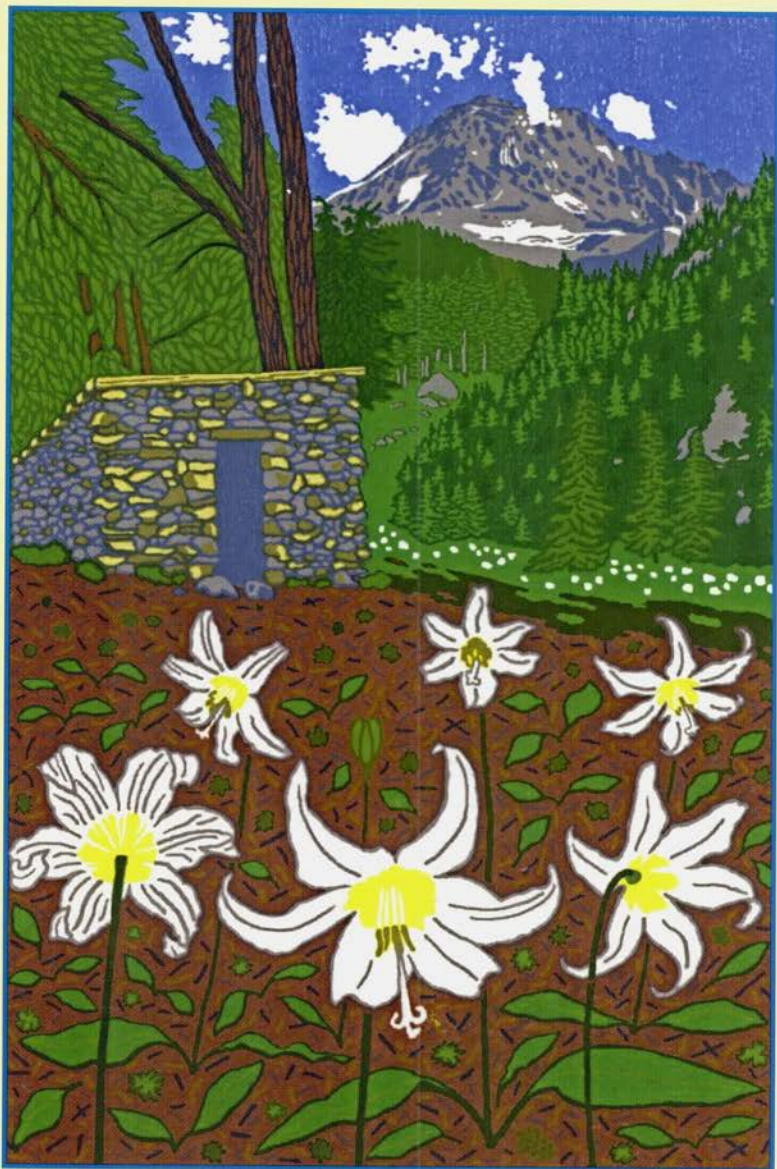


ROCK GARDEN *Quarterly*



Volume 68 Number 2

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Front cover: *Erythronium montanum* at Cairn Basin Shelter, Mount Hood, Oregon. Silk screen print by Sue Allen.

Back cover: *Anemone narcissiflora* meadow, Gran Sasso, Italy. Photo by Michal Hoppel.

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ROCK GARDEN

Quarterly

BULLETIN OF THE NORTH AMERICAN ROCK GARDEN SOCIETY

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From the Editor

Turn to the Bulletin Board newsletter at the back of this issue for the headline news about the *Rock Garden Quarterly*. I am now in my tenth year as editor, and judging from history, it is time to hand that position on. Later this year I'll be moving to a new home nearer to the city of Portland; the moving company can handle the furniture, but relocating the garden is up to me, and it will be all I can manage. The bulb collection is coming along, with "extras" going to many friends and to Illahe Nursery in Salem, Oregon, where many of the 1500+ taxa grown here will be propagated for sale. Right now, I'm demolishing the large rock garden (probably not a selling point to buyers who prefer "barkdust and juniper" landscapes) and rescuing as many plants as I can. Several friends who are more skilled at propagation came out last fall and took cuttings, too.

I hauled all those rocks out of the woods in a wheelbarrow, so I'm hiring a dump truck and having them taken to the new property, where a high bank cries out for a rock garden. The bulbs will be set out in deep beds in a large greenhouse so that my friends and I can enjoy them in midwinter in more comfort. I'm also looking forward to building some raised sand beds on the model developed by Rick Lupp of Mt. Tahoma Nursery, and to using some of the new place's vast driveway to set up a trough array inspired by Rex Murfitt. They and everyone else who contributed to *Rock Garden Design and Construction* have inspired my new garden plan in some way. The neighbors won't understand, of course. . . .

The new editor, Malcolm McGregor, will take over beginning with the fall 2010 issue. Malcolm is the first NARGS editor to be located outside North America, but we hope that electronic communication will bring him close to our American and Canadian members. An experienced author, editor, and lecturer, he is well qualified for the job and has met many North American members during his field trips and lecture tours here. To help with logistics—we still do some of our work by "snail mail"—we're talking about setting up U.S. and Canadian associates who will receive and forward postal items such as entries in the Photo Contest and contributions from members who don't use computers.

If you were wondering what happened to the 2009 Photo Contest, the results appear in this issue, having been received too late to get them into the winter issue. Thanks again to all who entered, and especially to those who respond to my urging by writing about the travels and gardens where they captured these wonderful images.

Rock Gardening in Western Poland

Michal Hoppel

Translated from Polish by Grazyna Grauer

Alpine Bug Attacks Poland

Attention! For some time now, the alpine bug has been freely crossing the Polish–Czech border and raising much havoc. After infecting the south of Poland, it moved northward toward the Baltic Sea. I got it about 20 years ago from my dad, and then I encountered an even more severe version found in the Czech Republic. This bug has been responsible for a radical change in the area surrounding my house, leaving in its wake rocks, smaller stones, gravel, and sand, all making a background for little plants. There is no room for vegetables and common flowers, much less fruit trees. On top of that, the front of my property is usually occupied by piles of rocks and gravel—another dead giveaway that the bug is active.

This bug is the reason why, instead of pondering new equipment for the in-home movie theater, I wonder where to buy another truckload of rocks, and instead of the latest plasma TV, I go for old stone troughs. At one time I might have wondered if all of this were normal, but now I know that it's a rather common affliction, present in many countries of the world, a fact I deduced by reading publications of the Rock Garden Club of Prague, the NARGS, the Alpine Garden Society, and the Scottish Rock Garden Club. Let me tell you more about this particular fixation.

The Most Beautiful Place on Earth

I live in Poznan, a city of 600,000 inhabitants and a center of the Wielkopolska region in western Poland. Poland is a land of diverse natural wonders: beautiful lakes and forests, the sandy shores of the Baltic in the north, and mountains in the south. In the southwest is the Sudety, an older mountain range characterized by great geological variability; further west are the Tatra Mountains, a younger formation and part of the Karpaty (Carpathian) Range. The Tatras, with the highest peak at 2500 meters, are home to many interesting (though difficult to grow) plants.

With an area of 320,000 square kilometers, Poland is a rather large country by European standards, somewhat bigger than Colorado or Nevada and a little smaller than California. It is four times the area of the Czech Republic. Unfortunately, we do not have nearly as many expert rock gardeners as do our southern neighbors, the Czechs, nor is there a Polish rock garden society.

Geology

The region where I live is completely flat; only river valleys and lakes left by the last glacial period lend interest to the topography. As a result of Baltic glacialization, the area is rich in sand and silt, and hard, oval volcanic rocks (granite, basalt, gneiss, etc.). These rocks are not very useful for building a garden: they are round and of different colors. So, the thing to do is to get rocks from the mountains 300 km to the south. There are about 30 stone quarries there that have many types of rock suitable for rock gardens. The choice is nice, but the cost of transport is 5 to 10 times higher than the cost of the rocks. This accounts for the diversity of our garden—"our" because I share it with my dad, Witold. Although we share the garden, each of us has a separate collection of plants and planting areas—rock formations, raised beds, and screes—and each has different cultivation methods and favors different groups of plants.

Geography and Climate

My garden lies 100 meters above sea level, and the total yearly precipitation here is about 500 mm. The average high temperature in July is 24° C, although occasionally it may climb to 35° C. The average low is -5° C, but it can dip to -20° C for several days. Thus, it's very unusual to have a "typical" succession of seasons: spring begins in March–April with temperatures between 10° and 15° C, then May warms to around 20° to 25° C, followed by a rather warm summer (20° to 30° C) until September and a rainy fall. Winter comes in November–December and departs in March. Alas, this ideal flow of the seasons is no longer the norm, and our climate is very changeable. In mid-January we might get a week with temperatures as high as 10° C, so that dormant plants get attacked by fungus and mildew. Later, after a warm February, March may bring freezing spells to -10° C, which damage the emerging flower buds. This may be followed in April by 5° C at the outset, rising to 25° C toward the month's end, when plants that normally bloom for a few weeks are done after several days. In May the temperature may peak at 30° C and harm plants in their period of intensive growth. For example, *Androsace vandellii* might perish within a day. Later, the usually hot July can bring continuous rain, and plants from North America cannot luxuriate in the sun as they are accustomed. Most dangerous, however, is the rainy fall and the beginning of winter, when many of the plants I grow would be snug under a comforter of snow in their native habitats. Our winters do not

bring constant snow cover; the snow comes and goes, with the soil surface freezing and heaving. Growing alpine plants in these conditions is a challenge, but it doesn't make the alpine bug any less relentless.

How can you do it, then? Like gardeners elsewhere in the world, I observe certain basic rules, which can be summed up as follows: a mineral growing medium, excellent drainage, and the best possible protection against wet fall and winter weather. Thus, I'm able to grow true alpines, bulbs, dryland plants, and small shrubs and subshrubs.

Mountains in the garden?

Over 20 years of building various parts of my garden, I discovered some new kinds of rocks and used new techniques of putting them together, which led to a more hospitable environment for the plants. Dad's and my first rock gardens, created 15 or 20 years ago, were far from great. They were constructed out of hard, crystalline calcareous rock, which did not fracture into regular shapes, so that it was difficult to put together a natural-looking "formation." The growing medium was composed of a mix of small gravel and peat, which dried out fairly quickly, especially in hot weather, so that the garden had to be watered very frequently. There was a similar rock garden made out of granite for plants that are not lime tolerant.

The next phase manifested itself in small tufa rockeries containing some more demanding alpines, and these were watered overhead. Tufa, by the way, does not occur naturally in Poland. The nearest source is 500 km away from me, in the Slovak Republic.

At that time I was interested in members of the *Porophyllum* section of the genus *Saxifraga*, which I usually bought grown in pots in the Czech Republic. It was not easy to keep this collection of sensitive species and cultivars in good shape with no winter protection and little shading. Later, when I had more rock gardening experience, I realized they were not that difficult for me to grow, but then my attention turned to *Dionysia* and various cultivars of *Primula allionii*. My education as a rock gardener included many attempts at constructing a plant-compatible rock garden and losing large quantities of alpines. It wasn't until after scores of choice plants dried out, drowned, burned, froze, or got devoured by voracious slugs that I finally learned how to grow more demanding alpines.

The garden I'm describing now was some distance from where I lived, and I commuted to it to do the work. Eventually I built a house on that property and added new features to the garden. Having a house here is marvelous: my plants are almost at arm's length from me, and I can tell them "good night" before going to bed. This is when I introduced new garden elements that are very helpful in keeping plants alive in my climate: alpine houses, frames, crevice gardens, screes, sandstone troughs, and more rock garden beds.

The Alpine House

This is a very useful structure in my climate (it appears in the photo on p. 93). The foundation of my alpine house is buried 1 meter (39 inches) deep, which minimizes fluctuations in temperature. In the summer the structure is slower to heat up, and in the winter slower to cool down. In addition, on the southern part of the alpine house I built a wall, and the roof is tilted to the north, so the largest expanse of glass is not directed toward the sun. The southern wall is equipped with two large electric fans that come on automatically when the inside temperature reaches a set level. Thanks to this feature, I can keep the temperature inside close to that outside, even on very sunny days.

Since it's crucial to maintain good ventilation in an alpine house in the summer, on hot days most of the vertical windows in my structure can be removed or opened, the roof vents can be opened, and two household electric fans work interchangeably inside. In addition, from May through August the main part of the roof is covered with 50% shade cloth. After several incidents when birds or cats got in through the windows and vents, I covered the openings with screen (1 cm mesh), which also keeps larger slugs at bay.

An alpine house of this type permits the cultivation of *Dionysia*, *Primula allionii* and its hybrids and cultivars, as well as many other plants that require careful watering and controlled atmospheric humidity, such as *Helichrysum*, *Androsace*, the more difficult *Draba* species, and those bulbs that need a dry dormant period. However, I try to grow as few plants as possible in the alpine house, as in this climate cultivation under glass results in an unnatural growth habit and promotes fungus, mildew, and infestation by insects, particularly root aphids. Thus, I do not attempt to grow under glass the species of *Phlox*, *Eriogonum*, *Townsendia*, *Tetraneuris*, *Campanula*, or *Gentiana* cultivated in the alpine houses of Great Britain. For example, I cannot leave *Androsace* in the alpine house in summer because it will get overheated or burned. In my climate, many plants in the alpine house might get overheated when the outside temperature exceeds 32° C, for inside, despite intensive ventilation, it could be 2 or 3 degrees higher. Keeping potted plants in the alpine house here stresses them, and I do it only if it's absolutely necessary. I prefer to grow plants in the rock garden and troughs, where they enjoy natural air movement and sunshine.

