

# ROCK GARDEN *Quarterly*



Volume 66 Number 4

Fall 2008

## Some Changes in Our Quarterly: PLEASE READ THIS!

This issue of the *Rock Garden Quarterly* incorporates several policy changes undertaken to save printing and mailing costs. The inclusion of drop-in inserts – brochures and administrative reports – has come to cost NARGS more than \$2000 per year. To reduce this expense, we are now experimenting with running some of this material directly in the *RGQ*. In this issue you will find the publicity and registration forms for the coming year's Winter Study Weekends and Annual General Meeting, the annually issued catalogue of the NARGS Book Service, the annual Treasurer's Report, and a **very important** announcement of changes in the procedure for the Seed Exchange. See the Contents page to find these items. We hope to replace the *Bulletin Board* newsletter in the coming year or two with a combination of announcements in the *RGQ* and on the redesigned NARGS website. At present, it is planned to continue to mail the Seed Exchange instructions and donor form as inserts with the summer issue.

Chapters hosting meetings still have the option of printing separate registration brochures and mailing them to other chapters for distribution, and most host chapters now put up web pages as well. We have designed the *RGQ* pages so that the registration forms can be removed without losing any significant material.

We realize that some members may be disappointed to receive an issue in which so many pages are devoted to material that does not interest them personally, but please remember that all of us have responsibilities to our Society. Saving money in this era of declining membership is one of those tasks. Saving paper and energy is a responsibility we all need to take seriously, too. These observations also apply to the policy of shifting the Seed List to electronic form as much as possible.

Be assured that these changes will not affect every issue. The administrative items will be present primarily in the fall issues, along with the annual index.

We welcome feedback on these and any other administrative or editorial policies. The editor's addresses and those of NARGS officers appear on the last page and inside back cover.

Front cover: *Lilium columbianum*. Painting by Lyn Noble.

Back cover: *Fritillaria glauca*, Rose Point, Oregon. Photo by Tanya Harvey.

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# ROCK GARDEN *Quarterly*

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BULLETIN OF THE NORTH AMERICAN ROCK GARDEN SOCIETY

Volume 66 Number 4      Fall 2008

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## IMPORTANT ANNOUNCEMENT REGARDING THE NARGS SEED EXCHANGE

The 2008-2009 NARGS Seed List **will not be mailed** out to all members this year. It will instead be posted on the NARGS Website at <http://nargs.org> on December 15, 2008. This will enable NARGS to get the seed list out to its members much sooner and will save on the high cost of printing and mailing. You will be able to download and print out the seed list and the order form from the website. All orders will still need to be mailed in to the Main Distribution Chapter (address will be on the order form) this year, but we hope to have an online ordering system available next year.

A limited number of printed copies will be available to those who do not have Internet access (or have a slow connection.) If you need a **printed copy** of the Seed List mailed to you, please send a request with your mailing address to:

Laura Serowicz  
NARGS Seed List  
15411 Woodring  
Livonia, MI 48154-3029 USA

You may also e-mail your request to [seedintake@twmi.rr.com](mailto:seedintake@twmi.rr.com). Your request must reach us **by November 15, 2008** in order to get enough copies printed and mailed in early December. Note that you will not receive the mailed seed list until **after** it goes up on the website. Overseas and U.S. donors' orders will be filled before those of non-donor overseas and U.S. members, in the order they are received.

## DULEZITE OZNAMENI O NARGS VYMENE SEMEN

2008-2009 NARGS seznam semen **nebude poslan** vsem clenum tento rok. Misto toho bude uverejnen 15. prosince, 2008 na NARGS webove strane <<http://nargs.org>>. Seznam a objednaci formular si muzete stahnout a vytisknout. Vyplnena objednavka musi byt poslana postou do hlavni rozdelovny (adresu najdete na objednacim formulari).

Ti, kteri nejsou napojeni na Internet nebo maji pomale spojeni si mohou objednat vytisk seznamu na adrese:

Laura Serowicz  
NARGS Seed List  
15411 Woodring  
Livonia, MI 48154-3029 USA

nebo ho vyzadat pomoci e-mail na <[seedintake@twmi.rr.com](mailto:seedintake@twmi.rr.com)>. Zadost musi byt dorucena **pred 15. listopadem, 2008**.

**MESSAGE IMPORTANT  
CONCERNANT L'ÉCHANGE DE SEMENCES  
DE LA NARGS**

La liste de semences 2008-2009 **ne sera pas postée** à tous les membres cette année. En remplacement, la liste sera disponible sur le site Internet de la NARGS à <http://nargs.org> dès le 15 décembre 2008. Il sera donc possible de télécharger et d'imprimer la liste de semences et le bon de commande à partir du site internet. Notez bien que toutes les **commandes** devront être **envoyées par la poste** au Chapitre en charge de la Distribution principale des semences. (Adresse disponible sur le bon de commande.)

Une quantité limitée de la liste de semences, version imprimée sera disponible pour les membres qui n'ont pas accès au site Internet (ou avec une connexion Internet à basse vitesse). Si vous avez besoin qu'une **version imprimée** de la Liste de semences vous soit envoyée, vous êtes priés de faire parvenir votre requête par la poste en inscrivant bien votre adresse à :

Laura Serowicz  
NARGS Seed List  
15411 Woodring  
Livonia, MI 48154-3029 USA

Ou envoyez votre requête par e-mail à [seedintake@twmi.rr.com](mailto:seedintake@twmi.rr.com) . Votre requête doit nous parvenir avant le **15 Novembre 2008**.

