

ROCK GARDEN *Quarterly*



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Front cover: *Rhododendron prinophyllum* and *Gaylussacia baccata*, plants to be seen at the 2007 NARGS annual meeting. Painting by Jean LeCluyse.

Back cover: *Calypso bulbosa*, photographed by David Sellars.

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ROCK GARDEN

Quarterly

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Campanula epigea, drawing by Mark Akimoff.

Corrections

Judith Jones informs us of errors we made in connection with the photographs she supplied with her article in issue 64.4, fall 2006. (1) The caption on the lower photo on p. 267 should read "A xeric fern bed created by Dr. George Sanko at Georgia Perimeter College Botanical Garden, Decatur, Georgia." (2) On p. 270, the photos of *Woodsia polystichoides* and *Dryopteris affinis* 'Crispa Gracilis' were printed upside down. (3) The correct spelling of the name of the Japanese painted fern is *Athyrium niponicum*, not "*nipponicum*," although the latter is often seen in Western references. Our apologies to the author for the errors.

Where Appalachian Flora Meets Alpine Boreal

Martha Oliver

NOTE: The NARGS Annual General Meeting in 2007 is to be held at Dolly Sods and Blackwater Falls State Park in West Virginia.

When the most recent glaciers retreated north 12,000 years ago, they left behind many plants we associate with the arctic alpine flora—plants that were adapted to boreal conditions of cold, deep snow, and ferocious winds. As the climate warmed, southern plants crept back northward to regain habitats, taking advantage of the fact that the Appalachian Mountains run north and south. (The European Alps, which run east and west, were a barrier to the reestablishment of the flora there.) As the southern plants climbed the slopes, they encountered some of these boreal remnants, now isolated in refugia. Much of the Appalachian flora above 4000 feet (1219 m) would be eerily familiar to gardeners from Canada and other northern regions. The curious thing about these refugia is the mixture of two otherwise distinct and separate plant communities, the southern Appalachian and the boreal—a situation found nowhere else.

Dolly Sods, at 4200 feet (1280 m), is an upland plateau about eight miles long. Because of disastrous fires brought about by careless logging from 1880 to 1920, all of the soil was burned away and opportunistic species that had managed to survive the conflagration were offered a great chance to take over a scrubbed site—which they did. Thus, species like *Rhododendron maximum*, *R. calendulaceum*, and *R. prinophyllum* (syn. *R. roseum*; see cover illustration), which are not found in the boreal zone, are present at Dolly Sods, and we find such strange bedfellows as *Dicentra eximia* (distributed in New Jersey, Pennsylvania, West Virginia, North Carolina) next to *Epigaea repens* (Newfoundland, Quebec to Florida) next to *Cornus canadensis* (Greenland, Alaska, and West Virginia as the southern limit of its range). A striking feature for the June visitor is the huge number of kalmias (*Kalmia latifolia*; photo, p. 18), including many color forms not present in the nursery trade. This plant in all its variety has become the most memorable part of the flora; nowhere else will you see a display of this type.

Dolly Sods is thus the southern limit of several northern species, such as *Clin-tonia borealis*, *Gaultheria hispida*, *Nemopanthus mucronatus*, and *Clematis verticillata*,

as well as some that one might think were in that category but are not (*Coptis groenlandica*, a boreal species also ranging south to North Carolina).

Other Appalachian specialties are the spectacular *Menziesia pilosa*, found from Pennsylvania to Georgia in mountain forests, and *Heuchera alba*, endemic to a small area in West Virginia and adjoining Virginia, and on state, federal, and international endangered species lists because of its severely limited habitat. Here too is *Sorbus americana*; on a recent return trip in early October, we were thrilled to see the brilliant crimson berries on this small tree, far more beautiful than the orange-berried European rowan of gardens. Small plants such as *Sisyrinchium mucronatum* (p. 19) and *Potentilla tridentata*, both found on “balds” (rocky, treeless summits) in the Appalachians, create a flowering turf.

The acid soil provides ideal conditions for *Gaylussacia baccata* (see cover and p. 18), *Ilex montana*, *Kalmia latifolia*, and *Maianthemum canadense*. The ground-covering carpet of *Epigaea repens* is so ubiquitous that one would think it easy to grow, but those who have tried and failed know that it has special needs. The red spruce that grew so tall and was the downfall of the area, so attractive was it to loggers, is represented by “flagform” individuals, with the branches on the windward side blasted away by the combination of ice crystals and wind.

Visitors will also note the presence of fellfields, created by the action of deep freezing of the soil that tumbled the rocks into jumbles. After the fires a century ago, most of the terrain must have looked like this. As leaves blow into the cracks and decay, humus forms and provides support for germinating seeds, but the process is slow because of the cold temperatures.

Acid soils also predominate at Blackwater Falls State Park (photo, p. 17), the site of the other field trip during the NARGS Annual Meeting in 2007. The name Blackwater refers to water that is not black, but deep brown like that in the Pine Barrens of New Jersey, a result of the high tannins in the soil.

What does this landscape mean for gardeners? All these differing species romping together in such abundance can be deceiving. Certainly the soil is acid, but it would be difficult to grow all of these species together anywhere but here; the conditions would be hard to duplicate. *Kalmia* and *Rhododendron* as well as the other ericaceous shrubs can fit into most acid conditions in far warmer zones and do well; *Epigaea*, however, needs sterile soil and a symbiotic soil fungus to make nutrients available. Others, such as *Heuchera alba* (p. 19), simply need the help of gardeners to keep out more competitive species, and they will do well in ordinary soils. Northern gardeners who can grow the acid-soil specialties should add some of these southern species from the Appalachians.

Sites like this are rare and, unfortunately, threatened by global warming, since the warmer temperatures will make conditions more favorable for other plants now kept out by the cold. Whether we can take action to stop the warming matters for places like Dolly Sods, as well as for the rest of the biosphere.

Martha Oliver and her husband, Charles Oliver, operate Primrose Path Nursery in Scottsdale, Pennsylvania, and are the authors of the recently published book *Heuchera, Tiarella, and Heucherella* (see the Book Service section in this issue).

Lily of the Valley

C. Colston Burrell

Adored by some gardeners, and spurned by others, lily of the valley (*Convallaria majalis*) has traditional religious as well as secular significance. Multiple common names such as May lily, May bells, lily of constancy, Jacob's ladder, and ladder-to-heaven attest to the plant's iconic status. Lily of the valley is also known as Our Lady's tears because, according to legend, the tears that Mary shed at the cross turned into lily of the valley flowers. It is associated with Pentecost, or Whitsunday, also known as Whitesunday, the seventh Sunday after Easter in the Christian calendar, when the recently baptized are called upon to wear white. Whitsunday falls around the time in May when lily of the valley is found in flower in the wild and in gardens.

In the Catholic church, a flower that corresponds to a specific virtue is dedicated to Mary for each day in May. The flower of May 16 is lily of the valley, with the corresponding virtue being punctuality. The flower's purity is equated with the parable of the Five Virgins, who were punctual and had their lamps lit when the Master came; whereas the other five foolish virgins were not punctual and thus missed out on eternal bliss. That is why punctuality is a virtue, so that we will always live in the state of sanctifying grace and like the snow-white lily of the valley be ready when God decides to take us out of this Valley of Tears.

English legend has it that lilies of the valley sprang up from the blood of St. Leonard, who fought a great dragon near Horsham. Another story purports that the fragrance of the lily of the valley draws the nightingale from hedge and bush, and leads him to choose his mate in the recesses of the glade. Lily of the valley also has a rich history of medicinal use. The leaves and flowers contain cardiac glycosides including convallatoxin, and can be fatally poisonous. The plant was used variously as a cardiac tonic (as a digitalis substitute), to increase urine flow, and as a root ointment for burns. It reportedly is good for sprains, to strengthen memory and restore speech, prevent gout, and ease colic. Russians used it to treat epilepsy. A fourth-century CE herbal spuriously attributed to Apuleius states that it was found by Apollo, who gave it to his son Asclepius, the Greek god of healing.

Classification

A free-spreading groundcover and sentimental favorite, lily of the valley is the most easily recognized and cherished member of the family that bears its name. Historically, the lily family (Liliaceae) served as a taxonomic dumping ground for plants as diverse as yucca, tulip, beargrass and Solomon's seal. Recently, this vast family was divided into a number of allied families based on floral characteristics and cytology. Lily of the valley (*Convallaria*) and a host of other garden-worthy relations, including Solomon's seals (*Polygonatum*) and mayflowers (*Maianthemum*), currently reside in the Convallariaceae, though some botanists maintain that they have an affinity with the butcher's broom family (Ruscaceae).

The generic name *Convallaria* derives from Latin *convallis*, which means "enclosed valley," and the specific epithet *majalis* means "of May," the time of flowering in the wild in Europe. The common name lily of the valley is a direct translation of the archaic botanical name *Lilium convallium*.

Lily of the valley is an easy and carefree groundcover that spreads freely, if not recklessly. Its rapid growth and extended reach are attributable to the fleshy white rhizomes that form a collar around the nodes and form growing eyes, called "pips," at regular intervals. Plants are clonal and often form broad, dense colonies. Two common forms of growth are observed in *Convallaria*: sheathed sterile scapes yield single or paired broadly lance-shaped to oval leaves; and reproductive shoots produce two, occasionally three leaves with a single flowering scape.

In mid-spring, one-sided racemes 6 to 12 inches (15–30 cm) high bearing 8 to 15 campanulate (bell-shaped) flowers with 6 reflexed lobes emerge at ground level along with the foliage. The sweetly scented white flowers are believed to be self-sterile and are said to be pollinated mainly by beetles and flies. The flowers give way to green berries that ripen red-orange in late summer. Each berry contains up to 24 seeds. Fruit set is generally low in gardens because two different clones may be required for fertilization.

Currently, four or sometimes five species of *Convallaria* are recognized by botanists—one in North America, and three or four in Eurasia. Some botanists recognize only one species with either two or four varieties. I feel that since the North American taxon warrants recognition at the species level, so do the Asian species. Consequently, this article recognizes four species. *Convallaria manshurica* is mentioned in the literature both as a species and as a subspecies of *C. majalis*, but I found no definitive references.

Species Descriptions

European *Convallaria majalis* is by far the most familiar and most commonly cultivated. This wide-ranging species varies in size and stature depending on its origin. Mature foliage stands 8 to 10 inches (20–25 cm) high and each leaf blade is 4 to 10 inches (10–25 cm) long. Flowering scapes may reach 10 inches, but

most are shorter. This species is found in woods, scrub, and meadows throughout Europe and into Asia, but the line between species is unclear; many floras do not recognize distinct taxa other than *C. majalis*. This species is widely naturalized in North America. Plants are hardy in zones 4–8. European selections are the most common in cultivation, but a variety of unique foliage and flower forms have been named from all corners of the gardening world.

Cultivars of *Convallaria majalis* include the following. ‘Albostriata’ has leaves striped with white; ‘Aureovariegata’ (‘Striata’ or ‘Variegata’; photo, p. 23) has leaves irregularly striped with pale yellow, and may fade to green in summer. ‘Berlin Giant’ is reported to be a large plant with excellent stems for cutting. ‘Cream da Mint’ has large, sea-green leaves edged in citron yellow; introduced by Fernwood Nursery and Gardens in Maine, this selection is larger than ‘Hardwick Hall’ and holds its color better. ‘Dorien’ has large white flowers held high above the leaves, making a good cut flower. ‘Flore Pleno’ (‘Plena’) is exceptional, with fully double cream-colored flowers. ‘Fortin’s Giant’ has large flowers on scapes 12 to 15 inches (30–37 cm) tall. ‘Fernwood Golden Slippers’, a sport of ‘Cream da Mint’, emerges yellow and fades to chartreuse as the season progresses. ‘Hofheim’ has two-toned yellow-cream marginal variegation. ‘Hardwick Hall’ and the deeper colored ‘Haldon Grange’ have sea-green leaves edged in yellow that fades slightly. ‘Prolificans’ is a double reputed to have whiter flowers than ‘Flore Pleno’. ‘Rosea’ (sometimes called variety *rosea*) has pale metallic pink flowers and an open habit. ‘Silberconfolis’ has an irregular white margin. ‘Touch of Lemon’ has glossy leaves edged in yellow. ‘Vic Pawlowski’s Gold’ has spectacular deep green leaves densely striped with gold.

Convallaria keiskei (syn. *C. majalis* var. *keiskei* or included in *C. majalis*) is native to China, Japan, Korea, and Mongolia, where it grows in forests, shaded ravines and woodland edges. The Japanese lily of the valley is similar to the more familiar European species but has smaller foliage of thinner texture. Overall, the plants I have grown seem smaller and less vigorous than other species. They reach 8 to 10 inches tall, with blades only 8 inches long. Up to 14 seeds are produced per berry, with 4 being average.

Convallaria manshurica (syn. *C. majalis* var. *manshurica*) is a name sometimes given to Asian plants outside of Japan. Plants are hardy in zones 5–9. Selections include ‘Snow Chimes’ with a white edge on its green leaves that complement the fragrant, white, bell-shaped flowers; ‘Soft Stripes’ features irregular stripes on the leaves, many with a frosted look that is unique to this variety.

Convallaria majuscula (syn. *C. majalis* var. *montana* or *C. montana*) is endemic to the Appalachian mountains of the eastern United States. American lily of the valley is a larger and more erect species, with deep green to sea-green foliage 8 to 20 inches (20–50 cm) tall and upright inflorescences to 12 inches (30 cm). Plants form open colonies of evenly spaced scapes on acid montane slopes near the tops of well-drained ridges and in sandy woods from Virginia and West Virginia, south to Kentucky and Georgia. They generally grow in summer-dry soils under oaks. Though eminently garden-worthy, this species is seldom cultivated, and no selections have been named. It is hardy in zones 5–8.

Convallaria transcaucasica (syn. *C. majalis* subsp. *transcaucasica* or included in *C. majalis*) is native to Russia, Georgia, Azerbaijan, and Turkey, and likely other areas of Asia Minor. I have not grown this species, and it is virtually unknown in cultivation in North America. Several British nurseries offer plants labeled as such. It is reportedly similar to other species but with dense, compact growth and oversized open bells tinted pink with wide-spreading lobes. It is likely hardy to zone 3, given its cold mountain origins.

In the Garden

Convallaria is a plant of woodlands and scrub, favoring abundant spring sunshine and protection from burning rays in summer. It occasionally ventures out into meadows and clearings in the wild, but there it is shaded by bracken and grasses in summer. Plants tolerate deep shade but often flower sparsely. Lily of the valley is easy to grow in average to humus-rich, circumneutral to moderately acidic soil that stays consistently moist. Established plants tolerate moderate drought but go dormant if dry conditions are chronic. The hardiness of most Asian species is largely untested, so experiment at both ends of the spectrum. In warmer zones, consistent moisture is one key to success.

Lily of the valley is an excellent groundcover that thrives even in difficult sites like thin or rocky soil. Punctuate its dense carpets with ferns, bugbane (*Actaea*) and other tall woodlanders, or use it as a carpet under shrubs and flowering trees. In shaded spots with no foot traffic, it can be a lawn substitute. Ferns offer rich textural contrast. Accent the upright stems with low plantings of foam-flower (*Tiarella cordifolia*), bloodroot (*Sanguinaria canadensis*), and barrenworts (*Epimedium*). On a shaded terrace or along a path, mass lily of the valley with foliage plants such as hostas, ferns, lungwort (*Pulmonaria*), and coral bells (*Heuchera*). Try a drift on a slope to mimic a foamy waterfall, or use the taller forms at the rear of a woodland bed to meld into the surrounding landscape along with sweeps of ferns.

Propagation

Sow clean seed outdoors or in an unheated cold frame as soon as it is ripe. Germination, particularly of stored seed, is slow, taking 2 to 12 months. Sow thinly so that the seedlings have room to grow undisturbed in the pot for their first year. Apply liquid feed during the growing season to ensure that the seedlings are well nourished. Transplant the young plants into individual pots when they die down in late summer and grow them on in a shady position in a cold frame for at least another year before planting them into their permanent positions.

Lily of the valley is easily divided in September as the vegetative shoots go dormant. Lift the clumps and tease or break apart the thick rhizomes. Replant them immediately in amended soil, or bulk them up in a propagation bed until they are well rooted before replanting.

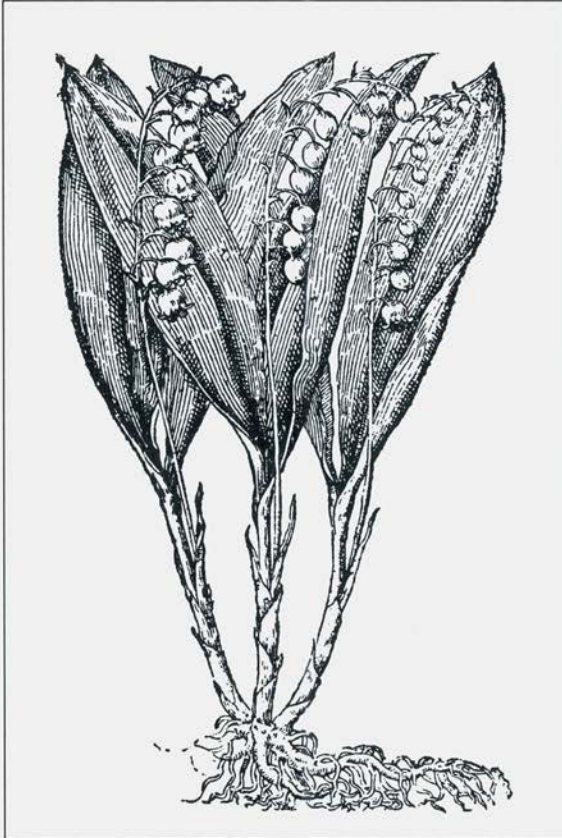
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(250) 537-5788; www.thimblefarms.com

Seneca Hill Perennials, 3712 CO. Route 57, Oswego, NY 13126; (315) 342-5915;
www.senecahill.com

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Rock Garden Design: Stratified or Chaotic?

David Sellars

It is a singular moment when a hiker emerges from a cool dark forest into a sunlit alpine meadow. Suddenly the landscape expands into a splendid park and elaborate rock garden. The perfect detail provides inspiration and ideas for the landscape gardener: tumbling streams, reflecting pools, rock terraces, acres of groundcover, and not a weed in sight. The occasional dwarf conifer, stream-side shrubs, and borrowed landscape of mountain peaks complete the picture.

Our gardens are a curious blend of artifice and nature. We juxtapose plants from all over the world but instinctively strive for the illusion of a natural landscape. As we move plants, build rock walls, and construct paths, each decision we make is fundamentally based on whether it “looks natural.” Striving to reflect nature in garden design is a well-established principle harking back to the Victorian era, when imitation was taken very literally in the creation of rockwork grottoes and miniature alpine landscapes.