Crevice Gardens

These are great habitats for alpines in the summer, letting them have cool feet and sunlight in their faces. The first crevice garden I built was made out of gold-and-silver sericite-chlorite slate, and the crevices were filled with chips of the same rock, plus 1- to 2-mm granite gravel, sand, and a small amount of garden soil. Sericite-chlorite slate results from the metamorphosis of siltstone and is characterized by variable fragility depending on its mineral content. In the same stone quarry, it's possible to find rocks with different degrees of resistance to the elements. For example, rocks containing a lot of mica erode to form a silt-like

powder that retains moisture, and this is not good for alpinists during the fall months. The mineral composition of these rocks is very advantageous for plants because it contains a lot of silicon compounds, which in turn house many micronutrients; it has a pH of 5 to 6, by my tests. This is why I often add 5 to 10% of that crushed rock, which looks like fine shale, to my growing media.

Another section of the crevice garden, built of phyllite slate that is hard, heavy, and resistant to the action of water and freezing, is much less susceptible to erosion, but at the same time it does not offer plants much in the way of mineral nutrients (photo, p. 93). When I was buying large rocks of phyllite schist (about 1.5 tons), I was also able to get it in crushed form and purchased about 3 tons of the latter. As a result, the base of this crevice bed is filled with the crushed rock (with the additives mentioned earlier), which is dug in 25 cm below ground level and extends outward 30 cm from the bed.

I'm pleased with the properties of this crevice bed now, although in it I grow different plants than I had originally planned. Very happy here are *Eritrichium nanum*, difficult *Draba* species, medium-difficult androsaces, and also *Tetranneuris*—my favorites are *T. acaulis* and *T. lapidicola*, as well as easier eriogonums (e.g., *E. umbellatum* var. *porteri*), *Erigeron linearis* and *E. scopulinus*, *Asperula gussonii* (photo, p. 92) and *A. sintenisii*. The northeastern walls are good for *Ramonda* and *Haberlea*. The garden, however, does not work well for plants that require perfect drainage. The eroding rock muddies the substrate, thus decreasing drainage. One solution here is to insert plants into tight crevices between two rocks (photo, p. 91). There are plants that really like the conditions in this feature, though. Gentians of the *Thylacites* and *Cyclostigma* groups take to the mineral content of the scree and its low acidity.

In this patch of my “mountains” I followed the principle that a scree should be made of the same base material as the large rocks associated with it. This emulates the conditions in which plants grow in nature. They have 2 or 3 cm of crushed rock right below them, and that contributes to their health and makes them look more natural. The best thing to use here is crushed rock, not gravel intended for the construction industry. Mixing different gravels does not give a natural effect either, so I try to buy loose stone from the quarries where I also buy big rocks. I use the same building principle in forming other parts of my garden and shaping “landscapes” in troughs: they should be attractive in themselves and resemble small mountain scenes.

Another crevice garden (shown during different phases of construction on p. 91), located under the southern and western roof overhangs, is an improved version of the first one. It's made of hard greystone slate and quartzite-sericite slate, which are dark brown and gray. It's definitely harder than the stone described earlier and not as susceptible to erosion. It's available as flagstones that can be broken into thinner pieces and then arranged in natural-looking layers, because the individual pieces fit neatly against one another. Moreover, the rock can be chipped (with some difficulty), producing smaller stones for upper drainage material. I have seen lots of that slate in the high Alps, which means that many plants are “programmed” to expect it.

Because of its location under the eaves, with precipitation typically coming from the west, the eastern part of the second crevice garden remains completely dry, and the southern part receives significantly less precipitation than the rest of the garden. It makes a great habitat for plants that do not like moisture in fall, winter, and summer. In this crevice garden, spaces between rocks are proportional to their thickness and are filled with crushed rock (photo, p. 91) as well as rock dust, which retains some water. I installed drip irrigation in this feature, which brings water close to the roots without wetting the top growth. The scree here is 30 cm deep, enabling plants with long roots to seek moisture deep in the growing medium, as in nature.

One part of this crevice garden, the most directly exposed to the sun, is made of soft granite and offers a good place for the consummate drylanders: *Trifolium nanum*, *Townsendia condensata*, *Tetraneuris grandiflora*, *Eriogonum ovalifolium*, and *E. sphaerocephalum*. I used to kill some of the plants now in this garden by overhead watering. In narrow crevices thrive denizens of Turkey and North America: *Convolvulus*, *Asperula boissieri*, *A. arcadiensis*, *A. daphneola*, drought-loving centaureas, *Erigeron linearis*, *E. chrysopsidis* (photo, p. 89), *E. aureus*, *Phlox bryoides*, *P. pulvinata*, and *P. missoulensis*, *Tetraneuris*, *Townsendia parryi*, *T. condensata*, *T. montana*, *T. leptotes* and other species, *Lesquerella*, *Talinum*, *Trifolium*, and hardy cacti. The roots of alpine plants mostly follow the rocks placed at an 80° angle and draw moisture from their cool surfaces. This means that their growth is not too lush, so they are not susceptible to fungus and mildew, and the strong sunshine helps them retain their natural character. Too bad the roof overhang at this part is so short!

Troughs

Further along the western wall of the house, where it's rather windy, and still under the roof overhang, I placed five large troughs (photo, p. 90): two made of hypertufa and three of sandstone, the latter over 150 years old. With little precipitation reaching this spot, it's possible to control the moisture the plants get by hand-watering. The infrequent rains from the east do not cause any damage. Each trough contains different types of rocks that are arranged, if possible, into small crevices. These small arrangements serve as a trial ground for new kinds of stone; if their mineral content proves beneficial in the trough, I might use them in the future to build sections of the rock garden. Those presently used in troughs include limestone tufa, volcanic lava, graystone slate, gneiss (which looks like layered granite and breaks into layers), and quartzite (photos, p. 93). The quartzite is granular and white (so it can be mistaken for limestone), but it contains a little iron, which gives it brown-red streaks or veins of other silica compounds. The pH of quartzite is neutral, as in quartz, and the rock is quite soft and erodes after a while, producing a good amount of dust. I like observing the behavior of rocks over time as much as I do that of plants and try to make arrangements of rock that are attractive even without plants.

All the troughs are connected to a drip irrigation line that runs through 2.5-cm holes drilled in their bases. The irrigation system is activated manually on hot days, so the trough fill absorbs water without the tops of the plants getting wet.

In the troughs I grow plants that are compatible with the pH and other properties of the rocks, particularly those that are difficult to cultivate in Poland in an open rock garden with its significant fall–winter moisture. Some examples are *Draba longisiliqua*, *D. cappadocica*, *D. polytricha* and *D. rosularis*, *Douglasia montana* and *D. nivalis*, *Phlox bryoides*, *P. kelseyi* and other phloxes, *Senecio incanus* and *S. uniflorus*, *Eriogonum ovalifolium*, *Androsace bisulca* var. *aurata*, *Eritrichium aretioides*, *E. nanum*, *Aquilegia jonesii*, *Androsace helvetica*, *A. wulfeniana*, *Gentiana verna*, *G. sierrae*, *G. brachyphylla*, *G. clusii* (photo, p. 90) and other gentians. It's important to position plants on the correct side of the rock: a plant might like to bask in direct sunlight in a very dry, open location, or rest in a light shade, protected from direct sunlight and having access to more moisture. As I watch my stone troughs over time, I can confirm that they have a high capacity to retain heat and are very good for keeping roots cool. In them I'm able to grow plants I cannot grow even in the sections of the rock garden with the best drainage and full exposure to the elements.

A Rock Garden in a Pond

One of my biggest challenges was the construction of a large (by my standards) rock garden with an area of 30 square meters; it replaced a waterlily pond and serves as an example of the expansionism of alpinists into aquatic territory (photo, p. 93). I purchased 25 tons of amphibolite rock from the Karkonosze Mountains, 300 km away. Of that, 13 tons were large rocks and the other 12 tons were loose stone of various sizes. During construction it became clear that this rock is harder than I initially thought, and it had to be transported into the garden by four people or broken with a high-powered hydraulic drill. It isn't formed of layers and breaks at an angle of 124°, which means it's not easy to arrange it into a natural-looking landscape.

Why did I choose this stone, when even its color is not very attractive—something between gray and green? I tried it first in raised beds and found that plants like it, which can be attributed to its non-alkaline pH (confirmed by the official certificate from the quarry) and a mineral composition consisting of various compounds of quartz and feldspar. The new rock garden bed was filled with a mix of crushed amphibolite rocks and some rock dust, a mix that accounted for 90% of the growing medium, with the remaining 10% made up of peat and some clay, the latter occurring naturally at a depth of 70 cm. The resulting scree has very good drainage and roots thrive in it, growing, if possible, along the surfaces of larger, buried rocks. The top of this part of the rock garden is covered with 5 cm of loose stone that broke off in the quarry when the large rocks were mined, creating a very natural look. The photos on p. 93 were taken during construction: to the left is a finished section, to the right a part with just the largest stones inserted into 30 cm of scree.

At the bottom is a little pond, not even one square meter in extent, which receives circulating water from two streams, one on the southern slope and the other on the northern. The most important is the northern slope, with narrow crevices and a moraine, a situation favored by difficult plants that require cool growing conditions and protection from direct sun. It is difficult to achieve such conditions in this climate. This is the habitat of *Androsace alpina*, *Saxifraga bryoides*, *Ranunculus glacialis* and *R. brevifolius*. The cooling effect of this northern exposure is augmented by evaporation from the little pond near it and by the stream. In addition, large rocks (over 50 by 50 by 70 cm) absorb heat, cooling plants growing next to them and reminding them of their native habitats. I tried to arrange the rocks here to achieve the most natural look, to the extent that this is possible with rocks mined at a quarry rather than specimens that have eroded naturally.

On the southern slope grow plants that love strong sunshine and heat. This part of the rock garden is not covered during winter, and so I don't plant the most precious things there, although in the future I plan to try some genera that are less tolerant of winter moisture. At this time, I grow *Acantholimon*, *Penstemon*, *Oxytropis* and *Astragalus* here. I hope that the fast-draining scree will allow me to add more plants without providing winter protection. The eastern and western slopes provide good growing sites for other plants that do not require alkaline conditions.

Something for the High pH Groupies

I also built a medium-sized rockery for plants that require alkaline conditions. It's made of hard limestone resembling marble. The scree in this feature consists entirely of chips of the same rock and does not contain any organic matter.

I had a bad experience with limestone rocks I brought from the flatlands of central Poland. It became apparent after a while that they are very soft and highly susceptible to erosion, producing a very high pH in which plants grow very slowly and do not look healthy. Perhaps the high pH impedes their nutrient intake. Another explanation might be the high salinity of this rock. Anyway, I'm going to liquidate that rockery this year. Apparently progress is not possible without failures.

Rocks without a Drop of Rain

Last year the garden gained a new alpine house, for which I have high hopes and in which I'd like to grow the most demanding plants. It's constructed of aluminum and polycarbonate, and measures 2.5 × 8 meters and is 2.2 m high. The side walls, which are 1.4 m high, are completely removable, which will allow excellent air circulation in the summer, as this alpine house is situated in a very windy part of the garden. There is a walkway in the center of the alpine house

which was dug 1 m below the soil surface to facilitate the maintenance of the planting beds and allow access to them during my old age, provided I'm still able to descend the four granite steps.

In fall and winter, the side walls are reinstalled to protect the plants against moisture; the wall sections fit into aluminum tracks. I have already made there a dry bed for the *Oncoclycus* and Juno irises, and in the spring I plan to start building a slate crevice garden inside and a tufa wall on the northern side. The limestone tufa slabs will absorb water from layers of felt placed alongside the wall—a type of construction I've seen built by my friends in Germany, the Czech Republic, and Slovakia. A tufa wall is my garden's missing element, as so far I don't have the proper conditions for growing the most sensitive *Jankaea*, *Androsace*, *Dionysia*, and other genera that perform well in tufa and require winter protection from moisture. The indoor crevice garden will also allow me to grow dryland plants from North America, southern Europe, Turkey, and Patagonia. I should be able to control their moisture intake, and protect them from mildew and fungus through good air circulation. May the strong winds remind Patagonian natives of their natural habitat!

Beautiful Is Difficult—Difficult Is Beautiful

By following the cultivation methods described above, I try to create growing conditions that plants find in nature, and that's why I also like to see plants in their natural habitats. In the climate and geographic location of my garden, creating these microclimates requires more effort than in mountainous or hilly areas, but there is more satisfaction in caring for plants that reward the attention they get with colorful bloom. Isn't this what it's all about? If *Trifolium nanum* grew in the lawn and *Eritrichium nanum* in a regular flower bed, where would be the joy in attempting their cultivation? What I find really fascinating is observing the entire life cycle of a given plant in different growing conditions.

I would like to be fascinated by this as long as I live. I'd like to keep experimenting with many plant genera in new gardens constructed out of rocks I haven't tried yet, and that's what I wish for all the readers infected with the same bug.

Michał Hoppel lives in Poland and works as a computer systems manager in the banking industry. He is a member of the AGS, SRGC, RGCP, and NARGS. His passions include alpinism, rocks, and plant photography, both in nature and in gardens. Together with his father, Witold Hoppel, he has a website, www.alpines.pl (linked to www.nargs.org under "Members' sites"). Contact him at alpines@home.pl.

