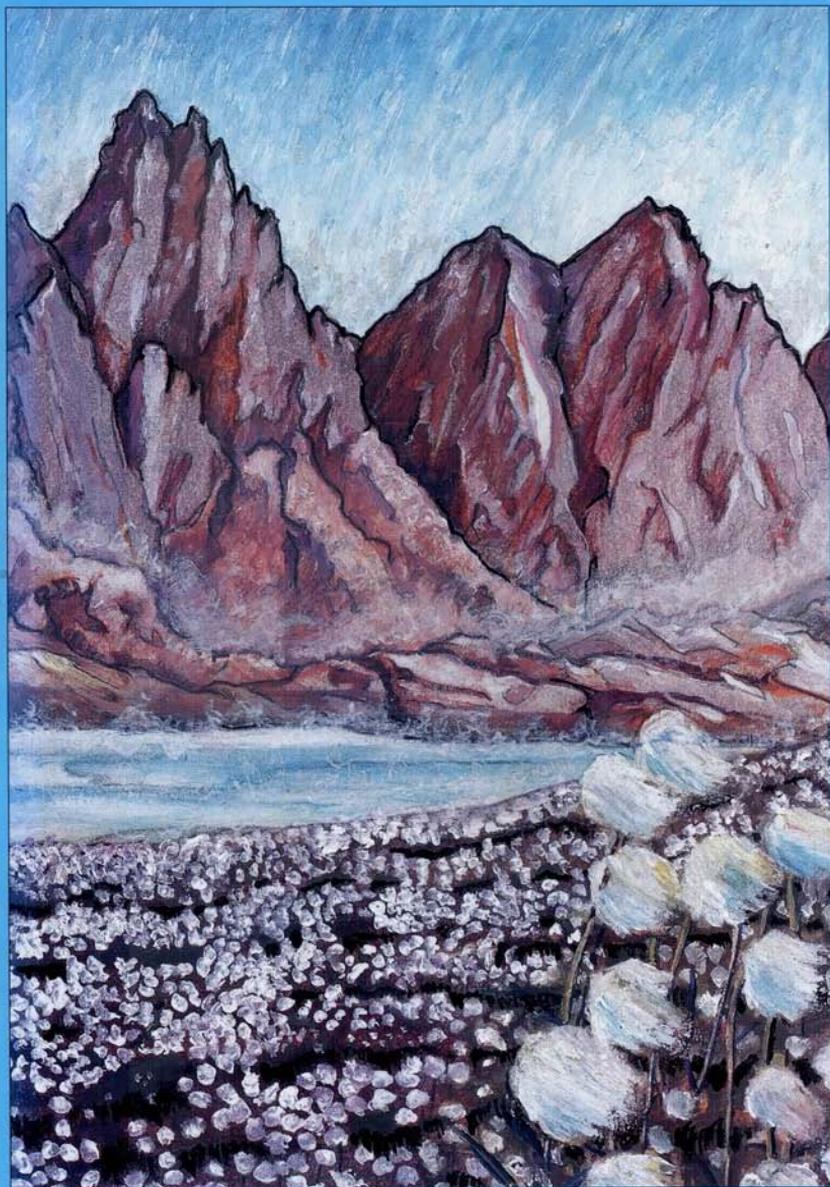


# ROCK GARDEN



## QUARTERLY

VOLUME 58 NUMBER 4

FALL 2000

## Editorial

As I leave the position of Editor of the *Rock Garden Quarterly*, I am profoundly grateful for all the sharing of knowledge and experience and love of plants that has enriched these pages and enriched my own life. I hope rock gardeners will always open their gardens to inspire others. I hope rock gardeners will continue to turn their attention from their own gardening to write and record for others, both beginners and the tried and true, to broaden and deepen our understanding of our art.

The torch of the editorship now passes to Jane McGary, a highly capable editor with a wealth of professional experience and a passionate plantswoman. Jane has demonstrated her commitment to the North American Rock Garden Society in many arenas. Please support her in her efforts to make the *Rock Garden Quarterly* ever more interesting, useful, and inspiring.

—Gwen Kelaidis

COVER: *Eriophorum scheuchzeri*  
by Rhonda Williams, Wasilla, Alaska

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# ROCK GARDEN QUARTERLY

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# PLANTS OF THE SHALE BARRENS

by Martha Oliver

Natural rock gardens are hard to find in the eastern USA. The special combination of well-drained soils, high light levels, and scant rainfall, that favors small, jewel-like, indigenous plants doesn't occur often.

East of the Appalachian Mountains, a natural rock garden occupies the area known as the shale barrens. From the southcentral portion of Pennsylvania, heading south-southwest along the eastern slope through Maryland, West Virginia, and Virginia, and even farther south, an area in the rain shadow of the mountains has produced a set of plants isolated in a sort of island, cut off from others like them by surrounding areas of higher rainfall and less severely vertical rock bedding.

Phlox enthusiast Edgar Wherry explored this area in the 1930s, and others, like Don Humphrey of Green Spring Park in northern Virginia, have followed, making notes on the charming plants of this region (see past bulletins). Maurice Brooks' book, *The Appalachians* (1965), remarks on the large number of endemic species and, with the old-time naturalists' eye, ties the flora and fauna and geology and climate into a unified whole.

The plants of the Alleghenies live on the very old bases of worn down mountains, on loose, crumbly shale that may be 500 million years old, if the fossils tell the tale. The bedding of the rock is vertical and very well drained. From the Gulf of Mexico the rain clouds sweep up the western side of the ridges, and, rising, drop their rain. By the time the clouds pass over this ridge they are dry. Brooks discusses two West Virginia towns 25 miles apart; the one on the western flank receives 65" annual rainfall; the one on the eastern slope between 9" and 21".

Heat rides up those eastern slopes from the Ridge and Valley Province, so the area just west of Washington, DC runs 4-5°F warmer than the western slope. The combination of higher heat, lower humidity, and dry conditions has created a niche for a special set of plants that can be grown successfully in the Northeast (where the delicate plants of the Rockies fade away in cultivation).

Some of these plants are already well known to rock gardeners. *Antennaria virginica* var. *argillicola* is the shale barrens pussytoes, shorter (to 3") and tougher than the other vari-

eties. *Phlox subulata* var. *brittonii*, the moss phlox of the barrens, comes in white, pale pink, and soft blue-gray, somehow missing the shrieking magentas and screaming fuchsias of the cultivars available by the square foot at the local discount mega-stores.

*Penstemon hirsutus*, the short-lived but lovely pink bearded-tongue, is widely distributed in the northeastern United States, but the paler *P. canescens* is found in the characteristic places: dry, rocky, wooded slopes and shale outcrops from Pennsylvania to northern Alabama. *Cheilanthes lanosa* (hairy lip fern) dries to crisp, brown fronds in its native habitat during the summer, but it responds to abundant rainfall with pleasure, remaining green and flexible in the full sun it enjoys. The easternmost member of the genus, *C. lanosa* is just one of 125 species in a genus of mostly arid subtropical or tropical taxa. It is found on rocky outcrops in limestone or shale.

*Opuntia compressa* (prickly pear cactus) surprises non-gardeners by the elegant way it avoids the damage from freezing and thawing during the winter: draining its tissues into the stout root, it lies down, resembling a balloon from which the air has slowly escaped. In the spring it rehydrates, standing up again in a matter of days, then blooming with disproportionately large, poppy-like flowers of bright yellow or pink atop the green, spiny, pancake pads. *Paxistima canbyi* (mountain lover) is an evergreen shrublet, never taller than a foot and slowly spreading.

These are easy, reliable plants that thrive with normal amounts of water, rather than turning gray and furry and then disappearing. There are other plants, however, that deserve wider use, and, even though they are difficult to find, they can be grown from seed and will make lovely additions to the rock garden.

*Clematis albicoma* (white-haired clematis) is an endemic herbaceous shrub with typical leather flowers, about 10" tall, and blooms in Virginia in early April with pale yellow, hanging bells. The even rarer *C. coactilis* and *C. viticaulis* (ghost leatherflower) have fuzzy, urn-shaped flowers on a plant covered with silver fuzz. They form neat and persistent clumps.

The endemic *C. viorna* is a herbaceous vine that will climb to 10', with the same leather bells, but these are pink to brown with paler edges. The plant will happily romp through a shrub or small tree. *Celtis tenuifolia* (dwarf hackberry) is a good support for this, since it is open enough for light to penetrate among the branches. It is a small tree of the dry, rocky foothills of the southeastern US, producing sweet, edible fruits in the early fall, as well as good fall color.

*Rhus aromatica* (fragrant sumac) begins the year early with clouds of small, fragrant yellow flowers, continues with small, red fruits, and finishes the year with scarlet fall color. A dwarf selection, 'Gro-low', gets no taller than 2'.

Other indigenous plants include *Amsonia ciliata* (threadleaf bluestar), which Wherry describes as "well-behaved, lovely pale blue stars in late spring," even though it does get 2-3' tall; *Antennaria plantaginifolia* (plantain pussytoes), with broad, silvery leaves on a spreading plant, from open woods and shaly banks; and *Asclepias quadrifolia*, with stunning pink whorls of milkweed flowers on an 8" plant in dry, upland woods.

*Aster oblongifolius* (aromatic aster) has light blue flowers in October, and Wherry says it is "too little known but suitable for the rock garden," especially the cultivar 'October Skies' that stays under 12". It is the foliage that is aromatic; the plant will slowly spread

to a wide mat and is easily divided.

A plant with perhaps too many named cultivars, *Chrysogonum virginianum* has good, long-blooming, yellow flowers on short, running plants. Don Jacobs' C. 'Eco Lacquered Spider' is a bit too vigorous for my garden but would be fine in the island bed in the middle of a parking lot (where I'd also put *Oenothera speciosa*). In open woods on limestone it blooms from April to June, and often beyond, on 8" stems.

*Chrysopsis mariana* (Maryland gold-star) prefers the dry, poor soil and full sun of the barrens, producing 1" clusters of golden, single daisies on silvery foliage in September and October. In rich soils it is too tall, but it will stay below 12" in the hot sun and barren sand of the serpentines.

*Coreopsis auriculata* produces bright orange-rayed flowers on stems 6–12" long, over good, green leaves, in May and June. It is, I believe, a parent in the new, highly touted *Coreopsis* 'Flying Saucers', accounting for this cultivar's toughness!

*Draba ramosissima* (twisted witlow-wort or rocktwist) is "not showy but curious" according to Wherry. He continues, [it has] "festoons of intertwining stems with profuse tiny white cress flowers in spring, then spiral seedpods." Don Humphrey remarks that it is "common through the barrens but not strictly endemic." In loose shale the main stem is covered with sliding rock, so it is hard to transplant and best grown from seed.

Although its relatives are widespread in the Rockies, the one *Eriogonum* in the East is *E. allenii*, too large for the small rock garden. Wherry calls it the "one northeastern member of the buckwheat family deserving a place in the rock garden," even though he notes that it is "a rather massive plant." The sulfur-yellow flowers are produced for a long

period in late summer on a plant that can be 2' tall.

*Heuchera pubescens* (shale barrens coral bells) has larger flowers than any of the taller species that have been used as parents in the plethora of *Heuchera* hybrids of the last decade. Found on dry limestone ledges in partial shade, this tough plant withstands dry, hot conditions and gives to all its progeny the like ability. At 18–24", it is taller than most small gardens can gracefully accommodate, but the leaves are usually as nice as those of *H. americana* and often marbled beautifully.

Awards for charm (read: small flowers) would go to *Houstonia longifolia*, a bluet at 6–10", with erect branches and tiny white or pale lavender flowers. It blooms in June and July in dry, sandy fields and on wooded slopes. Also listed as *Hedyotis longifolia*, its stems, with their linear leaves, are open, airy, and much branched, so it would not suit those who give their love only to tight buns.

*Iris verna* var. *smalliana*, another acid-oak-woodland species, has slender, blue-purple flowers with a prominent orange blotch, flowering from April to May. The short rhizomes are easily divided, and the short stems (4–8") make it suitable for the small garden.

The smaller, long-flowering *Oenothera perennis* is the best of this genus for the rock garden. Less than a foot tall, it produces bright yellow flowers from June to August. *Oenothera argillicola*, the true endemic, is too tall and is a biennial.

Two other phloxes from this area are the elusive *Phlox buckleyi* (sword-leaf phlox), which is sold in the trade, but almost everything offered is not the real *P. buckleyi*; the other species, *P. ovata*, is a mountain phlox from openings and edges of dry, sandy woods. This medium-tall (under 18"),

fragrant, pink-flowered phlox is mystifyingly neglected in gardens, because it seems to have been ignored by British gardeners and thus is still relatively unknown. Britton & Brown's *Illustrated Flora of the NE US* remarks that these may not be distinct species, but usage seems to indicate that they are.

*Ruellia purshiana*, almost certainly a form of *R. pedunculata* but found only in the Appalachian area, is very like *R. humilis*. At 5–8", *R. purshiana* makes a terrific rock garden plant. The open, lavender and pink, funnel-form trumpets are very showy over a long period. They self-sow, but not alarmingly so, and attract butterflies.

And of course there is a saxifrage found in dry rock crevices and on gravelly slopes. The open clusters of white flowers on 8" stalks are held over rosettes of toothed, evergreen leaves. *Saxifraga virginiana* thrives in sun to shade, doesn't mind more water than it gets at home, and will bloom in April.

*Scutellaria leonardi*, a tiny blue scullcap, spreads by underground stolons and will rapidly colonize an area; however, its mat is open and will not smother neighbors in the garden. In April and May, the blue carpet is lovely under other spring wildflowers in the dry upland woods it prefers. Only 4–8" tall, it is charming and will take care of itself.

The sedums from this area deserve to be better known. Although all of them are dry, light shade plants, they will cope with part sun. *Sedum ternatum* (the crow's foot stonecrop) is well known for its creeping, blue rosettes of leaves, but a form from Mineral County, West Virginia, *S. 'Larenim Park'* ("mineral" spelled backwards), is tiny in all its parts and a better choice for the rock garden, at 2" tall. The very blue-leaved *S. glaucophyllum* (*S. nevii*) is found on rocks in Virginia and West

Virginia, south to Georgia and Alabama. In April the white flowers are charming. The fleshy leaves are evergreen, and propagation from cuttings is very easy.

The jewel in the group, however, is *S. telephoides* (the Appalachian stonecrop) with glaucous, bronze- or pink-margined leaves and strawberry-pink, flat heads of flowers in August and September. Found on dry rock ledges and cliffs in the mountains, it is lovely all season with just the leaves; the late-season flowers are a bonus. Try it in acid gravel.

The special *Silene* from this area is *S. pensylvanica* (the wild pink or sticky catchfly). At 4–6" tall, its relatively large, pink flowers produce one of the best native displays. In sun or shade, as long as the soil is well-drained, this plant should persist for you. It is sometimes listed as *S. caroliniana* ssp. *pensylvanica*; the other subspecies is *S. caroliniana* ssp. *wherryi*. Both are found in rocky woods.

*Solidago roanensis* (the mountain goldenrod) is found on mountain balds of the Appalachians, along with *Potentilla tridentata*. At 8–30", it's a bit tall but does not seed around ferociously as the other goldenrods do.

In the same family as portulaca, the fameflower (*Talinum teretifolium*) is a fleshy-leaved, long-blooming plant also called "sunbright," giving you an idea about its light preference. The plant seeds freely, producing tiny stars of green, needle-like leaves, and thin, wiry stems shoot up to 8–10" before producing the bright pink flowers with yellow anthers all summer.

Less well known is the exquisite *Tephrosia virginiana* (goat's rue) blooming in May with pink-and-yellow flowers (similar to *Corydalis sempervirens*) and silver foliage which sets off the flowers. In dry woods with sandy, acid soil, along roadsides, and on

cliffs, this treasure will not be easy to find or to grow. The legume seed will be ready in August; moving plants would undoubtedly be fatal to them.

The tiny *Tradescantia rosea* var. *graminea* (grassy-leaved spiderwort) is, at 8" tall, the smallest spiderwort. The bright pink flowers bloom best in sub-acid gravel, in sunny spots. This sand-hill native grows wild as far north as Virginia but is hardy farther north.

Kate's Mountain clover (*Trifolium virginicum*), an endemic, was discovered along the trail just above the White Sulfur Springs Hotel in West Virginia by John Small in 1892. The long, narrow leaves and short, greenish-white blossoms are held close to the plant, making it the best clover for the rock garden.

Early April finds the dainty flowers of *Viola pedata*, both in bi-color and solid blue, all over the shale barrens. Seeding around if happy, this tiny, cutleaf bird's foot violet is sometimes difficult to establish. Fall transplanting is recommended. The Peter's Mountain form has white and purple petals.

*Carex glaucoidea*, unknown as a garden plant, has wide, silvery-blue leaves but needs some shade. If you like the color of *Carex nigra*, this one will please you. Growing to 10-12" tall, its silver leaves cool off any garden scene.

The sun doesn't stop the small ferns. In addition to *Cheilanthes lanosa*, *Woodsia ilvensis* likes dry, sunny crevices and cliffs, ledges, and talus slopes, in acidic to sub-acidic soils. *Woodsia appalachiana*, now merged with *W. scopulina*, is another full-sun treasure.

*Pellaea atropurpurea* (purple cliff-brake) is likely to be found wedged into a tiny, limy crack on a cliff or ledge, and the wall rue (*Asplenium ruta-muraria*) will be found on shaded, calcareous ledges and talus.

The oak fern (*Gymnocarpium appalachianum*) is relatively rare in Pennsylvania, because it likes a cool summer. You will find it growing happily in the West, and also around the cold air vents at the base of Ice Mountain in West Virginia. If you have the right spot in your garden, however, it will thrive and spread.

This list of plants has included some for sun and some for light shade, but they all share the characteristic drought-tolerance required to survive in their native habitat. Their small stature is a strong recommendation for their use in rock gardens, especially those in the humid Northeast. Why watch your choice Rocky Mountain alpine succumb to the summer muggs year after year, when these lovely plants are available? If more of us grow them and get them around in the trade, their value will be confirmed.

[The quotes from Wherry and Don Humphrey are from *Rock Garden Plants of North America*, published by Timber Press in cooperation with NARGS and edited by Jane McGary.]