Current widespread thinking on rock garden design is that the best way to achieve a natural appearance is to construct the garden to make it look like a rock outcrop using stratified layers. This article challenges this conventional wisdom, comments on the natural habitat of alpine plants, and proposes new terminology for some rock garden design concepts.

The stratified rock design principle has been well established for over a hundred years and continues to be reinforced particularly in the UK—for example, in *The Rock Garden and Its Plants* (1989) by Graham Stuart Thomas. Rock garden design in North America is more varied, perhaps because of the challenge of obtaining sedimentary rocks in some parts of the continent. In the NARGS book *Rock Garden Design and Construction* (McGary, 2003), chapter author Loren Russell recognizes that it is simply not practical to obtain suitable limestone or sandstone slabs in areas such as the Pacific Northwest. Nevertheless, creating natural-looking outcrops with stratified rocks is still emphasized in most rock garden design texts, such as *Creating and Planting Alpine Gardens* by Rex Murfitt (2005).

A review of the history of rock garden development provides insight into the preference for sedimentary rock for construction. The origins of the stratified rock design principle date back to the Victorian era, when James Pulham and

Sons invented Pulhamite, a synthetic rock formed with cement. James Pulham created “Picturesque” designs incorporating large-scale landscape features with cliffs of Pulhamite and natural stone. The plants were a secondary consideration, mere decoration. Pulham’s influence continued into the twentieth century, when Reginald Farrer introduced more emphasis on alpine plants in the rock garden. Farrer loved stratified rocks and was particularly scathing about alternative styles. In *The Rock Garden* (1912) he commented, “Stone in nature is never disconnected; each block is always, as it were, a word in the sentence. A dump of disconnected rocks, with discordant forms and angles, is mere gibberish.” Farrer also disparaged any appearance of chaos in the natural environment: “Nature in the mountains is often chaotic, bald, dreary, and hideous in the highest degree” (1925).

The culmination of the stratified design principle was the book *Natural Rock Gardening* by Captain B. H. B. Symons-Jeune, who, with a name like that, was obviously to be taken seriously. Symons-Jeune (1932) developed what he called the rules of geology to provide a prescription for the construction of a stratified rock garden. These rules of geology are thoroughly discussed and illustrated by Thomas (1989).

A stratified rock garden certainly can appear attractive, but does it actually reflect the primary natural habitat of alpine plants, or is it simply a legacy from the Picturesque tradition? Alpine plants in the mountains rarely grow among massive blocks of sedimentary rocks; they are much more common in scree slopes, talus, moraine deposits and shattered rock outcrops. These erosion and deposition features provide a great diversity of plant habitat with a mixture of soil, stones, and rock particles that alpine plants particularly enjoy.

Many famous alpine plant sites are not even located in sedimentary rock areas. The ridge of the Bindelweg in the Dolomites is an igneous intrusion, and the only stratified rock in sight is across the valley on the Sella Group. The eastern flank of the Olympic Mountains in Washington state is volcanic and supports a diverse and unique flora. Even where the underlying rock is limestone, as on Chowder Ridge of Mount Baker, Washington state, the extensive erosion of the ridge has obliterated any appearance of stratification. Carboniferous limestone, the classic sedimentary rock for alpinists, depends on erosion of the limestone that creates niches for the plants. However, the most abundant plants in sedimentary rock areas grow on the lower talus slopes (photo, p.21) or other recent depositional features.

Although the jumble of rocks of all sizes in talus slopes and moraine deposits appears chaotic close up, at a larger scale there is considerable beauty of form. The photograph on p. 22 was taken on the Eiffel Lake Trail in the Canadian Rockies and shows the broad linear sweep of a talus slope covered in *Penstemon ellipticus*, leading the eye up into a blue haze at the base of the cliffs. Stand back from a glacial moraine and you can see the elegant shape of the landform deposited in graceful curves down the valley. Even an eroded rock outcrop has an overall shape that can be appreciated.

Given that alpine plants are most abundant in erosion and deposition landforms, a rock garden should resemble talus slopes and moraine deposits rather

than rock cliffs. The fact that these landforms in the mountains appear chaotic at a small scale and have shape at a larger scale provides ideas on how to design for chaos.

A **talus garden** is suggested as an appropriate term for a rock garden formed with randomly placed rocks on a slope. Talus in the mountains is the accumulation of rock debris at the base of a cliff or steep mountain slope and includes a variety of rock sizes, from large boulders to small stones and gravelly soil. A scree slope is talus that is primarily small, loose stones.

A **moraine garden** would have a similar range of rock sizes to a talus garden and would be a raised bed with the overall form of a glacial moraine. The name “moraine garden” has been used to mean a specialized rock garden feature with a subsurface water supply (McGary, 2003). Nevertheless I think the term “moraine garden” would be more appropriate for a raised bed in the shape of a glacial moraine than the commonly used term “berm.” A berm is an artificial structure to block a view or retain water, whereas a moraine is a geological landform common in the mountains.

Because erosion and deposition processes follow the laws of physics, the rules of geology can also be applied to a talus or moraine garden. In building a lateral moraine, the crest of the moraine should be rounded and the crest axis should be sloped to reflect the appearance of natural moraines. The moraine edge should be curved because glaciers rarely follow straight lines. A talus garden should have the larger rocks at the foot of the slope, which is convenient because it is easier to build this way. A scree slope can also be incorporated as part of the talus garden. However, the surfaces of talus and moraine deposits are varied with dips, hollows, pools, and small cliffs, leaving plenty of latitude for creativity. Talus deposits resulting from rock avalanches can be very hummocky and often merge with moraine deposits in the mountains. Figure 1 is a sketch of a talus garden on a slope adjacent to a moraine garden.

A good example of a moraine garden is illustrated in the photo on p. 72 of *Rock Garden Design and Construction*. This garden was constructed by Gwen Kelaidis, who calls it a “berm garden” in the chapter she contributed to the book.

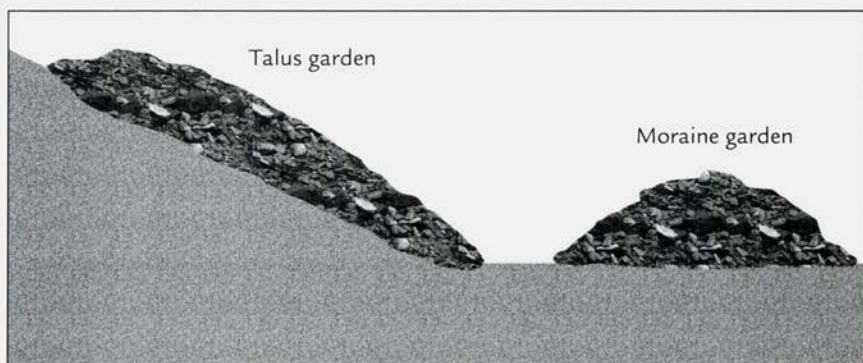


Figure 1: Cross-section of a talus garden and a moraine garden.

The two raised beds look like lateral moraines curving in tandem with the glacier retreating in the center leaving a grassy meadow. Gwen Kelaidis clearly understood the need to create a chaotic look, for she writes, "Nature can be quite careless piling rocks helter-skelter," and she emphasizes that rocks should not be spaced evenly.

A talus garden built on a slope with hummocks and paths is illustrated on p. 23. Talus material tends to be more blocky than moraine rocks, which are often rounded because there has been more erosive action before their deposition. If you have boulders that are too rounded to appear natural in a talus slope, you can split them as described in my earlier article (Sellars, 2005). Crevices for planting with deep root runs can be created between the flat surfaces of adjacent rocks.

Talus and moraine gardens can be built with rocks of almost any shape, size and origin. Using local rocks for garden construction can be very satisfying and aesthetically pleasing as it is in keeping with the geology of the area in which you live.

It may be surprising, but the hardest part of building a talus or moraine garden is making the rocks look chaotic. Thomas reproduces illustrations of rock gardens that were scorned by Farrer, who gave them such labels as the Plum-bun System and the Almond-pudding System. The reason these berms look unsightly is that they are not truly chaotic. The rocks are of uniform size and are distributed evenly over the berm. A real moraine has rocks of different sizes, which can range from huge boulders to scree-size stones, and their distribution is random. Sometimes a large rock or outcrop creates a cliff feature within the talus or moraine slope. Pools lined with boulders may occur in depressions in the moraine. Creating a rock garden that looks chaotic is actually quite difficult, because gardeners tend to be orderly and instinctively space rocks evenly or construct retaining walls in parallel lines. When gardening on a slope, it may be necessary to construct terraces to retain the soil, but the terraces should be discontinuous. During construction of a talus or moraine garden, you have to stay very focused to achieve a chaotic appearance.

Steps and paths in a talus or moraine garden are an important design consideration. The steps provide access for planting and maintenance and can enhance the overall appearance of the garden by drawing the eye along an interesting feature. They also allow the rock garden to be appreciated from different viewpoints. Paths constructed along and over a moraine using flat rocks, so they appear like a mountain trail, can look just as natural as paths in a stratified rock garden.

Reflecting nature in rock garden design is a well-established convention and is likely to continue to be the guiding principle for the foreseeable future. The use of sedimentary rocks to resemble a rock outcrop is the standard method of rock garden construction, but I have tried to show that a rock garden can also resemble a talus slope or moraine, which are the primary habitats of alpine plants. The rules of geology should still be followed, because geological processes created the chaos of talus and moraine and these landforms have shape at a larger scale.

Some will think that I am making a virtue of necessity because, in our own garden, we are blessed with naturally occurring glacial boulders. I accept the charge, but necessity can sometimes lead to a path that provides a different viewpoint on rock garden design. It is time to get out from under the shadow of Reginald Farrer and lose our fears of creating what his followers called a “dogs’ graveyard.” The chaotic aspect of nature still has elegance of form; you just have to stand back and look for it.

References

Farrer, Reginald. 1912. *The Rock Garden*. London: T. Nelson and Sons.

Farrer, Reginald. 1925. *The English Rock Garden*. 2nd ed. London: T. & E. Jack.

McGary, Jane (ed.). 2003. *Rock Garden Design and Construction* Portland: Timber Press and North American Rock Garden Society.

Murfitt, Rex. 2005. *Creating and Planting Alpine Gardens*. Wayne, PA: B. B. Mackey.

Sellars, David. 2005. “The Art of Splitting Boulders.” *NARGS Rock Garden Quarterly* 63(1):50–52.

Symons-Jeune, B. H. B. 1932. *Natural Rock Gardening*. London: C. Scribner’s and Sons.

Thomas, Graham Stuart. 1989. *The Rock Garden and Its Plants*. Portland: Timber Press.

David Sellars of Surrey, British Columbia (near Vancouver), an engineer and rhododendron enthusiast as well as a grower of choice alpines, has contributed several articles and award-winning photos to this journal. A photo of his garden appears in the winter 2004 issue.

A Central Asian Adventure

Paul M. Olsson

I cannot pinpoint when I got the idea to travel to Uzbekistan and Tajikistan, but the major events that motivated me were Roger Phillips and Martyn Rix's lavishly illustrated, two-volume set *Perennials* and their equally enticing *Bulbs* (published in the U.K. by Pan and in the U.S. by Random House). I bought these in the mid-1990s and paged through them many times, often lingering over the photo of *Ferula kuhistanica* growing on a hillside near Samarkand. *Eremurus lactiflorus* growing in the Chimgan Valley was also a strong motivator. In the fall of 2004, some friends and I were looking through seed catalogues and came across *Ostrowskia magnifica* in Jim and Jenny Archibald's list; everyone raved over it after I showed them the picture in Phillips and Rix, taken in the Tashkent Botanical Garden in Uzbekistan. Fortunately, I have a good friend in England who is a specialist on the genus *Ferula*, and on umbellifers in general, and he was very encouraging during my planning the trip; because this genus has its center of distribution in Central Asia, I was looking forward to bringing back seeds for him.

I had been on three recent trips to Turkey on my own, and I felt confident that I could handle a trip to Central Asia. I quickly realized, however, that I would not be able to rent a car and drive around there, but would need an experienced guide and transportation. By January 2005 I had found Elena Tour in Tashkent, whose staff provided excellent service both before and during my trip.

When an uprising took place in Bishkek, Kyrgyzstan at the end of March 2005, I was happy that I hadn't chosen to go there; little did I know then what would happen in neighboring Uzbekistan's Ferghana Valley on May 13, when some 700 people are believed to have been massacred in Andijan. Like most of the world, I was shocked, but the staff at Elena Tour told me that I need not worry: the protests had not spread to Tashkent. I spent some crucial days debating whether to go but finally decided to proceed. I would spend most of my stay in Tajikistan, which had been calm so far, and would visit Chimgan northeast of Tashkent, probably out of harm's way—far from protests, in the mountains looking at flowers. Then our foreign ministry advised against traveling to Uzbekistan, and thus no travel insurance companies were willing to insure me; a Danish company

would insure me but not evacuate me in the event of war. About two weeks before I left, though, the ministry dropped the ban against the whole of Uzbekistan and just kept it for the eastern parts around Andijan, so I was clear to go.

Tashkent to Tajikistan

On July 22 I flew via Turkish Airlines to Tashkent, arriving early the following day. Passport control was chaotic, and I suspected the official was adding a “surcharge,” but it seemed best to pay up and look happy. I needed a double visa because I was going to visit Tajikistan and return to Uzbekistan. After an hour and a half I found my way out of the terminal and spotted my driver.

Uzbekistan is a landlocked country of 447,000 square kilometers, roughly the size of Sweden. Three-fifths of the land is steppe, desert, semi-desert, and mountains, and the rest consists of fertile valleys between the two big rivers—Amu Darya in the south, and Syr Darya in the north. On the east and southeast the country borders Kyrgyzstan and Tajikistan, on the north Kazakhstan, and on the south Turkmenistan and Afghanistan. The climate is sharply continental, with most precipitation falling in March–April, followed by a hot, dry period until October. The humidity is very low, so the heat is not terribly uncomfortable even when the temperature rises to 40° C (104° F). Winter temperatures may fall to –30° C (–22° F). Uzbekistan’s flora is richly diverse: more than 4,000 vascular plant species grow here, a quarter of them endemic. There are 110 wild *Allium* species, 400 *Astragalus*, 90 *Artemisia*, and about 40 species of *Tulipa* growing here. In a period of 20 or 30 years in the 20th century, Dutch growers took 10,000 bulbs of the most decorative tulips from Uzbekistan to use in hybridizing.

After a two-hour rest and breakfast at my hotel, I went to Elena Tour’s office next door and met the manager, Boris Karpov, and my guide and interpreter, Vyacheslav “Slava” Yurjev. We decided to leave for Samarkand the next day, along with Nikolaj, the guide/porter/cook.

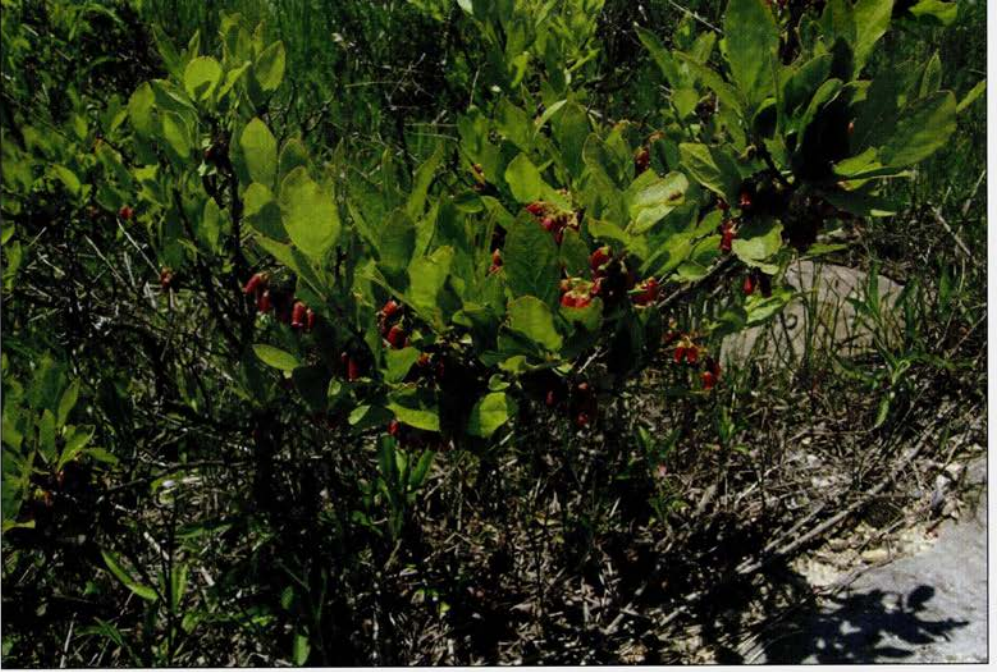
I had arranged to see the Tashkent Botanical Garden, and my guide in Tashkent, Galina, accompanied me there in the afternoon. The public part of the botanical garden is a 22-acre arboretum divided by geographical regions. There are many interesting species growing here, and I found a common language with my guide, an elderly woman who spoke no English, in the scientific names of plants. The decay of this place is heartbreaking; since the Soviet Union crumbled, not much financial support has been given to scientific institutions, at least not in the botanical field. Just a handful of people, most of them past retirement age, are taking care of this once magnificent botanical garden now.

