



NORTH AMERICAN ROCK GARDEN SOCIETY

The Rock Garden

QUARTERLY

FALL 2016

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

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Front cover: *Echinocereus engelmannii* (strawberry hedgehog)

Anna Leggatt

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The Rock Garden
QUARTERLY

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From the Editor

IT'S BEEN A busy time for whole lot of members since the last issue was put together. The 250 attending the Annual Meeting in Steamboat Springs had a brilliant meeting with flowers galore. There was work from so many people who were involved, and picking people out might seem invidious. But I'm certain all the attendees would especially want to extend their thanks to Mike Kintgen who was the lynchpin. Pages 293-297 give just a flavor of the event.

Then there was the extension tour to Wyoming. Initially planned for 10-20 there was so much demand that Panayoti Kelaidis, who was at the center of the organisation, booking the accommodation, staffing, and personally leading the trip, had to book an overflow trip which was itself sold out. Such was the success that this same trip is being offered again for 2017, extended by a day at the optimum moment for the flowers in our two key visits to the Bighorn Mountains and the Beartooth Pass. And it is the moment when the bison in Yellowstone have their calves with them and wildlife is alive with prospects for the summer. And for those who want to look farther afield there will also be a tour to the Dolomites in northern Italy with an iconic flora and scenery that once seen is never forgotten.

Beyond these great events, this issue of the *Quarterly* is packed with information for members: as well as the tours there are requests for nominations to the Board; NARGS award winners; a questionnaire about members' interests; and then a range of articles focused on gardening in, and plants from, the extremes: the Edwards Plateau in



Flowers on the Beartooth Pass, Wyoming

Texas, the Californian desert, and cushion plants from high mountains, dry steppes, and rock crevices.

And it was an account by John Mitchell of plants and botany at the extremes that was the hands-down winner of the Geoffrey Charlesworth Writing Prize for the best article in the *Quarterly* during 2015. As in previous years this was an article in the highest tradition of what NARGS is about and an article that Geoffrey Charlesworth would have been rightly proud of. John Mitchell writing about the flowers and the botanical training being run in Afghanistan by the Royal Botanic Garden Edinburgh (“On the Frontline of Botany: in Afghanistan,” *Quarterly*, spring 2015) shows exactly where our enthusiasm for rock gardening can take us. The judges were enthused by its combination of writing about plants that few if any of us will get to see along with its greater social purpose. It was not without competition but was the clear winner among a strong field. This award is one of the key awards that signals just what the *Quarterly* is about. Great writing about what interests rock gardeners: that’s what the Charlesworth winners have in common. Congratulations John.



Note that a Survey of Members’ Interests is on p. 365. Please do respond.

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Susan Sims with her sketchbook and her completed color sketch of Arvada Crevice Garden



Some images of the 2016 NARGS Annual Meeting in Steamboat Springs. Talks and trips, and plants and friends, and meetings, and plant sales, and wildflowers and the hum of people having fun

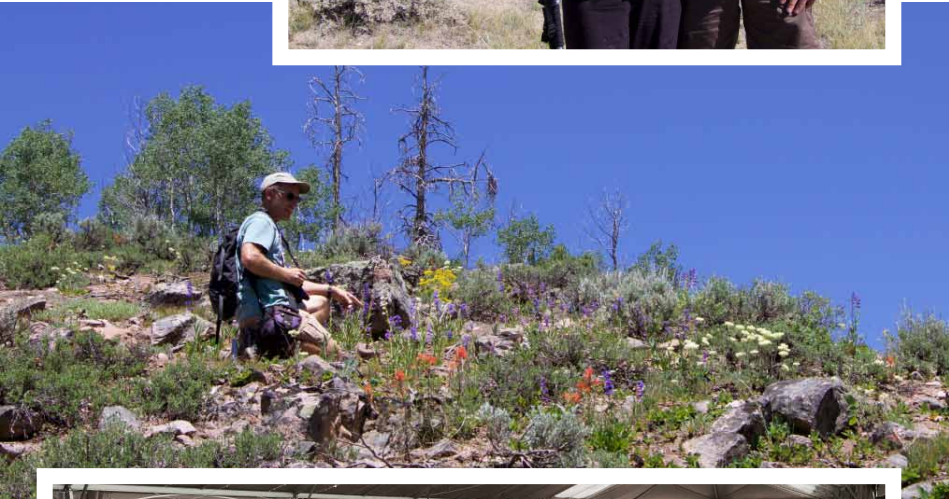


Yampa River Botanic Park in Steamboat Springs. From L to R: Jim Ault, Kelly Norris, Matt Mattus, Panayoti Kelaidis, Kenton Seth, and Johan Nilson.

Top: NARGS
President Matt Mattus
with Marcela Ferreyra



Below: Tim
Alderton surrounded
by a wealth of Rocky
Mountain alpinines





On the road with guide and organizer Mike Kintgen (in the Stetson)



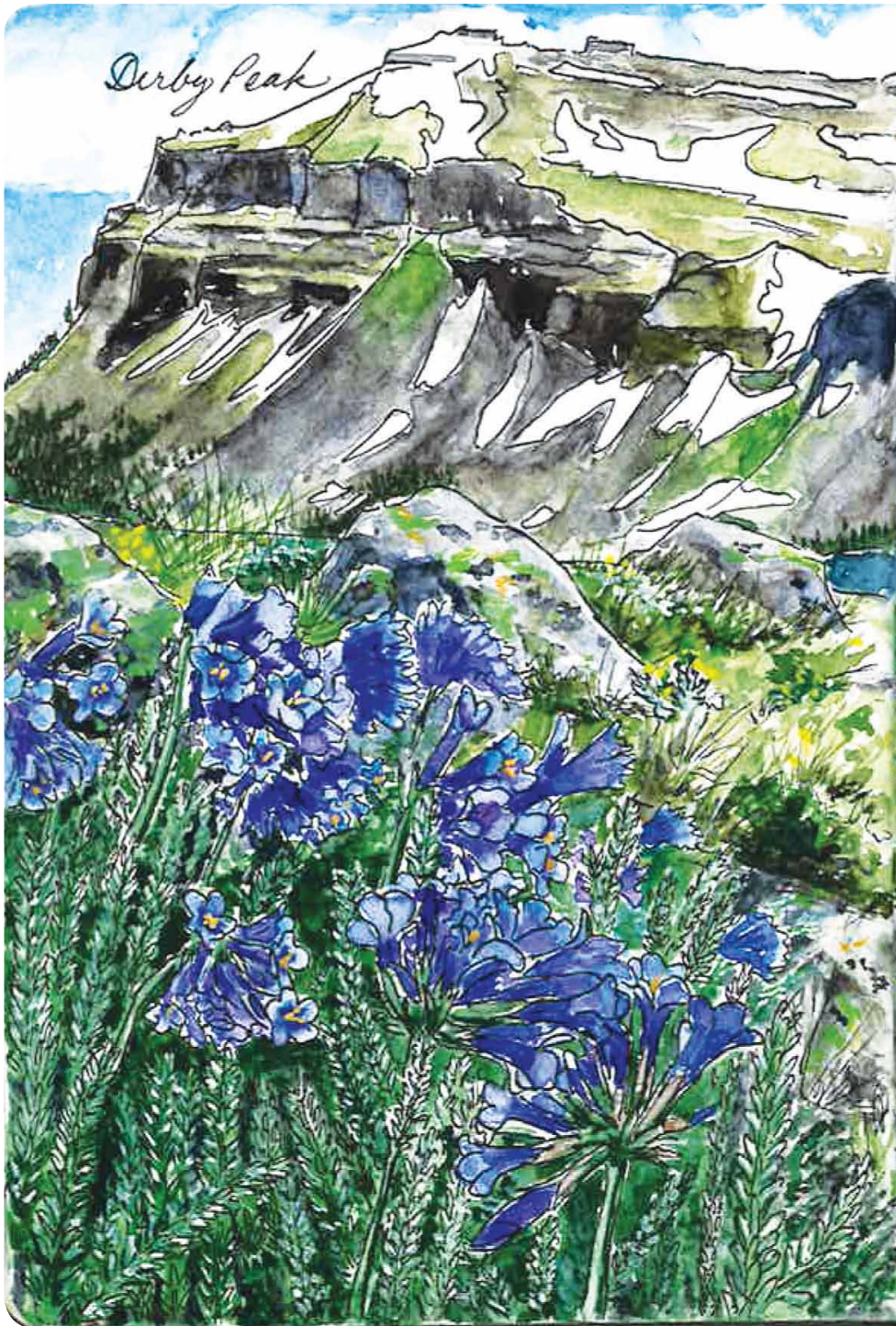
Great group of *Wyethia amplexicaulis* (mule ears) with attendees

And not just oldies were in Steamboat Springs - here are just some of the bunch of youngsters at the event from Denver and around the world:

Back row (left to right): 1. Howard Rice, 2. Michael Guidi, 3. Johan Nilson, 4. Savannah Putnam, 5. Susan Sims, 6. Herb Sabria, 7. Tim Alderton;

Front row (left to right) 1. Mike Kintgen, 2. Charlotte Reynolds, 3. Mallory Smyth, 4. Wren Brastow, 5. Kenton Seth, 6. Paul Spriggs





The Flat Top mountains
Polemonium and a view
of Hooper Lake. Lots of germs
in this alpine meadow.



Sky Pilot in flight
afternoon delight!

Polemonium viscosum in the Flat Tops - Susan Sims

A Defense of the Miniature

ROBIN MAGOWAN

AS WE GO about our gardens, from one need-filled site to the next, it may be asked what keeps us there, as long as the weather allows, communing with the world we've set into being. Is the year-round enticement of a multiplicity of tiny gems, with their compact contours and oversized flowers, that irresistible? Or is it our nostalgia for the remote, barely accessible cliffsides that our rockscapes contrive to honor? What is it that draws so many to dedicate themselves to an art so individual, no garden quite like another? Can it be that rock gardening, as we practice it, stands at the inmost point of what gardening at its best is about – the landscape of a soul in quest of a personal paradise. That mecca, attained, becomes as our gardens develop what we can keep branching out from to create, in highly concentrated settings, a paradise several thousands plants wide.

We garden for ourselves primarily. For the challenge – that pushing of boundaries – that plants from regions so very much higher than our own can't help but pose. Add, too, the visual challenge: how do we site each and every gem so it can be actually taken in within the surrounding kaleidoscope? Yet I have to recognize that rock gardeners

Rock garden with various penstemons and orange horned poppy





Steps with penstemon, eriogonum, delosperma, onosma, and dianthus

organize their offerings in vastly different ways, and for different effects. The right plant in the right place means something else to a plantsman than it does to an aesthete like me. Nor is everyone as exercised by what Marion Jarvie once called “the perils of the itsy-bitsy.” Our efforts to contain, within a set scale, maximum multiplicity are inevitably constrained by the conditions we have, and it is these constraints that give our art its form.

A collection of plants that I can tend on my own isn’t going to be very grand. The size, in turn, helps to determine what can and can’t be included. Plants have to fit in with the multiplicity that surrounds them, determined first and foremost by the smallest. Does the miniature represent essence or is it just small? What is it about a mountainside’s impeccable craftsmanship, examined through a hand-lens, or intuited

from a pollinating insect's perspective, that makes the smallest so thrilling?

Siting a tiny plant so it can be actually seen represents, for me, the true test of our art. Troughs, of course, exist for no other purpose. But consigning a gem to these artificial dungeons strikes me as a confession of failure. I want to see them out there in the open garden, occupying their own resplendent niche in the midst of a hundred others. The smaller the plant, the higher I need to site it, certainly not at my bootsoles. Even so, I am constantly appalled, as I walk about, by a seedling that has grown into a monster and needs to be moved, at whatever cost. Whose garden is it anyway?

Not an easy question to answer, but it does add to the responsibility with which I walk about, a nursery's bare-rooted plant in hand, trying to decide in which of so many different niches it will live out its remaining days. Had to reassure it that, once interred, I won't neglect it the way I've neglected so much else. For this reason I water by hand, from one of four hoses fed from the roof-water our cisterns collect, or when that's gone from the well we share. A method by no means as efficient as an irrigation system attached to a nightly timer. And it takes time, an hour to an hour-and-a-half most mid-summer days, to make the required circuit. But the act of bestowing otherwise unavailable water does allow me to commune with a spectrum of plants I wouldn't otherwise know. And it does rein me in. I can garden only so far as I can drag a hose.