**WICHTIGE NACHRICHT!  
BEZÜGLICH NARGS SAMEN AUSTAUSCHES**

Die 2008 -2009 NARGS Samenliste wird dieses Jahr nicht an alle Mitglieder gesendet. Sie wird anstatt auf der NARGS Website am 15. Dezember 2008 ersichtlich sein: <http://nargs.org> . Sie werden die Samenliste und das Bestellformular runterladen und ausdrucken können. Alle Aufträge müssen an die Hauptzentrale eingeschickt werden (Adresse finden Sie auf dem Bestellformular).

Eine beschränkte Anzahl von gedruckten Bestellformularen wird für diejenigen erhältlich sein die keinen Internetanschluss (oder langsamen Anschluss) haben. Falls Sie eine gedruckte Kopie der Samenliste geschickt haben wollen, senden Sie bitte die Bestellung mit Ihrer Adresse zu:

Laura Serowicz  
NARGS Seed List  
15411 Woodring  
Livonia, MI 48154-3029 USA

Oder senden Sie Ihren Auftrag zu [seedintake@twmi.rr.com](mailto:seedintake@twmi.rr.com). Ihre Bestellung muss bis 15,November 2008 eingelangt sein!

**重要なお知らせ**  
**NARGSの種子交換について**

2008-2009年のNARGSの種子リストは、NARGSのホームページ<http://nargs.org>に2008年12月15日に掲載されますので、今年は郵便での全メンバーへの郵送はされません。種子リストは、ホームページからダウンロードしてプリントすることが出来ます。全ての種子注文は、例年どうり中央配布部門に郵送して下さい。(宛先は注文書に書いてあります)

インターネットにアクセスできないメンバー(又はダウンロードに時間がかかるメンバー)に関しては、限定数のコピーを提供いたします。種子リストのプリントされたコピーの郵送をご希望の方は、下記のところに郵送先の住所を添えて、ご連絡下さい。

Laura Serowicz  
NARGS Seed List  
15411 Woodring  
Livonia, MI 48154-3029 USA

メールの方は、こちらのアドレスに送って下さい。 [seedintake@twmi.rr.com](mailto:seedintake@twmi.rr.com) .  
コピーのリクエストの締め切りは、2008年11月15日です。

# Early Flowers in the Columbia River Gorge

David Dobak

In early January of most years, a posting to the Native Plant Society of Oregon's e-mail list proclaims, "Grass widows are flowering near Lyle high school!" So begins the botanizing season in the Columbia River Gorge.

By early March, the grass widows (*Olsynium douglasii*, formerly *Sisyrinchium d.*; photos, p. 259) are in massed display at Catherine Creek preserve, everyone's favorite early spring wildflower area in the eastern Gorge. A typical excursion from Portland starts under leaden or dripping skies that clear to blue and sunshine by the time we reach the city of Hood River. Along the north side of the river east of the hamlet of Bingen, Washington, the brilliant yellow flowers of *Lomatium grayii*, one of the "desert parsleys" common to the dryland West, are abundant along the south-facing cliffs.

The Catherine Creek area, private ranchland until about 25 years ago, is now National Forest land, managed by the U.S. Forest Service primarily for public recreation consistent with protection of the flora and fauna. South of the road at Catherine Creek is a paved, handicapped accessible trail with two ¼-mile loops. North of the road the valleys, plateaus, and ridges are traversed by a set of user-defined trails, offering the opportunity to see a wider variety of plants along with eye-filling views of the majestic Columbia River.

The keen observer will see color forms of *Olsynium*, pale pink and even pure white, as well as unusually deep rose or magenta hues (photo, p. XX). Scattered amid the grasses are the tiny salt-and-pepper-colored umbels of *Lomatium piperi*. Meter-tall dried stalks of last year's growth tower over the emerging leaves and purple flower heads of one of the largest desert parsleys, *Lomatium columbianum* (p. XX).

On flat-topped rocky outcrops, leaves of *Lewisia rediviva* appear. The bitter-root's flowers will make an impressive display in late May, and still later, its "tumbleweed" dried inflorescences detach from the plants and are deposited by the wind in rocky, soil-filled crevices. In wet spots, the copper moss, *Bryum miniatum* (p. 259), forms carpets of iridescent orange, and close by *Ranunculus occidentalis* is flowering. Buds of two shooting stars, *Dodecatheon conjugens* and *D. poeticum*, are emerging from basal rosettes in damp soil.

Two white saxifrages are ubiquitous. First to flower is *Saxifraga occidentalis* with toothed leaves, followed soon by the more robust *S. integrifolia*. Edges of rocky outcrops are covered in two species of prairie stars, *Lithophragma parviflorum* and *L. glabrum*. These two differ subtly in the fringing of the petals and hairiness of the leaves. The latter species includes individuals bearing tiny crimson bulbils in the leaf axils (and thus formerly identified as *L. bulbiferum*, now considered simply a variety or form). Alongside grow masses of a small yellow daisy, *Crocidium multicaule*.

The yellow bells of *Fritillaria pudica* are scattered here and there. In the bottomland next to Catherine Creek, Dutchman's breeches (*Dicentra cucullaria*) is well protected by thickets of poison oak, whose leaves may be just beginning to emerge, but whose stems are nevertheless to be avoided.

Delphiniums and lupines will come into flower in April. The great display is over for the year after the bitterroot has finished flowering in early June. Meadowlarks are frequently heard, but rarely seen. We frequently spot bald eagles and bluebirds.

On the south side of the river, the Nature Conservancy's Tom McCall Preserve at the Rowena Plateau on the Historic Columbia River Highway between the small towns of Mosier and Rowena has many of the same plants as Catherine Creek, but flowering is typically about two weeks later. The trail to the top of Tom McCall Point is not open to the public until May.

Farther east, The Dalles Mountain (sharing its name with the town of The Dalles, Oregon) is a long ridge that rises to summits at Stacker Butte and Haystack Butte almost 1000 m (3300 feet) above the Columbia River. The Dalles Mountain Road joins Washington State Route 14 a mile east of The Dalles Bridge, and traverses both Washington State Parks land and privately owned land. The top of Stacker Butte is accessible to hikers, and the land is managed by Washington's Department of Natural Resources.