After lunch Galina took me to one of the many bazaars and the driver changed some money for me. I bought some dried fruits and nuts (ridiculously cheap by Western standards) for the coming seven-day trek. Later I walked into the city center by myself, not stopped once by the policemen about whom the travel guides had warned me. After dinner I hailed a cab, which was very easy: every car serves as a potential taxi in Tashkent, where everyone is out to make an



Scenes to be seen at the 2007 NARGS annual meeting at Dolly Sods (p. 3):
above, Blackwater Falls; below, the bog on Northland Loop. (Charles Oliver)





Gaylussacia baccata (p. 4) and *Kalmia latifolia* (p. 3) flourish at Dolly Sods. (C. Oliver)



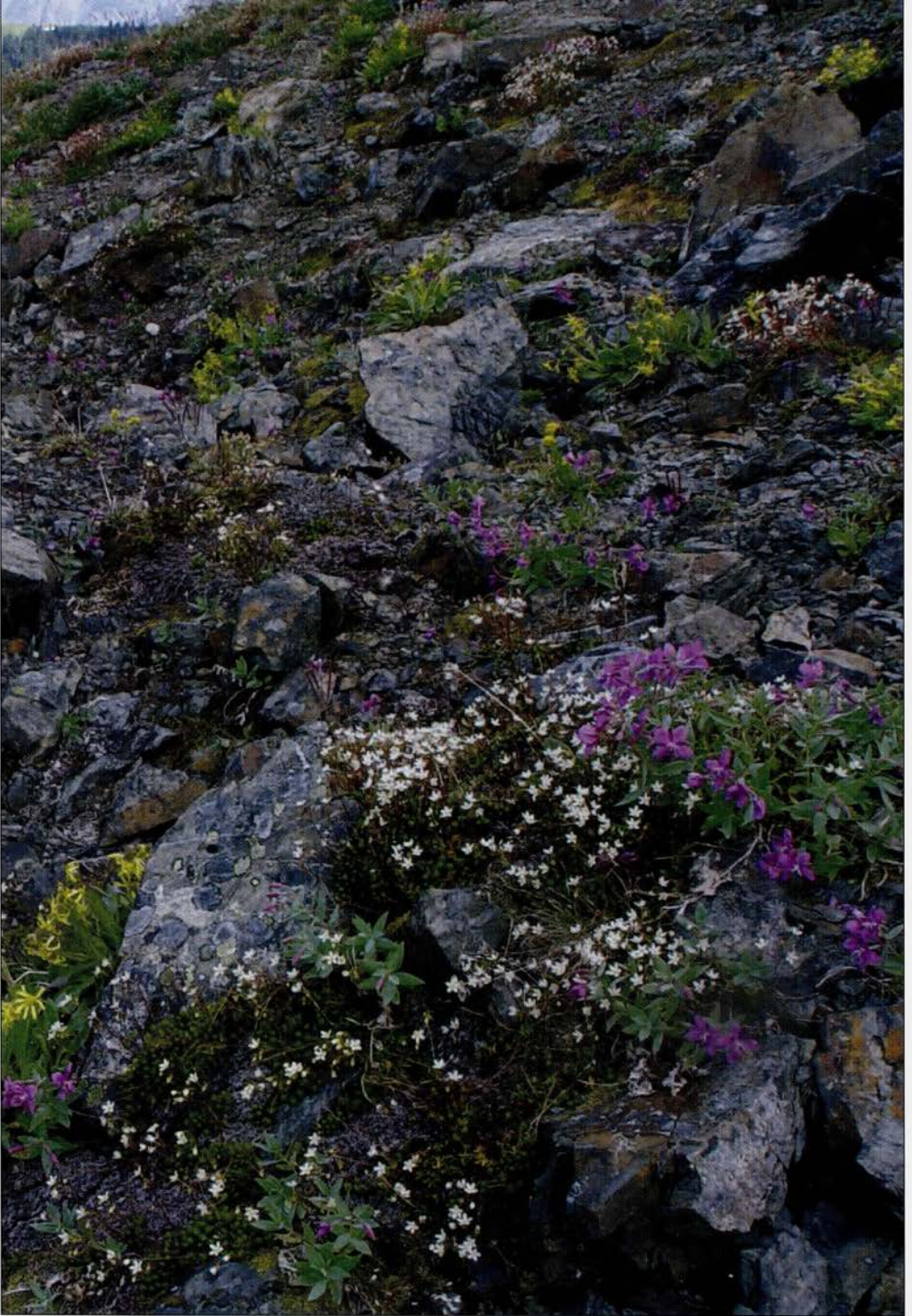


Two of the smaller perennials in the Dolly Sods flora:
above, *Heuchera alba* (p. 4); below, *Sisyrinchium mucronatum* (p. 4). (C. Oliver)

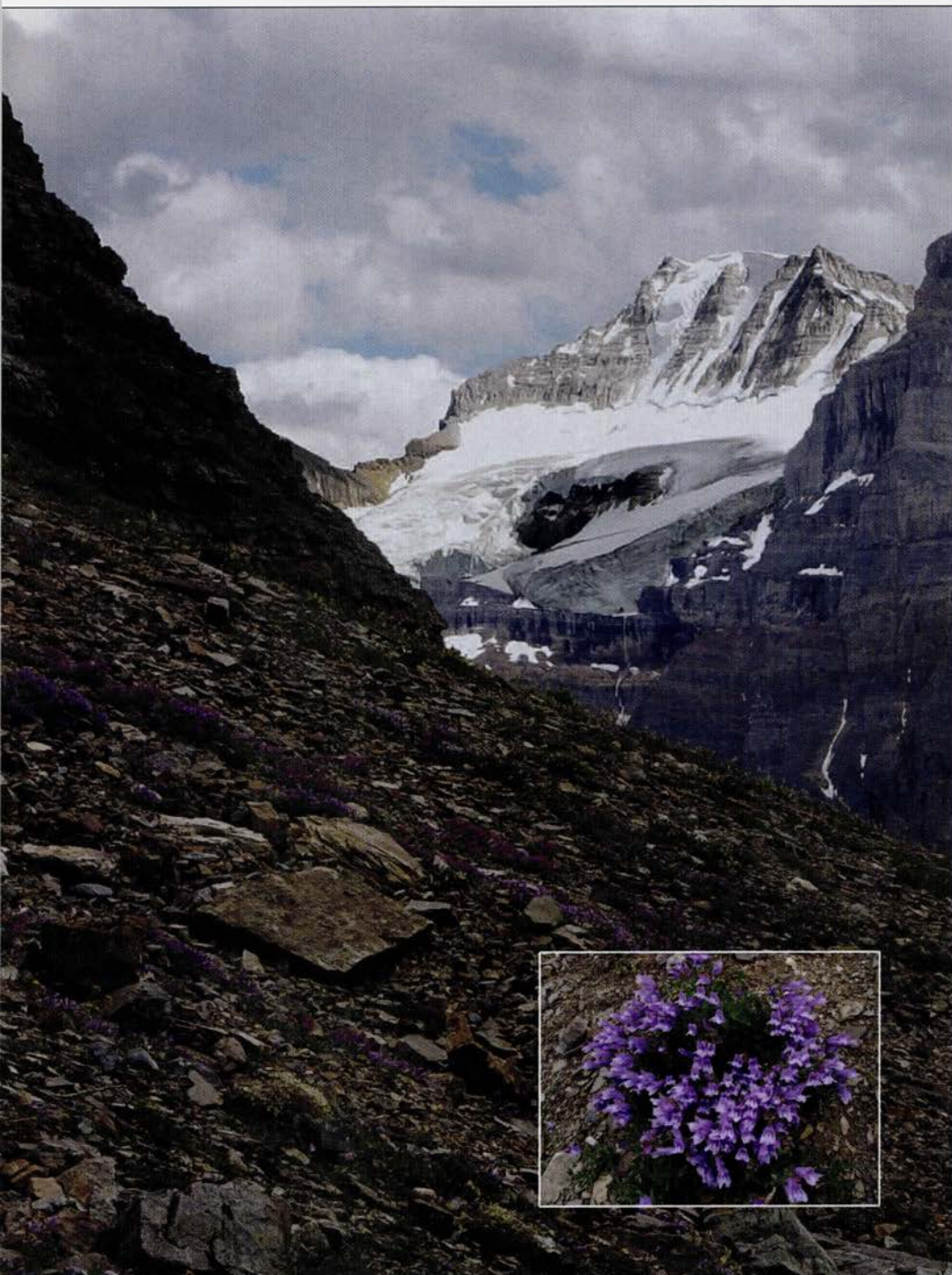




Lewisia kelloggii subsp. *hutchisonii* on Saddleback Mountain, California; third place, class 1, in the 2006 Photo Contest, photographed by Jack Muzatko, who will speak at the 2007 Western Winter Study Weekend (see NARGS Coming Events, p. 70).



Chowder Ridge on Washington's Mt. Baker exemplifies a "chaotic" rock formation hosting choice plants (p. 11). (David Sellars)



A talus slope with *Penstemon ellipticus* in the Canadian Rockies (p. 11). (D. Sellars)



This part of David Sellars's garden is constructed of non-stratified rock to resemble a mountain talus formation (p. 13).

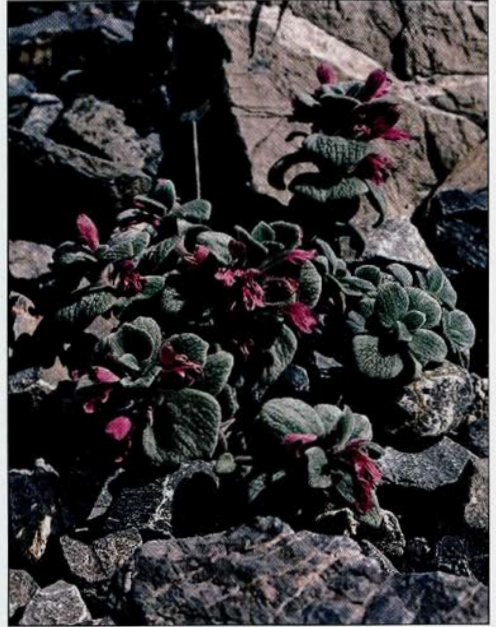
Convallaria majalis 'Aureovariegata' (p. 7). (C. Burrell)





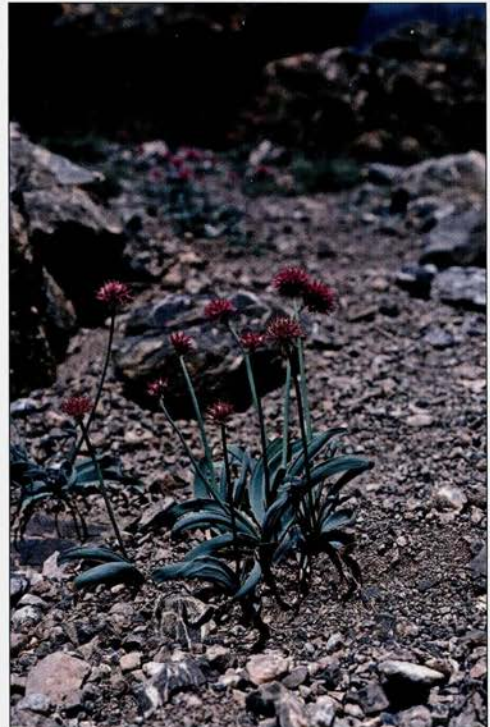
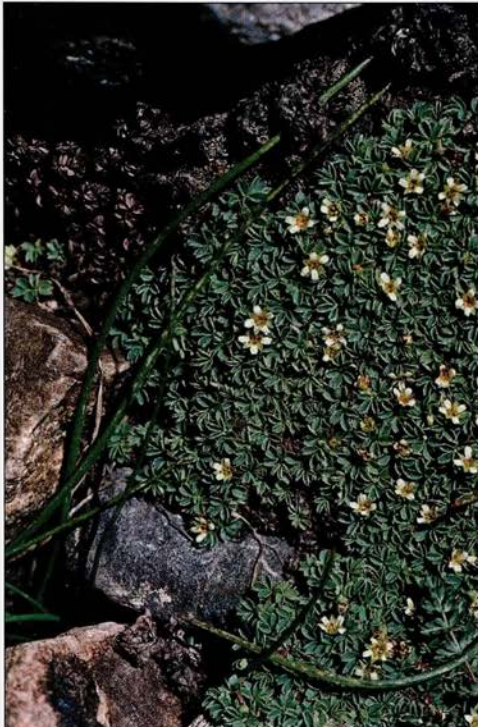
A turquoise lake in the mountains of Tajikistan (p. 34). (P. Olsson)

Left, *Ungernia sewertzowii*, a Central Asian amaryllid (p. 41); right, *Eremostachys* sp. (p. 41).





Plants of Central Asia's high mountains (p. 10): above left, *Papaver croceum*; above right, *Scabiosa* sp.; below left, an unidentified mat-forming plant; below right, *Allium* sp. Can you help identify them? (P. Olsson)





Corydalis fedtschenkoana in a Central Asian scree (p. 36). (P. Olsson)

Left, seed capsules of *Corydalis fedtschenkoana*; right, *Chorispora* sp. (p. 36).





Two beauties of the “summer parade” in the California rock garden (p. 45):
above, *Dianthus* ‘Eastern Star’; below, *Delosperma floribunda* ‘Starburst’. (I. Gourley)





Viola selkirkii var. *variegata* (p. 58), photographed in her garden by Erica Schumacher, received honorable mention in the 2005 Photo Contest.

Notholirion thomsonianum (p. 58) in flower in a bulb frame. (J. McGary)





Phlox diffusa in the Olympic Mountains, Washington, by David Sellars, a digital image, received first place, class 1, in the 2006 Photo Contest (results, p. 65).

Erythronium americanum in the garden of Carol Fyler, Wellesley, Massachusetts, by Dianne Huling; this slide image received first place in class 3.





Eritrichium nanum at Piz Nair, Graubunden, Switzerland,
digital image by Dave Dobak, second place, class 1.

Polygonatum hookeri photographed by Jim McClements
in his Delaware garden, second place, class 3.

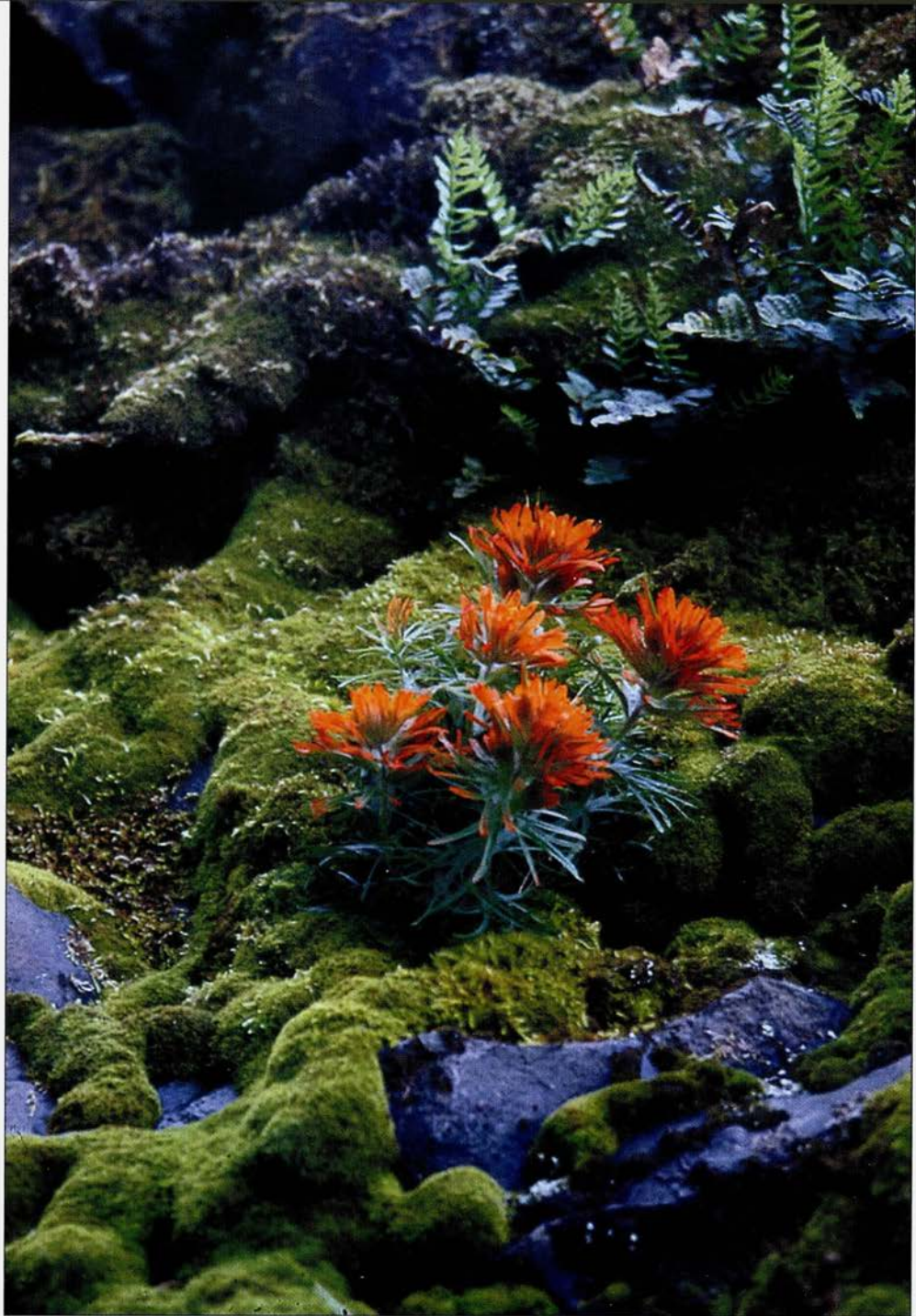




Campanulas and related genera are the subject of Graham Nicholls's new book (p. 60) and of this award-winning photo, *Edraianthus dinaricus* at Utrecht Botanical Garden, by Wiert Nieuman.

Ev and Bruce Whittemore's new "rockless rock garden" (p. 68) in North Carolina.





Doris Taggart won the Grand Prize and class 2 in the 2006 Photo Contest with this April scene of *Castilleja rupicola* with mosses and ferns in the Columbia River Gorge, Oregon; slide taken with a Canon EOS Elan 35-135 mm zoom lens on Elite Chrome ISO 200 film.

extra buck, but it's wise to negotiate the price before getting in. In the evening I thought about the adventure lying ahead and dreamt of new and exciting flowers.

When we departed the next afternoon, I met Nikolaj ("Kola"), a stout-looking, blue-eyed Russian who spoke only a few words of English. The 281-km road to Samarkand is by no means golden, but rather bumpy and ill-kept, and dotted with police checkpoints. It takes about four hours to drive, for the most part a monotonous stretch of factories and cotton fields in a flat, dry landscape.

The next morning we bought a heap of fresh pita-like flatbread before we left Samarkand. At the border our Uzbek driver left us. After we passed security control and our documents had been scrutinized, we entered Tajik territory and were met by a Tajik tour operator who handled logistics for us. The first stop was Penjikent, where we went to the market to stock up for the hike.

The Fan Mountains

I could see the Fan Mountains on the horizon, part of a huge spur jutting westward from the Pamir Range in the heart of Asia, tucked in between the Zeravshan Range in the north and the Gissar Range in the south. The main ridges in the Fan are built up of metamorphosed limestone, and the secondary ridges of shale. The rounded slopes of the shale ridges are covered by turf, and extensive screes exist along the upper reaches of rivers, at the foot of ridges, and on the lower passes. Limestone walls rise high above the valleys. Glaciers and permanent snowfields lie above approximately 3400 meters, particularly on the northern slopes. The climate here is a dry continental one, and the surrounding ridges protect the area from west and northwest winds. The annual precipitation is about 260 mm (10.4 inches). In the valleys the climate is moderately warm, with temperatures ranging from 15° to 20° C (59° to 68° F) in July. The winters are mild but long; the average valley low temperature in the coldest month, January, is -5° to -7° C (23° to 14° F). Above 3000 meters, temperatures rarely rise above 10° C (50° F) even in the warmest months.