Stair garden with penstemon, eriogonum, helianthemum, and acantholimon



Photographs by Juliet Mattila

Make Your NARGS Study Weekend Plans for May 2017

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

There will be lots to see and do:

- **FRIDAY** night meet-and-greet at The Flower Factory, Wisconsin's premiere hardy plant nursery ... featuring the midwest's largest selection of perennials, hostas, and ornamental grasses ... plus a large hoop house devoted just to alpiners. We're working to have a talk on secrets of plant propagation
- **SATURDAY** tours (some group, some self-directed) currently in planning:
 - **University of Wisconsin-Madison Allen Gardens**, with a great scenic rock garden right in the heart of one of the nation's most beautiful college campuses
 - **Madison's Olbrich Gardens**, featuring 16 acres of display gardens (including a rock garden) and the large indoor Bolz Conservatory
 - **University of Wisconsin Arboretum**, a jewel of the city, with enormous plantings in the 35-acre Longenecker Horticultural Garden and several others, including dwarf conifers and several world-class woody plant collections
 - **Rotary Botanical Gardens** in Janesville, encompassing 20 acres with 24 different gardens and 4,000 plant species
 - **Private rock gardens**
 - **Nursery visits**. It is hoped to arrange tours to one or two nurseries
- **SATURDAY** evening speaker will be **Joseph Tychonievich** – A life-long gardener and lover of plants, Joseph earned his BS in horticulture from Ohio State University. He 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 working at the famed rare plants nursery Arrowhead Alpines. His latest book, *Rock Gardening: Reimagining a Classic Style*, will be published by Timber Press this November.

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

More details to come in the next issue.

Call for Nominations for 2017 for NARGS Officers and Directors

**NOTE: The deadline for nominations is November 1,
2016**

The NARGS Nominating Committee announces its call for nominees for the 2017 election of three directors and two officers: President and Vice-President. It is up to all members to consider whom they might nominate. Self-nomination is also acceptable.

Please refer to the By-Laws at nargs.org/laws to read a description of the duties of officers and directors.

PRESIDENT & VICE-PRESIDENT

New candidates for these positions stand for a two-year term (2017-2019). Current post-holders were re-elected for a third year and are not eligible to stand again.

3 DIRECTORS

Directors serve for three years. Every year three new directors are elected as three directors have completed their term. Directors cannot be elected for two consecutive terms.

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

We will accept names submitted by any current member of NARGS for these five positions. Please provide the following information for each nominee:

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

Note: The bio and picture will be used for publication in the Rock Garden Quarterly if such nominee is on the final slate or subsequently stands from the floor. All the above is for use by the Nominating Committee.

The deadline for nominations is November 1, 2016

Nominations should be emailed to Bobby Ward, NARGS Executive Secretary, at <nargs@nc.rr.com>

They can also be posted to Bobby Ward, Executive Secretary NARGS, PO Box 18604, Raleigh, NC 27619-8604

Timetable

The Call for Nominations is Stage 1 of the election process outlined below:

STAGE 1: Timetable and call for nominations are published in Fall 2016 Quarterly. Nominations to Nominating Committee by deadline of November 1, 2016.

STAGE 2: Nominating Committee agree on slate to be published on website on December 31, 2016.

STAGE 3: From the floor nominations January 1-31, 2017.

STAGE 4: Combined list of candidates to be published in Spring 2017 Quarterly (deadline February 1 for dispatch late March) and on the website.

STAGE 5: Election online May 1-15, 2017.

STAGE 6: Announcement of election results subsequent to ratification at Board Meeting in May 2017.





Chasing the Impossible: Rock Gardening in Extreme Environments

DAVID GUILLET

ASPIRING ROCK GARDENERS rarely live in environments as extreme as California's Death Valley or in dry, sunny, high elevations with cold winters ideal for alpines. What do we do, though, when we find ourselves in an extreme, seemingly inhospitable, location? How do we go about plying our craft in such regions?

In the fall of 2011 my wife and I retired, sold our home on the banks of the Shenandoah River in Virginia and moved into a new home in Austin, Texas. Left behind were ten years of growing native and exotic woodlanders in the deep fertile sandy loams there and tending to a collection of daphnes, dwarf rhododendrons, and other acid-loving plants in a raised bed of sand and peat.

Once settled into our new home I contemplated the conversion of my backyard of about 4000 sq. ft. of St. Augustine grass into a landscape that lent itself to the pursuit of my rock-gardening and plant-collecting obsessions. Modest optimism reigned. The average annual rainfall of 34 inches was actually about the same as the Shenandoah Valley and rocks were everywhere, in the surrounding countryside and in people's gardens. But I had no illusions. My soil was a shallow layer of clay over an impenetrable one of hardpan (caliche) and while winters were mild and often quite pleasant, summers were long and HOT.

The real surprise came with unpredictable extremes in temperature and precipitation: 2011 was off the charts. That year Austin broke records for the hottest day, month, summer, and year, including 74 straight days with the high temperature reaching or exceeding 100 degrees. Drought that had begun in 2010 was finally broken in 2015 by two outbreaks of torrential rain and widespread flooding. Rainfall records were shredded. May of that year was the wettest single month recorded in Texas. On October 23, 14.99 inches fell in Austin breaking the all-time daily rainfall record for the city.

The next day I got in touch with my insurance agent and purchased flood insurance. What was going to happen to my dream of growing small saxatile perennials in this crazy environment?

Background Research

Fully aware that initial impressions can be deceiving and temperature averages and zone designations are no more than starting points, I plunged in. My initial approach to the project was to systematically

Lupinus texensis in the Hill Country

study the geology, soils, and influence of temperature, precipitation, and available sunlight on plant cycles in the region, the Edwards Plateau of Central Texas. The Internet is full of material to complement published books and articles and can substitute for lack of access to a good library. The approach paid off. Overall knowledge of the region's ecology was then used as a guide in analyzing the soil, light, water, drainage, slope, traffic patterns, and other features specific to my backyard. The goal was to understand how patterns of ecology and vegetation peculiar to the Edwards Plateau manifested themselves in my site.

Several of my initial impressions soon fell by the wayside. Take precipitation. Despite apparently sufficient rainfall, there is no predictably wet month or any one day from which plants may not have to survive one or two subsequent months without rain. Wet years abruptly followed by dry years were, in fact, the norm caused by the location of the Edwards Plateau between the dry western plains and the moist prairies and woods to the east. Temperature patterns were even more stressful than I first thought. Plants in many semi-arid regions have to deal with hot daytime temperatures but enjoy a respite at night when temperatures drop. In Central Texas, however, nighttime temperatures do not cool down sufficiently to rejuvenate plants. June through August highs are in the middle 90s but fall only into the middle 70s at night. Hot daytime and nighttime temperatures combined with haphazard rainfall and thin soils subject plants to much more water limitation than average rainfall alone might lead one to expect. Together with episodic torrential rain and flooding it's a wonder how plants can survive at all.

Acquiring general knowledge about one's environment and using it to understand site-specific features gives a realistic appraisal of gardening potential. Initial impressions will be corrected and you will be left with a much better grasp of what decisions lie ahead.

When I first became acquainted with the rock gardening tradition, I subscribed to NARGS and the *Rock Gardening Quarterly* and joined the Potomac Valley chapter. There I found a community of gardeners well versed in growing exotic rock garden plants in the deciduous forests of the East. I learned much from them and came to share their passion. But no such community was afoot in Austin or for that matter Central Texas. Plants brought to Texas by European origin settlers simply didn't grow well in the heat and those that did required enormous amounts of water. Growing small, saxatile perennials and woody plants in a classic rock garden idiom was not on the radar screen.

In its place was a thriving community of adventuresome gardeners dedicated to growing native plants. This movement had its origins in the late 1970s when droughts and urban growth caused demand for water to soar. Native plants came to be recognized for their water-

Castilleja indivisa near Mason, Texas





saving abilities and intrinsic beauty. The Native Plant Society of Texas was founded to this end in 1981. In 1982 Lady Bird Johnson was instrumental in establishing the National Wildflower Research Center renamed in later years as the Lady Bird Johnson Wildflower Center.

The Lady Bird Johnson Wildflower Center is today nationally recognized as a center of information on the use and conservation of



Meadow near Fredericksberg, Texas

native plants. It offers a well-stocked and tended botanical garden, an active research program, educational exhibits and classes, and annual sales of native plants. A short ten-minute drive from my new home, I took classes and volunteered in its horticultural program. The serious gardeners and experts I met there have been a great source of inspiration and encouragement for my project.

Finding Plants

Focusing on native plants as an entrée into gardening in extreme environments has much to recommend it. Such plants have proved their mettle in adapting to unusual stresses and provide a much higher chance of success than starting out with exotics. Through the perusal of native plant sales and local nurseries I soon found a host of small, attractive, rock-garden herbaceous perennials and woody plants as well as small cacti and succulents, notably agaves and yuccas.

I then developed a strategy I would recommend for expanding one's plant palette beyond natives: searching for plants from similar regions elsewhere. Begin by learning the terrestrial biome (major regional groups of plant communities adapted to the natural environment) in which your garden is located. These include the well-known tropical forests, deserts, temperate deciduous and coniferous forests, as well as Mediterranean scrub, tundra, and steppes. Terrestrial biomes are usually dominated by certain plant families which offer candidates for selecting plants having adapted to similar environments.

The Edwards Plateau, for example, is located in the southern extension of the Great Plains, considered together with the prairies and grasslands west of the Rockies as one of four steppe biomes, the others being Central Asia, Patagonia, and South Africa. Steppe plant families are typically dominated by Poaceae, Asteraceae, Fabaceae, Brassicaceae, and Scrophulariaceae as well as another dozen or so lesser families. These families are well represented in the Edwards Plateau and exotic plants selected from them stand a better than average chance of survival.

While terrestrial biomes are a good starting point, a still more useful filter for selecting plants is ecoregions: geographically distinct assemblages of natural communities within biomes. The Edwards Plateau in this regard is considered an ecoregion within the North American steppe. Plants from the cold and windy Patagonian steppe, for example, have much less in common with Edwards Plateau natives than those from ecoregions of low grassland near-desert steppe in Central Asia.

Fortunately, we now have access to an excellent database of rock garden plants compiled in Czech by Dr. Pavel Slabý and recently translated into English: <flora.kadel.cz/kvSearch.asp.htm>. This is an amazing tool: with it one can search for plants by natural range (e.g., Europe, Southeastern Europe, Croatia) by habitat (e.g., grassland, grassland and scree, dry, rocky slopes, steppes), and by plant family. It allows you to search for a specific plant by entering its genus and species. *Penstemon breviculus*, for example, will bring up its natural range, altitude, description, size, bloom color, and notes on culture and propagation. With 17,518 species in the database it is highly likely that a plant of interest will be there and the available information will exceed



that provided by the best specialty nurseries and seed suppliers, let alone the cursory information local nurseries and most plant catalogs give for their plants.

If you are fortunate, you will find specialty nurseries and seed suppliers that offer plants and seeds from similar biomes and ecoregions to your own. I was elated to find two nurseries in Colorado – Sunscapes and Laporte Avenue – that stock and ship steppe plants from the intermountain prairies and grasslands west of the Rockies, the Great Plains, and elsewhere in the world. Some botanic gardens include in their mission the trialing and dissemination of plants specific to a terrestrial biome. Denver Botanic Gardens, together with Colorado State University, administers Plant Select®, a program to seek out, identify, and distribute excellent plants for landscapes and gardens from the North American steppes as well as steppes elsewhere. Many of their offerings were good candidates for my Edwards Plateau rock garden.

Design your Garden

Selecting native plants and exotics from terrestrial biomes and ecoregions like your own ensures that biology is on your side. Now, ask yourself what cultural practices can be adopted or devised to lessen the impact of the stresses associated with these regions. In my case, several came to mind: soil amendments to improve structure and add nutrients, mulches to improve water retention and moderate temperature extremes, plantings contoured to vary exposure to light and prevailing winds, rocks deployed to lower soil temperature and provide deep root runs, structures incorporated to ameliorate flooding, and drip irrigation to establish plants and improve their ability to survive droughts. Depending on the scale or complexity of project, you may need recourse to a garden designer or landscape architect.

It occurred to me that several of the stresses could be addressed by elevating the plant bed. This would allow my shallow soils to be deepened, necessary to accommodate the tap roots of many steppe plants. A soil mix could be formulated for special classes of plants, an important consideration. Herbaceous perennials of the Edwards Plateau are well adapted to shallow clay soils over caliche but many cacti and succulents actually prefer pure caliche. Most have some ability to withstand flooding but elevated planting could improve drainage.