*Martha Oliver gardens at The Primrose Path with her husband Charles, and they both like to visit the barrens areas of West Virginia and Virginia. Seeing plants in the wild is their delight, since both of them roamed the woods and fields of their childhood homes (western PA and eastern Massachusetts, respectively) from the time they could walk. Many of Charles' hybrids have their origins in wild-collected seed (responsibly collected), which accounts for their beauty, hardness, and drought-tolerance. Martha thinks a lot about why people want to recreate small ecosystems in their yards but has not come up with any answers yet.*



*Trillium flexipes*

# OHIO'S SPECIAL WILDFLOWERS

by Robert L. Henn

*We live through all of the seasons, but the one we look forward to and remember the most is Spring.*—Charles Kuralt

For those who are tuned in to the celestial cycle, there are two sets of events that occur semi-annually. They are the Spring and Autumn equinoxes and the Summer and Winter solstices. This naturalist would like to add another set of events that also occur just six months apart. Although a precise date cannot be set, and some leeway must be allowed for latitude, the most spectacular display of spring wildflowers in Ohio occurs during the last two weeks in April. Then during the last two weeks of October the most brilliant display of autumn leaves will adorn the trees.

As certainly as our farmers know they will be harvesting wheat the day following Independence Day, I know that during the last two weeks in April I will be out in the forests with my camera in anticipation of shooting the most beautiful wildflowers that I have ever seen. I also know that just six months later I will return to the forests to photograph the most brilliant display of leaves that I have ever seen.

In many ways, photographing wildflowers is very much like photographing a beauty contest. In both situations, artists are always searching for the perfect specimen to record on film. Let me describe a few of my favorite spring wildflowers, high on my list as the most photogenic.

When walking through a rich forest and coming upon rocky, limestone ledges, one is very likely to discover *Aquilegia canadensis*, the wild columbine. The generic name is purported to come from the Latin *aquila*, "eagle," in reference to the resemblance of the flower to the talons of an eagle. However, another interpretation is that the generic name is derived from the Latin, *aqua*, "water," plus *legere*, "to collect," describing the fluid-filled spurs. The common name is reported to be derived from the Latin, *columba*, "dove." Columbines appear in many religious paintings representing the dove of peace and the Holy Spirit. This beautiful wildflower certainly is a unique member of the Ranunculaceae.

The beauty of *Aquilegia* can be seen from every angle. From any side, the flower is seen as suspended from a delicate stalk. When looking down from the top of the nodding flower, the observer is looking directly into the waiting talons. From the underside, looking up will present the observer with a perfect, five-pointed symmetry created by the arrangement of yellow and red petals and heart-shaped sepals. How inviting to the eager pollinators!

Each of the five petals has a yellow blade and a long, red spur extending upward. From the bulbous tip of the spurs nectar is secreted, much to the delight of hummingbirds and long-tongued insects such as bumblebees. On several occasions I have observed some of the tips of the spurs chewed off, presumably by an impatient insect that couldn't or wouldn't enter the front of the spur to drink of the flower's sweetness. Fortunately, most of the flower's pollinators enter from the front of the flower, and in doing so they transfer pollen from the numerous stamens to the waiting stigma and thus accomplish the pollination of the flower.

The stamens and pistils grow together in a little tuft in the center of the flower. The numerous stamens (characteristic of Ranunculaceae) hang well below the petals. There are five pistils, each developing into a capsule containing numerous black seeds. When the seeds are ripe, the capsules turn upward, split open, and discharge the seeds. The light green leaves are compound. They are divided into three, stalked leaflets, that are further divided into three sub-leaflets. Each leaflet is three-lobed. They form a rich contrast against the gray limestone background.

Certain Native Americans and colonists used the seeds for medicinal

purposes. The seeds were ground and prepared as an infusion to be given as treatment for fever and headache. A tea was prepared to be gargled for relief of sore throats. A tea made of the roots was used to treat diarrhea and uterine bleeding. As with the use of any herbal substance, the user should exercise extreme caution due to the risk of dangerous, and sometimes fatal, side effects. For example, there are records of fatalities of children who consumed seeds of *A. vulgaris*. Therefore "*caveat emptor*" is most appropriate.

Columbines readily hybridize and seed catalogs and garden centers offer a wide variety of hybrids. To the west, the Rocky Mountain state of Colorado has selected the native blue Colorado columbine, *Aquilegia caerulea*, for its official state flower—a beautiful flower for a beautiful state.

To many wildflower watchers, one of the most intriguing spring wildflowers is *Dicentra cucullaria*, Dutchman's-breeches. The common name refers to the resemblance of the flower to the traditional Dutch pantaloons hanging by their ankles on a clothesline. From six to ten white flowers hang from a gently arching stalk that is independent of the leaf stalks. Close examination of a flower reveals that the lips of the petals are tinged with yellow. This spring ephemeral is pollinated by bumblebees that have a proboscis sufficiently long to reach the nectar that is produced within each breeches'-leg, or spur. I have often discovered the tips of the spurs chewed by an insect intent on stealing a mouthful of nectar, but in reality cheating the flower of being pollinated.

The flowers quickly attract insect pollinators, and within a few days the petals begin to fade. This usually begins with the lower flowers on the scape, progressing toward the top.

Many of the seed pods of the lower flowers have matured as the final buds are just opening at the top of the scape.

The pale, blue-green leaves of these perennial members of the family Papaveraceae are finely dissected and fern-like. Nearly two centuries ago when settlers arrived in Ohio country, they found this new land to be nearly 95% forest. I can picture a family of settlers with several children arriving in a covered wagon bearing all their worldly possessions, including a cage with chickens and a rope leading a milk cow behind. Of course there were no pastures in those times, so upon making camp for the night, the family cow was tied to trees in the forest to graze upon nearby vegetation. On certain occasions the cows would ingest plants which would result in trembling, salivation, vomiting, and eventually falling to the ground with convulsions. Thus *D. cucullaria* has been referred to as little blue staggers, referring to the poisonous (even fatal) effects on cattle should they graze on the leaves, which contain the toxic alkaloid cucullarin.

The roots are actually corms. They appear as clusters of small, pink or white tubers. The tubers have been used as a tonic and diuretic. As late as 1942, the American Pharmaceutical Association listed the dried tubers as an official medicinal herb. A poultice of the tubers or leaves had been used to treat certain skin diseases. However, the tubers have been known to cause a rash on the skin of some people. The plants are potentially poisonous, and people should refrain from ingesting any part of the plant.

A close relative, *D. canadensis* (squirrel-corn), is often found growing in the same habitat. So similar are the leaves of these plants that many botanists are unable to identify them when the plants are out of bloom. The

flowers are heart-shaped; this species is related to the cultivated *D. spectabilis* (bleeding heart). The common name refers to the yellow tubers, somewhat resembling a cluster of corn kernels. It is debatable whether squirrels actually eat these tubers.

The leaves quickly and efficiently capture the sun's rays and through photosynthesis convert the energy into stored nutrients in just a few weeks' time. By June all signs of the plants have vanished. However, the perennial tubers will survive the following three seasons, eagerly awaiting the warm weather and sending up its leaves and flowers once again next spring. What a delight for the wildflower watchers who find the first Dutchman's-breeches of the spring!

One of my very favorite wildflowers is *Arisaema triphyllum* (Jack-in-the-pulpit). At first this member of the family Araceae may be overlooked because its green color blends in so closely with other lush spring growth. The leaves are divided into three leaflets. The solitary green flower, often striped, is 2-3" tall with a hood arching over the club-shaped, flowering spike (spadix). "Jack" is the spadix, standing tall within the funnel-shaped spathe, or pulpit.

The plant is dioecious and has the curious adaptation of being able to produce staminate or pistillate flowers in response to the nutrition gained from the previous year. If an individual plant has stored a sufficiently large amount of carbohydrate, it will produce a pistillate flower the following spring. Those storing a lesser amount of energy will produce a staminate flower. Usually an individual with two leaves bears a pistillate flower, while a single-leaved individual bears a staminate flower. A close, but far less common relative, *Arisaema dracontium* produces monoecious flowers.

The spadix releases a foul-smelling odor that attracts small flies, the chief pollinators. In spite of his clerical attitude in the pulpit, Jack is by no means above reproach. He is a trap for the detention and ultimate destruction of hapless flies. As these flies are lured into the flower in search of a place to deposit their eggs near the bottom of the spathe, they find themselves in such tight quarters that they are not able to extend their wings and escape. Instead they thrash around, and in the process cover themselves with pollen. Eventually some of the flies do in fact escape by means of pushing themselves out between the folds of the spathe. These fortunate individuals continue to be lured into other pulpits, some of which turn out to be pistillate flowers. As these pollen-laden flies descend into the depths of the pistillate flower, once again they find themselves unable to escape by flying out and end up thrashing about, thus pollinating the pistils. As it would happen, the spathe of the pistillate flower is unyielding, as if determined to trap the flies until the last pistil has been pollinated. You can explore these flowers by gently lifting the hood and peering down into the spathe. In some you will discover the tan-colored, pollen-bearing anthers. You might discover an unfortunate fly or two remaining in the bottom. In the pistillate flowers you will find a cluster of green, berry-like pistils. You are more likely to discover the remains of flies at the bottom. Later, in the autumn, these berries will become quite large and turn a brilliant scarlet, supported by the naked stalk, for all in the forest to see.

*Arisaema triphyllum* has also been called indian turnip. Many woodland Indians found the corm to be nutritious. However, they also discovered that it took some effort to make the corm palatable. Throughout the entire

plant the tissues contain a considerable amount of calcium oxalate crystals. These create an intense burning sensation in the mouth. It is thought that this is probably the reason the leaves are rarely eaten by caterpillars, other insects, or deer. Preparation for eating would include long periods of drying; or boiling and pouring off the water, and re-boiling several times. When the corm is eaten, calcium oxalate crystals can become imbedded in the mucous membranes, causing the intense irritation and burning sensation of contact dermatitis. Medicinally, certain Native Americans and settlers used an infusion prepared from the corms to treat coughs and act as an expectorant.

Perhaps one of the most photogenic of spring ephemerals is *Erythronium americanum* (yellow trout-lily, or yellow fawn-lily). To photograph this graceful member of the family Liliaceae, you must drop to your knees and take a rabbit's eye view. (Rabbits only pass by this plant, declining the invitation to eat in favor of coming to your garden to visit your lettuce patch.) From each and every angle, the photographer sees a striking pose. The solitary, yellow, nodding flower is composed of three petals and three sepals, slightly reflexed. Due to the remarkable similarity in appearance of these flower parts, they are usually referred to as the tepals. The six anthers are bronze-colored, and they surround a white, three-parted stigma at the tip of the pistil.

The wildflower watcher will often discover extensive colonies of *Erythronium americanum* and the white-flowered species, *E. albidum*, growing in a variety of habitats, ranging from the moist floor of lowland forests and flood plains to shaded hillsides. But they are always in old-growth forests. As you study the

colony, you will notice that most of the individuals are comprised of a single leaf. There is a considerable variation in the size of these leaves. This is for good reason. The leaves and flower stalk grow from corms 6–15" deep in the soil. For two or three years, the plant grows as a small, single leaf. From four to six years of age, the plant produces larger, single leaves. Finally, after six or seven years, the plant sends up large, double leaves and a flower. The two leaves appear basal, but actually are borne near the middle of the stem, half of which is underground, ascending from the corm deep in the ground.

The common names are in reference to the mottled appearance of the leaves. Two other common names are adder's-tongue, and dog-toothed violet. With a strong imagination, perhaps you can see a serpent with tongue extended. (Wouldn't M. C. Escher, the artist, have had a good time with this!) The latter common name deserves some explanation. In Europe a related species is *E. dens-canis*. This plant is reddish in color. The generic name is derived from the Greek *erythros*, meaning red. (Remember we have nearly 5 million *ERYTHROCYTES* in every cubic millimeter of our own blood.) The specific epithet describes the corm, which somewhat resembles the canine tooth of a dog. However, it is a lily, not a violet.

Medicinally, a fresh corm may be used as an emetic. The root and leaves were official in the United States *Pharmacopeia* (USP) from 1820–1863. After having been boiled, the corms are edible.

One fair spring day, take your camera, fully loaded, take plenty of extra film, and enjoy a photo session with one of the most beautiful of Ohio's wildflowers, the trout-lily. You won't be disappointed.

The state flower of Ohio is the red carnation. However, the Ohio state wildflower, a very stately spring ephemeral, is another plant all together. In 1987, many students throughout the state, with the capable assistance of their teachers, petitioned the Ohio State Legislature to adopt *Trillium grandiflorum* for this honored position. The Legislature voted in favor. A more fitting wildflower could not be found. It grows throughout the state; its habitat is the old-growth forest. Surely each April the settlers looked in awe at forests carpeted with this spectacular lady. Today we look at this magnificent wildflower and are filled with that same feeling of adventure, pride, and hope.

The generic name comes from the Latin *tres*, three, a perfect designation, because all parts are in threes. There are three petals, three sepals, a three-parted stigma, and three leaves. The golden stamens number six. The snow-white flower, up to 3" in diameter, is held on a stalk high above the leaves. After pollination has been accomplished (several species of insects visit *T. grandiflorum*), the petals turn pink to mauve, as if to signal the pollinators to not waste their energy stopping at this flower, since the nectar is no more.

Following pollination, the life of this perennial member of the family Liliaceae is far from obvious. The leaves continue to be deployed, acting as large, photosynthetic solar panels well into the summer. These leaves must collect a sufficient amount of energy, transferring and storing it in the tuberous roots, to sustain the plant through the harsh Ohio winter and to promote the growth of the flower and leaves next spring. If a deer ate the flower but permitted the leaves to remain (only deer and domestic cattle destroy trilliums by eating them), then

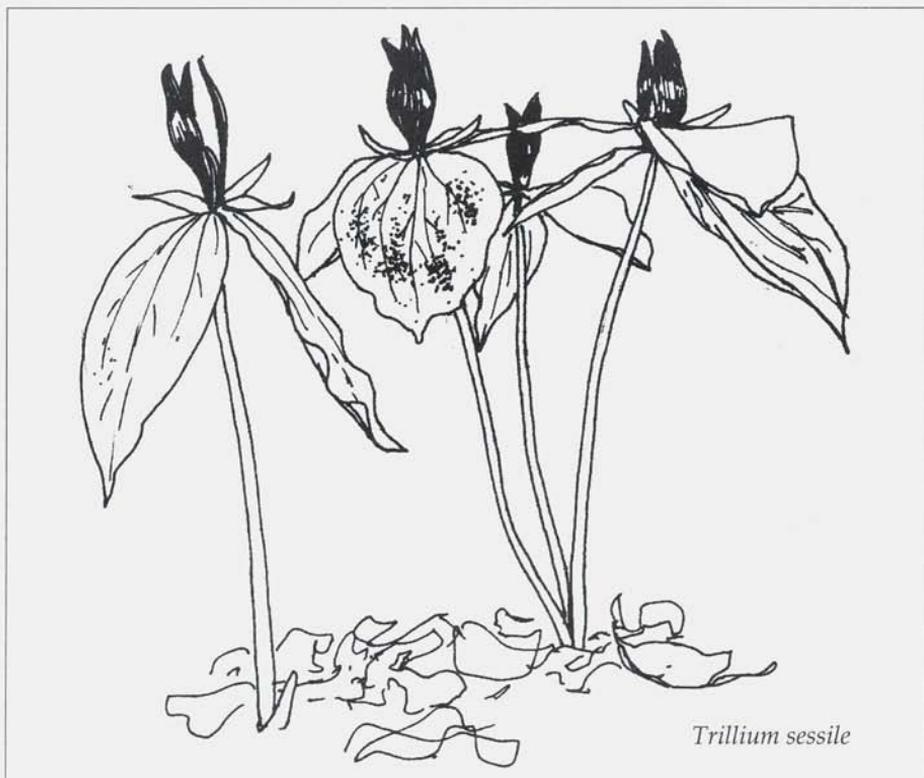
that individual plant would survive to collect sufficient energy to sustain it to flower again next year. However, if that deer consumed the flower, leaves, and stem, then that individual plant would die. The same point can be made for trilliums picked by humans. All trilliums must be protected from grazing and picking that will kill the plants.

Ants play a very important role in the dispersal of seeds of *Trillium grandiflorum*. The seeds are myrmecochorous, that is, they are designed to attract and be dispersed by ants. Examination of a seed with a hand lens reveals a gelatinous, lipid covering, the elaiosomes, that attract the ants. The ants carry the seeds to their nests, consume the elaiosomes, and discard the seeds. Thus the seeds are dispersed to germinate elsewhere. The seeds require two years or more to

germinate. Seedlings take two or three years longer to produce flowers.

Other trilliums that are also in bloom in Ohio's spring include *Trillium flexipes*, *T. sessile*, and *T. erectum*. *Trillium grandiflorum* is the largest and showiest of our trilliums. A spectacular display of the flowers is produced in the well-lighted conditions of the forest floor, before the leaves appear on the trees. Ohio's old-growth forests usually present the greatest display of these. Such woodlands must be preserved, so that present and future generations of people will be able to enjoy the wildflowers as one of our most valuable natural resources.

Robert L. Henn is the author of *Wildflowers of Ohio*, 205 pp., Indiana University Press: Bloomington, Indiana. 1998.



*Trillium sessile*

# WOODY MINIATURES

## for Rock Garden Relief

by Gerald Taaffe

One of the more agreeable events in my Zone 4 rock garden this past summer was the rediscovery of a tiny *Sorbus* species that had gone missing for over a year. In its ninth year from seed (mislabelled as the much larger *S. reducta*), the little shrub, or treelet, is 3" high, with a tiny, gnarled trunk and a few compound leaves that turn a brilliant red in autumn. It had disappeared completely under an alarmingly vigorous *Daphne* x 'Eschmanii.' Not much larger was a *Rhamnus pumila* of about the same age in a previous garden of mine. At 4" high, it had a nicely tangled, windswept look, with shiny leaves typical of the genus but much smaller. Another buckthorn, the prostrate *R. aff. pallasii*, has highly atypical, linear leaves on branches that, alas, may be spreading a little too widely to allow it to keep its privileged position in the rock garden.

I like the variations in texture and outline that these and other woody plants give to the rock garden and peat bed. These little plants also satisfy the same appetite for the miniature that, as a child, had me playing with toy trains, lead soldiers, and, in fact, any object that could fuel the imagina-

tion. To my eye, for example, a closely planted group of *Daphne kosaninii* looks like a dense, tropical, evergreen forest seen from the air, an effect I have experienced on an antique Chinese screen. I see a surreal landscape in the tangled, bare, green stems of *Ephedra minuta* and the rigidly upright, gray stems of another *Ephedra* species, one I haven't been able to identify. The artificial gardens of the Munchkins in Disney's *Wizard of Oz* have nothing to equal *Dryas octopetala* or *D. drummondii*. Few studio effects are as unlikely as the way the large, white or pale yellow flowers of these plants rise from their mats of small, oak-like, scalloped leaves.