If I thought the roads were bad in Uzbekistan, they were nothing compared to Tajik roads, all in dire need of repair. After a bumpy 70 km, we arrived at the hamlet of Zimtut next to the Archamaidan River, elevation 1920 m. Heavy rains had washed away part of the road to Artuch, where we were supposed to start, so we had to hike across the Guitan Pass at 2600 m first. We hired a mule and a guide, Karim, who would be with us for the first four days, and started out after lunch with a local family.

Soon I saw my first *Ferula* plants up close; they were 50 to 70 cm tall and very stout, growing on the rocky slopes. They were full of seeds with a distinctive smell, and the whole plant had turned wine-red. A *Perovskia* was in full bloom, with beautiful blue-purple sprays of flowers. *Crambe kotschyana* is another common denizen of these hills. After a few kilometers we passed the village of Guitan, where the houses made of clay and stone blend perfectly into the surroundings. In small pastures above the village, grass and herbs were being harvested for

animal fodder; the local farmers favor *Ferula* leaves as winter feed. It was a strenuous walk up to the pass, but I was very excited about all the plants I was finding.

We rested for a while on top of the pass, where a fine stand of *Eremurus lactiflorus* towered over the low bushes. The white spires rising 120 cm tall against the peak-bestrewn landscape was a sight I will never forget. I had dreamed about the Fan Mountains for the past six months, and now I was here! We hiked on down into the Urech River valley through scrub and open juniper forest. Waist-high *Ligularia* grew on the east side of the ridge, a plant I saw all over the Fan in all sorts of habitats. Once at the river I was bushed and had to check my blood sugar, which was low, so I had some food and dextrose tablets. I've been living with diabetes since I was four years old and know the necessary drill.

We arrived at the trekking base camp of Artuch in early evening. The old Soviet-era camp had a power failure, so we dined by candlelight. There was a Japanese group there as well. In the evening, lying in bed, I was wondering what I had got myself into, and whether I'd be able to complete this trek.

At breakfast Slava told me that the first day is usually the toughest, and then it gets better and better. I think he was right, because the 6-km trek with a 600-m elevation gain from Artuch to Kulikalon Lakes felt much easier than the previous day's climb, and the scenery got more and more dramatic. We ascended through the Urech River valley, which narrowed the higher we went, crossing over two big scree with sparse vegetation. At the crest of the slope, the river cascaded down a waterfall. On the opposite side were great stands of a *Heracleum*, and where we stopped to rest, a light blue and white *Aquilegia* at the river's edge. Here on the moist bank of the river were also stands of snow-white *Parnassia cabulica*, as well as creeping *Codonopsis clematidea*. As we ascended the next ridge, some of the fourteen Kulikalon lakes became visible; their turquoise surfaces, framed in jagged ridges with four peaks from 4700 to 5120 m—the Kulikalon Wall—are stunningly beautiful (photo, p. 24).

We set up camp at 2 PM, with plenty of time to relax and enjoy the scenery. I washed in icy lake water and then went fishing with Kola. We didn't catch anything, but I saw a minute, intensely blue gentian growing right on the margins of the small interconnected lakes, with specimens both in flower and in seed. The area is heavily grazed by sheep in summer, but one plant that grows so close to the ground that it seems to be missed is *Inula rhizocephala*, with flat rosettes centered by one to four 3-cm-wide yellow daisies. In the protection of a juniper I found a fine *Delphinium* with large, pale blue, somewhat hairy flowers.

In the afternoon a large group of Korean mountaineers arrived. They had insisted on having electric lights in one of their big tents, so the porters had to drag a petrol engine up there, which made a lot of noise besides polluting the air. Slava later told me that they even brought special Korean rice on their trip. The next day would be hard: we would cross the Alaudin Pass at 3860 m.

We started early, crossing a stream before heading up toward the pass. The ascent was very steep and exhausting. Sometimes I just kept going by sheer will power, but I wasn't about to complain. Slava and Kola carried heavy rucksacks while I had just a fairly light day pack, and the mule carried the rest of my gear.

We stopped for a while underneath a juniper and ate some old Russian chocolate, which tasted great at that point. We continued up to the saddle, about 1 km wide and slowly rising to the actual pass. I noticed some foot-high delphiniums of a nice steel-blue color with black anther filaments, and a cream-colored *Trollius* growing in the grass. Snow patches persisted here and there. Up on the pass, we stopped for a while to enjoy the view of the Alaudin Lakes far below, and imposing Mount Chapdara (5050 m) behind them. The pass is predominantly scree, and I noticed a small Brassicaceae (cabbage family) representative, *Chorispora*, as well as a purple, very hairy, tuft-forming *Astragalus*.

On the way down into the Chapdara River valley I encountered a lot of peculiar rhubarb (*Rheum*) plants; and Karim told me that one can eat the stems. He was quite familiar with the flora of these mountains, and I wished I spoke Russian or Tajik so I could learn more. I ended up far behind the others because there were so many plants to photograph and look at, including a pink-flowered *Draacocephalum* creeping over the rocks, a white-flowered *Nepeta* (catnip), and a small onion (perhaps *Allium rubellum*). We stopped for lunch next to a small stream, a beautiful spot. Food never tastes so good as when you have it outdoors in good company. Kola apparently had a great sense of humor; Slava tried to translate, but as so often is the case when shifting between languages, the point got lost. There was much more of the cream *Trollius* (possibly *T. lilacinus*) growing in the wet vicinity of the stream, most plants with ripe seeds. The area was also prime habitat for a *Primula* with a tight rosette of narrow leaves and a flowering stalk some 20 cm tall, with a cluster of light pink flowers. A pure blue *Veronica* with fleshy, almost succulent leaves crept in the moss and wet seeps.

We put up camp a little south of the lakes at about 3000 m. With plenty of daylight left, I walked around plant hunting, and west of the lakes I found some very interesting species. The same *Aquilegia* I saw the day before grew here too; on a cliff wall it was only about 20 cm tall, but down by the lakeshore three times that. On the same cliff wall was a charming little sprawling *Campanula* with white hanging bells striped dark red, and a tuft-forming *Campanula* with masses of very small, narrow-petaled flowers. Close by on a stony slope I found a pale yellow, 70-cm-tall *Centaurea* flowering with grand *Scabiosa spectabilis*, with 6-cm-wide pink-purple flowers.

I worked my way back to camp, stopping every few steps to look at plants. I ran into a neat little *Sedum*, and soon after I encountered my first tulip, a 5-cm-tall miniature. The only thing remaining by this time was the dry seed capsule, still with some seeds. Kola was cooking a great borsch (beetroot and potato soup) over an open fire. I had two helpings. Later some locals joined us for tea and candies. Karim spoke Tajik with them, but they also spoke some Russian with Slava and Kola. It was nice and quiet here.

In the morning we began our ascent toward Mutnyi Lake at 3550 m. It was not a very long hike, about 7 km, but we moved steadily upward through the Kaznok valley. An ice-blue *Delphinium* stuck up between the rocks at the side of the path, and fine forms of *Allium carolinianum* grew abundantly in the stony landscape. I found *Lindelofia stylosa* in bloom, a handsome plant with burgundy

flowers and yellow stamens sticking out beyond the petals. I also saw mats of *Chorispora* with white flowers in the centre of a rosette of leaves (p. 26). When we reached the pass at 3800 m, Kola said, "Welcome to the rock box!"

This was a fitting description: there are rocks of all sizes around the dark waters of the lake, and now we could also see Chimtarga, at 5489 m the tallest peak in the Fan Mountains. I had to stand still for some time to take it all in. We reached the lake about noon, and it was time to say goodbye to Karim and the mule, who turned back here. For the rest of the trek we were on our own.

I walked along part of the lakeshore and noticed some new plants: a choice *Pteropcephalus* with pink flowers, a blue *Nepeta*, and a little daisy with gray-tomentose leaves and a dark ring around the central yellow disk of its flowers, and ordinary white ray flowers. I also found a pink-flowered *Chorispora* and nice stands of *Papaver croceum*, a deep yellow poppy (p. 25). There was a stream coming down from the glacier below Chimtarga that we would have to cross the next day. After tea and a short rest, we had dinner; with the salad we drank a little vodka. It was cold and quiet, the only sounds the stream in the distance and the small waves lapping against the rocks below our camp.

Friday was the toughest day of the trek. We walked up to 4600 m, where we would spend the night before crossing the Chimtarga Pass the next morning. I was in awe of Kola, who carried both his own rucksack and mine. After crossing the stream without getting our feet too wet, we climbed steadily upward, moving slowly and taking many short breaks. Not far above the lake I found my first specimen of *Corydalis fedtschenkoana*, its seeds contained in large inflated capsules the size of grapes (p. 26). A little later I found specimens in bloom as well, and I snapped away like crazy with my camera. The foliage is extremely attractive; the much-dissected leaves are gray-green to purple, hard and stiff. The flowers occur in big, tightly packed clusters and are pink-white with darker markings. Slava and Kola just smiled; they probably thought I was mildly crazy, but who wouldn't be when encountering a plant like this? There were more *Chorispora* or possibly *Parrya* on the slopes here, and a small alpine *Silene*.

The air was getting thinner, and it got more and more difficult to walk. We crossed a glacier, having to jump over a crack—only about 60 cm (2 feet) wide, but very deep. We saw some Siberian ibex up by the mountain wall; they are experts at moving over scree slopes at high speed, which couldn't be said for ourselves. After a lunch of tinned herring, chicken hot dogs, bread, onion, nuts and dried fruits washed down with some vodka, we regained our energy, and even though the slopes we were scrambling up were getting steeper, it felt easier. Maybe knowing that we were nearing our goal made us put in some extra effort. At about 4200 m I started to see new plants again: one crucifer with hairy leaves and purple-white flowers in tight clusters, and another similar to *Alyssum*, with yellow flowers poking up here and there in the scree. This must have been what the ibex ate, because there were no other plants whatsoever.

We finally reached a hollow underneath the pass, at about 4600 m, where we would spend the night. Just as we finished pitching the tents, it started snowing and a thunderstorm broke above us. The flashes and bangs filled the air for the

next hour and a half, and I lay in the tent in my sleeping bag with all my clothes on, shivering. I stepped out into a white-sheeted winter landscape. The sky above was clearing, but down by Mutnyi Lake was a dense white fog layer. The surrounding peaks emerged below us through the low clouds, a beautiful if surreal panorama. We had a few slices of sausage with ketchup to go with the vodka before dinner, and hot mushroom soup for main course. It's good to have something hot in your stomach when winter surprises you like this.

We breakfasted early, and while Slava and Kola packed up, I filtered water from the half-frozen creek. Then we started the haul up to Chimtarga Pass at 4740 m. It was exhausting, and I could only imagine how Slava and Kola must feel with their heavy loads. I walked in 10-meter intervals, stopping to catch my breath and then focusing on the next rock and walking to it. It took an hour for me to reach the pass. It was amazing to stand up there, 4740 m (15,547 feet) above sea level—the highest I have ever been. A little to the south is Mount Energia at 5120 m, and on the opposite side Chimtarga rises majestically.

When we descended the western side of the pass, we roped up when crossing ice and snow patches, and Kola cut steps with his ice axe. It was a little tricky crossing the steep scree slopes, but we eventually got to the bottom of the valley without any major injuries. We had lunch among some huge, impressive cushions of a *Potentilla* with small, light yellow flowers; there was also a succulent with blood-red flowers. Along the upper Zindon River I found more *Corydalis fedtschenkoana* and a yellow-orange poppy, perhaps *Papaver croceum*. Farther down the stream forms a braided pattern in an open, gravelly basin. There Kola found an edelweiss (*Leontopodium* sp.), not very attractive but exquisitely scented. Close by in a moist, grassy area were beautiful knee-high stands of *Swertia lactiflora*, a gentian relative, in full bloom. As we moved to lower ground more plants emerged. One I hadn't seen before was the rose lookalike shrub *Comarum salesovianum* (syn. *Potentilla salesoviana*), which has shiny dark green leaves and beautiful, large white flowers. The trail went on through a valley scattered with huge rocks that looked as if they had fallen in a game played by the gods. Here I found the most hairy and most charming *Phlomis* species I have ever seen, with large pink flowers, and close by a *Saussurea* about 10 cm tall, with pale lilac flowers.

Bolshoi Allo Lake, at 3150 m, was by far the most beautiful I had seen so far. It was formed quite recently by a landslide in 1916, and the water is truly turquoise, contrasting sharply with the dark cliff walls surrounding it. There were plenty of juniper bushes and some trees growing around the lake, so we made a fire and boiled water for tea. While Slava and Kola fixed dinner I walked around, finding a beautiful dark blue *Campanula* and tall stands of gray-blue *Delphinium*.

We stayed camping at this lake on Sunday, July 31, and Slava and I walked to Vierkhnyi Allo, a smaller lake to the southeast. A high water level had submerged the shore trail, so we had to climb up on the cliff ledges above. It got a little complicated at times, and it's a good thing I'm not afraid of heights, but we finally managed to come down via the scree slopes on the other side of the wall. I saw some nice *Phlomis* in bloom, and down by the lakeshore the gray-blue

delphinium rose up from the water, unfazed by the saturated growing conditions. Up on the stony slopes I found some interesting *Erigeron* species. There was a small onion, 5–10 cm high, with big seedheads, perhaps *Allium oreophilum*. In a flat grassy area close to the stream hundreds of geraniums bore large flowers, probably *G. collinum*. Several *Leontopodium* species grew in the fairly moist ground, as well as a beautiful white *Pedicularis*. I was happy to find a ripe seed capsule of the orange-yellow poppy I had been noticing in bloom.

On the way back to camp I decided to climb a little higher instead of walking on the ledges. It felt safer, and I hoped to see some new plants. Sure enough, I came across some really choice ones! In the crevices of the rock wall were small tufts of *Semiaquilegia* (now sometimes included in *Aquilegia*), as well as a *Campanula* with small tufts of hard leaves topped with light blue bells, and a cushion-forming *Silene*. I planned to climb up to the base of the wall and move along it to find a way back down to the campsite. When I got higher up, I saw some round, serrated leaves sticking up under the cliff wall: a *Primula* with flowering stalks about 30 cm tall, and some withered flowers that looked pink-purple. On my way down I ran into a stunning *Delphinium* which I was sure was the same species as the ordinary blue-gray, but this specimen had grayish white flowers. I also photographed some beautiful rose bushes.

After a late lunch I decided to explore the ridge northwest of the lake. It was very steep, and a bit difficult to get up without sliding back down, but creeping on all fours is a good strategy for getting close to the ground and discovering new species. I bumped into a *Fritillaria*, withered and with an unripe seed capsule. I photographed an *Onosma* which sported a pendant burgundy flower. I startled some grouse which scurried up the slope at amazing speed—I wish I had their stamina! On the way back down I photographed a beautiful yellow rose and a *Linaria* with dark red-orange striped flowers. I returned to a warm fire, and we had *plov* for dinner, the national Uzbek food, mainly consisting of rice and meat with many variations.

August 1 was our last day in the Fan Mountains. We left Bolshoi Allo behind us and moved through the jumble of rocks on the north side of the lake. It's easy to get lost in this maze, but Slava and Kola had been through it before. Eventually we got down into the Zindon River valley. *Zindon* means “prison,” and the valley is indeed quite narrow in some places. This day proved very diverse botanically, with more species than any day before. In an opening against some big rocks grew dozens of waist-high *Comarum salesovianum*. Other shrubs included a 3–5-m-tall *Lonicera* (honeysuckle) with orange berries, a *Prunus* with small, sweet cherries, and an *Ephedra* about 2 m tall, its thin gray-green branches studded with orange fruits.

The herbaceous species were innumerable. Highlights were a 50-cm *Cortusa* (Primulaceae) growing among rocks in the rushing stream and along stream edge; an *Allium* about 1 m tall with seedheads 15 cm wide; a *Thalictrum* growing in both dappled shade and more open habitats, ranging from 30 to 50 cm; and a *Campanula* 50 cm tall, and with a clustered seedhead like *C. glomerata*. I ran across a *Ferula* again, about 70 cm tall and purple-flushed like the specimens

seen on my first day. The whole plant had a strong, faintly unpleasant odor. Slava told me that many of their clients have complained about getting a skin rash from *Ferula* plants, but I am certain it was caused by the large stands of *Heracleum* (cow parsnip) we had been passing through along the stream. Its sap causes phytophotodermatitis, which means that the affected skin becomes hypersensitive to sunlight and burns when exposed. Some people are evidently more sensitive than others, but as I know that I react to it, I avoided brushing against the plants as best I could.

We had to cross the stream in a few places but all got across fairly dry. As we reached lower ground, I saw tall white flowers up on a slope, and my heart started racing. I told Slava and Kola that it they might be *Ostrowskia magnifica* and left them looking puzzled while I ran up the hill. Halfway up the dry, stony slope I realized that it was instead the tall, white-flowered *Alcea nudiflora*, a hollyhock. A few hundred meters farther on I found a white-flowered *Clematis*, bushy and upright, growing on the scree slope next to the trail, probably with its roots deeply buried where it could reach water. As the trail wound lower by switchbacks, we passed a little stone building with some patches of potatoes and other vegetables. Slava called the settlement a *kosh*, a simple summer residence where the family grows food for the winter and pastures their sheep and goats. I found an *Arum* clearly signaled by its red berries.

Lower still willows grew along the stream. On the bank I found a new borage, about 1 m tall with broad, obtuse leaves with glandular pubescence. I believe it was a species of *Caccinia*, which is rarely grown but well worth trying in a dry sunny spot with a lean substrate.

The Zindon runs into the Amshut River here, and we camped soon after the confluence. I went with Slava to the closest settlement, where a man and his wife and two children were working in a field. Slava asked if we could have some bread, which they got for us. The fresh bread tasted great. The man came over to our camp later and joined us for tea and cigarettes. It felt good to be at a lower altitude (about 2400 m), and I enjoyed the warmth on my last night in the Fan Mountains. It had been a wonderful trek and I'd encountered plants beyond my expectations—but still, it would be nice to take a shower when I returned to Samarkand the next day.

Back to Tashkent

We met the car sent to pick us up and drove back to Penjikent. I sat quietly looking out at the passing landscape and the people, often colorfully clad—so different from what I had seen before and such a stark contrast to the life I am used to. I spent Tuesday and Wednesday in Samarkand, visiting cultural sites. Thursday the driver picked me up and we set off for Tashkent.

