

NORTH AMERICAN ROCK GARDEN SOCIETY

The Rock Garden

QUARTERLY

75TH YEAR

WINTER 2016/2017



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

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Front cover: Japanese maple in trough and *Nerine bowdenii* in raised bed - Malcolm McGregor

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QUARTERLY

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LATEST NEWS

PLANTSMAN'S TOUR OF WYOMING

6-day tour: June 21–June 26, 2017

DESCRIPTION

Bighorn Mountains and Beartooth Pass, Wyoming: "Plantsman's Tour" led by a member of Denver Botanic Gardens staff (and potentially another curator if we use two vans): six-day tour. Full details in the Fall 2016 issue of the *Quarterly*

Currently this tour is fully booked but there may be waiting list places available. If you want to put your name on the waiting list please contact Tours Committee co-chair Jody Payne <jodycpayne1@gmail.com> or telephone her at 201-314-6685.

THE ITALIAN DOLOMITES NORTH AMERICAN ROCK GARDEN SOCIETY TOUR

8-day tour: June 29–July 6, 2017

DESCRIPTION

The Italian Dolomites, led by Naturetrek Leader **Jessica Turner** (and another leader if there is sufficient demand for a second eight-day tour) - extensions in Venice available. Group size 10-16, walking 4 to 7 miles per day.

There are still a few places available as we go to press. For full details see page 56.





AUTUMN IS A GLORIOUS season for the gardener and the rock garden is a joyful part of that. The most obvious images are of fall color with chlorophyll giving way to the red and purple pigments of the anthocyanins and the underlying yellow carotenoids. Deciduous trees such as maples can display spectacular changes in color as temperatures fall but herbaceous perennials can also become intensely pigmented.

Images of Autumn

MALCOLM MCGREGOR

Japanese maple (opposite) in a trough with *Fuchsia* cultivar and pale pink *Nerine bowdenii* in raised bed. Below, *Bergenia stracheyi* leaves take on rich autumnal tints that could justify the plant on its foliage alone.





While color is one of the characteristics of autumn, the other most obvious are Keats's "mists and mellow fruitfulness," and the end of the year's cycle: pears are picked and stored, crab apples adorn twigs being denuded of leaves, pumpkins are harvested for Halloween, medlars are softening in the frosts so that they can be blended in custards or used for jelly.

For the rock garden, there are few such fruits but dwarf rowans (mountain ash) flourish with the berries showing among the fallen leaves.

Fruits are a key part of autumn but rarely rock garden subjects. Clearly not a rock garden subject, wild hop (*Humulus lupulus*) photographed in southern England and a crab apple still with fruit after all its leaves have fallen.



A small (to 15 foot) but angular tree, the medlar, *Mespilus germanica* (right), originates in the Caucasian region, has white flowers in spring, and weird fruits along with its autumn leaves. This is an intriguing tree that might earn a place at the edge of a rock garden

Dwarf mountain ash, *Sorbus reducta*, is about 6 to 8 inches tall with great berries in fall. The normal form suckers gently and can form a great late groundcover display.





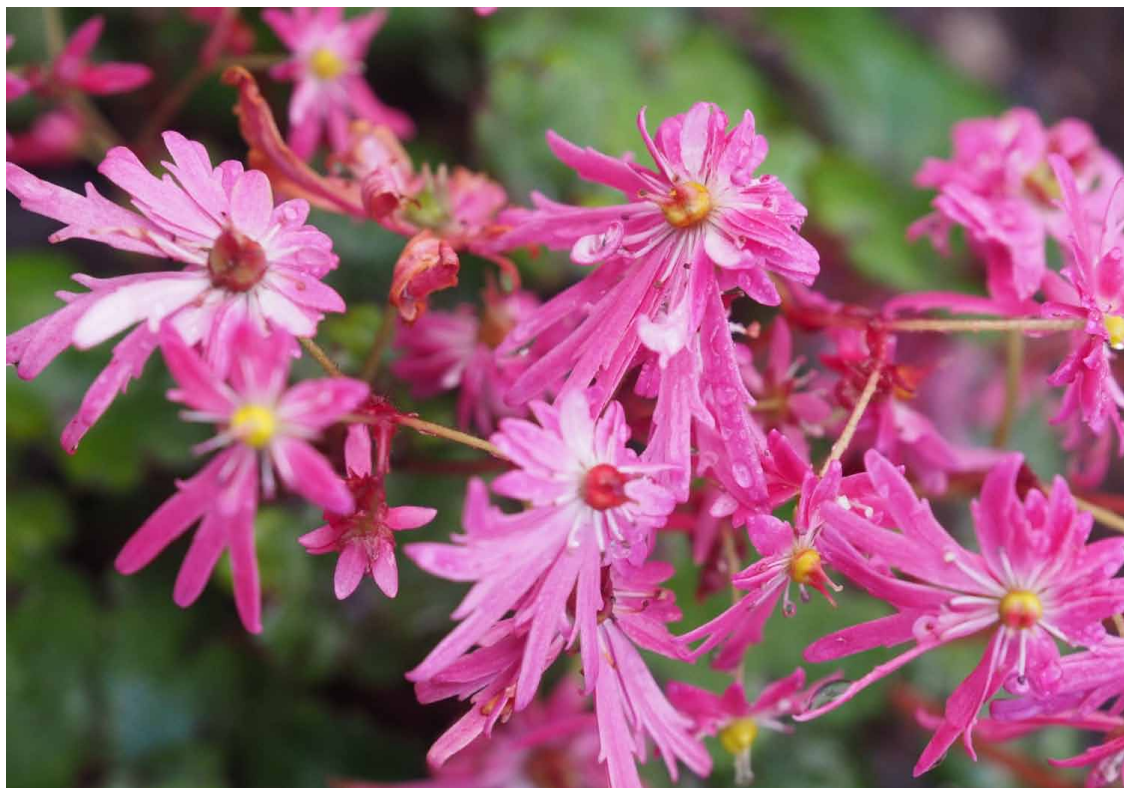
Saxifraga 'Beni Komachi'

Just as some plants are coming into fruit, their year almost finished, some plants are just coming into flower. For the border there are members of the Asteraceae, but for the rock gardener there are two groups of plants that are of interest – those at the end of their year and another group that are just starting theirs. Among the year-enders, the late-flowering saxifrages based on the Japanese and Chinese *Irregulares* species, in particular *Saxifraga fortunei* and its cultvars, bring some

spectacle with fall color in their foliage contrasting with some complex or elegant flowers are one group that is brought into flower by the falling temperatures. So too are the Asiatic gentians allied to *Gentiana sino-ornata*. In the case of the gentians they will keep resting tufts of foliage once the flowers and stems are finished; in that of the saxifrages they will die down completely until they reappear in the spring.

Gentiana 'Glamis Strain'

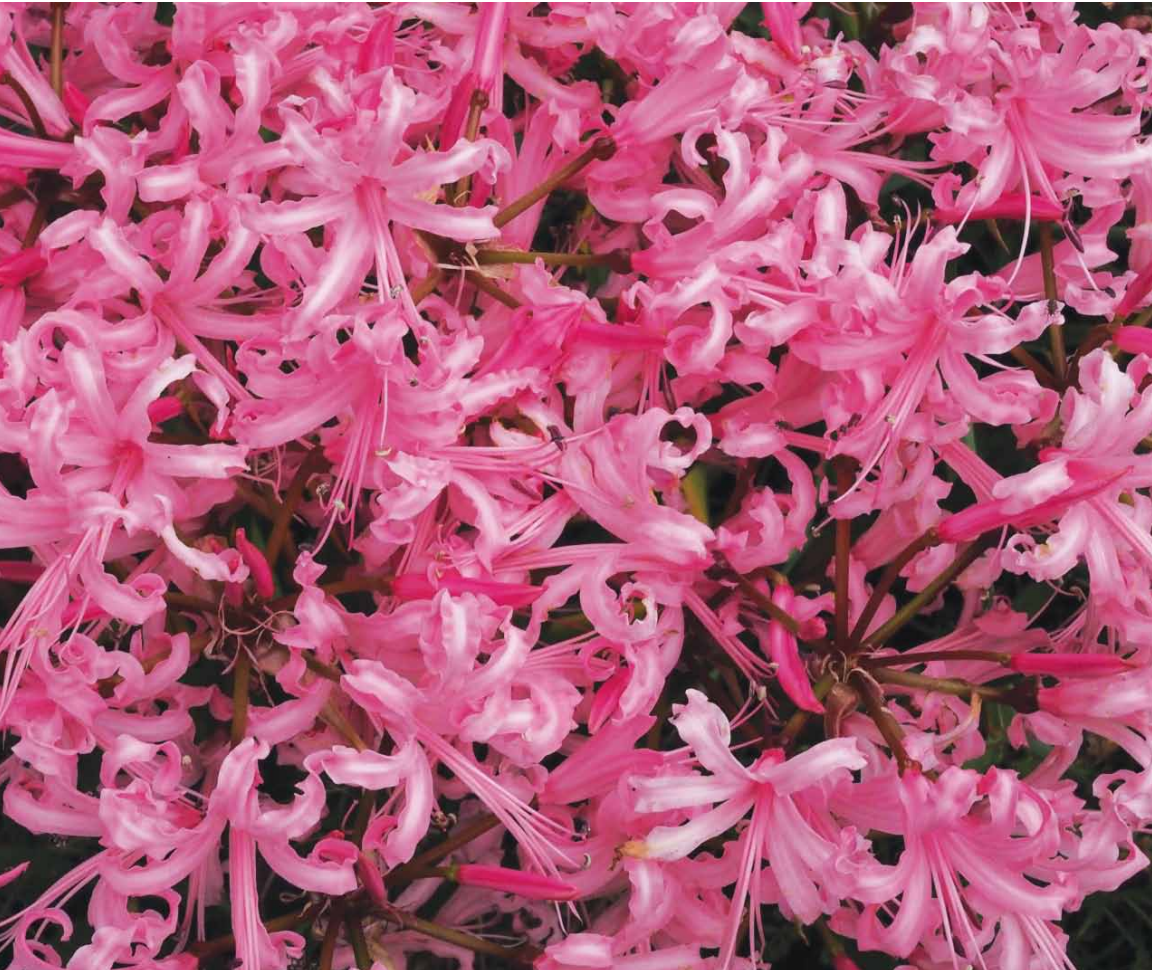
Saxifraga 'Beni Fuusha'



Another group of plants flowering in the fall are those bulbs, corms, tubers and the like, that have waited out the summer in regions with low summer rainfall alongside high temperatures. These plants conserve their energies for the more amenable conditions of falling temperatures and autumn rains.

South Africa and the Mediterranean each contribute to the list of desirable xerophytes for the rock gardener. Unfortunately many of these species from South Africa are too tender for the open rock garden in northerly climes although many make wonderful subjects for the rock gardener with an alpine house. In England, the great exception is *Nerine bowdenii* which can form spectacular clumps with mass flowering in October – great on a large rockery but overpowering on a small one. Although this is classified as a Z9 plant this can probably be extended to Z8 if it is kept from winter wet.

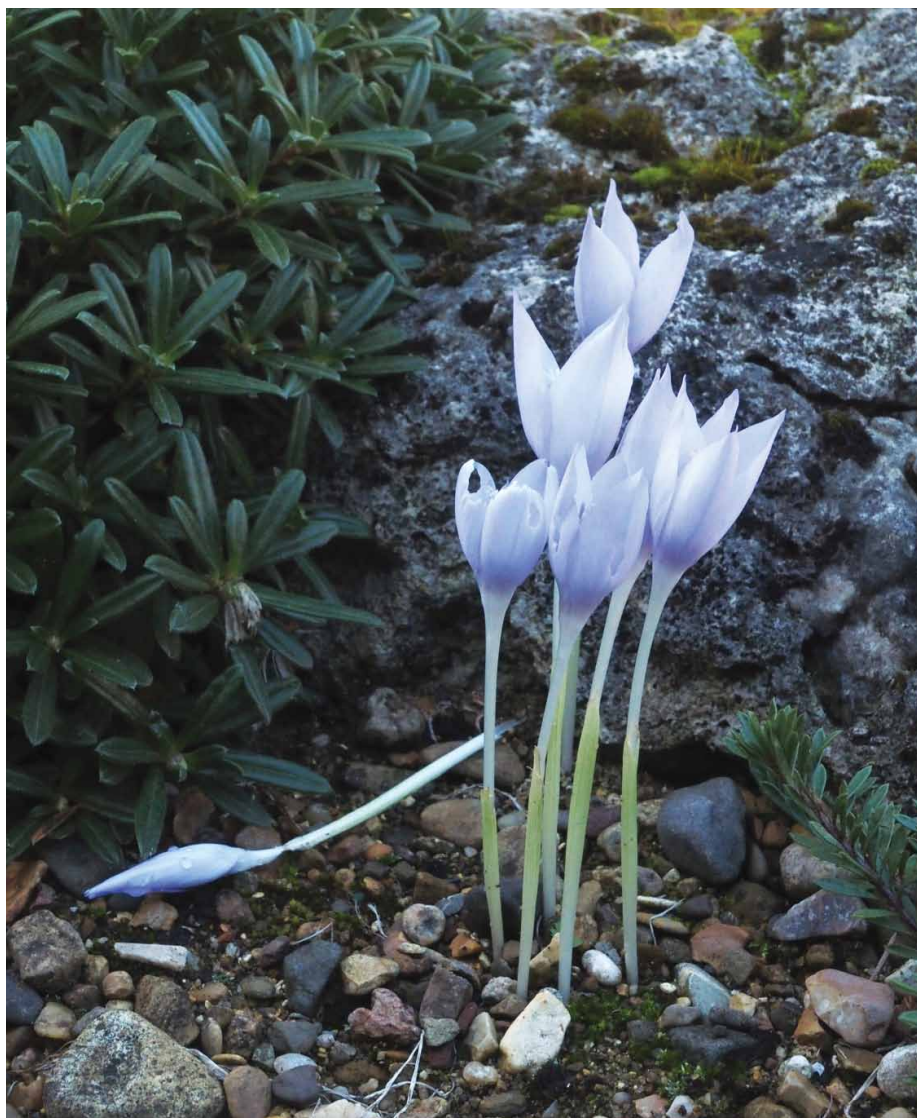
Nerine bowdenii





South African bulbs in Wisley alpine house, Surrey, England (clockwise from main picture): *Gladiolus* sp., *Massonia jasminiflora*, *Daubenya stylosa*, and *Nerine humilis*