### Dressing Up the Scree

The horticultural equivalent of middle-age spread has been the biggest problem among the various peashrubs of the Fabaceae. Best of the large number I've tried in the rock garden has been the dwarf white indigo, *Indigofera decora* 'Alba.' Eventually it grows to 1.5' high by 3' wide, but it earns the space with an early summer display of 8"-long panicles of lightly fragrant pea-flowers on slender, grace-

fully arching stems. It performs best when cut down to near the ground in very early spring, either by winter cold or, in milder climates, the pruning shears.

Even more of a bruiser by rock garden standards is the very early flowering broom, *Cytisus hirsutus*. I have a large (3' x 3') form of this variable species that bears red-signalled flowers of soft yellow in great profusion. The prostrate 'Vancouver Gold' form of *Genista pilosa* is covered with brighter yellow flowers a few weeks later, and the wonderful *Genista lydia*, another 3' bruiser, blooms later still, with flowers that are the brightest yellow of all on a distinctively arching shrub.

*Genista sylvestris* is the best of the dwarf brooms I've grown, with a modest display of small, yellow flowers on a neat, 6"-high, spiny shrub. Less impressive were *Genista sagittalis*, with winged stems, and *G. tinctoria* v. *humifusa*. Both are flatly prostrate shrubs that, for me at least, bloomed sparsely at the upturned ends of branches. Both plants soon reached pie-plate size and beyond, smothering anything that stood in their way. Not quite as prostrate, but of similar effect, was *Cytisus austriacus*, and least impressive of all is a tiny, scrawny shrublet that after seven years finally produced a single little yellow pea-flower. It may be *Cytisus pygmaeus*, which my records show I tried to start in the early 1990s.

I treat my one large plant of rose daphne, *Daphne cneorum*, like the proverbial two-ton elephant and let it go whither it list, cutting back or moving anything that gets in the way. To my mind this low, yard-wide plant is queen of the rock garden, with deliciously scented flowers of vibrant pink that cover it in spring and give a decent second show in late summer. It survived an incredible battering after

the area's 1998 ice storm and deserves all the pampering it can get. Among other, smaller evergreen daphnes in the rock garden is the Siskiyou Rare Plant Nursery form of *D. arbuscula* with leaves of a high gloss and relatively large purplish-pink flowers. In the troughs are the even smaller *D. x hendersonii* and *D. x 'Lela Haines'*; the latter produced pretty pink flowers when the plant was about as big as a walnut. Smaller still is *D. circassica*. A three-year-old seedling here is no more than acorn-sized, while a seedling of *D. kosaninii* planted at the same time in the same trough has grown to the size of a tennis ball.

Among the deciduous daphnes, only *Daphne alpina* has been neat and small enough to fit in the rock garden. This plant makes a fine contrast to the evergreen species. The leaves are gray-green, matte, and held on upright, 14"-high shrubs. The spring show of fragrant, white flowers is followed by orange berries, which soon drop, only to be followed by a second, sparser bloom. Up and coming is a seedling of an unidentified, deciduous species from the Altai Mountains that has larger leaves but in its third year is only 10" high.

The fate of my one and only seedling of *Daphne oleoides* illustrates the hazards of underestimating the size of the other deciduous and semi-deciduous species. I'd learned the hard way to put February daphne, *Daphne mezereum*, and all the wonderful tribe of *D. x burkwoodii* in places where they can safely wax fat and prosperous. What I was slow to recognize was that the very lovely, pink-flowered *D. x eschmanii* is just as fast-growing. I cut it back eventually, but not before I had moved the *D. oleoides* out from under it once in 1999 and again this year...which last seems to have proved fatal.

A second-year seedling of *Prunus prostrata* here has branches that bend sharply at a few inches high, giving a mushroom-shaped, foot-wide, little tree. *The Hillier Manual* says that over the next 20 years or so this little cherry should be producing fruit on a gnarled tree no more than 2' tall and a yard wide. This revives a dream that was stirred by the Halda seed catalogue's promise of tiny, alpine fruit trees. Unfortunately, the three I grew—labelled *Cerasus amygdaliflora*, *C. erythrocarpa* (a.k.a. *Prunus bifrons*), and *C. tianschanica*—were graceful plants, two with very small, pink flowers, but all much too big. More hopeful is a second-year plant of another *Prunus* from NARGS seed labelled *Amygdalus orientalis*. It's so far, so good with this pretty, 1'-high, gray-leaved almond, but in a year or two it may have to be moved. I've recently learned that its correct name is *Prunus argentea*, which has been known to grow to 10'.

Until planting *Moltkia petraea* it was "try and try again" for me with woody plants of the borage family, especially with the very desirable *Lithodora diffusa* 'Grace Ward.' None of them lived, and seeing the *Moltkia* seedlings break the jinx was one of the little triumphs that brighten the life of a rock garden. Over five years from seed, the plants have grown slowly and now are generous in producing cymes of forget-me-not-blue flowers on 10" high shrublets.

#### Peat Bed Treasures

Living as I do at the edge of the acid bogs and cool woodlands of the Canadian Shield, there is a wealth of choice small, woody plants a hop, skip and jump away. Wintergreen, *Gaultheria procumbens*, is one of the choicest and easiest. Never more than a few inches high, it has thick glossy,

aromatic leaves of dark green, and as the plant spreads around by underground stolons there are usually a few leaves of a brilliant red. The flowers are *Erica*-like, downfacing bells, relatively large and waxy white, and can appear any time during the growing season. The cranberry-sized, bright red fruit ripen slowly and often persist on the little plants side-by-side with the new crop of flowers. It calls for moist, leafy soil and either dappled shade or full sun.

Among other native Ericaceae that do well in the same conditions is dwarf lingonberry, *Vaccinium vitis-idaea* v. *minus*. Rarely taller than 4", this evergreen shrublet has small, pink-tinged, white flowers and, when it's happy, copious amounts of edible red fruit. For contrast, there is bog rosemary, *Andromeda polifolia*, with graceful, 1'-or-more-high stems of narrow, grayish leaves and soft pink flowers. Equally beautiful is its variety, 'Prostrata', with a more bountiful display of pink flowers on a low-lying shrublet with wider, greener leaves. A good background plant is *Chamaedaphne calyculata*, or leatherleaf, with slender, two- or three-foot stems that bear small white flowers. About the same height but sprawling, with larger leaves and umbel-like clusters of white flowers, is Labrador tea, *Ledum glandulosum*. A cross that is now considered intergeneric, *Ledodendron* 'Arctic Tern', has very similar flowers on a much tidier plant. (Be warned, though, that the word from academia is that both the cross and *Ledum* itself may soon be stripped of their names and lumped together with the rhododendrons.)

Blending in well with the native plants is an unnamed dwarf form of the deciduous Korean azalea, *Rhododendron mucronulatum*. Large, purple flowers appear very early on this diminutive plant that in five years

has grown only to 8" high and wide. For situations that are too sunny and moist for most of the genus there are the white and purplish-pink flowered forms of what I consider the subtlest beauty in the genus, the deciduous native rhodora, *Rhodora canadense*, which can reach as high as 3'. The closely related sheep laurel, *Kalmia angustifolia*, is about the same size and can flourish in the same conditions.

Evergreen species of great charm are the European Alpenrosen, *R. hirsutum* and *R. ferrugineum*, with tubular, pink flowers on neat plants that seldom grow over 2' high in my cold Zone 4 garden. The new Finnish cultivar, 'Elviira', is at long last a fully hardy hybrid of *R. forrestii* with the same large, glossy, crimson flowers on a very low plant—unlike the tender 'Carmen' and a score of others.

Peat beds can also provide dwarf willows with the plentiful moisture in which they like to wallow. The Himalayan species, *Salix hylematica*, can more or less pass as a sort of cranberry, with small, very narrow leaves

on creeping stems, until it runs up its flags of small, red catkins. The prostrate stems of *S. yezoalpina* are clothed in big, thick, olive green, reticulate leaves that curl up at the edges, not unlike a taco shell. By its second or third year it can be a yard wide, as can the more upright *S. lanata*, that displays its large, healthy, silvery leaves and yellowish catkins on a shrub than can top 2'.

As my peat beds mature I hope to introduce commercially propagated specimens of the choicest of the native plants—*Epigaea repens*, *Linnaea borealis*, and *Mitchella repens*, among others. In the woods a little north of here, these grow only in dappled shade in the coolest, mossiest, least disturbed corners, and it will be a few more years before I can bring parts of my current garden close to mimicking these conditions. They are all well worth the wait.

*Gerald Taaffe gardens in Ontario. A description of his garden may be found in this issue, p. 301.*



# THE SECOND HUNDRED:

## Reliable Plants for the Post-Beginner

(continued from last issue)

by Gwen Kelaidis

*Draba rigida*—I consider this the most essential of rock garden plants. In good sun it forms a high-crested dome, gradually increasing in diameter. The foliage is so tight that leaves are not apparent as individuals; even the rosettes are hard to discern. In the East it may be best grown in a trough; in areas of low humidity and high light, it does fine in the garden and adds that special cachet of bun plants. I have one twelve-year-old plant about 6" across. There are several forms in cultivation, grown by our dedicated nursery-persons from cuttings. A few years ago I raised a seed crop, thanks to the efforts and generosity of Czech collectors. I have at least a dozen of these seedlings in the garden. My intent is that they have enough genetic diversity to produce seed, unlike the commercial cultivars. Oh, by the way, the flowers are yellow and borne singly on wire-like, dark scapes during the spring rush.

*Dryopteris filix-mas*—Why not have a spot of dark green foliage in the shady rock garden throughout the year? Ferns make a wonderful backdrop for brighter green plants and colorful flowers, enliven the brown-season garden, and compel the interest of many gardeners all on their own. Among the many, many ferns available, this is one of the most reliable in northern climes. Here in zone 5, and a continental zone 5 at that, it has persisted where many others have fallen by the wayside. I grow cultivars 'Crispatissima' (8–15", here on the lower side) and 'Linearis Congesta' (6–15"; again dwarf in Colorado). The unselected species reaches a much greater height and is more appropriate for the woodland. There are dozens of dwarf ferns hardy in zone 5, many more in more southern climes. Open your garden to these plants and you'll add a whole new dimension.

*Epimedium grandiflorum*—Several epimediums are widely distributed by nurseries. Their beautiful, heart-shaped foliage is as important as their short season of flowers in midspring. My favorite is the petite, self-contained *E. grandiflorum*, perhaps 6–10" tall, with its widespread petals and pendulous flowers, in pink or white or soft lavender. There are several varieties available, and ever more are

being made available by Darrell Probst in Massachusetts. He and others are rapidly introducing new species, some of which also have great promise for the rock garden. Epimediums seem to like a loose, woody soil, although in some climates they are said to tolerate drought. Colorado is not one of these. Even in high shade with regular water, they are not lusty. But watch out if they like your conditions!

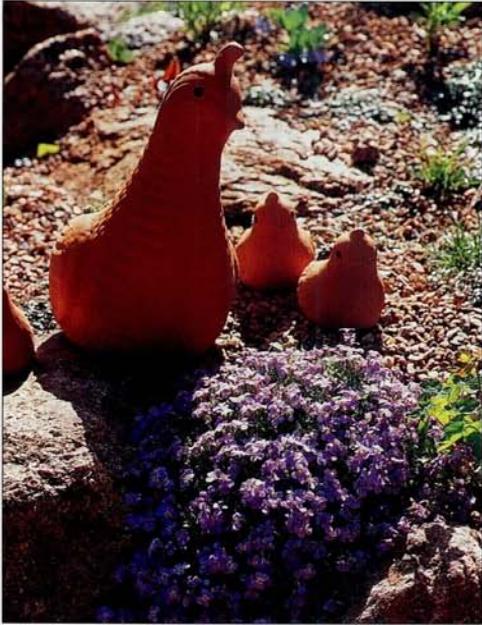
*Erigeron scopulinus*—Quaint, petite, adorable, this little daisy creates a thick mat in the rock garden, sprinkled with dainty white flower heads. Norman Singer has declared it "too invasive" for trough culture. In shade it sprawls and becomes loose; it was fairly recently described from the Mogollon Rim on the border of Arizona and New Mexico, where it withstands considerable heat and drought in crevices of the rock. Its dark green leaves create a solemn, prostrate mat quite similar in effect to that of *Globularia repens*. It is a perfect foil for sempervivums, silver saxifrages, or drabas—and many, many more rock garden plants. It's easy to propagate by division.

*Erigeron chrysopsidis* 'Grand Ridge'—Yellow composites may be difficult to key out in botanical reference books, but they are not necessarily difficult to recognize in the garden. Certainly this plant is unmistakable! The flowers are sunny yellow, the tufted rosettes of leaves a soft gray-green. Because this plant is apparently sterile, it blooms and blooms. It is a cheerful, happy addition to the garden. Combine it with anything blue, any dark foliage. It prefers full sun and average rock garden conditions. (Don't feel sad if it dies young! It seems to bloom itself to death but can be saved by taking preventive cuttings at the end of the first summer.)

*Erigeron* 'Goat Rocks'—A recent introduction from Rick Lupp of Mt. Tahoma Nursery, this plant has charming, softly fuzzy, notched leaves and lovely, creamy yellow ray flowers. It looks absolutely stunning with any dark foliage, such as the new *Delosperma* collected by Sean Hogan on Sani Pass (locally dubbed *Delosperma* sp. "Hogan"), or a dark-leaved sedum or sempervivum. *Erigeron* 'Canary Bird' is an even paler color, and equally charming. These have also been short-lived for me, but they are so beautiful in flower and so perfect in scale that it's worth it to replace them.

*Eriogonum caespitosum*—I have grown many eriogonums, and this one has been the best in mesic rock gardens. It occurs as a high alpine, as well as at lower, drier elevations. It forms a very dense cushion about 4" high. Flowers are borne in chaffy balls, yellow, fading to bronzes and reds. It is a delightful, cushion-form addition.

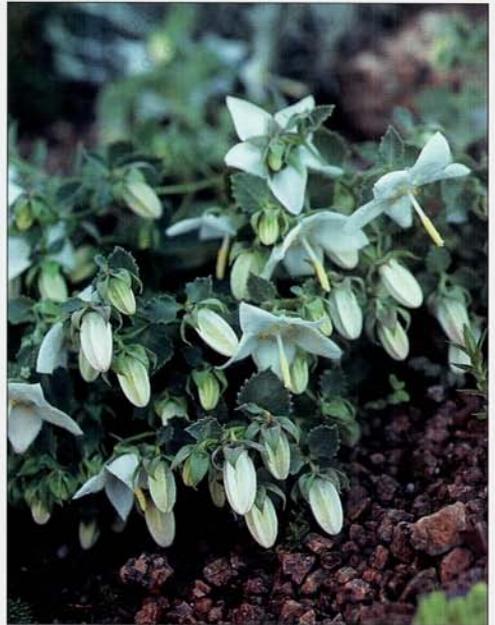
*Euonymus kewensis*—This prostrate vine has beautiful white etching across its tiny, dark green leaves. I grow it here in part shade, and use it as a background plant. It wanders about under the *Daphne caucasica*, near cyclamens and lewisias and *Hacquetia*. In a moister climate, this can be quite vigorous, but it is easily kept in check. It would be nice draped over a wall or a large boulder. In my garden it serves to make the shade a darker hue and adds to the intricacy of the garden.



*Aubrieta scardica*

Gwen Kelaidis

*Asperula sintenisii*



*Campanula trogerae*

Panayoti Kelaidis

Panayoti Kelaidis





*Draba rigida*

Gwen Kelaidis

*Erigeron chrysopsidis* var. *brevifolius* 'Grand Ridge'

Panayoti Kelaidis



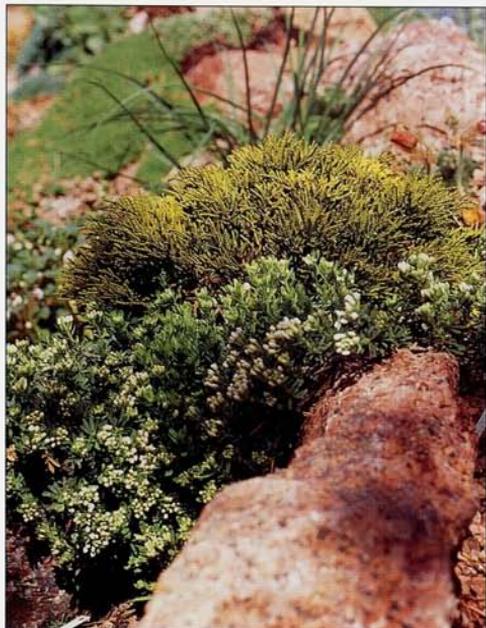


*Delosperma*, unknown species from Beaufort West, South Africa  
Panayoti Kelaidis

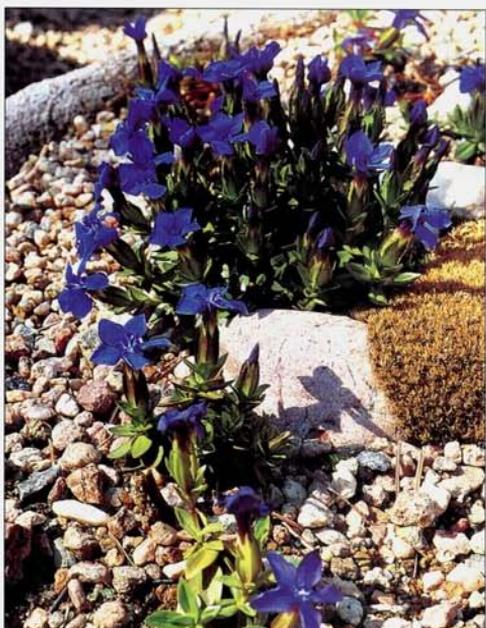


*Delosperma* sp. "Hogan"  
with *Erigeron* 'Goat Rocks'  
Panayoti Kelaidis

*Hebe* 'James Stirling' with *Daphne cneorum*  
'Pygmaea Alba'  
Gwen Kelaidis



*Gentiana verna*  
Paul Martin





*Helichrysum marginatum*

photos, Panayoti Kelaidis

*Jeffersonia dubia*



*Iris lactea*





*Penstemon rupicola* 'Diamond Lake'

*Penstemon* x 'Crystal'

photos, Panayoti Kelaidis





*Phlox* 'Lemhi Purple'