There Elena Tour informed me that they had arranged for me to visit the Department of Plant Systematics at the Botanical Garden. The head of the department, a man in his late sixties, showed me into an office where two old

women, at least in their seventies, were sitting at desks going through plant material to extract seeds. No one spoke any English, so I explained with the help of Galina that I was a gardener and amateur botanist, and that I would be happy if they would be willing to exchange some seeds with me. I had brought a fat envelope of mostly North American species, but the manager curtly told me that they were not interested as they only grow Central Asian species, and they would not be able to give me any seeds even if they wanted to, as it is forbidden. It sounded as if they would face being deported to a gulag if they were found out giving seeds to a foreigner. One of the women really wanted to give me some seeds, but the director made her nervous. I asked about floras of the region and was shown a Red List book (a list of threatened and endangered species) covering species in Uzbekistan. There was a photograph of *Eremurus lactiflorus* on the wall which I was told had been taken in the Chimgan region, where I was heading the next day, so I asked a little about species I might encounter there. They had not been on any seed-collecting trips in the region for many years. I tried to find out if they had any plants I could be shown, but they claimed everything had dried up by now. I asked if they had *Ostrowskia magnifica*, but they said that they had not had it in their collection for a long time. I realized that I wouldn't be able to exchange any seeds with them under the eye of the director, and the visit was cut shorter than I had hoped. On the way back to the entrance one of the women accompanied us. She scurried out in a field adjacent to the road a little away from the building we had just left, casting worried glances around as she pulled off some seeds of *Allium giganteum*, which she pressed into my hand. Before parting I insisted on giving her the seeds I had brought. She told me to call her at her home when I returned from Chimgan, and she would see if she can get some seeds for me. I felt sorry for her. The Soviet mindset that your neighbor might be informing on you is still very much alive at the Botanical Garden.

Chimgan

After breakfast the next morning we headed for Chimgan, 60 km northeast of Tashkent; it is part of the Chatkal Range, a spur of the western Tien Shan. We would hike around the base of the main peak, Big Chimgan (3,309 m). There is a popular ski area there, and President Karimov has his dacha (summer residence) by the nearby Charvak reservoir, so the road is multi-lane and very good compared to other roads I'd been on.

We headed up into the Beldersay River valley. Almost instantly I stumbled upon several slender, 150-cm-tall *Ferula*. The water had chiseled terraces in the limestone rock, and we met some families who were enjoying a dip, but soon Slava and I were by ourselves. A *Cousinia* some 120 cm tall displayed yellow composite flowers with nicely contrasting purple stamens. Growing on a little island in the stream was an *Angelica*; there was also a peculiar tropical-looking plant close to the stream, somewhat resembling *Cannabis* (hemp), which I later identified as *Datisca cannabina*.

While Slava fixed lunch, I found several arums with red clusters of berries. An impressive *Eremurus* over 2 meters tall may have been *E. robustus* or *E. regelii*. A tall *Ligularia* had huge leaves, suggesting *L. macrophylla*, and a very long raceme of florets. After lunch I came across small *Tulipa* species ranging from 10 to 25 cm tall. We passed a shrub covered with pieces of cloth, reflecting an ancient religious practice of Zoroastrianism: it's intended to make wishes come true.

As we approached the camp Kola had set up ahead of us, we saw several flowering stalks of *Ungernia sewerzowii*, which are shunned by grazing animals (p. 24). This is a member of the Amaryllidaceae with narrow, brick-red, trumpet flowers on foot-high stems. It is used medicinally in Central Asia but is barely present in cultivation in the West, where gardeners desire it intensely. Some of the plants had formed their tripartite seed capsules, but they were still immature. Near the camp I found a tall, much-branched *Verbascum* well over 2 meters tall. This genus is much scarcer here than in Turkey, where there are mulleins along every road; *Salvia* also has fewer representatives here, but I did find a purple-flowered *Salvia* as well as the familiar garden plant *S. sclarea* (clary sage). I came to realize that a small woolly plant in the mint family that I had seen on my first day in the Fan Mountains was an *Eremostachys*, maybe *E. speciosa*, a low, very woolly species in this little-known genus (p. 24). There was a taller species of that genus growing here as well, with white to pale pink flowers.

It was much warmer here than in the Fan Mountains. Our camp was on the ridge of the Chet Kumbel pass at about 2500 m, and the view toward Big Chimgan was grand. The hues of the mountain shifted with the setting sun as we enjoyed *domlama*, a traditional Uzbek dish of cabbage, potatoes, carrots, tomatoes, bell peppers, and beef. When night fell, a diamond-studded blanket spread out over our heads, and stars I'd never seen before became visible.

The next day we walked along the Beldersay Ridge—not very far, but a steady ascent and quite strenuous. I photographed a very low and beautiful *Salvia sclarea* with big pinkish bracts, and a rhubarb (*Rheum* sp.) whose leaves had withered but whose tall flowering stalks with big rust-red seeds were lovely in the morning sun. I passed several tulips, more *Eremostachys speciosa*, and a blue-flowered *Aster*. We then reached some petroglyphs of hunters with bows and arrows and spears, said to be some three thousand years old. I found a small *Fritillaria* with a very big seed capsule, and a low *Iris* species.

As we approached the Kumbel Pass we saw a simple camp with a white tent and a dog barking his lungs out at us. Slava and Kola passed the dog without trouble, but I am a little wary of wild dogs, so I scrambled down from the ridge into the bottom of the valley. On my way down I found some big seedheads of an *Allium* which had blown off the plants and were rolling around among the rocks to disperse their seeds. I also encountered more tulips, and it took a while before I met up with Slava and Kola.

After lunch Slava went to check if we could continue up to the Tahta Pass (2620 m); it depended on the availability of water. He returned with good news, so we hiked a few kilometers more and camped below the pass. I collected some

fruits of a *Euphorbia* growing among the rocks on the south side of the valley. When night fell we saw the lights of Chirchik far below.

I woke at 6 o'clock Sunday to the baaing of sheep that came running right through our camp. The herdsman, on horseback, was gathering sheep from the hills. He had some breakfast with us before he resumed hollering to keep the sheep moving. We packed up and headed for the ridge of the Tahta Pass—a steep ascent, but the weather was sunny and it was cool at this altitude even in August. Beyond the pass the trail led between rocks and the vegetation became more interesting. Farther down were many tulips with seed capsules, fritillaries, and an *Astragalus* with cool red flowers and seed pods expanded into little red-speckled balloons. *Allium oreophilum*, in full bloom with cerise flowers on a short stalk, contrasted with the rocks from which it emerged, another stunner. A white *Silene* had remarkably large flowers. I used a whole roll of film along a couple of hundred meters of trail. Next to a stream flowing down from the mountainside I saw some fantastic specimens of *Eremurus cristatus*; the flowers are white, and each petal has a reddish brown median line and stamens—a little work of art, and a treasure to discover. I found some plants with seed capsules, not completely ripe but the seeds looked black.

We stopped for lunch on a cool, moist slope where there was still some snow. It was full of buttercups (*Ranunculus*) with hairy leaves, and a fairly large-flowered *Gagea* (a bulb genus related to *Tulipa*). On a rocky outcrop were beautiful rosettes of a pink-flowered crucifer, perhaps a *Parrya*. I found *Solenanthus* in bloom, a fascinating and beautiful genus of the borage family which deserves better recognition among gardeners.

After a light lunch we slowly trekked to higher ground, and on the steep scree slopes I noticed some small, grasslike dry leaves. Exploring them, I found capsules full of seeds. I had come across an *Iris* species about 20 cm tall at approximately 2600 m on the eastern slope of Big Chimgan. As so often before, I lagged behind Slava and Kola—there were so many plants I needed to look at! We passed a crest and descended as it began raining; even I walked a bit quicker than usual. In a valley at the headwaters of the Karaarcha River we put up camp, and soon a thunderstorm broke. After about 90 minutes the river was a stark contrast to when we arrived, with gushing brown water.

We were awakened by baaing sheep again Monday morning. The hike up to the Komsomolets Pass (2700 m) took us only 15 minutes, and the view down the valley where the Mazarsay River rises was wonderful. Here on the north slopes the land was very green. There is a steep decline into the valley bottom, and this place is like a refrigerator, staying quite cool even at the height of summer. Around the pass was a white-flowered plant in the Ranunculaceae, from 20 to almost 50 cm tall, similar to *Ranunculus aconitifolius*, which grew all the way down to the headwaters of the Mazarsay. It was a little tricky to walk down on the wet grass and I slipped repeatedly but (being closer to the ground) noticed some new plants—one a beautiful *Dianthus* with large, frilly white flowers, similar to *D. superbus*. Down by a snow patch lying like a lid over the stream underneath, a minute *Gagea* bore tiny yellow flowers in the wet clay.

We crossed the snowfield and made our way up the western bank and across the ridge over to the Gulkam valley. One of the first flowers I noticed as we started up was *Delphinium semibarbatum*. To my delight I later noticed this yellow-flowered larkspur growing quite abundantly in open clearings among bushes and on sunny slopes, and at the lower level the plants had plenty of dry seed capsules. The landscape changed dramatically during today's trek, starting with the barren alpine slopes, and now bushes and small trees were starting to appear, and it was as if we had walked through three seasons in a single day.

As I passed a tall cliff wall to the right of the track, I noticed some big green cushions, very compact and hard—possibly a *Dionysia* or *Androsace*—and was able to collect a small amount of seed. On the same cliff wall was a low, cushion-forming *Campanula*. The rock was quite porous and looked similar to tufa. Farther down I encountered one of the highlights of the day: several specimens of a *Paeonia* (likely *P. anomala*) in the grass between shrubs on a slope, the black seeds shining like gems in the open capsules. *Dipsacus*-like plants seen earlier at Chimgan were in flower here, looking wonderful, as well as a large-flowered *Scabiosa* (p. 25). On a grassy slope I found a *Morina* 80 cm tall; the fairly wide leaves were not very spiny, suggesting *Morina kokanica*.

Now we were among large birch trees, as well as pines, oaks, and maples. I encountered a new *Fritillaria*, a statuesque plant rising 50 cm tall, almost always growing in proximity to shrubby willows; the winged capsule was 5 cm tall and at least 3cm wide. I didn't get the opportunity to collect many seeds from woody species, but here I got bright red berries from a 3-m, branching *Cotoneaster*, and seeds of a semi-clinging *Euonymus* and a multi-stemmed maple.

Before reaching the Gulkam canyon with its rushing river, the rocks changed to pink granite, with a lot of coarse granite sand. I photographed an enormous *Ferula* root which had been partially exposed next to the path. These plants must take many years, maybe even decades, to build up a rootstock like this and then be able to flower.

Slava told me that we were lucky we didn't come here on Sunday, as the mouth of the canyon usually crawls with people on weekends, being not far from Chimgan village. Before dinner Slava took me a little way into the canyon where the water, low now, had carved out some impressive formations and steep drops. He told me that their company arranges tours through the canyon down to the Chatkal reservoir. There were imposing stands of *Datisca cannabina* at the mouth of the canyon in the stony riverbed, and some very tall *Alcea nudiflora* in seed higher on the slopes. Another ornamental plant growing here was a robust, 1.5-m-tall *Achillea* with corymbs at least 15 cm wide, of a warm yellow color, like *Achillea filipendula* on steroids.

As we enjoyed soup and bread, a Siberian couple passed us on horseback, and Kola made some jokes that cracked us up. This was our last night in the wilderness, and I felt a little sad that my adventure must soon come to an end. The three of us, alone on the trek, had got to know each other a little, and it had been a great experience. The frogs started croaking as night fell, and soon after a couple of owls accompanied their nightly serenade.

The next morning we hiked up through the stony valley to the Pesochny Pass (1830 m); the name means “sandy” pass, an apt description as there is plenty of it here, of a pinkish hue. The trail down to Chimgan village was well trampled through heavy brush. It didn’t take us long to get down to the road, where Slava’s wife was waiting with the driver. She and Slava were going to spend a couple more days in the mountains. We loaded up the car and said our goodbyes.

At noon I was back at the Tashkent Botanical Garden. The woman I had met before evidently had obtained permission from above to give me some seeds, because she pulled bags from her cluttered desk and asked me if I would like this or that. I ended up with *Salvia deserta*, *Stachys lavandulifolia*, *Agrimonia asiatica*, *Linum mesostylum*, and a bulb of *Sternbergia lutea*. She was very interested in my experiences at Chimgan and asked me if I found any seeds. Once again I wished I spoke Russian.

In the afternoon I met with Boris at the Elena Tour office to arrange my departure. Early the next morning I was in the air. My head was full of vivid memories—memories of plants, mountains, people and places—and my heart full of feelings associated with my memories. I have tried to describe some of these memories in this article, but to describe the grandeur of nature as we experienced it is an almost impossible task.

About the Artist

Paul Bowden, who will illustrate the 2007 volume’s covers, is a sculptor and scientific illustrator, and a native of Pittsburgh, Pennsylvania, where he currently resides. His portrait and figure sculpture is included in public and private collections both local and national. His illustration is done for the Carnegie Museum of Natural History. He gardens on a small, shady, city lot and especially enjoys growing small woody plants.

Summer Parade

Irma Gourley

My search for small rock garden plants has resulted in many newcomers arriving for trial on my raised beds. I have focused on those that bloom in summer and fall and are heat-tolerant. The scope of my garden is limited by the boundaries of my mobile home lot here in Windsor, California. Some of these newcomers have perished, many have proved unsuitable, and a few are promising to make the summer parade rival the spring show.

Hirpicium armerioides was mentioned in my previous article (*Rock Garden Quarterly* 63.3, p. 208). The first year it bloomed lightly in early summer and again in the fall. Since then, flowers have begun to appear in July and continued well into September. The mat of gray-green foliage shows no damage from winter's fog and rain, but has expanded a little in girth, although not in height. This excellent plant has met my stringent requirements of summer bloom, heat tolerance, attractive healthy foliage, and low stature. Will it also turn out to be soundly perennial? If so, it will soon occupy niches now vacant, because, along with other virtues, it blends well with almost any group of plants including succulents. The showy yellow-centered, white flowers of *Hirpicium* contrast beautifully with the red ones of *Dianthus* 'Eastern Star' (photo, p. 27).

Dianthus species and hybrids please the eye with prolific, colorful bloom, and their fragrance perfumes the spring air, but most varieties quit with the first hot spell. Not so with 'Eastern Star', which is one of a new class of pinks that are reputedly heat-tolerant. Its inch-wide, single red flowers aren't borne with abandon even in spring, but in a manner that allows its blue-green foliage to join the overall picture. It has lived up to its promise of summer bloom, usually with three to eight flowers open at once. The flower stems remain short at all seasons and on mature plants. It is an excellent companion for *Hirpicium armerioides*, and their bloom periods overlap. Already I have a new plant from it, which began to bloom its second year. The gray-blue foliage of 'Eastern Star' is good throughout the year.

When the first heat wave of the year puts an end to the spring display, a few varieties will take up the summer parade. *Scutellaria suffrutescens* has served well here for more than five years. Now a recent introduction, *Scutellaria* 'Violet

Cloud', threatens to surpass it. 'Violet Cloud' exhibits all the qualities necessary for inclusion on my raised beds. It bears a strong resemblance to *S. suffrutescens* except that its flowers are red-violet instead of red. The stems are upright and the flowers borne in the leaf axils, so that it has a long blooming season, but not a mass of flowers at any one time. The plants suffered no winter damage from rain or frost. (*Scutellaria suffrutescens* itself is not frost-tolerant.—Ed.) I like to place this plant with *Hypericum aegypticum* and the compact varieties of *Eriogonum umbellatum* such as var. *polyanthum* and var. *humistratum*. I am also trying *Origanum xsuendermannii* with it. The root system differs from that of *S. suffrutescens* so that it cannot be divided as easily.

Some of the plants I thought were adapting here have given up. *Parahebe decora*, which did so well the first summer, lived that winter but died the next spring. I haven't been able to replace it yet. Most parahebes are too large for my beds.

Nierembergia 'Blue Eyes' stands out among those plants that did well but proved unsuitable. It is loaded with lovely flowers for months at a time. It blooms during those hot summer months that are seed time for many. However, it has been short-lived here—almost biennial. In the raised beds 'Blue Eyes' spreads out over too much territory, and it exhibits a great deal of dead foliage the second year, after which it dies here. It really makes a fantastic display when in bloom, though, and I continue to use it lavishly among annuals and larger perennials. It makes an ideal companion for *Calylophus* (a western American genus related to *Oenothera*, the evening primroses). Their informal growth habit, heat tolerance, long flowering season, and general appearance make them congenial.

I am experimenting with more succulents, but often I don't know the complete botanical names, and have had them too short a period to evaluate them and learn whether they really tolerate winter wet. *Delosperma floribunda* 'Starburst' (photo, p. 27) continues to flourish, blooming in spring and summer. I counted more than 40 flowers open on July 19, 2006. Succulents such as *Bergeranthus* and *Chasmatophyllum* bloom at night, which minimizes their desirability for me.

I continue to introduce new plants into my garden and will be recording my successes and failures, in words and pictures.

Irma Gourley wrote in our summer 2005 issue of the rock gardens she has made over the past 50 years. Today at age 94, she continues to explore the world of rock plants in her garden near the northern California coast. She first acquired her love of plants from her parents; she is also the great-niece of the famed botanist Wilhelm Suksdorf.

Rediscovering the Siskiyou: A Visit with Boyd Kline

Dale Sullivan

Fifteen years ago, as I was gaining my horticultural skills on-the-job at the Rae Selling Berry Botanic Garden in Portland, Oregon, I was fortunate to work alongside some of the Northwest's finest plantspeople. My mentor in the rock garden, Jack Poff, left me with a zeal for plants that has grown since. In those days I could not have expected that I would someday purchase the Siskiyou Rare Plant Nursery, and with it an obligation to honor the history of the nursery and the men behind it, and to uphold a mission that began over 40 years ago. Its founders, Lawrence Crocker and Boyd Kline, were frequently named in conversation at the Berry, as was the legendary Marcel LePiniec, who mentored the two young men and encouraged them to start their own nursery as he neared retirement. It was through LePiniec that Boyd and Lawrence gained the appreciation for our diverse Siskiyou flora that followed them throughout life. Sadly, I arrived in southern Oregon too late to know Lawrence, who passed away in 2002 at age 96.

Boyd Kline, now 89, still lives in the house where he raised his family in Medford, and where he built a part of the nursery. The little house that sits on a quiet side street is as unassuming as most of its neighbors, except at the height of spring bloom, when swaths of *Erythronium*—several local species and generations of anonymous seedlings—mingle with *Cyclamen coum* right up to the sidewalk, the foreground to a panorama of spring flowers. The scene impresses even passersby who don't know that to many devotees of rock gardening, this place is a shrine. The garden is shaded by a collection of large trees, as varied and unusual as the plants underneath that enjoy shelter from the hot Siskiyou sun. Among them is the willow oak, *Quercus phellos*, uncommon in the Northwest but a strong and stately specimen. Several pines and cedars contribute shade and a constant supply of acidic mulch. A towering redwood (*Sequoia sempervirens*) pierces the grove, planted by Boyd on the day of his son's birth 60 years ago. Only a lover of the unusual would accommodate tall blue *Cunninghamia lanceolata*, a shaggy tree that drops its branches of needle-sharp spines on the driveway.