Crocus banaticus is a particularly elegant autumn-flowering species

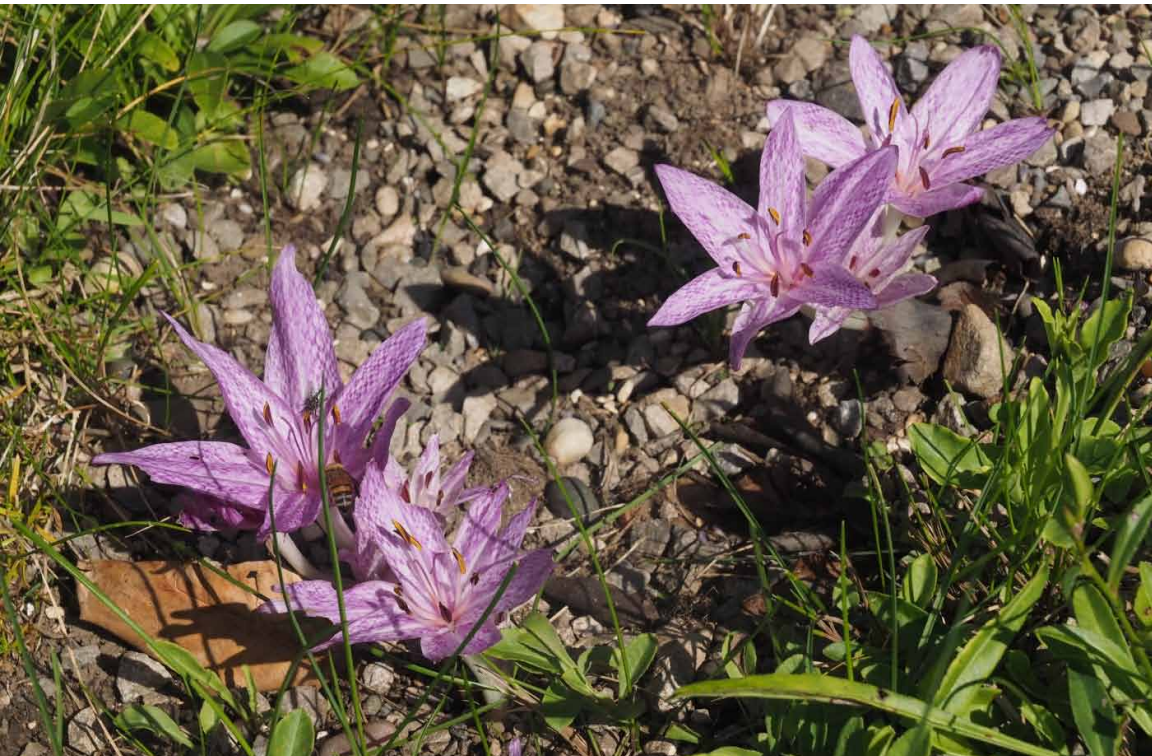
Although tender bulbs can be grown under glass, the greater pleasure is in growing things in the open rock garden. Mediterranean and southern European bulbs are particularly rewarding with cyclamen, crocus, colchicum, and sternbergia all offering opportunities. For the forgetful garden who can't always remember what is where, for whom bulbs are out of sight so out of mind, this leads to weeks of unexpected treats, September through October.



Cyclamen intaminatum



Sternbergia lutea
Colchicum agrippinum





Autumn is a time of fruits and fall color, but for me it's above all a time when one horticultural year intersects with the next. While the late flowers of Asia come to flower as the temperatures fall, so some of the bulbs of the Mediterranean, brought into flower by the rains of autumn after the dry summer heat, provide the very first signs and promises of a new year of plants.



Northumberland in November with gorse, *Ulex europaeus*, spiny enough to resist the attention of sheep, with Dunstanbrugh Castle on the skyline.

Opposite: *Cyananthus microphyllus* flowering in October among silver-foiled *Celmisia allanii*, dwarf rhododendron in foreground, with clump of *Aphyllanthes monspeliensis* at the back

A Plant Junkie's Guide to Rock Garden Basics

DON LAFOND

Recently there have been requests from members about rock garden basics. As our membership gains age and experience we sometimes forget that we have new members joining and they need to hear about our experiences in rock gardening. So we have decided to start a new section in the Quarterly to address this need: A Plant Junkie's Guide to Rock Garden Basics, or more accurately: A Maniac in the Rock Garden.



WHEN MY FATHER was still alive he would come over sometimes and help me with what I was doing. One day when I was weeding my rock garden he decided to help. After a short while I walked over to talk to him and saw that he was pulling out my white *Taraxacum*. Hmm, how do you say to a devoted turf grass man, I want to keep those?

Of course we all know that grasses, and especially sod-forming grasses aren't rock garden plants – so just what is? What counts as a rock garden plant? There is a short definition of what a rock garden plant is: a plant that grows in extreme conditions generally from

White dandelions are not everyone's chocolate chip cookie. Unfortunately as I say, mine got weeded out so this one, from *Taraxacum* section *Leucantha*, is in the wild, photographed by Tony Reznicek near Huiyan Monastery, China



*Mertensia
brevistyla* in
northern Colorado
- that's a rock
garden plant



a mountain, a desert, or steppe, and is under 12 inches tall. That definition leaves a lot to be desired. For instance, the American West is filled with penstemons. Now, often with penstemons the leaf rosette is well under 12 inches tall but the flowering stem can be 36 inches tall or more. I would not omit a penstemon from my rock garden just because the flower stem is 2 or 3 feet tall, but I probably would not put it in a small trough either.

Unless you are someone who doesn't believe that man evolved from the ape, you know that plants evolve to suit their environment. Herbaceous plants in an alpine environment must grow, bloom, and set seed in around 2–3 months, with a long dormancy in between one year and the next. The alpine environment can be windy and cold, dry or wet or frozen, sometimes all in the same day. Soil conditions are all over the place, from clay to sand to rock, or a combination of all of those. For the most part, the plants on mountains belong to the same genera as those found in lower, more temperate elevations. But plants above the treeline have evolved to be low to the ground to stay out of the wind and to conserve moisture. I saw a perfect example of a rock plant in Colorado, at the 2016 Annual Meeting: *Mertensia brevistyla*. It has the same gorgeous blue flowers we see in *M. virginica* but it's only 4–6 inches tall. Now that's a rock plant!

In deserts we also see a story of evolution. Remember a few years back when Death Valley bloomed its head off? Because that area got a larger than normal amount of rain, the valley bloomed unusually well. Those plants have evolved a way to stay alive between the long periods of no rain and high heat. They do this by going dormant for long periods and storing their life energy with a thickened root, or a tuber, or a bulb, and wait for enough water to break dormancy. But for even longer survival it is seeds, those truly remarkable little holders of

life, that lie in wait in the dry soil for enough water to germinate, often sitting there for multiple years. This sort of thing is what rock gardeners love.

Just to throw another monkey wrench in the mix, there is a whole slew of plants that we consider rock plants that are subalpine or grow below the tree line and are very often taller than the rule of 12 inches-or-shorter. Lilies, peonies, many campanulas, are outside the rule; or take, for instance, *Gentiana lutea*. I have tried to grow this plant in my rock garden for years, but it's pretty much 3 feet tall. If I successfully germinate some seeds some day you can be darned sure that they will be in my rock garden somewhere. Just the same with *Frasera speciosa*!

Some evening at a dinner with your rock garden friends after a few drinks, just for fun, ask if they think hellebores are rock plants. One



What's not to like - *Helleborus x hybridus*

may say that as long as they are just the species that's fine. Others will say "*Helleborus x hybridus* is absolutely beautiful, and grows great in my shady rock garden." I would say put some hellebores on your chapter sales table and watch the people buy them.

Native plants are often heralded in rock garden circles. Of course a native plant can mean different things to different people. To the members of a garden group like the Wild Ones (you can check them out at wildones.org) it means native to the county or state where they're based. To a paleobotanist it means native to a place several million years ago. All plants are native to somewhere (except I suppose artificial, or garden, hybrids) it's just finding the ones that grow in your garden. So don't ignore the plants that grow around you.

I'm always looking to find plants that grow locally, are small enough, and come from an environment where the little weeds will grow for me. For us in Michigan, the herbarium at the University of Michigan made an enormous website that lists all the plants that grow in the state and even what county they grow or grew in. It's called The Michigan Flora and it's a fantastic source for finding out what grows around the state and I have seen many other universities or botanical gardens with similar internet sources.

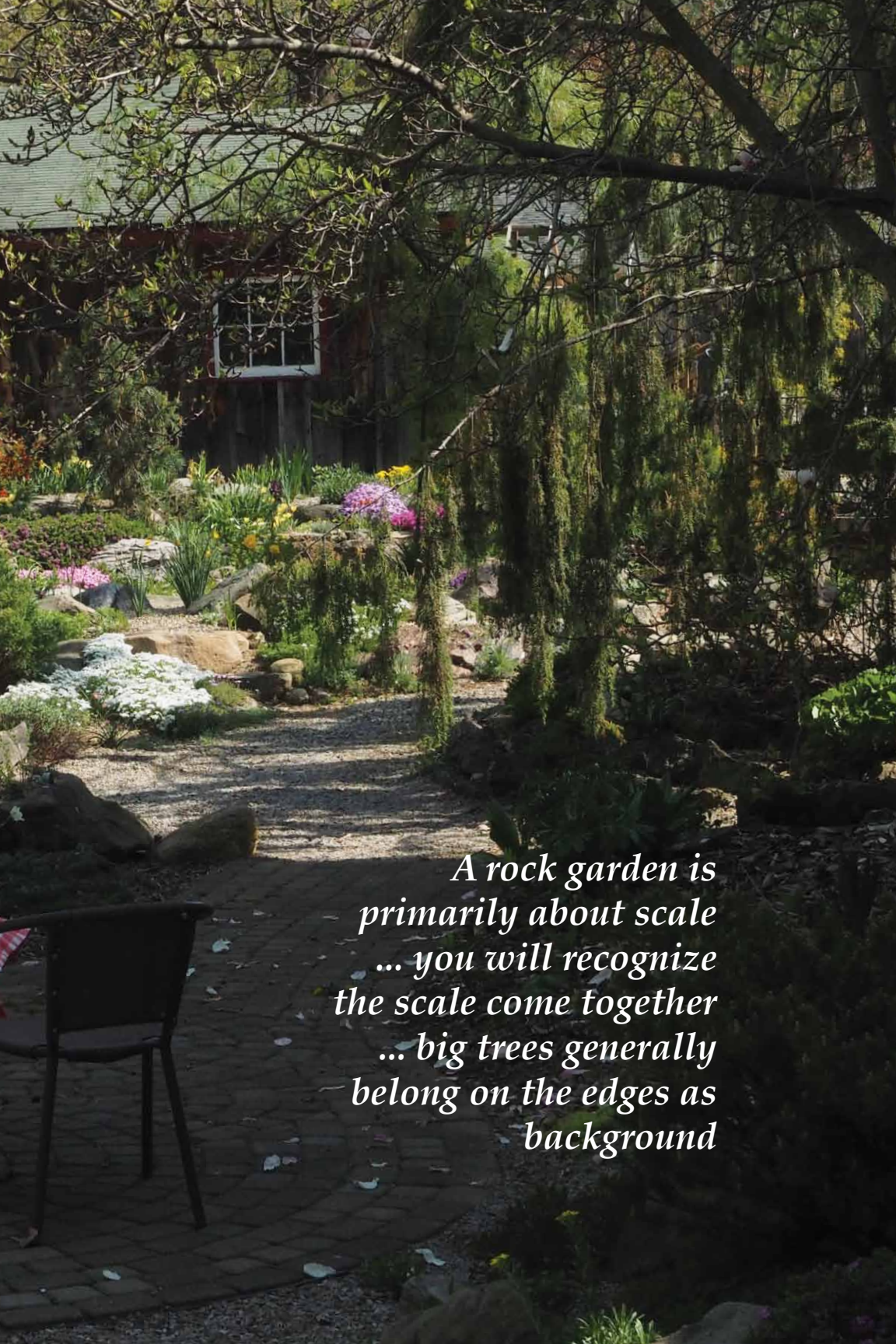
Many of the classic early rock garden books were written by Brits, but the first of my two book recommendations is *Rock Gardening: A Guide to Growing Alpines and Other Wildflowers in the American Garden* by H. Lincoln Foster who, together with his wife Laura Louise "Timmy" Foster, was an American writing a book for American rock gardeners. And then (because there are only beautifully done line drawings by Timmy in *Rock Gardening*), go find Baldassare Mineo's book *Rock Garden Plants*. This is a full-color encyclopedia of rock garden plants by the former owner of Siskiyou Rare Plants.

A rock garden is primarily about scale. When we see plants growing in wild conditions there seems to be a natural scale about them (formed as they are by their shared conditions). And as you work in your garden you will recognize the scale come together in your garden as you realize what it is you want to accomplish. Should I put a tree in a rock garden? Well that is a definite maybe. Is it a large or small garden, sunny or shady, or a trough. A large rock garden could have a bigger tree but probably not in the middle of the garden, big trees generally belong on the edges as background, or in the shade garden. Most objects in an extreme environment are smaller, except the rocks. Take for instance a krummholz, an area just at tree line where the trees are small, twisted and gnarled, bravely living where everything around them is saying you might as well give it up. This is where a dwarf evergreen fits the bill for a tree in the rock garden.

A krummholz is an action of the environment; those trees from a krummholz put in a lower altitude garden would grow normally. A witches' broom which is caused by a bud mutation, will however stay small much longer and the variety of such dwarf and semi-dwarf conifers is almost obscene. A few deciduous trees have also produced brooms. Eventually even the dwarfs will outgrow their space but judicious pruning and candling (cutting back the fresh terminal shoot or "candle") will keep a conifer in bounds for a long time, even in a trough. A good book to read about plants that grow in high elevations is called *Land Above The Trees* by Ann Zwinger and Beatrice Willard.

My father lovingly called my garden "a garden of weeds." I suppose from a certain perspective you could say that. The old adage about a weed just being a plant out of place is also true for rock gardeners.





*A rock garden is
primarily about scale
... you will recognize
the scale come together
... big trees generally
belong on the edges as
background*



Eriogonums are great rock garden plants but I expect some people would see them as weeds

In the early days of rock gardening, after they got past the fixation of making models of the Matterhorn, gardeners became more focused on “the little plants of the high places.” It’s easy to notice the short-skirted blond jumping up and down with pompoms, but you must slow down to notice and appreciate the shy girl with the big brown eyes.