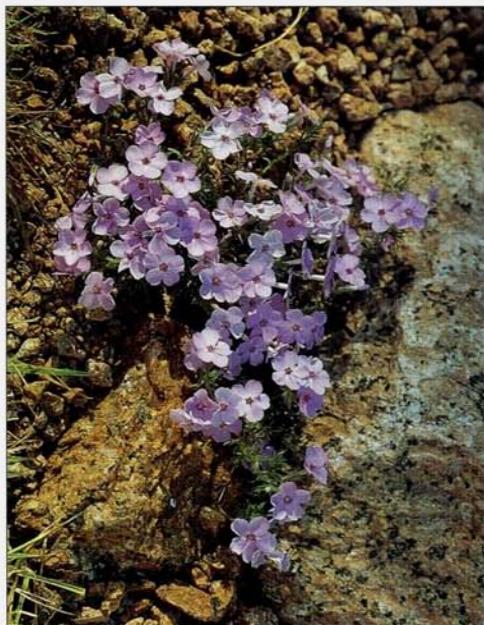
*Phlox* 'Liane'

photos, Panayoti Kelaidis



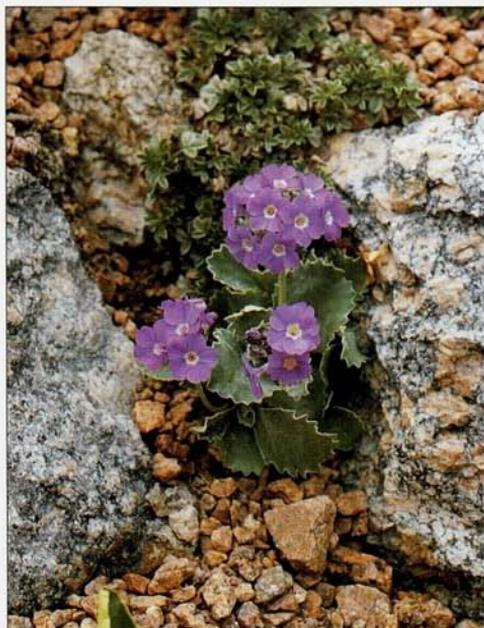


*Penstemon hallii*  
photos, Panayoti Kelaidis

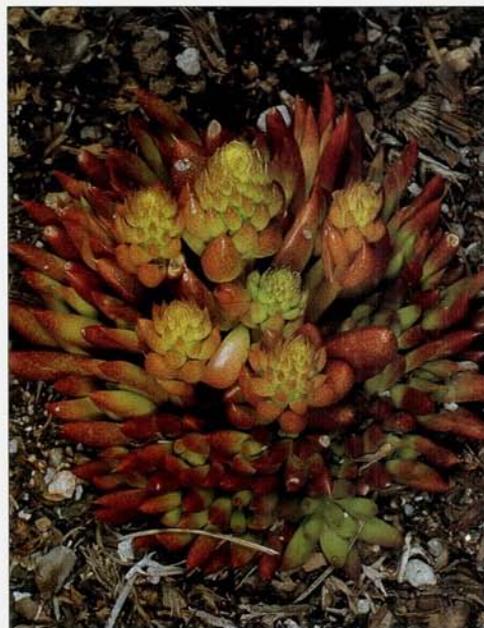


*Phlox 'Dolni Pena'*

*Primula marginata*



*Orostachys erubescens*



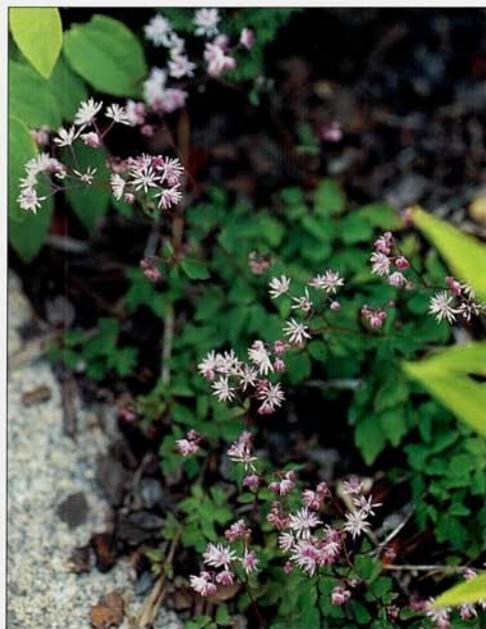


*Verbascum* 'Letitia'

photos, Panayoti Kelaidis

*Thalictrum kiusianum*

*Viola corsica*





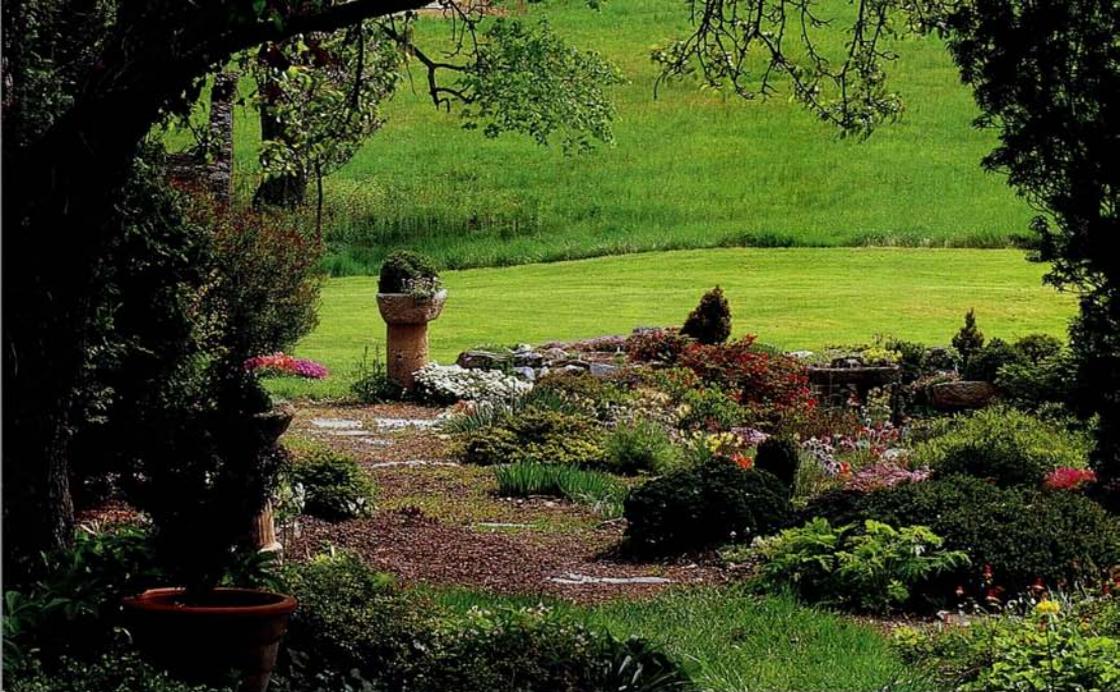
The garden of Roxie and Armen Gevjan, Newtown, Pennsylvania  
photos, Betty Mackey





The garden of Al and Nancy Deurbrouck, Pittsburgh, Pennsylvania  
photos, Al Deurbrouck





The garden of Anita Kistler, West Chester, Pennsylvania

photos, Jane Grushow

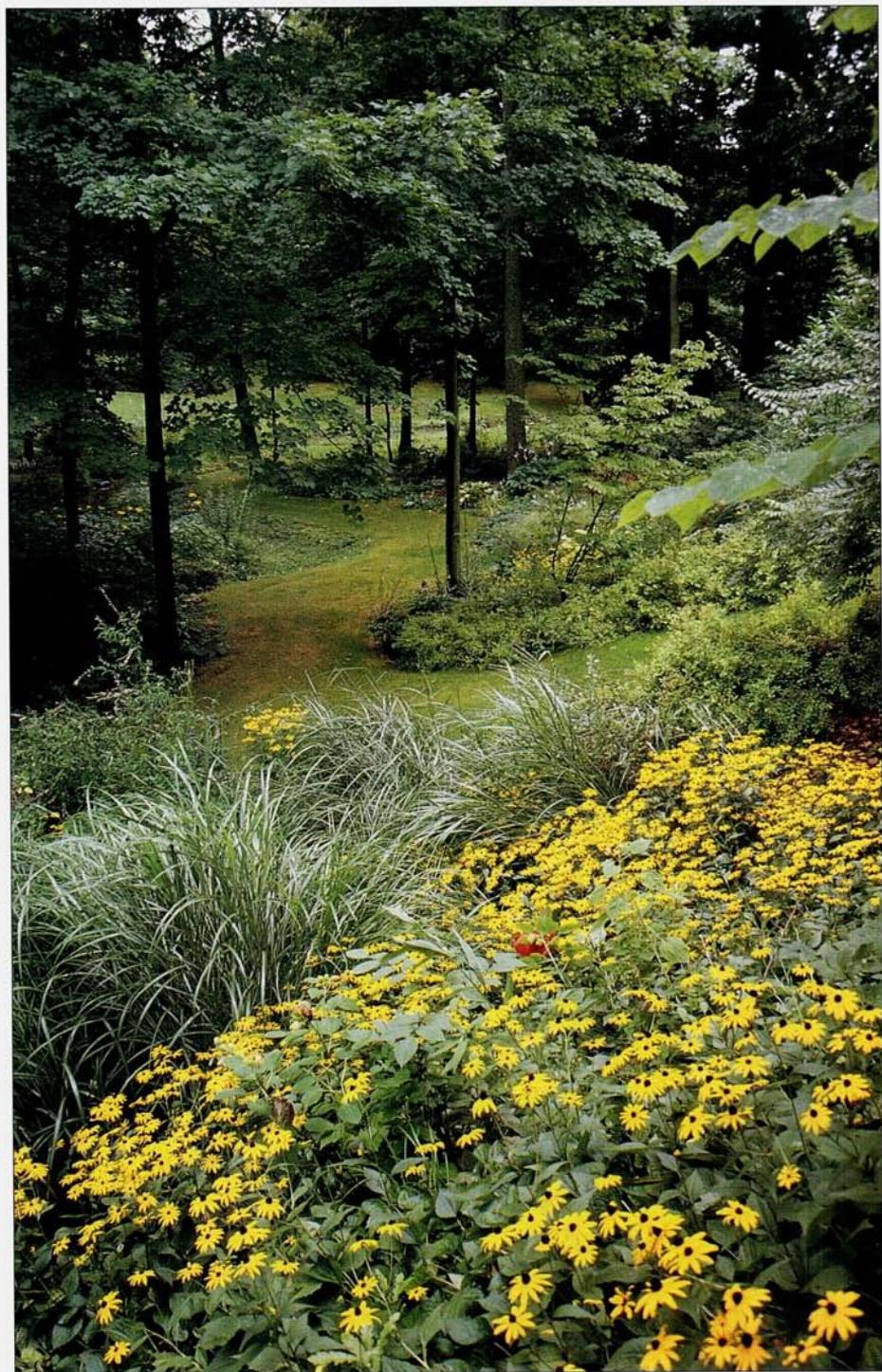




The garden of Ed Miller, Columbus, Ohio

photos, Ed Miller





The garden of Ed Miller, Columbus, Ohio

photo, Debra Knapke



The garden of Jim and Anne McClements

photos, Jim McClements



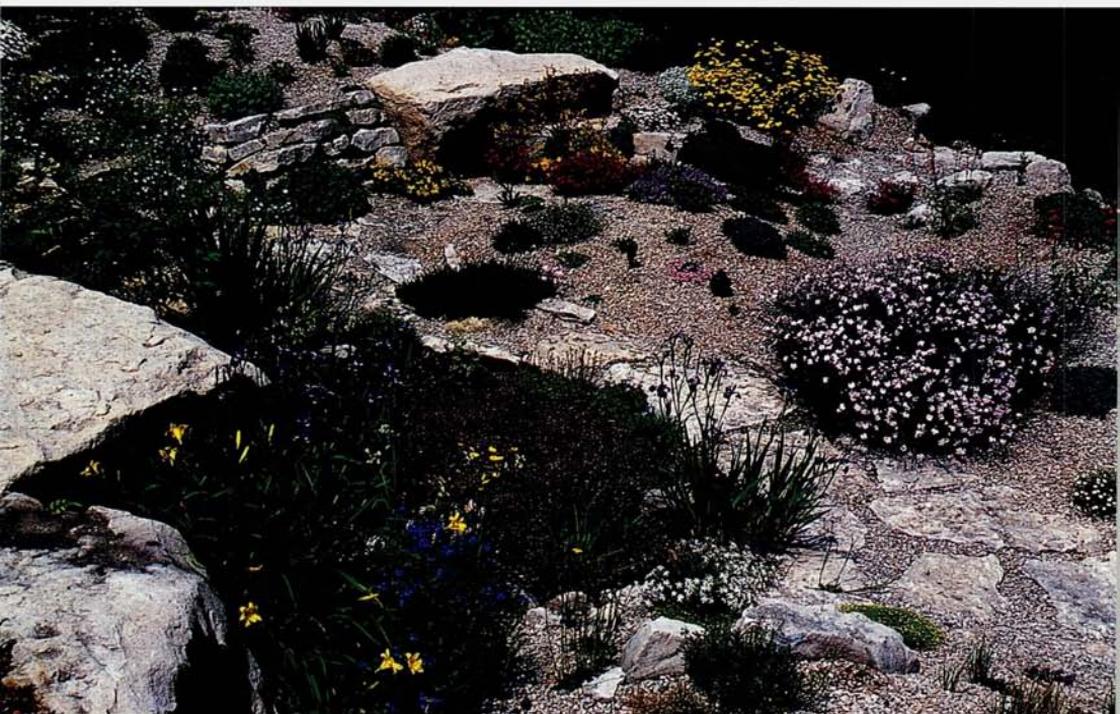


The garden of Jim and Anne McClements



The garden of Irene Klein, Powell, Ohio

photos, Debra Knapke



*Genista villarsii* (*G. pulchella*)—Unmatched for texture, the swirling, rough twigs of this little shrub whirl out from its center. At first this plant may be small, but give it space. Mine is about eight years old and over 16" across. It bears egg-yolk-yellow flowers in spring.

*Genista pilosa* 'Vancouver Gold'—This plant is durable and long-lived. I have grown it both in average rock garden conditions and completely without water in a xeric garden. The mat is prostrate and dark green, the flowers deep yellow. This is not a specimen plant, but rather it is one of those plants that help to give structure to the garden. It combines well with groundcovers, such as the silver *Tanacetum densum* var. *amani*, the winter-red, spring-green *Eriogonum umbellatum*, and apple-green *Delosperma nubigenum* (of hort.). It contrasts well with slightly taller plants, from *Aubrieta gracilis* to *Daphne cneorum* to the dwarf *Zauschneria* selections.

It is not hard to propagate from cuttings. It was introduced by the University of Vancouver, so check with them before you propagate this commercially. I have not found other selections to be as prostrate or as restrained.

*Gentiana acaulis*—This gentian is challenging in many gardens. But it must be grown! Why? Well, because it is so perfectly blue! Because it is a true Alpine, straight from the Alps, straight from the ethereal peaks of Europe and Asia! Because its funnel-form corolla is so cunningly pleated. Because, oh, just because it is so beautiful and so emblematic! There are many varieties and selections; grow whatever you can get your hands on. This species will grow well in a moist, peaty soil. We saw it once in an Oregon vegetable garden, in rows like potato plants, huge, foot-wide clumps with hundreds of flowers. This suggested to us that the species likes to be fed! After all, those alpine meadows have cows grazing in them in summer, and where there are cows there is cow manure. Full sun is adequate, and light shade also is suitable, especially in sunny climes. Propagation from seed is slow, since gentians tend to spend their first year or two growing roots, not tops. Division is a good means for obtaining more plants, providing you have plants to start with. Buy these gentians whenever you see them; you won't regret it. What are some good companion plants? Forget about companions—you won't notice anything else when this is in bloom. You'll be on your knees, photographing like crazy.

*Gentiana paradoxa*—This species has airy foliage along its 12" stems and bears open, gentian-blue (duh!) flowers in late, late summer. It extends the gentian season, and it is quite easy to grow.

*Gentiana verna*—Another must-have, this spring-blooming gentian is variable, has many varieties, and many close relatives. Some are tougher to grow than others, but, again, try whatever you can find. I had great success for a few years growing this in a trough with a peaty soil mix, but it has dwindled away to a mere remembrance of its former glory. I'm looking forward to having it in quantity again someday.

*Globularia repens*—There are several globularias running around under various names. I prefer the ones with the smaller, spatulate leaves. Dark green, the pros-

trate mat once again provides contrast with brighter plants, everything from sempervivums to *Pterocephalus perennis*. I find it elegant, reliable, and not too hard to please. Grow it in full sun or part shade. There is an even smaller-leaved globularia quite suitable to troughs. I find the small, powder-puff, blue-gray flowers of this genus unimpressive-but also unobtrusive.

*Gypsophila aretioides*—What good is a plant that reaches only 6" in diameter in ten years? It rarely blooms either, thus flunking the average gardener's test of a good garden plant. But the absolutely tight, almost imperceptible leaves form together into a hard polster, so cute, so nice to pat. This is one of the very best buns and grows for us in average rock garden conditions. It is propagated from cuttings. Does anyone know whether there is more than one clone in cultivation? Has anyone grown a batch from seed?

*Hacquetia epipactis*—Lovely in early spring, this member of the parsley family adds chartreuse to the rock garden palette. The flower heads have wide, lime-green bracts with the yellow flowers in the center. It's striking, it's early, it's easy in moist soils in part shade. I wouldn't be without it. It self-sowed in our Eudora Street garden and was easy to transplant.

*Hebe ochracea* 'James Stirling'—Somewhere between army green and the brassy gold of *Thuja* 'Rheingold', this evergreen shrublet adds much of the substance that any dwarf conifer might, without outgrowing its bounds. The foliage is whip-like, and the branches swirl around, forming a symmetrical whirlpool some 8" above the ground. Fabulous winter color effect alone makes this a highly desirable plant. Probably zone 5—it's been too warm to tell whether it will survive a normal winter here.

*Hebe cupressoides*—I haven't seen this plant in Denver since the big freeze of October 28, 1991, when the temperature plummeted 80°F in 36 hours, killing or severely damaging 10,000 Siberian elms in one night. Not too many media reporters noticed, but all the hebes were wiped out, too. This one makes a darling, evergreen dome, much like a little *Chamaecyparis*, fine-textured. It is a top-flight plant for garden railways, and for almost any rock garden. Zone 5, sometimes. I wish our local nurserymen would offer it again; it is a sweet memory.

*Hebe pinguifolia* var. *pagei*—Not all the hebes were wiped out—just all but this one. It survived in a cool spot, low in a valley of the rock garden, intertwined with *Dryas octopetala*. So far, it is rock-solid, through twelve years of variable weather. Fine-textured, it mixes well with the dryas, or other, more husky-leaved plants.

*Helianthemum oelandicum*—Quite different in effect than the more commonly grown *H. nummularium*, this forms a small, bright green mat upon which are borne small yellow flowers. It is restrained and reliable—I have grown it for over 20 years. Where happy, it will self-sow a bit. Easy from seed.