New Directions with *Lewisia* Hybrids

Jack Muzatko

My amateur attempts at hybridizing lewisias have been a lot of fun. My goal has always been to produce some interesting and beautiful miniature plants for my own rock garden, without any commercial aspirations. The results have been quite rewarding. Each hybrid seems to be a little different than any other, even when coming from the same parents. Some combinations are easy, some are difficult, and many are probably impossible—but that doesn't mean you can't have fun trying. Who knows what might happen?

I have had particularly good results with one species. I will start by talking about *Lewisia glandulosa* in some detail. In the wild this species often looks a little scrawny and unspectacular, but in cultivation it is a beautiful rock garden plant (photo, p. 94). Examples of hybrids of *L. glandulosa* (as the seed parent) with three different forms of *L. cotyledon* are shown in the photos on pp. 94–95. A fourth such hybrid (p. 96) shows an overall style more similar to *L. glandulosa*, but with beautiful purple flowers rather than the characteristic white flowers of that species. This last plant flowered continuously outdoors for almost nine months, from November through July, with rings of flowers moving slowly outward from the center. In all cases, the flower stems are intermediate in length between the two species, and the flowers are more abundant than those of *L. cotyledon*.

Two other hybrids produced from *Lewisia glandulosa* as the seed parent are shown on p. 96 (×*rediviva*, subsp. *minor*) and p. 97 (×*rediviva*). These probably should be classified as strange and interesting rather than beautiful.

Lewisia glandulosa is listed by Davidson 2000 as one of 19 species of *Lewisia* in the *L. pygmaea* cluster of Section *Pygmaea*. Since that time, *L. glandulosa* has disappeared from Ashwood Nurseries' lists and from presentations on the genus by Sean Hogan, and I have never seen it for sale or in any garden except my own. Seeds have been listed for sale, but in many cases I have found that they were various strains of *L. pygmaea* and not *L. glandulosa*. Since it seems to be difficult to find this species, it might seem reasonable to deny its existence, or simply to declare it a variety of *L. pygmaea*. However, I think this would be a mistake, because it is a plant with very specific characteristics and has wonderful and unusual potential for hybridizing with other species.

I have found *Lewisia glandulosa* only in two field locations in the Central Sierra Nevada of California. The first was a small, isolated colony on the slope of Mt. Starr at about 12,500 feet (3810 m). Most of my hybridization work was done with plants grown from seed found there. Near this spot there were no other species or variants of *Lewisia*. The second location was found by Ron Ratko near Dundenberg Peak at about 11,000 feet (3353 m). Some plants here appear to me to be true *L. glandulosa*, along with several mixed hybrids or other variants. *L. glandulosa* today probably exists only in small, isolated colonies like these and may be slightly different at each location.

Lewisia longipetala is another species that may have hybridization potential similar to that of *L. glandulosa*. I believe the two species are very closely related. They hybridize freely with each other, and in the wild it can be impossible to distinguish between them if the flowers are not present.

Examples of two different hybrids of *Lewisia longipetala* (seed parent) and *L. cotyledon* are shown on p. 96 and 97. On p. 98 is another hybrid of these two species, but with *L. cotyledon* as the seed parent. In all cases, the longer flower petals (from *L. longipetala*) are quite evident. Because the availability of *L. glandulosa* is questionable at this time, *L. longipetala* may offer a better opportunity for amateurs who wish to explore lewisia hybridization.

I shoot almost all my photos in 3D now. Each of the photos shown in this article is half of an original stereo pair that I use for digital slide shows. Close-up stereo views of flowers such as these provide an experience beyond description—normally enjoyed only by hummingbirds and perhaps some pollinating insects.

I should say a few words about the forms of *Lewisia cotyledon* I have worked with. I have had success with a number of strains, but the most successful has been the Ashwood Strain, produced by Ashwood Nurseries in England. It is the result of many years of selection and hand pollination. It is available in many colors and seems to have a great ability to hybridize with other species. Seed can be purchased online from www.ashwood-nurseries.co.uk/. They will ship seed overseas.

Ashwood Nurseries' most popular hybrid (*Lewisia* 'Carousel') is very similar to my hybrids from *L. glandulosa* and *L. cotyledon*. 'Carousel' has been reported to be a cross between the Ashwood Strain of *L. cotyledon* and *L. pygmaea*. My own experience suggests that this would not produce such a hybrid, and that *L. glandulosa* is a more likely parent than the more common *L. pygmaea*.

My work has produced some other interesting results. On p. 98 is a photo of a hybrid between *Lewisia brachycalyx* and *L. cotyledon*. The result is more similar to *L. brachycalyx* yet quite different from the parent. On p. 98 is a hybrid between *L. pygmaea* and *L. rediviva*, again different from either parent.

All of the hybrids described here are evergreen. Both *L. glandulosa* and *L. longipetala* are technically deciduous. In their native habitat they are covered with snow much of the year. However, in cultivation they can have a pretty healthy display of leaves all year (at least in the Mediterranean climate of the San Francisco Bay area where I live). Under the same growing conditions, *L. pygmaea* is clearly deciduous. This is another difference between *glandulosa* and *pygmaea*.

Hybrids between evergreen and deciduous species have been reported usually to be evergreen, and that is what I have observed. Even the cross between *pygmaea* and *rediviva* (both deciduous) is evergreen.

I have obtained seed—but no successful flowering plants, so far—from many other combinations, including crosses involving *Lewisia disepala*, *L. kelloggii*, *L. maguirei*, *L. congdonii*, and others. I have produced hybrid seed (yet to germinate) with a very interesting miniature lewisia from California's White Mountains, which has been variously called *L. glandulosa* or *L. pygmaea* but is quite different from either (see the photo on p. 30 and discussion on p. 66 in *Rock Garden Quarterly* 67:1, winter 2009). The possibilities are endless.

There are many different techniques and procedures that can be used in hybridization. However, I find that some rather simple and straightforward procedures will produce satisfactory results. I simply use tweezers to pluck the stamens from the flower of one species and brush it against the stigma of the species that is to be the seed parent. In each flower, the anther is usually ready to disperse pollen at a different time (usually earlier) than the stigma is ready to receive it, which helps prevent self-pollination. It is best to remove all the stamens from the flower of the seed parent before they are ready to disperse pollen and to wait until the stigma opens more fully, and then brush the pollen from an anther from the other parent when it is ready to disperse. Getting a feeling for this timing can increase the rate of success considerably. Outdoor plants should be protected from pollinating insects in some way. Seeds should be collected as soon as they are mature and before they drop off or get scattered. This is a little like playing Blackjack: *Hit me one more day!* Usually three or four weeks after pollination is about right. With most species the seeds turn black and the seed capsule starts to open up. *Lewisia glandulosa* seeds, however, only turn brown. I am still experimenting with drying and seed storage conditions. I have found that most lewisia seeds respond well to two months' stratification (moist chilling), germinated between paper towels. Sometimes hybrid seeds are more reluctant to germinate and additional storage cycles or gibberellic acid treatment may be necessary. I do not usually treat the seeds before the first stratification cycle. After stratification, if seeds do not germinate in a few weeks at 70° F (21° C), I have had some success treating with 1000 ppm gibberellic acid before repeating stratification cycles. I am still experimenting with procedures. I have found it is best to keep experimenting on difficult seeds and not give up too soon.

Once the hybrid seeds germinate in the spring, the seedlings may take a full year growing to flowering size, although I have had some flower by the end of the summer. The hybrids are normally sterile and usually do not produce any seeds at all. However, in most cases they soon begin producing many offshoots that can be used for propagating identical plants.

Lewisias like to be potted. I have grown many outside, but they just don't seem as happy and don't live as long as those in containers. The hybrids seem a bit more robust and probably live somewhat longer than the parents under most conditions. Most of my hybrids are no more than two or three years old, so I can't really predict their longevity at this time. Almost all of my lewisias are now

grown outdoors in pots, covered during the winter rainy season. I continue to experiment with drainage, watering, soils, refrigeration, aeration, fertilization, sunlight, and other variables. The correct answers on these issues will undoubtedly depend to some extent on the specific climate and conditions where you live.

Any work on hybrids tempts one to get involved with chromosome studies. The Jepson Manual (Hickman 1993) and other authorities have listed the chromosome numbers of many *Lewisia* species, including *L. cotyledon*. However, I have seen no chromosome data reported for *L. glandulosa*. It is quite likely that many of the hybrids are polyploid. I would like to do some work in this area, but I just never have had time to go into it. Of course, it would be fascinating to use DNA analysis to determine the evolutionary origins of some of the strange *Lewisia* variants and hybrids found in nature. So much to do—so little time.

Hybridizing *Lewisias* is an activity that any amateur rock gardener can pursue without a lot of special equipment or training. Although some may fail to see any need or reason for such activity, all who love to explore things new, different, and beautiful will understand.

References

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Jack Muzatko is a retired research chemist. He gardens on a hillside site in Pinole on the east side of San Francisco Bay. He has explored the mountains of California for *Lewisia* species and other plants and is an avid photographer whose work has received many awards in our annual contests. He presented his 3D plant photos at the 2009 Western Winter Study Weekend.

Devilishly Small Mountains

Lola Lloyd Horwitz

To what lengths do we rock gardeners go in order to create suitable settings for our plants? We have always read that local stone is best when one's own property offers nothing either useful or attractive. My backyard in Brooklyn is 17 by 40 feet in area (a little more than 5 by 12 m) and offers none of the glacial boulders commonly dropped in this area when the last glacier receded, nor any of the shiny Manhattan schist from the neighboring island. Lincoln Foster said that when nothing else is available, use concrete block or even stacked brick, which were definitely my "local products." In the early 1980s, ready to turn half of my erstwhile vegetable patch into a rock garden, I went for the stacked brick.

About 18 years later, I had had enough of the leaning brick "barge" (so dubbed by one of my discerning children), despite the modifications I'd made to soften its shape. Removing the bricks and soil and finding homes either temporary or permanent for the remaining plants was no easy task. But my aim here is to describe my second attempt at using local materials.

This time, I placed the new construction on a small rise 4 feet (1.2 m) farther back in the garden, hoping to get a little more sun. The "barge" site would become a paved area for my increasing number of containers. The sunnier area was delimited by steps on each side and a path in back, resulting in an area 2 feet 3 inches by 6 feet 8 inches (about 0.68 by 2 m). To simulate rocks of varying heights and tiered growing areas, I used sixteen terracotta chimney flues from my neighborhood masonry yard: eleven of them are 17 $\frac{3}{4}$ by 8 $\frac{1}{2}$ by 24 inches (deep), and five are only 8 $\frac{1}{2}$ inches square, the latter yielding an inner measurement of 7 $\frac{1}{2}$ inches square (one inch = 2.5 cm). We are talking small! As all flues came 24 inches long, I had to cut most of them to varying lengths with a diamond blade attached to a rotary saw. It's a noisy, dusty, unpleasant business. But the resulting mix of heights and shapes, all carefully filled with a very lean, almost soilless mix, gave much satisfaction. I experimented with another local product, crushed sidewalk concrete, mixing it with sharp sand, grit, stone dust, and just a little garden soil (photos, p. 100).

Vaccinium moupinense, *Dianthus* spp., *Iris odaesanensis*, *Androsace sarmentosa*, *Veronica* spp., *Sisyrinchium angustifolium*, *Aquilegia flabellata* 'Nana' (very Nana),



Erigeron chrysopsidis, photographed by gardener Michal Hoppel, was awarded first prize in class 3 of the 2009 Photo Contest. Read about his garden on p. 75, and about the Photo Contest on pp. 120–124. (photos, M. Hoppel)

Edraianthus pumilio in the Hoppel garden.





Gentiana clusii subsp. *rochelii* earned Michal Hoppel honorable mention in class 3 (p. 81). (photos, M. Hoppel)

Troughs in the rock garden created by Michal Hoppel and his father in Poland (p. 80).





Two views of the crevice feature in the Hoppel garden (p. 79), under construction and recently planted. (photos, M. Hoppel)





Favorites in the Hoppel garden (p. 75) include *Dianthus myrtinervius*, above; *Asperula gussonii* (p. 79), below left; and *Asperula daphneola*, below right. (photos, M. Hoppel)





Features in the Hoppel garden in Poland include a crevice garden built of gneiss (above, p. 79) and a garden constructed of amphibolite with a water feature (below, p. 81). (photos, M. Hoppel)





Jack Muzatko works extensively with *Lewisia glandulosa* in his hybridizing program (p. 84; fig. 1). (photos, J. Muzatko)

Muzatko hybrid H117A (p. 84; fig. 2) is a cross between *Lewisia glandulosa* and *L. cotyledon*.





Two more hybrids between *Lewisia glandulosa* and *L. cotyledon* (p. 84):
above, H118, fig. 3; below, H136, fig. 4.





Above, Muzatko hybrid H130b, *L. glandulosa* × *L. cotyledon* (p. 84, fig. 5); below left, H106, *L. glandulosa* × *L. rediviva* subsp. *minor* (p. 84, fig. 6); below right, H128b, *L. longipetala* × *L. cotyledon* (p. 85; fig. 8).





Above, Muzatko hybrid H108, *L. glandulosa* × *L. rediviva* (p. 84, fig. 7); below, H128a, *L. longipetala* × *L. cotyledon* (p. 85, fig. 9).





Above, Muzatko hybrid H135, *L. cotyledon* × *L. longipetala* (p. 85, fig. 10); below left, H126A, *L. brachycalyx* × *L. cotyledon* (p. 85, fig. 11); below right, H131, *L. pygmaea* subsp. *sierrae* × *L. rediviva* (p. 85, fig. 12).