“So tell me Don: why don’t we see roses, and dahlias in your rock garden but we do see magnolias and trilliums?” Well, I think it probably goes to what Geoffrey Charlesworth wrote when he talked about the evolution of a gardener. Most rock gardeners evolve into their craft, from vegetables and annuals to perennials to rock gardening. For me, the English cottage garden didn’t work in a gravel pit which is what my garden is built on. Also gardeners can get to feeling a bit stunted by the limited variety of perennial plants they can find in nurseries. However we get here, and there are a myriad of ways, here we are with the entire temperate botanical world at our feet. With my nose pointed directly upward, I think our taste changes and we start seeing the beauty of plants that haven’t been diploided or triploided or somehow enhanced beyond what might happen in nature,

Now, wait a minute before you all accuse me of being a plant snob! I have diploid and triploid daylilies and a couple of conifer brooms that the seeds were originally irradiated to create. I’ve got a *Thuja* that



A shady part of the LaFond garden

was hybridized to grow 6 feet a year and a hibiscus in my garden with flowers the size of a dinner plate, and I like them still.

Like most rock gardeners I know we have gardens within gardens. But if I had to move into a smaller garden the daylilies and hostas and hibiscus would be the first to go. I much prefer the subtle beauty of the smaller plants. The idea that I can grow maybe five to ten plants in the space of one perennial, is very attractive to a gardener who is running out of space but wants something new. There is always the exception to the rule, for instance trilliums. Aren't they a shade plant? Yes but there are rocks in the shade and shade plants have always been a rock garden staple, especially if your garden is very shady ... and if you have the shade plants and don't add the rocks, well, it can still be an honorary rock garden.

Anyway, have you seen a double trillium? If ever there was a flower that looks like it came from Chernobyl it's a double trillium, but they are found that way in nature and not in Russia.

So again why no roses? Because I don't really care for them, that's why. And as far as I'm concerned that's what counts in the end. But my wife picked up the dahlia bug, so go figure. And anyway, isn't a rock garden anything that's not a flower bed or a lawn?

Physoplexis comosa - this specimen is pretty near perfect on the fringe of this path





UW Arboretum

Wisconsin Spring Garden Gala NARGS Study Weekend Friday, May 19 and Saturday, May 20 in Madison, Wisconsin

We've put together a mix of talks, tours, and choice plant shopping to satisfy every plant enthusiast.

FRIDAY, MAY 19th

- We kick off with a meet, greet, shop, and eat at The Flower Factory, an enormous perennial nursery with the Midwest's largest selection of perennials. They have more than a dozen large hoop houses and outdoor benches – including a large hoop house devoted just to alpines. You'll have time to load up on plants! Check them out at www.theflowerfactorynursery.com.
- We'll enjoy a Midwestern Pig Roast (with vegetarian options). The meal will have all the fixin's, including local craft beers.
- There will be an overview of the conference, as well as a talk by Nancy Nedveck, owner of The Flower Factory, on choice plants. We'll also have a book signing by our Saturday night speaker, Joseph Tychonievich. His latest book *Rock Gardening: Reimagining a Classic Style* will be discounted 40% from list price.
- The bus will leave the hotel for The Flower Factory at 4.30pm. You'll have shopping time until dark.

SATURDAY, May 20th

• **Klehm's Song Sparrow**

Farm is a legendary destination for Midwestern gardeners. It features a truly enormous collection of rare and specialty perennials, especially peonies, iris, and hosta along with choice ornamental trees, shrubs and vines. This nursery is normally mail-order only, but we've arranged this special opportunity for you to select your own plants and take them with no shipping charges. Google them to see more of what you'll have to choose from. <songsparrow.com>



Kinlen garden

- **Sandgren garden, Madison.** You've never seen a garden like this one. With rare woodies and choice perennials embedded in a wonderland maze of four hundred tons of enormous boulders.
- **Kinlen garden, Madison.** You'll be entering the dream garden of a true, longtime plant fanatic, with examples of how to grow choice plants spectacularly well on a tucked-away city lot.
- **UW Madison Allen Centennial Garden,** with a great scenic rock garden right in the heart of one of the nation's most beautiful college campuses.
- **University of Wisconsin Arboretum,** a jewel of the city, with vast plantings in the 35-acre Longenecker Horticultural Garden and several others, including dwarf conifers and several world-class woody plant collections. You can expect to see many of the lilacs, crab apples, magnolias, and redbuds in bloom.
- **Evening program and meal** will be at the Arboretum Visitor Center. After dinner, two speakers will share their gardening experiences.
Steve Lesch will present a talk – *The Design & Construction of an Urban Open Forested Rocky Glen* – on the Sandgren garden. Steve

has been designing and installing residential landscapes in the greater Dane County area since 1973.

The second Speaker will be **Joseph Tychonievich** who earned his BS in Horticulture from Ohio State University, went on to work for Shibamichi Honten Nursery in Saitama, Japan, wrote a book, *Plant Breeding for the Home Gardener* (Timber Press, 2013), and spent two years at Arrowhead Alpines. His latest book is *Rock Gardening: Reimagining a Classic Style*, just out from Timber Press. Copies can be purchased at a 40% discount on Registration (see Registration Form).

LOGISTICS

- The hotel of choice is the Radisson Inn, with a double room rate of \$109 plus tax. It's located at 517 Grand Canyon Drive, (608) 833-0100.
- Conference fee is \$190 (until April 19), which includes all meals, transportation, and admissions.
- Our conference handouts will include information on a range of interesting places to see on your own while you're in the area:

International Crane Foundation <www.savingcranes.org>

Rotary Botanical Garden <www.rotarybotanicalgardens.org>

Prairie Nursery <www.prairienursery.com>

Madison's Olbrich Botanical Gardens <olbrich.org>

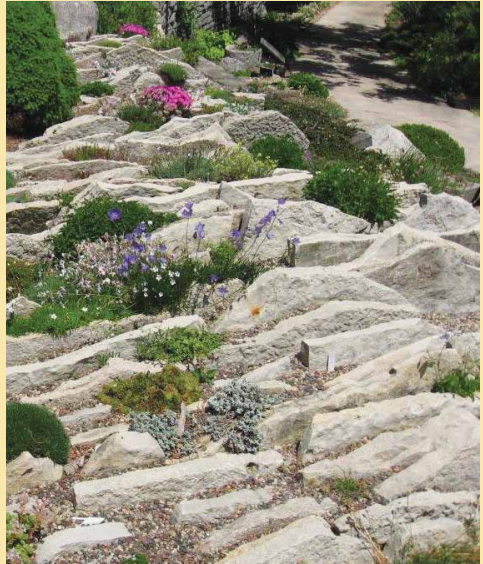
Prairie Enthusiasts sites <www.theprairieenthusiasts.org>

Frank Lloyd Wright's Taliesin
<www.taliesinpreservation.org>

Epic Systems – a large
healthcare software company
with remarkable landscaping

Selected private gardens

Register and put us in your calendar now. It will be a fun Wisconsin spring meeting with lots of wonderful and unusual plants.



UW Allen Centennial Garden

that I assume full and complete responsibility for any injury or accident which may occur during my participation in this event, during transportation to or from the site or while on the premises of this event, and I hereby release and hold harmless and covenant not to file suit against NARGS, its Board of Directors, volunteers or any affiliated individuals (“releasees”) associated with the event from any loss, liability or claims I may have arising out of my participation, including personal injury or damage suffered by me or others, whether same be caused by falls, snake bite, contact with participants, conditions of the facility, negligence of the releasees or otherwise. I understand the nature of the activities and tour options and am in proper physical condition and capable of participating in such events. **If I do not sign this form I understand that I will not be allowed to participate in the tour.**



Sandgren garden

Additionally I grant to NARGS, its representatives and employees, the right to take photos of me and my property in connection with any NARGS sponsored event. I authorize NARGS to use photographs of me, with or without my name for any lawful purpose, including for example such purposes as publicity, illustration, advertising, and Web content.

Print Name _____

Signature _____ Date _____

Emergency Contact _____ Phone _____

Parent or Guardian Signature (if under 18): _____

Please mail this form and check written to Wisconsin-Illinois Chapter NARGS to
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Madison WI 53703-1615
or email to <NARGSWIS2017@gmail.com>



Dionysia aretioides 'Bevere'

Cushion Plants

Part Two: Dionysia-Kelseya

GER VAN DEN BEUKEN

This survey of cushion plants focusses on some of the aristocrats or divas of the rock gardening world: some are temperamental but all are specialized and very beautiful. This second installment starts with one of the most desirable of all the genera featured in this series.

Dionysia

I could easily write an article about this fantastic genus on its own, but I will limit myself to a few of the most remarkable and beautiful species.

With the exception of species like *Dionysia curviflora*, *D. involucrata*, *D. aretioides* and *D. tapetodes*, this is a difficult to extremely difficult genus for even the most experienced alpine enthusiast. *Dionysia curviflora* forms cushions of small rosettes and has small pink flowers;

D. aretioides and *D. tapetodes* both have yellow flowers and are probably the easiest with *D. aretioides* having the larger flowers and foliage. Pink-flowered *D. involucreta* is easy to raise from seed and there is a very nice white-flowered form which comes true from seed. All species are suitable for pot culture in the alpine greenhouse or in an always-protected spot on tufa.

The remaining species in the genus are variously difficult. *Dionysia afghanica* is one of the most spectacular but difficult species, but has been overtaken in difficulty by several species like *D. microphylla*, *D. esfandiarii*, *D. iranshahrui*, *D. kathamii* and *D. lamingtonii*. All these species are especially susceptible to botrytis during wet winter periods even if they are grown inside, so good ventilation is a necessity.

Dionysia afghanica was brought back from Afghanistan in 1971 by Christopher Grey-Wilson and Tom Hewer. In cultivation this collection has the number GW/H1308. It is the only pin-eyed clone in cultivation and a beautiful and very slow-growing species covering itself with pale lilac-blue flowers. Michael Kammerlander in Würzburg has been responsible for the appearance of several unique color forms of *D. afghanica* like 'Zdenek Zvolanek' with violet-blue flowers and 'Mike Bramley' with purple flowers. There are also some other unnamed forms in cultivation and one of them, with sulphur-yellow flowers, should definitely be named.



Dionysia afghanica (above) and *D.* 'Zdenek Zvolanek' (below)





Dionysia bryoides

Dionysia bryoides certainly deserves an award for its brilliant deep pink flowers. Various clones are in cultivation with 'Henrik Zetterlund' one of the outstanding ones with big dark pink flowers. All these species grow with small rosettes as a hemispherical cushion.

The only species it is regularly possible to propagate from seed is *Dionysia involuocrata*; the main limitation with other species is the availability of seed although *D. aretioides* and *D. tapetodes* seed is also sometimes available. In part at least because seeds are so rarely

Dionysia freitagii



available, most of the other species can only be propagated by cuttings in early spring immediately after flowering. Cuttings of dionysias require a lot of skill, but also a lot of patience. Often this process ends as a

disappointment with bad results. As a cutting you can only use the small rosettes with a stem. As a cutting compost mix I use a mixture of fine sharp sand, fine perlite, fine pumice, and a very small proportion of fine peat. With a little luck you may expect some results after several weeks.

Other species, completely different in appearance, are *Dionysia freitagii* and *D. viscidula*. They form deep green sticky cushions with solitary sessile flowers. The propagation success with these species is very low because the stems get woody after a few years and this difficulty in propagating is the reason that young plants are never supplied by nurseries.

The countries where *Dionysia* species occur are Iran, Afghanistan, and a single species in Turkey. The plants always grow on shaded limestone cliffs.

Draba

There are some easy *Draba* species in what is a large genus but some of the most beautiful cushion-forming species that I particularly like are rather difficult. Four of the most beautiful yellow-flowering species are discussed here. *Draba longisiliqua*, endemic to the Caucasus, grows on limestone. It is a particularly good species for the alpine greenhouse that flowers well but is very susceptible to mildew and preventive

Draba longisiliqua





Draba polytricha

spraying is therefore strongly recommended. In five years you can expect a plant of 15–20 cm (6–8 inches). *Draba acaulis* is a clearly different and extremely slow species from limestone crevices in Turkey. It is possible to grow on tufa rock outside, provided it is protected with cover during winter, but again it is really a more suitable plant for the alpine house. The most difficult one is *Draba polytricha*. An endemic species from Turkey we found this plant on vertical limestone cliffs. Just to clarify, there is a species distributed as *Draba yunnanensis* surely having affinity with *D. polytricha* and only suitable for the alpine greenhouse. *Draba mollissima* is a species widespread in the drier parts of the Caucasus and always growing in rock crevices. It requires the same cultivation technique as the dionysias, always providing a good water balance in the pot but keeping the plant dry. It frequently dies back during winter. All four species listed can be propagated from seeds although from cuttings you can get better results. They require a calcareous substrate with perfect drainage.

Finally there are two white-flowering gems in cultivation. *Draba dedeana* from the Picos de Europa in northern Spain is described as a species which occurs in shady places amongst rocks and crevices



Draba dedeana growing on tufa

although others have suggested that it grows in less shady places. Beautiful compact cushions are adorned with pure white flowers. In cultivation however, the cushions remain looser in structure, though it is definitely worth giving it a place in tufa. *Draba ossetica* var. *racemosa* is a relatively recently introduced species from the Caucasus growing

Draba ossetica var. *racemosa*



as beautiful hairy cushions with white flowers. Protection against wetness during the winter is an important condition so it is better to give it a place in the alpine house. Both species produce seeds and can be increased in this way. Also cuttings in the spring after flowering is an excellent option.

Edraianthus

In the last three years there have been several new species introduced from the Balkans, but the ones I discuss are some excellent oldies. For me the best still remains *Edraianthus pumilio*. It is particularly valuable for tufa, or on sloping site such as on a sloping sandbed. It



Edraianthus pumilio

grows as gray hairy cushions bearing stemless solitary bright blue-purple flowers. *Edraianthus wettsteinii* is identical to *E. pumilio* except that it has narrow leaves. *Edraianthus serpyllifolius* is one of the most beautiful species with deep dark violet flowers. The var. *major* produces slightly larger flowers. Both species produce plenty of seed and are easily increased in this way and seed themselves everywhere in the rock garden if you have the right conditions. These are what we call beautiful weeds. And there is little that is better than a beautiful plant that seeds itself.

Eritrichium

In general, the discussed species are only suitable for greenhouse culture or in any case with a thorough cover. Of course I am talking



Eritrichium nanum in the Julian Alps

about *Eritrichium nanum* from North America, the Alps, and Dolomites and *E. aretioides* from Arctic Russia and Alaska. Every year I grow a large number of new plants for sale. This is, as it turns out, necessary in order to provide for the requirements of my customers. It should be

clear why: the plants in culture are short-lived. Often they die after a year. Fungal infection is the most common problem leading to an early death. The plants form superb gray-haired cushions bearing stemless bright blue flowers. It is a fantastic spectacle to see these plants in their original location in nature – it is much harder to produce anything comparable in cultivation. This summer we found a very rare white-flowering form of *E. nanum*. Propagation from seeds is pretty easy.