*Helichrysum marginatum*—Many the lovely helichrysum, but not all can be grown in the open garden. This one is relatively easy, has foliage of great inter-

est, and flowers on scapes to 8". Average garden conditions will please it.

*Helichrysum sibthorpii* (formerly *H. virgineum*)—A plant of moderate size, it forms clumps 10–12" wide of wonderful, gray foliage. In May flower buds appear, lovely, pearly pink, arising from deep in the foliage. The buds, in my opinion, are superior to the chaffy everlasting flowers. In any case, this is a worthy plant for average rock garden conditions. Full sun; propagation from seed.

*Helleborus*—Hellebores offer long-held, dark green, beautiful foliage, as well as large flowers in early spring. *Helleborus orientalis* is quite easy in the woodland garden, while *Helleborus niger*, where it can be grown successfully, offers charming flowers in late fall to earliest spring.

*Heuchera pulchella*—Almost every heuchera has attractive leaves that make it a nice addition to the rock garden, preferably on the shady side of a rock. This one has lovely flowers, also, a nice pink. The leaves are tiny. I'm waiting for the hybrid *Heuchera pulchella* x *hallii* to become available. The flowers are a rich apricot pink, better than either parent, as far as I'm concerned. I saw it at the Olivers near Pittsburgh, and I'm hoping they will soon offer it through their nursery, The Primrose Path.

*Heuchera*, purple-leaved varieties—There are ever so many new cultivars of heuchera available. Dan Himes has introduced several dozen—or at least it seems so. I haven't tried them all, but a few, while lovely, suffer here from rust in the fall and winter, which obviously detracts from their beauty. Charles Oliver, mentioned above, is also releasing new cultivars, which have lineage from different species. His breeding program has more emphasis on large flowers and less on ruffled foliage. Whichever your source, try at least a few of these entrancing, novel plants.

*Iris lactea*—Of the many species irises possible to grow under rock garden conditions, this is a very reliable one. It forms an ever-larger clump of narrow, spear-like foliage. The flower color varies a great deal, but most plants carry some version of pale blue-and-white flowers. This species will grow under very dry conditions, or in average, mesic rock gardens. It prefers full sun.

*Jeffersonia dubia* and *J. diphylla*—These woodland plants have but a brief time of glory, so that their charm lies in that ephemeral nature. The flowers are large, to 2" across, white or pale lavender. The foliage is very interesting, too. It can go dormant in several weeks, or the leaves may stay green until frost in the autumn. In a few gardens it can become a nuisance, reproducing itself with abandon. Would that I had such a problem! You will find many fellow rock gardeners to give these to, should you find yourself in this situation.

*Lewisia cotyledon* 'Pinkie', hybrids, and improved strains—While *Lewisia tweedyi* grows well for only the chosen few, there is no need to restrict yourself to just *L. cotyledon*. There are several interesting hybrids and many seed strains that are easy to maintain in cultivation, so swing out! All lewisias are easy from seed,

which is widely available, and some daring gardeners propagate from cuttings.

*Nandina* 'Wood's Dwarf'—In the South, nandinas are well-known and widely grown. Farther north these seem to us exotic, suggesting bamboo to some observers. I have found this cultivar to be the hardiest here. The fall foliage color can be stunning. The leaves sometimes burn during winter, requiring careful pruning in spring.

*Nepeta phyllocllamys*—Tiny mounds of gray leaves make it valuable in the garden; see further description in Summer 1999 issue.

*Onosma alboroseum*; *O. sericeum*—Onosmas have rough, gray foliage. *O. alboroseum* has long, pretty tubes, white, turning pink at the tips as they age; *O. sericeum* has the most beautiful, silky-silvery foliage. These are moderately large plants, forming mats to 16" across. They won't tolerate too much wet.

*Origanum scabrum*; *Origanum acutidens*; *Origanum amanum*—The origanums have been well described by Panayoti Kelaidis (Vol. 52[1], p. 3–8. Nevertheless they deserve mention here, as they are certainly grand additions to the rock garden. These three are my favorites. They are invaluable for their late-summer flowering. All combine well with the late-flowering gentians. Be careful not to smother any of your petite jewels by placing them too close to these plants, which splay out their flower-laden branches with some abandon.

*Papaver alboroseum*—Alaska, Alaska! This awesome state is the motherland of this lovely pink-and-white-flowered poppy. Who could resist this crinkled beauty? Like most poppies, it is short-lived. As a compensation, it produces abundant seed.

*Penstemon fruticosus* 'Crystal White', 'Holly', 'Gina' and other named selections—These lovely selections expand the range of penstemons. Most are easy enough in well-drained soil, with summer sun. They can wind- or sunburn in winter, so careful placement or winter cover with pine boughs may be helpful. *Penstemon rupicola* is more difficult, but worth trying again and again for its glaucous, blue-gray foliage and large, bright pink flowers. A trough may offer the best chance for long-term survival.

*Penstemon hallii*—Of the non-shrubby penstemons, this has been the most successful in our gardens. The basal leaves are dark green and strap-like, and the flowers are bright blue-purple. Bloom is excellent the second year from seed. Mostly this blooms well for two to four years before needing renewal. Propagation is easy from seed.

*Penstemon procerus* types, including *P. formosus* var. *pulchellus*, are mat-forming Northwesterners, with small flowers on short stems, sometimes as short as 4". There are several cultivars available; all like a bit of shade or protection and will tolerate moist soils. I grow them on the north side of a berm, closer to the bottom than the top; placement will obviously need to be adapted to your climate.

*Phlox* 'McDaniels Cushion', 'Millstream Jupiter', 'Coral Eyes', 'Liane', 'Dolni Pena', and other selections—Just as easy to grow as the common *Phlox subulata*, these selections, as well as many others, offer both more intense, more unusual colors, as well as foliage that is often more compact or more attractive. In winter-sunny climates the foliage may burn or some branches be killed back. They don't want to be too dry. If you have any room for large mats in your rock garden, you simply must try several different cultivars. The full, voluptuous display of flowers in May is worthy recompense. These are easily propagated by cuttings, especially immediately after flowering and in early fall, when roots are being formed by stems spreading along the mat. Every chapter members' sale should offer half a dozen types.

*Primula marginata*, *P. auricula*, *P. veris* and selections, *Primula sieboldii* selections, *Primula juliana* hybrids 'Wanda', 'Gina', etc.—Primulas are easy to grow from seed or division, and it is easy to fall in love with them. Almost every rock gardener will go through a primula phase, during which every species is of interest. I resisted infection for years, by virtue of not having any shade. But now I am hooked, just like many before me. *Primula auricula*, with beautiful, limey, white-edged leaves is a favorite here. It can be had with creamy yellow flowers or with a delightful assortment of muddy purples, evocative of Victorian times. It is easy enough to grow but may require frequent replacement. *Primula veris* is also nice, with many color forms available. It will grow in woodland gardens, without benefit of rocks or slopes. If you try *Primula marginata*, however, provide it with a crevice. It has never done as well for me as it does in the Northwest, but I am satisfied just to have its fleeting companionship. My puny little plants remind me of the glory of those I have seen in other gardens.

*Prunus pumila* var. *depressus*; *P. prostratus*; *P. besseyi* 'Pawnee Buttes'—There are a few good cherries for the rock garden. *Prunus pumila* var. *depressus* is truly prostrate, with nice white flowers. It adds texture and structure to the larger rock garden, growing slowly to perhaps 6' across. *Prunus prostratus*, from seed collected by Josef Halda, has much prettier, pink flowers; however, it has already reached 3' in height in three years and is now on my removal list. *Prunus besseyi* is the native western sand cherry, and 'Pawnee' is a dwarf selection. It is an upright shrub, reaching a foot or two. It has bright fall foliage.

*Ptercephalus parnassii* (*perennis*), *P. depressus*—Gray-green, pinnately dissected leaves almost forming rosettes, wiry stems plastering themselves to the rocks, creeping slowly to mats perhaps 16" long. (They tend not to form round mats, which in itself is interesting.) The lavender flower heads are on short stems, with attractive bracts, and much resemble the flowers of its cousin, *Scabiosa*.

Pulsatillas, fimbriated—The common European pulsatilla is very easy in most rock gardens, perhaps too easy, often self-sowing freely and becoming a problem. The fimbriated selections and seed strains are fringed, like fringed tulips, usually double, and of interest to the non-purist who tolerates hybrid beauties (oddities?). They don't produce many seeds, and so eliminate their own over-

population problem.

*Rosularia muratdaghensis*; *Orostachys erubescens*—These are succulents, lovely in their nearly translucent, ruby-hued and coppery tones. They are closely related to the sempervivums, but less obviously rosulate, forming small mats. The flower stalks are a sight to behold, most unusual towers rising above the foliage in late summer. They seem to do best in a bit of shade here; in wetter climates they will undoubtedly require excellent drainage. We lose them every few years but have usually planted them elsewhere in the garden by the time they meet their demise. They are unique and worth replanting.

*Saxifraga longifolia*, *S. crustata*, *S. 'Whitehall'*, *S. 'Millstream'*—The encrusted saxifrages are all relatively easy, especially when grown on a slope or in a wall, preferably where they will enjoy cool afternoons (a north-facing slope takes care of this, even in Denver). Since the plants set abundant seed, seed is the least expensive, most obvious choice for obtaining them. However, they do hybridize freely in the garden, so you may want to buy cultivars, or beg a rosette or two from friends. These are a delight to collect and lovely throughout the year. Some people even like the flowers, which arise on stems 6–36" long! The above-mentioned varieties are especially nice.

*Sedum pachyclados*—There are, of course, many good sedums. This is a bit different, with sculpted rosettes of leaves. It doesn't spread wildly, like some of its cousins, but will drape nicely over rocks or down a broad crevice. Flowers are white and borne in midsummer.

*Sedum populifolium*—The poor man's bonsai—or is it the poor gardener's bonsai?—this sweet plant has leaves much like those of a poplar. The almost woody stems are held upright, giving the effect of a little shrub, or if pruned just so, a dwarf tree. It's not nearly so difficult to maintain as true bonsai, either. Easily propagated from cuttings, so you can share it with all your chapter members.

*Sedum tartarinovii*—Another species that deserves to be more widely grown, this has great architectural interest in the garden. It forms a domed shrublet to about 10", decked in late summer with a froth of white flowers. Cut back after flowering to about 6".

*Stachys nivea*—This, and the following two species were described in my article on mints (Vol. 57[3] pp. 163–8). This one I grow for the unusual, tongue-shaped leaves.

*Teucrium cossonii*—Unlike the common germander, this plant has very gray foliage. It does well in full sun and has an aura of the Mediterranean. The flowers are a nice lavender. It forms a mat about 14" across. In harsh winters we sometimes lose it, but often it reappears, presumably from self-sown seedling.

*Teucrium pyrenaicum*—Nice, rounded foliage in a mat with a tempered growth rate. Remember how they say to grow plants that have about the same level of

aggression together, not to mix the thugs with the delicate and withdrawing? This, like several others in this list, is husky enough to live many years, without being so vigorous that it overruns everything in the small rock garden. Grow it in full sun.

*Thalictrum coreanum*; *T. kiusianum*—Delicate beauties for the woodland garden, the finely textured, much divided foliage is as light as that of a maiden-hair fern. The flowers are small and ephemeral. Lovely with the many heavier-textured woodlanders, from hostas to primulas to bergenias.

*Valeriana montana* 'Rotundifolia'—Impressively grown by members of the Calgary chapter, this makes a small, bright green mat of neat, rounded leaves. The flowers are small but borne in tidy heads. Some are even pale pink, though most are white.

*Verbascum* 'Letitia'—Verbascums offer many lovely foliage forms, from the 8'-tall *V. bombylifera* to the lime-green and yellow, ruffled rosettes of *V. undulatum*. 'Letitia' is a hybrid, dwarf, gray-leaved, the inflorescences limited to 10–15". It has Mediterranean heritage and will need sun and good drainage. It is sterile, so no worry about self-sowing—and it will need occasional replacement.

*Veronica liwanensis*—A prostrate, mid-green, mat-former, this has quarter-inch leaves and stunning blue flowers. It's not shy, but not overly aggressive, either. It grows in Denver both in baking, dry conditions and in a mesic garden in the shade of crabapple trees. It blooms best and maintains a solid cover if it receives some water and full sun.

*Veronica pectinata*—Oh, maybe it is too easy for some of you, too plebian, but I love this fuzzy-leaved little creeper. The leaves are held at various angles to the stem, giving the whole mat texture. It looks lovely with dew or frost upon it. Drape it over a rock, trim back as necessary. There are at least two clones widely available in the nursery trade, one with nice blue flowers, the other with a mild magenta pink.

*Viola bertolonii*, *V. corsica*—These two species of fall-winter-spring-blooming viola draw the flowering season out a little bit longer. Here, where our winters are open (really winter comes and goes, with many warm periods throughout the cold months) these are indispensable. The flowers are much like pansies, but elongated, and some say the upper petals give the flower a Mickey-Mouse look. I like these best when contrasted with a gray foliage, like that of *Hieracium lanatum* or *Tanacetum densum* var. *amani*. They aren't too fussy about where they grow. They will hybridize with Johnny-jump-ups, given a chance, so if they self-sow be sure to rogue the hybrids before they self-sow again.

*Vitaliana primuliflora* ssp. *cinerea*—Forming over time a soft cushion about 12" across, this plant has finely textured foliage enhanced by varying degrees of white striping on the leaves. It is attractive at all times of the year. The flowers are yellow and, unfortunately, come at the same time as the many drabas, get-

ting lost in that world of cheerful yellow. These plants do not like to dry out, but prefer not to be too damp, either. They are durable and long-lived when happy; I have had the same plants twelve years.

In writing these descriptions of the familiar plants of my rock garden, I have come to appreciate even more the abundant and excellent choices that are available to us today in rock gardening. While local sources are not available everywhere, it is much easier to obtain plants and seed of a wide variety of plants than it was even 20 years ago. A new rock gardener would have little difficulty selecting 200 plants appropriate to a new garden from this and Geoffrey Charlesworth's article.

This summer I have had the privilege of planting such a new rock garden. The conditions included a variety of exposures, an altitude of about 6,000', and soil that is a mixture of clay loam, pea gravel, rotted wood chips, and some sand. This garden is watered according to the needs of the trees and shrubs planted nearby, i.e., it gets plenty of water. The specifications called for small, choice plants of a non-invasive nature, assembled to make a show in spring and to be as attractive as possible throughout the year. It was not difficult to obtain 270 varieties and species (not including bulbs) just by shopping the well-known mail order sources and our several local nurseries.

What a rich life we lead! It is awesome to be able to have in our gardens and thus in our lives such a sampling of the diversity of plants that carpet our planet. I often think how cunning their architecture is, how much more magical and complex the plants are than any sculpture, any work of art. Yet our gardens are not only a collection of these living treasures but are in and of themselves works of art. They create an atmosphere and a mood, sometimes of peace (as described in the McClements garden [p. 295-7]), sometimes of the austerity of the tundra, sometimes of voluptuous foliage and burgeoning flowers, still again sometimes a sense of the oasis. We are not only collectors but creators of a living, changing, ever evolving work, a small community of plants in a world ever filling with concrete and asphalt, human dwellings, shopping malls, plowed fields, and sanitized roadsides.

Our task is not just to bring our gardens into being, because we are compelled by an inner need to have those green beings in our lives, because the garden brings interest and a sense of oneness with Nature to our own existence. Ours is also the task of sharing with others our perception of plants. The human race drifts farther and farther from the reality of Nature. (A 20-year-old woman learned this summer in my garden that plums do not grow on vines, that cabbage is green, not white! She had never before eaten a vegetable that didn't come from a store.) How can we share our knowledge and our passion?

I don't have an answer, but perhaps we can begin by adopting a garden protégé or two. Or we can open chapter plant sales to the public, or volunteer to give talks at local garden clubs or nurseries, etc., etc. And teach the children in our lives to love plants by giving them a chance to garden.

*Gwen Kelaidisgardens with her husband, Panayoti, and her children near Denver, Colorado. Her favorite plants are short and compact, although she grows a wide selection of perennials, annuals, and vegetables.*

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# Rock Gardens of North America: A Series

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*Jeanette Axton's Siskiyou Paradise, Etna, California*

This is Paradise!...but we all know what that would be, spelled differently!—WORK! Jeanette Axton's extensive gardens that meander about her hilltop home, surrounded below by fields of lowing cattle, are fertilized with sweat and a great deal of sparkling energy.

A beautiful drive off Highway 5 to Scotts Valley, on the California-Oregon border, punctuated by mountain-meadow cow towns, leads to a mecca for rock gardeners. At 75, Jeanette is a bubbly, energetic widow, young in step, agile, and lithe. Her deceased husband was a well-loved and –respected *bona fide* cowboy and cowman. While her husband was out raising cattle and horses, roping and team roping with their son at rodeos, Jeanette began her relationship with plants. She has created gardens where “buns”, given time and freedom, have benefited and gone on to develop into amoeba-shaped patches. As her census-taker (an Orthodox priest clad in long black robes) attempts to get her answer, “Are you black, Latino, or Asian?”, Jeanette is kneeling in a form of prayer of her own. On her knees, she is busily digging up bits of lovely thyme, lusciously covered with deep pink blooms, to give to a delighted visitor.

Several years ago, as the flowering plants took hold in the soil and scree, the gardens began to extend farther from the house, and the lawn disappeared. However, the garden didn't start out looking as it does today. The first plants were snapdragons! How many of us would admit that at some time in the distant past, we, too, started with snapdragons? Fortunately, someone came along who just happened to be a member of the Siskiyou Chapter of the NARGS. Before long, Jeanette began to eliminate snapdragons and started to look at her hilltop as it was truly intended to be—a rock garden. Natural outcroppings of stone were all around the house, so large that they had to be taken into account no matter what type of flowers were to be grown. Rather than fight it, she began to relish those lovely rocks. They do indeed add a special touch to the overall beauty of the garden. After years of planting and transplanting, it is difficult to remember whose idea it was to plant this shrub or that little plant. Regardless, the results seem to have an oriental flair. The placement of lovely varieties of deciduous shrubs and dwarf and semi-dwarf conifers adds relief to the garden, which then offers a transition from the ground-hugging plants to the majestic mountains beyond. The pruning of these small trees and shrubs brings enough of a bonsai statement that they complement the plants even further. Even the indigenous manzanita is trimmed to show the lovely red color of the smooth bark and to expose its natural characteristic toward a Japanese silhouette.