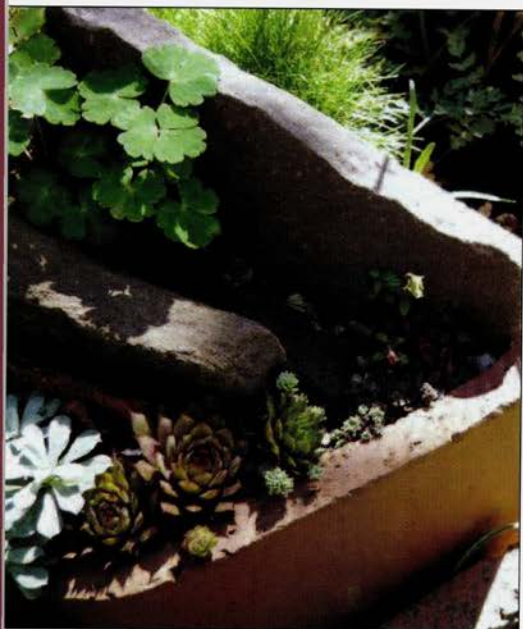


Selecting and breeding *Saxifraga fortunei* has given James Jones some lovely garden specimens (p. 106). (photos, J. Jones)





Lola Lloyd Horwitz created a small but successful feature in her New York City garden by planting in flue tiles (p. 88). (photos, L. L. Horwitz)





Above, the hybrid *Dicentra* 'King of Hearts'; below left, a white form, 'Ivory Heart'; below right, *Dicentra eximia*, a widely adaptable species (p. 109). (photos, T. Boland)





Seemannia nematanthodes 'Evita', a hardy gesneriad (p. 111). (photo, E. DeMarie)

Ewelina Wajgert received first prize in the new class 6, plant in a container, for this image of a *Townsendia* displayed at the famous Prague Rock Garden Show (p. 122).





The grand prize winner and first in class 1, 2009 photo contest, is this image of *Campanula speciosa*, photographed by David Sellars in the Pyrenees (p. 123).



Viola flettii in the Olympic Mountains, Washington, photographed by Richard Ramsden, fourth prize in class 1 (p. 120); this narrowly endemic species is a great challenge to growers.

This image of *Campanula rotundifolia* at Flowers Cove, Newfoundland, captures the atmosphere of a rocky beach and won Todd Boland fourth prize in class 2 (p. 121).



Stachys spp., and various *Sempervivum* and *Orostachys* have persisted, and most have thrived.

About eight years after installation of the chimney flue rock garden, the mounting evidence that crevices are the *ne plus ultra* of rock gardening was not to be overlooked by someone who had reached age 68. So, casting off all previous belief that only local urban materials were acceptable in my backyard, I searched through a rural masonry yard for thin slabs of reddish stone and found what I wanted, but bought only enough for a start at crevice growing. I focused on one small and one large flue, only half filling the large one. This time my “soil” mix had no crushed concrete or garden soil, but down below the slabs was the original, slightly richer mix. I established the strata lines of the slabs diagonal to the rectilinear arrangement of the flues, both for the contrast in line and for the greater length offered by diagonal placement. This is crevice gardening on a miniature scale, but just as absorbing and challenging as any other project in my garden.

My starter plants were two I had bought at a fall joint NARGS meeting: *Festuca* ‘Pic Carlit’ and *Pieris nana* (syn. *Arctericia nana*), plus a few I had grown from seed (*Allium brevistylum*, *Aquilegia laramiensis*) or inserted as cuttings (*Antennaria dioica*, *Orostachys fimbriata*, and *Sedum dasyphyllum*). Who would have thought that this miniature mountain of stone slabs could offer more growing space than the flat surface of the flue *and* reduce the depredations of squirrels? The plants have been happy, and I love this very diminutive mountain rising out of my urban chimney flues. I’ve decided that as the plants I love in the mountains are often growing against or into stone, I will try to give a little of that stony backdrop to my small plants. I’m going back for more pink-hued slabs soon.

One caveat is that terracotta flues are not immune to frost damage. Over the years a few cracks have appeared, so I would recommend using them only in Zone 7 or warmer climates.

Lola Lloyd Horwitz gardens in Brooklyn, New York, and is active in the Manhattan Chapter of NARGS.

At Play with the Rockbreaker of Fortune

James L. Jones

It is October. Hard frost is just around the corner. The garden is winding down—but it still has a delight to offer. *Saxifraga fortunei* (Fortune's rockbreaker) is coming into bloom (photos, p. 99).

I have grown this plant for a number of years, finding it far more amenable to conditions here in the Northeast than are most other members of the genus, and thoroughly hardy. It is a little fussy, requiring rich, well-drained soil that never dries out and protection from all but morning sun, but once placed in just the right spot it takes care of itself nicely. It took me a while to find that spot, with losses along the way, particularly in drought years. The crucial factor, I found, was to grow it within easy reach of a source of water. Even that was not foolproof, however: at one point it became apparent that something was sucking out water even as I poured it in. The culprit turned out to be greedy tree roots (*Orixa japonica*, of all things). Removal was prompt.

I started out with a couple of white-flowered forms, 'Rubrifolia' and 'Incisobata', the only kinds readily available. Then, some 11 years ago, Darrell Probst came sweeping into a chapter meeting with a pink-flowered one. That was enough to transform appreciation into obsession, and to spark a breeding program of my own.

As it turned out, this species was a particularly good choice for such an endeavor, having to a fine degree all the characteristics necessary for success:

- Morphological diversity—something I wasn't aware of until I saw that first flash of color.
- Attractive garden appearance.
- Already proven capable of flourishing in my garden and climate.
- Not so well worked over that any variations I came up with would be simply more of the same.
- Basic stock to some extent available, if only through the kindness of friends.
- Easy to cross-pollinate, germinate, and grow on, with a relatively short sowing-to-bloom time (2 years), a much-appreciated bonus.

The Plant

Saxifraga fortunei and the closely related and possibly sexually compatible *S. cortusifolia* are members of section Irregulares of genus *Saxifraga*. One of the characteristics of this section is an ability to thrive in hot, humid climates such as Japan and the eastern United States, an area that is deadly to most of the choice alpine members of the genus. *Saxifraga cortusifolia* is easily distinguished by the neat yellow dots on each of the smaller petals. The two species are native to temperate eastern Asia, China, Japan, and Korea, a large range that has engendered great variability. [A detailed discussion of *Saxifraga fortunei* and related species, with photographs, can be found in Malcolm McGregor's book *Saxifrages* (Timber Press, 2008), chapter 15; ed.]

The "ground plan" is a tufted, deciduous perennial, anywhere from 5 to 20 cm tall and wide. Leaf form can be variable, even from a single sowing. To generalize from my experiences, the leaf variation can take two distinct forms: small and narrow, or larger and rounded. The smaller plants tend to grow slowly and in general are less robust. Leaf color can be green, brown, or patterned; for such a late-blooming plant, the foliage appears surprisingly early, around the first week of May. The flowers, borne in late September and October, tend to rise above the foliage; a plant that fails in this could well be discarded. Flower colors I've achieved vary from white through pink to something close to red; color does not seem to be closely coupled to leaf characteristics, though there is some tendency for the smaller types to be pinker and later blooming.

The Breeding Program

Because *S. fortunei* blooms so late, the seed is unlikely to ripen outdoors before the onset of winter in my region. I dealt with this by potting up the target plants to finish seed development in a greenhouse, which also provided close-up appreciation of the flowers for several additional weeks. Fertilization was simplicity itself: I either rubbed flowers together, from the same plant or from different ones; or I exposed the flowers to insect pollinators (still busy in October) in isolation from other specimens. Seed development was watched closely until, in December or January, it was clear that it was ready to be sown.

Sowing

The tiny seeds are packed into dry capsules; sowing is a matter of rubbing the capsule to release the seeds onto the sowing medium. Experience suggested that the best medium was garden loam mixed with peat and opened up with perlite, giving the seedlings the immediate access to nutrients they wouldn't have on my standard peat-and-sand mix. To rid the medium of weed seeds, I sterilize it by baking it in the oven. I top the seed pot with chicken grit. Whether to add the

grit before sowing (with the idea of watering the seed down through it to the soil surface) or after has not really been resolved, though both have proved effective enough.

An alternative to individual sowing pots that I have come to believe is preferable is to put the parent plant in a pot that is large enough that there is a gap between crown and rim that can be filled with sterilized soil onto which the seeds can drop, either by themselves or with human encouragement. If nothing else, the larger mass gives a more stable environment, particularly in terms of moisture.

Growing On

My treatment of the seedlings has not been optimal, owing to a lack of suitably intense focus on my part and to the overall growing conditions I can provide. One problem is that the solar-heated greenhouse is somewhat unwelcoming when germination occurs in January and February, with air temperatures on occasion sinking to 0° C (32° F). This may thin the ranks to some extent; they're further thinned when the wispy seedlings are transferred to individual pots, best done clump by clump rather than individually. When the weather settles down in May, the contents of the pots are moved to an outdoor bed, where they are perhaps further neglected; and in any case requirements of shade, water, and good soil are hard to bring together in my garden. Nonetheless, there have been enough survivors over the years to demonstrate the variability innate in just the two original parents, and certainly to bring excitement to the dying season.

Dividing

Good-sized plants are easily propagated when the fibrous-rooted crowns are ready to be separated. My experience has been that any season will do if good aftercare is provided, but mid-spring, with the plant well into growth, is most successful. If a garden bed has already proven compatible to the plants' needs, the divisions can safely be planted right back, with extra attention to watering.

Conclusion

Given the right choice of species, even a rather casual breeding program can yield significant rewards. I've enjoyed every aspect of the process, especially learning the ways of this particular plant; and on this fall day I'm enjoying the culmination, the sight of these beautiful plants acting as though it's spring all over again.

James Jones gardens in Lexington, Massachusetts, near the Atlantic coast. He is a past president of NARGS and the author of a NARGS-published book on *Lychnis* and *Silene*.

Dicentra: The Woodland Bleeding-Heart

Todd Boland

For many gardeners, one of the most elegant garden perennials is bleeding-heart, *Dicentra spectabilis*. Even the species epithet says it all: showy! This Japanese native created quite a stir in Europe when first discovered, for at the time few other garden plants had such bizarre yet beautiful flowers. The arching racemes of pink, distinctly heart-shaped flowers on large, bushy plants are unmistakable. This exotic perennial is now a standard in gardens throughout the temperate zones. Once quite rare but now readily available is a less vigorous white form called 'Alba' or 'Pantaloons'. The most spectacular of all is 'Gold Heart', whose foliage is brilliant golden yellow, a striking contrast between foliage and flower colors.

Most of us alpine growers, however, are more interested in plants of dwarf or small stature. Fortunately, there are several species of *Dicentra* that fulfill this role. Nearly as popular as *D. spectabilis* are two North American species that are relatively dwarf: *D. eximia* (photo, p. 101), native to the East, and *D. formosa* from the West. These two species, though not as showy as their Japanese cousin, still warrant a place in our woodland gardens. In a cool climate, like my own in Newfoundland, both of these species stay green all summer and bloom continuously from May until September. As a garden plant, you can't do much better than that! Their growth is so vigorous that they make admirable groundcovers in shady areas. The two species are quite similar, but *D. formosa* is the more floriferous and larger-flowered of the two, with more selections available on the market. It has mid-pink, broader flowers and gray-green to blue-green foliage on plants 30 to 45 cm (12–18 inches) tall. 'Bacchanal' is a popular selection with gray-green foliage and wine-red flowers. 'Aurora' is a white-flowered selection. *Dicentra eximia* has narrower, light pink flowers and pale green foliage on plants about 30 cm (12 inches) tall. Its white form is called 'Snowdrift'.

Sometimes you may come across the species *D. oregona*. This plant is actually a subspecies of *D. formosa* native to the Siskiyou. It has a smaller growth habit than the standard *D. formosa*, with much grayer foliage. It also tolerates more sun.

The tiniest and most exquisite species is also the most difficult to grow—the choice alpine bleeding-heart, *Dicentra peregrina*. These plants have a delicate

disposition, with fern-like, gray-green, ground-hugging leaves and 10-cm (4-inch) stems topped with a small cluster of pale to dark pink "hearts." The species is native to Japan, China, and nearby Siberia. In the open garden you can attempt it in a semi-shaded scree with an acidic soil augmented with humus (not the easiest medium to maintain). It is easily overcome by too much heat or more robust neighbors. It seems that the best plants are cultivated under alpine house conditions, where careful control of the growing environment can be achieved. If you really want a challenge, you could try the western North American counterpart, *D. uniflora*. It inhabits shaded screes and is even smaller than *D. peregrina*. Even under alpine house conditions, this species is extremely difficult to keep happy.

There are several dwarf bleeding-hearts of hybrid origin on the market. These hybrids mostly involve *Dicentra eximia* and *D. formosa*, but a couple also involve *D. peregrina*. 'Luxuriant', a cross between *D. eximia* and *D. formosa*, has very blue foliage and mid-pink flowers and grows 30 to 45 cm tall. 'Zestful' is quite similar but has deeper reddish pink flowers. Other hybrids from these parents include 'Langtrees' (pale pink), 'Silver Smith' (white with a pink tint, green foliage), 'Pearl Drops' (white with a pink tint, blue-green foliage), 'Adrian Bloom' (reddish-pink, blue-green foliage), 'Bountiful' (pinkish purple, green foliage), 'Margery Fish' (white, blue-green foliage), 'Sweetheart' (white, green foliage), 'Snowflakes' (creamy white, green foliage), and 'Stuart Boothman' (mottled pink, green foliage).

