

A photograph of a rugged, rocky mountain slope. The foreground and middle ground are dominated by several large, rounded rock outcrops. These rocks are covered in dense, low-growing vegetation, primarily consisting of small, five-petaled flowers. One prominent patch of flowers is a vibrant purple, while others are white or pale yellow. The rocks themselves are grey and brown, with some reddish-orange lichen or mineral deposits. In the background, more jagged rock peaks are visible, some with patches of snow or ice. The sky is a clear, bright blue with a few wispy white clouds. The overall scene is a high-altitude alpine or tundra environment.

NORTH AMERICAN ROCK GARDEN SOCIETY

*The Rock Garden*  
**QUARTERLY**

FALL 2015

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**Front cover: *Petrocallis pyrenaica* and *Androsace pubescens*, Savoy Alps,  
Photo Contest Class 4 winner - Michal Hoppel**

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	<i>The Rock Garden</i> <b>QUARTERLY</b>	volume 73   4
		<i>fall</i> 2015

<b>From Denver to Steamboat Springs - Annual Meeting 2016,</b> MIKE KINTGEN	291
<b>Senescent Beauty,</b> LOLA LLOYD HORWITZ	297
<b>Call for Nominations for 2016 Election</b>	306
<b>Two Fall-Blooming Gentians of the Eastern United States,</b> ULI LORIMER	309
<b>Public Rock Gardens Across Colorado,</b> ANN FRAZIER and MIKE KINTGEN	318
<b>Making Styrofoam Troughs,</b> AL DEURBROUCK	332
<b>Photo Contest 2015 - The Winners</b>	336
<b>Autumn Blues: Fall-Flowering Asian Gentians,</b> TODD BOLAND	347
<b>Fireworks in the Fall - Award-winning <i>Saxifraga fortunei</i> cultivars,</b> MALCOLM MCGREGOR	361
<b>Bulletin Board</b>	368
<b>Index for Volume 73</b>	380

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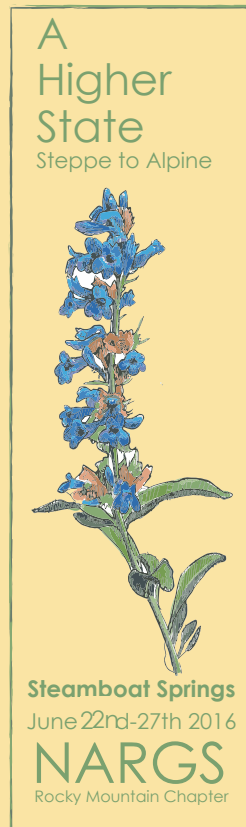
# From Denver to Steamboat Springs - Annual Meeting 2016

MIKE KINTGEN

WORK ON THE 2016 NARGS Annual meeting in Steamboat Springs June 23-27 is progressing apace. We will be using the newly rebuilt Colorado Mountain College Campus, which offers spectacular views of the Yampa Valley for the conference, and several local hotels/campgrounds for lodging. A series of local garden tours, hikes to see Rocky Mountain flowers in the wild, plant sales, book sales and signings by local and nationally known authors will round out the conference. A potpourri of regional, national, and international speakers will cover various aspects of the world's steppes and semiarid mountain ranges with reference to the garden as well as the wild. Several hikes on both Saturday 25 and Sunday 26 showcasing a variety of habitats and suitable for different levels of ability are planned. A great wildflower display this year will hopefully be repeated in 2016.

This conference is a bit longer than some in the past to allow people to truly experience what northwestern Colorado has to offer. Participants will have a variety of transportation methods to access Steamboat Springs. Those with their own cars may want to visit several of the additional public rock gardens scattered throughout our beautiful state. In Steamboat Springs, lectures and other meetings will be held at the Colorado Mountain College, walking distance from our top two accommodation recommendations on page 294.

Hikes will cover a variety of habitats. Expect a wide array of plants in the wild ranging from steppe to lush montane, subalpine, and possibly alpine environments (depending on snowpack and the ability of hikers). We are looking forward to welcoming visitors from Colorado, greater North America, and far afield, for this conference.





North Park in late summer

# NARGS ANNUAL MEETING - A HIGHER STATE

## **SPEAKERS - A TEASER**

Marcela Ferreyra - Patagonia  
Johan Nilsson - The Collections of Gothenburg Botanic Garden  
Nick Courtens - Important work at Betty Ford Alpine Garden  
Kelly Norris - Recent Work in America's Heartland  
Jim Locklear - The Work of Claude Barr

## **TENTATIVE SCHEDULE - JUNE 22-27, 2016**

### **WEDNESDAY JUNE 22**

Opening lecture at Denver Botanic Gardens  
Tour the extensive alpine collection with Mike Kintgen and Staff. Many changes have been made since 2010, including the construction of 6 crevice gardens and the North American Plant Collection Consortium "Alpines of the World" Collection.

### **THURSDAY JUNE 23**

Travel to Steamboat Springs - in vans or on your own  
Registration  
Plant/book sales  
Welcome dinner  
Lectures

**FRIDAY JUNE 24**

Yampa River Botanic Park - welcome breakfast and tours  
Private Garden tours around Steamboat Springs  
Yampa River Botanic Park open  
Plant sales continue/book sales and signing  
Lectures

**SATURDAY JUNE 25**

Hikes

**SUNDAY JUNE 26**

Hikes  
Banquet  
Closing lecture  
NARGS Annual Business meeting

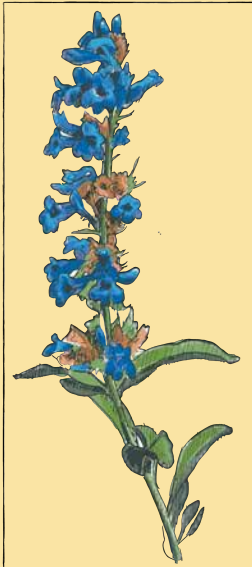
**MONDAY JUNE 27**

North Routt County private garden tour  
A few choice areas of wildflowers in North Routt.  
\*Option of early van returning to Denver for those who need to get back.

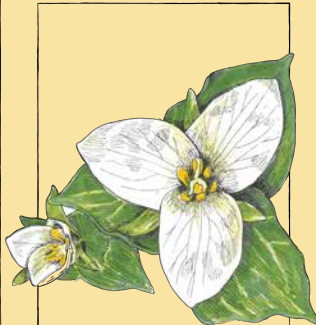
**TUESDAY JUNE 28**

Vans return to Denver.

# A HIGHER STATE



## Steppe to Alpine



## Steamboat Springs

June 22nd-27th 2016

# NARGS

Rocky Mountain Chapter



## TRAVEL

### AIRPORTS

#### **Yampa Valley Regional Airport**

<[www.yampavalleyregionalairport.com](http://www.yampavalleyregionalairport.com)>

<[www.yampavalleyregionalairport.com/ground-transportation.html](http://www.yampavalleyregionalairport.com/ground-transportation.html)>

It is possible to connect to Steamboat Springs through Denver, prices seem to be lower than expected. The airport is located 22 miles west of Steamboat Springs. The possibility of a van service is being worked out at this time.

#### **Denver International Airport**

<[www.flydenver.com](http://www.flydenver.com)>

DIA will offer the cheapest flights into the region and participants have the option of riding in a van from Denver on June 23rd (price and details not available at press) or renting their own car.

#### **Ground transportation to and from Steamboat Springs**

Vans will travel from Denver on June 23rd and return on the 27th and 28th. (There will be a cost for riding in the vans)

### CAR RENTALS

Visitors also have the option of renting their own car in Denver or at Yampa Valley Regional Airport. This will give visitors the greatest amount of freedom to stop at leisure prior to and after the conference.

## ACCOMMODATION

### HOTELS

The committee recommends the following hotels in Steamboat Springs.

#### **Rabbit Ears Motel - rate of \$139**

<[www.rabbitearsmotel.com](http://www.rabbitearsmotel.com)>

#### **Nordic Lodge - rate of \$149**

<[www.nordiclodgeofsteamboat.com](http://www.nordiclodgeofsteamboat.com)>

#### **Fairfield Inns and Suites**

<[www.marriott.com/hotels/travel/sbsfi-fairfield-inn-and-suites-steamboat-springs](http://www.marriott.com/hotels/travel/sbsfi-fairfield-inn-and-suites-steamboat-springs)>

#### **Hampton Inn and Suites**

<[hamptoninn3.hilton.com/en/hotels/colorado/hampton-inn-and-suites-steamboat-springs-SBSCOHX/index.html](http://hamptoninn3.hilton.com/en/hotels/colorado/hampton-inn-and-suites-steamboat-springs-SBSCOHX/index.html)>



## BUDGET OPTIONS

Steamboat Springs does offer a wide array of lodging, and budget options exist; however, the committee has recommended what we feel are the best options.

## CAMPING

There will also be camping options for those who would like to be closer to nature and enjoy what Routt County offers.

## COLORADO MOUNTAIN COLLEGE DORMS

The dorms are available at CMC for \$60 a night and include single, double and triple options (so 3 people sharing could stay for \$20 each per night). More details will follow.

Other costs and other details are currently being confirmed. We expect booking to be open January 1, 2016.

# A HIGHER STATE

## Steppe to Alpine



Steamboat Springs

June 22nd-27th 2016

# NARGS

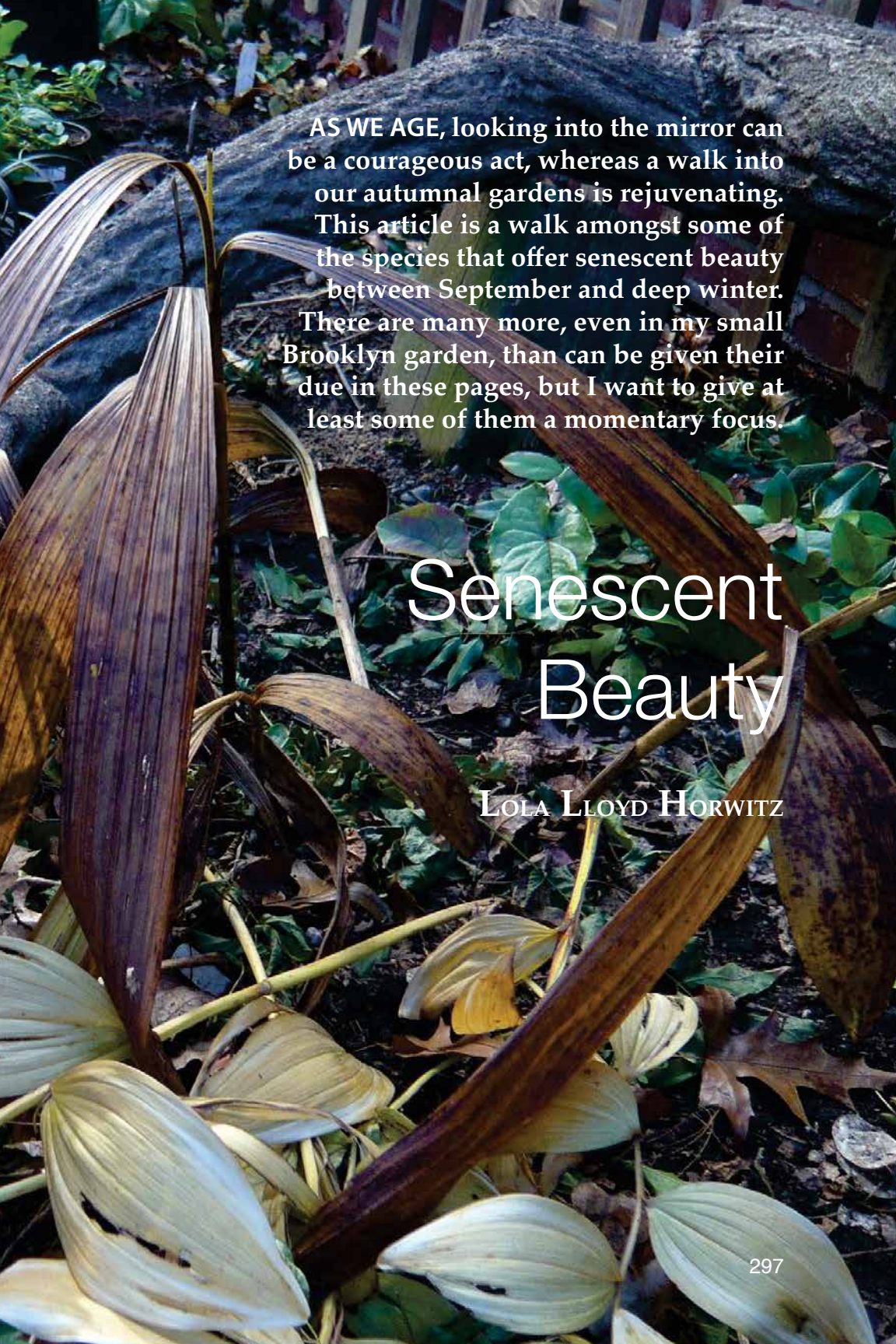
Rocky Mountain Chapter

Mosquito Lake



*Bletilla* leaves arching down over  
*Polygonatum odoratum* 'Variegatum'





AS WE AGE, looking into the mirror can be a courageous act, whereas a walk into our autumnal gardens is rejuvenating. This article is a walk amongst some of the species that offer senescent beauty between September and deep winter. There are many more, even in my small Brooklyn garden, than can be given their due in these pages, but I want to give at least some of them a momentary focus.

# Senescent Beauty

LOLA LLOYD HORWITZ



*Maianthemum  
racemosum*

Starting in early September, the leaves of *Maianthemum racemosum*, false Solomon's seal, begin turning. The arching grace of its stems, with drying red seeds at their tips is as beautiful as in May. Even the withered remains hold my eye, whether for their structure or the subtlety of color within the dead leaves. Later in the month, the vines turn before other perennials. *Codonopsis lanceolata* (bonnet bellflower) climbs through a large fothergilla into my neighbor's very old and towering *Kolkwitzia amabilis* (beauty bush). While its late summer flowers are lovely yet secretive amidst all the greenery, the foliage is a wonderful chartreuse. In fall it verges into gold and peach before turning white. Another vine, *Dioscorea villosa* (wild yam), was a seed exchange experiment that has yet to grow to its full height. In its second year it already displays its leaf structure and fall color winningly. If it uses its neighbors as amiably as the *Codonopsis* I will keep it.

Virginia creeper (*Parthenocissus quinquefolia*) is hard to miss in eastern North America as its leaves turn red and orange from late August on. Europeans have used it for many years and occasionally in ways that make us reconsider its uses. I refer to the courtyard of Schloss Greinburg on the Danube. The



Schloss Greinburg

castle, circa 1674, serves primarily as a museum (the Upper Austrian Shipping Museum) and is definitely worth a visit, if only via Wikipedia.