The most common techniques for elevating plant beds are raised beds and berms (sloping mounds or ridges without walls). For my project, berms held several advantages over raised beds. Berms offer the opportunity to vary exposure to light and degrees of moisture (tops are drier than bottoms), letting water drain laterally, and offer more planting area than the flat surface of a raised bed. Of these, manipulating exposure creates microenvironments – slight differences in the incidence of light, moisture, and temperature – which can spell



the difference between success and failure. An elevation increase of 12 inches can provide a degree of shade and a respite that can make the difference for plants subjected to 100F days and 75F nights. Marcia Tatroe brought home to me their importance. She describes in one of her books how she discovered and modified a microenvironment in her intermountain-West garden for success with silver saxifrages, one of the crown jewels of rock gardening extremely difficult to grow well.

Lastly, rocks, aside from their aesthetic attractions, would have important roles in my berms and mixed borders, lowering soil temperature and channeling water to the roots of plants.

Create Your New Garden

With a palette of plants and a stress-reducing design in hand, consider the nuts and bolts of implementation. My design called for a mixed border grading into a set of berms with a patch of grass set aside for future development. Rototilling sand, gypsum, and organic matter into my clay was out of the picture; it wouldn't improve soil depth and amendment would have to be ongoing. Instead, I elevated my mixed borders with several inches of Thunder Dirt, mounding it in places. Thunder Dirt is locally formulated for native plants from non-shrinking compost and decomposed granite and is a popular soil mix for plantings at Lady Bird Johnson Wildflower Center. A mulch of crushed pecan shells went over the Thunder Dirt and decomposed granite in places set aside for agaves and yuccas.

Garden in May, first year after being created



While I had built a 3-foot high, rock walled, raised bed filled with a peat/sand mix to successfully grow acid loving plants in my Virginia garden, I had no experience with the kinds of berms I was envisioning for my Austin garden. To get some assistance I posted inquiries to the Desert “Alpines” Forum on the NARGS website. The response was quite helpful leading me to rethink my initial plan to build berms from piled up St. Augustine sod and instead build them on a base of broken up cinder blocks. Thunder Dirt was then added up to a height of 12–18 inches followed by a mulch of decomposed granite.

Honeycomb limestone was incorporated in various ways into the berms and mixed borders. This stone is endemic to Central Texas and has a honeycomb of chambers caused when seeping rainwater mixes with sulfurous gases in cracks and dissolves the limestone. It is attractive, relatively common, and inexpensive and can often be found for free on Craig’s List.

My ultimate goal was to have a garden that would be unirrigated. But reason prevailed. Transplants require lots of water to be established and even then can be pushed over the edge by the droughts and heat of the Edwards Plateau. With this in mind, Rain Bird® subsurface drip lines were installed in the mixed borders and berms with sprinkler heads added for the patch of St. Augustine. Once plants are established subsurface drip will be only be used for a serious drought.

It took a while to find the right contractor for my project. Berms are commonly used in Central Texas for blocking out unwanted or unsightly views, directing or redirecting foot traffic or drainage, and reducing the impact of noise and traffic. I eventually found one who was willing to work with me in building berms in a new way and implementing a garden design somewhat unusual for Central Texas.

My assumptions about planting schedules also had to be rethought. In Central Texas, I learned that October is preferred for seeding with January a close second. By October the summer heat



has cooled down and if there is sufficient rainfall most native plants germinate at this time. If they waited until spring, their roots would not be deep enough to survive the summer. December or January is best for transplanting but, with irrigation, transplants can survive if they go in between October and February.

Fortunately, fall plant sales at Lady Bird Johnson Wildflower Center and other native plant societies fit this schedule. Once the landscaping was finished the fun began. I acquired a number of small native perennials from several plant families at a fall sale of the Lady Bird

Clockwise from top: *Calylophus berlandieri*, *Scutellaria wrightii*, *Chrysactinia mexicana*, *Heterotheca canescens*, *Salvia taraxacifolia*, and *Phlox nana* (center)



Johnson Wildflower Center. Specialist nurseries in Colorado and Texas brought several hard to find natives. With about a half of my berms planted, here's what went in (* native to Texas, ** endemic to Texas)):

<i>Acalypha radians</i> **	<i>Heterotheca canescens</i> *
<i>Agave x leopoldi</i>	<i>Liatris punctata</i> var. <i>mucronata</i> *
<i>Agave utahensis</i>	<i>Manfreda maculosa</i> **
<i>Agave victoriae-reginae</i>	<i>Manfreda sileri</i> **
<i>Asclepias oenotheroides</i> *	<i>Marshallia caespitosa</i> *
<i>Astrolepis sinuata</i> *	<i>Melampodium leucanthum</i> *
<i>Berlandiera lyrata</i> *	<i>Oenothera macrocarpa</i> *
<i>Callirhoe involucrata</i> *	<i>Penstemon baccharifolius</i> **
<i>Callirhoe involucrata</i> var. <i>lineariloba</i> *	<i>Penstemon triflorus</i> **
<i>Calylophus berlandieri</i> *	<i>Penstemon wrightii</i> **
<i>Chrysactinia mexicana</i> *	<i>Phlox bifida</i>
<i>Clematis hirsutissima</i>	<i>Phlox grayi</i>
<i>Clematis scottii</i>	<i>Phlox nana</i> *
<i>Cuphea hyssopifolia</i>	<i>Salvia coccinea</i> *
<i>Dalea greggii</i> *	<i>Salvia engelmannii</i> **
<i>Dalea purpurea</i> *	<i>Scutellaria suffrutescens</i>
<i>Echinocereus pentalophus</i> **	<i>Scutellaria wrightii</i> *
<i>Erigeron modestus</i> *	<i>Stemodia lanata</i> **
<i>Euphorbia antisiphilitica</i> *	<i>Tetrandeum scaposa</i> *
<i>Glandularia bipinnatifida</i> var. <i>bipinnatifida</i> *	<i>Teucrium cubense</i> *
	<i>Vernonia lindheimeri</i> *

As you can tell from this list, I am involved in a project completely unlike anything I had done before. How would it survive? On October 22–23, I had a scare as while Austin had almost 15 inches of rain, we had 13 inches of rain fall on my newly planted berms and borders. The berms were unscathed and my mixed border plants survived. I was off and running.

Moving Forward

As you get a few seasons under your belt, start to think of your project as a small botanic garden. Now you've got an excuse as head Plant Curator to travel to visit botanic gardens and specialty nurseries here and abroad to scout out possible candidates. Trialing new acquisitions and adjusting cultural practices will test your skills as Horticultural Manager. A crevice garden or a rain garden might be on the horizon. Slowly you will gain legitimacy as Chief Botanist as you learn more about your plants. And don't forget outreach. Share your experience with local gardeners and the rock gardening community; report on your successes and failures to the NARGS Forum and maybe even start a new NARGS chapter!



Garden on August 1, the first summer after it went in, in 100F

Cuphea hyssopifolia





PLANTSMAN'S TOUR OF WYOMING

6-day tour: June 21–June 26, 2017

DESCRIPTION

Big Horn Mountains, Wyoming: June 21–June 26: "Plantsman's Tour" led by a member of Denver Botanic Gardens staff (and potentially another curator if we use two vans): (6-day tour)

TRIP OVERVIEW

Following the successful tours in June/July 2016 this tour is being offered again in an extended form. The end of June and early July is peak season for flowers throughout the Rockies, but never more so than in the State of Wyoming, which may resemble Colorado in rectangular shape, but has a fraction of the human population ... although a good many more antelope.

Cody, our base for the tour, is pretty much equidistant from the Bighorn Mountains, Yellowstone National Park and the Absaroka Wilderness which is transected by the Beartooth Highway which leads to the Beartooth Pass. Our location will therefore give the group opportunities to visit the key wildflower sites of northern Wyoming.

We will stay at Thomas the Apostle Retreat Center – a beautifully situated complex with spectacular views of the Cody valley, and comfortable rooms. We will be hosted by the Center managers, Jay and Caroline Moody who have created lovely gardens surrounding the Center which are full of unusual native and adapted shrubs and perennials. The Center <tac.diowvy.org> has many acres of pristine sagebrush steppe that are also well worth exploring.



Aquilegia jonesii - star of the Bighorn Mountains

On the first full day in Cody we will drive to the summit of the Bighorn Mountains, which are largely composed of dolomitic limestone in the area we will explore. This area is almost mythical for its wildflower displays – and there are many unusual and some very rare plants that are only known from here and a few neighboring spots: the gorgeous Jones' columbine (*Aquilegia jonesii*), Kelsey moss (*Kelseya uniflora*), and the regional endemic rock brake fern (*Pellaea occidentalis*), are just a few of the gems we shall see.

View from Beartooth Highway looking southwest





Douglasia montana - Beartooth Highway roadside

The next day will be a circle drive over Beartooth Pass – one of America's most spectacular highways which crosses many life zones and has spectacular montane, subalpine, and alpine flower displays – all of which should be at peak bloom. Here Purple Saxifrage (*Saxifraga oppositifolia*) has its nearly southernmost occurrence, as does purple heather (*Phyllodoce empetriformis*). For dozens of miles the road is ringed by a tapestry of wildflower color unequalled anywhere - a day you will remember!

The third full day will be dedicated to time at the Retreat Center, optional visit to the world-class museums in the Buffalo Bill Center of the West, and hikes in the cushion-rich steppe flora, with dinner taken on our own in Cody.

The last full day will be a dedicated to a visit to Yellowstone National Park in search of wildlife and some of the different flora which can be found en route.

Come join us on this trip: we can guarantee you more flowers than you dreamed possible, and views to match!

Eritrichium nanum - Beartooth Highway roadside





Historic picturehouse in Cody

Price:

\$1250 per participant. All participants must be NARGS members.

Includes: Guide, all transportation from the base in Cody in a motorcoach, St Thomas Retreat accommodation, and all meals except one dinner.

Cody is the home of Yellowstone Regional Airport with connections to Salt Lake City (Delta) and Denver and Chicago (United). Perfect for anyone who wants to extend their trip to visit Montana or Idaho.

Transport to and from Denver is available for a supplement of \$100 for the round trip although anyone doing this would need to stay in Denver for the nights of June 20 and June 26.

Trip Details:

Group Minimum: 10 participants

Group Maximum: 20 participants

Physical Exertion Rating: Easy to moderate

Vehicle(s): twelve to fifteen-seat passenger van(s).

Booking

Those wishing to book should email Tours Committee co-chair Jody Payne <jodycpayne1@gmail.com> or telephone her on 201-314-6685. All participants must be NARGS members.

Panayoti Kelaidis is also happy to answer any questions about the tour. You can email him at <kelaidip@botanicgardens.org> or call 303-356-1698.



THE ITALIAN DOLOMITES

NORTH AMERICAN ROCK GARDEN SOCIETY TOUR

8-day tour: June 28 – July 5, 2017

DESCRIPTION

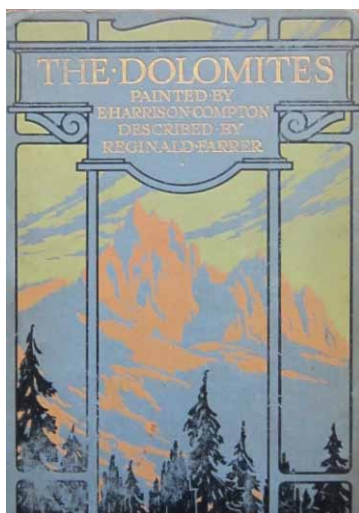
8-day tour of the Italian Dolomites, led by Naturetrek Leader **Jessica Turner** (and another leader if there is sufficient demand for a second tour: (8-day tour) - extensions in Venice available. Group size 10-16, walking 4 to 7 miles per day.

TRIP OVERVIEW

The end of June and early July is a perfect time to visit the Dolomites. In the peak season for flowers this area of northern Italy has 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 cable car).





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 organized 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 round trip 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 David Phillips (Naturetrek) who can be contacted by emailing <davidphillips@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 David Phillips 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





Anza-Borrego Desert landscape

The Anza-Borrego Desert State Park - a Floral Paradise

ANNA LEGGATT

THIS IS ONE of our favorite places. Sandy and I try to visit in March every other year, hoping to see magnificent wildflower displays.



You have never heard of it? It is touted as California's best-kept secret. It is the second biggest state park in the contiguous USA, about a 2-hour drive northeast from San Diego. A great bowl of desert lies between the Santa Rosa Mountains to the north and the Vallecito Mountains to the south. The park comprises of about 640,000 acres (1,000 square miles), with land rising from sea level to over 6000 feet.