'Candy Hearts' is a delightful hybrid between *Dicentra eximia* and *D. peregrina*. The foliage is quite blue, and the flowers darker pink than those of 'Luxuriant', on plants 20 to 25 cm (8–10 inches) tall. The white-flowered version is called 'Ivory Hearts'. 'King of Hearts' (photos, p. 101), more widely available in the United States, is smaller yet, with dark pinkish red flowers. Despite having the difficult-to-cultivate *D. peregrina* in their background, these hybrids are more easily accommodated, although still not as carefree as *D. eximia* or *D. formosa*.

For the avid woodland gardener there are two other *Dicentra* species worth growing: the squirrel corn, *D. canadensis*, and Dutchman's breeches, *D. cucullaria*, both natives among deciduous woodlands of eastern North America. They bloom in mid-spring with white flowers; those of *D. canadensis* appear similar to *D. eximia* or *D. formosa*, while *D. cucullaria* has flowers more reminiscent of full pantaloons. Both reach a height of 15 to 30 cm (6–12 inches). These plants go dormant and disappear soon after flowering. Though exquisite beauties, they are, alas, relatively ephemeral. However, they make ideal companions for such plants as *Erythronium*, *Trillium*, and *Hepatica*.

Todd Boland is Research Horticulturist at the Memorial University of Newfoundland Botanical Garden, St. John's, Newfoundland. He is a founder and president of the Newfoundland chapter and headed the organization of a NARGS annual meeting there. He recently became administrator of the image galleries on the new NARGS website and encourages members to submit photographs for this resource.

Seemannia nematanthodes 'Evita'

Ernie DeMarie

Bright red flowers are relatively rare, as are cold-hardy gesneriads. Although *Seemannia nematanthodes* 'Evita' (photo, p. 102) is not likely to survive winters as cold as a *Ramonda* might, it is one of an increasing number of evidently root-hardy gesneriads available to gardeners. It appears to be hardy into USDA Zone 7, and possibly lower, given the right circumstances.

I first saw this plant in the catalogue of Plant Delights Nursery and resolved to look for it when I went to one of their July open house events. I found it, and right away I admired the bright red, thimble-shaped flowers, which appear over a mass of neat foliage on relatively short, trailing stems. Looking inside, one sees a bright yellow throat with some red spots, which contrasts nicely with the hot red exterior. I brought it back to New York and moved it to a larger container, where it continued to bloom for the rest of the summer and into fall. When the weather got really cold, I brought it into my classroom, where it bloomed a bit longer and then was allowed to go dormant until spring.

Eventually I decided to put a few pieces of rhizome in the ground along a brick wall in a school garden I set up and maintain at my place of work in Chappaqua, New York. I really didn't expect the plants to thrive, much less get through two winters, even though they apparently do so in Raleigh, North Carolina. After all, Chappaqua is north of highway I-287, which is a locally known dividing line that frequently demarcates colder conditions to the north from a slightly milder winter climate to the south in Westchester County, New York.

Well, survive and thrive they did, even through the fairly cold winter of 2008–2009. How do I determine what is cold winter in my southern Westchester County location? I look at a neighbor's fig hedge (the most commonly grown cultivar of edible purple fig, *Ficus carica*, found in Italian gardens around here)—really bad winters kill it to the ground, really mild ones result in no winter kill of above-ground branches, and last winter produced about half winter-killed branches. I live south of 287, so winter temperatures in Chappaqua are nearly always few degrees colder than in my home town. No doubt the brick wall provides some protection for the *Seemannia*; perhaps the deeper rhizomes don't freeze, though they are certainly cold and wet the entire winter. I find that the

plants are late to emerge, especially during a cool summer like the one we had in 2009. They make up for lost time, though, and are in bloom by August, continuing until frost.

Seemannia nematanthodes 'Evita' is a selection of the species found in Argentina, and is easy to grow as a container plant or in a protected garden spot. Like many other gesneriads, it prefers a partially shaded position, though my plants do get a few hours of sun as well. Container-grown plants can flower earlier than garden ones, beginning in July. This plant is eager to propagate itself: fine above-ground stolons quest outward in all directions, including into neighboring pots. These stolons don't effectively propagate the plant in the garden, though, since they are killed off by frost before their progeny have sufficient time to develop the deeper rhizomes that will get them through the winter. The underground rhizomes are scaly structures that resemble *Achimenes* rhizomes, and increase by offsets. They can be split up to produce more new plants. Container plants can simply be dried off for the winter, kept in a moderately cool place indoors, and restarted into growth in spring. Outdoor plants are just left alone, requiring only weeding to prevent more vigorous neighboring species from overwhelming them, especially in spring before the *Seemannia* emerges. Flowers set abundant fine seed when hand-pollinated, though bees are also eager to perform the task outdoors.

Ernie DeMarie teaches biology at Horace Greeley High School in Chappaqua, NY. He has three degrees from Cornell University, with both the bachelor's and Ph.D. in horticulture. He developed micropropagation techniques for xeric and geophytic *Pelargonium* species and hybrids for his Ph.D. thesis, and worked at the New York Botanic Gardens as Curator of the Desert Collection from 1991 through 1997. He has a special interest and expertise in South African plants. Visit his plantblog at <http://geraniosgarden.blogspot.com>.

In Memoriam: Patricia Bender

It is with deep sadness that we report that Patricia “Pat” Bender died January 9, 2009, from heart problems. She is survived by her beloved husband, John, who supported and worked together with her in all her endeavors. They raised four sons and the family has grown to five grandchildren and one great-granddaughter, all of whom she loved deeply.

Interested in all the arts, Pat had an avid involvement in all aspects of gardening. She was a member of local, national and international garden societies and knew personally many noted speakers and writers from hosting them in her home and through correspondence and meeting them at conferences. She was especially interested in rock gardening; she and John became members of (N)ARGS in 1976 and joined the Northwestern Chapter. They immediately took on chapter tasks and never looked back in their efforts to serve, helping with plant sales, study weekends, an annual meeting, and book sales. In 1984 Pat became the chapter president. She and John received the NARGS Chapter Service Award in 1993 and were awarded honorary chapter membership in 2008.

On the national level Pat served as a director and vice president and was elected national president for 1997–1999. Pat and John received the NARGS Award of Merit in 2000. In the citation Jean Witt wrote, “Pat has an encyclopedic knowledge of people and events, past and present, in the North American Rock Garden Society. She is an unfailing source of sensible advice in any new problematic situation.” They went on to chair the NARGS Seed Exchange in 1992–1994 and in 2008 they stepped in to chair Phase III of the Seed Exchange when another chapter dropped out. In recent years Pat also served as chair of the Norman Singer Endowment Fund Committee. The Benders have been perfect examples of enriching all our lives while enriching their own.

The Benders’ garden is a joy, with many unusual and wonderful plants which Pat kindly shared with others. Seeds were a fascination, and whenever a genus came to the top of her list, Pat grew as many species of it as she could find. She was a professional librarian, and her personal library was a great source of information.

Pat was the one who encouraged me to join NARGS, for which I am very grateful. We formed a close friendship that led to entertaining excursions, interesting

discussions, good counsel, and the comfort of knowing that this association was all within walking distance. She is very much missed: Pat's friendships covered a wide range of people, but she was known by all for her sense of humor, her kindness and generosity, intelligence, knowledge ... the list could go on and on.

—*Alice Lauber*

☛ Pat and John Bender were first listed in the NARGS Northwestern Chapter Yearbook for 1976. By the 1978–79 Yearbook, Mrs. John F. Bender had advanced to Name Tag Chairman (sic). In 1982/3 Pat and John were in charge of Mini-Talks. 1983–84 was a major advance: Pat Bender (no longer just Mrs. John B.) was Vice Chairman for Programs. By 1984–85 she had arrived: Chairwoman. Next year she became Chairperson. In 1987–88 she chaired garden tours, in 1988–89 she was librarian.

Thereafter her “official” designations trailed off, simply because Pat was involved in everything that mattered in the chapter, and beyond it in the national Society. She was the national president of NARGS in 1998–99 but had to give up this post prematurely because of John's serious illness, from which he eventually recovered. She attended Western Winter Study Weekends faithfully and was personally involved in a number of them. Over the decades she acquired the position of a Grande Dame in NARGS, whose opinion carried decisive weight at every level, from local committee to the Board of Directors.

As a person, she was a jewel. She was both smart and wise, whichever the situation required; her advice was sought by anyone in a position of responsibility in the chapter or the national Society. Her garden was splendid, her knowledge of plants encyclopedic; her sense of humor was infectious and unflagging, and she did suffer fools, although not gladly. She was in many ways a Renaissance person, interested in anything of substance and beauty in her world; and after all the highfalutin' tribute was sounded, she was just a lot of fun to be around.

Her sudden fatal illness was the proverbial lightning out of a clear sky; her death was mercifully quick for her, but it will take her family and all of us, who were the Benders' friends for many years, a long time to absorb her loss. We will remember her with love as long as we live.

—*Hans Sauter*

☛ Little did I anticipate when I met Pat Bender in 1984 that she would become in many ways the mom that I never had. Always full of kindly offered counsel and ready wit, she shared my enthusiasms for alpinas, corydalis, rhododendrons, hostas, clematis and many other plants and always was keen to share sources and group orders for some new, fabulous addition to our gardens. Pat, I shall never forget your arch look followed by a clever remark and a hearty laugh that made a visit such a memorable one.

—*J. John Flintoff*

☛ How to distill a person's life to a short tribute when they are gone? It is not easy to define a person in words on paper. Maybe we should do it more often—

not wait so long or be embarrassed by encouraging words. Praise shouldn't be saved up for the collection plate after death. So it is with finding a way to pay tribute to Pat Bender. It seems everyone knew Pat and John. People were drawn to them for their openness and old-fashioned kindness. Pat had a natural ability to find the positive in life and used this skill to accomplish a great deal in so many aspects of her life: raising a large family, helping run a successful veterinary practice, pursuing and exploring various hobbies, and guiding the success and growth of her favorite organizations, all while enjoying an ever-expanding circle of friends and associates. In spite of some health limitations she managed to pack in more activities and more work than seemed possible for any one person. Each new enthusiasm she pursued with vigor and curiosity: rhododendrons, clematis, bulbs, seeds, containers, computers, books, orchids, cooking—you name it, it piqued her interest.

NARGS and the Northwestern Chapter received her attention and benefited from her ability to lead and inspire. Ever willing to step in where and when needed, Pat (and John) filled the bill. From name tag chairman to national president, good humor, strength of character and good common sense were the hallmarks of her leadership. We can all aspire to be people who pass through life as Pat did, leaving good memories and accomplishments.

A sense of loss is natural, but I know whenever I will go to a nursery or a plant sale and pack the car to the roof with new treasures, I'll think of Pat on the plant hunt. When there is a plant raffle or door prize drawing, I'll think, "Of course, Pat will be the winner." (She always won.) Then she will laugh, take it home to grow to perfection, and share it when I admire it.

—*Marguerite Bennett*

Thanks to Alice Lauber and Marguerite Bennett for compiling and submitting these memories of Pat Bender.

BOOKS

Chlorophyll in His Veins: J.C. Raulston, Horticultural Ambassador, by Bobby J. Ward, edited by Roy C. Dicks. Raleigh, NC: BJW Books, 2009. xviii + 332 pp. Available from the NARGS Book Service, \$19 plus standard shipping costs.

Reviewed by TOM STUART, Croton Falls, New York

It is hard to imagine a gardener in 1996 in North America who did not know J. C. Raulston, the powerhouse of horticulture, the candle burning at both ends. Emerging from a Raulston lecture was like rocketing out of a revival meeting. This biography is full of surprises for one who knew only his writings. The least of the surprises was the volume of his efforts: the thousands of plants (largely shrubs and trees) he brought to people, and the thousands of people he brought to plants.

For many of us, his writings, particularly in the 16-year run of *The Friends of the NCSU Arboretum*, and his lectures were the only access. Those newsletters are all online. Though they lack immediacy now at 15, 20, or 30 years on, they are still astonishing for the plant distributions, rarely (never?) seen since. And the tales told within age well. Raulston gave two lectures to the 1995 NARGS Western Winter Study Weekend, reproduced in this book. One, titled "What is Hardy and Why," crams a four-hour course into 45 minutes. Suffice it to say that your take on hardiness will undergo a remake. Maybe you'll even blush at "This is a Zone 7 plant."

Another surprise might be Raulston's struggle with homosexuality; he came out in his forties. Did he seek psychiatric help because of this? Rural Oklahoma and later the military are famous as nurturing habitats for gays.

As I write, there is yet another news report of the 40-year trail of devastation from the use of Agent Orange in Vietnam. AO was not alone; there was an entire family, the rainbow herbicides, of which Agent Blue is most effective at destroying rice paddies. Does this paragraph seem to have dropped in out of the blue? Read the book.

J. C., euphemized as a “sweet man” by naive disciples, nonetheless engendered opposition. Change artists do. Many an opponent has been deliciously quoted. One example: “Raulston’s a lousy horticulturist; so many of his arboretum plants die.” This is my sole disappointment. Surely the scoundrels deserve shame, but none of the miscreants are identified.

Here is an unlikely quote on how he came to gardening as a child: It “was my safe place because nobody else did it. Plants weren’t threatening like people are.” Later on he had other reasons. He gave at least two lectures on “Why We Garden.” From Ward’s 1995 notes on Alpine-L:

We garden because we want to have dominion or control over Nature; for “competition” (we want the biggest, the best, the most variegated, the “unique”; e.g., we want the biggest tomatoes—even if they are tasteless and inedible; as a source of food; for spiritual reasons, for nurturing souls, our minds: the eternal spirit of trees that are universally loved; for intellectual pursuits: the biology and science of plants, the botany, the physiology, etc.; to escape to our private, secret world; to “find and seek” the rural childhood we never had. Ah, to wind time back!