In isolated meadows and pastures high on The Dalles Mountain the obscure buttercup, *Ranunculus reconditus* (syn. *R. trisectus*) flowers in mid-March. A month later, its leaves are gone without a trace. Also on the mountain can be found *Draba douglasii* (syn. *Cusickiella d.*), whose leaves bear simple, marginal hairs. The more common whitlow grass, *Draba verna*, has leaves covered in branched hairs. *Astragalus purshii* is a small decumbent plant with felty grey-green leaves and brilliant purple flowers.

In April the open slopes are covered with the coarse leaves and showy "sunflowers" of arrowleaf balsamroot, *Balsamorhiza sagittata*. Daggerpod, *Phoenicaulis cheiranthoides*, is found along the road; it is sweetly fragrant.

The geology of the Gorge was formed by floods of lava and of water. During the past 40 million years, volcanic eruptions and river flow have built up layer upon layer of lava and erosion sediments. In each new lava flow, the Columbia River cut a new channel for itself. These rock strata have been tilted and bent as the Cascade Range rose up. Toward the end of the most recent ice age, the cordilleran ice sheet formed a dam in Montana, impounding the immense Lake Missoula. At least 40 times, water pressure overcame the strength of the ice, and



a massive flood was unleashed, followed by regrowth of the lake. These floods scoured the Gorge, stripping away soil on the hillsides up to 1000 feet (300 meters) above the river's normal level. Scars of these floods can be still be seen in the arid eastern Gorge, where the vegetation is oak-pine savannah on volcanic scabland; the wet climate of the western Gorge has led to dense forest growth and relatively rich soil development.

In the wetter western Gorge, John Yeon State Park (between Multnomah Falls and Cascade Locks) is the prime botanical hotspot. Two short trails with moderate elevation gain lead to Elowah Falls and Upper Falls of McCord Creek. The season begins in March with *Douglasia laevigata*, a *Primula* relative that holds its own with any choice alpine, flowering on the cliffs above the upper trail, and bright blue *Synthyris stellata* (photo, p. 257) below. In April and May, *Castilleja rupicola*, *Dodecatheon dentatum*, *Erigeron oreganus* and *E. howellii*, and *Corydalis scouleri* join the colorful show. By June, *Bolandra oregana* and *Penstemon rupicola* are flowering. A few plants of the beautiful little orchid *Calypso bulbosa* grow in the forest along the lower trail.

Less energetic walkers can view *Dicentra cucullaria* and *Romanzoffia sitchensis* at the roadside during April at Multnomah Falls, a popular tourist stop just east of the Multnomah Creek bridge and on the cliffs west of the lodge.

Sunshine, blue skies, meadowlarks, and great flowers! What more could we ask for in March?

## Further Reading

Jolley, Russ. 1988. *Wildflowers of the Columbia Gorge: A Comprehensive Field Guide*. ISBN 0875951880. Portland: Oregon Historical Society.

Allen, John Logan, Marjorie Burns, and Sam Sargent. 1991. *Cataclysms on the Columbia: Scenic Trips*. ISBN 0881922153. Portland: Timber Press.

## Plant Source

Milestone Nursery, PO Box 907, 620 State St., Lyle, WA 98635. (509) 365-5222.

Primarily a wholesale supplier to the revegetation trade; retail by appointment; no mail order.

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Dave Dobak of Portland, Oregon, is a longtime enthusiast of native plants of the American West and beyond. He and his wife, Jan, are active members of the Columbia-Willamette NARGS chapter.

*Note: Weather permitting, a field trip to some of the areas described in this article will be guided by members of the Columbia-Willamette chapter the day after the 2009 Western Winter Study Weekend and Annual General Meeting in Portland.*

# Saddle Mountain: Oregon's Vertical Botanic Garden

Nathan Miller

Thinking of the Pacific Northwest conjures images of vast coniferous forests dripping with moss, and below the canopy, a carpet of ferns and other shade-loving plants. Yet from this sea of trees jut the volcanic peaks, young and old, that also typify the Northwest. Many of these rocky, thin-soiled islands are home to a startling floral diversity. In the northern Oregon Coast Range stands Saddle Mountain, at once a treasure trove and a botanical enigma.

Saddle Mountain lies only 11 miles east of Seaside, a popular coastal tourist destination. On a clear day, you can stand on its summit and watch the surf break. This means that Saddle features the same soggy conditions as the northern Oregon coast. Fog rolls off the sea and up the mountain; annual rainfall of 50 inches drenches its slopes. Snow blankets its 3,282-foot summit and upper flanks during part of winter, but not as long as in the Cascades to the east. This kind of climate doesn't place it remotely near the top of the list where you would expect to find good rock garden plants.

Geologically, Saddle is a remnant of one of the Columbia River basalt flows that erupted out of northeastern Oregon, southeastern Washington and western Idaho (see p. 246). During the time of these flows, the Cascades had not yet been built up, and in the absence of the rain shadow cast by today's high mountains, some plant communities spanned today's state, resulting in disjunct populations of a few species not typical west of the Cascades. That Saddle is basalt also influences its flora. Basalt is harder and more resistant to erosion than the softer sedimentary rocks that underlie many other parts of the Coast Range. Not only does it take longer for soil to form over basalt; that soil can be easily stripped from steeper slopes by rainfall, while deeper soils form on other parts of the mountain. Many plants of Saddle's steep slopes have avoided competition by those that prefer deeper soils. All of this not only creates some unusual botanical situations but can also mislead the gardener attempting to take cultural cues from plants in habitat.