The many arches surrounding the large courtyard have been delineated with the vine, both to enhance the architecture and to create a sense of veiled mystery for visitors walking behind

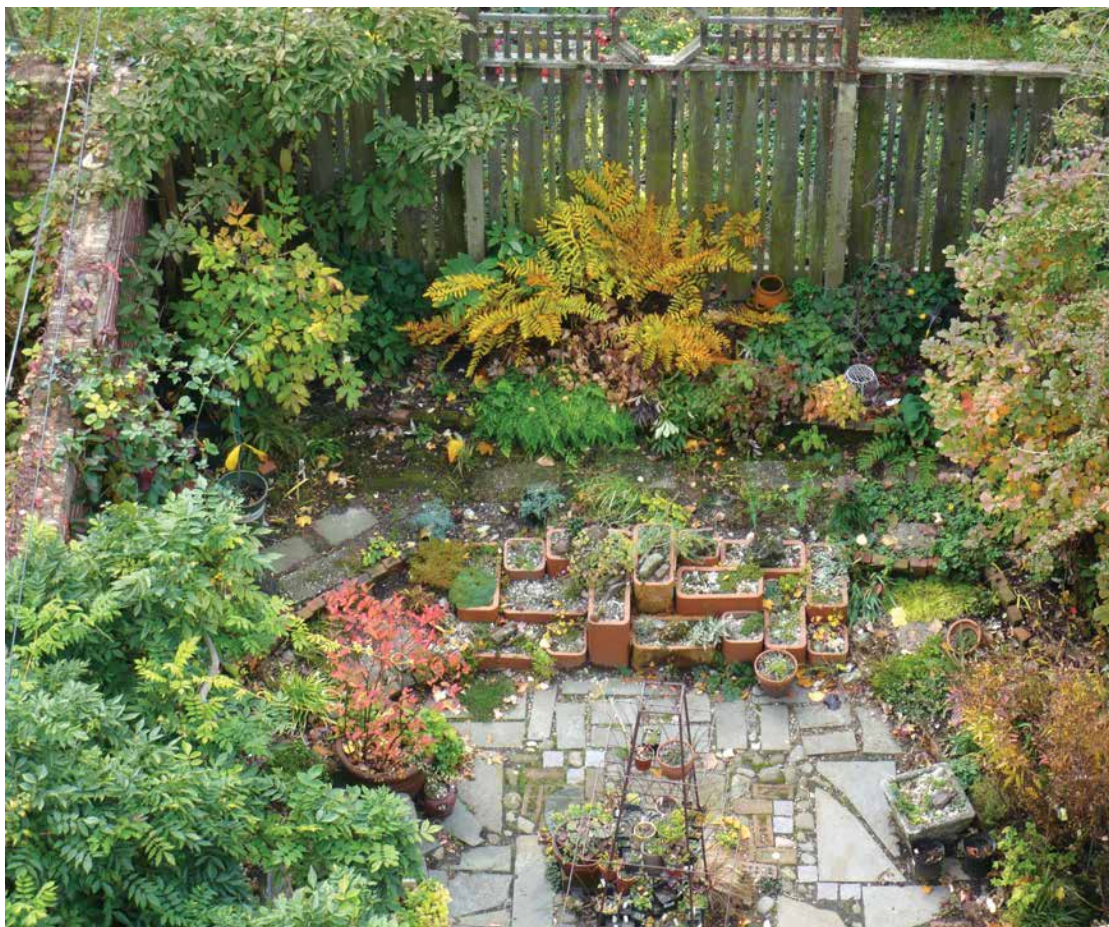
*Parthenocissus henryana*

the leafy curtains. I chanced on the scene at the height of its senescent beauty. Where can I grow it where it will hang as a curtain and not climb? Or could I create the same effect with the more tender *Parthenocissus henryana* (silvervein creeper) which sometimes stuns me with its fall color on a neighborhood wall?

*Osmunda regalis* above *Arisaema fargesii*



*Osmunda regalis* (royal fern) is another northeastern native, in this case, a focal point of my garden during the summer and fall. It is a very majestic plant: growing against the wood fence, it catches my eye every time I look out the window 50 feet away three floors up. Sometimes it waits until November to start turning, then proceeds slowly through green



The garden in fall with *Osmunda regalis* against the fence (back center) and yellow, to various shades of copper and finally to a shriveled brown that demands removal. As my fondness for this plant has grown, I make sure it stays moist during the summer.

There are some plants that get my attention in the spring, but slip off the radar until fall. *Bletilla striata* (Chinese ground orchid) is one of these. And when it regains my attention it has a unique beauty that is now my reason for growing it. The pleated or striped (striate) pattern of its long, graceful leaves is highlighted with streaks of brown taffy against the predominant gold. The progression from green to gold, then copper, and finally dark brown, can take a month, during which my attention is at least as steady as during its shorter period of bloom. Even its seed case is an object of beauty, resembling an extremely delicate woodcarving. Usually *Polygonatum odoratum* 'Variegatum' (variegated

Solomon's seal) provides tints of chartreuse-yellow below the drooping bletilla while an aging wisteria trunk encircles them both, its aerial growth offering the necessary filtered light to plants below.

We must not bypass two elegant, small (12 inches or less) species that could be mistaken, at a glance, for each other. Or they might be taken for ferns because their foliage is bi- or tri-pinnate. But the first, *Aruncus aethusifolius* (dwarf goat's beard) is in the rose

family, while *Thalictrum minus* (lesser meadow rue) is in the buttercup family. The former is available in better garden centers and has been long-lived for me, delighting me particularly in the fall when its delicate foliage displays several colors at once. The foliage of this plant is its unique feature, not its flowers.

The lesser meadow rue is far from available in garden centers. I grew it from NARGS seed, not knowing any more about it than its short height and it having some tall relatives that I had grown. It was listed as *Thalictrum alpinum*, but upon consultation, Todd Boland wrote that it was incorrectly labeled. He suggested that it is the lesser meadow rue. It turns out there are various subspecies and varieties, including *T. minus* var. *minus*, and my plant's small size suggests this identification. I believe it has persisted due to the cool, gritty substrate of the chimney flue rock garden right behind it. Last fall it had both deep purple and gold foliage for those who knelt down to observe it. This little rue can't be bettered for delicacy.

While looking at smaller plants, we might find *Sibbaldiopsis (Potentilla) tridentata* (three-toothed cinquefoil). It hangs out in cool rock crevices in eastern North America and burns a bright red in the fall. *Vaccinium moupinense* (Himalayan blueberry), smaller in all its parts than *V. corymbosum*, is said to be 1 to 2 feet tall and even wider, but hasn't reached half that size in my garden. It grows in rather lean acid



*Thalictrum minus* var. *minus*



*Carex appalachica*

soil and makes up for its petite size with rich colors all year long.

Texture is another quality we should look for in our gardens.

In the fall, grasses provide delicate, faded foliage that is a plus amongst the foliage of more brilliant or substantial plants.

*Carex appalachica* shows up above the first snowfall as wheat-colored threads against white. I fell in love with the bigger grasses such as *Miscanthus* species years ago. But I have dug them out either because of their ever-widening size with a dead zone in the middle, or their slow awakening every spring. (*Miscanthus*, alive or dead, isn't fun to remove, and now many forms are considered invasive.)

Obviously, as one who wants lots and lots of plants, I've decided that having many smaller plants yields greater pleasure...with the exception of the

The brittle outer husks of *Jovibarba heuffelii* are wizened and rough, just the opposite texture of





*Carex appalachica*, yet strangely attractive. They surround the green rosettes shrunk with cold. And as spring comes around the strong contrast between dried up outer leaves and interior bright rosette adds to the interest of this type of succulent. Some of the same wrinkled, dark texture is evident on the eastern prickly pear, *Opuntia humifusa*. The skeletonized pads from previous years may turn black then white while the newer pads, flattened by the cold, are wrinkled green with tints of red. The fruit is like a red headlight asking us for a second look. But beware the minute bristles of this plant! Those on a desiccated pad have lost none of their potential.

If I couldn't grow at least a handful of *Epimedium* species, I would be the poorer. Some of them have amazing fall color. *E. grandiflorum* 'Princess Susan' is a stand-out. It melts into a caramel, peach, orange medley that other plants can't duplicate. A maroon *E. dolichostemon* standing tall and unblemished through most winters is another example of what the genus offers, without the splash of 'Princess Susan'. The last show-off of this group is *E. grandiflorum* 'Purple Prince' (on the left) whose foliage doesn't last as long as the other two, but has incredible vigor. Most lovers of epimediums go on about the shape and texture of

*Epimediums* taking on wonderful color





*Mitella diphylla*

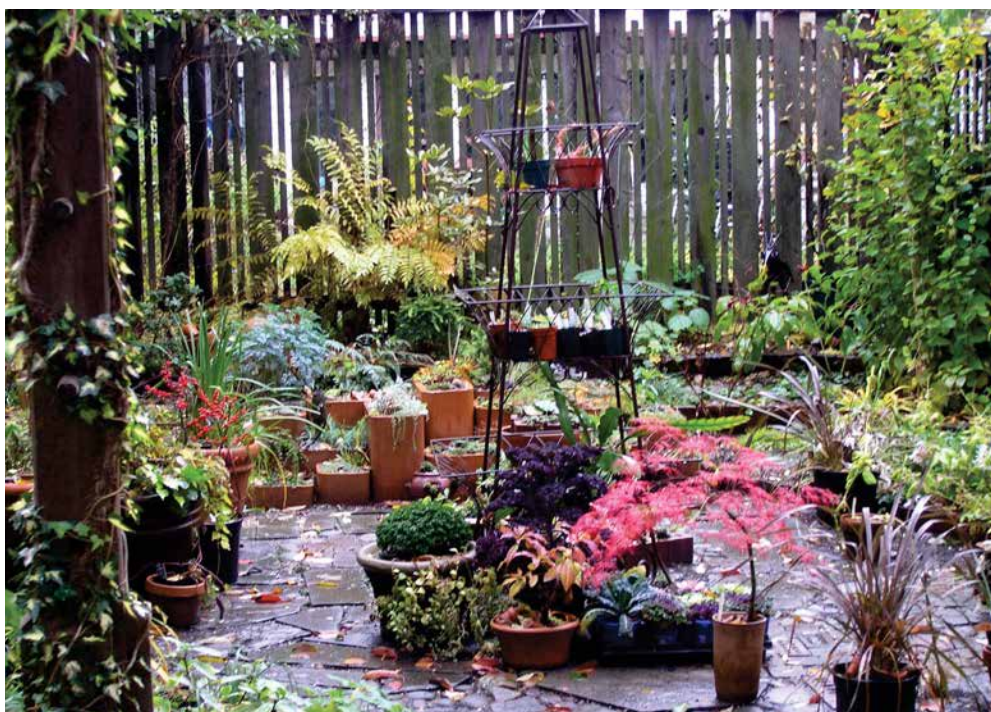
the leaves or the delicacy of the flowers, but while those are the initial reasons I wanted more selections of this genus, I now hold even dearer the fall colors of some and the winter beauty of others.

Coming to the end of my walk, I would like to draw attention to all these saxifrage family members: *Mukdenia rossii*, *Heuchera americana*, *Tiarella cordifolia*, *Micranthes* (*Saxifraga* as was) *virginiensis*, *Bergenia cordifolia* and *Mitella diphylla* for the autumnal interest they add. But for brevity I have chosen the two-leaved miterwort (*Mitella diphylla*) because its late fall foliage looks so healthy, so persistent, and so intensely maroon. As a bonus, in the spring, the long flowering stems offer unusual blossoms. I would be happy if *Micranthes virginiensis*, the early saxifrage, would settle down in this garden. It is a charming, native species that was quite content in a low wall I built in the country (Orange County, NY), offering a surprising spot of red foliage during the late fall despite the efforts of its root to pull it back into the wall. But this saxifrage is touchy, and it is rejecting the conditions I offer in Brooklyn. This is an instance where the memory of getting it right elsewhere (and leaving it there) is a consolation when facing a dead plant.

My fall garden is a far cry from the magnificent foliage displayed all over the Northeast, but to even approach that look I would have to grow more iteas, fothergillas, choke berries, enkianthus, viburnum

and Japanese maples, not to speak of the large native trees with “eye candy” we know well. I have one each of the iteas, fothergillas, etc. - a few growing in pots, and the rest situated around the garden to give a blast of color above the perennials and bulbs. While I love them, it is the smaller plants that draw me out every day to investigate their emergence in spring, their progress through summer, and their senescence. I need to see the play of larger and smaller shapes, to see a fall-blooming gentian behind the itea, or *Iris gracilipes* yellowing next to a *Heuchera* ‘Pinot Noir’. And I believe that we see contrasts of texture more readily when the foliage colors call out to us to get closer. The green on green of summer may not do that or the heat may keep me indoors! So take many walks through your fall gardens, and feel younger and ready for decades more of making plants part of your lives.

The garden in fall



*We are all indebted to other gardeners for increasing our knowledge, particularly in my case Larry Thomas, the founder of the chapter and a good friend. However, it was a conversation with Thomas Stuart, a fellow member, in which he remarked on “senescent bletilla” that initiated my thoughts for this article. Thank you Tom.*

# **Call for Nominations for 2016 for NARGS Officers and Directors**

**NOTE: The deadline for nominations is November 1,  
2015**

The NARGS Nominating Committee announces its call for nominees for the 2015 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 (2016-2018). Current post-holders may be re-elected for a further term of one year.*

*The current President, Matt Mattus, and the current Vice-President, Betty Anne Spar, have both indicated that they are willing to stand for a third year.*

## **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 members 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 (new) 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, 2015**

Nominations should be emailed to Don LaFond, chairperson of the Nominating Committee at <plantjunkies@gmail.com>.

They can also be posted to Don LaFond, 11836 McGregor, Pinckney, MI 48169 USA

# **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 2015 Quarterly. Nominations to Nominating Committee by deadline of November 1, 2015.

STAGE 2: Nominating Committee agree on slate to be published on website on December 31, 2015.

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

STAGE 4: Combined list of candidates to be published in Spring 2016 Quarterly (deadline February 1 for dispatch late March)

STAGE 5: Election online May 15-31 prior to June AGM.

STAGE 6: Announcement of election results at Annual Meeting in June 2016.