There are occasionally seeds available of the American *Eritrichium howardii* although it is not really comparable with *E. nanum*. It forms cushions of rosettes with elongated gray leaves. The sky blue flowers are in short inflorescences about 5 cm (2 inches) high. These plants are only suitable for the alpine house in a well drained soil or on tufa.

Gypsophila

From this genus there is only one cushion plant: *Gypsophila aretioides*. You can see this species regularly on the show tables in England and Scotland where it is often a winner. The species is endemic in the

Caucasus and Iran. It can grow to 30 cm (12 inches) across with tiny dark green leaves and they are so closely packed that the plant feels hard to the touch. The flowers are pure white. It is a good alpine house plant but even better outside on tufa. There is also a form from Iran with slightly grayer leaf color, and also a little less hard. The hardiness is perfect. Propagation is only possible by cuttings



Gypsophila aretioides - Caucasus form

during the summer. Success is ensured with the Caucasus form. From the Iranian form, however, the results are very poor.

Haastia

In New Zealand's South Island you will find areas in the mountains where *Haastia pulvinaris* is abundant. I have no experience with propagation techniques and have only just got it into my collection but I am told it is a challenge to grow this extraordinary plant. This year we saw almost spherical cushions up to 50 cm (20 inches) across on Black Birch Mountains on a very windy slope. *Haastia pulvinaris* var. *minor*



Haastia pulvinaris

has somewhat darker rosettes on rather flatter cushions. This grows on stable rocky soil and not on mobile scree. The flowers are unobtrusive and identical in both forms.

Junellia

From this genus I want to pay attention to a few species which are found commonly in Patagonia in Argentina and Chile. One of the best is *Junellia patagonica* a magnificent species, growing with cushions of about 5 cm (2 inches) high and 30–40 cm (12–16 inches) wide. It has beautiful pale pink inflorescences around the edge of the cushions and seemingly never in the center part of the cushion. The plants grow mainly in the dry steppes. There is also an upright form: var. *morenonis*.

Another interesting steppe species is *Junellia micrantha*. This is a plant not taller than 3 cm (1.2 inches) but it grows sometimes more than 1 meter (3 feet) across. It is fantastic to see this species in bloom. In



cultivation this species is growing faster than it probably does in the wild. It is rewarding to grow in the alpine greenhouse but seems to tolerate our climate in the Netherlands and can be grown outside in a well-drained substrate having a low pH value. Hardiness is certainly no problem.

Junellia azorelloides blooms each spring quite exuberantly and does well in the rock garden. It is a steppe plant as well and, like *J. micrantha*,

Junellia patagonica
Junellia micrantha



can grow to more than 1 meter (3 feet) across. Beautiful dark pink flowers adorn the cushion in the spring. The propagation of most junellias is done by cuttings but *J. azorelloides* produces seeds and can also be increased accordingly.

Kelseya

There is only one species in this genus, *Kelseya uniflora*, which is endemic to Idaho, Wyoming and Montana where it grows in volcanic and limestone cliffs at altitudes sometimes exceeding 3000 meters (10,000 feet). It is a fantastic plant for the alpine house, though results here are very poor. With a cushion in a 10 cm (4 inch) pot I'm satisfied already. In Scotland with its more moderate summer climate I have seen sometimes plants on the show bench more than 20 cm (8 inches) across. The plant has small hairy rosettes with solitary stemless pink-white flowers. The best results I have had so far have been in a mineral calcareous compost. Propagate from seeds.



Kelseya uniflora in flower in the Bighorn Mountains (Barbara Cooper & Bella Seiden) and in cultivation

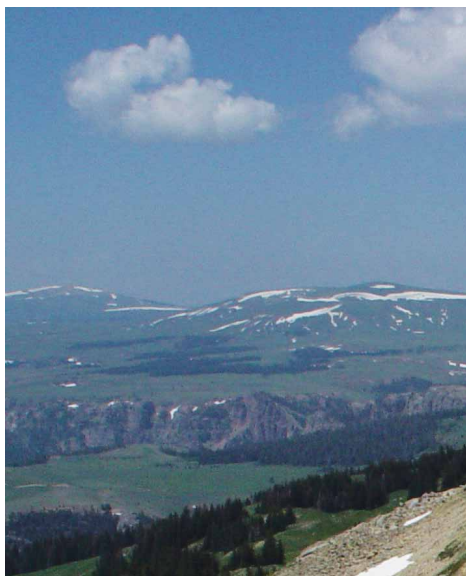


In the next issue Ger will continue this series.

The Crowning Glory of the Bighorns

DAVID SELLARS

ARRIVING AT THE high point on Hunt Mountain Road, we stepped out onto a mottled limestone fellfield and marveled at the yellow, blue and pink cushions arranged on the grey canvas like an abstract impressionist painting. But we had to tread carefully between the crowded buns of





Above: Summit of Hunt Mountain looking toward Bald Mountain and Medicine Mountain



Left: Hunt Mountain escarpment from the dolomite pavement of South Summit

Below: *Aquilegia jonesii* with Medicine Mountain in the distance





Douglasia montana

Lesquerella alpina, *Eritrichium nanum*, and *Douglasia montana*. As we headed across the rough tundra, more and more flowers slowed our progress. Blue *Mertensia oblongifolia* clung to huge standing rocks entwined with *Telesonix heucheriformis*. *Primula parryi* peered out with dark pink eyes from sunken ledges contrasting with the white stars of *Lloydia serotina*. Delicate *Dodecatheon conjugens* littered the meadows with occasional brushes of spectacular *Pulsatilla patens* and blue *Penstemon procerus*. Pure white buns were needed to complete the picture and *Phlox multiflora* duly obliged. But the greatest performance was still to come. We arrived at the abrupt edge of the sheer escarpment of Hunt Mountain high above the deserts of the Bighorn Basin over 6,000 feet below. The crest of the ridge was studded with the crown jewels of North American alpinism; more *Douglasia*, *Eritrichium*, and *Townsendia* than you could possibly imagine and hundreds of plants of that most extraordinary alpine, *Aquilegia jonesii*. And if that weren't enough, the mottled rocks were decorated by mats of *Kelseya uniflora* with ancient twisted stems, some clinging to precipitous cliffs. These



Wyoming mountains are revered amongst alpine plant lovers and the rim of the escarpment of Hunt Mountain has the most extraordinary alpine plant riches coupled with spectacular scenery.

The geology of the northern Bighorns has been likened to a layer cake of dolomite, shale and limestone set atop a granite cake-stand (Gyer, 1986). At 10,162 feet, Hunt Mountain is the highest point in the

Kelseya uniflora



northern Bighorns where the mountains are capped by massive Bighorn Dolomite with a prominent escarpment to the west and gentle slopes to the east. Near the summits, the dolomite has weathered into fantastic formations and the rock has a pitted, honeycombed appearance. The Bighorns are an isolated range separated from the main chain of the Rockies by the Bighorn Basin. A rich flora has evolved as a result of the unique location together with favourable geology, extensive high elevation fellfields and dolomite pavements.

Aquilegia jonesii on Hunt Mountain has huge flowers and beautiful blue-green furled leaves. As noted by Marcel Jouseau in 2005 in his seminal work on the distribution of *Aquilegia jonesii*, the plant grows best where there is no competition and it prefers bare gravel soil with low fertility. Some of the largest plants we saw in 2008 were on the reconstructed embankment fill of Hunt Mountain Road. Eight years later these plants were replaced by grasses and other plants.

While *Aquilegia jonesii* plays the headliner, there are other stars of the spectacular show on Hunt Mountain. *Eritrichium nanum* is a brilliant blue as fine as any we have seen in the European Alps and the pink buns of *Douglasia montana* are a wonderful contrast. Just west of the summit rocks there are huge mats of a tight white *Dryas octopetala* that set off large bouquets of dark blue *Polemonium viscosum*. The Asteraceae

Eritrichium nanum





Townsendia alpigena

is represented by *Townsendia alpigena* and *T. parryi*. Both are dainty diminutive daisies that light up the tundra with their elegant pink-purple flowers. *Kelseyia uniflora* is most common on the vertical cliff faces but it also grows on horizontal and gently sloping dolomite pavements near the edge of the escarpment.

Physaria reediana (*Lesquerella alpina*) is ubiquitous in the alpine fellfields of the Bighorns but there are many other fine yellow-flowered plants. *Hymenoxis grandiflora* is common in the area but even more delightful was *H. acaulis* which at this elevation has large flowers on very short stems. Less common was *Physaria didymocarpa* var. *lanata* which is a regional endemic of north-central Wyoming and adjacent Montana as described by Joy Handley and Bonnie Heidel (2011). *Draba oligosperma* rounds out the yellows.

At some locations the dry rocky fellfields merge with wetter meadows and the plant palette changes. The cream and yellow flowers of *Zigadenus elegans* are particularly fine on Hunt Mountain and *Allium brevistylum* has small red flowers on long stems. It is surprising to find spires of *Frasera speciosa* on these exposed areas though most are smaller than those growing in protected valleys. *Pedicularis cystopteridifolia* also produces complex pink spikes that are exquisite in close-up.



Hymenoxys acaulis
Draba oligosperma





Physaria didymocarpa var. *lanata*

Physaria reediana (*Lesquerella alpina*) on mottled dolomite



By now you must be thinking that all the exceptional alpinists on Hunt Mountain have been revealed. But *Clematis columbiana* var. *tenuiloba* deserves a special mention. It crawls through loose rocks and produces



Clematis columbiana var. *tenuiloba*

upright delicate flower stems. The flowers are initially small blue-purple globes before they open to a classic hanging clematis shape. The plant is perfectly adapted to the high elevation windy fellfields of Hunt Mountain.

This area of the Bighorns is very accessible because gravel roads cross the mountains at high elevations. The only challenge is timing your visit. Ferocious winds batter the summits drying out the fellfields and once the snow melts the period of flowering is very brief. However, if you go too early the access roads may be blocked by snow and the flowers may not be open. Fortunately there

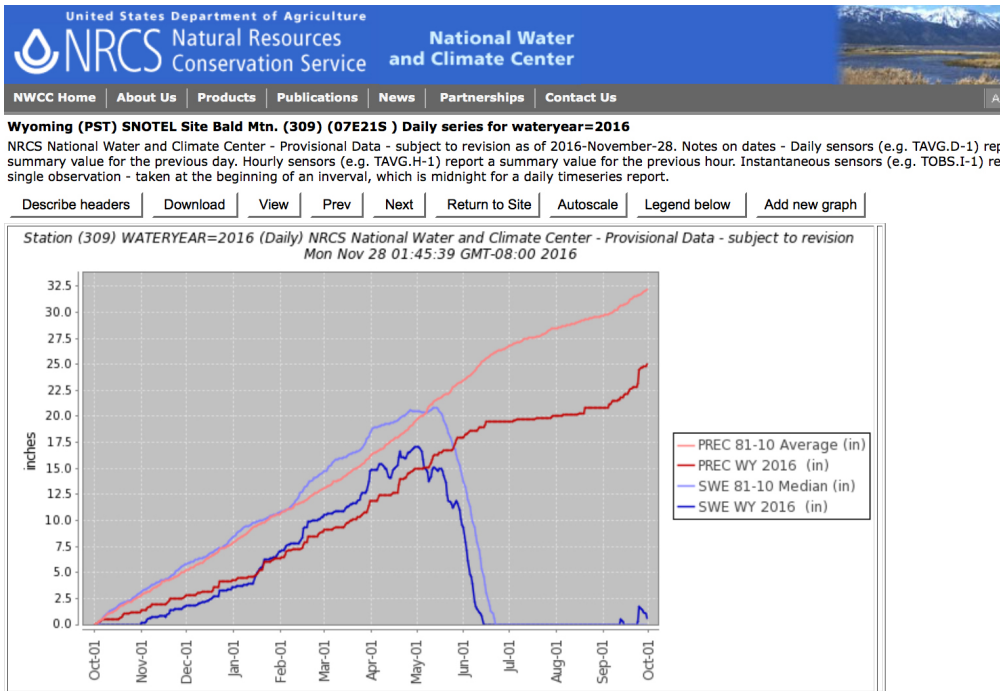
is a snow telemetry (SNOTEL) site at 9,380 feet on Bald Mountain not far from Hunt Mountain. The site is surrounded by trees so the snow will last longer there than on the bare windy summits. Nevertheless the real-time snow reports provide an indication of snow conditions in the area. Snow water equivalent, the actual amount of water in a given volume of snow, is measured using a snow pillow, which contains anti-freeze solution. As snow accumulates on the pillow, the weight exerts pressure on the solution which is converted into a reading of snow water equivalent.

In our experience, the peak spring flowering on Hunt Mountain occurs about a week after complete snowmelt (zero snow water equivalent) is first detected at the Bald Mountain SNOTEL site. There will be variations in this rule-of-thumb depending on changes in the distribution of snow in any given year. Nevertheless it is a useful

approximation to guide timing of a visit to Hunt Mountain. Based on records from 1981 to 2010, the median date of complete snowmelt at Bald Mountain is June 23 so the median date of peak flowering on Hunt Mountain would be roughly a week later, around June 30.

The Bald Mountain SNOTEL site can be monitored at the following web address: wcc.sc.egov.usda.gov/nwcc/site?sitenum=309. In the "Site Reports" table, choose "Daily Graph" for "Snow Water Equivalent" (SWE) in the "Current Water Year" column. The graph will provide the snow water equivalent to date compared with the median so that you can see if the conditions indicate early or late snowmelt compared with average conditions (see below). If the snowmelt is running ahead of average conditions, plan on visiting before June 30. Conversely if snowmelt is lagging average conditions it would be better to visit after June 30. We went to the Bighorns after the Steamboat Springs Conference. We were on Hunt Mountain on June 29, 2016, two weeks after complete snowmelt on Bald Mountain and few *Aquilegia jonesii* and *Douglasia montana* were still in flower. Fortunately there were many other alpinines in very good condition and the *Townsendia* flowers were particularly fine.