Within a large side yard, the area once covered by nursery benches under shade cloth is now a series of simple rectangular beds enveloped by a forest of

beloved plants. Beside the paths, colonies of mismatched pots are the recognizable signs of a busy plantsman. Curiosity has me peeking at tags while Boyd shows me what's new since my last visit. One by one, the plants in this sanctuary reveal a history of friendships and travels. Realizing that there is a story behind every plant is a dizzying distraction, but I keep as many mental notes as I can. Mentioning of any of a number of plants, Siskiyou natives in particular, makes Boyd light up with an expression that prefigures stories and anecdotes, the moments that make my time with him priceless.

Though his father was a talented grafter who worked in the local orchard industry, Boyd's horticultural instincts didn't kick in until later in life. It was when he went to work in the Post Office in the early 1950s that he befriended Lawrence Crocker, who also grew up in the area. The two spent their free time searching for geological treasures, but it was the lilies encountered on their outings that caught Boyd's eye and led him to Marcel LePiniec's nursery in Phoenix, between Medford and Talent. The three spent several years working together, searching the mountains and valleys of Siskiyou country for unusual plants. Certainly it was Marcel, a transplant from New Jersey, who also introduced his protégés to the many exotic alpine plants coveted by astute gardeners in the West. In the early 1960s Marcel took Boyd to see Rae Berry, whose garden, tucked away in the hills southwest of Portland, was a botanical spectacle on a scale rarely seen today. Boyd recalls being shocked by the awesome blue of hundreds of *Tecophilaea cyanocrocus* when Mrs. Berry opened the frame housing her most famous achievement. (Consistent with her reputation, she politely ignored Marcel's hints that she share some with him.)

Boyd and Lawrence continued their forays into the mountains of Oregon and California while maintaining their regular jobs and tending their respective nursery locations. Their first mail-order catalog was a mimeographed list sent out in 1964. Many of the plants were grown at Lawrence's acreage on the Jacksonville Highway, and orders were packed for shipping in Boyd's garage.

Naturally, the new nursery reflected LePiniec's collecting, offering such signature plants as a new form of *Kalmiopsis leachiana* discovered among forests and rocky ledges above the upper Umpqua River in the Cascades. When an area rancher brought an unknown flower to Marcel in the early 1950s, he immediately recognized it, and plants from the new population were found to be much more garden-friendly than the intractable Siskiyou plants originally collected by Lilla Leach. Mrs. Berry, an early recipient, attached to it the name 'LePiniec Form'. The name has no varietal validity but still identifies what rock gardeners recognize as a vigorous shrublet for the shaded rockery; it requires excellent drainage. Boyd describes wild plants as variable in leaf shape, more mounding in habit than the type, and with a fuller truss of flowers than the Siskiyou form. Its relative ease in cultivation is complemented by the ease with which cuttings take root. More properly called *Kalmiopsis leachiana* 'Umpqua Form', it has yet to be formalized as a distinct taxon.

By the mid-1970s, their neatly printed catalog was filled with alpine and woodland rarities. Their accomplishments were appropriately honored by

NARGS with the first Marcel LePiniec Award in 1969. Still a tiny operation by commercial standards, SRPN had nonetheless become the premier U.S. source for alpine and rockery plants. After 15 years, Lawrence and Boyd made the decision to retire from the nursery at its height of popularity in 1978, selling it to Baldassare Mineo and Jerry Cobb Colley, who had expressed an interest during a visit from San Luis Obispo, California. From then on the nursery continued to grow, resulting in many more horticultural introductions, until I purchased it in 2005.

In planning the future of the nursery, new introductions are always a focus, but there is also a wealth of once popular plants to be “resurrected.” When asked about their most notable introductions through the years, Boyd lists several favorites, many of them natives. One plant that may be ready for rediscovery is *Phlox adsurgens* ‘Wagon Wheel’. Listed with other selections such as ‘Bert Pree’, ‘Whiskey Peak’, and ‘Red Butte’, which are now doubtfully in cultivation, ‘Wagon Wheel’ is notably persistent; its large flowers have long, narrow petals of dark pink. The plant’s creeping stems form loose colonies in gritty, humus-rich soil in a partially shaded rockery.

‘Wagon Wheel’ has outlasted its species’ ephemeral reputation, but other past introductions seem to encourage their own obscurity by being difficult to propagate. *Trillium rivale*, a rare endemic of the Siskiyou and California Coast Ranges, can be established over time in the rock garden, but is never in a rush to increase. Individuals in the wild show varying degrees of purple-red spotting on their white petals, with some populations showing great localized diversity. It is from one such area that Lawrence, years ago, found the unique clone named ‘Purple Heart’ for the thick spatter of purple that appears as solid color on each petal.

Showing innumerable patterns of metallic veining, our handful of local *Asarum* species have given few cultivars compared with the more charismatic Asian and eastern American species. *Asarum hartwegii* is the most ornate western species but is the least adaptable to new surroundings, with an unfortunate effect on its popularity. It is, however, a treasure to the connoisseur with a feel for the pine and oak forests of California. Its cultivar ‘Silver Heart’ has a silver lode fused into a central blaze on deep green, heart-shaped leaves. With recent species revisions, this may key out as *A. marmoratum*. Quickly draining, gritty soil rich in organic matter is the menu for this plant as well. Both this and *Trillium rivale* ‘Purple Heart’ were named to memorialize Lawrence’s son David, killed in the Vietnam War. Though they are still extant in some specialists’ collections, their future availability will require time and patience.

Boyd’s enthusiasm is not limited to the exquisite woodland dwellers that made him famous. My own passing interest in the genus *Mahonia* (now sunk in *Berberis*) has been sharpened by Boyd’s appreciation for these diverse shrubs; his garden includes contributions from Sean Hogan and other insightful collectors. Often striking in foliage, flower, and fruit, many hardy, low-growing forms await exploitation by gardeners and nurserymen. One unusual selection was spotted by Boyd in a commercial batch of *M. aquifolium* seedlings in the early 1980s and later verified to be a spontaneous hybrid with *Nandina*. Its

multiple stems grow crookedly, with evergreen foliage that is narrow and sparsely toothed, and a distinctive red tint that intensifies in winter—an attractive and unusual shrub for the edge of the rockery or low border, in full sun or partial shade. Growing well for nearly two decades before its mysterious death, Boyd's plant reached a height of about 4 feet, equally wide. Happily, I obtained propagated stock with the nursery inventory, and we were able to return plants to Boyd's garden. Baldassare and Jerry attached the cultivar name 'Boyd Kline', but I'm at a loss for a genus attribution.

Various friends are credited with some exceptional plants in the garden, among them *Mahonia aquifolium* 'Frank Callahan', collected by its namesake in nearby Gold Hill. Known locally as "the spoon-leaf form," its glossy, deep green leaves are mostly toothless at the margin and are conspicuously convex, like an overturned spoon. Reaching 6 feet or so, this is a taller shrub for a lightly shaded area and easily accepts full sun in milder climates. An attractive shrub overall, it makes its best show in spring, with clustered racemes of bright yellow flowers.

Boyd's enthusiasm for plants has never waned, and he makes regular hikes into the mountains with his son Curt, continuing to locate populations of interesting plants. Sometimes this leads to exciting discoveries, such as the recently named *Silene boyd-klineana*, previously suspected to be a variant of *S. californica*.

As a fledgling nurseryman learning the difference between *growing plants* and *selling plants*, I'm thankful for the inspiration I've found in each of my visits with Boyd. The names Crocker and Kline will always be associated with the Siskiyou natives that enrich our gardens, and I'm truly privileged to draw from Boyd's experiences and friendship, and to have settled among the legendary Siskiyou Mountains, a botanist's dream and a horticulturist's crock of gold.

Dale Sullivan recently became the proprietor of Siskiyou Rare Plant Nursery after a number of years as a gardener and nursery worker in the Pacific Northwest. Beyond rock plants, his interests range as far as hardy palms and terrestrial orchids.

Promises Fulfilled and Forgotten

Jane McGary

Annual plant awards in North America can seem irrelevant to the rock garden, concentrating as they do on roses, bearded irises, big border perennials, and annual bedding plants. We often turn to the United Kingdom and the awards of the Royal Horticultural Society's Joint Rock Garden Plant Committee in our search for new and inspiring subjects, which are well described in the Alpine Garden Society's publications.

At the recent Interim International Rock Garden Conference in Snowbird, Utah, Sally Walker of Southwest Native Seeds kindly gave me a few extra copies of the *Quarterly Bulletin of the Alpine Garden Society* from the early 1960s. I love reading these back issues (one of these features Jim Archibald's report on his first collecting trip to Morocco, as well as Paul Furse on Iran and Turkey), and one of the more fascinating aspects of that reading is learning what plants were exciting rock gardeners decades ago.

Some of those award plants are familiar enough to be growing in my own fairly commonplace rock garden, but others are only names to me, or are plants I've seen in the wild but never in cultivation. I decided to find out more about the award plants for 1961 through 1963. Are the more obscure ones still being grown, and if so, how and where? What do they offer for our gardens 40 or more years after they impressed the judges of the Joint Rock Garden Committee? Here is what I found out, along with gaps in the data which I hope some readers can fill out with notes to me after they read this issue.

The top-ranking award reported is the First Class Certificate (F.C.C.). Two went to the famed nurseryman Jack Drake for *Cassiope* forms: the wild species *Cassiope lycopodioides* and the hybrid 'Muirhead'. Both these classic alpiners are still very much with us. 'Muirhead' is one of the oldest shrubs in my garden, planted in an east-facing retaining wall with a little wind shelter about 20 years ago. It gets summer water along with the rhododendrons on the terrace above it, afternoon shade, and a cool root run. *C. lycopodioides* is a little trickier to grow well—it hates hot summers—but I've been able to satisfy it by planting it on the north side of large basalt rocks in a raised bed of very acidic soil, in full sun. I think that you have to plant these little ericaceous plants in as much sun as possible to keep them compact

and flowering well, but they need that coolness at the base. Mt. Tahoma Nursery sells these and many other species and forms of *Cassiope*.

Jack Drake also got an F.C.C. for *Primula sonchifolia*, a demanding species that is rarely available as seed, most likely from the Scottish Rock Garden Club. It probably demands cool, moist summers and some protection from winter wet.

A much easier F.C.C. plant is *Pulsatilla vulgaris* 'Buda Pest' (the city name used to be written as two words, since it's two adjacent towns), described as "a magnificent Pulsatilla which bore ice-blue flowers with rounded petals, and was completely enveloped in golden silky hairs." It was also known as var. *grandis* and was identified at Kew with *P. halleri*. From the description the name 'Buda Pest' was being applied to a seed strain, since it's described as variable in color. I've seen the name in seed exchange lists, but I don't know whether plants presently grown under that name resemble the prizewinner. However, the July 2006 issue (p. 78) of the Scottish Rock Garden Club's journal mentions this plant being exhibited at a recent show, and Andrew Osyany discusses it at <<http://www.onrockgarden.com/articles/fatisgood02.htm>>.

One we can be sure is still grown won its F.C.C. under the name *Saxifraga grisebachii* 'Wisley Variety'. It is now called *S. federici-augusti* 'Wisley' and resides in just about every saxifrage lover's collection. One of the very growable encrusted or silver saxes, it flowers on wonderful scapes tightly clothed in crimson-rose leaves and plush hairs; the stems arise arched like a shepherd's crook and finally open tiny pale pink flowers embraced in crimson-hairy calyces.

The last of the F.C.C. plants in these lists is the popular *Glaucidium palmatum*, a woodlander from East Asia that was written up at length and beautifully illustrated in this journal (Fall 2002, p. 277). An inquiry on the Internet forum Alpine-L stimulated quite a discussion about this plant's winter-hardiness, longevity, and propagation. Joyce Fingerut wrote, "It's interesting that *Glaucidium palmatum*, despite the fuss surrounding its introduction to our [North American] gardens in the 1980s, dates back more than 20 years before that. I associate it with Roxie Gevjan, the great gardener in the Delaware Valley, who was among the first in our group to germinate, grow, and flower the plant. The gift of a seedling was treasured indeed. I grew the plant for years but my plant never produced seed. However, the ephemeral and simple beauty of the flower, the bold leaves and the shrubby form were enough enjoyment for me. Exchange seeds seem to provide some measure of germination success, despite the plant's being ranunculaceous (a family of notoriously time-sensitive seeds)." I grew a number of plants from seed, but repeated slug assaults left me without a survivor after several years.

The next level are the Award of Merit (A.M.) recipients. Well represented is my favorite group, bulbs. *Narcissus cantabricus* var. *foliosus* is a little winter-blooming hoop petticoat daffodil bearing its cream bowls on 6-inch (15-cm) stems. Mine flower in January. With cover against winter wet it can survive 20° F/ -7° C, but for most of us outside California it's a pot plant, and a perfect one too. The bulbs, which can be planted close together to make a fine display, increase quite

fast, and it also sets seed readily. The award note describes the flowers as fragrant, a feature I'd never noticed because mine always bloom in cold temperatures when scent does not diffuse readily; I'll have to bring some into the house next winter.

Crocus chrysanthus 'Cream Beauty' is now common in mass-market bulb catalogs, sold as a "snow crocus." Its globular flowers have excellent substance, making it a good, weather-resistant garden plant. Nina Lambert reports that it has survived since 1960 in her New York state garden, despite the worst efforts of chipmunks and rabbits.

Cyclamen alpinum had just been defined as a separate botanical entity when it got its A.M. This Turkish species is now called *C. trochopteranthum* and is found primarily in specialist collections but offers no special problems in cultivation. *Cyclamen persicum* 'Highdown' "appears to breed true from seed," but that is unlikely to have carried down 45 years of generations, even though cyclamen tubers are long-lived. Nonetheless, it's worth growing this purportedly tender species from seed because you will come up with some that can survive surprisingly low temperatures, given excellent drainage and a dry summer; and the wild forms have a wonderful fragrance.

Who could resist *Kelseya uniflora*, possibly the dwarfiest shrub in the world, well described and illustrated in our winter 2006 issue? Not the judges who gave a potted specimen an A.M. in 1963. This plant of the north central Rockies can be grown from seed, though seed is expensive (consider the difficulty of gathering it!) and germination is erratic. I grew one starting in 1992, and it's now a magnificent 4 inches (10 cm) across. I can't repot it because it's rooted down through the drain hole into the plunge medium, and I dare not lift it; however, its preferred habitat of tight crevices suggests that it will be content in its little pot for a long time, given low but steady moisture. After an Alpine-L member impugned its longevity in the rock garden, Brian Bixley demurred: "It is growing perfectly well here in our (very large) trough, in semi-shade; I am told it grows typically on north slopes. It has never flowered, perhaps because it does not get quite enough sun, but has now made an attractive mat that is beginning to spread across a small rock. It is roughly 3½ to 4 inches in diameter. The trough is covered in winter. Next to the kelseya is *Jankaemonda vandedemii*, a juxtaposition not likely to occur in the wild. Of course, now that I have told you this, both plants will soon die."

The British Isles are particularly hospitable to the genus *Primula*, and a number of species and forms were honored in these years. Joyce Fingerut comments on one: "*Primula warshenewskiana* is a plant I miss. It was given to me by Mike Slater and I grew it in full sun, in a deep wet sand bed (that is, a sand bed that is lined to retain water, except for the top 3 or 4 inches). It was a ground coverer, hardly 2 inches (5 cm) high, but with a powerfully pink flower that, despite its small size, you could spot from far off. It was happy in that sunny, sopping bed, and spread nicely." *Primula vulgaris* subsp. *sibthorpii* is "the first to bloom" in Nina Lambert's New York garden.

A number of saxifrages received the A.M., and specialist grower Adrian Young shares this update on them: "*Saxifraga burseriana* major 'Lutea' is now *S. × boydii* 'Luteola', still in cultivation in Europe. *Saxifraga* 'Winifred' is now *S. × anglica*

'Winifred', still in cultivation in Europe and North America. *Saxifraga oppositifolia* 'Alba' is still in cultivation in Europe, but better white-flowered *oppositifolia* cultivars are now available. *Saxifraga burseriana* 'Valerie Finnis' is now *S. × boydii* 'Aretiastrum', still grown in Europe."

Rock gardeners visiting plants in the mountains always admire *Pinguicula grandiflora* and other members of this genus of insectivorous plants, which typically grow in hillside seeps; however, few of us have attempted to grow them. Can someone out there write them up for us one of these days? I recall seeing this species grown well by Jack Poff of Portland's Berry Botanic Garden, on a pumice block set in a pan of water.

Symphyantra wanneri is the subject of a recent plant portrait in this journal by Anna Leggatt (winter 2006, p. 59), and many of us have grown this monocarpic campanula relative. It's a very pretty plant with its elongated lavender bells. I wish it had deigned to self-sow in my garden, and it's on my list of "things to get again." Nina Lambert comments that seed under this name in exchanges is often misidentified, and in fact I once got the invasive *S. hoffmannii* that way.

Another A.M. member of the Campanulaceae was *Wahlenbergia serpyllifolia* f. *major*, which is said to have arisen "as a chance seedling in Farrer's garden." I don't know whether this form is still around, but the typical plant is readily obtained from exchanges. It's a mat-former with up-facing purple bell flowers, perfect for running through rocks, though it appreciates a fairly rich growing substrate. The AGS note recommends a limestone scree, but I've grown it in acidic conditions.

Linum elegans is one of several Mediterranean dwarf, shrubby flaxes with bright yellow flowers. They look wonderful in the wild but I haven't been able to keep them in the rock garden. The AGS note says "not always reliably hardy in the open," so perhaps that's why I lose them in a climate harsher than any in England. The genetic material of this plant is available to North American rock gardeners primarily in its hybrid with *L. flavum*, 'Gemmell's Hybrid', sold by several mail-order specialty nurseries.

Not many American plants made it onto these old award lists. One is *Townsendia florifer* from a Wyoming collection. We've written up many townsendias in recent years, and this is one of the more popular, available as seed from such suppliers as Alplains or Rocky Mountain Rare Plants. Seed is the best bet for obtaining townsendias, which are monocarpic in cultivation for most of us. Another American species noticed was *Petrophytum hendersonii*, written up recently by Rex Murfitt (Fall 2005, p. 291). This endemic plant of the Olympic Mountains of Washington is sporadically available from specialty nurseries and is long-lived once settled in a suitable vertical crevice, sunny but not too hot and dry. Receiving the P.C. award were *Polemonium brandegei*, often appearing in seed exchanges and turning out to be the less choice *P. pauciflorum*, and *Mertensia viridis*, an alpine "bluebell" everyone admires in the Rockies but which few are able to grow elsewhere.