*Gentiana autumnalis*

# Two Fall-Blooming Gentians of the Eastern United States

ULI LORIMER

I STILL REMEMBER exactly the time I became enchanted by gentians in the wild. I was fortunate enough to accompany a group of botanists in early October of 2007 on a visit to the Warren Grove National Guard Bombing Range in Warren Grove, New Jersey. The range encompasses nearly 10,000 acres of diverse habitat in the Pine Barrens, and laid out in front of me was a field of thousands of impossibly azure pine barren gentian (*Gentiana autumnalis*) blossoms. I turned to my companions and asked how such a scene was possible, in New Jersey no less? “The National Guard periodically drives their tanks over here and blows stuff up”, and the disturbance and accompanying fire regime helped to create the rich mosaic of species before my eyes. My jaw agape, I asked specifically how such a flower could be so blue having never before encountered its rival in my 15 years in public horticulture. “No flower is bluer than the gentian.” Returning to NYC that evening I felt inspired to find out more about this plant and was happy to find myself not alone in my amazement. Many poets have waxed over the particular joy of encountering gentians in the wild. William Cullen Bryant in his ode “To the Fringed Gentian” writes,

*Thou waitest late and com'st alone,  
When woods are bare and birds are flown,  
And frosts and shortening days portend  
The aged year is near his end.*

*Then doth thy sweet and quiet eye  
Look through its fringe to the sky,  
Blue – blue – as if that sky let fall  
A flower from its cerulean wall.*

D. H. Lawrence once famously quipped, “Oh what in you can answer to this blueness?” In my estimation, few plants can. Herein lies the beguiling attraction of the gentian. They are regarded as exceedingly beautiful, almost as mythical and rare as an orchid, and difficult to grow and manage in the garden. Although many species occur in North America as natives, and a few of these are occasionally cultivated, the majority of the 350 species in the genus *Gentiana* are adapted to chiefly alpine and cool climate regions worldwide. In the northeast and north central states of the US, gardeners struggle with them to achieve a



*Gentiana autumnnalis*, Atlantic County, near Germania, New Jersey

modicum of success despite the warmer and more humid conditions. My aim with this article is to present two species, pine barren gentian (*Gentiana autumnnalis*) and fringed gentian (*Gentianopsis crinita*), with which I have had good success in cultivation. I will discuss the natural history, pollination biology, and conservation status of these plants in the wild along with my observations regarding seed collection and cultivation.

Pine barren gentian (*Gentiana autumnnalis*) is a denizen of the Atlantic coastal plain and can be found in pine savannahs and sandhill ecosystems. It prefers to grow in open, grassy areas with damp acidic sandy soils. The natural distribution of pine barren gentian is somewhat odd, the bulk of its populations are found in northeastern South Carolina through North Carolina (the state from which the type specimen, which actually predates Linnaeus, was collected) and into the southeastern corner of Virginia. Then it reappears in small, scattered populations in southern Delaware and in the Pine Barrens of southern New Jersey. In terms of its conservation status, the plant is listed as globally vulnerable (G3) indicating that it is very rare throughout its range. It is found only in restricted areas (even if abundant at some locations) and comprised typically of between 21 and 100 occurrences or between 3000 to 10,000 individuals. South Carolina, North Carolina, Virginia, and New Jersey rank it as imperiled or critically imperiled

*Gentiana autumnnalis* buds opening







*Gentiana autumnalis* growing in grassy habitat, Atlantic County, near Germana, New Jersey (above), and three-year-old bare-rooted plant (below)

while the species has been extirpated from the state of Delaware. As is the case with many of our rare plants, their populations are in decline due to anthropogenic factors, primarily loss of habitat and fire suppression. Although not extremely rare, this species does occur in threatened habitats. This stunning plant is an early successional perennial, which responds favorably to periodic burns. One of the very botanists who introduced me to the charismatic plant has studied the effects of prescribed burns on its population demographics. Dr. Walter Bien and Dr. Ryan Rebozo have shown that regular burns of populations on the Warren Grove Bombing Range have resulted in greater plant density and flowering over undisturbed populations. Furthermore, disturbed sites showed the greatest colonization by arbuscular mycorrhizal fungi as well as the greatest insect visitation and seed set. Studies like this one can help determine management strategies to ensure the future survival of pine barren gentian.

Plants arise from thick fleshy roots and produce slender, wiry stems with narrow leaves. Those thick roots will become important when



discussing the propagation of *Gentiana autumnalis*. Bloom time for this species ranges from October in the north of its range into December or even January in the southern portions of its range. They are rather inconspicuous unless they are blooming. Usually one, but sometimes two to three flowers will open at the terminus of the branch. Bright sunny days seem to coax the flowers to open while they remain shy and closed on cloudy days. The corolla is quite large in comparison with the overall size of the plant and tends to be a brilliant blue, which can vary from “sky blue” to darker, richer hues of blue. There is even a great population of pale purple flowers growing at the Franklin Parker Preserve in Chatsworth, New Jersey. The throat or interior of the corolla

*Gentiana autumnalis* in sandy habitat, Warren Grove Bombing Range, Ocean County, Warren Grove, New Jersey



is heavily speckled with whitish green dots. A fascinating feature of gentian flowers is the prominent pleats found between each pair of fused petals. While not treated here, the bottle gentian bears flowers that never open, and its pollinators must be robust enough to squeeze into the narrow aperture at the top. Once inside the flower can expand like a bellows or accordion to accommodate larger pollinators like the bumblebee. The pine barren gentian with its open corolla has no problem making room for any size pollinator! Lots of busy pollinators ensure good seed production.

Due to the late season of its bloom, the window for seed collection can extend into early winter. Ripe seed will be light brown in color and is best sown immediately when fresh. Some authors indicate that it can be stored cold over the winter and sown in the spring, but I have experienced better germination when sown fresh. We use a standard germination mix as soil media. A good friend had sown some seeds in a germination tray with good results but experienced a great deal of seedling mortality after pricking out the seedlings that following spring. It seems that the seedlings need to remain undisturbed in the tray, no matter how crowded they may seem in order to better develop

*Gentiana autumnalis* color form, Parker Preserve, Burlington County, Chatsworth, New Jersey



that thick fleshy root I mentioned earlier. Even if they are large enough to handle, resist the urge to disturb them. The following season, with larger roots established and a store of reserves to draw upon, the success rate for transplanting was near 100%. The seedlings were then transferred to a deep plug tray filled with a 1:1 ratio of peat and sand. Some of the plants even produced small flowers only two years from seed.

Given where the plant can be found in the wild might lead you to conclude it likes drier soils, perhaps because of the fungal relationships it forms. However, over the course of growing this plant these past four years, I have observed that it prefers to be kept wetter when actively growing. I have seen it used as a companion plant for bog container gardens, happily growing alongside pitcher plants and cranberries. Our plants have been repotted once from the plug trays so that I can display robust vigorous plants in the garden.

Fringed gentian (*Gentianopsis crinita*) is no less alluring than its pine barren cousin but perhaps more elusive. The distribution of this plant stretches from Maine south to Maryland, west to Iowa and north to Manitoba. There are also disjunct populations along the Appalachian Mountains in Virginia, North Carolina, and northern Georgia. It grows as an annual or biennial herb and, as such, the locations of populations can shift depending upon how successful seed dispersal is in any given year. Its ephemeral nature makes it difficult to truly assess its conservation status. Most states list it as threatened with many historic locations. The early-successional habitat of this species has declined throughout its range due to reforestation. New England and the northern central US were about 30% less forested 100 years ago than they are now, having been cleared mostly for timber, farming and other agricultural purposes. Climate may also have an adverse affect on this species, particularly since plants flower late in the season. Furthermore, the scattered populations are often made up of only a few surviving individuals. In their article, Letendre and Hull have shown that small populations are less effectively visited by insect pollinators and therefore produce less seed. Fringed gentian prefers rich moist soil found in wet meadows, low woods, and stream banks. Thanks to human disturbances it can be found in moist areas along power line cuts and low roadside ditches.

Plants have simple, entire, opposite sessile leaves borne on a branched stem growing between 1 to 3 feet in height. The deep blue-purple flowers, about 5 cm (2 in.) in length, are individually stalked on a long peduncle. The four wide petals at the top of the throat of the flower are rolled up in a spiral cone shape in bud. The flowers open in the sun and close in the shade. The petal edges are fringed with feathery narrow tapering teeth. The fruits are borne in a spindle-shaped capsule

*Gentianopsis crinita* (photo: Jim Fowler)



with a slender beak producing many seeds. The seeds bear numerous tiny projections, which make them easily dispersed by the wind. Fringed gentian appears to benefit from the presence of mycorrhizae, which seem to play a role in inducing and breaking winter dormancy and suppressing soil pathogens that cause root disease.

In much the same way as with pine barren gentian, I have greatest success using fresh seed and sowing immediately in the late fall/early winter. My initial attempts involved sowing older seed onto standard moistened germination mix and placing the tray into the refrigerator for 12 weeks cold treatment. Once removed from the cold treatment the tray was placed on a heat mat, yet yielded poor germination. The seedlings that did germinate were pricked out and transplanted but never really grew much beyond that point. Fortunately, I have a good source of seed from Connecticut and was able to secure a fresh batch. After sowing the fresh seed, I placed the tray outside in a cold frame with a wire mesh top. The mesh was used to prevent mice and rodents from digging around in the flats as I was also growing bloodroot and trillium from seed. The tray sat out all winter, exposed to the elements and at times buried in heaps of snow. As spring arrived, I checked on my tray and was delighted to find that a carpet of seedlings had sprouted! I concluded that not only was fresh seed necessary but the kind of outdoor cold treatment that a tough NY winter can mete out proved the answer. By June, the seedlings were large enough to handle and were pricked out into cell trays with Metro Mix as the medium. They have been kept evenly moist and have put on 6-8 inches of growth to date. Half of my plants will be set out into the garden while the other half will be kept in the Quonset for seed production. Of course, I have no guarantees that new plants will be successfully integrated in the garden, but the fun is in trying anyway.

Despite their mythical status and the perception that they are difficult to propagate, these two beautiful gentian species have proven to be quite attainable and rewarding in cultivation. While I still enjoy the thrill of the hunt for these plants in the wild, growing them in the garden has made it all the easier to become enchanted all over again.

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# Public Rock Gardens across Colorado

ANN FRAZIER AND MIKE KINTGEN

ROCK GARDENING HAS a long history in Europe and North America and an even longer history in Eastern Asia. While the western world's version of rock gardening differs in style from the Asian version they are both a celebration of nature's rugged beauty.

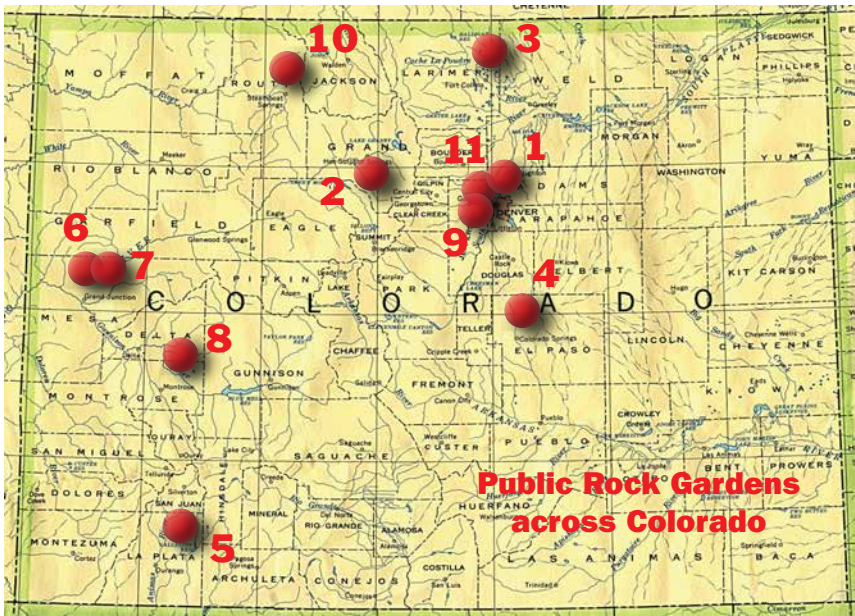
Rock gardening first started in the U.S. in the population centers of the northern states. New England was one such epicenter. It is where the American Rock Garden Society was founded in 1934 and is also home to the oldest continuously maintained public rock garden in the U.S. at Smith College in Amherst, Massachusetts. The Pacific Northwest was another early nucleus for rock gardening. However, except for a few pioneers such as Claude Barr and Paul Maslin in the central part of the country, rock gardening would have to wait until the late 1970s and early 1980s to really take off in the Rocky Mountain region. A boom in population, a drought in the 1970s, and the construction of the Rock Alpine Garden at Denver Botanic Gardens (DBG) created an interest in following a gardening style that reflected the beauty of the Rocky Mountains.

In 1980, when it was constructed, the Rock Alpine Garden at DBG was the largest rock garden between New York and the Pacific coast. It set a pattern that would be followed in the mid-1980s by the ambitious Betty Ford Alpine Gardens in Vail, which includes the largest collection of alpine and rock garden plants in the western U.S., if not North America. Steamboat Springs followed suit in the mid-1990s with a large rock garden garden at the Yampa River Botanic Park and has added 3 additional rock gardens including a large and beautiful crevice garden. After this, various other public gardens across the state built rock gardens. The relatively new Gardens on Spring Creek in Fort Collins, built in 2009, is the largest rock garden constructed in Colorado since the Betty Ford Alpine Gardens. Soon after, in 2010, Denver Botanic Gardens built a large alpine green roof with 3 crevice gardens within the new children's garden. And 2014 saw the largest crevice garden yet constructed in the region at the APEX center in Arvada. This provided a spectacular culmination to almost 35 years of constructing public rock gardens in the nation's highest state. Various rock gardens throughout the state allow homeowners and visitors alike to gain both an appreciation of the rich native saxatile flora of the Rockies and the wider world, along with various gardening ideas showcased in these gardens.



Shortly before the Rock Alpine Garden was built at Denver Botanic Gardens the Rocky Mountain Chapter of the North American Rock Garden Society was founded in 1976. This group has since grown to over 300 members largely scattered along the Front Range of Colorado from Pueblo to Fort Collins. Rock gardening has evolved into a style of gardening that fits within every microclimate encountered in the Rocky Mountain region, from small trough gardens high on a balcony in Central Denver to shady moist slopes in the mountains and windy sun-kissed xeric gardens on Colorado's plains and western river valleys.

No other style of gardening captures the rugged beauty of Colorado and the mountain west like rock gardens. It's fitting that Colorado has become home to the astounding array of public rock gardens described in the following pages.



- |                                                                   |                                                           |
|-------------------------------------------------------------------|-----------------------------------------------------------|
| <b>1</b> Denver Botanic Gardens                                   | <b>7</b> Western Colorado Botanic Gardens, Grand Junction |
| <b>2</b> Betty Ford Alpine Gardens, Vail                          | <b>8</b> Montrose Botanic Garden                          |
| <b>3</b> Gardens at Spring Creek, Fort Collins                    | <b>9</b> The Gardens at Kendrick Lake, Lakewood           |
| <b>4</b> Colorado Springs Utilities Demonstration Garden          | <b>10</b> Yampa River Botanic Park, Steamboat Springs     |
| <b>5</b> Durango Library Demonstration Garden                     | <b>11</b> Apex Crevice Garden, Arvada                     |
| <b>6</b> Xeric Gardens at Mesa County Fairgrounds, Grand Junction |                                                           |

*Photographs have been provided by staffs of the individual gardens.*



## **1 Denver Botanic Gardens**

### **1007 York St., Denver, CO 80206**

The Rock Alpine Garden at DBG was designed in 1978 by Herb Schaal of EDAW Inc. and planted in 1980, making it the oldest public rock garden in the Intermountain West. It won several awards for design and was the most ambitious rock garden in the western U.S. in the early 1980s, until the Betty Ford Alpine Garden was built. Panayoti Kelaidis designed the plantings, was curator for many years, and created a world-renowned collection. The garden contains around 2,300 species, with a focus on alpinism from continental mountain ranges and steppe ecosystems around the world, and has plants from every continent except Antarctica. It also holds the majority of DBG's North American Plant Collection Consortium (NAPCC) "Alpines of the World" collection. The structure of the garden is built on 5 distinct rock types, including limestone, sandstone, granite, tufa, and pumice, with one waterfall. Check out the north side of the Cactus and Succulent House in late March and early April, and the various crevice gardens in April through June. There is now a large alpine green roof with 3 crevice gardens in the new Children's Garden. Built in 2010, this showcases the ecosystems of Colorado and their connection to semiarid continental climates worldwide. With the help of seasonal gardeners and volunteers, the Rock Alpine Garden is overseen and maintained by Mike Kintgen, and the Children's Garden is managed by Julie Casault.