There are a great variety of habitats from arroyos, alluvial fans, desert washes, sandy flats, badlands, and rock formations, to mountain chaparral and woodland with an occasional oasis. Flowering starts in early January in Death Valley. Successive bloom occurs as you travel up above sea level. Joshua Tree National Park may have good displays on higher ground, well into April.

An excellent on-line resource is desertusa.com/flora.html that gives flowering times, what is in bloom in the southwestern deserts, and includes a simple wild flower guide. Visit the Anza-Borrego Desert Park Headquarters (ABDSP) and Anza-Borrego Natural History Association (ABDNHA) for up-to-date information on timing. They both have a variety of programs, including geology, paleontology, biology, astronomy, archeology, area history and the arts. There is a garden tour in Borrego Springs run by ABDNHA near the end of March each year – in 2016 there were visits to 6 gardens.

Over 1000 species of plants have been recorded in Anza-Borrego Desert State Park. There are fantastic displays of wildflowers in some years, depending on the weather. The desert annuals need small and frequent amounts of rain in the fall and winter (Borrego Springs averages about 6 inches per year). Annual seeds won't sprout with too little water. Too much will rot them or wash them away. Cool nights will slow down the growth of grasses and other competing weeds. Cold will kill the seedlings and hot sun and strong winds will dry them up. The annual invasive *Brassica tournefortii* (Sahara mustard) competes for space. One year the road was green with squashed bodies of white-lined sphinx moth caterpillars (*Hyles lineata*) that eat the sand verbena.



This page and opposite: Henderson Road at dawn



Oenothera deltooides (white), *Abronia villosa* (pink), *Gerea canescens* (yellow),
Helianthus niveus subsp. *canescens* (yellow with dark center)





Xylorhiza tortifolia (Mohave aster)

There are always flowers somewhere in the area. There may be displays of desert annuals in the late fall. However, in a good year, the major bloom is from late February through March. We have seen spectacular bloom 3 times in our ten or so visits. Once, we came over the pass and looking out at the vast stretch of desert below, exclaimed, "It is purple down there!" A volunteer at ABDSP Headquarters reported his first sightings of 20 new plants in the previous 2 weeks. He had been there for over 20 years!

Washes can be spectacular with lines of pink *Mimulus bigelovii* (Bigelow's monkey flower) following the path of the water runoff. Brilliant blue *Phacelia campanularia* (desert bells) also flowers in the washes, as well as in the protection of desert scrub. Watch out along the edges of the paved roadsides. The occasional rainfall is concentrated to the sides and you may see interesting plants: tall lupine species, poisonous white perennial *Datura wrightii* (thorn apple) and, my favorite, *Hesperocallis undulata* (desert lily). These can remain dormant

for many years, deep in the sand. Then when it rains! Spikes spring up, growing to 2–3 feet tall with perhaps 20 or more blue-grey and white striped buds, opening to out-facing grey-tinged steely white flowers. Thin blue-grey leaves radiate out from the base, undulating across the sand. These lilies are more or less impossible to grow, though the seeds are easy to germinate.

Annual *Abronia villosa* (sand verbena) may be the dominant plant over extensive sandy flats near the base of the hills. Some plants can be 6 feet across. In the early morning, the pink-purple flowers add their scent to large white *Oenothera deltoides* (dune evening primrose). The latter fade quickly to pink as the day progresses. *Geraea canescens* (desert sunflower) adds to the color palette, as well as some blue *Phacelia* species. White *Rafinesquia neomexicana* (desert chicory) and yellow *Malacothrix glabrata* (desert dandelion) are far more handsome than their names indicate. *Camissonia claviformis* (brown-eyed evening primrose) may be pale cream or yellow. Perhaps small purple parasitic *Orobancha cooperi* (desert broomrape) will have flower candles poking out of the sand!

Desert purple with *Mimulus bigelovii*





Opuntia basilaris
(beavertail cactus)



Ferocactus cylindraceus
(Californian barrel cactus)

Echinocereus triglochidiatus
(claret cup cactus)





Psoralea fremontii
(indigo bush)

Oenothera deltoides
(dune evening primrose)





Beloperone californica (chuparosa)

Henderson Canyon Road is famous for bloom. The sandy flats between the road and the hills often have marvelous sheets of color. However, it is often crowded at sunrise.

Tiny white *Monoptilon bellidifforme* (desert star) and the “in” sage, *Salvia columbariae* (chia) grow in more stable gravel between the shrubs.

Mohavea confertiflora (ghost flower) and *Mentzelia involucrata* (sand blazing star) grow on gravelly slopes in arroyos. It is always exciting to see their fragile-looking blossoms. *Langloisia setosissima* (bristly langloisia), a member of the Phlox family, is occasionally found between stones.

Fouquieria splendens (ocotillo) is a common deciduous shrub growing over much of the low-lying areas. Its long thorny stems reach up to about 12 feet. Leaves and scarlet flowers appear quickly when it rains. The leaves drop in dry weather. The cycle can be repeated 2 or 3 times in a year. Yellow-flowered *Larrea tridentata* (creosote bush) is also common. Another favorite shrub is *Psoralea fremontii* (indigo bush) with scented blue-purple pea flowers. Scarlet *Beloperone* (*Justicia californica*) (chuparosa) is a hummingbird magnet.

Opuntia basilaris (beavertail cactus) is one of the earliest cacti to flower. It grows on gravel flats and among rocks. The blue-green “paddles” are spectacular when covered with pink flowers.

Steep hillsides are covered with varying sizes of spherical rocks.



Fouquieria splendens (ocotillo) flowers and stems

These shapes are often echoed with large *Ferocactus cylindraceus* (California barrel cactus). These are light colored but darken as they grow taller. Other cacti are found in clefts in rocks. *Echinocereus engelmannii* (strawberry hedgehog) forms clumps with long spines and deep pink flowers.

Roadside botany can be very rewarding. You may see a blue mist from *Ceanothus* bushes in the chaparral and hillsides on the drive from San Diego. Fleshy blue-green rosettes of *Dudleya* species cling to





Hesperocallis undulata
(desert lily)



Desert landscape



shady cliffs beside the road. Dry banks are suitable for yuccas. Look for spherical rosettes of *Hesperoyucca whipplei* (Our Lord's candle). The stiff narrow leaves are dangerously sharp! Unfortunately the best plants are impossible to photograph as you cannot stop in many places!

Mounds of scarlet low-growing *Echinocereus triglochidiatus* (claret cup cactus) are impossible to miss when in flower in nearby Joshua Tree National Park. Silver-leaved *Machaeranthera tortifolia* (Mojave aster) is shrubby, growing to two feet tall.

Borrego Springs, at 600 feet, is surrounded by the park, below the mountain ranges in the north end of the desert. Here you will find a vibrant community: a small town with shops, art exhibits, crafts, food, and a variety of places to stay from campgrounds to a high-end resort. Homes vary: multi-million houses surround one of the lush green golf courses. Some have wonderful cactus gardens. Others look strange with green lawns across the road from the desert.

An aquifer below the desert provides water. Borrego Springs was well known in the 1920s and nearly became a second Palm Springs. The development was halted when a main road was not allowed through a sensitive wildlife area.

Today there are citrus orchards, dates, and a cactus ranch with wonderful specimens for sale, also palms ready to ship to your garden. An abandoned vineyard shelters wildlife. There were many attempts at

Echinocereus engelmannii (strawberry hedgehog)



farming in the past, some successful, but distance from markets was a problem.

There is a network of 500 miles of dirt roads and 110 miles of hiking trails in the State Park. The extensive badlands are impressive. You can take a tour in a special vehicle or use a 4WD. However, many roads are possible in an ordinary car. Watch out for rocks and an occasional desert wash. State Park Headquarters or the Anza-Borrego Desert Natural History Association will advise you.

There are several self-guided hiking trails. Most have little signage but good maps are available. The "Slot" in the Badlands is a favorite. Here you scramble down a steep path to the floor of a narrow canyon carved in the siltstone by floodwaters of the Borrego Mountain Wash. For a mile, canyon walls reach up to 100 feet above the narrow floor. Do not eat a large breakfast – the path is only just over 1 foot wide in places! Precarious-looking rocks are balanced across the trail.

Native Americans have lived in the area for thousands of years. Some petroglyph and pictogram rock art remain. More contemporaneously, a local property owner commissioned iron prehistoric and historical life-sized sculptures. You may see dinosaurs, a saber-toothed tiger, or an enormous serpent carefully placed in desert scrub. The prehistoric renditions are based on descriptions in the book *Fossil Treasures of the Anza-Borrego Desert*. A touring map is available.

Wildlife sightings are many. The Peninsular bighorn sheep (Borrego)

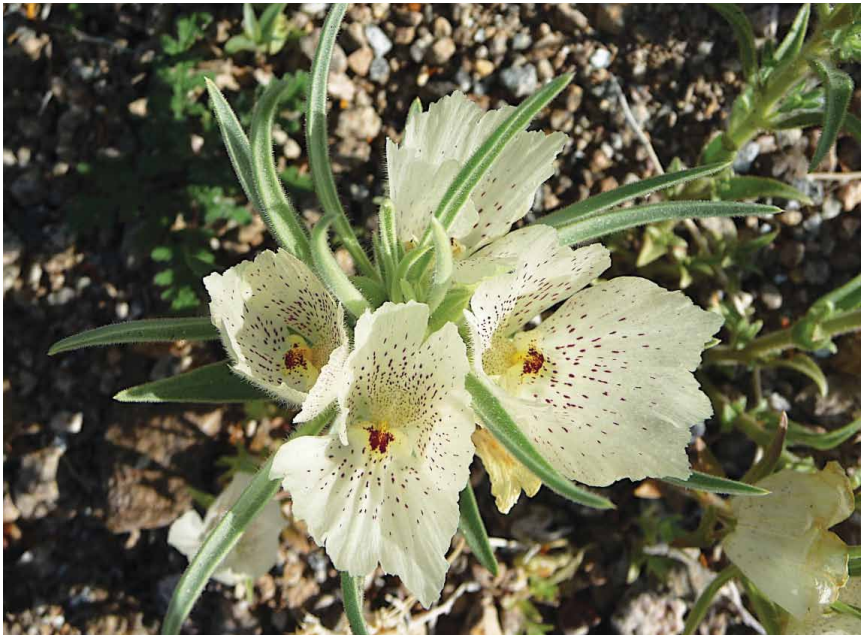
Iron horses





Camissonia claviformis (brown-eyed evening primrose)

Mohavea confertiflora (ghost flower)



can be spotted on the rocky hillsides or by some of the springs. A good place is by the native *Washingtonia filifera* (California fan palms) on the Borrego Palm Canyon Nature Trail. There is good signage along this path.

The Swainson hawk migration in February draws many birders. Glossy black phainopepla are often seen feasting on desert mistletoe berries in the higher areas. The males are easy to identify as they show white wing patches in flight.

A roadrunner may visit at breakfast, black-tailed jackrabbits or desert cottontails hop by, quails are frequent and you may hear owls or coyotes in the evening. We have found snake tracks and orange coyote scat (oranges!) but have yet to see a desert tortoise. We drive along the paved roads at night, looking for animals.

Borrego Springs is one of the two “Dark Towns” in America – no traffic lights for 50 miles! Curved roads make us lose our sense of direction and the town doesn’t have the usual night-sky glow to help us return. However, the stars are magnificent unless there is a full moon.

I want to go back when I look at my pictures and particularly when I reread Donald Kulross Peatie’s evocative essay describing the desert in flower in *The Road of a Naturalist*. Deserts change with the seasons and never seem the same.

Roadrunner





Desert sunrise with ocotillo

Other areas to visit

Because the season can be so variable it is useful to consider other areas to visit:

- Joshua Tree National Park
- Death Valley National Park
- Antelope Valley California Poppy Reserve
- Amboy Crater
- Salton Sea
- San Diego – Zoo, Japanese Garden, etc

Helpful web sites

- DesertUSA website <www.desertusa.com/flora.html>
- Anza-Borrego Desert Natural History Association <www.abdnha.org>
- Anza-Borrego Desert State Park <www.parks.ca.gov>
- Borrego Springs <www.borregospringschamber.com>
- Desert sculptures <www.desertusa.com/borrego/bs-art.html>

Wildflower Identification

- Android App: Anza-Borrego Wildflowers <play.google.com/store/apps/details?id=efmer.com.anzaborregoflowers>
- <www.amazon.com/Desert-Wildflowers-Field-Guide> \$5 for Kindle / smartphone

Books

- San Diego County Native Plants*. Lightner, James. ISBN 0-9749981-1-1-7
- Mojave Desert Wild Flowers*, MacKay, Pam, ISBN 0-7627-1162-0
- Anza Borrego A to Z, People, Places, and Things*, Lindsay, Diana, ISBN 0-932653-38-3



Azorella trifurcata

Cushion Plants

Part One: Acantholimon to Dianthus

GER VAN DEN BEUKEN

I HAVE OFTEN been asked to write an article about cushion plants; these are the plants that have kept me busy for years – growing them,



propagating them, searching for them in the wild. These are the plants that I love and, rather than a scientific approach with profound botanical terms and backgrounds, I have chosen to show how I've seen these plants in their original locations in nature and how I have dealt with them here in cultivation.