A dozen or more “acquisition stories” make up one of the later chapters. Tales like these put flesh on the bare bones, turning a mundane plant into a treasure. An example is the introduction of *Styrax japonicus* ‘Emerald Pagoda’. The first paragraphs are by Peter Wharton of the University of British Columbia; the last by David Creech of the Mast Arboretum:

My fondest memory of J. C. takes me back to the 17th August 1985 on the remote island of Sohuksan off the southwest coast of South Korea, while participating in the US National Arboretum expedition. Several days earlier we had come across a very fine robust and distinctive population of *Styrax japonicus*, quite different from western plants of Japanese origin, but perhaps closer to the Chinese variety *fargesii*. We saw individuals up to 19 m (62 ft) high . . . in closed forest. Our collective excitement resulted in good seed collection. . . . The arborescent stature, large leathery leaves and oversized seed capsules made this a very desirable introduction for western horticulture.

We were just about to depart the island in an open motor-driven skiff to rendezvous with a ferry offshore, but we were delayed by the [late] arrival of a villager. J. C. and I were discussing our fine haul of seed . . . yet regretting no cuttings had been taken. A look of regret passed over J. C.’s face, like a cloud. He asked us all if he had time to nip up the hill to collect a few cuttings, as the villager was nowhere to be seen. With one bound he was dashing up the slope to our seed tree that was luckily visible from the shore. He returned victorious with several small branches, which he methodically cut up. . . . The late villager arrived several minutes later to find a bunch of very happy westerners. J. C., of course, beamed with pride and rightfully so.

At UBC we never raised seed. . . . The wrapped, moistened cuttings were held two days before being shipped by air to Raleigh—and the cuttings arrived sadly wilted. Technician Newell Hancock immediately placed them into the mist chamber. The leaves dropped. An on-the-spot decision was made to graft the cuttings onto *Styrax japonicus* seedlings. One survived. That specimen was nurtured for several months and made good growth despite one mishap; a student assistant accidentally dragged a hose across the bench and knocked the graft askew. A sliver of wood and cambium lay connected. Hancock spliced it back together, wrapped the wound and placed the budling in the mist chamber for a few days. The graft survived. From that plant and that history, thousands now grace southern and East Coast landscapes.”

Fifteen or more photos of J. C. are scattered through the book, each of a different person. What a chameleon! Should you get this book? No alpinists here, but you made it this far, so by all means do.

Blue Heaven: Encounters with the Blue Poppy, by Bill Terry. Vancouver, BC: TouchWood Editions, 2009. ISBN 978-1894898829. 192 pp., color photos throughout. \$24.95 Canadian.

Reviewed by DAVID SELLARS, Surrey, British Columbia

Bill Terry gardens on the Sunshine Coast where the Coast Mountains of British Columbia touch the sea. While the conditions there may not be absolutely perfect for growing *Meconopsis* because of the relatively dry summers, the cool maritime climate and the woodland setting provide adequate compensation. Terry confesses that each spring he is “drowning in blue”.

Blue Heaven describes more a love affair with the blue poppy than a series of encounters. But the story is lightly told, with dashes of wit and some entertaining tangents. The book begins and ends with George Mallory on Everest describing his excitement on discovering *Meconopsis grandis* during the descent. We learn about the intrepid plant hunters who were the first to bring back *Meconopsis* seed to the UK. One of the many amusing quotes is from one of Kingdon-Ward’s companions, who commented in his journal: “It drives me clean daft to walk behind him—stopping every ten yards and hardly moving in between. If ever I travel again, I’ll make damned sure it’s not with a botanist. They are always stopping to gape at weeds.” Kingdon-Ward’s seeds arrived in England in 1925, and there was pandemonium at the 1926 Royal Horticultural Society spring show when the public first saw the blue flowers.

Much of the book is devoted to *Meconopsis betonicifolia*, but other fascinating species in the genus are also featured. One of the “Satin Poppies,” *M. napaulensis*, has an evergreen rosette and is monocarpic, with a flower spike that can be 2.5 m high. Plant descriptions are complemented by tours of some famous *Meconopsis* gardens, such as Les Jardins de Métis by the St. Lawrence River in Quebec.

There is a chapter devoted to practical propagation and cultivation tips, and some fascinating insights into how *Meconopsis* survive. For example, we learn there is a reason Asiatic poppies hang their heads. In Tibet, Kingdon-Ward observed, "All the poppies were now flowering together and though the heavy sky rained ramrods on them they cared little." The poppies are well adapted to these conditions and, with bowed heads, the flowers are not spoiled because they slough off the rain.

The standard work on *Meconopsis* is the 1989 book by James Cobb. Terry describes a visit to Cobb's gardens in Scotland and includes some of Cobb's observations on *Meconopsis* cultivation. Interestingly, Cobb comments that wild seed may not result in the best *Meconopsis* flowers. His view is that just because it's wild doesn't mean it's a desirable plant.

Cobb's book is a more scholarly work than *Blue Heaven* and commences with a detailed exposition on the taxonomy of *Meconopsis*. In contrast, *Blue Heaven* is written like an extended magazine article, enlivened with insights, anecdotes, and poems. If you need a reference work on *Meconopsis*, Cobb would be the logical choice. If you prefer your information to be served up in an easy format, read Terry's book.

Blue Heaven has an interesting layout and uses photographs throughout. The images are good, but none is particularly outstanding. The text is very well written, however, and it is the sort of book that you could read on a plane as it can be picked up and enjoyed chapter by chapter. If you have only a passing interest in *Meconopsis* but like a good story, this book is highly recommended.

2009

Photo Contest Results

Digital photography continued to take over the entries, with only two photographers this year submitting slides. Entrants' mastery of the digital medium also continued to reach new heights, and judging was a difficult matter. As we did last year, in addition to the top four entries in each class, the judges have awarded "Exceptional Quality" to images that were also considered for the top four places, and "Honorable Mention" for photos that are admirable although they either do not quite match the criteria of the class entered or do not display the highest technical quality. Many of the award photos will appear in the *Rock Garden Quarterly* during the coming year.

Grand prize:

David Sellars, Surrey, B.C., *Campanula speciosa* (p. 103)

Class 1: Portrait of a plant in the wild

1. David Sellars, *Campanula speciosa*
2. David Sellars, *Sempervivum montanum*
3. Tanya Harvey, Lowell, OR, *Calochortus elegans*
4. Richard Ramsden, Seattle, WA, *Viola flettii* (p. 104)

Exceptional Quality

Todd Boland, St. John's, NF, *Allium moly*; *Dactylorhiza sambucina*

Tanya Harvey, *Erigeron cascadenis*; *Erythronium klamathense*

David Sellars, *Gentiana alpina*; *Globularia repens*

Pál Kovács, Dorog, Hungary, *Linaria alpina*; *Ranunculus brevifolius*

Marlene Werra, Ukiah, CA, *Papaver ernesti-meyeri*

Michal Hoppel, Poznan, Poland, *Phyteuma hemisphaericum*

Honorable Mention

Pál Kovács, *Colchicum hungaricum*

David Cammack, Condon, OR, *Erigeron poliospermus*

Michal Hoppel, *Erysimum* sp.; *Gentiana campestris*; *Leucanthemopsis alpina*;

Ranunculus brevifolius; *Senecio uniflorus*

Tanya Harvey, *Fritillaria pudica*

Jack Muzatko, Pinole, CA, *Lewisia disepala*; *Lewisia glandulosa*

Robert Werra, Ukiah, CA, *Linaria alpina*

Todd Boland, *Physaria didymocarpa*

Class 2: Natural scene with plants

1. Michal Hoppel, *Anemone narcissiflora* meadow, Gran Sasso, Italy (back cover)

2. Tanya Harvey, *Eriogonum ovalifolium* and other plants, Steens Mountain, Oregon

3. Casey Delphia, Bozeman, MT, *Tetranneuris* and *Polemonium*, Gravelly Range, Montana

4. Todd Boland, *Campanula rotundifolia*, Flowers Cove, Newfoundland (p. 104)
Exceptional Quality

Michal Hoppel, *Aster alpinus*, Pennine Alps, Switzerland

Todd Boland, *Erigeron hyssopifolius*, Blue Cove, Newfoundland

Honorable Mention

Todd Boland, *Phacelia sericea*, Elbow River, Alberta

Richard Weigel, Portland, OR, *Erigeron* and *Silene*, Siyeh Pass, Glacier National Park

Michal Hoppel, *Gypsophila repens*, Pennine Alps; *Leucanthemopsis alpina*, Pennine Alps

David Sellars, *Olsynium douglasii*, Columbia River Gorge, Washington;
Pulsatilla alpina ssp. *apiifolia*, Pyrenees; *Phlox diffusa*, Washington

David Cammack, *Penstemon barrettiae*, Columbia River Gorge, Washington

Richard Ramsden, *Douglasia laevigata*, Olympic Mountains, Washington
Ewelina Wajgert, Abierzow, Poland, *Campanula rotundifolia*, Yellowstone National Park

Tanya Harvey, *Castilleja miniata*, Steens Mountain, Oregon; *Erythronium* and *Castilleja*, Horse Rock Ridge, Oregon

Class 3: Portrait of a plant in cultivation

1. Michal Hoppel, *Erigeron chrysopsidis*

2. Pál Kovács, *Crocus sieberi* ssp. *atticus* f. *tricolor*

3. Michal Hoppel, *Townsendia condensata*

4. David Sellars, *Lewisia tweedyi*

Exceptional Quality

Todd Boland, *Saxifraga burseriana* 'Sulphurea'

Honorable Mention

Richard Weigel, *Anemone nemorosa* 'Robinsoniana'

Jim McClements, *Anemonella thalictroides* 'Shoaf's Double'; *Glaucidium palmatum* dark form; *Helleborus thibetanus*; *Jeffersonia diphylla*; *Spigelia marilandica*

Michal Hoppel, *Gentiana clusii* ssp. *rochelii*

Todd Boland, *Oxalis* 'Ione Hecker'; *Phlox subulata* 'Oakington Blue Eyes';
Sedum cauticola ssp. *lidakense*; *Silene acaulis*

David Sellars, *Saxifraga oppositifolia*

Class 4: Rock garden scene

1. Todd Boland, bridge and rock garden, Memorial University Botanic Garden
2. Jack Muzatko, scree garden with *Eriogonum microthecum*
3. Todd Boland, scree garden, Memorial University Botanic Garden
4. Todd Boland, Snyder crevice garden, Denver

Exceptional Quality

David Sellars, Hummingbird in rock garden waterfall

Class 5: Close-up or macro photograph

1. Todd Boland, *Ranunculus parnassifolius*
2. David Sellars, *Aquilegia formosa*
3. Pál Kovács, *Pulsatilla pratensis* ssp. *nigricans*
4. Pál Kovács, *Linaria alpina*

Exceptional Quality

Jack Muzatko, *Aconitum* sp.

Todd Boland, *Papaver alpinum*

David Sellars, *Calypso bulbosa*

Pál Kovács, *Orchis purpurea*

Tanya Harvey, *Calochortus macrocarpus*

Honorable Mention

Pál Kovács, *Gentiana septemfida*

Jim McClements, *Paeonia mlokosewitschii*

David Sellars, *Erythronium grandiflorum*

Richard Ramsden, *Erythronium revolutum*

Todd Boland, *Polemonium pulcherrimum*; *Ramonda myconii*; *Lewisia brachycalyx*

Tanya Harvey, *Salix prolixa*

Class 6: Portrait of a plant or plants in a container

1. Ewelina Wajgert, *Townsendia* sp. at the Prague Show (p. 102)
2. Ewelina Wajgert, *Polygala calcarea* in trough
3. Ewelina Wajgert, *Saxifraga dinnikii*
4. Jack Muzatko, *Lewisia cotyledon*

Exceptional Quality

Pál Kovács, *Degenia velebitica*

Honorable Mention

Richard Weigel, *Gentiana acaulis* 'Rannoch'

Todd Boland, trough in May

Tanya Harvey, *Lewisia cotyledon* in strawberry jar

Notes on the Award-Winning Photos

Campanula speciosa was photographed in the Pyrenees by David Sellars (p. 103). David and Wendy Sellars have made a number of trips to this region, resulting in stellar photographs (especially of *Androsace* species) that have appeared in the *Quarterly* over the past few years. This campanula, whose specific name means “showy,” is a monocarpic or short-lived perennial plant of limestone areas. Not often cultivated because of its habit of dying after flowering, it is, however, fairly easy to grow from seed and well worth a spot in a trough, preferably protected from winter wet.

A steep alpine meadow filled with *Anemone narcissiflora* in bloom was photographed by Michal Hoppel in the Gran Sasso, Italy. This anemone can be found in mountains throughout the Northern Hemisphere. Depending on elevation and other factors, its height is variable, but its white flowers with a central boss of golden anthers are always lovely. Gardeners in the lowlands find it a challenge to grow, and the seed must be fresh to germinate. Exchange seed offered under this name is sometimes misidentified; if it does well, you probably don't have the real thing!