Size: Rock Garden approximately 1 acre.

Date built 1980–1981; Children's Garden Crevice Gardens, 2010.

Elevation: 5300 ft.

Volunteer opportunities: Yes

Website: <[www.botanicgardens.org](http://www.botanicgardens.org)>

Phone: (720) 865-3501



## **2 Betty Ford Alpine Gardens –Alpine Rock Garden** **530 S. Frontage Rd, Vail, CO 81657**

At 8200 feet the Betty Ford Alpine Garden is the highest public botanic garden in North America, and perhaps the world. Construction of the large Alpine Rock Garden began in 1998 and the garden was dedicated in 2000. Marty Jones of Colorado Alpines in Edwards, CO, designed it and 1200 tons of rock were brought in to build the garden, including large granite and sandstone boulders from Colorado. Approximately



3000 alpine and native plants are found in the various areas that emphasize diverse ecosystems, including the Rocky Mountain Alpine Garden, Bog Garden, Saxifrage Garden, Dry Montane Garden, International Alpine Crevice Garden, Mountain Conifer Borders, Alpine Pools, and Aspen Grove. Throughout the Betty Ford Alpine Gardens there are four water features, including 3 waterfalls with ponds and streams, the largest waterfall cascading down through the center of the Alpine

Rock Garden. The Alpine Rock Garden is the most dramatic of the gardens at Betty Ford, with the International Crevice Garden having the best concentration of alpine and rock garden plants. The Alpine Rock Garden holds the National Colorado Alpine Collection through the North American Plant Collections Consortium (NAPCC), as well as nationally significant collections of gentians and penstemons. The garden is overseen by Nicola Ripley, Executive Director, and Nick Courtens, Senior Horticulturist.

Size: Approximately 1 acre

Date Built: 1998-1999

Elevation: 8200 ft.

Volunteer opportunities: Mondays and Thursdays 9 am-12 pm.

Website:<[www.bettyfordalpinegardens.org](http://www.bettyfordalpinegardens.org)>

Phone: (970) 476-0103



### **3 The Gardens at Spring Creek – The Rock Garden** **2145 Centre Ave., Fort Collins, CO 80526**

The Rock Garden was part of the original design of The Gardens on Spring Creek, which was done by Kirk Fieseler and Maddy Weis, and Kirk has also made many plant donations to the garden every year from his nursery in Fort Collins. The focus of The Rock Garden is on alpine and adapted plants. Originally the intent was to focus primarily on native plants, but it has since evolved to accommodate plants from many of the world's alpine regions. Work is currently ongoing to database all of the plants, but there are an estimated 200-300 different species. One berm focuses on more xeric plants. Another has a permanent spot for a sculpture or other piece of artwork as part of the Articulture Event where artists showcase a piece of their work for one year. All the rock was donated from a local company called The Rock Garden and includes Cherokee Sandstone mined from a local quarry and Cut Colorado Buff flagstone. The most interesting time to visit is in spring when the garden shows its best color of the year. Dillon Hancock is the horticulturist on staff in charge of the garden with a group of volunteers that helps during the growing months.

Size: Approximately 1/2 acre

Date Built: 2009-2011

Elevation: 4980 ft.

Volunteer opportunities: Yes

Website: <[www.fcgov.com/gardens/our-gardens/rock-garden](http://www.fcgov.com/gardens/our-gardens/rock-garden)>

Phone: (970) 416-2486

## **4 Colorado Springs Utilities Demonstration Garden** **2855 Mesa Road, Colorado Springs, CO 80904**

The Colorado Springs Utilities Demonstration Garden, with an overall extent of 1.7 acres, includes 3 small rock gardens of about 1000 sq. ft. each with about 10 tons of rock in each. The Crevice Rock Garden, emulating the Garden of the Gods visible beyond it, was designed by Scott Winter and built in 2004 primarily of Lyons sandstone that was salvaged from the demolition of a mortared retaining wall. It has the most species diversity of the rock gardens, with about 100-150 species and incorporates more alpine plants, dwarf conifers, Plant Select® plants, and other crevice-loving species than the other gardens. The Granite Rock Garden, also built in 2004, is more xeric and incorporates around 50 species of somewhat larger species of such as Penstemon, Yucca, Hesperaloe, Opuntia, Arctostaphylos, and Echium. A third garden, the Dwarf Conifer Rock Garden was built in 2011 of lichen-covered granite and has fewer than 50 species, but includes many dwarf conifers, native grasses, Eriogonum and Penstemon. This garden was designed jointly by Scott Winter (rock placement) and Catherine Moravec (plantings). The Demonstration Garden is managed by Ann Seymour, with Catherine Moravec responsible for day-to-day operations along with 2-3 staff members and a volunteer corps of up to 50 people.

Size: Approximately 3000 sq. ft. among 3 rock gardens

Date Built: 2004 and 2011

Elevation: 6440 ft.

Volunteer opportunities: Yes

Website: <[www.csu.org/pages/demonstration-garden.aspx](http://www.csu.org/pages/demonstration-garden.aspx)>

Phone: (719) 668-8232





## **5 Durango Library Demonstration Garden** **1900 East 3rd Avenue, Durango, CO 81301**

The Library Demonstration Garden began as the premier project for the Durango Botanical Society (DBS) that was formed in 2010. They immediately started searching for a garden project and with the City of Durango determined that the very visible but underused hillside behind the Durango Public Library, bordered by the Animas River Trail, would be an ideal spot. The garden now includes an ever-growing population of plants, divided into themes to demonstrate the various ecosystems of Colorado, as well as Xeric Annuals and South African Gems sections. The Garden, built mostly with river boulders, also includes other types of rock, from granite to sandstone, and highlights historical hand-carved stones with original mason marks. The different types of rock were placed in groupings to help define the different environments demonstrated. There are two dry stream bed drainages that function with natural precipitation, with plans for a stone bridge to be installed in 2015 over one streambed and a dry fall to be added to the second. The garden is managed by a committee which, with horticultural director Lisa Bourey who designed the garden, oversees a large group of volunteers with the assistance of DBS-trained docents. There are no paid staff at this time.

Size: 280 ft. x 60 ft.

Date Built: 2011 (some ongoing projects)

Elevation: 6510 ft.

Volunteer opportunities: Yes

Website: <[www.durangobotanicalsociety.com/event-699887](http://www.durangobotanicalsociety.com/event-699887)>

Phone: (970) 749-5642 (Durango Botanical Society)

## **6 Xeric Garden at the Mesa County Fairgrounds** **2775 Highway 50, Grand Junction, CO 81503**

This garden focuses on cacti and other cold-hardy xeric plants. It was designed by Don Campbell and built by the Chinle Cactus & Succulent Society at the invitation of the CSU Tri-River Extension agent, and is maintained by these two organizations. Over 300 different species, varieties, cultivars, and hybrids of succulent, xeric, and non-succulent plants have been tried in the garden. Because the underlying soils in most of the Grand Valley are quite alkaline, building a suitable soil for the garden required layering a heavy-duty weed barrier fabric, then a 4-inch layer of ¾-inch washed gravel, another layer of weed barrier, and then topped with many cubic yards of sandy clay loam soil mixed with wood chips. This provided a more suitable soil for the garden, while eliminating or minimizing the migration of salts from the native soil up into the overlaying planting bed. The rock structure consists primarily of about 25 tons of native sandstone from the local area and 5-6 tons of basaltic boulders from the slopes of the Grand Mesa. It is one of many different demonstration gardens associated with and surrounding the CSU Extension Office at the Mesa County Fairgrounds.

Size: 3,500 square feet

Date Built: 2000

Elevation: 4,800 feet

Volunteer opportunities: Yes, through the Chinle Cactus and Succulent Club, that has regularly scheduled gardening days throughout the spring, summer, and fall.

Website: <[www.mesacounty.us/swm/composte/success/tri-river.aspx](http://www.mesacounty.us/swm/composte/success/tri-river.aspx)>

Phone: (970) 244-1834 (CSU Tri-River Cooperative Extension)







## **7 Xeric Garden at the Western Colorado Botanical Gardens 641 Struthers Avenue, Grand Junction, CO 81501**

The Xeric Garden within the Western Colorado Botanical Gardens was designed by Don Campbell, founder of the Chinle Cactus & Succulent Club and built by club members. Over 200 different species, varieties, cultivars, and hybrids of cacti and other cold-hardy succulent plants have been planted. The garden was built with approximately 20 tons of native sandstone (mostly lichen-covered flagstone), 6-8 tons of large irregular sandstone rocks, and 8-10 tons of basaltic rocks and large boulders. Because of the alkaline soils in the area, providing a suitable soil for the garden required layering weed barrier fabric and washed gravel underneath a sandy clay loam to prevent migration of salts up into the planting bed. The master design for the Western Colorado Botanical Gardens incorporated a “representation” of the geology and vegetation of this part of western Colorado, therefore the area immediately surrounding the Cactus and Succulent Garden includes a representation of the Colorado National Monument, the Grand Mesa and the Colorado River as it flows toward Lake Powell.

Size: 2,500 sq. ft.

Date Built: 2002

Elevation: 4,700 feet

Volunteer opportunities: Yes. Chinle Cactus and Succulent Club has regularly scheduled gardening days through spring, summer, and fall.

Website: <[wcbotanic.org](http://wcbotanic.org)>

Phone: (970) 245-3288

## **8 Rock Garden in the Montrose Botanic Gardens** **1800 Pavilion Drive, Montrose, CO 81401**

The Montrose Botanic Gardens features a xeriscape demonstration garden as well as traditional garden plantings. It is run by the non-profit Montrose Botanical Society Board and is maintained primarily with volunteers who donate close to 2000 hours a year. The xeriscape rock garden berm was designed by Marty Jones of Colorado Alpines and includes about 70 different types of perennials and 6 types of trees. It has also incorporated 18 Plant Select® plants and won the Plant Select® Golden Shovel Award in 2012, which acknowledges a demonstration garden partner exhibiting superior design and use of Plant Select® plants while providing excellent educational opportunities to visitors. The garden is built with 200 tons of local Shavano sandstone including 80 large boulders that provide a variety of different micro-pockets and biomes sustaining a diverse palette of plants. Most popular is a 40-foot-long waterway carved into the berm to simulate a high desert dry wash. Controlled by a timer, the water feature comes on at lunchtime and in the evening. A stone bench with a beautiful arched shade canopy is located across from the waterway feature. A small crevice garden is planned for the north end of the rock garden in 2015.

Size: Xeric garden is 20,000 sq. ft., with a 7000 sq. ft. rock garden berm

Date Built: 2004-2005

Elevation: 5800 ft.

Volunteer opportunities: Yes, on Wednesdays, March through October.

Website: <[www.montrosegardens.org](http://www.montrosegardens.org)>

Phone: n/a



## **9 The Gardens at Kendrick Lake** **9351 W. Jewell Ave., Lakewood, CO 80232**

The site for the Gardens at Kendrick Lake was acquired by the City of Lakewood in 2001. It was originally an old xeriscape garden from the 1980s. Designed and built by Greg Foreman, the purpose and intent of the gardens is to educate the public about plants that can thrive in the extremes of the Colorado climate. Only plants meeting this criterion are trialed and used at the garden. The first 3 beds were developed in 2002, and flourished despite the severe watering restrictions during the drought of 2002-2003. In 2005, six more beds were built using moss rock, granite, and brown river rock, with five of them typifying the 5 Colorado biomes, including Great Plains, Steppe (Foothills), Montane, Alpine, and Great Basin. The final bed combined plants from all the biomes. Plants used are native to North America or similar biomes around the world. A flat planting bed using plants from short grass prairie was added in 2008. The number of species varies as new ones are trialed and others removed, but at one point there were over 400 species. In 2009 The Gardens at Kendrick Lake won the Plant Select® Golden Shovel Award and are maintained by Todd Bailey, assistant Keely Foster, and 6 seasonal gardeners.

Size: Approx. 1 acre

Date Built: Phased development of beds in 2002, 2005, 2008

Elevation: 5700 ft.

Volunteer opportunities: No

Website: <[www.lakewood.org](http://www.lakewood.org)>

Phone: (303) 987-7800





## **10 Yampa River Botanic Park** **1000 Pamela Lane, Steamboat Springs, CO 80487**

The Yampa River Botanic Park is on land donated by Bob and Audrey Enever to the City of Steamboat Springs, and they were instrumental in its construction, design, and planting. It includes four different rock gardens. The Member's Rock Garden was the first, planted in 1997 when the Park opened to the public. It is very large with big rocks and massive plantings. Another, more intimate, is Sascha's Rock Garden located next to the Yampa River Core Trail with trails that allow viewing of many small alpine plants. Another small rock garden at the top of the Water Wise Garden is set among volcanic stone from the Flat Tops Mountains. It includes plants from Argentina's steppe region, Plant Select® plants, and native plants. The Crevice Garden is about 1200 sq. feet, south-facing, and on a steep slope, with 10 tons of Sabille Moss Veneer rock placed vertically to replicate vertical strata. It was constructed in 2013 with help from a grant from the Colorado Garden Show; planting continued through 2014. A two-switchback trail enables visitors to view plants close-up. At this time the garden is about half planted and contains over 500 plants, generally grouped by genus. No public funds are directed to the Park which is 100% directed and funded by an independent volunteer board of directors who oversee operations and raise funds through donations, sponsorships, memberships, and grants. The gardens are maintained by Gayle Lehman and her staff of 9.

Size: 7800 sq. ft. over 4 rock gardens

Date Built: Phased development starting 1997, continuing today.

Elevation: 6800 ft.

Volunteer opportunities: Yes, on Wednesday mornings

Website:<[www.yampariverbotanicpark.org](http://www.yampariverbotanicpark.org)>

Phone: (970) 846-5172

## **11** Apex Crevice Garden

**11706 West 82nd Avenue, Arvada, CO 80005**

Wanting to create a unique destination garden at the site of a new recreational park, Arvada Parks and Recreation District decided to build a crevice garden. It was designed and built by Kenton Seth, with help from Paul Spriggs, a student of the current Czech master of crevice gardening, Zdenek Zvolanek. Built with 60 tons of Dakota sandstone from southern Colorado, 14 tons of sand, and another 20 tons of other gravels and materials, it is one of the largest crevice gardens in the world, if not the largest. Envisioned as the first public xeric crevice garden in the traditional Czech style, it contains an estimated 200 species of xeric plants that can live with fortnightly or less watering. It is almost exclusively focused on buns and cushions to introduce the public to this form of vegetation, amongst some dramatic accent plants and manzanitas. The five separate beds provided an opportunity to try different soil mixes; the bottom layer is always the native clay and the top is always a dressing of gravels, but the middle layers vary, including pure sand, sand and expanded shale over loam, sand and gravel, sand and compost, and sand over a little compost. Arvada Parks and Recreation District owns and administers the site, but the Rocky Mountain Chapter of NARGS is considering adopting the garden to maintain and use for outreach.