The showy composite *Hymenoxys grandiflora* from the Rocky Mountains has been in and out of cultivation in the U.K. but can generally be found somewhere in North American rock gardens, since it's widespread and common in the wild.

The AGS writer calls it “short-lived in cultivation,” which is also the experience of American growers outside the Rockies; nonetheless, its ease of acquisition and good germination make it a worthwhile plant for anyone to attempt.

We gasp at slides of *Paraquilegia microphylla* at lectures on Himalayan plants, but getting plants to flower is famously frustrating. Scottish growers do it better than most of us Americans, and a couple of them got an A.M. for it in 1963. Seed is sometimes obtainable; germination seems to be delayed. I’ve never seen plants for sale in this country, but I grew it from Josef Halda’s seed for about 5 years with never a bud.

Hylomecon japonicum (syn. *Stylophorum japonicum*) is a poppy relative from Japan and eastern Siberia. The note tells us it’s “hardy but somewhat exacting in its requirements and needs a cool position and a rather damp atmosphere”—apparently a good choice for our coastal Alaskan members. Another suitable place is Ireland, whence Gary Dunlop writes: “*Hylomecon japonicum* is a small yellow-flowered woodland plant which is attractive in spring. I regard *Hylomecon* as one of the real beauties of the spring garden, its neat foliage completely obscured by radiant yellow flowers. . . . Its only defect is that its flowering is over so quickly.” Nina Lambert grows it in upstate New York. It’s a compact plant about 9 inches (22 cm) tall, with proportionately large yellow four-petaled flowers.

In the last issue Todd Boland described his success with *Incarvillea mairei* in Newfoundland. A very short-growing form called ‘Nyoto Sama’ was raised from seed collected by the famous Ludlow and Sherriff expedition to Tibet and received the A.M. This genus is increased mostly from seed (root cuttings are also said to be possible), so it can’t be known whether the award plant’s influence still prevails anywhere in cultivation.

Helichrysum confertum from Natal is described as “a compact bush composed of much-branched, white, woolly stems closely set with whorls of soft, greyish green, spoon shaped leaves . . . [with] white everlasting flowers.” Thanks to Panayoti Kelaidis and the Denver Botanic Gardens, we have a number of *Helichrysum* introductions from South Africa, though I don’t know if this is among them. Roger and Debbie Barlow (see “NARGS National Awards” in the Fall 2006 issue) offer a good selection through Beaver Creek Greenhouses.

Cyathodes colensoi is an evergreen shrub from New Zealand that can get fairly large for the typical rock garden. It’s been sold in the past by Siskiyou Rare Plant Nursery. Grown primarily for its ornamental reddish twigs and pink or white fruits, it’s likely to be hardy only in the warmer parts of North America, but at the same time it needs coolness and moisture in an acidic medium.

The forget-me-nots of New Zealand are almost all white, not blue, but some are fine rock plants (at least one can be a pest). The A.M. went to *Myosotis eximia* from the North Island, which was said to be “frost hardy, but best grown in a pot since it resents winter wet.” That’s been my impression of a number of New Zealand alpiners, and I’ve given up on them until I have more winter cover to offer plants “in the ground.”

Having seen the handsome New Zealand Edelweiss, *Leucogenes leontopodium*, in the wild, I could not imagine success at growing this white-woolly mat-former

in Oregon. In Ireland, however, Gary Dunlop has grown it a meter wide, though the center tends to die out. It's apparently one of those alpines that need the combination of perfect drainage and constant steady moisture—a situation I often saw in the South Island of New Zealand and on Tasmania's peaks.

One of the joys of visiting Rick Lupp's Mt. Tahoma Nursery is seeing his collection of *Androsace* species and hybrids. An A.M. plant still in cultivation is *Androsace* × *aretioides*, a natural hybrid between *A. glacialis* and *A. obtusifolia* repeatedly collected from the Alps. It was said to "spread rapidly in a gritty soil containing plenty of humus," to which we could add "and not in hot sun at low elevations," considering the presence in our gardens of some unhappily burnt-on-the-south androsaces.

The year 1960 saw the birth of a rock garden staple: *Verbascum* 'Letitia', a hybrid of *V. dumulosum* × *V. spinosum*. Its A.M. note from 1963 well describes its "woody intricate growth and lobed leaves" and "large racemose flowers," which are soft yellow with woolly purple anther filaments. It was a chance seedling at the RHS Gardens, Wisley; no mention is made of who Letitia was, though. I grew my first plant in a sand bed for more than 10 years before it succumbed to a wet winter, a common end for aging subshrubs in my wet-winter climate. A replacement (both came from Siskiyou Rare Plant Nursery) has been flowering well on a high rocky berm for about 6 years now. It's one of the best summer bloomers there and has proven reliable in many parts of North America.

A Preliminary Commendation (P.C.), an award for newly introduced plants still being trialed, went to "Oxalis sp. R. Tweedie 170," collected in Patagonia. The description suggested to me that it was *Oxalis laciniata* 'Ruth Tweedie', which I've admired, and this was confirmed by Graham Nicholls, the English nurseryman, who writes: "I grow it with difficulty. It has a beautiful very deep blue-purple flower but very thin spindly stems. It is compact and sets lots of seed from which I have raised a great many plants mostly with the same colour flower. The problem in growing this form is getting the compost right (I grow it in pots). Similar to 'Seven Bells', if the compost is too heavy it sulks and if too wet the thin stems rot off; however, such is the beauty I keep at it and will master it eventually." Mt. Tahoma Nursery, where proprietor Rick Lupp maintains an active exchange with Graham Nicholls, offers a number of South American *Oxalis* selections and hybrids. Ruth Tweedie, an Englishwoman living in Patagonia, also introduced *Nardophyllum bryoides*, a miniature shrubby composite with many twigs clothed in tiny imbricated, felty leaves. I've never seen it in cultivation though I've admired it in the wild; did its 1960s grower ever pass it on?

Some plants become so common in our gardens that we forget how excited growers must once have been to obtain them. *Hosta venusta* (P.C., 1963) was introduced as *H. yakushimana*, a species epithet borne by very dwarf species in several genera found on the island Yaku Shima, Japan. Elin Johnson writes: "*Hosta venusta* is (I think) the very smallest species of all the hostas. There is a new website, <http://hostaregistrar.org>, that has a search engine for parentage. I found that *H. venusta* is a parent of 39 registered cultivars (I suspect it is the grandparent of many more). My three plants of the species *H. venusta* came from

seed from the NARGS seed exchange two years ago. The donor was from Germany. The seed germinated well and I kept three of the tiny plants, which share a large bowl with two other miniature hostas, 'Cookie Crumbs' and 'Masquerade'. Two of them bloomed this summer in only their second year. The largest leaf is 1¾ inch by ¾ inch (c. 4 by 2 cm)."

When I saw *Trifolium uniflorum* in the Mediterranean, I was surprised that this minute, mat-forming clover is not seen in our rock gardens. It doesn't look invasive (famous last words?) and is a perfect size for small settings. I don't suppose seed is ever offered. Does anyone grow it in North America?

I haven't shelled out the price of *Iris nicolai*, a fascinatingly colored Juno iris now offered by the Latvian nursery of Janis Rukšans, but someday I hope to cultivate it in the bulb frame with its relatives. The award plant was brought to England from the Leningrad (as it was then) Botanic Gardens, but the species has since been reintroduced from seed collected by Josef Halda and others in Central Asia.

It's always worthwhile looking back at what excited rock gardeners many years before. We may recognize old friends that still grace our gardens, but we may also be stimulated to reintroduce lost or nearly forgotten plants of great value.

Jane McGary, the editor of this journal, grows a lot of bulbs and alpines and has killed a lot of them too. But it's always worth trying again!

PLANT PORTRAITS

Viola selkirkii var. *variegata*

ERICA SCHUMACHER, *Ballston Spa, New York*

Viola selkirkii, commonly known as the great spurred violet, was named in honor of Alexander Selkirk (the original for Defoe's Robinson Crusoe) around 1820. While *V. selkirkii* occurs in boreal regions in several different countries, including Canada and the U.S. state of Alaska, the distribution of *V. selkirkii* var. *variegata* (photo, p. 28) is limited to specific areas predominantly in Asia, including the Japanese island of Hokkaido. Plants are described by the Violet Society as being up to 4 inches (10 cm) tall with leaves up to 2 inches long, but I have found the plants in my garden to be much more diminutive in size, with the height of the plant in flower being approximately 2 inches. The flowers are a pretty shade of purple, but unscented. The leaves have beautiful silver markings on them, similar to many cyclamen, and come to a distinct point at the tip. This violet is not to be confused with *Viola koreana* var. *variegata*, whose leaves are also beautifully marked but more rounded in shape.

Unlike many other violets, *Viola selkirkii* var. *variegata* self-sows at a slow, controlled pace at my home in upstate New York, casually adding a plant here and there in the garden. It is not a long-lived perennial, so I recommend leaving volunteers in place as long as they look nice: the next year the parent plant may be dead. It is a lovely little plant that complements other plants in the garden well. It decided one year to grow alongside one of my sempervivums, an unlikely but attractive combination. This violet grows best in scree in part shade, but can also be grown in more typical woodland conditions if good drainage is provided.

Notholirion thomsonianum

JANE MCGARY, *near Portland, Oregon*

Sometimes a plant has to try hard to let the gardener know what it wants. About 15 years ago I was given a pot with several seedlings of *Notholirion thomsonianum*

(photo, p. 28). At the time I could discover nothing about it except that it was a bulb and came from the Himalaya region. Accordingly, I tried growing it like a lily from that area, in a cool position with summer water. It soon failed. Three or four years later, however, a bulb growing in my summer-dry bulb frame put up a big flowering stem. When it produced trumpet-shaped buff-lavender flowers, I realized that it was *N. thomsonianum*, growing from a bulblet that had become mixed with the potting soil. By then I had better reference books and learned that unlike the other three members of its genus, this species, which apparently comes from a rain-shadow region, needs a dry summer dormancy.

Like its more familiar relative *Cardiocrinum*, *Notholirion* flowers from a monocarpic bulb that disappears after producing the flowering stem, but it produces offset bulbs. *N. thomsonianum* is lavish with its offsets, which are about the size of peanut kernels in their first year. They attain flowering size in about four years, but continue to produce small offsets during that time, so a group of three or four flowering bulbs may have several hundred offsets of varying size. This habit may be an adaptation to disturbance by burrowing animals.

Notholirion thomsonianum's foliage emerges in fall in response to moisture and grows on through winter. Even though the *RHS Dictionary of Gardening* says it is "prone to frost damage," it has survived 17° F (−8° C) without snow cover here, with no damage. The flower stems develop in mid-spring and can reach 3 feet (1 m) in height, though mine are usually somewhat shorter. Many sweetly fragrant narrow trumpets, up to 4 inches (10 cm) long, extend horizontally from the stout stem; the tepals are soft, flushed lavender with peach or buff undertones, a rarely seen color in flowers. The foliage withers by early summer here.

I grow most of my plants in an unheated bulb frame with a tall center where the stems can rise to their full height. I also have several plants in the open garden, in a bed of sand and grit over well-drained gritty loam, not watered in summer. The latter were about to flower for the first time last spring (after a hard winter), but a rabbit ate the stems. Next year I'll surround them with wire cages, as I do some precious lilies. I lift those in the frame in late July, keeping offsets of various sizes and selling the surplus. By August the larger bulbs produce new roots, so they have to be stored and shipped with care; the tiny offsets, however, do not root so soon. My plants don't set seed, probably because I have only a single clone and the species is self-sterile.

Notholirion thomsonianum is well adapted to the garden in western North America and would be a spectacular container subject anywhere. Though large for the rock garden, it is at home in scree conditions and would be well placed among dwarf conifers and other woody plants of moderate size (in nature, it is "found in scrub and rocky habitats"). My garden plants share their site with penstemons, hardy cacti, *Zauschneria* (which don't flower at the same time, thank goodness—the color combination would be disgusting), and many bulbs. Growing it takes patience, but once a flowering population has been achieved, you can depend on a few stems every spring, and plenty of bulblets to share.

BOOKS

Dwarf Campanulas and Associated Genera, by Graham Nicholls. Portland: Timber Press, October 2006. ISBN10: 0-88192-810-0, ISBN13: 978-0-88192-810-5. 227 pp. text, 18 pp. glossary, bibliography, end matter. 140 color prints, 3 maps. 7 x 9 inches. Hb US\$34.95, CAN\$49.95, UK £25.00.

Reviewed by ANNA LEGGATT, Toronto, Canada

My family explored the fields, woods, and roads around my home in England when I was a child. We were always thrilled to find our favorite, the harebell, *Campanula rotundifolia*. It was one of the first plants I put in my unsuccessful rock garden, built at age twelve. I have grown many other species, either from seed or from purchased plants, in the past 25 years. Very few of these lasted for more than five years. I frequently wished for more information. What was I doing wrong?

Graham Nicholls has provided the answer in his new book, *Dwarf Campanulas and Associated Genera*. This book is for a beginning rock gardener who is looking for a wider range of plants as well as for serious growers who have an alpine house and are prizewinners in alpine plant shows.

Graham Nicholls provides an A-Z guide to more than 200 campanulas, with an additional 100 or so in related genera. He has been growing, propagating, and later showing and selling members of the Campanulaceae since 1959. In his preface he explains that there are more than 300 species in the genus *Campanula*. He describes only the dwarf ones, those that have a maximum height of less than 50 cm (20 inches). He modestly explains he is a passionate grower (which is obvious as you read this book), but in no way an expert taxonomist.

Nicholls describes, with maps and photographs, the main areas where campanulas are found. The land formations and climate are explained. Then follows a detailed chapter on growing campanulas, emphasizing propagation, as many species are naturally short lived and may be otherwise irreplaceable once obtained. He explains where to find and how to collect seed, with brief mention of how to try to do your own hybridization. Then there are details on growing

from seed, taking cuttings, and making divisions. Possible impostors in seed exchanges are noted, and ones that may not come true to color; for example, *Edraianthus tenuifolius* var. *alba* may not produce white offspring. He explains in general the best sites for campanulas and the potting mixes. I am usually frustrated when a British author says "John Innis Compost no. 2." Here, we have recipes to make our own.

The A-Z section describes about 200 campanulas with details of where they originate and their growing conditions in the wild. Synonyms are mentioned and differences from similar species. For example, "*Campanula biebersteiniana* differs from *C. tridentata* by having larger flowers that are campanulate rather than infundibular, and by having wider sepals that are blunt and are covered with interlocked hairs rather than ciliate." (There is a glossary of the botanical terms at the end of the book.) Each species has a brief technical description and blooming time. The height and size of the plant are given—though surely *Campanula glomerata* 'Caroline' is larger than 6–10 cm tall? My plant of that name was more like 60 cm tall. Nicholls also explains which method should be used to propagate each one, and when is the best season to do so.

Then we learn where to grow the plant. Thus, for *Campanula alpestris*: "In the rock garden it likes a cool or east-facing position and soil that isn't too rich. If grown in an alpine house, some shade during the summer is needed." He warns which species spread rapidly (e.g., *Campanula suanetica*) and which are special treats for slugs and snails. Some species are susceptible to powdery mildew and red spider mite if grown under glass. Some, like *Campanula piperi* and its hybrids, acquire dead-looking stems over winter. These should not be removed till the plant is in full growth. If the brown stem is alive and then cut, the plant will be susceptible to fungal blights. (Now I know what happened to *Campanula* 'Bumblebee'.)

Various hybrids are described, with their parentage and history where known. Some were selected in the wild, others were chance hybrids in nurseries and gardens, and others were deliberate crosses.

I was delighted to find the section on associated genera. It is useful to know the separating characteristics. Some are indicated; however, I would like to see a diagram or photograph of the basal disc on the style of *Adenophora* that separates it from *Campanula*. *Edraianthus* has bracts immediately below the flowers. This separates the genus from *Wahlenbergia*, which lacks these bracts. The photographs show this, though you must check different sections in the text.

Another minor point: the introductory paragraphs on *Asyneuma* state that two of the described species are high alpiners that "resent any moisture left on their foliage." Three of the eleven species described could be high alpiners.

The color photos are mostly very clear. However, the leaves are not visible in some of the potted plants illustrated. I wish all the species described could have illustrations; however, Nicholls explains that this is beyond the scope of the book. A botanical key would be useful as well, at least for the genera.

The book ends with a glossary, as well as informative lists of campanulas for different situations and societies that deal with the cultivation of alpiners and

operate seed exchanges. There are short lists of mail-order and seed suppliers. Here, I would have liked to see at least one Canadian nursery listed. Three of them list 16 or more cultivars—not as many as Graham’s Hardy Plants or Mt. Tahoma, but easier for Canadian enthusiasts to obtain. There is an extensive bibliography. The index is thorough, including common names such as limestone harebell.

I thoroughly recommend *Dwarf Campanulas and Associated Genera*. It should be part of every rock gardener’s library.

Green Roof Plants, by Edmund C. Snodgrass and Lucie L. Snodgrass.

Portland: Timber Press, 2006. ISBN10 0-88192-787-2. 208 pp., 299 color photos. Hb US \$29.95. NARGS Book Service discount available.

Reviewed by MARK FUSCO, Denver, Colorado

People may be drawn to the aesthetics of eco roofs, or “green roofs,” but it is the practical benefits that will one day make them a necessity. In *Green Roof Plants* Lucie and Ed Snodgrass offer their working knowledge of plants grown in the rooftop environment. This invaluable guide brings the importance of plant selection to the forefront of designing a successful green roof.

The book begins by touching on the origins and evolution of green roofs: “The famed hanging gardens of Babylon, for example were actually planted on rooftops . . . sod roofs have long graced homes in Scandinavia, providing extra warmth and insulation.” In Europe after World War II, green roofs began to gain popularity: “As cities expanded to the edges of countryside, green roofs represented an innovative way to preserve green space, reduce the impact of development and help filter and purify the air.”

Next the book gets down to the very essence of green roofs—the plants and their derived benefits to the natural and built environments. Green roofs “accomplish multiple goals simultaneously.” The authors discuss long-term rewards ranging from doubling the life of the roof membrane to retention and filtration of storm water, reduction of cooling cost, and creating habit for birds. Lucie and Ed Snodgrass present the function of eco roofs with site studies and articles, without proselytizing. The book is comprehensive, providing design ideas, construction and material considerations, and photographic examples and diagrams.

How, then, does this relate to rock gardening? As rock gardeners seek inspiration from nature, so do green roof gardeners and designers. Many of the classic rock garden plants from the genera *Erigeron*, *Sempervivum*, *Dianthus*, *Rosularia*, and *Sedum* are utilized on green roofs. These plants are sought for their ability to grow and thrive in shallow, often nutrient-deficient soil. This is very important because green roofs use a variety of soilless media mixtures of expanded shale and clay, scoria, pumice, and compost. One could look at green roofs as scree gardens with a slew of perks.