Distribution

Cushion-forming plants are low-growing species, mostly small and compact although they can be large, which occur not only in the alpine and sub-alpine areas of the mountains, but also at lower altitudes in Arctic and sub-Arctic regions where they grow under the most extreme climatic conditions. Crevices, scree, and steppe are all potential habitats – all extreme climatically, all inhospitable for other forms.

In general one can say that the growth rate of cushion plants is extremely slow. A good example is *Azorella compacta* of northern Chile, a species that grows on the slopes of volcanoes at an altitude up to 5500 meters (18,000 feet). We have found these plants more than four meters (13 feet) in diameter. Professor Squeo from the University of La Serena told us that students did research on the growth rate of this species and they discovered that individuals of that size could be even more than 3000 years old.

Another extreme example is the tiny and slow-growing species *Androsace bryomorpha* from the Karakoram range in Pakistan. In cultivation, in my mild climate in Holland, this is a species reaching a size of just 5 cm (2 inches) in roughly 10 years. In its natural habitat, this will be even less with extreme weather conditions and also the nutrient-poor soil being the cause. The typical shape of cushions is the result of an accumulation of tightly spaced stems ending in individual rosettes, all at the same distance from a central point.

Usually this kind of plant grows with a long taproot on scree or in rock crevices and makes a fantastic display, with or without flowers. This long taproot can be necessitated by the limited precipitation, usually in the way of snow in alpine and arctic conditions, as well as the likely rapid failure of newly-appearing and fairly shallow-rooted plants.

According to fairly recent data there are nearly 4,000 cushion-forming species around the world, divided between 370 genera and 63

families. And these figures may already be outdated as never before have there been so many botanical tours and new species discovered as today.

THE SPECIES

The reader may know that, with my wife Mariet, I have been botanising in several mountain ranges of the world. Of course it is impossible to describe all the species we have seen during our trips, but many of the most interesting species will certainly have my attention here and will be described in alphabetical order as well a brief cultivation description of the species.

Acantholimon

I remember exploring a scree in central Turkey during a botanical tour several years ago. There was an unforgettable display of many different spiny *Acantholimon* species and subspecies growing together. When various seedlists from Czech seed collectors appeared later, it was the perfect opportunity to increase my collections of these plants from seed. However, the germination of seedlings proved to be disappointing. Often the seed was barren, or I seemed to get empty seed husks, although with patience I finally did grow some beautiful species. In the past I thought that species only set seed in the wild but that is not a view I share nowadays. From my *A. venustum* I collect some seeds every year. Not all germinate, but I do get germination of various seedlings.

Cusions of *Acantholimon* in Turkish steppe



Acantholimons live in extremely dry and hot places and that is the way to treat them in cultivation. Some very beautiful species are among the most compact, with *Acantholimon hedinii* particularly suitable for tufa. One of the most attractive species for the rock garden is the gray-leaved *A. venustum* with pale pink flower spikes. *Acantholimon trojanum* with green leaves is a plant for the open garden with stemless purple flowers. For me, the best species in cultivation is *A. saxifragiforme* with its deep red inflorescence.

I've never tried this species in the open garden. It is possible that it is hardy, but provisionally I keep it in a pot in the alpine house. In general, it can be said that a gritty and sandy substrate is effective for good results for all species.



Acantholimon saxifragiforme

Acantholimon glumaceum



Androsace

This is a quite large and very interesting genus and it is important to mention firstly the different habitats of species from this genus. By no means are all of the species in the genus high-mountain cushion plants. Some occur in well-drained pastures, and in woods, between shrubs. But the cushion plants that are of concern here will be found in rock crevices or on massive cliffs, on mountain slopes with little humus, or in moraines or in screes.

It does not make sense to list all species, and not all *Androsace* species are cushion-forming, but some of them definitely deserve attention. Among the cushion species, *Androsace alpina* for instance is a species which occurs in the Alps. It is beautiful but tricky in cultivation, always growing on and between acid rocks above the tree line. It is mainly white flowering but sometimes you can find a pink form. In culture the flowering is disappointing. It is also difficult to keep this species alive. The warm summers of recent years have proved disastrous.

Androsace helvetica belongs in the same category. In the mountains, it is the most impressive species you can find but in culture quite frustrating. The cultivation of high alpine is very difficult in our Dutch climate compared for example with the climate in Scotland with maximum temperatures of maybe only 25C (77F) during summer. This is what these plants need.

In the Netherlands the best chance for survival of all the species

Androsace helvetica



listed here is keeping them in a very well ventilated greenhouse or certainly under glass to protect them from wetness. Winter hardiness is not a problem at all. Some other very significant European species are *A. pubescens*, *A. hirtella* and *A. vandellii*. These three species are ones to propagate from seed and they germinate well.

Many beautiful species from the Himalaya have appeared and one of them that deserves attention is *Androsace zambalensis*. Surprisingly, this species survives our hot summers. Many Himalayan species I have been keeping alive with difficulty. Some small species like *A. tanggulashanensis*, *A. tapete*, and *A. selago* are definitely worth trying.

The tiniest cushion-forming species, *A. bryomorpha*, comes from Pakistan. As was said earlier, this is an extremely slow plant and after years it will have a maximum diameter of 5 cm (2 inches). In the past it was only possible to grow the plant from cuttings, but this year was the first time that seeds were offered by a few seed collectors. For me germination



Androsace alpina

Androsace bryomorpha



Androsace zambalensis



results were perfect but for further results I need to be patient.

In North America, *Douglasia* is either a sister genus or should be incorporated within the *Androsace*. The genus includes some lovely cushion species such as *D. montana*, that is certainly a plant that can be grown on the open rockery or crevice garden.

Arenaria

From this genus I want to mention just three species I have experience with. Firstly, *Arenaria pupurascens*, is a species with pink flowers I have found in wet places up to 3000 meters (9900 feet) in the Pyrenees so this is a species that does not want to be too dry in the rock garden. Another is the beautiful *Arenaria (Minuartia) sedoides*, a species of the entire Northern Hemisphere. It makes a wonderful display as a cushion in a sunny place but do not expect a good flowering plant. These bright green plants through the years can grow cushions up to more than one meter (3 feet) wide across.

Finally, there is *Arenaria tetraquetra* var. *granatensis* from the mountain regions of eastern Spain. This is an extremely compact, slow-growing variety and suitable for tufa or a trough. You can multiply it by seed if available, but propagation by division or cuttings is a better option and an easier and quicker way to grow many young plants.

Arenaria tetraquetra var. *granatensis*





Asperula sintenisii

Asperula

From this genus my personal preference is *Asperula sintenisii* from Turkey. The plant is nicely compact with bright green leaves and dark pink flowers. For the trough this is definitely an asset and certainly not difficult. I have had a bad experience with ants which like to nest under the cushions. A more difficult species, but certainly one to try, is *Asperula arcadiensis*. In contrast to the previous species this grows in the mountains of Greece. The safest way of growing it is giving protection from too much moisture during the winter. It is a beautiful gray-leaved species with pink flowers and the best place is on tufa. All species deserve a well-drained soil mixture in a sunny spot. Cuttings are the most convenient way to propagate these species.

Asyneuma

Only two species are appropriate in this survey but these two species deserve praise. *Asyneuma compactum* mainly occurs on exposed limestone formations in Turkey. It is a great species that I had in my collection in the past, but over time I have managed to lose it and, since then, I have not found it possible to obtain new plant material. The species grows into little pillows with lone bright blue star-shaped flowers.

A beautiful plant for tufa is *Asyneuma pulvinatum*, also from Turkey. On tufa this has become a rock-hard pillow. Although the bloom is very scanty and each year this plant presents only a few light blue star-shaped flowers, you would not want to miss this for all the money



Asyneuma pulvinatum

going. The propagation of both types is done by cuttings.

Azorella

All the species from this genus we have seen during our expeditions in South America are exceptionally spectacular. *Azorella compacta* (syn. *Laretia compacta*), a species mentioned in the introduction, we have seen abundantly on the slopes of the Volcán Parinacota and Volcán Taapacá in the north of Chile. The climatic conditions are extreme – not only the altitude of 5500 meters (18,000 feet) but also, and largely because of that, by the temperature fluctuations between the day and night. During the day it is a few degrees above zero and frost by night. Precipitation as rain or snow is confined to January and February. The plants grow with a long taproot in fine lava sand. I collected some seeds and the germination was good but I was not able to grow bigger plants than 2 cm (less than 1 inch) across and it is probably an illusion for the future to expect better results in our climate.

Azorella monantha is a common species. Along a distance of about 1300 km (800 miles) in Argentina between San Carlos de Bariloche in the south northwards up to Central Mendoza we came across this magnificent cushions in different habitats. It does fine on a scree or in other places in fine sand, but it is at its best right between large rocks. The flowers are an insignificant pale yellow but the cushions are stunning.

Although not a rare species, we found *Azorella madreporica* for the first time during our last Chile trip in 2015. You have to be at just the right place to see this species; mid-Patagonia to the central Andes is

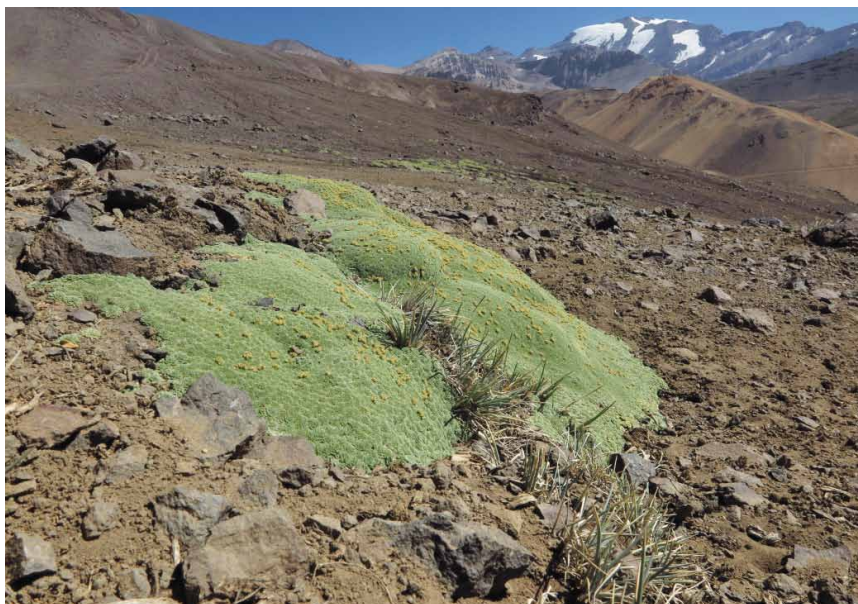


Azorella compacta

the area where you find this species at altitudes of over 3,000 meters (10,000 feet) in coarse or fine lava sand. The plant grows up to 10 cm (4 inches) high but can cover an area of 2 meters (6 feet) or more. Its inflorescence has small yellow flowers. I'm not able to give advice about the cultivation as I have never had a chance to grow this species. It's different with *Azorella trifurcata*, an abundant species in several

Azorella trifurcata





Azorella madreporica

provinces of Argentina and in Chile. A beautiful plant which grows with enormous cushions covered with bright yellow inflorescences, this species is totally unrecognizable in cultivation compared with plants in nature. The cushions are often too loose and it has pale yellow flowers, probably the result of the lack of bright light in our country. Germination of seeds is fine, but propagation by division or by taking cuttings gives much faster results. *Azorella gummiifera* is now better known as *Bolax gummiifera*. In Tierra del Fuego, on the Falklands, and

Bolax (Azorella) gummiifera



the south of the province of Santa Cruz, we have seen thousands of these fascinating plants. They seem to like a cold and rough climate, because further north you will rarely find them. The habitat is between low-growing shrubs in damp places but also on stony hillsides, and

especially where it remains moist, you can find some good plants. The species is offered regularly by the better growers in England and Scotland. I have never managed to grow a plant larger than about 10 cm (4 inches). Especially during hot summer days it suffers, dying quickly. Propagation is difficult but cuttings may yield some success.