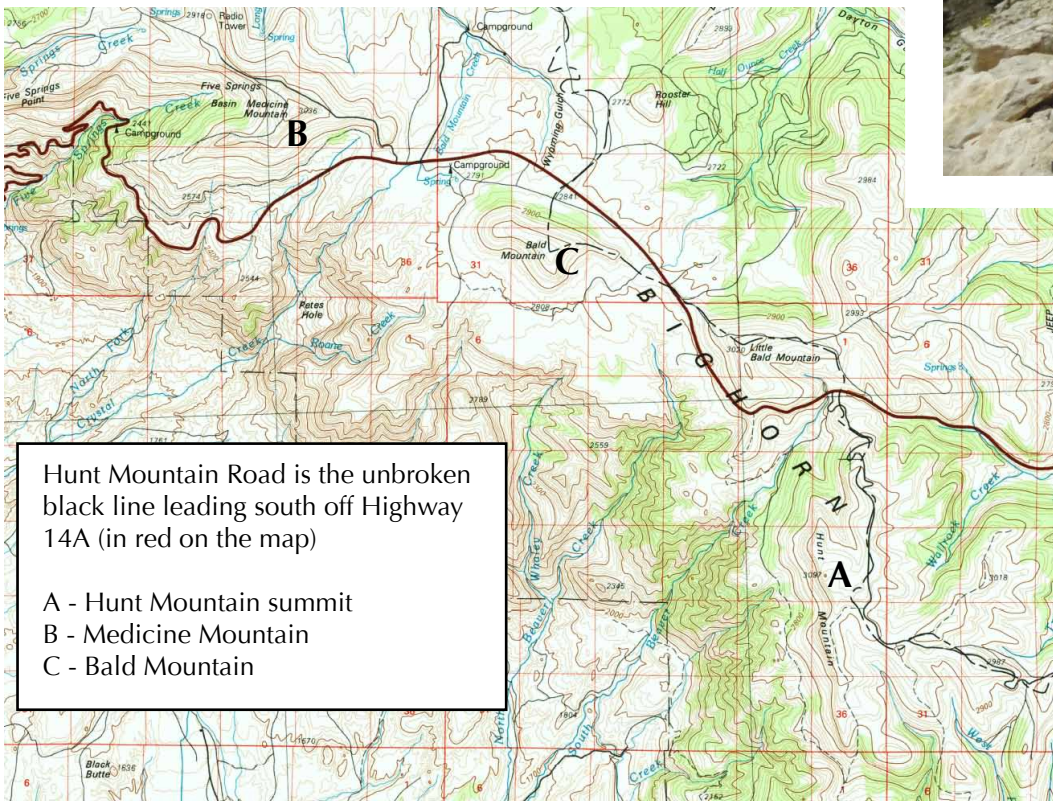
In the "Daily Graph" window, click on the button "Prev" to review snow conditions in previous years. (You may need to do this to view what you think is the current year since the year for the site is October to October). In most years complete snowmelt is close to the median date of June 23 but there are extremes particularly in years when there



is a lot less or a lot more snow accumulation over the winter than normal. In 2006, complete snowmelt occurred around May 25 and in 2011, complete snowmelt did not occur until July 7. This implies that peak flowering on Hunt Mountain could range from about June 1 to the middle of July. However the rule-of-thumb for peak flowering, one week after complete snowmelt at Bald Mountain, is likely to be less valid for extreme years. For example, if complete snowmelt occurs before the end of May it is possible that cooler conditions may prevail in early June compared with the end of June and peak flowering may occur two weeks rather than one week later.

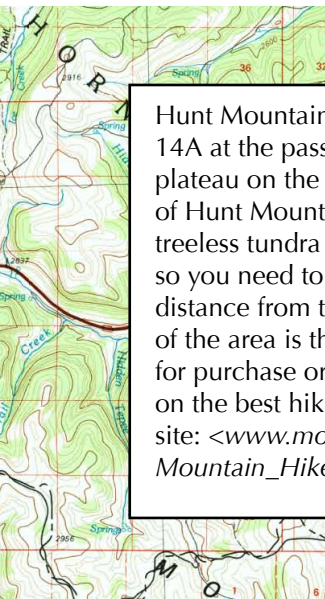
In his article in the Rock Garden Quarterly in 2006, Iza Goroff talks about "Hunt Mountain Cliffs." From the photographs and description it is apparent he is describing an outcrop southeast of the summit of Hunt Mountain and some distance from the massive Hunt Mountain escarpment. When you head west from Hunt Mountain Road, these cliffs are the first major rocks encountered and many good plants can be found there including *Kelseya uniflora*. However, to experience the full glory of Hunt Mountain you should continue past the cliffs to the top of the escarpment. It is easy to bypass the cliffs at the north end or scramble down one of the wide gullies.

From the highest point on Hunt Mountain you can follow the edge of the escarpment that dips to a saddle with scree slopes to the west and





Hymenoxys grandiflora



Hunt Mountain Road is a gravel and dirt road leading south off Highway 14A at the pass just west of Burgess Junction. The road traverses a high plateau on the gentle east slopes of Hunt Mountain. To reach the peak of Hunt Mountain and the edge of the escarpment, hike west across the treeless tundra from Hunt Mountain Road. There are no trails to follow so you need to have a good sense of direction (or a compass) but the distance from the road to the escarpment is less than a mile. A good map of the area is the USGS 1:100,000 map, Burgess Junction. It is available for purchase or free download from the USGS store. More information on the best hiking route across Hunt Mountain can be found at this site: www.mountainflora.ca/Rocky_Mountains_Alpine_Flowers/Hunt_Mountain_Hike.html



Aquilegia jonesii

then rises to a prominent peak at 10,015 feet. This South Summit of Hunt Mountain has marvellous dolomite pavements covered with *Kelseya uniflora* and many other plants such as *Townsendia parryi* and *Zigadenus elegans* growing in the cracks and depressions.

In addition to Hunt Mountain there are other rocky summits worth visiting in the northern Bighorns. Medicine Mountain is well known because of the indigenous Medicine Wheel but summit access is restricted. Fortunately, it is easy to drive on Sheep Mountain Road over the rounded shoulder of Duncum Mountain which has more extensive fields of *Aquilegia jonesii* than Hunt Mountain, some even growing on the surface of abandoned roads. A rough road leads to Sheep Mountain in the far northern Bighorns which has spectacular summit rocks covered with *Kelseya uniflora*. On the north side are an incredible number of *Primula parryi* enjoying their specialized habitat of shaded, high elevation ledges. The meadows on Sheep Mountain are spattered with *Delphinium bicolor* and *Lupinus argenteus* with yellow *Viola vallicola* and *Anemone multifida*.

Surprisingly, Sheep Mountain has no *Aquilegia jonesii* and Duncum Mountain is devoid of *Kelsya uniflora*. Both mountains require skilled

rock climbing to get to the true summits though it is easy to hike over the broad shoulders up to the towering pinnacles. In contrast, Hunt Mountain is just a stroll to get to the highest point to look over the precipitous cliffs from fellfields and dolomite pavements covered with flowers. There is nowhere else like this on Earth. Undoubtedly, the floral riches and spectacular scenery of Hunt Mountain are the crowning glory of the Bighorns.



Gullies and towers on Hunt Mountain escarpment

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Townsendia parryi





THE ITALIAN DOLOMITES

NORTH AMERICAN ROCK GARDEN SOCIETY TOUR

8-day tour: June 29–July 6, 2017

DESCRIPTION

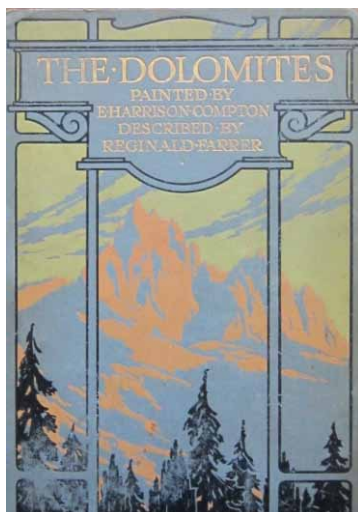
Eight-day tour to the Italian Dolomites, led by Naturetrek Leader **Jessica Turner** (and another leader if there is sufficient demand for a second eight-day tour) - extensions in Venice available. Group size 10-16, walking 4 to 7 miles per day.

TRIP OVERVIEW

The end of June and early July is a perfect time to visit the Dolomites. The peak season for flowers this area of northern Italy has some spectacular mountains and scenery and some equally wonderful plants.

Our tour will take the early 20th century botanist Reginald Farrer's book *The Dolomites* as its starting point and will take the opportunity to explore, as Farrer did, both the limestone and granitic mountains which provide such a wide range of habitats.

The group will be based in the Fassa Valley which opens access to some of the famous passes in a comfortable friendly hotel run by a family (Stefano, Katia, and Genio) of keen skiers who know every inch of the area. Among places that the group will visit are the Rolle Pass, Pordoi Pass, Cimon della Pala, the Paneveggio National Park, and the Rosengarten (by cablecar).





Scenery in the Dolomites is spectacular and wildlife, such as this alpine chough, is plentiful

Potentilla nitida





Hotel Gran Mugon

The flora of the Dolomites has many gems with, among many others, 10 saxifrages, 3 androsaces, 3 soldanellas, 6 primulas, 9 gentians, and 20 orchids, all on our list of possible targets, along with *Eritrichium nanum*, the King of the Alps.

This tour will be a private tour for NARGS members organised and led by Naturetrek. Walks will be between 4 and 7 miles per day although like most flower walks the pace is naturally leisurely.

Minimum 10, maximum 16 participants

PRICE

US\$1940 for the 8 day /7 night trip.
Single supplement US\$225.

Included:

Meals on half-board basis
(breakfast and dinner) and daily
packed lunch at the Hotel Gran
Mugon in Vigo di Fassa

All internal travel (from/to Venice
Airport and throughout the
week) including one cable-car
return to Catinaccio Rosengarten

Accommodation on twin/double
occupancy basis. Single rooms
extra on request



Soldanella alpina

Various extensions are possible: an obvious possibility is a 4 day /3 night extension in Venice price US\$465 in a twin/double room including breakfast. This is a perfect time to visit the city before the full heat of summer sets in.

BOOKING & ENQUIRIES

Since this is a private tour for NARGS run by Naturetrek, booking will

be made direct with Antony Barton (Naturetrek) who can be contacted by emailing <antony@naturetrek.co.uk> or by telephone +44 1962 733051. Quote: "The Italian Dolomites: North American Rock Garden Society Tour"

All participants must be NARGS members.

Further enquiries can be made to Anthony Barton or to Malcolm McGregor at <mmcg@mmcg.karoo.co.uk>

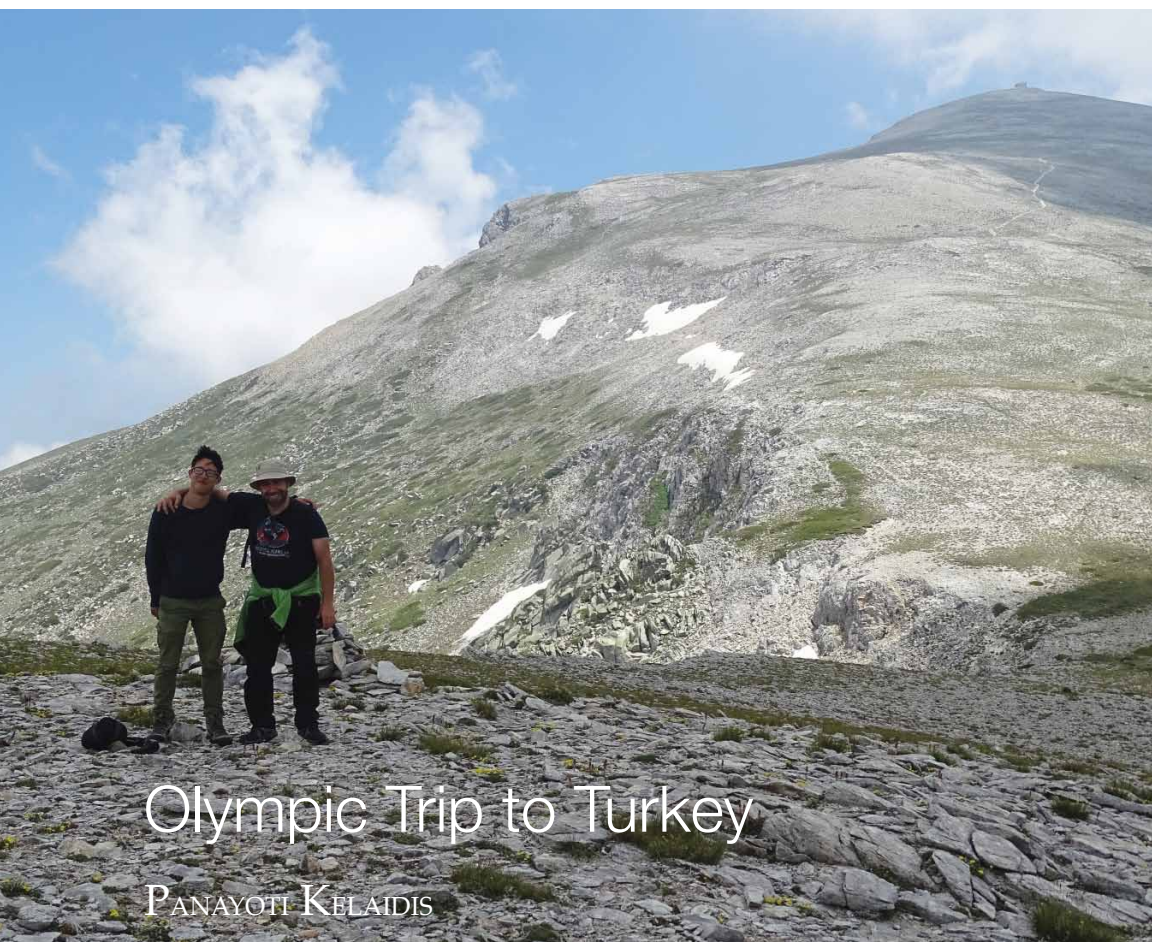
The deadline for booking (to enable assessment of viability for the tour) will be January 31, 2017. At that point there will be an assessment of numbers and a decision on whether a second parallel tour (on a reverse itinerary but on the same dates) will be possible.



Saxifraga paniculata

Trollius europaeus





Olympic Trip to Turkey

PANAYOTI KELAIDIS

Eric Hsu (bare-headed) and Eleftherios Darios (Liberto Dario) high on Ulu Dag

I HAD VISITED Istanbul in 1970, mostly to seek out the Byzantine remnants that persist from the last two millennia when it, as Constantinople, was the center of Hellenic civilization. I have come to appreciate the Ottoman legacy of Anatolia as well, and although Greeks and Turks are famously perceived as having great animosity towards one another, I have befriended many Turks in my day. Intellectual Greeks and Turks will concede that both nationalities share a cultural legacy; the line between them is fuzzier than either would admit. Floristically, Greece is by far the richest country in Europe when it comes to biodiversity (more species per hectare than any other European country). Greece shares a large proportion of her flora with Turkey (Asia Minor), which also possesses many plants from Asia that do not make it to Europe. Both countries have thousands of plants that are endemic – that is, that grow nowhere else.