The trail up the mountain is more strenuous than you might expect. The Pacific Coast Ranges are relatively mild as major mountain ranges, but don't be fooled! The valleys and roads are steep, and so are the trails. You'll climb nearly

1700 feet over 3 miles. In some places, particularly near the summit, the trail is slippery when wet. If you have poor balance, acrophobia, or bad knees, you might not want to attempt this trail, or at least not go to the summit. Fortunately, there is plenty to enjoy before you reach the first challenging stretch.

The best time to visit varies from year to year, depending on the weather. In 2008, for example, there was greater than average snowfall later than usual in the Coast Ranges, with snow visible from the Willamette Valley even in May. Timing a visit also depends on what you want to see. Generally, bloom on the mountain is two to four weeks behind bloom in the Willamette Valley. Even if a particular plant near the trailhead is past, it may still be in bloom farther up. From the first point where you encounter a particular species, it's likely that you will see it again in suitable habitat all the way to the summit.

Access to Saddle is easy. From Portland, travel west on U.S. Highway 26. Watch for a brown parks sign indicating a road on the north side of the highway no more than 100 meters west of the Necanicum River. From Highway 101 on the coast, travel east 26 almost 10 miles and watch for the sign; if you cross the Necanicum River, you just missed it. The road to Saddle is the only paved one; ignore the unpaved side roads. There's a gate on the main road that may be closed Monday through Thursday; check by calling 800-551-6949 or 503-368-5943 for current trail conditions. Exercise extreme caution while driving this narrow, winding road, which is closely lined with tall salmonberry (*Rubus spectabilis*). You'll see many other woodland plants flying by, but don't worry, you'll see them on the trail too. The large parking lot at the head of this popular day trail can be full, and careful but creative parking may be necessary.

Most of the plants you'll see will endure continuously soggy conditions from mid-fall into early summer. All, except for normally riparian plants, can be grown without supplemental irrigation all summer. Otherwise, expect these plants to grow in the garden under the general conditions of sun, shade, slope, and so on that they enjoy here.

The trail begins in a grove of red alder (*Alnus rubra*), which favors moist sites and is a fast-growing, nitrogen-fixing "pioneer" species. The most significant understory shrub is red elderberry (*Sambucus racemosa*); its white flowers appear in late spring and are followed by ornamental red fruits that persist into autumn. A few *Rubus spectabilis* line parts of the trail here, particularly near an above-ground water tank, highlighting this plant's preference for wet sites—even right in the middle of small streams. Its bright, deep pink flowers attract hummingbirds and are followed by orange berries. Though it's aggressive and thorny, one might be able to restrict it in a garden.

A plethora of choice, mostly spring-blooming perennials peppers the floor under the deciduous canopy. *Erythronium revolutum*, with deep pink flowers, is a coastal species and appreciates cooler, damper sites than its inland cousin *E. oregonum*. *Trillium ovatum* is the most widespread trillium west of the Rockies and is easy to grow in our woodland, though gardeners in the eastern U.S. find it much more difficult than their similar *T. grandiflorum*. Yellow-flowered *Viola glabella*, while charming, is reported to reseed a little too well in moist gardens.

These early bloomers are followed by other mid and late spring perennials, mostly widespread west of the Cascades. *Disporum smithii*'s white flowers dangle from the stem tips and are followed by big orange berries. The vegetatively similar *Streptopus amplexifolius* bears cream flowers from the leaf axils along the stem, and black berries. *Mimulus dentatus* begins blooming in spring with yellow, nearly unmarked flowers and attractively dentate leaves, and continues into early summer. It prefers plenty of moisture in the garden. *Claytonia sibirica* (syn. *Montia s.*) is much less showy than claytonias from the Rockies but compensates by producing more of its pink-tinged white flowers over a long period. Although it reseeds through the shade garden, it's not aggressive enough to outcompete other plants and is easy to remove where unwanted. *Vancouveria hexandra* has curious white flowers that look like they've been turned inside out. It and evergreen *V. planipetala* fill the important garden role of plants that will grow in dry shade.

As spring progresses into early summer, larger and leafier plants become the center of attention along this part of the trail. The pale bleeding heart (*Dicentra formosa*), though not as robust and showy as some commercial hybrids, does better in the unirrigated garden. *Tolmiea menziesii* is a curious member of the saxifrage family. Its brick-red flowers are not showy, but its new leaves grow out of the axils of the older ones, resulting in its common name "piggy-back plant." It might be overwhelmed by taller plants in a shady border. *Maianthemum racemosum* (syn. *Smilacina racemosa*) is one of the few species here whose range spans the continent, but the western subspecies is much more robust and showy than eastern populations. Its fluffy cluster of white flowers, with a strong lily-of-the-valley scent, gives way to red berries. *Tellima grandiflora* has fringed white petals that fade to pink, and some populations are fragrant. It's another that does well in dry shade, even under bigleaf maples (*Acer macrophyllum*). Low-growing *Hydrophyllum tenuipes* has purple flowers here but can also be dull white. *Aruncus dioicus* is another large perennial, often occurring in forest margins; its fluffy white flowers make it a good native substitute for *Astilbe*. Tall *Stachys colleyae* closely resembles the noxious nettle (*Urtica dioica*) until its tubular pink flowers appear; in the valley, it's mainly riparian. In late spring and through summer, lady fern (*Athyrium filix-femina*) slowly unfurls its large fronds. It's limited to moist sites, though its water source may disappear by midsummer, and though invasive is an important native fern in the landscape.

At the upper end of the alder grove, the trail enters a western hemlock (*Tsuga occidentalis*) community and the understory vegetation changes abruptly. The dominant shrub or small tree is vine maple (*Acer circinatum*), similar to the Japanese maple (*A. palmatum*) and a bit easier to grow in the Pacific Northwest. When forced into more sun by road cutting or intentional planting, it takes on a different character. In shade, its delicate leaves turn a uniform yellow in autumn, but in sun, they become larger and thicker and turn brilliant red where most exposed, with those in less sun turning various shades of orange and yellow, a range of fall coloration rivaling *Liquidambar*. The other dominant shrub is red huckleberry (*Vaccinium parviflorum*), growing nearly exclusively on fallen, rotting

“nurse logs.” It is difficult to establish, probably because of reliance on mycorrhizal association.