Size: Approximately 1000 sq. ft.

Date Built: 2014-2015

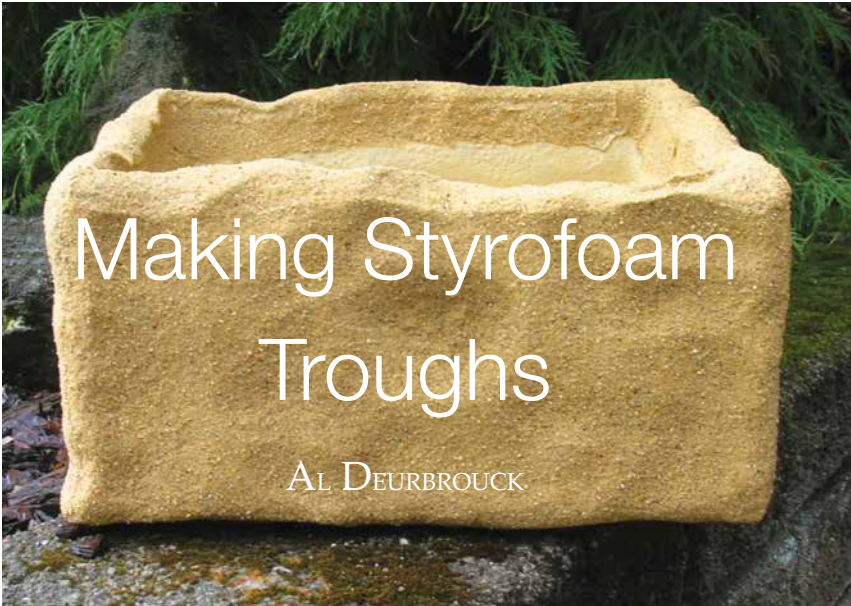
Elevation: 5654 ft.

Volunteer opportunities: yes

Website: n/a

Phone: (303) 467-7120





# Making Styrofoam Troughs

AL DEURBROUCK

I STARTED USING styrofoam for troughs many, many years ago when I saw a 1997 article in the Scottish Rock Garden Club journal, *The Rock Garden*. As I understood the article the Styrofoam™ boxes' surfaces were simply roughed and painted. I made a number of such troughs and they did well. The light weight and good weathering properties made them winners. I'm sure there have been many modification since then -- mine is one of the many.

## **MATERIALS NEEDED**

1. Styrofoam box – walls 1-inch-plus thick. I find a good source of these boxes are pediatricians. In the article from Scotland, it was clear that in Aberdeen the best source was fish-boxes. Every locality will have its own most-likely source.
2. Propane torch or heat gun
3. Masonry Paint – Latex Base, Drylok Masonry Waterproofer®. Get this at Home Depot or Lowes and they will tint it for you at no charge to a brown color.
4. Sand sized at 14 to 28 mesh (0.05 to 0.025 inches). This is probably much closer-sized than necessary, but the final product looks best with the fines (dust size) and the material over 1/16 inch removed. But this is a personal preference.
5. Clear outdoor spray paint.

## PROCEDURE

Cut the box to a depth of 4 to 6 inches for typical rock garden type plants that do not normally have deep root systems. Adjust the box depth to accommodate the plants. Shape the box as you desire.



With the torch lightly pass the flame across the top edge, the bottom, and four sides of the box until you have attained the surface you desire. The bottom and the inside surfaces are torched simply to harden the surfaces.

Then apply the Drylok Masonry paint to the bottom and all inside surfaces and allow them to dry.

Then apply the paint to an outside surface and immediately apply the sand generously.

Let the surface dry (usually for 24 hours) and then proceed with the next surface. For esthetic purposes be sure to extend the paint/sand treatment a couple of inches down inside the box.

After the finished trough has dried spray paint the final product with a couple of coats of semi-gloss clear spray paint – it helps glue the sand on.

Next fill and plant your trough!

## Some ABC's of Cultivating Plants in Troughs

Troughs are actually small self-contained gardens.

Troughs provide an opportunity to grow some exciting plants in controlled environments. The smallest gems can be better appreciated, will have a better chance of surviving, and they can be elevated well above ground level – nice for the back and knees!

### SOIL MIXES

#### **A good general mix:**

- 1 part typical potting mix – peat based
- 1 part coarse sand
- 1 part pea gravel
- 1 part medium perlite -- If you do not use the perlite add an additional ½ part of sand

#### **For scree plants**

- 1 part typical potting mix – peat based
- 1 part coarse sand
- 1 part pea gravel
- 2 parts medium perlite

#### **For woodland plants**

- 3 parts typical potting mix – peat based
- 1 part coarse sand or medium perlite

If weight is a concern you can keep the final trough light by using a lot of perlite in your planting mix (up to 1/2), but do reduce the perlite in the top inch or so as watering can cause the perlite to "float" to the surface.

NOTE: I like perlite but it is not a universal favorite. If you do not use the perlite add a like amount of coarse sand.

You will probably modify these with experience – there are a jillion mixes recommended by people with different climatic conditions to contend with – hotter, colder, wetter, drier, high humidity, low humidity, sunny, shady, etc.

With the proper combination of plants and potting mix you must next master location and watering. Learn the likes and dislikes of your plants. Keep them sorted accordingly.

Remember your soil mix is fast draining -- full exposure of your planted trough to a hot bright sun on windy days may require daily watering. A location with some relief from the hot afternoon sun is often desirable, and even the sun-lovers seem to enjoy some afternoon shade.



## THOUGHTS

As you can tell from all this, making a Styrofoam trough is not instant. It takes a few days but it is easy and you have a trough that is extremely lightweight and has excellent insulation properties, and has proven to be weather-resistant. I have some planted Styrofoam troughs that are over 15 years old.

An interesting characteristic of these troughs compared to hypertufa troughs is that these will not dry out nearly as quickly, as the sides are not going to transpire. This means less diligence in watering, especially for those plants requiring sun, and thus a more constant moisture level in the planting medium..... but you can over water! To avoid over watering be sure Styrofoam troughs have a somewhat coarser soil mix assuring good drainage.

Because Styrofoam is an excellent insulator the temperature does not fluctuate so rapidly in the winter or summer, thus keeping the roots/ plants happier. Also, because the sides are sand, and thus rather sharp, slugs are a minor problem.

Finally, unlike hypertufa troughs that require aging to harden the cement and a lot of rinsing to reduce the lime-bleed from the cement, Styrofoam troughs are ready to use immediately after being completed! If like me, you are impatient to get your trough planted having put in the work making it, then this is a real bonus.

Remember you are only limited by imagination and the size of Styrofoam box you can get hold of. Good Luck!

**Don't forget, NARGS needs you !**

**Call for Nominations for 2016  
for NARGS Officers and Directors  
runs till November 1**

**Check out page 306**

# Photo Contest 2015

## Results

*Ramonda myconi* (David Sellars) - Class 2 winner



**CLASS 1: THE ROCK GARDEN IN WINTER**

**WINNER - St Nick's progress (Michael Heim)**

**CLASS 2: PORTRAIT OF A PLANT IN CULTIVATION**

**WINNER - *Ramonda myconi* (David Sellars)**

HIGHLY COMMENDED

*Draba imbricata* (Michal Hoppel)  
*Gymnospermium albertii* (John Willis)  
*Chionodoxa luciliae* (Merrill Jensen)

**CLASS 3: PORTRAIT OF A PLANT IN THE WILD**

**JOINT WINNERS**

***Silene hookeri* (Curtis Kline)  
*Hamadryas kingii*, Santa Cruz, southern Patagonia,  
Argentina (Marcela Ferreyra)**

HIGHLY COMMENDED

*Castilleja nana*, Pioneer Basin, John Muir Wilderness,  
Sierra Nevada, California (Don Selcer)  
*Pedicularis densiflora*, near Ashland, Oregon (Curt Kline)  
*Rhodothamnus chamaecistus*, Dolomites (David Sellars)

**CLASS 4: NATURAL SCENE WITH PLANTS**

**JOINT WINNERS**

***Petrocallis pyrenaica* and *Androsace pubescens*, Savoy Alps  
(Michal Hoppel)  
*Eriophorum vaginatum*, Presidential Range, White Mountains,  
New Hampshire, Mt. Washington in background,  
(Albert Martin)**

HIGHLY COMMENDED

Rainbow in the Steppe; Mountains in Patagonia; and Volcan Maipo  
Mountains, Mendoza (three entries by Marcela Ferreyra)  
Cimon Della Pala, Dolomites; Sella Group, Dolomites; and  
Langkofel, Dolomites (three entries by David Sellars)

**CLASS 5: CLOSE-UP**

**WINNER - *Adonis amurensis* 'Chichibu Beni' (John Willis)**

HIGHLY COMMENDED

*Primula alpicola* (Merrill Jensen)  
*Potentilla nitida* (David Sellars)  
*Eriophorum vaginatum* (Albert Martin)

**CLASS 6: NORTH AMERICAN NATIVE PLANT**

**WINNER - *Echinocereus triglochidiatus* var. *gonacanthus*  
(Merrill Jensen)**

HIGHLY COMMENDED

*Leutkea pectinata* (David Sellars)  
Lichens on autoglass (Michael Heim)



*Hamadryas kingii*, Santa Cruz, southern Patagonia, Argentina (Marcela Ferreyra)  
Class 3 joint winner

*Silene hookeri* (Curtis Kline) - Class 3 joint winner



*Primula alpicola* (Merrill Jensen)  
Class 5 highly commended



*Pedicularis densiflora*, near Ashland, Oregon (Curtis Kline)  
Class 3 highly commended





*Eriophorum vaginatum* in the Presidential Range, White Mountains, New Hampshire, with Mt. Washington in the background and Appalachian Trail on the left (Albert Martin) - Class 4 joint winner

Rainbow in the steppe - taken in the transitional zone between forest and very dry steppe in the Subandean District of the Patagonian steppe, Argentina  
The trees are the easternmost *Austrocedrus chilensis* (Marcela Ferreyra)  
Class 4 highly commended





*Petrocallis pyrenaica*  
and *Androsace*  
*pubescens*, Savoy  
Alps, France  
(Michal Hoppel)  
Class 4 joint winner





*Adonis amurensis* 'Chichibu Beni' (John Willis) - Class 5 winner



*Eriophorum vaginatum*  
(Albert Martin) - Class 5  
highly commended



Lichens on autoglass  
(Michael Heim)  
Class 6 highly  
commended





*Castilleja nana* (Don Selcer) - Class 3 highly commended

*Echinocereus triglochidiatus* var. *gonacanthus* (Merrill Jensen) - Class 6 winner



# Photo Contest 2015

All of this year's winning photographs are published here (except the winner of Class 1: The Rock Garden in Winter, which will be published, appropriately, in the Winter issue) and a selection of the entries that were highly commended. Among those not published here, some will be published in future issues. All round the standard was excellent with the judges being faced with very difficult decisions.

Congratulations are due to all those whose photographs were selected by the judges. Each of the winners will receive a free year's membership to NARGS for someone of their choosing. Finally, thanks to the judges for their efforts.

*Leutkea pectinata* (David Sellars) - Class 6 highly commended







# Autumn Blues: Fall-Flowering Asian Gentians

TODD BOLAND

THERE IS NO doubt that the mid-spring to early summer months are the time when rock gardens are at their glory. After all, most rock gardens in north temperate regions feature alpinists, plants that hail from high mountain regions where the growing season is short and plants have to bloom early to have time to set seed before the fall snows start. From mid-summer we rely heavily on foliage of the alpinists to carry the display through until autumn. By September, if we want to have colour in the rockery, we rely primarily on the fall-flowering bulbs – *Crocus*, *Colchicum* and *Cyclamen*. However, there is one group of alpinists that naturally bloom in September, October and even into November. Not only do they flower in fall, but their colour is spectacular, reflecting the intense blue of the autumn sky. Say hello to the Chinese autumn-flowering gentians!

We have the plant explorers of the early 20th century to thank for the introduction of these spectacular gentians. While many European gentians have been cultivated for hundreds of years, the Asian species have only been known in cultivation for the last 100 years. The first to be discovered was perhaps the most important species: *Gentiana sino-ornata*, discovered in 1904 by the consummate Chinese plant explorer George Forrest. Ernest Wilson discovered *G. veitchiorum* the following year. Not to be outdone, Reginald Farrer and William Purdom discovered *G. farreri* in 1914.

*Gentiana* 'Kingfisher'

Taxonomically, most of the stars among the Chinese autumn-flowering gentians belong to *Gentiana* section *Kudoa* (aka *Frigida* or *Monopodiae*). Fritz Kohlein (*Gentians*, 1991) lists 15 species of gentians that belong to this section, and the *Flora of China* lists 30 species, but only around 7 or 8 of these are cultivated to any degree. In fact, it is the hybrids derived from this section that are more popular in cultivation.

In the wild, the species hail from peaty alpine meadows at an altitude of 2500 m to 4800 m (8200–15750 feet). Many of the best species are Sino-Himalayan, found in the southwestern Chinese provinces of Yunnan, Sichuan and Gansu. Plants produce many decumbent (trailing) stems, up to 20 cm (8 inches) long arising from a central tuft. Plants are not tap-rooted, thus transplanting is relatively easy. Their leaves are narrow, almost grass-like, produced along the stem that terminates in a relatively large solitary flower. The flower is tubular to funnel-shaped, with five corolla lobes (fused petals) and five similar but smaller plicae located between, imparting the impression of a 10-pointed star. Floral colour ranges from white through shades of pure blue to nearly purple. The reverse of the floral tube is attractively striped in deep blue. Flowers open fully on sunny days but remain closed during cloudy, wet conditions.

In cultivation, some of the species are difficult while others are easy. The challenge to cultivating these outstanding gentians is providing them with full sun, cool, moist soil that is highly acidic, and high atmospheric humidity. Not an easy task for most North American growers! It is not surprising that the Scottish growers seem to have the

*Gentiana* 'Kingfisher'



best success. Of course, they also have the best success with *Meconopsis*, *Cremanthodium*, and Himalayan *Primula* which grow side-by-side with these gentians. I am fortunate that the climate where I work, at the Memorial University of Newfoundland Botanical Garden in St. John's, although a little warmer in summer than Scotland, still has the necessary conditions that seem to keep these gentians reasonably happy. If by chance you have all the required growing conditions but your soil is more alkaline, fear not – *Gentiana farreri* is reasonably lime-tolerant, well, less intolerant at least.