Benthamiella

There are two beautiful species in this genus from southern Patagonia that are really worth adding to your collection. These are *Benthamiella patagonica* and *B. azurella* which is an extremely hard cushion-forming species with small insignificant bell-shaped flowers. I have never had the opportunity to get seeds from this species but there are reports of good plants from a seed collection in 1988 although they are much less compact than the species in the wild. *Benthamiella patagonica*, on the other hand, is more widespread in cultivation. I have six different forms as part of my collection, however I'm still waiting for the first flowers. It is really strange that none of these forms flowers as I've got young cuttings from Carol Bainbridge in Scotland where they bloom profusely in her alpine house every year. Climatic conditions are likely the reason for this problem. Nevertheless it is interesting to see the different leaf shapes. It has a slightly looser structure than *B. azurella* but it makes nice cushions. The flowers are usually bright yellow, but forms with pale yellow or white are also known. Propagation is fairly easy from cuttings when the plants are in full growth.

Benthamiella azurella





Benthamiella patagonica

Campanula

Many campanulas are well known to the gardener but very few are cushion-forming. *Campanula myrtifolia* is the only species to mention in this article. It is a species from vertical limestone cliffs in Turkey. It is a deciduous species but reappears in spring again as a compact cushion to give a display of small white funnel-shaped flowers later in the

Campanula myrtifolia



season. The plant needs a place in the alpine house because it will not survive outside in our wet winters. Pot culture is one of the best ways to keep the species alive. The propagation is done by sowing seeds in early spring.

Dianthus

Among the species in this genus, *Dianthus microlepis* from the Pirin mountains in Bulgaria should be picked out as particularly valuable and appropriate for growing on tufa. Bright pink stemless flowers adorn the compact green cushions. The variety *D. microlepis* var. *degenii* has beautiful silver-gray foliage. The flowers are identical with the species. A white-flowered form is also in cultivation, but is only known as a curiosity. Seeds of the species are regularly offered. It is highly recommended for full sun.

Dianthus erinaceus (*D. webbianus*) with its spiky leaves requires the same conditions: the warmest place in the garden and it also likes pure sand. Cushions can easily grow up to more than half a meter (20 inches) across. Be careful during the winter as wetness can destroy the plants quickly through fungal infection. The species is at home in Turkey and grows on screes. The inflorescence is pink to purple. Propagation is usually done by seed because cuttings are not easy to root.

In the next issue Ger will look at Cushion Plants: Dionysia to Kelseyia.

Dianthus microlepis





Yuzawa engei - a nursery in the mountains

A Nursery in Japan

SUSANN NILSSON

During most trips certain days stand out. While most of Susann's trip, reported in the last issue, was concerned with finding and photographing wildflowers, she had the opportunity to visit a Japanese nursery which is a haven for unusual plants and here she describes the experiences of the day.

ON A VERY fortunate day in July I had the pleasure of visiting the specialist nursery Yuzawa engei. It becomes a long and interesting day and the more I see, the more impressed I get.

The nursery, which is a family business, is situated not far from Sapporo, in Hokkaido, the northernmost of the bigger Japanese islands. There are about ten specialist nurseries in the island, each with its own niche. But I dare to say that none of them is even near the high standards of Yuzawa engei.

The first thing that strikes me, when going through the gates, is how neat and well organized everything is. It is more like a miniature botanical garden than a current and active nursery. I can't help thinking of what it would be like if I were to run such a business. I can hardly

keep order in my cold frames where, let's say, there is probably space for a thousand pots. I am constantly moving the poor plants around trying to find the best organization.

Sachiyo Yuzawa, the daughter of the family, gives me a guided tour on the property. She is now and then also my interpreter. Her parents have a limited vocabulary in English while my Japanese is shamefully non-existent. But I think that we, thanks to our mutual and burning interest in alpine plants, would have understood each other even if we were born on different planets because what I meet is pure love and understanding for the most difficult-to-grow plants we can ever come upon. And here, they are cultivated with success. There is not just one struggling individual fighting for its life as in my garden back home, but rows and rows of healthy good-looking plants of the most delicious species.

The father in the family, Saturo Yuzawa, began as I guess we all did, with a genuine interest in growing, and learning to understand the needs of, alpine plants. But, and this is the difference from most of us, he took his knowledge further and created a small nursery thirty and some years ago. Slowly but steadily, the nursery as well as its reputation grew until the need to move to a new and bigger place about ten years ago. And what a place! Is it possible to image a better location for an imprisoned high-altitude plant than being surrounded by lush beautiful mountains? I am convinced that the joy of the offered view must give the plants strength, not only to survive, but to flourish, prison or not.

Naturally, it takes more than a stunning landscape to successfully grow such specialized plants. As we all sadly have experienced, one needs a big portion of patience, long experience and the humility to dare failing to achieve knowledge. At the Yuzawa's they've got all this and, moreover, precision in every detail. Just to give you an example: every single pot is weeded and tended by hand instead of sprayed by pesticides.

Saturo Yuzawa preparing an order





Trays of volcanic *kazanreki* for potting

Of course, the nursery also offers species that are not that difficult to keep in cultivation. It is a necessity to also satisfy customers that have not reached that far yet in their growing career. In this spirit they keep what is probably the widest collection of auriculas. One greenhouse is dedicated just to growing these easy beauties. In another greenhouse one would be singing for joy seeing hepaticas of all colors imaginable, if you visit Yuzawa's at the right time of the year. (Please, forgive me, all friends of *Primula auricula*. I am totally aware of the skills needed that to grow an auricula to perfection. I based my rather patronizing expression "easy" on the fact that even I manage to keep them alive without any bigger efforts.)

Saturo-san tells me that

Yuzawa cultivates around 3,000 species of which about one third are raised from seed every year. Unfortunately, many of the species the nursery specializes in grow only in national parks where for understandable reasons it is not permitted to collect seeds. This forces the Yuzawa family to propagate plants from seeds collected in the nursery. But of course, whenever possible, they use wild collected seeds to get genetic variation, and keep the stock strong and healthy.

I mentioned in the beginning that this is a family business.

And in this case it really is, in the true sense of the words. Besides Saturo Yuzawa, the founder, there is his wife Kiyoko, their daughter Sachiyo, and as well the two sons Masaru and Hiroshi are working at the nursery. Even the daughter-in-law, Yoshie, is employed. In my experience it is not that common to gather all members of a family around one and the same interest. At least not in Scandinavia.

The actual division of work is rather flexible even if everyone has his or her special responsibility in the running of the business. But, as plants do not behave the same way as do humans, with their rhythm of life evenly dispersed over the year, the former are the ones that set the rules of work. Most seeds mature during the same short period

and must be collected and sown. Then it does not help if your main interest is accounts, you will still find yourself turned into a sowing specialist. At Yuzawa's all seeds are sown as soon as they mature; no matter whether they are warm or cold germinators. This way is not only rational but also the plant's natural way of propagation. Seeds are dropped to the ground when mature and germinate when their right circumstances appear. As far as I know, nobody has ever found any glassine (pergamyne) envelopes ("keep cold and dry") in nature! In this nursery they do not offer a long menu of sowing substrates. The only thing used is *kazanreki*, a substrate with very low pH, originating from a volcano situated in southern Hokkaido.



Hiroshi, Masaru, and Sachiyo Yuzawa

When everything is sown and ready for the next season it is time to prepare and pack the plants that are to be exported to customers outside of Japan. The procedure is not that easy. First of all the plants must be kept in quarantine for several weeks. The quarantine authorities must be contacted to get an individual phytosanitary certificate for each packet that is to be sent. Eventually, the plants are shipped when dormant, in November.

Perhaps some readers shrink back hearing about this unusual season for receiving delicate plants? But it does not cause any bigger problems. It usually takes five days from sending the parcel to pick-up time for the yearning receiver. If the plants are going outdoors, but are still dormant on arriving, just pot them up and keep them in a cool place such as the alpine house, cold frame, or even the rockery if you happen to live in a mild climate such as Vancouver Island or the UK. However, most people living in the US or Scandinavia would probably have to wait until thawing time to be able to plant the new treasures out. If you are unlucky the plants might wake up during transportation. But that is not a big deal either. Just pot them up and keep them out of reach of the frost until spring or kindly tell them to go back to sleep by gradually

putting them in cooler places with less water until dormant. Alpine plants are very aware of spring not being trustworthy even if it seems enchanting with a few fraudulently warm days before turning back to cold and snow.

Yuzawa's does also provide a smaller collection of seeds if this might fit you better. These are sent to Europe without any certificate or other procedures.

But let us get back to the nursery routines. The warm-germinating seeds are

kept in a greenhouse that keeps a rather high temperature, between 10C (50F) and 20C (68F). The breeding stock, and plants for sale that remain when closing for the season, are stored in what looks like big meat refrigerators where the plants overwinter in darkness, cold but frost free. During this period the plants do not receive any water.

As a grand finale I would like to share Sachiyo Yuzawa's trick for success with the rather difficult *Dicentra peregrina*. Every year it should be repotted / replanted and have its roots barbarically trimmed to about 10 cm (4 inches). This is a species that wanders about, hence the botanical name *peregrina*. It is not happy using the same soil year after year. If the seeds are sown fresh in substrate with low pH the germination will be very good.

If you have no possibility of visiting Yuzawa engei I recommend a virtual visit at their online catalogue of desirable species, or their popular Facebook-page <[facebook.com/yuzawaengei](https://www.facebook.com/yuzawaengei)>

Yuzawa engei is a regular advertiser in the *Quarterly* (see page 375). A version of this article recently appeared in the Scottish Rock Garden Club journal.



Trays and pots of seedlings

NARGS Awards

The North American Rock Garden Society gives a range of awards to those who deserve national and international recognition for their efforts for the society as creators of outstanding gardens in North America, as plant collectors, writers, or directly for the work of the society. NARGS also gives a prize for the best piece of writing in the *Quarterly* (the Geoffrey Charlesworth Writing Prize) which is reported on page 292, and there are also Chapter Service Awards which are reported regularly in the Bulletin Board.

Linc & Timmy Foster Millstream Garden Award - Alpine Rock Garden - Shirley Friberg

This award is for an outstanding contribution to the North American Rock Garden Society for creating a superior garden.

Shirley and her late husband Richard garden their 1.5-acre lot, but the alpine garden has always been solely Shirley's domain. Shirley's original rock garden in Roseville, Minnesota, is well over 20 years old, and includes a water feature. She grows many species each, from the normal rock garden genera: *Allium*, *Anemone*, *Astragalus*, *Aethionema*, *Agastache*, *Arabis*, *Androsace*, *Aquilegia*, *Aster*, *Campanula*, *Clematis*, *Corydalis*, *Colchicum*, *Chionodoxa*, *Chiostophyllum*, *Cyclamen*, *Dianthus*, *Draba*, *Erigeron*, *Fritillaria*, *Gentiana*, *Geranium*, *Haberlea*, *Hieracium*, *Hypericum*, *Iberis*, *Iris*, *Jeffersonia*, *Lewisia*, *Lupinus*, *Mertensia*, *Penstemon*, *Phemeranthus*, *Phyteuma*, *Primula*, *Pulsatilla*, *Scilla*, *Scutellaria*, *Sedum*, *Sempervivum*, *Silene*, *Teucrium*, *Talinum*, *Thalictrum*, *Townsendia*, *Tulipa*, *Veronica*, several from the family Cactaceae, etc.

Shirley is an avid seed grower, experimenting with many species normally untried in Minnesota, obtained through the NARGS, SRGC and AGS Society seed exchanges, and beyond them from Czech seed sellers. Like everyone, she has failures and successes, like *Bukiniczia cabulica*, which stays in the garden through the winter and flowers. Perhaps not a feat elsewhere in the USA, but this is Minnesota!

In addition to the rock garden, she has an extensive woodland garden (including *Cypripedium* spp.), perennial garden, rose, bog and conifer gardens. Her gardens are a regular stop for the Minnesota Horticulture garden tours, as well as many others, and she uses them to promote rock gardening and raise money for charities as well.

I am sure there is a lot I leave untouched in this application, as no one could know a garden as well as the owner herself, but I trust the gist will come through, as this is really a fantastic garden and for Minnesota truly remarkable. Shirley is an inspiration! *Rick Rodich*

Edgar T. Wherry Award - Mike Kintgen

Awarded to someone whose body of literary work has made an outstanding contribution in the dissemination of botanical and/or horticultural information about native North American plants.