In some places, the forest floor has a nearly unbroken carpet of *Oxalis oregana*—an excellent groundcover in the garden where it can be contained, although it recedes in late summer, to revive with fall rains. Sword fern (*Polystichum munitum*) is the dominant fern here, toughest woodland fern west of the Rockies in terms of ability to withstand abuse from nature or man. Its tall evergreen fronds make it an indispensable architectural plant in West Coast landscapes.

The trail crests a small spur saddle where another trail leads off to the right. Following the main trail to the left, you traverse back into an alder grove, and after a few minutes pass some large basalt boulders. On these rocks grows *Claytonia parviflora*, a small rosette plant suitable for a container or a rocky place near a water feature. Small ferns share the deeper shade of these rocks. *Cystopteris fragilis* is not that fragile in the garden. *Adiantum pedatum* ssp. *aleuticum* is another important landscape fern, usually growing near water and usually quite a bit taller than those you’ll find here.

The trail continues its climbing traverse before crossing a footbridge over a small stream, sometimes dry. Standing guard is *Heracleum lanatum*, a large, impressive member of the carrot family that would need lots of water and elbow room in a garden. Standing on this bridge, you’ll glimpse the first of the natural trail’s natural rockeries. Resist the temptation to crane your neck and torture your telephoto lens, for you’ll soon be up close and personal with the rocky slope.

You now switchback a few times, finally veering away from the open slope, and steeply ascend to a bend next to a viewpoint looking south over the Lewis and Clark River to Humbug Mountain. On your way, you pass inaptly named *Rubus parviflorus*, the thimbleberry, which has among the largest flowers in the genus, along with large, fuzzy leaves and thornless stems. Don’t put it in the garden unless you restrict it as you would bamboo; it’s a ferocious root spreader. Near the viewpoint you pass *Berberis nervosa* (syn. *Mahonia* n.), a low-growing relative of the Oregon grape (*B. aquifolia*), with which it shares cheery, fragrant yellow flowers and clusters of purple grape-like fruit. It’s a handsome low-growing, shrubby groundcover for dry shade, but its slight root system makes it difficult to establish. Here you also encounter devil’s club (*Oplopanax horridus*), an upright shrub with white flowers followed by red berries; in winter, its leaves fall, reducing the plant to a spreading clump of stiff, extremely spiny canes. Also leaning toward the trail is *Ribes lacustre*, one of the least showy native currants, with tiny, pale pink flowers on twiggy branches and decorative black fruits. Gazing toward Humbug Mountain, you spot *Ribes sanguineum*, unquestionably the showiest currant, widely planted in gardens and along freeways. Its pendulous racemes range from deep pink to white and attract hummingbirds in early spring.

At the currant’s feet and on the other side of a cable separating hikers from a precipitous drop, *Penstemon serrulatus* grows on the cliff’s edge. It’s one of the few penstemons that grows well in light shade, but it’s more floriferous in sun. Turning around to resume your hike, you’re stopped by a clump of the penstemon

relative *Nothochelone nemorosa* (p. 262), which looks great on shady slopes. It differs most noticeably from *Penstemon* by carrying its cauline leaves horizontally in nearly the same plane as the stems.

Fully back in coniferous forest, the trail veers left and levels out a bit. Switchbacks pass more vacciniums and the small-flowered but charming *Rosa gymnocarpa*. You soon pass a bit of exposed rock near which grows *Campanula scouleri*, a little, pale blue flower that's difficult to spot. A few *Boykinia elata* appear, a small, airy-flowered saxifrage relative that would look best planted en masse. Yet another switchback brings you to *Taxus brevifolia*, the Pacific yew, attractive yet reportedly difficult and slow-growing in cultivation. The trail steepens and rounds a bend where *Actaea rubra* (baneberry) bears fluffy white flowers followed by red berries high on stiff stems. The trailing blackberry (*Rubus ursinus*) rambles across the forest floor; its unpretentious white flowers yield small black fruits, but you don't want to introduce it into the few spots in the Northwest that it hasn't found yet. Though less offensive than introduced blackberry species, it is just as ineradicable.

*Phacelia hastata* usually grows in open rocky sites and suits a rock garden. *Trientalis latifolia* displays soft pink flowers above an attractive rosette on a short upright stem; preferring a little shade, it spreads underground by tubers and stolons but is uncompetitive. Still climbing, you see *Valeriana sitchensis*; it begins small, with pink flower buds, and gradually the whole plant expands and the flowers fade to pure white. *Lilium columbianum* has smaller flowers than most other North American species but is more tolerant of summer moisture than several other westerners. Brilliant *Castilleja miniata* grows large here in both shade and sun, generally preferring moister sites; some progress is being made in cultivating it. *Aquilegia formosa* is generally regarded as a woodlander, though it flowers best in forest margins and is a fine addition to a partly sunny border.