So, which are the species and hybrids one can choose from? *Gentiana sino-ornata* is by far the most often encountered and while easy to grow in the right spot, it detests even the slightest trace of lime. It can produce additional plants where their stems touch the ground, allowing them to produce significantly sized mats in due time. Their

*Gentiana veitchiorum*



azure-blue funnel-shaped flowers are among the largest of the section, up to 6.5 cm long. Their blooming season stretches from September in warmer areas to November in cooler. I have even picked a few flowers for the table in mid-December! *Gentiana ornata* is similar but more compact with smaller flowers, 3.5 to 4 cm (about 1.5 inches) long, that are more bell shaped. It also blooms earlier in August and September. *Gentiana farreri* is perhaps second to *G. sino-ornata*

in popularity. It has a similar habit to *G. sino-ornata* but its flowers are described as “Cambridge” blue with a contrasting white throat, creating a lovely bi-coloured effect. This species, as previously noted, is the only one that will tolerate some lime. *Gentiana prolata*, rare in cultivation, is recognized by the fact that its corolla lobes are held more erect rather than spreading wide. *Gentiana veitchiorum* is quite distinct within this section. Plants are quite compact with thicker, broader, fleshier leaves that are more blunt-tipped than the others. It has branching stems as well. The flowers are very dark purple-blue and the exterior stripes on the corolla tube are more yellow than white. Very striking in bud as well as in bloom. While Kohlein states it blooms August-September, in my garden, it does not bloom until late October and through November, making it the last alpine to grace my crevice garden. Frost and even early snow do not seem to bother it.

The one species I want to try is *G. hexaphylla*. It blooms in August, so is not particularly a fall-bloomer. It has pale blue flowers with six

*Gentiana hexaphylla*







*Gentiana georgei*

corolla lobes and six plicae, resulting in a 12-pointed star. Its leaves are grouped in whorls along the flowering stems.

The last species of this section you are likely to encounter is *Gentiana georgei*. This is another species that was discovered by Forrest. It is also a distinct species and not really fall-blooming, rather mid- to late summer, from late July through mid-September. It has a growth habit similar to *G. veitchiorum* but is larger in all parts. Its fleshy leaves are the largest of the section, reaching up to 6.5 cm in length. The flower stems are stiffer and held more erect than the other species. The 5 cm (2 inch) long flowers are variable in colour from mid-blue to rich purple-blue. I fell in love with this species when I first saw it in the garden of Stephanie Ferguson, in Calgary, Alberta. It might also be somewhat lime-tolerant based on the fact that Calgary naturally has quite alkaline soil.

Hybrids derived from this section are, on the whole, more popular than the species, easier to grow, and often more easily obtained. Through many years of selection, some splendid shades of blue and two-tone blue and white have been developed, and the flowers are



*Gentiana* 'Braemar'

often larger than any of the species. Pretty much all of the hybrids (close to 100) are desirable, some highly so. We have Jack Drake, of Inshriach Nursery, Scotland, to thank for many of the older hybrids, predominantly hybrids between *G. sino-ornata* and *G. farreri*. Noteworthy are 'Alpha', Drake's Strain', 'Inverleith', and 'Kingfisher'. One of my favourites, based solely on images I've seen, is the German hybrid 'Delft'. The white flowers with blue-tipped corolla lobes are positively exquisite. If only I could track it down.

More recently Ian McNaughton, of Macplants Berrybank Nursery in Scotland, has introduced some outstanding cultivars including



*Gentiana 'Glamis'*

'Braemar', 'The Caley', 'Glamis' and a series of hybrid gentians such as 'Berrybank Star', named after the nursery.

The fall-blooming gentians are not all restricted to the section *Kudoa*. There are other miscellaneous Himalayan species of gentians, mostly from the section *Pneumonanthe*, that naturally do not bloom until late August and through

September, and even October in northern areas such as where I live.

*Gentiana scabra*, from Japan and northern Asia, is a bushy, somewhat upright species with several leafy stems to 30 cm (12 inches). The paired leaves are ovate with rough margins. The flowers are produced in a

*Gentiana scabra*





*Gentiana pneumonanthe*

dense terminal raceme with four or five 2.5 cm (1 inch) long bell-shaped flowers. The corolla lobes are somewhat rounded while the plicae are pointed. The flowers are mid-blue with copious green spotting. There are two named cultivars well worth seeking out. 'Hakuju' has white corolla lobes and contrasting blue plicae creating a stunning striped effect. 'Zuikorindo' is unique in having deep pink flowers.

Another similar species in the same section is *G. septemfida*, this time from the Caucasus and western Central Asia, which has flowers similar to those of *G. scabra* but on trailing rather than upright stems.

*Gentiana pneumonanthe*, the European marsh gentian, is in fact a Eurasian species found from western Europe to Siberia. In cultivation it tends to be fairly short-lived but it can be maintained in a wet situation for some years or renewed from seed.

*Gentiana cachemirica* produces a cluster of semi-erect stems to 15 cm (6 inches). The ovate leaves are paired and stemless. Each stem ends in one to three, bell-shaped flowers that are about 2.5 cm (1 inch) long and a clear azure-blue. It comes from the western Himalaya. Plants sold as *G. loderi* are now considered conspecific with *G. cachemirica*.



*Gentiana septemfida*

*Gentiana loderi*





Quite distinct is *Gentiana depressa*, which is not well known but well worth seeking. It belongs to a group of alternate-leaved species (section *Isomeria*) which includes *G. urnula* and *G. wardii*, but only *G. depressa* is likely to be encountered in cultivation. While I have never grown this species, at the writing of this article, I have seeds stratifying. This species has low, mat-like growth and small, paired leaves. The stems end in a single large 2-3 cm (1 inch) rather bell-shaped flower which has five rounded corolla lobes that are light blue contrasting with narrower plicae which are ice-blue, creating a noticeable two-tone effect.

*Gentiana paradoxa* is not a Chinese species, rather it is an endemic of the Caucasus, but it is allied to section *Pneumomanthe*. Blooming may be as early as August in southern areas but in Newfoundland, mine does not start to bloom until October and extends well into November. This lime-loving species is very distinct with its bright green, narrow leaves and upright stems 20-30 cm (8-12 inches) tall. It has relatively large, solitary flowers that are mid-blue with fringed plicae and a few green spots. The throat is striped white and spotted deep blue. Beware when

*Gentiana paradoxa*



Opposite: *Gentiana depressa*, Mera Peak, Nepal (Indra Rai)



*Gentiana boissieri*

you grow this species from seed; you have a good chance of ending up with a hybrid between it and *G. septemfida*.

*Gentiana boissieri*, another in the section, is a newly discovered species from Turkey. It has leafy, prostrate stems to 15 cm (6 inch) with relatively small, rounded leaves. Like many of these late-flowering species, the stems terminate in a large solitary mid-blue flower. The corolla lobes are rather rounded. It is another lime lover. The blooming season is variable, with plants blooming in August in warmer areas, but not until September in cooler ones.

Section *Cruciatae* (aka *Aperta*) is named after *Gentiana cruciata*, a species that is happy in a limy soil. This species, not the most dramatic from a garden perspective, has a range from Europe through the Caucasus and Iran as far as Siberia. It typically flowers in summer. *Gentiana kurroo* is the one late-blooming species from the section *Cruciata* (aka *Aperta*). Plants produce a rosette of linear to lance-shaped leaves up to 10 cm (4 inches) long. From the rosette arise several slightly ascending stems to 15 cm (6 inches), each topped with a solitary, relatively large blue flower with green spots. Alas, most of the seeds offered as *G. kurroo* are misidentified. I have tried this one from seed for

*Gentiana cruciata*



many years and have yet to get the real thing. I have ended up with *G. dahurica*, *G. macrophylla*, *G. gracilipes*, *G. dendrologii*, *G. wutaiensis* and *G. crassicaulis*! On the plus side, I have incidentally increased the gentian collection at our botanical garden.

While our rock gardens are no doubt the most spectacular in spring and early summer, the approach of autumn need not mean the end of the rockery display.

As you can see, there are plenty of late-blooming gentians that can help extend the blooming season. I hope this article encourages you to seek out some of these very desirable plants. Any plant that literally can be in bloom until the fall of the first flakes of snow has to be a good thing!

*Gentiana* 'Glamis'



## PHOTOGRAPHS

Todd Boland: 346-347, 348, 349, 351, 355, 356, 358

Malcolm McGregor: 350, 352, 353, 354, 359

The photograph of *Gentiana depressa* (p. 357) photographed by Indra Rai is published with alterations, licensed under the Creative Commons Attribution-Share Alike 3.0 Unported license.

*Saxifraga fortunei* 'Rubrifolia' in flower on the rock garden at Wisley  
with *S. stolonifera*, out of flower, in background





# Fireworks in the Fall

## Award-winning *Saxifraga fortunei* cultivars

MALCOLM MCGREGOR

AUTUMN IS OFTEN seen as a time when things are winding down in the garden. Apples and pears are ready to be picked and stored, along with medlars and quinces; pumpkins are ready to be carved; fallen leaves swept up, and the garden put to bed. But there are some wonderful autumn flowers: chrysanthemums spring to mind, Michaelmas daisies, autumn-flowering crocuses and colchicums, cyclamen and gentians.

Less well-known outside Japan are the increasing range of autumn-flowering saxifrages (*Saxifraga* section *Irregulares*) from far-eastern Asia where China, Korea and Japan are home to about a dozen species of saxifrage of which *Saxifraga stolonifera* is the best known for most gardeners. In the autumn, however, it is *Saxifraga fortunei* in a multiplicity of forms, some with spectacularly complex and coloured flowers, that takes center stage and is increasingly becoming available.

These are happiest in half shade, in cool moist leafy soils. In North America, New England and the Pacific Northwest are likely to be the best places to grow them, although for the determined rock gardener little is impossible. Alternative approaches to these are taken by *bonsai* growers for whom these saxifrages are grown as companion plants, *kusamono* or *shitakusa*, using specialist mineral-based soils such as *akadama* or *kyodama*, rather than leafy or peat-based soils.

Over the last three years (2012-2014) the Royal Horticultural Society (RHS), based at their headquarters in Wisley, Surrey, some twenty-five miles southwest of central London, have been conducting a trial of *Saxifraga fortunei* cultivars. With 65 different submissions this was the largest array of these ever on display outside Japan where *dai-monji-so*, as they are known, are highly prized. These trials by the RHS are carried out to select good garden plants: hardy, reliable, good-flowering plants.

The panel of judges, of which I was one, met on a regular basis when the plants were in flower (in this case September to November) to judge which plants should be given the prestigious Award of Merit (AGM). Of the 65 plants in the trial 13 were given AGMs. These represented a selection of plants recognised by the panel as outstanding. But there were at least a dozen more plants that had some excellent characteristics although they fell short in some respect or other. Some only flowered well for two years out of three, some were felt unattractive by some judges although others liked them, some were not sufficiently prolific with their flowers, or not robust enough.



*Saxifraga* 'Rokujo' - one of the two cultivars originating from Professor Rokujo's collection on Mount Nachi

Some *Irregulares* saxifrages flower during the summer months but the only form of *Saxifraga fortunei* which flowers outside the autumn is a plant that can be ascribed to the var. *partita* with deeply cleft leaves and white flowers in April / May. Some Japanese botanists propose this should be separated as a species: *S. acerifolia*. With this exception, of interest to botanists more than gardeners, the cultivars of *S. fortunei* come into flower from mid-September until early November. Flowering is curtailed by frosts so the choice of earlier flowering cultivars and finding a sheltered site is important if you live in an area prone to early frosts.

While *Saxifraga fortunei* can be found in China, as far west as Sichuan, the plants in cultivation originate in plants originally collected in Japan which has a maritime climate. Honshū, the largest island of Japan, home to most of Japan's large cities including Tokyo, is the seventh largest island in the world (87,182 sq. miles). For comparison, Britain is ninth (80,823 sq. miles). In fact Honshu and Britain are the two largest islands in the world with a temperate climate. Nevertheless it is clear that the main area from which the garden forms of *dai-monji-so* are derived, in southern Honshū, has a warmer climate than does the UK. This means that Japanese cultivars, and there are around 400 in circulation in Japan, that come in to flower late are difficult to flower successfully and reliably in the UK in the open garden.

In the trial all the award-winning plants were either early-flowering starting in mid- to late September, or mid-season starting in October. No late-season cultivars, starting flowering from the beginning of November, achieved an award despite the fact that they included some very pretty cultivars, a sign that the site of the trial suffered regular frosts in early November.

In the trial plants originated in one of three distinct ways:

1. plants collected in the wild in Japan - among the award winners are the very similar 'Mount Nachi' and 'Rokujo', taller 'Rubrifolia', and very small-leaved 'Bychan';

2. plants bred in Japan as decorative cultivars - award winners: 'Toujya' SUGAR PLUM FAIRY; 'Blackberry and Apple Pie', 'Moe' and 'Shiranami';

3. plants bred in Europe (UK and Germany) as decorative cultivars - award winners: 'Pink Haze', 'Conwy Snow', and 'White Fantasie' among the more compact varieties; 'Angelina Johnson' and 'Sue Drew' among the taller.

Compact cultivars (up to 10 cm/4 inches tall) clockwise from top left: 'White Fantasie', 'Bychan', 'Pink Haze', 'Conwy Snow', and 'Mount Nachi' center.



Taller cultivars  
(up to 30 cm/12 inches tall)  
clockwise from right:  
'Blackberry and Apple Pie',  
'Sue Drew',  
'Angelina Johnson',  
and 'Rubrifolia'





'Touja' SUGAR PLUM FAIRY (above), 15-20 cm/6-8 inches tall, was the one vivid cerise cultivar to receive an AGM.

'Masami' (below right) with dark foliage, 'Asahi' (below left) with fewer larger flowers, and 'Shinkunomai' are all attractive alternatives.





Four Japanese double cultivars in the trial.

Greenish-white 'Moe' (bottom right) and pure white 'Shiranami' (top and center left) received the AGM - both were extremely prolific in flower and the flowers lasted well.

The pretty pink powderpuffs of 'Beni Komachi' (below) and the more dramatic pink 'Beni Fuusha' (bottom left) were both judged insufficiently prolific but they would be perfect *shitakusa*.






As with some long-dormant plant you have nurtured, it is always exciting when interest in a group of plants that have long attracted you suddenly erupts into life. Twenty years ago in Europe there were just 5 or 6 named varieties of *Saxifraga fortunei* in circulation – today there are around 100 of which those illustrated here are just a sample. Some of the smaller cultivars like 'Mount Nachi' and 'Bychan' can be grown on the open rock garden but it is in the shaded rock garden and on damp rocky slopes where most varieties, particularly the larger cultivars, will thrive. These are spectacular plants for the fall garden as the leaves start to fall and fruit ripens.

Now, remind me, how do I get them through Customs into North America?

Lightly shaded trial beds were the equivalent of light woodland conditions.  
Wisley, October 24, 2012.



Further details of the award-winning plants and the trial can be found in forthcoming articles in the RHS publications *The Garden* and *The Plantsman*. An extended article will be published in the Saxifrage Society's *Saxifrage Magazine* later in the autumn.

<b>NORTH AMERICAN ROCK GARDEN SOCIETY</b>		
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<b>NARGS Bulletin Board</b>		

## ☞ From the President

As rock and alpine plant enthusiasts, we tend to have quite different attitudes to the changes of the seasons from those of "normal people" who surround us, moaning and groaning with the shorter day lengths and falling temperatures. We tend to become even more active. The media bombards us with "back to school sales," pumpkin-spiced this and that, and even "pre-Holiday" events. But we are busier than ever.