The house and gardens are in a superb setting, but awareness of that soon fades into the background as one begins to look down at the gray, granite pebbles, lovely rock outcrops, and the many varieties of blooming rock plants. Texture and color abound. The defining edges of one raised bed curve into the next, much as in Japanese gardens. Therefore, the whole, overall view can cover several sections of the garden, one beyond the other. The planning and gradual extension of the gardens has proved quite successful. Nothing looks out of place. The eye is carried from a group of tiny flowers to the variety of leaf forms to the well-placed, patina-ed rock, to the shrubs and conifers, and on to larger trees on the periphery, then finally to the dark green mountains beyond. These alpines seem comfortable and happy here. They grow well. They look like they belong where they ultimately do belong...near the mountains. Their partner? Well, she is no longer on her knees and has rapidly disappeared to another section of the gardens, while several wannabe acolytes, plastic bags flapping, try to keep up with this delightful, exuberant plant artist as she dispenses bits of this plant and that into their eager hands.

—Janet Crawford

### *Ed Miller's Garden, Columbus, Ohio*

Just a few steps onto the wooden bridge at the foot of the drive takes you from attractive but ordinary suburban landscapes into the anything-but-ordinary woodland garden of Ed Miller. The bridge crosses Slate Run, which has carved a small, shallow valley through the 1.25-acre site. When Ed's house was being built in 1988, he made sure that the builders did not do anything to alter the contours of the land.

He began working on the garden soon after the house was completed. His main aims were to emphasize the contours of the land, to maintain and increase the wildflowers originally on the site, and to incorporate as many plants native to Ohio as possible.

To the superstructure of the original woods of white ash (*Fraxinus americana*), white oak (*Quercus alba*), and American beech (*Fagus grandiflora*), he added hemlock (*Tsuga canadensis*) and bald cypress (*Taxodium distichum*). In the fall, the *Taxodium* becomes a giant, golden cone casting a warm glow through the woods.

The original dogwood (*Cornus florida*) in the understory has been supplemented with various low trees and shrubs that Ed describes as being underutilized in the home landscape, among them *Cotinus*, variegated *Sambucus*, *Styrax*, *Clethra*, *Daphne*, *Fothergilla*, and *Kolkwitzia*. A spectacular *Hydrangea quercifolia* rises to almost 12' and spans the side of the house. Various sumacs (*Rhus*) provide soft, ferny backdrops for other plants during spring and summer and flaming color in fall. Two of Ed's favorite shrubs are the bottlebrush buckeye (*Aesculus parviflora*) and the red buckeye (*A. pavia*). This is fitting for two reasons: Ohio is known as the Buckeye State, and Ed is a faithful fan of the Ohio State University football team known as the Buckeyes.

Ed put in curved paths, some of grass and others of shredded bark, to emphasize the contours of the low hillside and lead you to and into various planting areas. One path leads to a peaceful nook where you can rest in a ham-

mock and enjoy the serenity of the garden. Birds abound and will quite thoughtfully sing you to sleep if you will let them.

With over 300 different species of perennials from many different genera, the garden presents something of interest at almost any time of the year. Bloom begins in spring when the porcelain-like beauty of the native bloodroot (*Sanguinaria canadensis*) creates drifts of white on the woodland floor, and continues through summer with the butterfly favorite Joe-pye weed (*Eupatorium fistulosum*), fall with various asters, and on through winter with *Helleborus*.

*Trillium grandiflorum* and *T. erectum*, Dutchman's breeches and squirrel corn (*Dicentra cucullaria* and *D. canadensis*), Solomon's seal (*Polygonatum*), false Solomon's seal (*Smilacina*), mayapple (*Podophyllum peltatum*), and wild Phlox are other wildflowers native to the site. Rattlesnake master (*Eryngium yuccifolium*), purple coneflower (*Echinacea purpurea*), and *Iris cristata* were added.

There are approximately 350 hosta cultivars, ranging in size from 'Blue Angel' (approximately 7' in diameter), to 'Tiny Tears' (only 6" across). Many of the hostas are arranged in theme plantings: the romantic group, including, for example, 'Heart Throb' and 'Sweetie'; and the women co-workers group, including 'Elizabeth' and 'Little Ann'.

The variegated white-and-green of *Fallopia japonica* provides a stunning patch of light in the woods. There is a swale with *Ligularia*, *Lobelia*, *Mysotis*, and *Brunnera* near the stream. Mass plantings of black-eyed Susan (*Rudbeckia hirta*) form marvelous golden patches that weave through various grasses planted on a hillside, providing both beauty and erosion control. *Tiarella* creates tapestry-like carpets between ferns and heucheras. *Corydalis* and *Aquilegia* roam about with free abandon. *Hypericum* lines the drive, and when in bloom it functions much like runway lights, leading you back to the house.

The garden abounds with many more interesting and unusual plants, too many to mention here. Ed welcomes visitors and will point out and name all the plants, if you arrange to stop by. But don't expect to find him home when his favorite plant societies—NARGS, Perennial Plant Association, and the American Hosta Society—are having their meetings.

Ed is an early riser, and you will find him in the garden most mornings in all but extreme weather. He maintains the garden by himself, but gardening is not his sole passion. When he can't work in the yard, you will likely find him in his workshop, where he turns pieces of wood into beautiful bowls and trays.

—Barbara Abler

### *Jim and Anne McClements: A Garden of the Woodland*

*Dover, Delaware*

It is wonderful when a garden you love to visit belongs to good friends. Any visit promises to become a memorable event. Your friends welcome you. Their garden relaxes you after it entices you in with rare and beautiful plants. I feel a wonderful sense of anticipation when getting ready for our annual spring trip, two hours south into Delaware, to visit Jim and Anne McClements. There I know I will see many trilliums and arisaemas, and a host of other woodland plants.

Jim is the one of this pair with the major plant collecting obsession, while Anne makes suggestions about design and style—i.e., she says “That is too big; let’s move it.” They work together to rake the fallen leaves, shred them, and put them back on the beds, as well as on maintenance—weeding, pruning, etc.—that all gardens need.

The McClements garden is different in style from most. Mature white oaks (*Quercus alba*), red oaks (*Q. rubra*), American beeches (*Fagus grandifolia*), and tulip trees (*Liriodendron tulipifera*) rise high, leaving the slightly sloping woodland floor dappled with sunlight and covered with beautiful and interesting plants. The garden does not intrude into the woodland: it is part of the woodland. Even the house, with its gray siding, harmonizes completely with the moods of the woods. I like this one-acre garden almost as much for its ambiance as for the extraordinary plants that thrive there. The McClements garden doesn’t make you feel tired looking at it, like some intensively gardened sites. The wide, curving paths lead visitors into a wonderland. In this garden, I am in a state of relaxed excitement!

Arriving at the curb, visitors first stroll up the macadam driveway, planted on either side with *Vinca minor*. This pedestrian introduction leaves first-time visitors unprepared for what is to come. At the top of the drive is a wall of *Kalmia latifolia* and evergreen rhododendrons. Walking through them on one of several paths, you enter the oldest section of the garden. This area, about 15 years old, is full of mature clusters of great plants like *Trillium catesbaei*, *T. grandiflorum* ‘Roseum’, *Arisaema sikokianum*, *A. consanguineum*, *Cypripedium calceolus*, and *Podophyllum pleianthum*. Many, many other representatives of these genera thrive here, far too many to list here. Many plants that are quite nice as individual specimens become stunning in large plantings. For example, the spring-blooming *Montia parvifolia* is very beautiful *en masse*.

Evergreen rhododendrons are effectively placed to screen one part of the garden from another. They divide the garden into “rooms” and allow for surprises and a sense of anticipation as one strolls through these woods. Visitors moving slowly discover many plants deserving attention. But it is hard to slow down knowing what great things await. You may see *Arisaema sazense*, a mesmerizing brownish aroid, or *Cypripedium kentuckiense*, plants you may have heard of but never seen. There are even more beauties nearby. Who doesn’t admire *Primula sieboldii* and *P. kisoana*, as well as beautiful double forms of *Anemone thalictroides*?

Not only flowers bring out the “Oohs” and “Wows.” There is *Hepatica americana* with fascinating, reddish patterns on the leaves. Ferns such as *Arachnoides standishii* abound. *Podophyllum difforme* has incredible, velvety-appearing leaves and unbelievable, blotched, brown patterns on a light green background. Stunningly camouflaged *Trillium decumbens* and *T. underwoodii* lurk in the leaf litter.

Many plants can be found in the mounded “sand-peat sandwiches” that Jim wrote about in the *Rock Garden Quarterly* (Vol. 57:2). This soil arrangement obviously provides a diet pleasing to woodland plants from all over the world. Moving around to the front of the house, one discovers more and more of these beds being built and planted. When Jim first described them to us, we kidded him about burying large animals (like dinosaurs and elephants) in the garden. There are now about 20 sand-peat beds. Older ones are quite full of plant trea-

sure. Others, just completed, await the arrival of new plants from nurseries and friends all over the world.

Throughout the spring this wooded garden brings forth new patterns and arrangements. As one flower withers, many more replace it. *Trillium nivale*, *T. rivale*, and *T. pusillum* fade and give way to *T. simile*, *T. rugelii*, and *T. recurvatum* forma 'Shayi.'

Another fascinating area is a small bog in a raised bed near the swimming pool. Jim built this little bog (maybe 5' across) following directions provided by Roberta Case in the *Bulletin of the American Rock Garden Society* (Vol. 50:1). The lush growth of sphagnum moss holds droseras, sarracenias, and a good-size flock of the lovely little pink orchid, *Pogonia ophioglossoides*.

Even though the greatest show is in the spring, summer still finds many fine plants showing off under the trees. *Spigelia marilandica*'s red flowers attract hummingbirds. The delicate pink flower puffs of *Thalictrum actaeifolium* draw insect pollinators. Other summer eye-catching favorites are *Lilium martagon* (both orange and white), *Anemonopsis macrophylla* (an array of nodding, pink flowers floating over a pleasant, green, leafy carpet) and *Tricyrtis 'Togen'* (white petals with a hint of blue). Over 50 different fern species and a generous helping of hostas provide summer interest with their varied foliage patterns.

We often joke about Jim and Anne's home being in the Banana Belt, as they are a full zone warmer than we are (zone 7 vs. 6). Many plants that flourish there have died in their first winter in my garden. This year we found out the McClements actually do have a banana tree in front of their house! It is *Musa basjoo*, which has lived through several winters. Now they will never hear the end of it!

To my mind the only thing that could improve the garden would be some large boulders (and moving it closer to where I live). But central Delaware is woefully lacking in rocks larger than a potato. The advances of the Pleistocene glaciers were stopped about 150 miles north in Pennsylvania, so there are no glacial erratic boulders around to enliven things; and the coastal plain in central Delaware just doesn't have much vertical relief. No matter; plants that would look great with rocks are great even without them, and seeing them is a real treat.

Our visits always seem astonishingly brief. At the end, there seem to be hundreds of plants I haven't even noticed yet, or plants I did notice but didn't ask about. The temptation to go look at some special favorite plant one more time is very strong, but in the end we always take our leave. Then on the drive home I can imagine what new wonders I will see there next spring.

—Mike Slater

## Kristl Walek's Garden, North Gower, Ontario, Canada

A large crevice garden that may be the finest in eastern Ontario would be reason enough to visit the stunning collection of alpine, dryland, and woodland plants on the six acres of Kristl Walek's garden. But there's also a sizeable scree, and in two very large sandbeds, an eye-popping collection of cacti, varieties of *Escobaria* and *Echinocereus* as well as *Opuntia*, and other western drylanders. Primulas of the *Proliferae* and *Sikkimensis* sections are among the many moisture-loving plants that line the man-made rocky stream that connects the garden's three ponds, and in large, specially prepared woodland beds are many more primulas, aroids, asarums, fritillaries, hellebores, *Epimedium*, *Trycyrtilis*, *Glaucidium*, *Kirengeshoma*, and gentians.

A large number of traditional troughs surprise and delight visitors at every turn. There are also some shallow, free-form troughs simply planted with easy succulents. Others are given over entirely to encrusted saxifrages or to a single species. To take an example, a trough without drainage holes ensures a constant supply of moisture for the roots of the fussy native *Primula mistassinica*, the crowns of which are protected by a thick gravel mulch.

The icing on the cake is a beautifully made crevice garden that provides a home for hundreds of choice alpine plants ranging from sharp-drainage-demanding *Kabschia* saxifrages and *Androsace* species of the *A. villosa* alliance, to moisture-loving dwarf rhododendrons and willows. It was constructed in the fall and early winter of 1998 by Kristl and a Czech friend, Miloslav Vitous, who began work only eight months after the property was terribly damaged by a very destructive ice storm. It was a morale booster. As Kristl puts it, "It restored my lust for gardening."

The crevice garden, which incorporates a large section of tufa, is made of huge pieces of limestone laboriously hauled from the far corners of the property. It measures about 20' x 10', runs east-west, and was built within a simple rectangular framework of railroad ties. It's filled with fairly rich garden soil.

The origin of the garden can be said to go back to 1984, two days before the birth of her first child, when Kristl stayed home from work and decided that love and idleness are what count in life. She had been working without pause since age 11 and, until that fateful day, was most recently a hard-driving litigation lawyer. What she loved was gardens, and what started as a leisure pursuit soon became a passion. By 1991 she had founded her perennial seed business, *Gardens North*, on the proverbial shoestring, and in 1994 she stretched the shoestring farther and purchased the current site of 8 acres, divided about equally between pleasant, level meadows and a gentle, wooded slope. The soil is hard clay, level sections are exposed to strong winds and poor snow cover, and wild animals have to be contended with.

The garden now covers about 6 acres, and contains thousands of taxa of hardy, unusual herbaceous and woody plants grown for both seed production and display gardens. In addition, great numbers of plants are propagated for a summer nursery operation. The garden is located half an hour south of Ottawa in the farming township of North Gower. Visits can be arranged by phone at (613) 489-0065, or by e-mail at [kristl@gardensnorth.com](mailto:kristl@gardensnorth.com).

—Gerald Taaffe

## Irene Klein's Garden, Powell, Ohio

Irene Klein gardens on 2.2 acres in Powell, Ohio, just north of Columbus. She has several different types of gardens: woodland, heath, bog, prairie, as well as a small nursery, but her pride and joy is the rock garden.

Like many gardeners, Irene has no favorites but confesses to being promiscuous in her love of plants. She wants to grow as many different things as possible, since she won't get a chance to travel to see them all in their natural habitats.

Irene is an active volunteer at Inniswood Gardens, a Columbus Metropolitan Park. When the rock garden was being built at Inniswood in 1992, she was intrigued and began an experimental rock garden of her own. She worked on it while her boys, Bryan and Ethan, now 13 and 11, were taking their naps. It was small, but it got her hooked on rock gardens.

The result of this experiment was a trip in August of 1994 to a nearby quarry, where she selected 10 large, limestone rocks, a total of 15 tons, which were delivered to her home and set in place by heavy equipment. The backbone for this outcrop was a mound of dirt accumulated from excavations for a garage, parking area, and the bog garden. Irene's background in earth science education gave her a good feeling for how to place the rocks.

During the summer of 1995, her husband Chuck helped her place the smaller rocks and create the paths. Soil and scree were added, and the beds were sculpted. In the spring of 1996, Irene began to add plants.

In creating the garden, Irene wanted something that looked natural rather than "landscaped." She also wanted it in a place where she could see it frequently when she was outdoors. The garden had to be installed in the front yard, because it would have been too difficult to move the rocks to the rear of the house. She did not want a lawn edge for the garden, because that would require so much maintenance; thus the garden abuts the driveway.

The rock garden begins near the house and extends 72' along the drive. The garden continues on to a bog and prairie garden extending another 75' down the drive. The whole garden complex is 25' wide.

The Columbus area is in USDA Zone 5, having winter temperatures that can get as low as -23°F. Summer temperatures can be in the 90-100°F range. The summers are humid, and the winters are wet. Snow cover is not reliable. These conditions create some real challenges for growing alpine.

One of the first plants Irene put in the rock garden was *Dianthus myrtinervius*, which she raised from seed from the NARGS Seed Exchange. She is particularly fond of it, because it is easy, well-behaved, evergreen, and has blooms of a great color.

Evergreen plants such as *Dianthus*, *Thymus*, *Arenaria*, some species of *Sedum*, and *Euphorbia myrsinites* get her through the winter with foliage color. Bloom in the garden begins in February with *Draba paysonii* and *Helleborus foetidus*, but is at its best from March through June.

Some plants you might see are *Achillea tomentosum*, *Penstemon clutei*, *Silene maritima*, *Origanum rotundifolium* 'Kent Beauty', *Coreopsis* 'Tequila Sunrise', *Hypericum olympicum*, *Rubus arcticus*, *Scutellaria orientalis*, *Veronica spicata* 'Nana', *Anacyclus depressus*, and various species of *Sedum*, *Iris*, *Draba*, and *Dianthus*. There are many more.

The lean scree beds surround a sand 'pond', 8–10" of sand atop a liner, in which *Iris versicolor*, *Hymenoxys herbacea*, *Alchemilla erythropoda*, and *Ranunculus gramineus* thrive. Common stuff, such as a *Sedum spurium* 'Dragons Blood', is planted along the driveway edges, so that it is not tragic if kids, balls, cars, etc., should infringe on the plants.

Among the dwarf conifers in the rock garden are *Juniperus communis* 'Compressa' and *J. chinensis*, *Picea glauca* 'Pixie', and several *Chamaecyparis pisifera* cultivars. *Buxus microphylla* 'Morris Dwarf' is another cute evergreen. Some other small shrubs are *Euonymus japonica* 'Rykujo' and *Spiraea japonica* 'Alpina'.

Irene says that although the rock garden was the hardest garden to build, it gives her more pleasure than any of her other gardens. It is also the easiest to maintain. In her typically self-effacing manner, she states that she built it for her own enjoyment and never thought many people would be interested in it. There she is wrong—this is a great garden. It has been the hit of several Ohio Valley Chapter garden tours and is a favorite of mine. Irene welcomes visitors.

—Barbara Abler

### *Jerry and MaryGrace Pottmeyers' Garden,*

*Pittsburgh, Pennsylvania*

When Jerry and MaryGrace Pottmeyer built their home in 1976, in a suburban area north of Pittsburgh, Pennsylvania, the budget only made allowances for a nicely designed foundation planting and a large lawn. For a few years that was adequate, but when the couple joined the Pittsburgh Iris and Daylily Society in 1983, their interest in gardening and plant collecting took off. Over the intervening years, the garden has expanded and changed many times, as the Pottmeyers' tastes have matured and grown.

Initially, they concentrated on the periphery of the property, which they planted with a variety of conifers, hostas, Japanese maples, and a selection of perennials, including, of course, many kinds of daylilies.