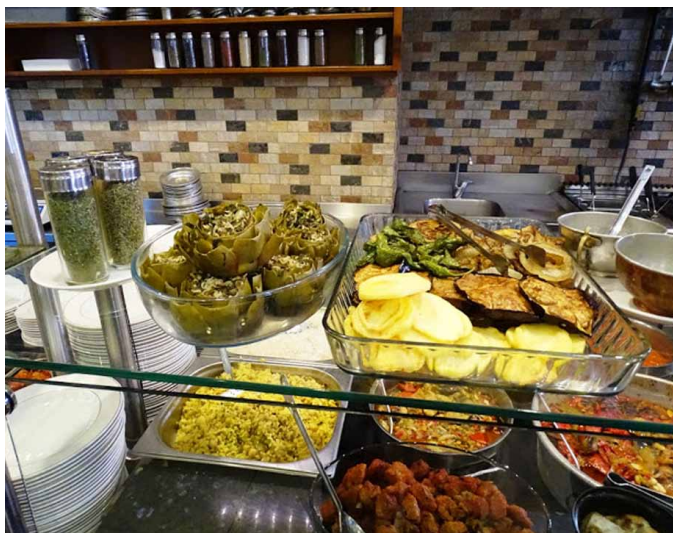


I have spent much of my professional career studying plants of the American West, and largely through the accident of encountering a virtually unknown species of ice plant, *Delosperma nubigenum*, which launched me into a study of South African alpenes leading to seven trips to South Africa, my opportunities to pursue my interest in plants of the Eastern Mediterranean seemed slim indeed. That is, until a visit by a number of staff from Chanticleer Garden from Wayne, Pennsylvania, in the summer of 2014. They encouraged me to apply for the Chanticleer Scholarship. I conceived of the idea of doing a comparative study of the two principal Mounts Olympus of ancient times: the better known Thessalian Olympus north of Athens and its cousin in Asia Minor south of Istanbul, the ancient Mysian Olympus, now known as Ulu Dag – or the “Great Mountain” of Turkey.

I was exhilarated to receive the Chanticleer Scholarship and finally, in late June of 2015, I was able to return to both Greece and Turkey. This time, rather than spending all my time with relatives, with occasional visits to museums or monuments, I could get out and really see how plants grew here, and what the plants I’d grown in such variety in the garden actually looked like in nature.

Eric Hsu, record keeper of Chanticleer Garden, accompanied me on this adventure. Our botanical guide in both Greece and Turkey was Liberto Dario (Eleutherios Dariotis), a brilliant Greek horticulturist with enormous botanical knowledge of plants in the field, who did almost all the driving in Greece and had done a great deal of research spadework on Turkish flora as well. In Turkey we were joined by Bob Beer, an American horticulturist who’d lived 14 years in Istanbul, spoke fluent Turkish, and is a connoisseur of Turkish food – a great bonus of this and any trip to that country.

The first few days were spent acclimatizing in Istanbul. As someone of Greek ancestry, I’d made a point of doing a pilgrimage to Constantinople when I was twenty and the city was then very Third World with dilapidated construction and



roosters crowing at dawn all around the Fatih (even the Sultan Ahmet district at the heart of the old city). A brief visit a quarter century later did not prepare me for the Istanbul of today – a vast, gleaming metropolis with mostly slick new buildings and a European feel. Decades of double digit economic growth have propelled the economy to First World standards. Nevertheless, a stroll down a side street, or a visit to one of the many bazaars will reassure a visitor that the Levant is alive and well – and romantic as ever!

We did a few of the sites as well as visiting the small, but very interesting botanic garden and then drove the hundred or so miles south to Bursa (the ancient Greek Proussa), a sprawling metropolis that fringes the northern base of Ulu Dag – the Olympus of Ancient Greek Asia Minor. Our first day there we took the Teleferik at the edge of Bursa to its terminus halfway up the mountain: I was exhilarated looking down from the cable car at the honey-colored buildings in the city as it shrunk below, and a dense dark green forest, mostly of Nordman fir (*Abies nordmanniana*) spread out before us on the mountain. Below the cable car I noticed many enormous starfish-like rosettes of a mullein, *Verbascum bombyciferum*, the gorgeous white-leaved biennial that I have grown for decades at my home gardens. Ironically, this was the last I saw of this taxon (one of the plants I most yearned to see!); it is apparently pretty restricted in its wild range. We saw several more species higher up on the mountain (especially *V. olympicum*) and elsewhere on the Ulu Dag massif, but they were all very different from this wooly white monster that was in full bloom both in Denver when I flew away and here on its native mountain on the sixth of July!

Rising up onto the mountain in a dreamlike gondola ride was not unlike driving up I-70 and watching the foothill woodlands take on their higher altitude guise. When we stopped and finally had a chance to actually hike on the mountain, it had a strikingly familiar feel. The trees were largely different species, but mostly the same genera: junipers, pines, fir, aspen, mountain ash. And the herbaceous plants were often the same genera you would find at mid-level in our mountains: geraniums, bluebells, delphiniums, and a wealth of daisies. A few, like creeping *Juniperus communis* and bracken fern (*Pteridium aquilinum*) were even the very same species that grow in Colorado. *Asplenium trichomanes* is another plant shared between hemispheres – a much more diminutive fern than bracken. It always delights me to find the rosettes of this delicate maidenhair spleenwort on sheer walls. But what struck me more is how many classic garden plants are everywhere: lady's mantle (*Alchemilla* sp.), the wonderful Jerusalem sage (*Phlomis russelliana*), sweet woodruff (*Galium odoratum*), several creeping thymes, common marjoram (*Origanum vulgare*) – in fact



Geum coccineum

most of the classic herbs. Also, more classic garden perennials like the gorgeous orange avens, *Geum coccineum*, that is commonly sold and which has failed to thrive for me in my gardens. I quickly realized why; the avens grew in wet, almost boggy meadows. Even my perennial border dries out a bit too much for this water lover.

If you are not a botanist or keen gardener it's hard to explain the exhilaration that comes with the chance to finally tread a landscape you've dreamed about for so many years, at the very height of midsummer bloom. The variety and density of wildflowers on Ulu Dag was inspiring: daphnes everywhere – especially *Daphne oleioides* which made dense mats at tree line and above. Several species of broom, including a ground hugging form of *Genista lydia* (a taller race is sold in Denver even by box stores!) which grew everywhere on the mountain. Five or six species of *Sedum* I'd only known from nurseries, like *Sedum lydium* and *S. bithynicum*, the scientific names alluding to

the ancient provinces of Anatolia in Greek and Roman times (Lydia to the south and nearby Bithynia). The Central European botanists who named most plants in Turkey were trained in the Classics and used the same geographic terms the ancient Greeks and Romans would have used. Today, I think the situation is quite different – newly discovered Turkish plants get very different, usually Turkish-based names!

We also came across a miniature sedum I believe may have been *Sedum anglicum*, with tiny, bubble-like leaves barely rising from ground – a perfect plant for a trough.

The next day we drove the 20 miles from Bursa up to the ski area on the quiet road full of flowers. Fortunately, all four passengers were keen plant people; every few minutes you'd hear "STOP!" and a new suite of plants would appear. The Turkish cousin to common sage (*Salvia tomentosa*) covered road embankments in bright purple color. The carpeting St. John's-wort, *Hypericum calycinum*, made thick mats on the roadside as it will in a garden, spangled with 3-inch bright yellow flowers with their boss of upright stamens. I was charmed to find the common Mediterranean bugle (*Ajuga pyramidalis*) with its neat pagodas of brooding purple.

We were enchanted on the way up with vast forests of chestnut (*Castanea sativa*) sporting thousands of white candle-like blossoms. I was pleased to find my first European hop hornbeam (*Ostrya carpinifolia*) with its distinctive hop-like flowers. Indeed, much of the montane forest here is similar to what you would find in the Balkans or even the Alps.

Here, as everywhere across Eurasia, you will find a variety of bright



Daphne oleoides



Sedum bithynicum

Ajuga pyramidalis

rose-red meadow orchids in several genera, often appearing similar from a distance. We first found *Anacamptis pyramidalis* here, with a cone of trim pink flowers. *Anacamptis (Orchis) morio*, forming spires of bright rose red, became much commoner higher on the mountain.

Another group of plants one would expect to find in the Mediterranean in summer are various campanulas – *Campanula olympica* named for this mountain was naturally the commonest. It resembles a more open-belled harebell, or perhaps a huskier cousin to *C. patula*.





Campanula olympicum

We came to a portentous gate-like structure: the entrance to the National Park! After paying a not inconsiderable fee we proceeded, realizing there were almost no other cars on the road despite being just a few hours' drive from Istanbul (nearly 20 million in population) and rising behind Bursa (nearly two million inhabitants). Hardly anyone drove on to the largest national park in the area. We did encounter vacationers in the ski town itself, spending a few days relaxing and hiking, but surprisingly few cars in summer. Winter is a different matter!

Skiing is what is associated with this mountain. When Bob Beer told his Turkish friends he was joining us on Ulu Dag they all asked why he would go there in summer. I suspect if they bothered to come themselves, they'd return; the meadows in July are a blaze of color all over the mountain and the cool breezes on the mountain slopes are welcome.

Liberto compiled a list of 100 or more showy flowers just from the first day there, and every day for the next four days we added dozens more new taxa.

Aside from the big perennials and classic herbs, I was surprised not to see more bulbs. I realize now that most were long dormant in midsummer. We did see wonderful specimens of a grape hyacinth cousin, *Leopoldia comosa* (*Muscari comosum*), still blooming with its outlandish blue, frilly flowers. Higher up the mountain, and once we reached alpine levels there were *Scilla bifolia*, some *Ornithogalum*, and a few others – not as many as I'd expected so near the Mediterranean.

When we arrived at our hotel in the ski village it was late afternoon. There was a lot of construction (skiing is big business here) although



Orobanche elatior



Erysimum pulchellum and *Viola elatior*

summer traffic was thin. National Park it may be, but development doesn't seem to face many obstacles. The view of the summit was inspiring nevertheless, and there was a rugged road that led from the ski area to the summit that we hiked up the next day (a bit rough for our rent-a-car) leading to a large mine. A tremendous new palette of plants revealed themselves as we climbed above the tree line. I was delighted to find the spike heath, *Bruckenthalia spiculifolia*, a compact heather with bright purple-pink flowers in July up here forming dense mats in most swales. Nearby was a bright blue butterwort (*Pinguicula balcanica*). The rocky slopes leading towards the summit were a veritable rock garden of color. High points included seeing cliffs bristling with



Hypericum sp., Ulu Dag

Saxifraga sempervivum, a gorgeous cushion saxifrage with bright purple crosiers of flower. A composite that seemingly grew everywhere on the sunny alpine slopes was the local variation on *Anthemis cretica*: the filigree foliage topped with bright white marguerites.

I was surprised to find *Viola altaica* growing here in western Turkey: I'd seen this eight years before growing everywhere in the Altai mountains, and this flashy parent of garden pansies is common on cooler slopes above the tree line on Ulu Dag as well. Here they are mostly purple and blue, making a striking contrast to the brash yellow wallflower (*Erysimum pulchellum*) that often grows with them.

We didn't anticipate that the sun would beat down so much, and didn't bring enough water to climb the last few hundred feet to the summit, though we did climb along the summit ridge enough to see the vastness of northwestern Turkey spread out in all directions, lush with early summer color. We encountered dozens of special cushion plants and tufts along that ridge to haunt me for the rest of my life: huge mounds of cushion milkvetch (*Astragalus angustifolius*) in full bloom; the tiny woolly grass that's endemic, clothed in white wool like a polar bear (*Alopecurus lanatus*); the dense form of alpine veronica (*Veronica caespitosa*), and mints and crucifers galore. For only the second time in my life I found mounds of spike thrifts (*Acantholimon ulicinum*) not quite yet in bloom – dense hedgehogs of bright green.

Our descent was much quicker than our climb – a different route, with many new encounters along the way, including a huge herd of sheep (in a National Park?). I was growing increasingly concerned about the future of Ulu Dag where the main nod to the name was charging an entrance fee! The grazing may be responsible for the incredible proliferation of Ulu Dag's other spectacular mullein, *Verbascum olympicum*. It forms giant candelabra of gleaming silver and yellow everywhere you look on the mountain. Its velvety rosettes are beautiful as well. It may be a plant of disturbed habitats, but so dramatic and beautiful it's well worth visiting just to see its spectacular display. If and when the regional Turkish population discovers how





Summit of Kaz Dag framed by *Pinus nigra* and *Abies equi-trojani*

gorgeous the views and the flowery fields are in the summer, I dread to imagine the impact it could have. Right now, sheep notwithstanding, I would say that the floral diversity and beauty of this mountain well merits a summer visit.

We had a number of days ahead, but having seen so much of the list of plants recorded for Ulu Dag, we decided to explore a bit more of Kaz Dag which was known as Mt. Ida in ancient times – the mountain





Acantholimon trojanum (syn. *A. ulicinum* subsp. *ulicinum*) and on bare upper slopes of Kaz Dag (opposite)

where Paris enacted his fateful judgment and sealed the fate of his kingdom in the process. In retrospect, I realize the choice of this mountain provided a perfect foil for Ulu Dag for this was a National Park as I'd hoped for and expected on Turkey's Mt. Olympus. For one thing, you cannot drive in the park unaccompanied; when you check in at the entrance station you are assigned a "guide." We discovered in talking to him that much of the reason for this is that the Turkish visitors are fond of gathering culinary herbs and greens in nature; the guide is there to stop that! There may have been grazing in other seasons, but as we drove over the rolling summits of Kaz Dag, the landscape was so pristine and full of bloom I have my doubts that it is grazed at all.

Moreover, there was no visible building or development anywhere we went – just Nature in her untrammelled glory. And what a vast assortment of gems. Many were Mediterranean classics like the giant black aroid *Dracunculus vulgaris* still in fresh bloom (it bloomed a month earlier in Denver). But the plant diversity was



Alpine meadow on Kaz Dag with *Thymus* species, *Lotus corniculatus*, and dwarf *Hypericum* among many others

astounding: half a dozen species of sandwort (*Arenaria* and *Minuartia*), one more beautiful than the next; nearly as many St. John's-worts (*Hypericum*) including several miniatures that were endemic to the region; scabiouses and daisies in profusion. There were alpine meadows boasting dozens of mats and cushions in vibrant Technicolor – like a neon Turkish carpet – for acres: vivid purple thymes with white marguerites, deep blue *Acinos* (a small mint), orange and yellow *Lotus corniculatus*, and tiny brooms and hypericums also spangling the ground with yellow and orange. A highlight for me was finding the wonderful cushion alpine woodruff (*Asperula sintenisii*) forming veritable bowling balls of luminous pink on one hillside.