No one needs to announce to us that autumn is as much of a time for planning ahead as it is for renewal – it's as if we have some sort of "squirrel gene" embedded in our brains which keeps us so hyper-obsessive and -active, that it takes everything that we have not to continue to collect seeds, or plant hundreds of tiny bulbs in our gardens – because we "don't have enough." And all this as our gardens continue to bloom or should (as this issue of the *Quarterly* makes clear), and as our greenhouses explode with bloom from the "opposite season" plants collected from the southern hemisphere that many of us maintain.

We are comfortable with planning ahead, so as we move forward with our gardens and collections, let me share some positive thoughts and ideas regarding the NARGS 20/20 strategic plan which I kicked off with those at the 2015 Annual Meeting in Ann Arbor, Michigan, back in May.

There may be no better time for any member to become more active, so I wanted to share with you some ideas where we collectively can all contribute to the growth of NARGS – beyond that of financial growth or that of increasing membership, but the sort of conscious growth where benefits increase simply because the experience of belonging to this global organization suddenly grows to actually mean something, when one "belongs."

Two ideas then:

### **1. NARGS TRAILHEAD SIGNAGE PROGRAM**

Last July I was hiking on Mount Mansfield in Stowe, Vermont. After a fierce summer thunderstorm, we decided to hike to the summit to see if we could catch a glimpse of the endangered and ever-elusive Bicknell's Thrush, a rare

migratory songbird known to nest on the high ski slopes of these northern Vermont mountains.

The existence of this thrush which often nests at ridgelines throughout the Green Mountains is well documented not only in local tourist magazines in every hotel room, but on well-designed signage at the ski lifts and trail heads in the area, most sponsored by local birding clubs. Then I spotted the alpine plant warnings - written in Sharpie® on a piece of cardboard.

Here is a terrific opportunity for local chapters to sponsor signage for select trails.

I have made an agreement with a laser signage business to laser long-lasting signs onto attractive vinyl

(wood-colored or your choice) at the cost of materials (\$50 US per square foot) which includes design. Installation and the legal arrangements with local authorities (any permission or co-sponsorship such as with a state park, state forest or mountain club) will be left up to the local sponsor chapter.

I am offering personally to coordinate the design and delivery of these signs for the first 10 chapters who want to take advantage of this opportunity to not only inform the public about the fragility of alpine plants, but to also use the sign as part of their community outreach program. For more information on this NARGS TRAILHEAD SIGNAGE PROGRAM, contact me via email. Or if you have another way to use such signs, again email me.

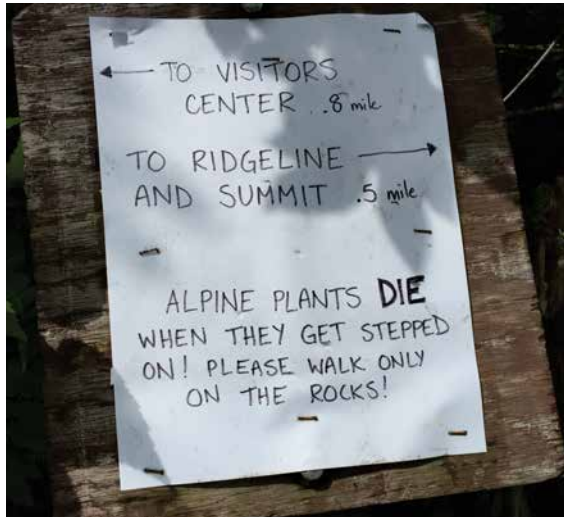
## 2. NARGS TRAVEL AND EXPEDITIONS

One of the big areas we want to get involved with again is tours - garden tours to, say, Japan, or Europe; wildflower tours to South America, Asian or European mountains, Alaska, or Laramie, and the Bighorns in Wyoming.

Malcolm McGregor, our Editor, and Jody Payne, NARGS Director, are joint chairs of our Tours Committee but as yet have not planned anything for 2016-2017. If you have experience of tour-planning, Malcolm <mmcg@mmcg.karoo.co.uk> and Jody <jodycpayne1@gmail.com> would be very keen to hear from you.

**Matt Mattus**

<[matt.mattus@charter.net](mailto:matt.mattus@charter.net)>



# New Members

*Welcome to all those who joined between  
May 14 and August 5, 2015.*

Bertilson, Gabriel, 3104 10th Ave. S, Minneapolis, MN 55407-1604

Burress, Rachel, 615 Brent Rd., Raleigh, NC 27606-2785

Corden, Julia, 2 Lettoch Place, Pitlochry, Scotland, PH16 5BB, United Kingdom

Crocker, Susan, 171 Alta Mesa Rd., Woodside, CA 94062-3545

Derkach, Linda, 1051 Surfside Dr., Qualicum Beach, BC V9K 2B6, Canada

Englisch, Jurgen, Blumenstrasse 6, Geiselhoring 94333, Germany

Feltham, Jackie, 45 Oxen Pond Rd., St. John's, NL, A1B 3J4, Canada

Fisher, Alister, 116 Dunns Ave., Pines Beach, Kaiapoi, Christchurch 7630, New Zealand

Hitchon, Robin, 232 Maplecourt Crescent SE, Calgary, AB T2J 1W2, Canada

Lewis, Jane, 1010 Waltham St. #413, Lexington, MA 02421-8059

Perrignon, Richard, 4/169 Phillip St., Sydney NSW 2000, Australia

Rafferty, Jennifer, Royal Horticultural Soc., 150 Elsenham St., London SW18 5NP, United Kingdom

Rock, Tom, POB 218, Morgan, VT 05853-0218

Roje, Sanja, 410 SE Nebraska St., Pullman, WA 99163-2242

Summers, Anne, 5512 Chicago Ave., Minneapolis, MN 55417-2446

Taunton, Tyler, 6 Castelo Ave., San Francisco, CA 94132-2402

Warner, Gary, 16 Hamp Rd., Lambertville, NJ 08530-2407

## LIFE MEMBERS

THE FOLLOWING RECENTLY BECAME NARGS LIFE MEMBERS:

JULIA CORDEN (SCOTLAND, UNITED KINGDOM)

SUSAN CROCKER (CALIFORNIA)

TYLER TAUNTON (CALIFORNIA)

## OBITUARY

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

**Marcia Meigs, New York**

## **NARGS Donations**

Donations between May 14 and August 5, 2015: \$2815.  
Designated for the general fund, *Rock Garden Quarterly*, and in memory of  
Helga Andrews.

**Accardo, Marlene (Colorado)**  
**Adams, Daniel Holden (New York)**  
**Bouffard, Vivien (Massachusetts)**  
**Duncan, Donald D. (Washington)**  
**Feingold, Phyllis (Massachusetts)**  
**Flippo, Ernest D. (Massachusetts)**  
**Fluet, Amy (Wyoming)**  
**Grabowy, Constance (Massachusetts)**  
**Judson, Virginia D. (Connecticut)**  
**Kneissl, Hilde M. (Massachusetts)**  
**New England Chapter of NARGS (Massachusetts)**  
**Robertson, John (Illinois)**  
**Silicon Valley Community Foundation (California)**  
**Skulski, Lori (Alberta)**  
**Tallman, Marna C. (Oregon)**  
**Munkwitz-Smith, Lesa von (Massachusetts)**  
**Ward, Bobby J. (North Carolina)**  
**Watts, Ann C. (New Jersey)**  
**Weinberg, Ellen (Massachusetts)**  
**Whyman, Steven (North Carolina)**

## **Patrons**

The following recently became NARGS patrons:

**BETSY C. CLEBSCH (CALIFORNIA)**  
**LOUISA FERREE (MASSACHUSETTS)**  
**JOANN AND FRED KNAPP (NEW JERSEY)**  
**LESA VON MUNKWITZ-SMITH (MASSACHUSETTS)**  
**JOY M. SNYDERMAN (NEW JERSEY)**  
**ELIZABETH S. WATTLES (NEW YORK)**  
**LINDA V. WILLIS (CALIFORNIA)**

# SEED EXCHANGE

## SEED DONATION & SEED LIST INFORMATION

As our gardening season draws to a close (in the northern hemisphere), the time-honored way to celebrate a successful year – and plan for future years – is by gathering and sharing seed. You know how eagerly you look forward to our wonderful Seed List, so please help maintain its vibrancy by donating at least five packets of seed. In return, you will receive an additional ten packets with your order (double the investment!), and priority in having your order filled. Not to mention the sense of having made a contribution to a worthwhile and long-standing event: Our first list of available seed was printed in February, 1936, so we are celebrating eighty years of sharing seeds among members of our Society.

Seed donation Instructions and forms were included with the Summer issue of “Rock Gardening Quarterly,” and can also be found in the Seedex section of the NARGS website.

If you live in the U.S., you still have a good month to do your collecting and cleaning before mailing your seeds to be received by November 1 by our Seed Intake Manager:

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

<seedintake@mi.rr.com>

If you have some seeds that ripen late in the season, send their names now with the bulk of your seeds, but be sure that the late seeds themselves reach Laura no later than December 1.

If you live in Canada or overseas, your seeds will reach us in time if you mail by October 15. If that timing is too tight, but you will be able to mail shortly after that date, you may mail/email Laura your list of seeds right now and then send the seeds themselves as soon as you can. Contact Laura (address above) as soon as possible if you need the permit and labels necessary for sending seeds to the U.S.

The Seed List for 2015-2016 will appear on the NARGS website on December 15. You will be able to place your order from the website at

that time, although orders will not be filled until early January. If you will be using the online ordering system, be sure that you have set up a username and password to log in to the "Members Only" area of our website. Keep that login information handy! Also make certain that your current email address is registered with our Executive Secretary, Bobby Ward (nargs@nc.rr.com). The website's FAQ page has helpful sections on logging in, changing your information, and renewing your membership.

If you will not be ordering online, and will need a print copy of the Seed List and order form, you must specifically request it. Send your name and complete mailing address by December 1, to:

Joyce Fingerut  
537 Taugwonk Road  
Stonington, CT 06378-1805  
U.S.A.

alpinegarden@comcast.net

We greatly appreciate the efforts of the members of the Piedmont and Rocky Mountain chapters, who did such an outstanding job for the last seedex and will again fill your orders in January and March.

*Joyce Fingerut, Director  
NARGS Seed Exchange*

*Laura Serowicz,  
Seed Intake Manager*

## **BOOK of the MONTH**

Readers of the NARGS website will be familiar with the Book-of-the-Month link featuring recently published books of interest to rock gardeners. Have you ever wondered if you could be a reviewer? Well, the answer is a resounding "yes." Please contact me to express your interest and suggest a recently published book you'd like to review, or a classic that needs to be reconsidered. The editor can also suggest books to review. The book will be sent to you at no expense and you'll be able to keep it or donate it for sale by your chapter to support chapter events. Please help keep this members' resource vital and relevant.

Steve Whitesell  
<elysium214@aol.com>



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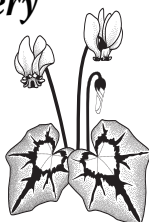
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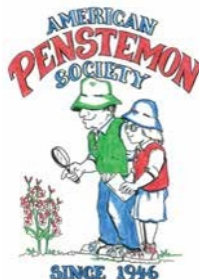
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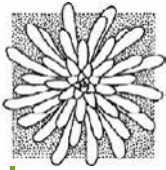


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# INDEX – Volume 73

## AUTHORS / ARTICLES

- Ger **VAN DEN BEUKEN**, South American Oxalis, 126  
Todd **BOLAND**, Serpentine Barrens of Newfoundland, 223  
Todd **BOLAND**, Autumn Blues - Fall-flowering Asian Gentians, 347  
Al **DEURBROUCK**, Making Styrofoam Troughs, 332  
Joyce **FINGERUT**, Alexandra Berkutenko, 158  
Ann **FRAZIER** and Mike **KINTGEN**, Public Rock Gardens across Colorado, 318  
Bob **GRESE**, The Great Lakes Gardens, 42  
Lola Lloyd **HORWITZ**, Senescent Beauty, 297  
Mike **KINTGEN**, Steamboat Springs and the Northern Colorado Rockies, 197  
Don **LAFOND**, What Would Farrer Say?, 34  
Uli **LORIMER**, Two Fall-blooming Gentians of the Eastern United States, 309  
Stephen **LOVE**, The Genus Eriogonum: Wild Buckwheats in the Garden, 248  
Hugh **MACMILLAN**, James L. Reveal, 159  
Liam and Joan **MCCAUGHY**, Bookshelf - a review of *Flora of the Silk Road*, 268  
Malcolm **MCGREGOR**, Fireworks in the Fall: Award-winning *Saxifraga fortunei* cultivars, 361  
John **MITCHELL**, On the Frontline of Botany: in Afghanistan, 102  
Alan **OATWAY**, A Glimpse of Bhutan, 163  
Tony **REZNICEK**, Natural Rock Gardens in the Great Lakes Region, 10  
Barry **STARLING**, Boyd Kline: The Old Man of the Mountains in Kashmir and Ladakh, 66  
Marcia **TATROE**, Containers in the Rock Garden: Troughs and their Alternatives, 141  
Jacques **THOMPSON**, Tufa: the Ultimate for Alpines, 55  
Sally **WALKER**, Some Rock Garden Subjects from Arizona, 205  
Brian **WINCHELL**, Seeing Double, 24

**PLANTS**. Page references in **bold** are to illustrations.

- |                                                     |                                                                  |
|-----------------------------------------------------|------------------------------------------------------------------|
| <i>Acantholimon lycopodioides</i> , 71              | <i>Aquilegia desertorum</i> , 206, <b>206</b>                    |
| <i>Adiantum aleuticum</i> , 228, <b>229</b>         | <i>Aquilegia nivalis</i> , 74, <b>76</b>                         |
| <i>Adonis amurensis</i> 'Chichibu Beni', <b>342</b> | <i>Aquilegia triternata</i> , 207, <b>207</b>                    |
| <i>Adonis chrysocyathus</i> , 77                    | <i>Arctostaphylos uva-ursi</i> , 15, 232                         |
| <i>Allium akaka</i> , <b>111</b> , 112              | <i>Arenaria humifusa</i> , 228                                   |
| <i>Androsace chamaejasme</i> , 73                   | <i>Arisaema tortuosum</i> , 68                                   |
| <i>Androsace microphylla</i> , 74                   | <i>Armeria maritima</i> subsp. <i>siberica</i> , 228, <b>228</b> |
| <i>Androsace muscoidea</i> , <b>72</b> , 73         | <i>Artemisia campestris</i> subsp. <i>caudata</i> , 228          |
| <i>Androsace pubescens</i> , <b>341</b>             | <i>Aruncus aethusifolius</i> , 301                               |
| <i>Androsace sarmentosa</i> , 73                    | <i>Asplenium trichomanes</i> , 19, <b>21</b>                     |
| <i>Androsace sempervivoides</i> , <b>73</b> , 73    | <i>Aster coloradoensis</i> , 200                                 |
| <i>Androsace villosa</i> , <b>123</b> , 123         | <i>Astragalus cicerifolius</i> , 71                              |
| <i>Anemone obtusiloba</i> , 68                      | <i>Austrocedrus chilensis</i> , <b>340</b>                       |
| <i>Anemone parviflora</i> , <b>230</b> , 231        | <i>Bartsia alpina</i> , 224                                      |
| <i>Anemone rupicola</i> , 74                        | <i>Bergenia cordifolia</i> , 304                                 |
| <i>Anemone tschernaewii</i> , 120, <b>121</b>       | <i>Betula pumila</i> , 233                                       |
| <i>Anemonopsis macrophylla</i> , 38                 | <i>Bletilla striata</i> , <b>296-297</b>                         |
| <i>Anticlea elegans</i> , 15, 16                    | <i>Calanthe tricarinata</i> , 78                                 |
| <i>Aquilegia canadensis</i> , 43                    | <i>Calochortus kennedyi</i> , <b>208</b> , 208                   |