Winner of the “portrait of a plant in cultivation” class was an image of *Erigeron chrysopsidis* grown and photographed by Michal Hoppel in Poland (see his article in this issue). This is a species of the mountains of the American far West and does best in scree conditions; it's small enough for a trough planting. There are several subspecies, not all of which have showy flowers. Popular in cultivation is the selection ‘Grand Ridge’, introduced by Steve Doonan and Phil Pearson some years ago; it is similar to the illustrated plant, if not indeed identical with it.

More winning photos will appear in subsequent issues.

Enter the 2010 Photo Contest!

If you enjoy photographing plants, why not share your enthusiasm with our readers—and perhaps win a prize? In addition to fame and the gratitude of the editor, you may win a year's NARGS membership for yourself or as a gift to a new member of your choice, or even the grand prize, a fine book of your choice. To enter, please read the following instructions. The **deadline** for entries is **October 1, 2010**. Send entries to Jane McGary, Editor, 33993 S.E. Doyle Rd., Estacada, OR 97023, USA. They will be forwarded to the new editor.

Entries may be submitted as digital images on CD, as slides, or as prints. Slides and prints will be returned after the contest or after publication; digitals will be archived for future publication. All published photos are credited, and copyright remains with the photographer. Entering the contest grants to NARGS permission for one-time use of all images submitted.

You may enter a maximum of **ten images in each class**.

Digital images may be submitted in jpg or tif format (if you have a choice save them in the highest quality). Please do not submit images in Microsoft Office Imaging System format, as this is problematic for our printer and some judges. Please examine the file extension on your image files to make sure it says "jpg" or "tif." If you are not sure how to save images in these formats, refer to the instructions that came with your camera. Submit all your images on one CD, with each image file renamed with the subject and your initials (e.g., *Campanula raineri* JM.jpg). If you are entering several classes, it is helpful to make a separate folder for each class. Include a **text document** listing your entries by class, with plant names fully spelled out and any other pertinent information you feel should appear in a caption when the photo is published. Please submit this list on paper and also put it on the CD.

Slides and prints should be accompanied by a list like that described above. If you need them back quite soon, please let us know in your cover letter. Be sure that each slide or print is clearly labeled with your name and the subject.

Judging criteria are technical quality, aesthetic appeal, adherence to parameters of the class entered, and suitability for publication. Different judges are recruited each year in the editor's local region and remain anonymous.

General hints: Images that are out of focus in the foreground rarely are competitive. Watch out for overexposure resulting from the high reflectivity of white flowers. Avoid images that include distracting objects such as labels—or lawn furniture. When shooting a photo of a low-growing plant, take it from a side angle, not from directly above the plant; images looking straight down are disconcerting because one is never sure which side is up.

Classes

Class 1: Portrait of a plant in the wild. Image focuses on a single plant in its native habitat. Ideally, the entire plant should be visible, not just a flower, which is more appropriate to class 5.

Class 2: Natural scene with plants. Image includes both wild plants and their surrounding habitat and scenery. Please identify the site. **Hint:** This is *not* the same as class 1, and should not foreground a single plant specimen; the emphasis should be on the general scene. Depth of field is a strong consideration.

Class 3: Portrait of a plant in cultivation. Image focuses on a single plant or small group of the same plant in the garden. Ideally, the entire plant should be visible. If the plant is in a pot visible in the photo, put it in class 6.

Class 4: Rock garden scene. Image of a rock garden (general view or isolated vignette). Please identify the owners of the gardens. **Hint:** Frame your image carefully to exclude unattractive objects.

Class 5: Macro photograph. Close-up images of single flowers or other plant parts. Judged primarily on technical quality.

Class 6. Plant in container. Images of single or multiple plants in pots, troughs, or other containers. **Hint:** The container must be at least partly visible; if it is not, the photo belongs in class 3.



From the President

Dear Friends,

You will be reading this in May, and I will have had the pleasure of seeing many of you at the Winter Study Weekends and will see more of you at the Annual Meeting in Colorado. Speaking of the Colorado meeting, its program looks so interesting, I'm looking forward to it and I know you will want to attend!

Now for the new things happening in the Society. As many of you are already aware, beginning in August, NARGS will have a new editor for the *Rock Garden Quarterly*. Jane McGary will end her exemplary nine-year run, and stepping into her shoes will be Malcolm McGregor. Malcolm's credentials include editorship of *The Rock Garden*, the journal of the Scottish Rock Garden Club, and authorship of *Saxifrages*, the definitive guide to the genus published by Timber Press in 2008. He's been a member of NARGS since 1996 and resides in England. I welcome Malcolm and thank Jane for her tireless work on behalf of NARGS. My appreciation goes also to the members of the Editor Search Committee—Maria Galletti (chair), Anne Spiegel, and Michael Riley—for the dedicated and very thorough manner in which they approached the task of selecting the new editor.

Another piece of news is the result of the Annual Donation Appeal, which the Administrative Committee ran last December. The appeal was sent to all the e-mail addresses Bobby Ward, our Executive Secretary had, (over 1,440). As of January 27, 2010, the appeal had brought in a little over \$4,420. Details appear later in this Bulletin Board. We, the Administrative Committee, have learned quite a bit from this, possibly the first NARGS annual appeal ever, and will repeat it in the future. One thing we have learned is that we have members who care deeply about the organization and are willing to support it financially. To all of you who made a donation, my heartfelt "Thank you!"

Still more news: there is something new happening with the national meetings. My teammates on the Administrative Committee and I feel that it might be too difficult for NARGS to put together three meetings a year; our membership has dropped in the past few years, and many chapters do not have enough active

members to work on big meetings. Until we have gained more members, we would like to schedule just two national meetings a year: the Annual General Meeting, and one Winter Study Weekend.

To begin this new policy, we have two meetings scheduled for 2011: the Western Winter Study Weekend on Vancouver Island, February 25–27, hosted by the Vancouver Island Rock and Alpine Garden Society (VIRAGS), and the Annual General Meeting in New Hampshire, organized by the Fells Chapter, dates not finalized but will include June 17 and 18.

In lieu of big national meetings, which usually take two or three years to prepare, we are recommending that chapters produce less demanding events which we're calling "regional meetings." These would feature open gardens, plant sales, perhaps a workshop and/or speakers, maybe a meal, and they might last one or two days. Accommodations and transportation would be up to the participants. Invite your neighboring chapters to a day or weekend, or organize an event in tandem with your neighbors. It would be a great way to recruit new members by inviting the public to participate in a local event.

Last May I went to a get-together of this type organized by the Great Lakes Chapter, called the Spring Gala. People came from other places in addition to Michigan—from Ontario, Ohio, Wisconsin, Maryland, and New York. We saw fantastic gardens, bought great plants, had a lovely dinner (courtesy of the chapter) with a wonderful speaker, Malcolm McGregor, and from what I heard, everybody was very pleased they came.

Speaking of recruiting new members, and we should be seeing much progress in this area, since NARGS now has a Membership Committee which is working on a plan to increase membership. This gifted and extremely important group consists of Matt Mattus, Chair (Massachusetts), Lori Chips (Connecticut), Judy Wall (Ontario), Barbara Weintraub (New Mexico), and Barb Wetzel (Wisconsin).

Quite a few new members have joined NARGS since the Seed List went on the website in mid-December 2009. Interestingly, that included a significant number of people who were rejoining after a several-year absence. The Seed Exchange is, of course, a huge draw. It's a marvel of volunteer cooperation and has its fiercely devoted fans. Although the order fulfillment phase has just begun, I already hear high praise from satisfied "customers." It is a good time to say thank you and kudos to all the seed donors and volunteers who worked on the Exchange. There will be more plaudits in the next *Quarterly*, but right now I would like to single out Joyce Fingerut, the Seed Exchange Director, and Laura Serowicz, the Seed Intake Manager, for the wonderful jobs they are doing.

If you want to share your experiences growing plants from seed, go to the NARGS Discussion Forum. The Forum was launched at the end of January and provides a great way for the rock garden fans to connect. You'll find several categories of discussion in addition to "Propagation." The Forum is accessible from the menu on the home page of www.nargs.org, and you will need to log in to post a reply and/or upload a picture.

There is also sad news to report. NARGS has lost one of its icons: Patricia Bender. On the national level, Pat served as a Director of the Board, NARGS Vice

President, and President (1997–1999). In her Northwestern Chapter, she was its chairperson and head of the chapter's book sale, and undertook other responsibilities when needed. She was known for her sense of humor, friendliness, perseverance, tact, and reliability. Pat will be sorely missed. An extended memorial to her appears in this issue.

*Best regards,
Grazyna*

Nominees for the Board of Directors

Alice Nicolson, chair of the nominating committee, presents the following list of nominees for the three upcoming positions on the Board of Directors for 2010–2013: Jane Grushow, Philip MacDougall, and Anne Spiegel. Other members of the nominating committee are Lola Lloyd Horwitz, Anna Leggatt, Matt Mattus, Cheryl Philstrom, Nicola Ripley, and Joan Schmitt.

Jane Grushow has been a member of the Delaware Valley Chapter since 1980 and the Mason-Dixon Chapter since its creation in 1999 and has been chair of both. She has a large garden and grows plants large and small, but dearest to her heart is a small rock garden, tufa, and sand beds. Jane is a retired photographer specializing in Garden Photography. Now most of her photography is underwater as her new addiction is scuba diving.

Philip MacDougall is an RN working at the British Columbia Cancer Agency. He's also studied plant biochemistry and has a lifelong commitment to gardening. On one-half acre in Surrey, BC, it's always sad to discover a plant has been pushed beyond its climatic tolerance. Program chair and Vice President of the Alpine Garden Society of Vancouver and program chair of the Rhododendron Society of Vancouver, he occasionally lectures on botanizing in many of the world's diverse habitats.

Anne Spiegel has been a member of NARGS for over 25 years and is a charter member and past president of the Berkshire Chapter. She's spent many years botanizing in the Northeast, the Rockies, the Southwest, the Northwest, and more recently in the Alps. She has spent almost 30 years building a rock garden on a very challenging site. Her plant interests are too numerous to list, but any such list would be headed by the "glorious peas" (Fabaceae). She has numerous degrees from the University of Trial and Error and is the owner of a large plant cemetery.

Endowment Committee Chairmanship and Grant Applications

Bev Shafer is stepping down as the Chair of the Endowment Fund Committee. Taking over is Ed Glover, Chair of the Wisconsin-Illinois Chapter and a past Chair of this Committee. Please send grant applications to glover@oncology.wisc.edu. Applications previously received by Bev will be transferred to Ed.

Proposed Amendments to the Bylaws 2010

The following changes to the Bylaws have been proposed for a vote by the Board of Directors. Items in **bold** indicate the proposed changes. These will all be yes or no votes, there are no choices.

Change # 1:

Original:

ARTICLE V

SECTION 2 The Annual Meeting for the conduct of business shall be **held during May of each year in a place selected by the Administrative Committee, but the date of any Annual meeting may be changed by the Board of Directors.**

Proposed:

ARTICLE V

SECTION 2. The Annual Meeting for the conduct of business shall be held **at one of NARGS annual conferences, at a time and place specified by the Administrative Committee.**

Rationale: This change is requested because, in theory, the AdCom would have to vote every time the meeting is not in May and the vote doesn't always take place because not every AdCom officer is aware of this requirement. This will allow the Annual Meeting for the conducting of business to be held at any one of the annual conferences without the requirement of a vote of the AdCom.

Change #2:

Original:

ARTICLE VII—COMMITTEES

SECTION 2—NOMINATING

Responsibilities: The Committee shall present to the membership at the Annual Meeting a slate of nominees, as needed, for Directors and Officers. Only one candidate will be included in the slate for each position to be filled. Additional nominations may be made from the floor. In all cases, no nomination may be made without the prior consent of the proposed nominee. Election will be by a majority vote of those responding. **Brief biographies of the nominees, prepared by the nominees, will be solicited by the Chair and published in the Bulletin Board accompanying the Winter issue of the Rock Garden Quarterly preceding the Annual Meeting at which the elections are to be held.**

Proposed:

ARTICLE VII—COMMITTEES

SECTION 2—NOMINATING

Responsibilities: The Committee shall present to the membership at the Annual Meeting a slate of nominees, as needed, for Directors and Officers. Only one candidate will be included in the slate for each position to be filled. Additional nominations may be made from the floor. In all cases, no nomination may be made without the prior consent of the proposed nominee. Election will be by a majority vote of those responding. **Brief biographies of the nominees,**

prepared by the nominees, will be solicited by the Chair and published in the Quarterly and on the NARGS website (members-only area) at least 30 days before the election.

***Rationale:** The requirement to disclose candidate names in the Winter Quarterly Bulletin Board (BB), above, was drafted for the times when the BB was printed on inserts which went into the Quarterly. The deadline to produce the BB inserts was approximately two weeks before a given issue was mailed. These days, in order to save money, we don't have inserts in the Quarterly, everything is bound together, including the BB. Which means that deadlines for any submissions are about two and a half months before an issue is mailed. This change is being requested to bring us in line with current publishing practices and easy access to the website.*

In Memoriam: Carol Fyler

Carol Fyler of Wellesley, Massachusetts, a member since 1978, died December 26, 2009, after a battle with lung cancer. She is survived by her husband, Don, five children, eight grandchildren, and one great-grandchild. Many members have met her at the national meetings and study weekend she enjoyed attending.

Carol became a rock gardener when she and her family moved into a house on a steep grade, with tiers of rocks forming the back slope. She kept the first wall but moved all the other rocks to make them much more pleasing visually, and then spent her days clambering over the rocks and filling in the spaces with meticulously grown plants. She grew many of these from seed in coldframes. The shady spaces around the house were filled with the best of woodland plants, and the front slope housed her collections of hemlocks and Japanese maples, along with some daphnes she particularly loved. It was a treat to visit. Regional NARGS members will remember her as very generous in sharing the plants she grew, and the New England Chapter has long benefited from all her plants and knowledge.