Dwarf *Verbascum* sp. on Kaz Dag



Our guide took us to a spot where we could hike a mile to a particularly fine stand of the endemic fir (*Abies nordmanniana* subsp. *equi-trojani*). The ancient Greeks would have had to climb quite a ways to fell these trees to build their Trojan Horse: the botanist who named it must have had a good imagination. The steep spires of fir made a wonderful picture on the mountain, and again, a wide variety of montane flowers on this hike reminded me of home, including the same species of *Pyrola minor* you might find among fir trees in Colorado.

We eventually rose to the highest point of the trip – a bare summit with near-alpine vegetation. (Kaz Dag is only 5,820 feet high although near the sea the tree limit drops. Ulu Dag's 8,343 feet is definitely alpine.) Here there were enormous cushions of *Saxifraga sancta* (past bloom) and a spectacular dwarf mullein (*Verbascum*) covered in silvery hairs with large yellow flowers. Dozens of species of jewel-like alpinines were glimmering at all sides. The gem of gems for me was to find the endemic form of cushion spike thrift (the books claim it's merely *Acantholimon ulicinum* var. *ulicinum*) that was utterly distinct from others in that taxon with its shorter, blunter foliage and enormous pink stemless blooms. I believe it justifies the name *A. trojanum* that some have given it. This thrives in cultivation in Colorado – there are spectacular specimens at the Betty Ford Alpine Garden – but seeing it in nature, especially in such perfect bloom, was worth a lot. I was extremely pleased with the protection given Kaz Dag, and hope the Turkish National Park service extends that same attention to Ulu Dag one day. I was curious to see how the Greeks might treat their National Parks – a story I hope to tell in an upcoming issue.

When the Plant Select program was launched, here in Denver, by far the most successful plant in the program was a Turkish veronica (*Veronica liwanensis*), a wonderful groundcover still commonly sold in the Rocky Mountain region. It was introduced by the James MacPhail and John Watson expedition to Turkey, which took place in 1977. Over the decade after that expedition I obtained many plants grown from the seed they collected and grew them. Many, like that veronica, became outstanding performers when I began working at Denver Botanic Gardens.

When I came home from my trip to Turkey and Greece last summer, I did an analysis of the origins of the plants in Plant Select. Over a third (70) are native to North America – no surprise there. I was surprised that the Mediterranean comprised the next largest number with 31 species – almost half as many as the native North Americans. South Africa is next with 16 taxa, the same as Central and East Asia combined. Of the Mediterranean plants, the bulk came from Greece and Turkey, where hitherto Denver Botanic Gardens' staff has done little or no exploration. This trip confirmed my conviction that the endless ranges

of high mountains surrounding the Mediterranean Sea may hold one of the largest reservoirs of untapped floral beauty for Rocky Mountain gardens.

If North Americans know Turkey at all, it's usually because they had a cruise there or visited Istanbul once. Swirling images of vibrant colors may rise in our mind. More prosaically, most everyone knows that Asia Minor, Anatolia, and Turkey are all more or less synonymous and that this country occupies a rather conspicuous spot in the world's geopolitical map and that it has its own political difficulties. There is less excuse if you're a horticulturist; the very first plants ever cultivated some 12 millennia ago were tamed somewhere in the foothills of the Caucasus where Iraq, Turkey, and Iran converge. The first cities sprung up nearby (as a consequence). For me, the Plant Select program has driven home how similar this region is to Colorado.



Verbascum olympicum on Ulu Dag where it is endemic



Bookshelf

NEW BOOKS ON DRY GARDENS AND
PRIMULAS

MALCOLM MCGREGOR

Planting Design for Dry Gardens

Olivier Filippi

2016, Filbert Press.

ISBN-13: 978-0-99338-920-7

Hardcover: 240 pages, 400 color photos
12 x 9½ inches.

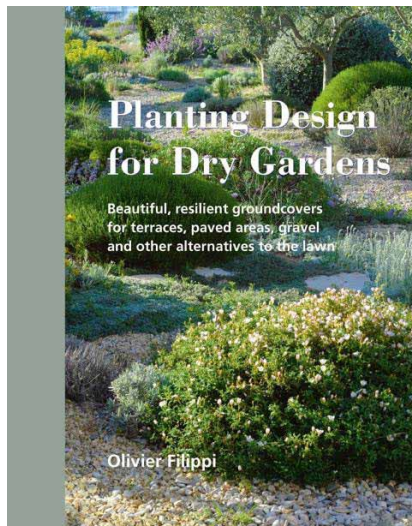
\$55.00, £35.00

IT'S ABOUT TIME you dug up your lawn. That's the message from this book for anyone who lives in a dry-climate region. And when you spend time with this book you will want to do just that.

Originally published in French, this is a much more seductive book than its rather austere title might suggest. The opening section - there are four - is about the history of lawns and the rise of alternatives. This is intriguing as it leads through to the fashion for lawns, appropriate enough in cooler northern climates, but much less so in both the Mediterranean and in large parts of North America. The maintenance of a green lawn becomes an almost industrialised process. Lawn maintenance companies mow and apply chemicals: herbicides, fungicides and insecticides, some of which have negative implications

for human health. If this is a rather downbeat moment in the book, it is the last. The section ends with an outline of Groundcover Plants in the Wild. From here the author leads the reader on to an inspiring tour of approaches in the large second section of the book with glorious photographs that I found often totally distracted me from the text.

The second section of the book, Groundcover Gardens for Dry Climates, is the longest with ten alternatives to traditional cool-climate green grass lawns. These ten include some fascinating discussions on the various approaches with photographs



to match. The first is the warm-climate lawn, using grasses such as *Zoysia tenuifolia*, and incorporating groundcover plants such as *Achillea coarctata*. From here the author goes on through green carpets, flowering carpets, and mixed grassland lawns such as Mediterranean meadows. Throughout, seasonality is discussed as are the advantages and disadvantages of the different approaches.

Two more approaches are much more obviously appropriate for the purist rock gardener: flowering steppe and gravel gardens. Finally the section has chapters on the greening of terraces, paths and steps; perennials and groundcovers for large areas; pioneer plants for slopes and wild gardens; and flowering meadows in dry climates. Throughout the section the delicious pictures make you want to remake older rock gardens, and tear up whatever grass you have control over. The third section of the book shows you exactly how to do it: soil preparation, planting, economizing on water, reducing maintenance, as well as noting the problem of invasive plants.

Another thing that Filippi does, at the very end of the section, is to mount a defense of the yellow of the Mediterranean scythed meadow as it turns to gold, until as the rains come in autumn, it turns back to green. This is part of a continuing underlying celebration of seasonality throughout the book. Finally, the author turns to an A-Z of Groundcover Plants for Dry Gardens with 200 entries with descriptions and notes on geographic origin, hardiness, drought resistance and planting density per square meter (which is a good indication

of size). For many rock gardeners from continental North America the author's listing of plants will probably need careful consideration as to hardiness but the principles he is applying are invaluable.

Filippi runs a nursery, Pépinière Filippi <jardin-sec.com>, in the Hérault region of France on the Mediterranean coast and the book draws on his experience in the nursery as well as the travels of the Filippis throughout the Mediterranean region. Most Mediterranean habitats have been impacted by thousands of years of human activity and it means that the paved paths, abandoned terraces, olive groves, old walls, are just a manifestation of a continuing tradition. Filippi clearly extends much of this into his understanding.

This is a good time for the rock gardener who likes books. With the beautiful book, *Steppes* from Michael Bone et al, added to this and Peter Korn's 2013 book *Peter Korn's Garden*, the dryland gardener has rarely been so well served. This new book should stand alongside them as a classic.

I loved this book: its large format, robustly bound with good paper, beautiful pictures, and intelligent text. Throughout, Filippi makes clear the interplay of nature and gardening, and the result is a book that I can wholeheartedly recommend.

Filbert Press is a new publisher and this is a great start. If they maintain the standards demonstrated with this book then they should have a great future.

The US distributor for Filbert Press is IPG <www.ipg.com>.

The Plant Lover's Guide to Primulas

Jodie Mitchell and Lynne Lawson

2016, Timber Press

ISBN-13: 978-1-160469-645-5

Hardcover: 246 pages, 247 color photos
9¼ x 8¼ inches.

\$24.95, £17.99

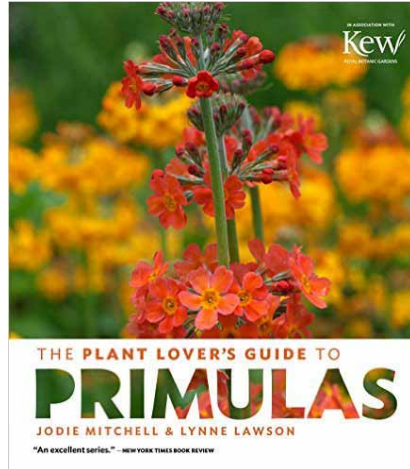
THIS BOOK IS concerned with hardy primulas for the open garden. It is not a book of alpine primulas for the rock gardening specialist but it is a lavishly illustrated introduction to its chosen subject.

The authors, Lynne Lawson and her daughter Jodie Mitchell, run Barnhaven Primroses, a nursery which was set up in Oregon in the 1930s, was continued in England in the 1960s, and is now based in north-western France. It is their experience of raising primulas in their nursery that informs this book throughout.

The opening chapters, following a brief introduction to the authors' enthusiasm and the nursery's history, are Designing with Primulas and Understanding Primulas. The first of these discusses where in the garden and in what conditions primulas will be happy and also discusses planting styles and companion plantings. The chapter on Understanding Primulas is predominately about auriculas and is a very effective introduction to the different types.

Slightly more than half of the book is dedicated to a treatment of the authors' selection of 100 Primulas for the Garden with each of the selected primulas being illustrated (usually

in close-up) and described. Most of the plants are given a whole page with brief notes on size, hardiness zone, season of bloom, landscape and design uses, and origin. Of the slightly



over one hundred almost half are of primroses and polyanthus. These are forms and cultivars of *Primula vulgaris*, and *P. juliae*. Beyond these there are around 20 candelabra and bog primulas, 17 auriculas (backed up by many other photographs in other parts of the book), 12 cultivars of *P. sieboldii*. The rest of the genus is treated rather sparsely: split equally (10 each) between alpine primulas (*P. allionii*, *P. pubescens*, and *P. marginata*) and other species.

The final chapter, Growing and Propagating, has discussions of growing conditions for the different groups, maintenance of a collection including pest control, and propagation. There is a short but enticing page about edible primulas.

Appendices on suppliers, where to see primulas in garden collections, other books and the like, complete the volume.

**NARGS 2017
From-the-Floor
Nominations**

**Elections of President,
Vice-President, Recording Secretary,
Treasurer, and 3 Directors**

The names of those proposed by the Nominating Committee can be viewed on the NARGS website: <www.nargs.org>.

There is now the opportunity to nominate FROM THE FLOOR until January 31.

The combined list of candidates will be published on the NARGS website and in the Spring 2017 *Quarterly* (dispatched around March 20).

Online election: June 1-15. All active members will be emailed a link shortly before the election opens. Your email address will admit you. If you are a member and have never verified your email address, please do so as soon as possible. You may contact Bobby Ward for help. The <www.nargs.org> website will have a notice when voting begins, as well as a copy of the voting-site link on the News page.

From-the-floor nominations for any post should be sent by email to Bobby Ward, NARGS Executive Secretary at <nargs@nc.rr.com>

They can also be posted to

Bobby Ward, NARGS Executive Secretary, PO Box 18604, Raleigh,
NC 27619-8604, USA

Nominations should include:

1. Name, chapter (if applicable), e-mail address, and position for which each person is nominated.
2. Bio of nominee (100 words or less, written by nominee)
3. Picture of nominee.
4. Note of acceptance from (new) nominee indicating a willingness to be one of the above officers of NARGS (two-year term) or a NARGS Director (three-year term).

All nominations and required nominee information must be received by January 31.



Bulletin Board

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President's Letter

People often ask me how I do it all - usually after they've landed on my blog, or discovered what I do for my day job. The truth is, I can't do it all, and most of the time, I feel as if I am barely getting by. So, as my presidency of NARGS comes to a close this spring, I have mixed emotions about unmet goals, but I am proud of the few things I could push along, and the good news is that a new president will bring renewed vigor to the role, and fresh ideas to continue the momentum.

Looking back, I can draw many parallels between my day job (as a futurist) and that of guiding a plant society. MegaTrends, be they in business, design, or with human factors, overlap and merge today. Odd, I know, but futuring, gardening, and guiding a society are in fact, rather close in spirit. In each case we're looking forward, we're optimistic.

We can choose to roll our eyes at such buzz words or we can look at them as tools to guide us. I agree that we've all heard enough about things like Authenticity and Divergence, and I am not about to stand on a soapbox and suggest we all practice Pinocchioism, Hacktivism, or Hypershockulation (you can check out <trendhunter.com> if you want to know)– but labeling and bundling identified mega global trends does have some real value to our organization.

Prosumerism is a movement where everyday consumers make and share their own content because companies are not providing that information - like those YouTube videos that help you assemble an Ikea shelving unit. We now expect more professional results from our cameras and phones, and we want better tools and services along with them. As blogs, videos and even self-published materials get better and better – how will NARGS react and adapt?

There are some familiar-sounding MegaTrends as well, such as Tribalism – a trend where allegiant groups are readily formed around very specific interests. One could say that NARGS is a tribal group, but a better example might be those Facebook Groups where many of us share images. And I remember in 2009 asking NARGS members in a meeting how many of them were using Facebook or Twitter, and most people laughed me off the stage. Less than ten years later – here we are. How quickly this has all become part of our daily life.

This trend has not only enhanced much of our sourcing for plants and contacts, it has drastically changed how we all use resources such as websites. Could this have been predicted 8 years ago? Probably not, but we can learn from this, and become comfortable in adapting to these changes more quickly. This should never be about blame or waste, no one could have predicted how much things have changed, but we must think about how we react.

Lastly here, I would like to point out the latest MegaTrend identified by experts for 2017 - Rebelonging. If you haven't noticed, the membership economy is becoming more popular again. From companies like BirchBox that ships beauty or grooming samples to one's home monthly, to food services like BlueApron with prepackaged ready-to-cook-from-scratch-meals, the idea of Belonging to something has not only become novel, it's become meaningful.