*Campanula cashmeriana*, 78  
*Campanula rotundifolia*, **231**, 232  
*Campanula stevenii*, **41**  
*Cardiocrinum giganteum*, 78  
*Carduus thomsonii*, 71  
*Carex appalachica*, **302**, 302  
*Carex fraseriana*, 38  
*Carex scirpoidea* subsp. *convoluta*, 19  
*Cassiope fastigiata*, 77  
*Castilleja chromosa*, **202**  
*Castilleja coccinea*, 15, **15**, 17, 18  
*Castilleja nana*, **344**  
*Cedrus deodara*, 79  
*Cerastium terrae-novae*, **227**, 228  
*Chionocharis hookeri*, **169**, 170  
*Cirsium hillii*, 43  
*Cirsium pitcheri*, 44  
*Claytonia caroliniana*, 20, **22**  
*Clematis coactilis*, **243**  
*Clinopodium arkansanum*, 14, **14**  
*Codonopsis lanceolata*, 298  
*Cornus suecica*, 224  
*Corydalis crassifolia*, 74, **75**  
*Corydalis racemosa*, 68  
*Corydalis thyrsoiflora*, 68  
*Cremanthodium decaisnei*, 69, **69**  
*Crysopteris fragilis*, 19  
*Crysopteris laurentiana*, 19  
*Crysopteris tenuis*, 19  
*Cyananthus lobatus*, 77  
*Cypripedium elegans*, 164, **165**  
*Cypripedium himalaicum*, 164, **165**  
*Cypripedium parviflorum* var. *pubescens*, 15  
*Cypripedium tibeticum*, 164, **165**  
*Danthonia spicata*, 43  
*Daphne cneorum*, **240**  
*Dasiphora (Potentilla) fruticosa*, 16, 43, 233  
*Dianthus haematocalyx*, **154**  
*Diapensia lapponica*, 224  
*Dicentra cucullaria*, 20  
*Dionysia* cf. *denticulata*, **121**, 122  
*Dionysia tapetodes*, **108**, 109  
*Dioscorea villosa*, 298  
*Dodecatheon ellisiae*, **214**, 214  
*Draba arabisans*, 20  
*Draba norvegica*, 156  
*Echinocereus triglochidiatus* var. *gonacanthus*, **344**  
*Edraianthus pumilio*, **60**  
*Epigaea repens*, 38, **40-41**  
*Epimedium dolichostemon*, 302  
*Erigeron compositus* 'Red Desert', 156  
*Erigeron hyssopifolius*, 231  
*Eriogonum arcuatum*, 256-257, **256**  
*Eriogonum bicolor*, 256  
*Eriogonum breedlovei*, 256  
*Eriogonum brevicaulum*, 259  
*Eriogonum caespitosum*, **249**, 250, 251-252  
*Eriogonum capistratum*, 259  
*Eriogonum clavellatum*, 264  
*Eriogonum coloradense*, 259  
*Eriogonum compositum*, 257, **257**  
*Eriogonum corymbosum*, 250, 261-262, **263**  
*Eriogonum douglasii*, 252-253, **252**  
*Eriogonum fasciculatum*, 250  
*Eriogonum gracilipes*, 253-254, **253**  
*Eriogonum heermannii*, 264  
*Eriogonum heracleoides*, 261  
*Eriogonum jamesii*, 256, 259  
*Eriogonum kennedyi*, 156, 256  
*Eriogonum kingii*, 256  
*Eriogonum lonchophyllum*, 261  
*Eriogonum niveum*, 261  
*Eriogonum ochrocephalum*, 256  
*Eriogonum ovalifolium*, **248**, 254-255, **254**  
——— var. *depressum*, 254, **255**  
*Eriogonum pauciflorum*, 258, **258**  
*Eriogonum racemosum*, 261  
*Eriogonum rosense*, 256  
*Eriogonum shockleyi*, 255  
*Eriogonum sphaerocephalum*, 264, **265**  
*Eriogonum strictum*, 258-259  
*Eriogonum thymoides*, 250, 259-260, **259**  
*Eriogonum umbellatum*, 250, 260-261, **260**, **266**  
*Eriogonum wrightii*, 261, **262**  
*Eriophorum vaginatum*, **340-341**, **343**  
*Eriophyton wallichii*, **169**, 170  
*Eritrichium howardii*, 60  
*Erythronium grandiflorum*, 199  
*Fritillaria atropurpurea*, 208, **209**  
*Fritillaria roylei*, 69  
*Gagea* sp., **108**, 109  
*Gaultheria tricophylla*, 69  
*Gentiana argentea*, 73  
*Gentiana autumnalis*, 308-315, **308**, **310**, **311**, **312**, **313**, **314**  
*Gentiana boisseri*, **358**, 358  
*Gentiana* 'Braemar', **352**, 353  
*Gentiana cachemirica*, 354

- Gentiana cruciata*, 358  
*Gentiana depressa*, **356**, 357  
*Gentiana farreri*, 347, 349  
*Gentiana georgei*, **351**, 351  
*Gentiana* 'Glamis', 353, **353**, **359**  
*Gentiana hexaphylla*, 350, **350**  
*Gentiana* 'Kingfisher', **346**, **348**  
*Gentiana kurroo*, 358  
*Gentiana loderi*, 355, **355**  
*Gentiana paradoxa*, 357, **357**  
*Gentiana parryi*, **217**, 217  
*Gentiana pneumonanthe*, **354**, 355  
*Gentiana prolata*, 350  
*Gentiana scabra*, 353-354, **353**  
 ——— 'Hakuju', 354  
 ——— 'Zuikiorindo', 354  
*Gentiana septemfida*, **355**, 355  
*Gentiana sino-ornata*, 347, 349  
*Gentiana urnula*, 357  
*Gentiana veitchiorum*, 347, **349**, 350  
*Gentiana verna*, 152  
*Gentiana wardii*, 357  
*Gentianopsis crinita*, 315-317, **316**  
*Gentianella dentosa* subsp. *elegans*, 216, **216**  
*Geum triflorum*, 19, 43  
*Hamadryas kingii*, **338**  
*Hepatica americana*, **23**, **73-1 front cover**  
*Hesperis* cf. *persica*, 118, **118**  
*Heuchera americana*, 304  
*Heuchera pulchella*, 152  
*Houstonia canadensis*, **14**, **14**  
*Hudsonia tomentosa*, 16  
*Hypericum kalmianum*, 15  
*Iris hookeriana*, 74  
*Iris lactea*, 72  
*Iris lacustris*, 12, **13**, 18, 43  
*Iris missouriensis* var. *arizonica*, **212**, 213  
*Iris porphyrochrysa*, **115**, 115  
*Jovibarba heuffelii*, 301  
*Juniperus communis*, 233, **233**  
*Juniperus horizontalis*, 15, 18, 43, 233  
 ——— 'Mother Lode', 152  
*Kolkwitzia amabilis*, xxx  
*Lancea tibetica*, 71  
*Larix laricina*, **223**, 233  
*Leutkea pectinata*, **345**  
*Lewisia cotyledon*, **153**  
*Lilium parryi*, 210, **210**  
*Linnaea borealis*, 38  
*Lithospermum carolinense*, 16, 16  
*Lychnis alpina*, 228  
*Maianthemum racemosum*, **298**, 298  
*Meconopsis bella*, 169  
*Meconopsis bhutanica*, **167**, 169  
*Meconopsis primulina*, 167-168  
*Mertensia tibetica*, 74  
*Micranthes virginienensis*, 304  
*Milla biflora*, 210, **210**  
*Mitella diphylla*, **304**, 304  
*Mimulus lewisii*, 199  
*Minuartia marcescens*, **227**, 227  
*Minuartia rubella*, 227  
*Mukdenia rossii*, xxx  
*Nemastylis tenuis*, **213**, 213  
*Oenothera neomexicana*, **211**, 211  
*Onychium lucidum*, 78  
*Opuntia humifusa*, 44, 302  
*Osmunda regalis*, **229**, 231, 299, **299**, **300**  
*Oxalis adenophylla*, 131-132, **131**, **132**, **139**  
*Oxalis chachahuensis*, 135, **135**  
*Oxalis compacta*, 134, **134**  
*Oxalis enneaphylla*, 132-133, **133**  
 ——— 'Annette', **133**  
*Oxalis erythrorhiza*, **127**, **73-2 front cover**,  
 136-137, **137**  
*Oxalis laciniata*, 129-130, **129**, **130**  
*Oxalis loricata*, 137-138, **138**  
*Oxalis nahuelhuapensis*, 134, **134**  
*Oxalis squamata*, 136, **136**  
*Packera paupercula*, **230**, 231  
*Paraquilegia grandiflora*, 74, **76**  
*Parnassia glauca*, 15  
*Parthenocissus henryana* 299, **299**  
*Parthenocissus quinquefolia* 298  
*Pedicularis bicornuta*, 68  
*Pedicularis densiflora*, **339**  
*Pedicularis tubiformis* var. *longiflorus*, 71  
*Pellaea atropurpurea*, 19  
*Penstemon ambiguus*, 219, **219**  
*Penstemon californicus*, 156  
*Penstemon davidsonii* 'Microphyllus', 156  
*Penstemon laricifolius*, **154**  
*Penstemon linarioides*, **141**  
*Penstemon paysoniorum*, 156  
*Penstemon stenophyllus*, **218**, 219  
*Petrocallis pyrenaica*, **341**  
*Picea smithiana*, 79  
*Pinguicula vulgaris*, 12, 226  
*Podophyllum hexandrum*, 38  
*Polygala pauciflora*, 39



- Polygala polygama*, 18  
*Polygonatum odoratum* 'Variegatum', 296-296, 300  
*Polystichum acanthophyllum*, 78  
*Polystichum lonchitis*, 19  
*Potentilla argyrophylla*, 73  
*Potentilla nepalensis*, 73  
*Primula allionii*, 152  
*Primula alpicola*, 339  
*Primula auriculata*, 110, 110  
*Primula calderiana* ssp. *calderiana*, 166, 167  
*Primula capitellata*, 122, 122  
*Primula denticulata*, 77  
*Primula egalikensis*, 231  
*Primula elliptica*, 77  
*Primula hopeana*, 165  
*Primula macrophylla*, 69, 77  
*Primula marginata*, 152  
*Primula mistassinica*, 15, 231, 231  
*Primula rosea*, 77  
*Primula rusbyi*, 215, 215  
*Primula tenella*, 166, 167  
*Primula tibetica*, 165  
*Ramonda myconi*, 338  
——— 'Alba', 56  
*Ranunculus fascicularis*, 19  
*Rheum altaicum*, 110  
*Rheum nobile*, 168, 170  
*Rhododendron albiflorum*, 199  
*Rhododendron anthopogon* subsp. *hypenanthum*, 69, 77  
*Rhododendron carolinianum*, 243  
*Rhododendron lapponicum*, 232, 232  
*Rosa macrophylla*, 74  
*Salix arctica*, 232  
*Salix lindleyana*, 74  
*Salvia henryi*, 220, 221  
*Salvia lemmonii*, 221, 221  
*Sarracenia purpurea*, 12, 12, 226, 226  
*Saussurea gnaphaloides*, 74, 75  
*Saussurea gossypiphora*, 170, 170  
*Saussurea lappa*, 69  
*Saxifraga aizoides*, 231  
*Saxifraga fortunei*, 360-367  
——— 'Angelina Johnson', 363, 364  
——— 'Asahi', 365  
——— 'Beni Fuusha', 366, 366  
——— 'Beni Komachi', 366, 366  
——— 'Blackberry and Apple Pie', 363, 364  
——— 'Bychan', 363, 363  
——— 'Conwy Snow', 363, 363  
——— 'Masami', 365  
——— 'Moe', 363, 366  
——— 'Mt. Nachi', 363, 363  
——— 'Pink Haze', 363, 363  
——— 'Rokujo', 362, 363  
——— 'Rubrifolia', 360, 363, 364  
——— 'Shinkunomai', 365  
——— 'Shiranami', 363, 366  
——— 'Sue Drew', 363, 364  
——— 'Toujya' SUGAR PLUM FAIRY, 363, 365  
——— 'White Fantasia', 363, 363  
*Saxifraga jacquemontiana*, 73  
*Saxifraga 'Jenkinsiae'*, 57  
*Saxifraga paniculata*, 16, 224  
*Saxifraga stolonifera*, 360, 361  
*Sempervivum ciliosum* subsp. *borisii*, 156  
*Shepherdia canadensis*, 233  
*Shortia galacifolia*, 38, 39  
*Shortia galacifolia* x *uniflora* 'Leona', 38,  
*Shortia soldanelloides* var. *magna*, 38  
*Shortia uniflora* 'Grandiflora Rosea', 38  
*Sibbaldiopsis tridentata*, 16, 232, 301  
*Silene acaulis*, 224, 228  
*Silene hookeri*, 336  
*Silene zawaskii*, 152  
*Solidago uliginosa* var. *terrae-novae*, 231  
*Sporobolus heterolepis*, 43  
*Stewartia ovata*, 38  
*Symphytichum novi-belgii*, 232  
*Tetraneuris acaulis* ssp. *caespitosa*, 155, 155  
*Tetraneuris herbacea*, 17, 18, 18, 43  
*Thalictrum minus* var. *minus*, 301, 301  
*Thuja occidentalis*, 20, 20  
*Tiarella cordifolia*, 304  
*Tofieldia pusilla*, 231  
*Townsendia eximia*, 156  
*Townsendia exscapa*, 204, 205  
*Townsendia 'Jeane's Purple'*, 155  
*Triantha glutinosa*, 230, 231  
*Trillium grandiflorum*, 24-33, 24, 26, 27,  
28, 29, 30, 31, 33, 73-1 back cover  
——— f. *roseum*, 27  
——— 'Pamela Copeland', 24  
*Trillium ovatum*, 199  
*Tulipa buhseana*, 119, 120  
*Tulipa clusiana* subsp. *dimiae*, 118, 119  
*Vaccinium moupinense*, 301  
*Viola pedata*, 18

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**Back cover: *Gentiana autumnalis* buds – Uli Lorimer**



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