The day I met Mike, he was hard at work in the Alpine Rock Garden at the Denver Botanic Gardens. During his lunch break, he gave me a photocopy of an article he'd written, "Rock Gardening for the Rockies," which appeared in the Summer 2013 edition of *Zone 4* (now *Rocky Mountain Gardening* magazine). As I read that article on the flight home, I realized Mike's important place in a changing world, as a young person with an enormous skill and the ability to educate and impassion others. Mike's love for, and promotion of, native North American flora shine through his writing. That article remains a "go to" reference for me, as I develop new garden beds with new challenges and opportunities.

Over the past three years, Mike's writings and photography have continued to inspire the world of rock gardening. He has written dozens of articles for various magazines and journals over the years. And he lectures frequently. His lecture at NARGS 2016 Annual Meeting was a wonderful example, comprehensive and knowledgeable. Mike has also undertaken a number of lectures tours across North America and Europe.

Mike's published works are augmented by his active participation in social media, where his advice and inspiring photos are highly regarded by an enormous following of hobbyists and professionals around the world.

I note Mike's contribution to Panayoti Kelaidis' book *Flourish, A visionary garden in the American West* in 2009, and recently, was delighted to obtain a copy of *Steppes: The Plants and Ecology of the World's Semi-arid Regions*, a beautiful book which Mike co-authored with fellow curators at the Denver Botanic Gardens. This past summer, it was exciting to learn of Mike's plans to co-author another book, about the plants and ecology of the Rocky Mountains.

Mike is a youthful and energetic force in the world of horticulture, and I am living proof that his written works have inspired people in their own gardens. Moreover, Mike's work has been vital to the cause of conservation. His love for plants and particularly the flora of North America is infectious, and inspires an appreciation for what we have beyond our own backyards. I can think of no more deserving recipient of the Edgar T. Wherry Award in 2016. *Jay Ackerley.*

Award of Merit - Nicola Ripley

This award is given to persons who have made outstanding contributions to rock and alpine gardening and to the North American Rock Garden Society.

Nicola Ripley has done a wonderful job of outreach in her role as Director of Betty Ford Alpine Gardens in Vail, Colorado. She is an ecologist by training and has expanded the role of the Betty Ford Alpine Gardens to conduct research on rare montane and alpine plants of her region: together they are actively monitoring several species near Vail.

She has initiated collaborations with other gardens and agencies to study the effects of global warming on alpiners. The Betty Ford Alpine Gardens has promoted awareness of the need for conservation and sensible landscaping in Colorado--becoming a tourist attraction that has raised the awareness of rock gardening enormously to the streams of tourists who visit Colorado in the summer.

She is a leader in public gardening in North America – she was elected chairman of the board of the American Public Garden Association – the consortium of nearly 585 public gardens.

Nicola is a knowledgeable plantswoman who is supportive of her staff and positive in her attitude to developing the rock garden (Fall 2015 *Quarterly*) and the alpine house (Winter 2015/2016 *Quarterly*). Her lectures on funding, construction and planting of the Betty Ford Alpine Gardens have been inspiring. With over 3000 alpine and native plants the gardens also hold the National Colorado Alpine Collection through the North American Plant Collections Consortium (NAPCC) a mark of great credit. She has clearly made a difference to the development of a unique garden in a very special location that promotes rock gardening to a wider public. She is very deserving of the NARGS Award of Merit.

David Sellars

Award of Merit - Kenton Seth

This award is given to persons who have made outstanding contributions to rock and alpine gardening and to the North American Rock Garden Society.

I first met Kenton 6 or so years ago when he arrived unannounced to Vancouver Island on one of his many self-guided rockgarden-based road trips. He had heard that Zdenek Zvolanek of the Czech Republic had lived here and had influenced some gardens in Victoria. In true Kenton style, he needed to see these gardens in the flesh. This landed him on my couch for a few nights, during which time we toured some gardens and went botanizing in the wild areas of Vancouver Island. He has told me since that one afternoon while I was at work, he sat beside my crevice garden (built by Zdenek and myself), for five solid hours in a meditative state. These five hours changed his life.

Since that time, Kenton and I have crossed paths pretty much yearly. I can honestly say that in my time as a rock gardener, I have never met anyone as passionate. Whether it's exploring wild places for rare and interesting plants, giving talks to garden clubs across the continent, or constructing daring and bold rock gardens, he never fails to impress and educate.

His blog "I Need a Cup of Tea" <kentonjseth.blogspot.co.uk> is well known and well followed in the rock gardening community. For a sense of the way that his enthusiasm for wild plants can get the better of him you should read his January 23, 2016 entry of his blog: "Agave hunting #5: You can get shot for that."

His travels have brought him into contact with many influential movers and shakers such as Jim Archibald, Panayoti Kelaidis, and Vojtech Holubec, and he has grown and benefitted from his experiences with such people as he is a sponge when it comes to learning.

Despite his impressive past record of contributing to "the cause," and this has included building 27 crevice gardens ranging from the small to the spectacular, I feel that he is only getting started. I do not doubt that he will be a leader and mentor to many in the rock gardening community in the future. *Paul Spriggs*

Linc & Timmy Foster Millstream Garden Award - Alpine Rock Garden - Jacques and Andrea Thompson

This award is for an outstanding contribution to the North American Rock Garden Society for creating a superior garden.

I visited Jacques and Andrea's two-acre garden in Ypsilanti, Michigan, in spring 2015 during the NARGS annual meeting and soon realized I could have spent far more time there than the tour bus allowed. It's the one garden that sticks in my mind even now recalling the visit months later, as I walked through shady and sunny areas trying to identify the plants, but not always knowing the cultivars or species there. I particularly recall the woodland plants and spring ephemerals, then near their peak bloom, as well as the diversity of Asian plants, even cactus, and grassland species. The bloodroot, shooting stars, phlox, and pulsatillas seem to have been placed about naturally. Spring bulbs were popping up everywhere among the native glacial till and among the dwarf conifers scattered about the garden. Both the conifers and stones, boulders even, pleasingly placed, and the troughs and containers complemented one another and demonstrated the Thompsons' skills.

Their garden, their sense of design, was truly eye-candy for someone who had never visited Michigan in the springtime. It's an honor to champion this award nomination for the Thompsons whose garden is a pleasure and deserves every recognition. *Bobby Ward*



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President's Letter

I feel remarkably positive about NARGS even though we are still in dire straits financially and our membership base is gently declining. At the opening day of the Annual General Meeting in Steamboat Springs, as I looked over the 250 attendees eating dinner under the event tent, I was surprised at the diversity and energy in the crowd. Excited, upbeat, and positive – clearly, NARGS is not dying, not if all these people signed up and registered for this great event, bothered to get on a plane, and fly to the mountains.

Simply said – the vibe in Steamboat Springs was great. Every event was popular, the talks were standing room only, the hikes had waiting lists – just ask any of the attendees how the event went (congrats to the entire planning committee and many volunteers from NARGS Rocky Mountain Chapter for a job well done). The biggest complaint I received was that the conference sold out too quickly – not a bad problem to have, a sign that there is still great interest and enthusiasm in NARGS. So what is the problem then?

We need chapters to volunteer as a host chapter for a study weekend or AGM. I can't tell you how many members have begged me to bring back the winter study weekends, but no chapters want to host them. How would you solve that? The answer is obvious – get your chapter to step up. If your chapter wants to host a meeting but is resistant because they don't feel there are enough of them why not consider partnering with another chapter? Wisconsin-Illinois and Piedmont chapters have stepped up for 2017, and Newfoundland for 2018. Why not your chapter for 2019?

There are still challenges – a membership base who doesn't care enough to even share their email addresses, (so we can't even send out a NARGS Newsletter to everyone) and an ever-increasing financial problem due to printing and mailing costs, and a large percentage of a members who prefer to join only their local chapter. In the end, this is what will kill the organization – NARGS as we know it today – the fabulous seed exchange, this beautiful quarterly, will disappear. Annual meetings, winter study weekends and hikes into the mountains with experts will disappear as well. I don't believe we want that to happen – clearly, those in Steamboat Springs didn't.

So what can you do? I can only assume that if you have read this letter this far, that you care. You also receive this quarterly in the mail, so that reinforces your commitment. If you can convince just one (or two, or five) members of your local chapter to join the greater organization, that will make a huge difference. We're excited about NARGS – we need you to spread that enthusiasm. And don't miss the Wisconsin Study Weekend next May and please do the survey.

Matt Mattus, President NARGS

New Members

*Welcome to all those who joined between
May 1 and July 31, 2016.*

Benson, Julie, 7183 Glen Cir, Parker, CO 80143-6212
Bober, Diane, POB 2618, Crested Butte, CO 81224-2618
Bryan, Nancy, 7 Weir St Ext, Hingham, MA 02043-1441
Burch, Ronald, 11400 Quiet Waters Way NW, Seabeck, WA 98380-8722
Cochran, Linda, 610 Mt Constance Way, Port Ludlow, WA 98365-8291
Decker, Craig, 5 School Rd, Hillsdale, NY 12529-5043
Derksen, Michael, 8213 Pillsbury Ave S, Bloomington, MN 55420-2239
Douglas, Kathy, 11907 River View Rd NE, Hanover, MN 55341-4015
Grant, Margaret, 1684 Homer Dr, Pocatello, ID 83201-3210
Grieger, James, 120 Dunwell Ave, Asheville, NC 28806-3411
Guhanick, Dan, 55 – 66th Way NE, Fridley, MN 55432-4202
Ikawa, Kimio, 16-14 Nishi-Tsuda 5-Chome, Matsue, Shimane Prefecture
690-0017, Japan
Lindman, Barb, 4378 Calkins Ave SW, Oxford, IA 52322-9155
Merendino, Charles, 31 Montrose Pl, Melville, NY 11747-3403
Meyer, Phyllis, 12909 Maywood Ln, Hopkins, MN 55343-8792
Ness, Melanie, 327 6th St SE, Washington, DC 20003-2754
Potter, Trude, 14200 Bowers Dr NW, Ramsey, MN 55303-8792
Rekow, Peter, 3193 Oakview Dr, Woodbury, MN 55129-9371
Rollefson, Mary, Encore Garden Design, 4515 Q St NW, Washington, DC
20007-2537
Rushing, Paula, 4751 Old Coal City Rd, Ragland, AL 35131-5019
Sarf, Barb, Hill Farm Nursery, Box 3211, McLeese Lake, BC V0L 1P0 ,
Canada
Schlein, Barbara G., POB 9508, Denver, CO 80209-0508
Steinbiser, Jonathan, 13196 E 655 Rd, Hulbert, OK 74441-3438
Stomberg, Carlotta, 672 Ballantyne Ln NE, Spring Lake Park, MN 55432-
1917
Wagner, Elaine, 5490 S Locust St, Englewood, CO 80111-1438
Ward, Lia, 21115 NE 155th Pl, Woodinville, WA 98077-7791
West, Judith, 339 Gregg St, Archdale, NC 27263-3303

Patrons

The following recently became NARGS patrons:

JOANN & FRED KNAPP (NEW JERSEY)

LISA VON MUNKWITZ-SMITH (MAINE)

LIA WARD (WASHINGTON) 2 YEARS

NARGS MEMBER INTEREST SURVEY



Over the past 20 years, the number of NARGS members has decreased by roughly 50%, as has the membership of many other horticultural societies. As a result, the costs associated with NARGS services are being spread over a smaller number of members and has resulted in a financial situation that must be remedied. The Board of Directors is seeking input from all of our members to help us better define the importance of the society's services to current and future members. Please complete the following survey to help us define what services are most important to you. To help us evaluate the responses we receive, we are asking questions about your interests and involvement in NARGS, what services you value most, and what changes you would welcome and/or dislike.

A link to the survey is provided in the "Latest News" block on the homepage of the NARGS Website <www.nargs.org>

If you have access to the internet, PLEASE complete the survey on-line.

If you do not have access to the internet, you can provide your input by filling out the following pages and mailing them to

David White, 3 Ontario Ct, Durham, NC 27713, USA

To be tallied, your response must be received by November 1.

Please take time to complete this survey.

The more responses that we receive, the more value the survey will have.