In this book 219 plants that have been utilized or are being tested in North American green roofs are described. Lucie and Ed Snodgrass have embarked on

the daunting task of profiling plants that will, or may, survive on a rooftop in just 4 to 6 inches of planting medium in the varied climates throughout this continent. Information on bloom time, flower color, height, width and origin are provided, along with professional photos of each plant. Of further interest is the minimum planting medium requirement for each plant.

In the Foreword, there is discussion about what type of professional or amateur this book is for. The list runs the gamut from gardener to architect or roofer to homeowner. Really, this book is for anyone who is interested in creating a better, more efficient built environment, one that integrates with nature.

Books Briefly

Reviewed by JANE MCGARY, near Portland, Oregon

Subtropical and Dry Climate Plants: The Definitive Practical Guide, by Martyn Rix. Portland: Timber Press, 2006. (Published in the U.K. as one of a Kew series.) ISBN13 978-0-88192-2; ISBN10 0-88192-808-9. 256 pp., 750 color photos. Hb US \$39.95, CAN \$54.95. Discount available through NARGS Book Service.

This large-format, beautifully produced volume presents more than a thousand species of plants from the Mediterranean, the Canary Islands and Madeira, South Africa, California and the southern United States, Central and South America, southern China, India, and Australasia. These botanical-climatic regions are described briefly (more detail is available in Rix's excellent book *Growing Bulbs*), followed by sections "Water Regimes and Water Saving" and "Planting and Design." The bulk of the volume is a plant directory, arranged by growth habit (trees, shrubs, perennials, etc.) and within those sections by botanical family; the family principle is not immediately apparent from the common-name subheads, but there are a good index, an inadequate glossary, and a few short lists of "Plants for special uses in the garden."

Almost every plant is illustrated in color with its entry, and the photos are quite good. The entries include brief descriptions, cultivation hints, size, cold-hardiness, and water requirements. North American gardeners will immediately be interested in the hardiness ratings, which are given both as USDA zones and as temperatures the plant is known to have survived. From my perspective gardening in the Pacific Northwest, Rix's estimates here are excessively conservative, perhaps because they reflect experience in the UK. The "lows survived" do not always match the zone ratings and must be anecdotal. I see many plants rated Z9 that I would not hesitate to plant in my garden, where typical winter lows are in the mid-teens Fahrenheit (around -8° C) and some winters bring single-digit lows. In particular, some of the dryland plants are several zones hardier than stated when grown in dry-winter regions.

Not many of the plants here are strictly "rock garden" subjects, but then, not many of us grow strictly dwarf plants. I encourage anyone gardening in the

milder parts of North America to look at this book, bearing in mind that, depending on your rainfall pattern, many of the plants may do better for you than they do in England. For California and the Southeast in particular, it will be a very valuable addition to the bookshelf. It's definitely going to stir me to a little more "zone denial."

Armitage's Native Plants for North American Gardens, by Allan M.

Armitage. Portland: Timber Press, 2006. 451 pp., 443 color photos.

ISBN10 0-88192-760-0. Hb US \$49.95, CAN \$69.95. Discount available through NARGS Book Service.

Armitage, a prolific author of general gardening books, is a horticulturist in Georgia. Though purporting to be for "North American" gardens generally, this book strongly reflects his regional perspective. It consists almost entirely of an alphabetical list of plants (perennials, annuals, and ferns; woody plants are excluded). The entries consist of descriptions written in a sometimes annoyingly folksy style, followed by range, zone hardiness, and cultivation hints. The emphasis is on plants suitable for the Southeast and southern Midwest, though a few western plants appear. The text is sometimes erroneous: *Erythronium* is said to have "corms," when it has true bulbs; fireweed (*Epilobium angustifolium*) is claimed to be an American plant introduced in Europe, when in fact its native range is circumboreal. Few typical rock garden subjects are included; the emphasis is on woodland and perennial-border gardening. The cultivation and propagation suggestions are generally so brief and simplistic that they will not help those trying to grow the more demanding species. The book may appeal to novice gardeners in the warmer parts of the eastern United States, but it is too superficial to satisfy the more experienced.

2006

Photo Contest Results

Once again the entries to the *Rock Garden Quarterly's* annual photograph contest made the judges' decisions both exhilarating and agonizing. The quality of entries seems to rise every year, especially as more people master the art of digital photography and digital cameras and software improve (nevertheless, slide images continue to place well). In fact, the competition in Class 1, always the largest group, was so stiff that we decided to award six numbered placings instead of the usual four.

Photographs were judged on a combination of artistic effect, technical quality, and informational content. The top award winners exhibit all these features to a high degree. Those receiving honorable mention are all of high technical quality but not quite so striking aesthetically. Obviously the final decisions are subjective, and since our anonymous judges change from year to year, the criteria may shift some as well. Often the editor admires and later publishes honorable-mention photos because of their high informational content and good reproduction quality—or because of the rarity of the subject, a criterion not considered by most judges over the years.

We strongly encourage more of you to enter this contest in 2007—even though it will make the judges' task even harder. Rules for entering will appear in the spring 2007 issue. Remember to take plenty of photos in gardens you create and visit: Class 4 is perennially low in entries but high in reader interest.

Thanks to all who sent in their lovely memories of plant-hunting and gardening!

Grand Prize

Doris Taggart, Kirkland, WA: *Castilleja rupicola*, Columbia River Gorge, from Class 2 (see p. 32)

Class 1, Portrait of a plant in the wild

1. David Sellars, Surrey, BC: *Phlox diffusa* (p. 28)
2. David Dobak, Portland, OR: *Eritrichium nanum* (p. 30)
3. Jack Muzatko, Pinole, CA: *Lewisia kelloggii* (p. 20)
4. Tanya Harvey, Lowell, OR: *Townsendia montana*

5. Alan Petersen, Flagstaff, AZ: *Castilleja rupicola*

6. Tanya Harvey: *Ranunculus adoneus*

Honorable mention:

Thomas Bland, Portland, OR: *Erinus anthyllis*, *Linaria tristis*

David Dobak: *Linaria alpina*, *Primula hirsuta*, *Ranunculus glacialis*

Art Guppy, Duncan, BC: *Erythronium quinaultense*

Denis Hardy, Muir of Ord, Scotland: *Hymenoxys grandiflora*, *Viola lutea*

Tanya Harvey: *Saxifraga cespitosa*, *Castilleja rhexifolia*, *Penstemon cyananthus*

Dianne Huling, East Greenwich, RI: *Crassula natalensis*, *Senecio pseudo-arnica*,

Grindelia stricta

Charles Morrow, Portland, OR: *Eritrichium nanum*

Jack Muzatko: *Lewisia disepala*

Graham Nicholls, Timsbury, UK: *Castilleja sulphurea*, *Penstemon cyananthus*,

Phlox pulvinata, *Townsendia montana*

Wiert Nieuman, Houten, Netherlands: *Gentiana bavarica*, *Trifolium alpinum*

Alan Petersen: *Castilleja rupicola*, *Sedum lanceolatum*, *Penstemon davidsonii*

subsp. *menziesii*

David Sellars: *Anemone parviflora*, *Myosotis alpestris*, *Calypso bulbosa*,

Eritrichium nanum, *Ranunculus eschscholtzii*

Doris Taggart, Kirkland, WA: *Lupinus aridus*, *Linanthastrum lewisii*

Fred Winterowd, St. Louis, MO: *Penstemon rupicola*

John Zabkar, Pittsburgh, PA: *Gentiana algida*, *Frasera speciosa*

Class 2, Plants in a natural scene

1. Doris Taggart: *Castilleja rupicola*, Columbia River Gorge (p. 32)

2. Tanya Harvey: *Castilleja* and *Lupinus* meadow, Snowbird, Utah

3. Tanya Harvey: *Dodecatheon* in seep, Cone Peak, Oregon

4. Alan Petersen, *Penstemon hallii*, Yellowstone National Park

Honorable mention:

David Dobak: *Eritrichium nanum*, Alps

Tanya Harvey: *Lupinus* and *Penstemon*, Oregon; *Calochortus eurycarpus*

meadow; *Helianthella* and *Lupinus*, Snowbird; *Aquilegia coerulea*, Red Pine Lakes

Dianne Huling: *Crassula depressa*, South Africa

Jack Muzatko: *Sedum rhodanthum*, Snowy Range; *Aquilegia coerulea*, Snowy Range

Graham Nicholls: *Penstemon cyananthus*, Bighorn Mountains

Wiert Nieuman: *Doronicum glaciale* above Fiss; *Gentiana punctata*, Serfaus;

Saxifraga bryoides and *Silene acaulis*

Alan Petersen: *Erythronium montanum* and *Castilleja*

Erica Schumacher, Ballston Spa, NY: *Lupinus brevicaulis*, Wasatch Range

David Sellars: Akamina Ridge, Alberta

Doris Taggart: *Wyethia amplexicaulis*, Snowbird

Class 3, Portrait of a plant in cultivation

1. Dianne Huling, *Erythronium americanum* (p. 29)
2. Jim McClements, Dover, DE: *Polygonatum hookeri* (p. 30)
3. David Sellars, *Lewisia cotyledon*
4. Wiert Nieuman, *Edraianthus dinaricus* (p. 31)

Honorable mention:

Art Guppy: *Erythronium dens-canis*

Denis Hardy: *Primula aureata*

Dianne Huling: *Narcissus rupicola*, *Campanula portenschlagiana*, *Primula veris*

Jim McClements: *Saruma henryi*, *Asarum maximum*

Jack Muzatko, *Eriogonum* sp., *Lewisia disepala*, *Lewisia reviviva* subsp. *minor*

Wiert Nieuman: *Androsace villosa*, *Daphne arbuscula*, *Pulsatilla rubra*

Arlene Perkins, Montpelier, VT: *Cypripedium parviflorum*

Erica Schumacher: *Phlox pulvinata*

Fred Winterowd: *Androsace alpina*

John Zabkar: *Ramonda myconii*

Class 4, Rock garden scene

1. Jack Muzatko: Water feature and birds, Muzatko garden
2. Denis Hardy: Stone wall with *Ramonda nathaliae*
3. Dianne Huling: Pond, Ann Jones garden
4. John Zabkar: Stone wall with *Lewisia cotyledon*

Honorable mention:

Dianne Huling, Coomes & Keyes garden; Fells Rock Garden, Hay Estate;
Hartley garden; Betty Ford Alpine Garden, Vail; White garden

Kelly Norris, Ames, IA: *Echeveria peacockii* in trough

The Rockless Rock Garden

Ev Whittemore

In March 2005 we sold our house with its extensive garden, having decided to lighten our load by eliminating the alpine houses, water features, and large space to maintain—a reasonable decision, since I was now 74 and my husband, Bruce, was 81. We had hundreds of potted plants and all the garden supplies to move to storage; Bruce being cheap—no, thrifty!—we did it in many trips with a U-Haul truck and our own vehicles. Whoever said old people can't move fast?

Our search for a new piece of land, where we planned to have a modular home built, took us first to a wooded parcel at the bottom of a steep hill. The second piece was also hilly; as soon as we spotted the sand barrels for ice control halfway up the hill, we again decided “Not for us.” By the third site, I was totally shopped out and stayed in the car while Bruce looked it over. Just a week after the sale of our previous house closed, we became the owners of 1.09 acres five miles away from it. Our two requests to the excavators were to save the dogwoods, and to make the driveway as short as possible, and south-facing to help the snow and ice melt fast.

Bruce immediately started to clear space for a rock garden at the west end, leaving the east end for the house and garage. Each day we brought plants and supplies, and I started heeling in the plants until the garden area would be cleared. We brought water in gallon jugs when necessary, but the spring rains were frequent—good for plants but bad for clearing.

Then Bruce, who hadn't been feeling well for a while, was hospitalized for another bout with colon cancer. He spent two weeks there, two in a nursing home, and needed two months to recover at home. I'd lost my helper for the rock-moving we'd planned.

But property improvement continued as machines removed trees, shrubs, grass, huge wild roses, poison ivy, and an unidentified, vicious climber that was strangling trees. One worker said he'd never seen land with so much “junk” on it. To top off matters, we found ourselves once again with red clay. The rock garden would have to be built up over this with the thin layer of topsoil the excavators had scraped into a pile. As soon as the slope had been graded, I ordered two truckloads of gravel and three of wood chips.

While excavation went on, I frantically made hypertufa “mini mountains” (see *Rock Garden Quarterly* 61-2, Spring 2003) and planted them. As I placed them, I mulched them with gravel; the completed slope would resemble an expanse of water with planted islands. A bog was dug at the bottom for carnivorous plants. We moved in on the last day of July, and life was a bit easier, though we were both busy decorating the new house.

Gardening on formerly wooded land means digging up the roots before you till. We wanted a vegetable garden, and I dug it. Perennials were to be viewed from the dining room and kitchen, and I dug. Five Japanese maples went on the front entry slope. We planned several woodland garden spots, landscaping next to the house, and a surround for the rock garden, and again I dug before tilling.

By now cool weather was approaching, and I concentrated on making 60 large troughs. Bruce made a several-tiered lighting system where I tended tiny seedlings. He also worked on a small building to bridge house and garage, which turned into a shed holding pots of ungerminated seeds. On good days we trimmed, limbed, and cut trees, removing hollies and dead wood; by summer 2006 we had five truckloads to be removed. Now, just a bit of “fine tuning” remains.

In spring Bruce constructed an east-facing cold frame, which I filled with coarse creek sand in which to sink pots. A gate was built across the bottom of the drive to keep out the neighbors’ peacocks, a bird notorious for destroying gardens. We wrestled the large troughs up or down the slopes to their final sites, where I filled them with various mixes to grow small woodland plants, bog plants, cacti, or alpines. We mulched the area around each trough with small hardwood chips as a contrast to the base mulch. Bruce fenced the property with chain link, the lower part reinforced with deer netting sandwiched into chicken wire, to keep out rabbits, deer, and anything else that wanted to share our vegetables. For water features, we settled on three whisky barrels sunk in the ground.

Then Bruce had more health problems, with severe weight loss, and I was on my own again while he used his calories to regain the weight. I dug an extension to the vegetable garden and tilled in cow manure, and an area for blueberries with peat tilled in. I laid riprap by hand and planted junipers to hold a slope that was washing away in hard rains. I added plants to widen and deepen the bottom of the rockless rock garden, with donations from Geoffrey Charlesworth’s Massachusetts garden. Weeding the wood surround was constant, as was spraying poison ivy. Trucks of mulch continued to arrive, to a total of 25—so far.

And still the ideas come. I decided to have a trough for herbs nearer the house. The top of the rock garden would look better with more mini-mountains. The “alley” behind the seed shed needs the interest of more troughs. And how about a simple bridge at the bottom of the front slope, leading to the woodland?

This is our third North Carolina garden in a bit over 20 years, and we’ve decided there is no leisurely life for this rock gardener and her husband. Age cannot be important enough to stop the pleasure of making a garden.



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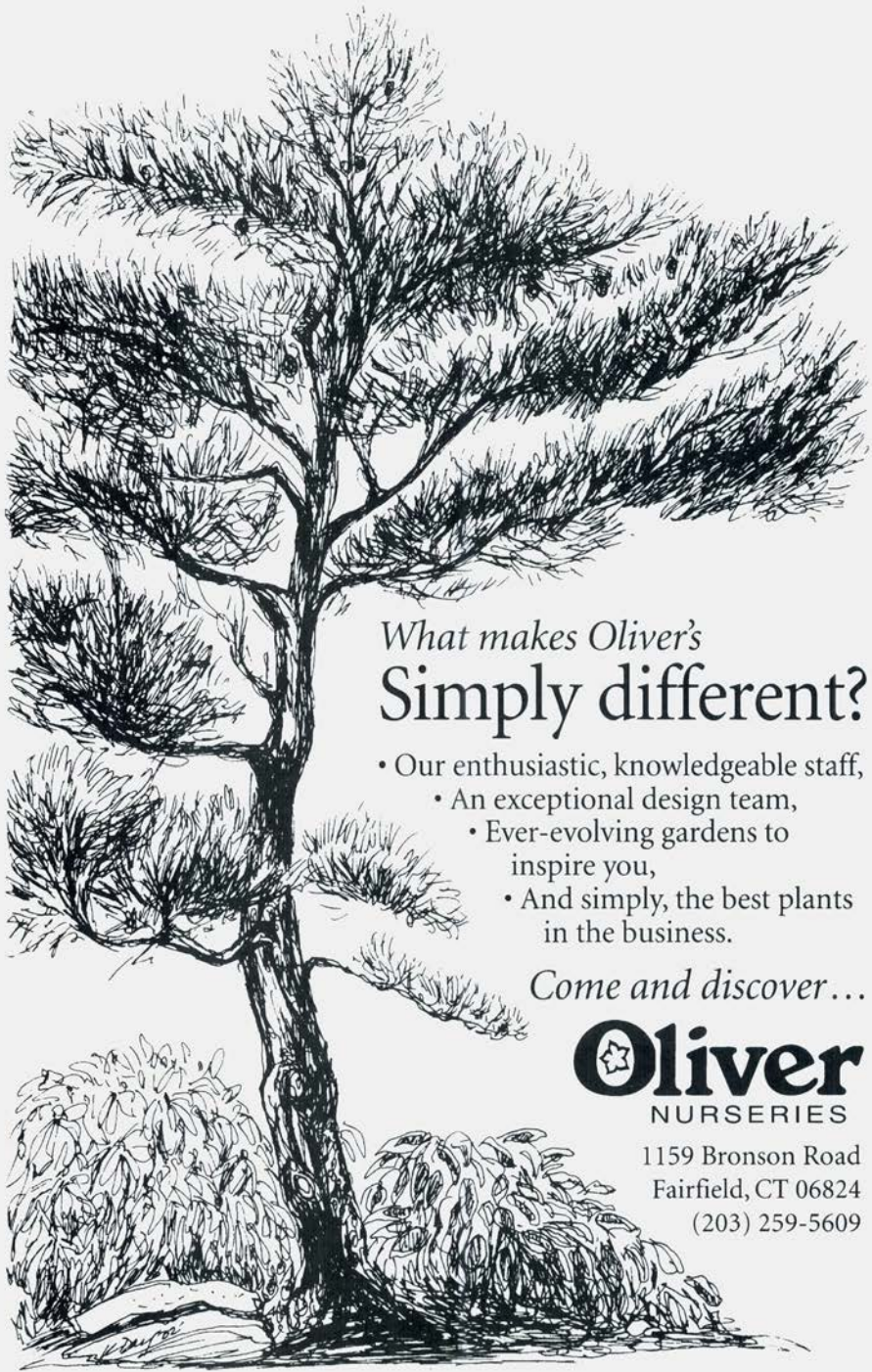
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