Carol was also a longtime volunteer at New England Wild Flower Society's Garden in the Woods, where she propagated many native plants. Having accidentally discovered the endangered *Isotria medeoloides* on land in New Hampshire that she visited every August, she and Bill Brumback set about to monitor it faithfully every year under a national grant.

—*Helga Andrews*

Persons who joined NARGS between October 31, 2009 and January 29, 2010

Boldiston, Greg, 2931 Lancefield Rd., Romsey, Victoria 3434 Australia

Schmidt, Loren, 196 Hawkbury Close, NW, Calgary, AB T3G 3C9 Canada

Domin, Patricia, 15 Sydney Dr., SW, Calgary, AB T2W 0S7 Canada

CRAGS Chapter of NARGS, c/o Karen Maslanka, 19 Hendon Dr., NW, AB T2K 1Y Canada

Hill, Andrew, 54-1101 Nicola St., Vancouver, BC V6G 2E3 Canada

Poirier, Helen, 1974 Ch. St.-Ignace, St. Ignace, NB E4X 2K2 Canada

Marsh, Steven, 7 Solva Dr., Nepean, ON K2H 5R4 Canada
Nielsen, Lief, Udbygaardvej 8, Allingaebro 8961 Denmark
Lyyra, Jarko, Nyyrikintie 11 B, Helsinki 00610 Finland
Kovacs, Pal, H-2510 Dorog, Konyves K. u. 1, Hungary
Generalov, Viktor, Soinechnfia str. 15 d. Gorki, Moscow 142712 Russia
Wooster, Sue, 3 Home Farm Cottages, Thetford Rd., Diss, Norfolk IP22 2TD, UK
Brodie, Iain, Auchgourish Botanic Garden, Street of Kincardine, Boat of
Garten Scotland PH24 3BY UK
Thornley, Mrs. W., Baines Paddock, Haverthwaite, Ulverston, Cumbria LA12
8PF UK
Seiser, Dan, 225 E. 11th Ave., Anchorage, AK 99501
Walker, Ilene, 1391 Santa Clara Ave., Concord, CA 94518
Halton, Brian, 2062 10th Ave., San Francisco, CA 94116
Miller, Candace, 672 S. First St., Dunsmuir, CA 96025
Church, Clara, PO Box 545, Fort Jones, CA 96032
Matteson, Sharene, 30310 Spearhead Trail, Valley Center, CA 92082
Bonfiglio, Carol, 20498 E. Hamilton Cirle, Aurora, CO 80013
Mueller, Scott, 868 Tenderfoot Dr., Larkspur, CO 80118
Olson, Connie, 13682 W. Virginia Dr., Lakewood, CO 80228
Baumfalk, John, 1001 N. Madison Ave., Newton, KS 67114
Gingerwood Nursery, 5855 Bayou Paul Rd., Saint Gabriel, LA 70776
Grabowy, Constance, 156 East Bare Hill Rd., Harvard, MA 01451
Willis, Jonathan, # 2 Ainsworth Rd., Winchester, MA 01890
Snyder, Elizabeth, 130 Nason Hill Rd., Sherborn, MA 01770
Mitchel, II, Roger E., Biology-FSU, ASC 2004, 320 Campus Dr., Big Rapids,
MI 49307
McDowell, Duane, 1862 Hamline Ave. N, Roseville, MN 55113
Sorensen, R. T. 408 Lexington Pkwy S., St. Paul, MN 55105
Krahn, Steven, 4901 Ewing Ave. S, Minneapolis, MN 55410
Herbst, Dawn, 17045 Alpine Lane, Lake Park, MN 56554
Good, Marion, 1290 Sioux St., Los Almos, NM 87544
Fletcher, Raymond, 475 Missoula Court, Reno, NV 89511
Hannen, Michael A., 171 Laburnam Crescent, Rochester, NY 14620
Kral, Gerald, 900 Winston Rd. N, Rochester, NY 14609
MacLeod, Camilla, 1163 Chenango St., Binghamton, NY 13901
Weathersbee, Gary, 15 Abingdon Sq., Apt. 67, New York, NY 10014
Thompson, Chris, 22445 Peters Dr., Quincy, OH 43343
Simons, Jarid, 2735 Honor Dr., Medford, OR 97504
Griffith, Meredith, PO Box 352, Fairview, OR 97024
Williams, Linda, 31241 Lanes Turn Rd., Eugene, OR 97408
Klodzinski, Gail, 767 E. Main St., John Day, OR 97845
Hood, Jr., Leigh and Rick, 520 Terrace St., Ashland, OR 97520
Gutierrez, Barbara Hoyle, 170 Knighton Court, Spartanburg, SC 29302
Great Basin Natives, 75 West 300 S., PO Box 114, Holden, UT 84636
Stickler, Sarah, 2436 N. Utah St., Arlington, VA 22207

Dodge, Michael, 1943 Ridge Rd. N, Fairfield, VT 05455
 Olmsted, Amy, 421 Birch Road, Brandon, VT 05733
 Arenson, Bart, 11515 105th Pl. SW, Vashon, WA 98070
 McLean, Kendall, 10533 NE 175th St., Bothell, WA 98011
 Mahaffey, Jo Ann E., 9112 Little Rock Rd., Olympia, WA 98512
 Wood, Jacqueline, 4902-A Island View Lane, Mukilteo, WA 98725
 Boctwell, Sarah, 9377 Spring Valley Rd., Mazomanie, WI 53569
 Stritch, Lawrence R., 146 Edward Dr., Martinsburg, WV 25404

The following recently became NARGS Life Members:

Francis Cabot (New York) Michael Riley (New York)

The following recently became NARGS Patrons:

Jane Grushow (Pennsylvania) Moamar, Amal (Massachusetts)
 Marion K. Nelson (Alaska) Karen S. Watts (Pennsylvania)
 Lesa E. von Munkwitz-Smith (Connecticut)



NARGS December 2009 Donations Appeal
Donations Breakdown (as of 1/31/10)

Designated

“Rock Garden Quarterly”	\$2,270.00
Web site/Web master	350.00
Singer Endowment Fund	100.00
Speakers Tour	100.00
In honor of Larry Thomas (General Fund)	50.00
In memory of Pat Bender (General Fund)	150.00
In memory of Carol Fyler (General Fund)	25.00
General Fund	1,376.35
	<hr/>
Total	\$4,421.35

Donors: Anonymous (3); Charles Bailey, British Columbia; Geary Britton-Simmons, Washington; Thornton Burnet, Jr., Virginia; Jeannette Dupey, Washington; Elaine Fletcher-Fernald, Maine; Joanne Foster, New Jersey; Maria Galletti, Quebec; Grazyna Grauer, Ohio; Gail K. Gray, Colorado; Phyllis Gustafson, Oregon; Mary Jenson, Colorado; Starling Lawrence, New York; Radford MacFarlane, Delaware; Faith Magoun, Massachusetts; Robin Magowan & Juliet Mattila, Connecticut (Turnip Top Foundation); Katherine Mauney, North Carolina; Kevin McIntosh, Maryland; Phyllis Milano, Connecticut; Lesa von Munkwitz-Smith, Connecticut; Adele Neuringer, Massachusetts; Borge Sogaard, Denmark; William Staub, California; Richard Turner, California; Bobby Ward, North Carolina; James Wood, Saskatchewan.



NARGS COMING EVENTS

2010 Annual General Meeting: July 11-15, 2010.
Salida, Colorado. Hosted by the Rocky Mountain
Chapter Contact: Randy Tatroe, rltaurora@aol.com

2011 Western Winter Study Weekend: February
25-27, 2011. Hosted by the Vancouver Island Rock
and Alpine Garden Society (VIRAGS) at a venue on
Vancouver Island, British Columbia, to be announced.

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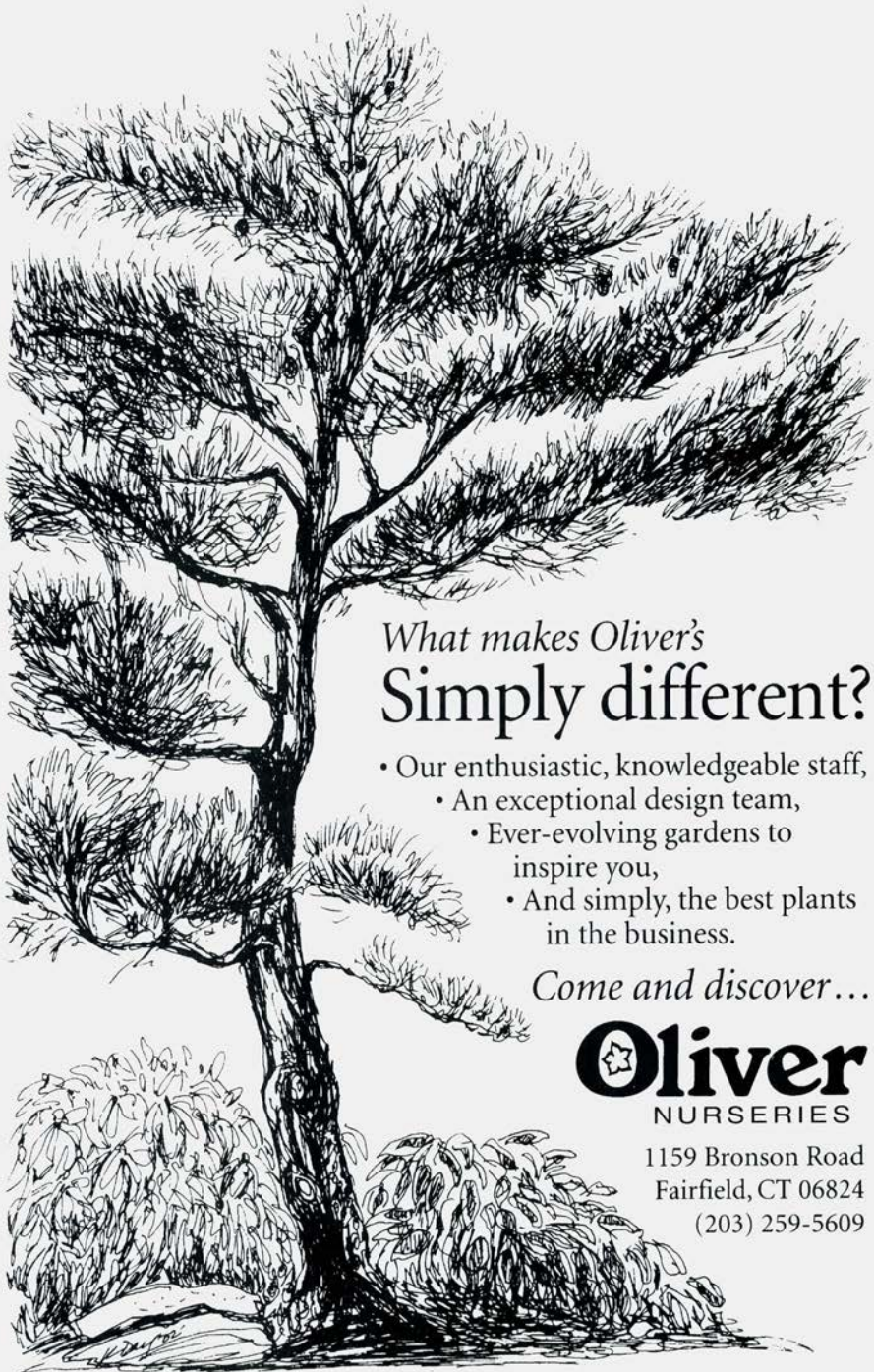


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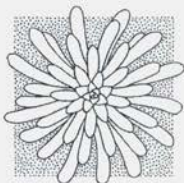


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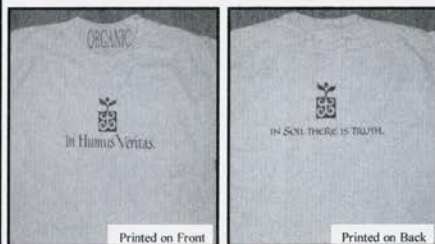
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Newfoundland	Todd Boland, todd.boland@warp.nfld.net
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Nova Scotia	John Proctor, Dartmouth, NS, onewilderness@gmail.com
Ohio Valley	Alan Grainger, thealpinegarden@mac.com
Ontario	Virginia Hildebrandt, vhlildebrandt@sentex.ca
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Potomac Valley	Paul Botting, pmbotting@comcast.net, 301-869-3742
Quebec	Robert LeClerc, duckfrm@total.net
Rocky Mountain	Panayoti Kelaidis, Denver, panayotik@yahoo.com
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Sierra	Val Myrick, vkmyrick@pacbell.net
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Southern Appalachian	Lew Applebaum, Fletcher, NC, blapplebaum@bellsouth.net
Wasatch	David Joyner, d.e.joyner@m.cc.utah.edu
Watnong	Judy Glattstein, Frenchtown, NJ, jgglatt@gmail.com
Western	Ted Kipping, tkippingsprint@earthlink.net
Wisconsin-Illinois	Ed Glover, Mt. Horeb, WI, glover@oncology.wisc.edu

QUARTERLY STAFF

Editor	Jane McGary, 33993 SE Doyle Rd., Estacada, OR 97023 503-630-3339 / janemcgary@earthlink.net
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Editorial Advisors	L. Thomas, M. Moshier, A. Spiegel, T. Cole, D. Joyner
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