1. Name

2. How long have you been a member of NARGS

- 5 years or less
- 6-10 years
- More than 10 years

3. Are you a member of a local NARGS chapter

Yes No

If yes, how often do you attend chapter meetings

Less than 50% 50% or more

Again if yes, Are you a chapter officer or chapter board member:

Yes No

If you are not a member of a chapter, is it because:

- No chapter exists within reasonable proximity to where you live.
- There is a chapter in your area, but you are not interested

4. Have you attended a national annual meeting (AGM or study weekend) in the past 5 years:

Yes No

5. Have you donated seed to the NARGS Seed Exchange in the past 5 years:

Yes No

6. Have you ordered seed from the NARGS Seed Exchange in the past 5 years:

Yes No

7. How frequently do you read the NARGS Quarterly:

- Every issue
- Frequently (at least half of the issues each year)
- Infrequently (less than half of the issues each year)
- Seldom or never

8. How old are you:

- Under 30
- 30-49
- 50-69
- 70 and over

ROCK GARDEN QUARTERLY

The Rock Garden Quarterly is NARGS's largest single expense, accounting for approximately 50% of the society's annual expenditure. While no decision has been made about possible changes, various options to reduce costs associated with the Quarterly or to increase income have been discussed. These have included:

1. Reducing the number of pages in each issue from current 96 pages to 64 pages
2. Reducing the printing frequency from 4 issues per year to 3 per year
3. Publishing the Quarterly only as a digital file available online via the internet
4. Similar to Option 3 but allowing individual members to continue receiving a printed copy for an additional annual fee (the size of the fee would depend on how many members were willing to pay for a printed copy)
5. Raise the annual membership cost for all members sufficiently to cover current costs associated with printing and distributing the Quarterly as is currently being done

1. Which of the above options would be most acceptable to you (Tick one):

- Option 1 - Reduce number of pages
- Option 2 - Reduce printing frequency
- Option 3 - Publish Quarterly in a digital format only
- Option 4 - As option 3 with print issues for members willing to pay additional cost for printing and mailing
- Option 5 - Printed Quarterly to all members by raising annual dues for all members

2. Which of the above options would be least acceptable to you (Tick one):

- Option 1 - Reduce number of pages
- Option 2 - Reduce printing frequency
- Option 3 - Publish Quarterly in a digital format only
- Option 4 - As option 3 with print issues for members willing to pay additional cost for printing and mailing
- Option 5 - Printed Quarterly to all members by raising annual dues for all members

3. Please use the following space to provide comments on these options or to suggest other options:

NARGS MEETINGS

Prior to 2010, NARGS chapters typically hosted two types of meetings. One of the meetings was the Annual General Meeting (AGM) and the other was a Study Weekend (SW). The AGM is usually held in the late spring or summer to coincide with the peak bloom time of local flora and spans 3 or 4 days. The Study Weekends were frequently held during the 'off season,' focused on speakers and plant sales, and were 2 days long. Since 2010, AGM meetings have been held, but Study Weekends have rarely been held due to the lack of hosting chapters. Recent comments from NARGS members have asked that Study Weekend meetings be held because it is easier to leave their gardens for a couple of days during the off season rather than for a longer time during the summer, and because of the lower cost of the shorter Study Weekend meetings.

1. Given the above descriptions of AGM and Study Weekend meetings as well as your personal experience, in the future are you likely to attend (Tick one):

- | | |
|-------------------------|--------------------------|
| Annual General Meetings | <input type="checkbox"/> |
| Study Weekends | <input type="checkbox"/> |
| Both | <input type="checkbox"/> |
| Neither | <input type="checkbox"/> |

2. If you have attended at least one NARGS meeting in the past 5 years, what did you enjoy most about the meetings (rank from 1 to 4 with 1 being most important and 4 being least important)

- | | 1 | 2 | 3 | 4 | N/A |
|-----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Speakers & Discussions | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Field Trips & Garden Visits | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Plant Sales | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Talking to Other Members | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

3. If you have never or infrequently attended NARGS national meetings, what is the primary reason (Tick one):

- | | |
|--|--------------------------|
| High cost of travel and registration | <input type="checkbox"/> |
| Difficulty of leaving home for multiple days | <input type="checkbox"/> |
| Time of year or scheduling conflicts | <input type="checkbox"/> |
| Lack of interest in the subject matter | <input type="checkbox"/> |

4. What would motivate you to attend future NARGS-sponsored meetings, tours, or other events (select up to three in order of importance with 1 the most important)

- | | |
|---|--------------------------|
| High-quality educational opportunities | <input type="checkbox"/> |
| Networking and socializing with other NARGS members | <input type="checkbox"/> |
| Affordable cost (hotel, transportation, registration, etc.) | <input type="checkbox"/> |
| High-quality travel experience (location, dining options, etc.) | <input type="checkbox"/> |
| Plant sales or exchange opportunities | <input type="checkbox"/> |

SEED EXCHANGE

The success of the Seed Exchange (SeedEx) depends on the donation of seeds by NARGS members and on volunteers who are involved with the packaging and distribution of seed packets. Over the past several years, the amount and diversity of seeds donated have declined, and the number of members ordering seeds has decreased. To encourage donations of seed that are of interest to NARGS members, the SeedEx currently allows donors of seeds to order 10 additional seed packets at no additional cost during the main distribution.

1. If you have donated seed within the past 5 years, please provide comments on how we can increase the donations of seeds from plant species that are of interest to NARGS members:
2. If you have not donated seed within the past 5 years but are interested in doing so, please provide comments on what NARGS could do to encourage you to participate:
3. If you have ordered seed during the Main (initial) distribution round within the past 5 years, please provide comments regarding your overall satisfaction with the process or on specific portions of the process that need to be revised or improved:
4. If you have ordered seed during the Surplus (second) distribution round within the past 5 years, please provide comments regarding your overall satisfaction with the process or on specific portions of the process that need to be revised or improved:

OVERALL SERVICES

1. How important to you are the following existing and potential NARGS services (rank each item from 1 to 5 with 1 being most important and 5 being least important) :

	1	2	3	4	5
Meetings (AGM & Study Weekends)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rock Garden Quarterly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seed Exchange	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chapter Services (e.g. Speakers Tour)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
North America Tours	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overseas Tours	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Website <www.nargs.org>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Which of the following areas are in greatest need of improvement (select up to three with 1 being the item most in need)

	1st	2nd	3rd
Meetings (AGM & Study Weekends)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rock Garden Quarterly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seed Exchange	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chapter Services (e.g., Speakers Tour)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Website (www.nargs.org)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you would like to amplify any of your answers to any of the questions in this survey, please feel free to do so.

Thank you

Cathy Kurio
Calgary Rock and Alpine Garden Society
Chapter Award for Service

Cathy Kurio was one of the founding members of CRAGS (Calgary Rock and Alpine Garden Society), as part of the Alpine Study Group in 1991 that became CRAGS in 1994. Cathy has always actively volunteered for CRAGS and from 2008 to 2014 served as president. During that time period as president, Cathy also simultaneously assumed the responsibilities of vice president, and as need arose workshops coordinator, programs coordinator, and garden show coordinator. At the end of her term, she was fulfilling all these coordinator positions.

Cathy was also co-editor of the CRAGS newsletter and contributed numerous articles over the years. She has also written or co-authored various alpine gardening articles in external publications such as the NARGS *Quarterly*, and the 2014 *Prairie Garden* periodical, (Western Canada's only Garden Annual). She has been interviewed on radio representing the club.

Cathy has regularly opened her beautiful garden for viewing to CRAGS members and the Calgary Horticultural Society. This garden won first prize in 2002 for a waterwise garden in a citywide competition. The back yard has sweeping perennial beds, an alpine mound and numerous troughs. Many of her border and rock garden plants have been grown from seed and Cathy has shared her propagation knowledge many times by teaching workshops at her home. She has also hosted out-of-town speakers, club parties including our annual summer barbeque, workshops on various topics, and CRAGS executive meetings.

Cathy has been a pillar of the club through her devotion, distinguished service, and responsible stewardship from helping novice gardeners to mentoring new executives and promoting CRAGS and alpine gardening to local horticultural clubs.

--- submitted by Margaret Fong and Rob Staniland, CRAGS president and treasurer, respectively.

Mark your calendar for 2017

NARGS Study Weekend

May 19-20, 2017

Madison, Wisconsin

NARGS Annual Meeting

and Board Meeting

November 17-19, 2017

Raleigh-Durham, North Carolina

SEED EXCHANGE

We hope that all of you had a wonderful time gardening this past season, learning of new plants, enjoying classic favorites.... and, oh, yes: gathering their seeds to share with fellow gardeners. The NARGS Seed Exchange is one of the best ways for you to discover and grow plants that are new to you, as well as to rejuvenate your beds of favorite oldies.

We offer our thanks to those of you who have already donated seed to the Exchange; without your help and generosity there could be no seed exchange. There is still time for NARGS members in the U.S. to become Donors and receive donor privileges. A donation of only five packets of different seeds will net you ten additional packets, plus priority in having your seed order filled. Donation instructions were included in the summer issue of the "Rock Garden Quarterly" and can also be found on the NARGS website. Send your packets of seed by November 1 to:

Laura Serowicz
15411 Woodring Street
Livonia, MI 48154-3029
U.S.A.

email: <seedintake@mi.rr.com> or <seedintake@gmail.com>

If you have plants with late-ripening seeds (such as rhododendron, tricyrtis, arisaema; fall-blooming gentians, asters, and crocus), include their names in the list with the seeds that you send now, and then send the late-ripened seeds to Laura so that they arrive no later than December 1. Please ensure that all other seeds are sent by the November 1 deadline.

Members living in Canada and overseas will need to mail their seeds by October 15. If you need a short-time extension (say, a week or so), then email your list to Laura now and ship the seeds as soon as possible. The import permit and mailing label required for all seeds entering the U.S. were included with the summer issue of the "Rock Garden Quarterly." Contact Laura immediately if you did not receive them or need an additional set.

The Seedlist will appear online, and the Seed Exchange will be open for orders, beginning December 15, at which time you can order online or by mail.

If you plan to place an order through the <nargs.org> website, please be certain that your personal email address is on record with our Executive Secretary, Bobby Ward <nargs@nc.rr.com>, so that you can be electronically verified as a NARGS member when you order. Read the website's FAQ (Frequently Asked Questions: <nargs.org/faq-page> for instructions on how you can set your username and password now, so that you will be ready when the Seedex opens for orders.

If you wish to order by mail, you must request a print copy of the

Seedlist no later than December 1 by contacting:

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

Fulfillment of orders will begin in early January and the seed distributions, this year and next, will be handled by two chapters. Val Myrick, Chair, will guide the members of the Sierra Chapter in handling the Main Distribution. Jane McGary, who formerly managed the Seed Exchange, will direct volunteers of the Columbia-Willamette Chapter as they handle the Surplus Round of seed requests. We are all very grateful to these two chapters for offering their services!

Joyce Fingerut, Director
NARGS Seed Exchange

NARGS Awards Committee

The Awards Committee has new co-chairs Anne Spiegel and Panayoti Kelaidis.

Look for announcements of Awards timetable in the next issue or email Anne <zanspi@aol.com> or Panayoti <kelaidip@botanicgardens.org>.

NARGS Donations

Donations between May 1 and July 31, 2016: \$1,852
Designated for the general fund, seed exchange, *Rock Garden Quarterly*, and
in memory of Morris West.

Adams, Daniel Holden (New York)
Arimoto-Mercer, Kary (Pennsylvania)
Bennett, Teri L. (Virginia)
Breburda, Vaclav (Czech Republic)
Gregg, Laura (Pennsylvania)
Griffith, Chuck (Minnesota)
Imison, Brock (Australia)
Knepper, Kate (Colorado)
Lindman, Barb (Iowa)
Minnesota Chapter NARGS (Minnesota)
Moamar, Amal (Massachusetts)
Munkwitz-Smith, Lesa von (Maine)
Sayce, Kathleen (Washington)
Schwarz, Joan W. (Colorado)
Shannon, Lee & Jerry (Minnesota)
Summerer, Marion (British Columbia)
Warner, Gary (New Jersey)

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Email: janemgary@earthlink.net



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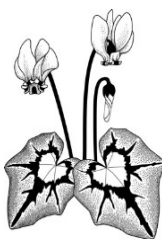
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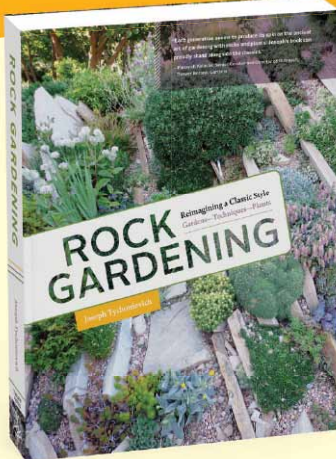
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Back cover: Rock garden detail, Santa Fe – Juliet Mattila



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