Next, an island bed was designed and planted with a small umbrella tree (*Magnolia tripetala*), some dwarf conifers, and a collection of heather purchased at a rock garden society sale. The conifers and heathers give the planting a multi-seasonal display. But in addition to offering a beautiful winter accent in the garden, the heathers also piqued the Pottmeyers' interest in rock garden plants.

When the couple joined the Allegheny Chapter of the NARGS, they decided to add a small rock garden to their expanding landscape. After researching the subject, they built a small rock garden containing tufa rock. Unfortunately, the scarcity of tufa in the Pittsburgh area resulted in a two-year delay.

The Pottmeyers began to collect alpine plants after attending a Winter Study Weekend in which they took part in a class given by Gwen Kelaidis. Like any passion, this one has grown, and the couple has more recently been expanding beds, installing more tufa, and collecting even more alpine and rock plants. Currently, they have over 100 different varieties of *Sempervivum* and hope to expand the collection even further by the 2001 NARGS annual meeting in Pittsburgh. The rock garden also contains *Lewisia tweedyi*, *Daphne arbuscula*,

*Gentiana acaulis*, various kinds of saxifrages and dianthus, along with many common rock plants. Of course, many heathers are included in the gardens around the property: stand-outs include 'J.H. Hamilton', 'Red Haze', 'White Knight', 'County Wicklow', 'Golden Haze', and 'Robert Chapman'.

The Pottmeyer garden also boasts some other interesting specimen plants. In the genus *Magnolia*, they have the dark green and variegated varieties along with the elusive gold one, which originated at Ossorio's Estate on Long Island, New York. Of the conifers in his collection, Pottmeyer particularly points out *Abies procera* 'Horstmann's Silberlocke', *Abies procera* 'Glauca Prostrata', *Chamaecyparis obtusa* 'Crippsi', *Pinus strobus* 'Sea Urchin', and *Tsuga canadensis* 'Frosty'.

They also have a fine collection of Japanese maples. Some favorites include *Acer palmatum* 'Mikawa Yatsubusa', 'Seiryu', and 'Shigitatsu Sawa' and *A. japonicum* 'Shirasawanum'. Their display of rhododendrons includes *Rhododendron* 'Goldkizone', 'Capistrano', and 'Daphnoides'; in the Yak group favorites include 'Mist Maiden', 'Aloha', and 'Teddy Bear'.

No tour of the Pottmeyer garden would be complete without viewing their extensive hosta collection. Be sure to look for 'Golden Waffles', 'King Tut', 'Blue Wedgewood', 'Great Expectations', 'Color Glory', and 'Azure Snow'. And don't miss the specimen trees, such as *Fagus sylvatica* 'Torulosa Purpurea' and the Japanese elm 'Village Green'.

Like many gardeners, the Pottmeyers enjoy the hunt for new and exciting varieties, and their garden has hundreds of plants not mentioned here, but equally interesting. The couple maintain an encyclopedic list of local and mail-order nurseries from which they purchase plant material for their ever-changing landscape. Like all plant addicts, the search for that extraordinary specimen will never be over. But no matter how it evolves in the future, their garden will always be a place where other gardeners can go to be educated and inspired. (The garden will be open to visitors during the Annual Meeting held in Pittsburgh in spring of 2001.)

— Susan Banks

### *Gerald and Ruth Taaffe: The Discerning Collectors' Garden Ottawa, Ontario, Canada*

As winter temperatures in Ottawa can plunge to  $-25^{\circ}\text{C}$  ( $-13^{\circ}\text{F}$ ), often with little or no snow cover, most gardeners end up afflicted with "zone-itis"—that terrible malady that limits variety and stunts creativity. A visit to the garden of Gerald and Ruth Taaffe, however, will quickly convince you that they are not afraid to push the limits and try something new or forbidden; gardeners who do not follow the herd, but their heart and passion.

After years, as Gerald puts it, of "trying to shoehorn" plants into his overflowing small garden, they made the difficult decision five years ago to move home and garden to a much larger city lot, where Gerald has been able to create different habitats and grow a wider range of choice plants. As you turn into the semicircular driveway, your first impression is of a well-tended front yard. But closer inspection reveals that the foundation plantings and adjoining beds are anything but conventional, as interspersed among conifers are such unusual

shrubs as *Viburnum farreri*, *Magnolia tripetala*, *M. virginiana*, *Indigofera decora* 'Alba', and many different rhododendrons. Under a large red oak, a shade garden with over 70 different taxa has been developed.

It is not until you pass through a rounded gate, set in the high fence at the side, that the main garden is revealed. As the house was built over 50 years ago, the surrounding trees and the tall cedar hedge around the sides and back have matured, providing a graceful and shady framework for the garden. The beds are centered around a large lily pond, edged with flagstones and planted with sedums and exuberant mats of *Arenaria caespitosa* and *Thymus serpyllum*, including a tight, choice form. Just inside the side gate, a wooden arbor—vaguely Oriental in style—catches your eye. Underneath are grouped his large troughs. Gerald doesn't protect his troughs for the winter, and such gems as *Daphne circassica*, *D. kosaninii*, *D. 'Lela Haines'*, *Saxifraga oppositifolia*, and *Asperula sintenisii* overwinter with impunity. His secret is a very well-drained soil mix, consisting of three parts coarse sand and Turface and one part garden soil.

Ericaceous plants are one of Gerald's passions, and for them he has set aside a large peat bed on one side of the garden, under a spreading oak tree. Growing ericaceous plants in Ottawa is always a challenge, and Gerald has a knack for locating these winter-sun-sensitive plants so that their growth remains superb. *Andromeda polifolia* 'Prostrata', *Ledodendron* 'Arctic Tern', and the stoloniferous *Vaccinium vitis-idaea* 'Minor' are backed by larger shrubs, such as *Rhododendron yakusimanum*, both varieties 'Ken Janeck' and 'Mist Maiden', and the alpine *R. ferrugineum*. Edging the front, nestled against a few large rocks, are vigorous mats of *Erica carnea* 'Springwood White' and 'Springwood Pink', and a treasured *Cassiope* 'Muirhead'.

In the back corners he has planted shrubs and trees, including 20 magnolias—they are another of Gerald's interests. In the sunniest area, at the center, a wide, raised scree bed starts on a berm next to the hedge. It is flanked by sand beds. The soil for the scree came from the pond excavation, and it is, as it turned out, ideal—crumbly and fast-draining. All rocks had to be imported. The uninteresting ones were buried completely to provide the deep root run that alpinists relish, while the weathered ones are used in the front of the bed to provide visual interest. A top dressing of grayish pea gravel ties it all together. Here one finds many rarities. Gerald's favorites here are the daphnes—*Daphne alpina*, *D. kosaninii*, and a huge clump of *D. cneorum*. Gentians also do well for him; *Gentiana x hexafarreri* and *G. paradoxa* provide brilliant blue color in late summer. He had great success this year with the difficult *Pulsatilla alpina* var. *apiifolia* and various *Kabschia saxifrages*. Among the many polsters, *Draba bryoides* and a very good form of *Silene acaulis* stand out. An unidentified *Physaria*, *Andryala aghardii*, and the crown jewel of the geraniums, *Geranium argenteum*, provide silvery highlights.

*Astragalus* and *Oxytropis* species and other western drylanders do well in the sand beds on either side of the scree. Several South African species have proved hardy here – including two yellow-flowered species of delospermas, *Delosperma nubigenum* and *D. congestum*, and an unidentified white species.

At the other side of the yard, a small path leads to another arbor and a bench, from which one can quietly contemplate the wood and metal "clockwork" fountain. In the shade, where the dripping water tempers Ottawa's hot, humid sum-

mers, grows a large swath of *Meconopsis* species, their blues made more brilliant by the contrasting reds of vigorous clumps of *Primula japonica*. A small, dryland bed, filled with mixed road gravel, is located under the side eaves of the house. Hardy cacti, such as *Opuntia polyacantha* in pink, red, and orange-flowered varieties, are the best performers here.

A visit to Gerald and Ruth's garden is always a joy, as not only are plants growing magnificently, but everything is in immaculate condition, weeds banished, and unruly stems tamed. Unusual forms and hybrids are eagerly sought from various plant societies and nurseries throughout North America. With every visit there is a chance of seeing another new plant, another rarity. It is also a unique opportunity to learn something new from a highly skilled and dedicated gardener who is always willing to share his encyclopedic knowledge, peppering his commentary with amusing or poetic tidbits, so one comes away not only informed and inspired, but entertained.

Although there is lots of lawn and room to expand, I have a feeling that in a few years the shoehorn will be out again—didn't I just spy another new bed on my last visit?

—Eva Gallagher

*Roxie and Armen Gevjan's Boundless Gardens,  
Newton Square, Pennsylvania*

To hear Roxie Gevjan tell it, garden greed is at the core of her abundant Pennsylvania garden in Newtown Square, which she and her physician husband Armen Gevjan began in 1961. She has come much closer to actually having one of every plant than most of us; her garden includes 300 different conifers, a large alpine house filled with *Lewisia cotyledon* and other plants that are rare on the East Coast, several generous areas of rock garden, and a large woodland garden with paths named for her garden friends ('Greishaber Strasse' for one). The Gevjans are charter members of the Delaware Valley Rock Garden Society.

It is not easy to see the one-story house as you approach from the road, for the front yard is landscaped with a handsome array of mature conifers, many of which are dwarf but no longer small, and large rocks. Enter the driveway and you find the side entrance to the house behind the curtain of weeping spruce that outlines the porch. Across the way is the delightful alpine house. Even from a distance you can see that it is gleaming with colorful plants and lined with a high shelf bearing hundreds of terra cotta containers, clean, stacked, and ready for planting.

Behind the house are more majestic conifers, led in distinction by a fine specimen of *Juniperus rigida*, whose name derives from the rigid needles, not the gracefully weeping form of the tree. Colors and shapes of the conifers are varied yet harmonious. A cone-shaped *Chamaecyparis obtusa* 'Nana Lutea' is distinctive. Behind the conifers are special gardens, including a tufa rock garden, a small patch for vegetables (mostly given over to rock plants now), and an astonishing multi-celled line of cold frames, where Roxie grows countless plants from seed. As large as all the rest put together is the woodland wildflower garden, off to the north side, with its cool and shady paths.

The Gevjans had the house built to their specifications in 1961. Roxie argued with the builder until he put in large windows all across the back of the house, providing a view of the garden, and Armen backed her up. And she has been working ever since to make everything about their house and garden suit the purpose she has in mind.

"I picked the biggest lot I could find, away from traffic, but not in the middle of nowhere," said Roxie. She was raised in the city and fell in love with gardening when trying to beautify their first house, which was adjacent to Armen's medical office. There she experimented with making rock walls and planting shrubs and perennials, initially helped by one of his patients.

Roxie often went to nearby Longwood Gardens after the children went to school, taking courses, and just walking around, observing. Karl Greishaber was then designing Longwood's notable rock gardens, and Roxie learned many techniques from him, and later, after the move, he helped her build the long line of concrete-and-cinderblock cold frames. The first winter, the glazed covers were put on, and in spring replaced with screened covers. But ever since, the screens alone stay there, for the plants are well sheltered, yet need no hardening off at planting time, because they are already adjusted to the elements.

At the new house, Roxie built stone walls and also had rocks laid into the many areas of the gardens. Some were from her woods, others purchased, and others were from anywhere that unwanted rocks were available for the taking. She cut and shaped the stones herself for the walls in the garden and around the alpine house and says that the neighbors told her they could hear her chipping away.

At Longwood, Roxie saw a little cone-shaped conifer and went to the office to find out where she could buy such a plant for her own garden. The Longwood staff told her about conifer specialist Fred Bergman, about an hour's drive away, in Feasterville. He was somewhat eccentric, but he and Roxie got along fine.

"It was conifer heaven," she says, "all sizes and shapes." She began selecting a great number of low-growing evergreens from Bergman, many of which were his best plants. So he became curious about this beginner gardener and her choices, and he went to the Gevjans' house to see what was going on. After that, he would tell her that she did want this, she didn't want that. If he declared that a certain plant was for the Gevjans, they bought it even if it didn't appeal to them right away. The now-glorious *Juniperus rigida* was then, Roxie says, "as ugly as you could imagine."

Fred Bergman wouldn't sell plants to some people, only to those who offered the right spot and care for his treasures. He would also jack up the prices to discourage certain people but lower them for others.

Armen says that every plant on the property has been placed by Roxie, who has a great eye for form. He is good at the names and has placed a label on each tree, always on the north side, to make it easier to find. Roxie decides where the plants go, and then he plants them, in a perfect division of labor. He also bought a leaf chopper and applies a generous mulch of chopped leaves to all the plants. Asked by visitors about what brand of fertilizer he uses, he brags that the whole landscape has not had more than a pound of fertilizer altogether (since 1961!) but is naturally enriched by the chopped leaves. The only exception is for the plants in the alpine house, which are fertilized regularly.

Whereas the conifers hold interest all through the year, the woodland garden is at its peak in the spring. Under the leafy canopy, along the network of trails, can be found many lovely ephemeral plants, such as primulas of many colors and kinds; trilliums, including the rare double white *Trillium grandiflorum* 'Flore Plena'; *Dodecatheon*, both pink and white; *Aquilegia canadensis*; *Cypripedium calceolus*; the dramatically striped *Arisaema sikokianum*; a carpet of *Anemone nemorosa* 'Alba Plena'; *Polygonatum odoratum*; *Thunbergia variegata*; plus other ferns and native woodland plants.

Some of the plants are carefully arranged, while others have naturalized and have spilled around beautifully, such as the hot pink *Primula japonica* that pops up in many places, even on the paths. No energetic invaders are permitted. Rhododendrons and *Acer palmatum* help make up the middle level of understory plants. A very handsome *Kerria japonica*, with single, yellow flowers, blooms brightly despite the shade, perhaps 5' tall and wide.

Around 1970, the Gevjans had a greenhouse built for alpine plants that cannot tolerate the cold winter wetness and muggy summers of eastern Pennsylvania. It is large for a hobby greenhouse and heated only enough to keep it above 40°F, so the pipes don't freeze in winter. Fans and openings keep it cool and dry in summer. Nicely arranged, it always looks colorful, especially when dozens of white, pink, lavender, and orange-flowered lewisias bloom in winter or early spring, a little different in their timing each year. Roxie takes cuttings of side shoots in late summer. Clean clay pots are stacked along a high shelf all around the interior.

Roxie really has a way with the lewisias. She carefully waters them from the top by hand, breaking the rule of watering them from the bottom, using her special watering can with its long, slender spout. Lifting the leaves to keep them dry, she waters the planting medium with just the right amount.

In the center of the alpine house, alpine plants are growing directly on the stone- and tufa-lined bench, not in pots. Succulents and saxifrages are right at home, looking totally natural as the plant colonies work their way into nooks and crevices.

The Gevjans are preparing for the future of their plants, which have become crowded over the years, and this spring they gave many fine conifer specimens to the Scott Arboretum in Swarthmore, Pennsylvania. Yet only a few small bare places suggest the absence of something. They are willing to donate others as well, especially to public gardens with suitable spaces and maintenance. It would be difficult to dig and transplant the vast and spreading mugo pine that has been in place for nearly 40 years but worth it to the lucky collector.

This is a diverse garden that reflects years of thoughtful collection and growing by the Gevjans. Perhaps we all should be greedy for this kind of treasure.

—Betty Mackey

*Al and Nancy Deurbrouck's Gardens,*  
*Pittsburgh, Pennsylvania*

Rock gardeners have to be incurable optimists. They must sincerely believe in the adage "Since Mohammed can't go to the mountain, the mountain came to Mohammed." Al Deurbrouck certainly practices this philosophy, since his garden reflects a transported mountain.

Al's recipe for such transformation: Take one, sloping, typical development lot and terrace into three levels. Liberally place various scree, moraine, and tufa gardens on the various levels. Add copious amounts of dwarf rock and small, lithophile plants (Al considers any plant growing above 6" tall heresy for the garden). Top with gravel, add water, and age. Then sit back and enjoy.

Al's upper level contains winding and elevated scree beds where such choice plants as penstemons and campanulas grow. Several beds are accented with such choice dwarf conifers as *Chamaecyparis obtusa* 'Nana Lutea', *Chamaecyparis obtusa* 'Golden Sprite', *C. pisifera* 'Plumosa Compressa', and *Pinus mugo* 'Paul's Dwarf'. A tufa bed that contains some of Al's choice plants lines the front driveway. Here one finds *Acantholimon acerosum*, *A. androsaceum*, and *A. hohenackeri*. In recent years, Al has become fond of various cultivars of sempervivums, and this bed contains some of his favorites, including *Sempervivum arachnoideum* 'Hookeri Barbulatum', a variety of the common spiderweb houseleek; *S. heuffelii* 'Sundancer'; *S. marmoreum*; *S.* 'Susan', a form with dark green leaves with bright red tips; and *S. marmoreum* 'Cmirals', a golden green ball. In addition, this garden contains various *Dianthus* species, such as *D. alpinus* 'Alba' and *D. sp.* 'Blue Hills'. This garden is a recent addition and demonstrates Al's ability to give plants perfect placement and the garden perfect texture.

In addition to the main gardens, Al has used many troughs to grow choice varieties, often with the intent of testing hardiness before transplanting into the garden itself. One of these is unique—an old bathtub covered with artificial tufa. In this trough and adjacent areas are several winter-hardy cacti and succulents that Al enjoys. Included in these are several delospermas, including *Delosperma nubigenum* and *D. basuticum*. Other troughs contain such goodies as *Jasminum parkeri*, *Draba rosularis*, *D. rigida*, and *D. sauteri*.

Between the upper level and the second slope one finds a few taller perennials, such as Al's own creation, a dwarf daylily called and registered as 'Little Bird', a low-growing yellow with scapes no more than 8" tall over foliage no higher than 6". Other plants include miniature hostas, such as *H. venusta*.

A visit to the Deurbrouck garden is always a visual treat. For rock gardeners, it is like a field trip to Nirvana. The early Aryan peoples of the Mideast considered peace as "Every man neath his vine and fig tree." Al's garden certainly creates peace—a blend of rocks and flowers that can only inspire awe and respect.

—Len Lehman

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# AWARDS

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## AWARD OF MERIT: PATRICIA AND JOHN BENDER

At the Annual Meeting in Fife, Washington, in July 2000, the Award of Merit of the North American Rock Garden Society was presented to Patricia and John Bender.

The Benders have been a vital presence in the NARGS for many years. Pat is a past President of the Northwestern Chapter and has served at the national level as Director, Vice President, and President. Pat and John jointly chaired the Seed Exchange in 1992–94. They have performed countless crucial tasks for the Northwestern Chapter. They have been involved in all the Western Winter Study Weekends that the Northwestern Chapter organized between 1981 and 1995, as well as in the recent Annual Meeting; they have served on numerous committees; and they jointly operated the Chapter book sale at our monthly meetings.