These trends may only apply to one's kids or grandkids, but we are not immune to such adaptations. Regardless of one's age or life experiences, being part of something "real" today is somehow valuable once again. Funny, huh? And while a subscription to a record label or newspaper may seem dated in a world with iTunes and the internet, a membership in something like a plant club is suddenly very special – but, the key here is that today, it really needs to deliver something.

We know that this was a deficiency with not only NARGS, but with most plant societies, and we've really tried to change that, but we've only just begun. So although we may balk at those buzzwords, it does seem like those basic human needs (such as a desire for authenticity and reality) actually mean something to people. Go figure. In a world abundant with "stuff" and "empty promises" experience suddenly becomes a more important currency and a life priority rather than just a "feel good" membership card.

So I have really wanted to ramp up the NARGS experience; but, of course, it hasn't been easy, and it takes time. But think about what NARGS does offer. Face-to-face meetings, information-sharing lectures and talks, invigorating travel to exotic plant-rich locations: these all feed into our natural desire for learning more about the plants we love, or to be inspired.

We NARGS members are not cynical, we are curious. We crave more from our experiences than most people do. Luxury for us is a rare saxifrage or a gentian, not the latest and greatest Lumberjack-Obsession-themed coffee shop. We are the original Prosumers expecting excellence and quality from everything we join.

So why do any of us join an organization such as NARGS?

We join because we crave self. We crave travel, be it virtual or real, and we value it as an experience-building part of our lives. We join because we appreciate the members-only amenities of a seed exchange, travel and talks. We may not all be social, nor techy, and certainly not trendy, but we certainly are more curious, intelligent, and learned than most folks in our demographic.

I am optimistic that NARGS itself will remain part of our lives. While everything seems to be on a path of continual change, one thing is certain: deep in its core, NARGS is still about what it was in the very beginning - a shared love of plants. Trends or no trend, we all know exactly why we first joined NARGS, and if you are reading this now, I know that you still care about its future.

In the end, NARGS will continue to evolve and change as society and its members do, but what won't change is its rejuvenating qualities. It may be a forward-thinking statement, but in some strange way, a membership in NARGS offsets the debilitating effects of our everyday world – the ugliness of global politics, the never-ending consumerism, and perhaps even easing some pains of aging. It's what keeps us young.

Matt Mattus, NARGS President

SEED EXCHANGE

We have many people to recognize and thank at this time.

First, our gratitude goes to the many members who generously donated their time, efforts, and SEEDS to this year's exchange. They are the reason that we have such an interesting list of offerings each year.

Laura Serowicz, our Seed Intake Manager, has entered the seed and donor names into the database that produces the yearly seedlist (mopping up any messy taxonomy in the process), and sent the seeds out for repackaging. She is currently working with members who would like help in navigating the ordering system on the website.

Our legion of reliable packagers includes chapters and individuals, who divide the donated seed into many packets so that members can share the wealth. We thank the volunteers in these chapters: Adirondack, Allegheny, Connecticut, Gateway, Hudson Valley, Manhattan, Minnesota, New England, Northwestern, Wasatch, Watnong, and Wisconsin-Illinois... as well as these individuals: Tasha King, Steve Marak, Jacques Mommens, Jan Slater, and Mary Ann Ulmann.

We all extend our special thanks to the members of the two chapters who handle the two distributions. Sierra Chapter (CA) is in the midst of handling the Main Distribution, and Columbia-Willamette (OR) will fill orders in the Surplus Round. We greatly appreciate the coordination and extra work of their two Chairs, Val Myrick and Jane McGary, respectively, as well as their chapter members who volunteer.

Although seed ordering has been under way since mid-December, there is still time for you to place an order for seeds: the Main Distribution will accept orders until February 5. To order from our website, go online to <www.nargs.org> and log in. If you are a new NARGS member, haven't ordered online before, or have recently changed your email address, contact our Executive Secretary, Bobby Ward <nargs@nc.rr.com> with your email address. Then you will be able to set your own user name and password.

Once logged in, go to the Seedex menu and read the Online Ordering Information page, then go to the Seed List Ordering page to order your seeds. We hope that you will use our website to place your order electronically, which will insure that your order is received most promptly.

But if you wish to order by postal mail, you may print out the form from our website. If you need a print copy of the Seedlist and order form, contact me immediately:

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

Send your printed seed order form before February 5 to:

NARGS Seed Exchange
c/o Diane Williams
PO Box 112
Soulsbyville, CA 95372-0112
U.S.A.

You are also welcome to place an order for surplus seeds in the Surplus Distribution, even if you haven't ordered in the Main Distribution. Printed Surplus Round Seed Order lists (seed numbers only; no seed names), for ordering by mail will be sent only to members who either check the appropriate box on their Main Distribution order, or send a request by February 20 to:

Laura Serowicz
15411 Woodring Street
Livonia, MI 48154-3029
U.S.A.
<seedintake@twmi.rr.com>

Unfortunately, the postal service does keep increasing the costs of mailing packages of seeds. In order to cover the costs of shipping them to you, we will have to increase the prices in the Surplus Round by \$2 per twenty packets.

When the Surplus Round opens on March 1, 2017, the new prices will be:

\$ 7 for 20 packets
\$14 for 40 packets
\$21 for 60 packets
\$28 for 80 packets
\$35 for 100 packets

I think that you will agree with us that these are still bargain prices for rare and interesting seeds that you probably cannot find elsewhere.

After March 20 the Seed Exchange will close for this season, and the remaining packets of seed will be distributed to those chapters that request them. I will send a reminder to chapter Chairs in early March.

Wishing you a historically high germination rate!

Joyce Fingerut
Director NARGS Seed Exchange
<www.nargs.org/seed-exchange>
<alpinegarden@comcast.net>

NARGS Donations

Donations between August 1 and October 31, 2016: \$5,816.38
Designated for the general fund, *Rock Garden Quarterly*, and in memory of
Myrna Ann Jewett.

Bassetti, Leanette J. (Washington)
Bell, Lynne Adams (Oregon)
Caroff, Julie (Michigan)
Faden, Robert (Virginia)
Grushow, Jane (Pennsylvania)
Hutchison, Boyd (Massachusetts)
Lockhart, Bruce (Massachusetts)
Magowan, Robin (New Mexico)
Montague, Pat and Dan (Washington)
Ontario Rock Garden & Hardy Plant Society
Schmidt, Loren (Alberta)
Shirven II, Maynard N. (Virginia)
Vanspronsen, Arie (Ontario)

Upcoming NARGS Meeting for your CALENDAR

NARGS Study Weekend
May 19 – 20, 2017 - Madison, Wisconsin
Contact: Lois Kinlen

NARGS Annual Meeting
and Board Meeting
November 17 – 19, 2017 - Raleigh-Durham, North Carolina
Contact: David White

NARGS Annual Meeting
and Board Meeting
July 6 – 8, 2018 - St. John's, Newfoundland
Contact: Todd Boland

Report from the Norman Singer Endowment Committee

Annually the Norman Singer Endowment Committee solicits applications for financial assistance for projects that advance the art and science of rock gardening. Applications can be submitted by botanic gardens, book authors, plant explorers, and other groups or individuals, and are evaluated based on the endowment's funding guidelines. The application form and submittal schedule for 2017 will be posted on the NARGS website by April 1, 2017.

Rocky Mountain Chapter Award for Service

Connie Olson

Connie Olson has served the Rocky Mountain Chapter for a number of years in significant and outstanding ways, contributing greatly to the Chapter's success. In her years as Chapter Treasurer, she has managed the financial accounting and payments for numerous plant sales, as well as the accounting and bill paying for a major NARGS annual general meeting. That alone was a huge task. Additionally, as a member, she attends regular Board and Chapter meetings and supports hikes and events with a great attitude and a friendly demeanor. By doing whatever it takes to make the organization run smoothly and enjoyably, Connie is the exemplar and personification of the most devoted members of the NARGS Rocky Mountain Chapter. *Submitted by Rocky Mountain Chapter Awards Committee*

Michael Weber

Michael Weber's hard work and long years of dedication have contributed to the success of many of our Chapter's events. He has played a vital role in the Chapter's very popular Spring Plant Sale, chairing the event several years. He cheerfully assists with checkout, setup, advertising and any other task that needs doing. Michael has also stored many of our Chapter's supplies at his home and gathered and stored the hundreds of boxes needed each year for the spring sale. In addition to his many roles at our plant sales, Michael has performed outreach on behalf of the Chapter at the Echter's Nursery (Arvada, Co.) annual Expo events, promoting our group and signing up new members. He has served as a driver for many different events, including this year's conference in Steamboat Springs. Michael co-chaired that event and worked on the budget, catering, and endless other details to make it a success. Michael can always be counted on to help, often volunteering even before being asked. He brings creativity, humor, and insight to everything he does and we are lucky to have him as a member. *Submitted by Rocky Mountain Chapter Awards Committee*

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

James (Jim) E. Varnum, Farmers Branch, Texas

Jerold John Berg, Cascade, Wisconsin

New Members

*Welcome to all those who joined between
August 1 and October 31, 2016.*

Coleman, Brian, 104 Rollinson St, West Orange, NJ 07052-4521
Donahue, Cheryl, 327 Marsh Point Cir, St. Augustine, FL 32080-5864
Epping, Carly, 7809 46th Ave, Kenosha, WI 53142-4262
Hasz, Diane, 764 22nd Ave NW, New Brighton, MN 55112-6614
Hawkins, Monique, 1477 Womack Rd, Dunwoody, GA 30338-4663
Henning, Jack, Lehman College—CUNY, 250 Bedford Park Blvd W,
217 Davis Hall, Bronx, NY 10468-1527
Johnson, Lindsay, 302 Walker Brook Rd, Danbury, NH 03230-4525
Manfredi, Michael, 150-C State Rd, Vineyard Haven, MA 02568-5537
McKanna, Jane, 11 Shillington St, Blackheath, NSW 2785, Australia
Shaffer, Laura, 1652 Sproket Dr, Fort Collins, CO 80525-1605
Siegrist, Luke, 23111 36th Dr SE, Bothell, WA 98021-6211
Smith, Christine, 104 Easy St, Chapel Hill, NC 27516-9034
Snow, Barry, 8119 Alvin Ln, Little Rock, AR 72227-3926
Spalding, Lisa, 1135 Jay St, Boulder, CO 80302-6914
Voltz, Joel, 793 Centertown Rd, Grove City, PA 16127-6807
Zatsick, Judith, 8001 Chippenham Ct, Fairfax Station, VA 22039-3149

Patrons

The following recently became NARGS patrons:

BETSY CLEBSCH (CALIFORNIA)

GRAHAM EGERTON (NEW YORK)

MARY LEWIS (NEW HAMPSHIRE)

Notice to NARGS Life Members

If you have an email address, NARGS would like to have it in order to include you in the NARGS election voting and for occasional messages. We do not share your email address outside NARGS. Please email your name and email address to: <nargs@nc.rr.com>. Thank you.

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Email: janemcgary@earthlink.net



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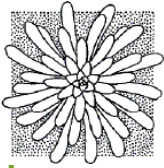
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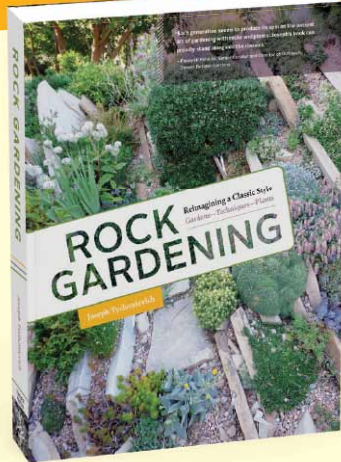
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Adirondack (Ithaca, NY)	John Gilrein <basecamp@alum.syracuse.edu>
Alaska (Anchorage & Mat-Su Valley)	Carmel Tysver <garden@pci.net>
Allegheny (Pittsburgh, PA)	Karen Schmidt <karenschmidt@zoominternet.net>
Berkshire (Stockbridge, MA)	Joyce Hemingson <jhem1022@gmail.com>
Calgary Rock & Alpine Garden Society (Calgary, AB)	Margaret Fong <mjfhello@yahoo.ca>
Columbia-Willamette (Portland, OR)	Jane McGary <janemcgary@earthlink.net>
Connecticut (New Haven, CT)	Virginia Gingras <ginnygingras2013@gmail.com>
Delaware Valley (Philadelphia, PA)	Joan Schmitt <joan912@verizon.net>
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Ohio Valley (OH & surrounding states)	Mary "Maggie" Whitson <mkw513@hotmail.com>
Ontario (Don Mills, ON)	Cheryl Johnson & Lin Chevrier <cjohnson24@sympatico.ca>
Ottawa Valley (Ottawa, ON)	Zandra Binas & Linda Nishikawa <president@ovrghs.ca>
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Potomac Valley (Alexandria, VA)	Kevin McIntosh <kmac53@verizon.net>
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Western (San Francisco Bay area, CA)	Ted Kipping <tkippingsprint@earthlink.net>
Wisconsin-Illinois (Madison-Chicago)	Ed Glover <glover@oncology.wisc.edu>



NARGS STRUCTURE _____

The officers of the North American Rock Garden Society consist of a president, a vice-president, a recording secretary, and a treasurer. The officers are elected by the membership.

The Board of Directors of NARGS consists of the four above-named officers, the immediate past president of NARGS, and nine elected directors.

The affairs of NARGS are administered by an Administrative Committee (called AdCom) consisting of the president, vice-president, recording secretary, treasurer, and one director-at-large, selected annually by the NARGS officers from among the nine elected directors.

OFFICERS _____

President	Matt Mattus <mmattus@charter.net> 26 Spofford Rd., Worcester, MA 01607
Vice President	Betty Anne Spar <bettyannespar@gmail.com> 5051 N Grey Mountain Trl, Tucson, AZ 85750-5942
Recording Secretary	Elisabeth Zander, 127 North St., Goshen, CT 06756
Treasurer	Richard Lane <rhlane01@gmail.com> 4904 Hermitage Dr., Raleigh NC 27612
Director-at-Large	Julia Caroff <julia.caroff@me.com> 900 Puritan Ave., Birmingham MI 48009

Immediate Past President	Peter George <petergeorge@verizon.net> P.O. Box 833, Petersham, MA 01366-9755
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MANAGERS _____

Executive Secretary	Bobby J. Ward (919) 847-6374 P.O. Box 18604, Raleigh, NC 27619-8604 <nargs@nc.rr.com>
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