The trail quickly cuts across part of the nearly barren slope you glimpsed from below. This is a seep area in spring, drying out later. Vivid pink flowers of annual *Plectritis congesta* (p. 264) invite close inspection over its long bloom season. Blue-flowered *Collinsia parviflora* is another small annual here. Both these plants warrant a trial and are small enough for troughs. *Claytonia parviflora* dots the slope, growing smaller than those below. *Mimulus guttatus* is very small here, with proportionally large yellow, red-spattered flowers. *Fritillaria affinis* is quite variable throughout its huge range; here, it's small and dark-flowered. *Sedum oregonum* (p. 264) is my favorite native sedum, growing well in the rockery but also content to be drenched, responding to surplus water by sprouting roots all along its stems. It has yellow flowers and green, red-tinged leaves shaped like corn kernels. *Allium cernuum* may be my favorite onion, with pendulous, mid-pink flowers; it tolerates a wide range of garden conditions. *Lomatium martin-dalei* is one of the smallest desert parsleys, but showy for its size; it sometimes produces a second flush of yellow umbels above its glaucous foliage. *Achillea millefolium* is often not appreciated but should be allowed space in the garden for its value to nectar-feeding insects. *Clarkia purpurea* is a diminutive plant; there are several other, much more showy species native to the Northwest, all with medium

pink flowers. *Platanthera dilatata* is one of our larger native orchids. *Cryptogramma crispa* (p. 262) is a very attractive rock fern, one of those whose fertile fronds are separate and noticeably different from the nonfertile ones.

Plunging back into coniferous forest, you round a large, moss-draped rock at the far side of this open slope, on which a couple *Lomatium martindalei* grow—apparently they haven't read the book specifying their habitat. This rock also supports *Polypodium scouleri*, a fern restricted to the coastal region (p. 262). Though it's tough-looking, its inland counterpart, *P. glycyrrhiza*, is much easier to grow. Rounding this rock, you pass a nice colony of *Nothochelone nemorosa*. You may be dismayed by the presence of *Cirsium edule*, but it's one of our native thistles. Most of us spend too much time and effort fighting off exotic thistles to contemplate planting any of the natives, even the more interesting species from just east of the Cascades.

The trail continues up into a large blowdown. A log cloven in half serves as a bridge near an uprooted fir. *Maianthemum stellatum* (syn *Smilacina stellata*) grows upside down against this tree, obviously having been upturned; it'll be interesting to see how it responds to this treatment. In the meantime, you can watch your own plants' white flowers turn into reddish, melon-striped berries. This woodland spreader is a good substitute for *Convallaria* (lily-of-the-valley).

Switchback another couple of times, passing some log retaining walls, and you round a corner near another rocky area. *Allium crenulatum* (p. 260) bears medium-sized heads of flowers in varying shades of pink a few inches above the ground. It's a pretty plant, and gardeners who've tried unsuccessfully to grow other small falcate-leaved onions of the West should try this one. *Delphinium menziesii* is a good intermediate-sized species with deep blue flowers, small enough for a trough but large enough for the rock garden. *Cerastium arvense* has eye-catching white flowers with cleft petals and gray foliage.

Now you plunge into a grove of *Alnus crispa* subsp. *sinuata*, a shrubby tree that might substitute for larger alders in a garden, though it is invasive. The way is lined with *Delphinium trolliifolium*, a very large species with intense blue flowers that begin purple, a worthy rival of any large delphinium.

The next open rocky area features *Eriophyllum lanatum* (Oregon sunshine), a sprawling composite that might need a fair amount of space. I have a large, exuberant form of var. *integrifolium*, as well as a much more compact, well-behaved form I grew from seed collected in the central Sierra Nevada. *Campanula rotundifolia* here remains small, although I don't know if that's caused by its environment. You may have to grow many forms of both of these plants from seed before you find one that won't threaten to take over. *Minuartia tenella* looks a lot like many other minuartias, with tufts of grassy foliage and small, delicate, starry white flowers. At the upper edge of this you'll see *Lathyrus nevadensis*, one of many native peas, with pink-violet flowers and a relatively sedate habit. *Thalictrum occidentale* is an interesting dioecious member of the Ranunculaceae, with the anthers of the male plants dangling like fringes. *Iris tenax* (p. 260), though sometimes seen in woodland, does best in clearings and road cuts, bearing the most lavish violet flowers in full sun.

Another switchback brings you to a steep slope, your first challenging ascent. From this point onward, you must keep your eyes on the trail, or it may drop out from under you. Stop walking before ogling the plants! The tread here and on similar slopes farther up is underlain by chain-link fencing, which has surprisingly good traction even when wet. Part of the way is lined with red-violet *Penstemon serrulatus*. A few yellow *Erysimum capitatum* cling to the scree; although it looks like a border perennial, it's more at home on dry slopes. You get your first glimpse of *Lewisia columbiana* subsp. *rupicola* (p. 261). Resist the urge to clamber after it, as you'll come face to face with it repeatedly before the summit. You pass into alder shrubs again, switchback, and traverse to a point just above the chain-link tread.

You emerge onto a rocky nose surrounded by *Delphinium trolliifolium* and a pink mallow, *Sidalcea hendersonii* (p. 261). The latter, though shorter than *S. campestris* common in the Willamette Valley, is proportionally more substantial in both foliage and deep pink flowers, borne in a congested inflorescence over a long season. Across a near chasm rises a cliff peppered with a variety of rock plants, all of which you'll meet nearer the trail. From here, you begin a long traverse and soon pass another rocky area with *Saxifraga cespitosa*, a small mat-former with perhaps the largest flowers of the western North American species. Often seen at fairly low elevations, it should be just as growable as the popular Eurasian *Porophyllum saxifraga*. After passing through more forest, you cross a little footbridge where *Heuchera micrantha* grows in shade; you'll also encounter it in partial sun higher up. *Saxifraga oregana* is one of the largest species in the genus; some plants here become cabbages, with fuzzy rosettes nearly 12 inches across and inflorescences approaching 20 inches tall. In cultivation, it needs some protection from hot sun.

After crossing the bridge, the trail climbs and narrows to a slab of rock fractured from the bedrock, probably by ice action. In its shade grow *Mimulus* and, on the uptrail side, *Allium cernuum* on nearly bare rock. *Saxifraga bronchialis* is an interesting surprise; it's found from Alaska to the Colorado Rockies, but isn't something you'd expect in western Oregon. It looks like a smaller version of *S. cespitosa* but is reputedly fussy in cultivation.

