsylvania
 Dr. Arthur (Art) Kruckeberg, Seattle, Washington
 Robert L. Mackintosh, age 90 (Woodlanders Nursery),
 Raleigh, North Carolina
 Elisabeth Howe Simon, age 95, Faywood, New Mexico
 Hideyo Tsukamoto, Yokkaichi-shi, Japan
 Judith Tyler (Pine Knot Farms Nursery), Clarksville, Virginia
 Dorothy Vagts, Cambridge, Massachusetts

Baldassare Mineo Siskiyou Chapter Award for Service

Baldassare Mineo, a well-known plantsman and former owner of Siskiyou Rare Plant Nursery, continues to be very active in the Siskiyou Chapter of NARGS. In 1987 he received the Marcel Le Piniec Award, a most prestigious and distinguished award for his services to the Siskiyou Chapter of NARGS and to the rock garden community at large.

Baldassare chaired the Siskiyou Chapter board for three years (2010-2012) and is currently in charge of publicity. He is a most devoted member of the chapter, always ready to volunteer his help and knowledge of plants, be it to organize and carry out the twice yearly plant sales or decorate the hall for our annual Volunteer Appreciation Dinner and Auction Fundraising event.

When the Siskiyou Chapter recently participated in the NARGS seed exchange project for a period of two years, Baldassare offered the use of the work space left from the time he operated a nursery and a catalog mail order business. This space became the ideal seed distribution center for filling orders for NARGS domestic and foreign customers.

It is with great pleasure, therefore, that I nominate Baldassare for a Chapter Award for Service. He is truly worthy of this award for the many services he has provided over the years to the Siskiyou chapter of the North American Rock Garden Society.

---Submitted by Lillian Maksymowicz

ARTHUR KRUCKEBERG

Former NARGS member, Dr. Arthur R. Kruckeberg, has died in the Seattle area, age 96. He and his wife Mareen developed the four-acre Kruckeberg Botanic Garden in Shoreline (Seattle), Washington, and they became NARGS members in 1978 and were active in the Northwestern Chapter. He was director of the (N)ARGS Seed Exchange from 1957-1960 and chair of the Northwestern Chapter in 1960-1961. He was a highly respected plant taxonomist and authority on serpentine flora. A western fern, *Polystichum kruckebergii*, honors him. He was professor emeritus in the biology department at the University of Washington.

Art received the Edgar T. Wherry Award from (N)ARGS in 1989. Mareen founded the MsK Rare Plant Nursery at the garden; she died in 2003.

Art was the author of several books, the most popular for the general gardener is "Geology and Plant Life: The Effects of Land Forms and Rock Types on Plants," of which he lectured at NARGS study weekends on that topic.

Tom Stuart Manhattan Chapter Award for Service

I am nominating Tom Stuart for a NARGS Chapter Award for Service for several reasons foremost amongst which is his generosity to our annual plant sale. Those who have attended the sale over the years will remember the surge of shoppers when Tom arrived late (due to the Five Boro Bike Race, which we now carefully avoid in our scheduling). He barely had time to unload his flats of plants from the car before knowing shoppers had selected their prizes with little thought to their price. The "prizes" were invariably blooming size specimens, beautifully grown and carefully potted up, including *Cypripedium acaule* var. *pubescens*, *Trillium grandiflorum* var. *rosea*, *Glaucidium palmatum* (white form), *Jeffersonia dubia*, *Primula sieboldii*, *Anemonella thalictroides* 'Cameo', *Uvularia grandiflora*, *Sanguinaria canadensis*, *Maianthemum racemosum*, hepaticas, little-known ferns, and rare corydalis. Last year when we went to collect his offerings he stopped digging and dividing only when the car couldn't take any more.

In addition, he has shared his extensive knowledge of ferns in lectures and articles from which we benefitted. We have had chapter tours of his garden several times, eating our sandwiches amidst his various collections spread up and down his and Ernie's steep hillside. Tom has in this way furthered each of our interests in rock gardening, leading us to learn more by his example as a grower and propagator.

As a close friend of the late Larry Thomas, he moved Larry's fine collection of garden books to his house, awaiting a time when our chapter could sell them at a suitable venue.

Finally, what he has done for NARGS and all its members is also tellingly described by Elisabeth Zander's co-nomination below. We are grateful for the skills he has offered to NARGS in many areas.

---Submitted by Lola Lloyd Horwitz

Tom Stuart was the first Seed Exchange Director to coordinate the three phases after I created the split of work from one chapter doing it all. During the time that he held that post, APHIS decided to begin requiring imported seeds to have a phytosanitary certificate (which is written by the exporting country) in order to enter the US. This could very well have meant the end of the Seed Exchange as it would have excluded not only Canadian but also all overseas donors.

Tom cleverly devised a way to have a coordinator in each country receive all the seeds from that country's members (a much higher number than now) and then procure the phytosanitary certificate for all the seeds at once. It was fairly successful, considering the burden that it placed on our members, especially those coordinators. Somehow, he kept our Seedex going until Joyce Fingerhut was able to convince APHIS to publish the new permit for Small Lots of Seed.

For this as well as running the Ephemeral Seed Exchange, I would like to second his nomination. Well done and thank you, Tom.

---Submitted by Elisabeth Zander

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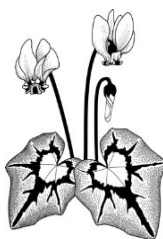
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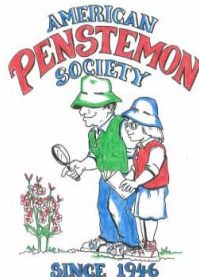
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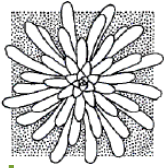


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