Pat has an encyclopedic knowledge of people and events, past and present, in the North American Rock Garden Society. She is an unfailing source of sensible advice in any new or problematic situation; and, if anything further were needed, Pat and John both are always cheerful and imperturbable. Congratulations!

—Jean Witt



## MARCEL LEPINIEC AWARD: RICK LUPP

Rick Lupp joins a select company of plantspersons in receiving this year's Marcel LePiniec Award. Rick is greatly deserving of this award, given in recognition of excellence in "extending and enriching the plant material available to rock gardeners."

Rick's Mt. Tahoma Nursery is presently the leading American alpines nursery, offering an extensive list of choice plants in such classic genera as *Androsace*, *Gentiana*, *Primula*, and *Saxifraga*. He offers many well-known alpines that are difficult to propagate and slow to grow and are therefore increasingly difficult to obtain commercially in North America. For such plants, the rate of extinction in cultivation is always just a step behind the work of nurserypeople. Rick's

commitment to propagating and growing these outstanding alpine provides a Noah's Ark—from plants from the comical *Calceolaria darwinii* to the fabled *Eritrichium nanum*—and without his work many of these would go out of cultivation in North America.

Rick is a leader in extending and enriching our plant material as well. He is active in exchanging choice plants with European growers, to the benefit of alpine gardeners on both sides of the Atlantic. The exciting range of selections of *Campanula allionii* in his catalog is one indication of this, and the appearance of his selections, notably of *Douglasia laevigata* and *Erigeron*, in Great Britain proves this to be a fair exchange.

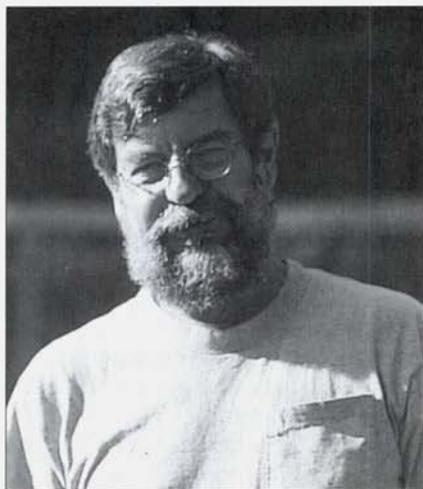
The LePiniec Award especially recognizes the introduction of "new to cultivation" alpine. Rick has brought a number of choice new plants to us. Many of his introductions are from seed, notably from Czech collectors in Turkey and the former USSR, from the southern hemisphere, and from Ron Ratko's collections in western North America. This is no mean task, since attempted introductions often fail in the first generation. Either the seed does not germinate, or the seedlings are lost at an early stage, or the resulting plant is not propagated. Rick is a skilled propagator, and he excels in finding means to establish the new plants, to evaluate them, and to find suitable growing conditions for them, often with only sketchy knowledge of the plant as it occurs in nature.

Rick has introduced several distinctive interspecific hybrids, notably spontaneous greenhouse hybrids among western American alpine campanulas. The "found" hybrids in lots of seedlings demonstrate what may be Rick's greatest gift: his wonderful eye for variation. As anyone who has ever accompanied him in the field knows, he never stops observing. His discovery of hybrid swarms of *Erigeron compositus* and *E. aureus* at Goat Rocks came at the end of a very long hike. Rather than taking the first chance hybrid he spotted, as many would, he very carefully surveyed the site and took only a few cuttings of the most distinctive and attractive plants.

Rick's ethical approach to plant collecting is noteworthy. On his only trip to the Siskiyou Mountains, he walked past hundreds of beautiful and distinctive forms of *Phlox adsurgens*, yet had the restraint to take single cuttings from only five plants, one of which is the outstanding selection "Mary Ellen." His attitude was that a plant that he could not propagate from one cutting would not be likely to be a successful cultivar. This is a tribute both to his exacting, critical judgment and to his propagation technique.

All this amply justifies Rick's place among LePiniec Award winners, but it is impossible to close without mentioning Rick Lupp's encyclopedic knowledge, his generosity, and above all his love for nature.

—Loren Russell



## MARVIN E. BLACK AWARD: JACQUES MOMMENS

This award is given to a member of the Society who excels at promoting membership in NARGS. Our recipient has been active in national membership efforts and has served on the Membership Committee for three years. He worked with Hal Lange on the pamphlet "Rock and Alpine Plants," which for several years was given to each new member upon joining. Before that he helped me revise my *Avant Gardener* pamphlet, formerly given to new members.

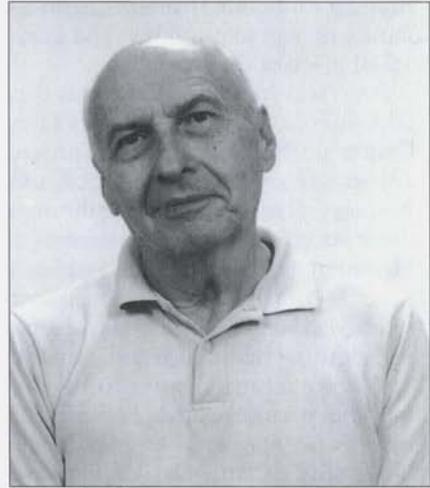
A second criterion for this award is: He or she excels at organizing study weekends, national, and international meetings. Our recipient was Treasurer and Registrar for the Hudson Valley Chapter Eastern Study Weekend in 1987—and Registrar for that chapter's annual meeting in 1991.

The third criterion for the Marvin Black Award: He or she should also be involved in such activities as planning trips to study plants and to meet other plant people. Jacques was a mentor and guide for the Annual Meeting sponsored by the Wasatch Chapter in 1996. He traveled to Utah several summers in advance to help with trail development and plant identification. He was again a guide in Eugene in 1998; in Calgary in 1999; and this year at Mt. Rainier.

Jacques produced the *Index to Volumes 1-50 of the Bulletin of the American Rock Garden Society* in 1992 and assisted in the publication of *Rock Garden Plants of North America* in 1996.

In 1990 he became the first paid Executive Secretary, and he continues in that position. But it is for all the other things he has done, above and beyond the call of duty, that we are honoring Jacques Mommens with the Marvin E. Black Award.

—Marnie Flook



## EDGAR T. WHERRY AWARD: SEAN HOGAN

The Edgar T. Wherry Award recognizes those who have made outstanding contributions to botanical or horticultural information about native North American plants. Through his various publications, lectures, and other vigorous activities advocating the appreciation and use of native, dryland plants, Sean Hogan richly deserves the 2000 award.

Sean is perhaps best known among NARGS members for his excellent lectures at numerous winter study weekends and annual meetings. Sean is eagerly sought after as a speaker both for the quality of his photography and for his passionate eloquence. He has spoken to a variety of audiences on at least a dozen topics, including lewisias, California alpines, the flora of the Siskiyou

Mountains, and the plants of the Great Basin. Sean's lectures are held in such esteem that he was recently invited to give a series of talks in Great Britain to dozens of chapters of the Alpine Garden Society over a period of three months. He is also known for his valuable contributions to publications, such as the NARGS *Bulletin* (now *Quarterly*), and other horticultural and botanical publications. If for no other reason, Sean's educational efforts on behalf of our flora are ample reason to grant him the Edgar T. Wherry Award; but this is really only a small piece of the story.

Sean served the United States Forest Service as a consultant on conserving endangered plants, and he had a long and productive career at the University of California, Berkeley Botanic Garden, where he managed the New World Desert, Australia/New Zealand, Africa, and California-cultivar gardens. Well before Berkeley, Sean became an authority on the genus *Lewisia* (not to mention many other succulents), and he has researched the genus, together with Mark Hershkovitz, for upcoming publication in *Flora of North America*. Sean recently described a new variety of *Lewisia cantelovii* for botanical publication, and he worked closely with Roy Davidson during the preparation of Roy's lewisia book, contributing many rare and wonderful photographs and a gracious foreword.

Having returned home to Portland, Oregon, a few years ago, Sean (together with his partner, Parker Sanderson) has actively pursued opportunities to incorporate western native plants into the landscape through their nursery and design firm, Cistus Design. Far from being a "native-plant fascist," however, Sean prefers to see natives as a valuable part of a "Mediterranean" plant palette, which includes plants from regions as diverse as South Africa, South America, and, of course, the Mediterranean. Rather than scare people away from native plants through single-mindedness, he has become successful in creating and propagating a style of gardening that makes considered use of natives an indispensable regional feature. Sean is possessed of such charm that he has convinced his entire block in northeast Portland to landscape their properties in this style. You can catch more flies with honey than vinegar! Sean and Parker's "neighborhood" garden has been featured in international magazines, including the Royal Horticultural Society's publication *The Garden*.

Despite the demands of his new business, Sean is the director of collections at Portland's Hoyt Arboretum, where he has overseen many new plantings of western natives; the broad-leaved evergreens in particular have inspired much recent interest. If that were not enough, Sean has been involved with the exciting startup of the Pacifica garden in southern Oregon, which will showcase the Siskiyou flora. Cistus Design is also contributing plants and expertise to the Berry Botanical Garden for a new Siskiyou bed. A full list of Sean's *pro bono* work for public gardens and nonprofit institutions would fill many pages.

Many of us are the beneficiaries of the remarkable selections of native plants Sean has introduced from his field work. He has selected superior forms of *zauschnerias*, *lewisias*, *manzanitas*, and *Ceanothus*, to name just a few. During a time when many promote using natives as "bad-tasting medicine that's good for you," Sean's approach may hold the greatest promise for inducing others to truly love and cherish our native flora.

—Neal Maillet

CARLETON R. WORTH AWARD:  
VERNA PRATT

Verna Pratt received the Carleton R. Worth Award. Verna is the current President and one of the founding members of the Alaska Rock Garden Society. She is a tireless advocate for rock gardening in every form. As Panayoti Kelaidis said, "She is a National Treasure."

Verna's books on Alaskan native flora have won several literary awards. Among her titles are: *Field Guide to Alaskan Wildflowers*; *Wildflowers Along the Alaska Highway*; *Wildflowers of the Denali National Park* (for adult botanists); and *Linnaea's World* (an educational book for children). Verna presented at the Eastern Winter Study Weekend in 1991, was on the NARGS Speakers Tour in the fall of 1999, and has been invited to be a speaker at the international convention in Scotland in 2001.

Verna is the founder of the Alaska Native Plant Society and a tireless teacher, as well as writer, on the subject of Alaskan wildflowers. Each summer she organizes and leads numerous treks into the mountains to view, photograph, and learn about the native flora. She is fondly referred to as "Mountain Goat," because she traverses the roughest terrain with ease, leaving her younger counterparts wondering how to get to where she is. They finally arrive there only to discover that she is already on the next ridge.

Verna is always willing to give a program on some aspect of rock, alpine, or native plants. She has led members of the Alaska Rock Garden Society into areas where they never expected to go. Only two short years old, the group is already planning a trip to China to gather seed of rare and unusual plants. Her leadership has made the ARGS enthusiastic enough to tackle hosting the NARGS Annual Meeting in 2002. She is constantly encouraging the membership to present a program on, write about, photograph, or draw something on rock and alpine plants.

Verna, with the help of her husband Frank, was the primary instigator of building the rock garden at the Alaska Botanical Garden in Anchorage. She worked tirelessly to find fill, soil, rocks, manpower to do the work, and, finally, the plants that make this garden a very special feature at the Alaska Botanical Gardens.

This award honors Verna's written contributions in botany. Many people in addition to botanists are interested in her books. They are used as guides for people travelling through the Alaska wilderness areas, as educational tools in schools and colleges, as well as by garden clubs and scout troops. Verna has made an enormous contribution to promoting the plants and activities that are of particular interest to NARGS. Verna is exceptional for her contributions to the Society's aims and for her written works, which have promoted rock and alpine gardening and educated many thousands of people about the plants that are so special to us all.



—Florene Carney

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## Musings from a Rock Garden

# ROCK GARDEN STYLES

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With the possible exception of vegetable and related culinary gardens, a garden is an aesthetic concept: a place for flowers and other plants to be admired. In a rock garden, plants are selected by several criteria, all of them primarily aesthetic. The plant's shape, often referred to as 'architecture', is probably the most difficult attribute to define precisely, because it reflects the rock gardener's personal opinion about what is and what isn't beautiful or interesting.

Undoubtedly, this opinion is to some degree influenced by experiences derived from seeing plants in nature, visiting other rock gardens and plant shows, reading rock gardening literature, and participating in lectures and talks on rock garden plants. Nevertheless, a substantial personal component is always there defying precision and universality. Another important criterion, somewhat less mysterious, but still not easy to define, is the plant's flower, its color, shape, size, and fragrance. However difficult it may be to define why we consider a rose beautiful, most rock gardeners have no problem in agreeing that the flowers of plants as different as *Gentiana verna* and *Phlox subulata* are beautiful.

A quite different criterion takes into consideration the circumstances under which the plant is to be grown, implying that there is more than one kind of rock garden and rock gardening. True enough, however absurd it may sound, rock gardening can be done without rocks, and even without a garden! But let's start with a traditional rock garden first.

There are many types of traditional rock gardens: one extreme is the 'knock-your-eyes-out' rock garden and the other 'the collector's rock garden.' The first is a gorgeous quilt of wildly colored patches familiar from photographs on book covers and magazines catering to rock gardeners. *Alyssum*, *Arabis*, *Aubrieta*, *Phlox*, and some of the spring bulbs are its backbone, and one must admit that a lovelier picture is hard to find outside of Butchart Gardens on Vancouver Island. This is how many people get hooked on rock gardening and how many of us got started.

The other extreme is an assembly of individual plants, more or less separated one from another, each selected for its own in- and out-of-flower beauty and placed in appropriate contrast with its neighbors. Although the colorful mats may be included, the collector's rock garden is seldom a continuous tapestry of glowing patches. Even in the height of spring blooming season, the various shades of green predominate, with the spectral colors of just-blooming plants providing focal points of special interest.

The difference between these two extremes of rock garden style reflects a difference in perception, not just of the rock garden as a whole, but of the individual plants themselves. There is a subtle distinction between looking at a plant as a potential component contributing to the beauty of a rock garden, or as a nature's work of art possessing lovely architecture in all or some of its parts.

Every rock garden plant can be looked at and considered from these two standpoints; the gardener's final judgement about it may or may not coincide with others' opinions.

Dividing rock gardeners into two camps according to their concepts of a plant's beauty and usefulness may be somewhat foolish, because most rock gardens and their creators fall somewhere between the extremes. Nevertheless, proper placing and display of a square meter of *Phlox subulata* or a few square centimeters of *Gentiana verna* require somewhat different types of rock garden and of rock gardening skills. Although, in theory, every plant could form a large patch or be displayed as a restrained individual, small tufts, rosettes, buns, and shrublets almost call for planting single individual specimens, so that they can be seen and admired on ledges, screes, and in crevices. Mats and carpets, on the other hand, are given a relatively free run, sometimes merging one into another. It is no coincidence that this is how many of these plants grow in nature, and that this kind of placement suits them best in a rock garden.

Collector's plants, if one may use this rather imprecise designation, should be seen from all sides and from a short distance, and this brings us to the other kinds of rock gardening—gardening without a rock garden. It is hard to argue with the view that to truly appreciate all aspects of the plant's architecture, which includes its leaves, branches, and also flowers, one has to grow it in a pot. Alpine houses in all their varieties have been invented for this very purpose: a plant can be inspected with or without a magnifying glass from a very short distance, the coloring and fragrance of its flowers enjoyed without painful acrobatics, and, as is often done in preparation for plant shows, it can be beautified to a degree never seen in nature. In addition, pot culture allows for an almost infinite variety of regimes in watering, fertilizing, illumination, and disinfection, most unattainable in a regular rock garden.

Somewhere in between a rock garden and an alpine house filled with potted plants lies another unconventional system of growing rock garden plants: trough culture. Troughs, or other containers, of various sizes, made of countless mixtures of natural and man-made materials, are in fact miniature rock gardens with some of the advantages of alpine houses. Being portable, or at least movable, they can be placed almost anywhere—in a garden, in a house, or on the roof top. Even if the container is fairly large, the plants to be grown in it must be quite small, or they must be artificially dwarfed by frequent pruning. Apart from this restriction, containers have many of the advantages of pot culture and are eminently suitable for growing collector's plants.

With this brief survey of some of the most common rock gardening practices, we can return to the two basic aspects of a rock garden plant. One is the plant as an essentially two-dimensional whole, similar to a photograph, an area of different shades of different colors, a square, or any other shape in a potential tapestry of colored bits constituting a much larger shape—the rock garden. The other is the plant as a three-dimensional object possessing distinct and unique features, valued for itself, but not necessarily for its contribution to the overall view of the rock garden. To ask which of the two aspects is more important would be a meaningless question. Whether they know it or not, most rock gardeners consider a plant from both aspects. To which concern they give more weight depends on their own definition of a rock garden and rock gardening.

—Alexej (Sasha) Borkovec

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## NARGS COMING EVENTS

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### EASTERN STUDY WEEKEND

A CELEBRATION OF PRIDE:

AMERICAN ALPINES FROM POLE TO POLE

January 19–21, 2001

Rye Brook, New York

Registrar, Olivia Dembowski, e-mail: dembowski@msn.com

### WESTERN STUDY WEEKEND

HARBINGERS OF SPRING

March 2–4, 2001

Victoria, British Columbia

Vancouver Island Rock and Alpine Garden Society

<http://victoria.tc.ca/Recreation/VIRAGS/WWSW2001.html>

### ANNUAL MEETING

WILDFLOWER GEMS OF THE ALLEGHENY REGION

Allegheny Chapter

April 25–28, 2001

Pittsburgh, Pennsylvania

<http://members.aol.com/alpineline/home>

André Henry, PO Box 6, 55210  
Vigneulles, France is looking for seeds or  
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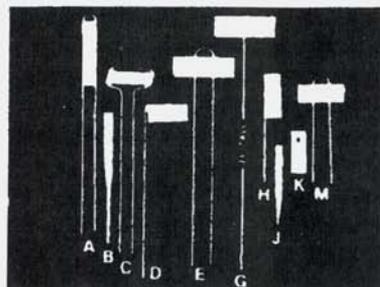
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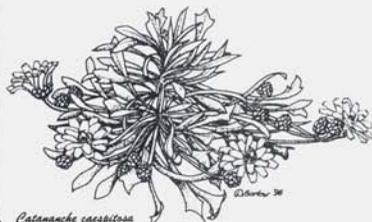
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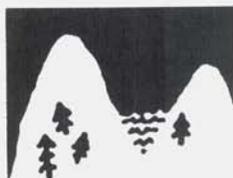
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