The trail soon climbs up onto bare rock, in spring nearly covered with sheets of water. While the tread itself is not steep, it may still be slippery. Rounding this, you pass back into alders and nearly reach the creek you've been flirting with throughout your hike. You switchback at a small wall dripping with water and *Saxifraga occidentalis*. It holds short sprays of white flowers above rhomboid, leathery leaves. The succulent leaves suggest it might do well away from water, but this approach has backfired on me more than once, and *S. occidentalis* no longer grows in my garden.

You leave this wall and pass more seeps supporting *Dodecatheon hendersonii* and *Saxifraga ferruginea*. The shooting star is a substantial species with large leaves. Like other dodecatheons (now lumped with *Primula*; see the spring 2008 issue), it likes to dry out a bit later in the season, although many of them remain green longer with summer irrigation. The saxifrage has interesting, strongly toothed leaves and tall sprays of white flowers.



Another few switchbacks lead into coniferous forest again. The trail almost levels near the top of the ridge. There's a temporary shelter with a picnic table. Continuing upward, you emerge from the trees onto another rockery, interspersed with sparse alpine meadow vegetation. This is where you come face to face with the lewisia, growing right in the rocks. Though delicate and exquisite, it's an exceptionally tough little crevice plant. Here at home it lends the entire mountainside a deep pink glow; in the garden this form (available from Mt. Tahoma Nursery) is surprisingly adaptable. If you're here early enough, you'll see yellow *Erythronium grandiflorum* in bloom along the very tops of rocky ridgelines between here and the summit. This species is notoriously difficult to flower in the lowlands.

The trail heads around a rise and begins to descend toward a saddle. Cushions of variable *Phlox* here are very light pink. Slow-growing in gardens, it will eventually need elbow room., forming an ever-expanding mat. *Erigeron peregrinus* has nearly prostrate foliage and purple-rayed flowers about a foot above it. *Trifolium macrocephalum*, unlike exotic clovers, is a short, compact plant with large heads of pink flowers; few succeed in growing it. *Cladothamnus pyroliflorus* is a small, little-noticed shrub when not in flower, but it becomes interesting when decked with its metallic-tinged, peach-colored flowers with conspicuous upturned pistils. Usually seen in damper, shadier conditions, this is the southernmost limit of its range.

Along another rocky hillside crossed by chain-link tread, tall, white flowered *Polygonum bistortoides* appears—also usually seen in damper habitats. The trail crosses a minor ridge with a dead-end spur trail out to its end. A hedge of *Cladothamnus* guides you to the right. Between this and the trail grows large-flowered *Rosa nutkana*, compact in this exposed site. *Solidago canadensis* appreciates more moisture than it apparently receives here; it will make large yellow flames dancing over your border in summer. On the downhill side, a tall form of *Erigeron divergens* appears, with white, violet-tinged ray flowers. Exiting the trees, the trail curves sharply left and descends steeply along a rocky slope dotted with *Saxifraga cespitosa* (p. 263), *S. bronchialis* (p. 263), *Sedum oreganum*, *Lomatium*, and *Lewisia*. By now, you should find it difficult to decide which lewisias to photograph.

Among more woody vegetation lining the trail is *Physocarpus capitatus* with heads of white rose-like flowers. *Arnica latifolia* is a leafy plant with attractive, widely spaced yellow ray flowers. Note especially robust plants of liliaceous *Stenanthium occidentale* (p. 263) with pendent deep maroon flowers—good in a well-watered trough. *Synthyris missurica* explodes in spring with large, fuzzy heads of bright blue-purple flowers over a substantial plant.

From here, the trail leads down steeply toward a large boulder outcrop. You zigzag through a cleft in this, atop of which grows *Penstemon davidsonii* var. *menziesii*. This, like other members of subgenus *Dasanthera*, is relatively easy to grow and long-lived. It differs from var. *davidsonii* in having dentate leaves. *Silene douglasii* perches on ledges, its white, fringed petals suggesting that it's more delicate than it actually is. *Heuchera* and *Saxifraga ferruginea* grow from crevices on the west side.

You cross a low saddle and begin a steep, hazardous ascent across bare basalt. While there's a safety cable between the trail and the northern cliff, the rock can be slippery when wet. You make your cautious way across this rock and head toward a small stand of low trees, crossing a layer of lateritic soil. This reddish soil forms in place by the chemical decomposition of basalt. Here it supports *Rudbeckia occidentalis*, which has a cone of black disk florets but lacks rays.

After a thicket, you climb over a shoulder and emerge onto an alpine meadow growing on a relatively thick layer of laterite. *Geum triflorum* with pendulous clusters of furry pink flowers is not as drought-tolerant as this exposed site would suggest; it's definitely a meadow plant that I have to water in my garden. Many other plants grow here that do not normally occur on sunny, south-facing, windswept, well-drained sites: *Polygonum bistortoides*, *Aquilegia formosa*, *Iris tenax*, *Achillea millefolium*, *Lilium columbianum*, *Castilleja miniata*, *Sidalcea hendersonii*, *Heracleum lanatum*, *Fritillaria affinis*, and *Potentilla glandulosa*. The last, usually yellow-flowered, ranges practically all over the West. Along the trail, little *Viola adunca* huddles around small rocks, its blue-purple flowers peeking out. *Sisyrinchium idahoense* is another plant whose small but vivid purple flowers look best when planted en masse. *Galium oreganum* is a low, compact plant here, but much airier elsewhere.

The trail winds up the mountain, alternating between bare rock and thick laterite. As you near the western end of the mountain, you notice broad swaths of lewisia blanketing the mountain. Nearly at the end of the ridge, the trail veers sharply to the right and leads you along a low stone wall. You may spot *Anemone deltoidea* with large white flowers, and *Rhinanthus minor* (p. 264), a small, yellow-flowered relative of *Pedicularis*, here at its southern limit. As you follow this wall, the rock becomes barer except for lewisia, looking as if the mountain itself is in bloom. The semifinal pitch to the summit leads onto a spur ridge from the north end of the mountain. Early in the season, *Erythronium grandiflorum* and *Douglasia laevigata* flower here. Later, a walk along this spur gives good views of Saddle's north wall, covered with lewisia.

Back on the main trail, stairsteps have been chiseled into the rock, leading to a surprisingly large flat area surrounded by metal railing—not particularly attractive, but arguably a necessary safety feature. Ringing the summit are the usual suspects: lewisia, *Sedum oreganum*, *Phlox diffusa*, *Polypodium scouleri*, *Allium crenulatum*, and *Lomatium martindalei*. The view is stunning! You can watch the surf crash onto the beach, the distance lending it a sense of slow motion. You also sight the mouth of the Columbia River and the confluent smaller coastal rivers. You can see several of the Cascades stratovolcanoes: mounts Rainier, St. Helens, Adams, Hood, and Jefferson. Days clear enough to see all of these are locally called “five-mountain days,” but unfortunately, all is often obscured by the fog and rain for which the Oregon coast is famous.

To return to the trailhead, retrace your steps. The descent can be at least as demanding as the climb, especially if one has knee trouble. If you've been wondering whether your knees are in good shape, you'll know for certain by the time you return to the parking lot.



*Synthyris stellata* overlooks the Columbia River Gorge in early spring (p. 247). (David Dobak)



A Catherine Creek (p. 245) vignette: yellow *Crocidium multicaule*, pink *Lithophragma* sp., and white *Draba verna*. (D. Dobak)

Left, *Lomatium columbianum* (p. 245; D. Dobak); right, a closer look at *Lithophragma* (J. McGary).





*Olsynium douglasii*, including the not-too-rare white form (p. 245). (D. Dobak)

Left, an intermediate color form of *Olsynium douglasii*;  
right, *Bryum miniatum* coats rocks near the Columbia River Gorge (p. 247).





*Allium crenulatum* (p. 253) on Saddle Mountain in the Oregon Coast Range. (Nathan Miller)

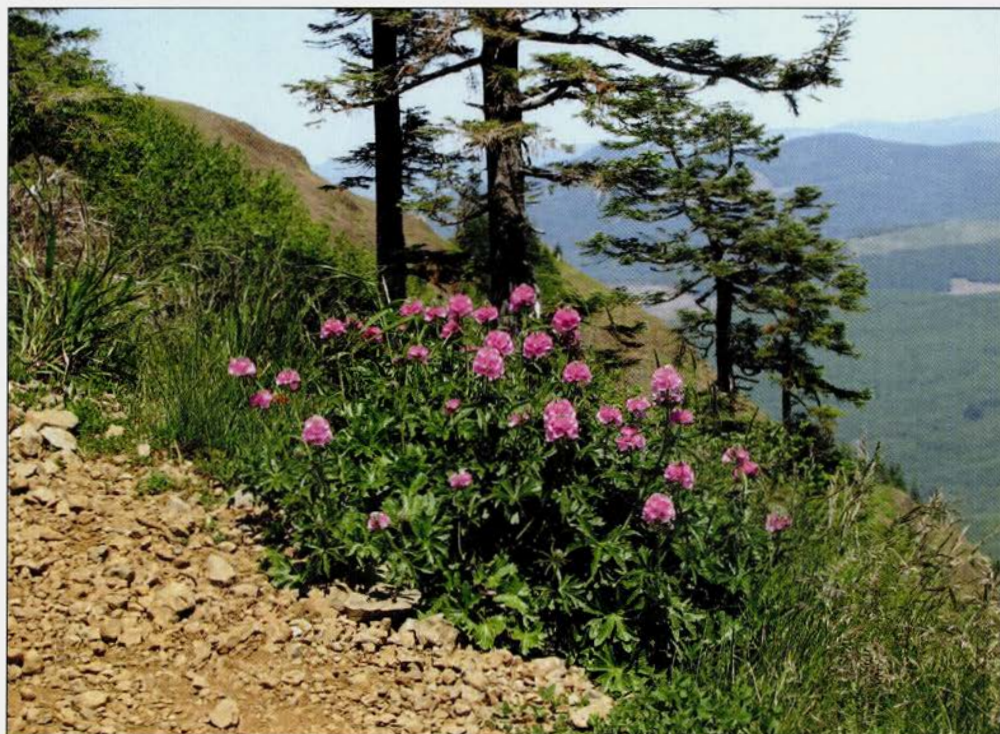
*Iris tenax* (p. 253) on Saddle Mountain; it's the hardiest of the Pacific Coast irises.





*Lewisia columbiana* subsp. *rupicola* (p. 254) makes it worth climbing Saddle Mountain. (N. Miller)

*Sidalcea hendersonii* (p. 254) is a showy mallow of the Coast Range.





*Polypodium scolieri* (p. 253). (N. Miller)

Left, *Cryptogramma crispum* (p. 253); right, *Nothochelone nemorosa* (p. 252).







*Saxifraga cespitosa* (p. 254). (N. Miller)

Left, *Stenanthium occidentale* (p. 255); right, *Saxifraga bronchialis* subsp. *vespertina* (p. 254).





Right, *Plectritis congesta* (p. 252); left, *Rhinanthus minor* (p. 256). (N. Miller)

*Sedum oregonum* is colorful in both flower and foliage (p. 252).





*Corydalis malkensis* (p. 279) with *Chionodoxa*. (Mike Kintgen)

Left, *Corydalis ambigua* (p. 279) ; right, *Corydalis kuznetsovii* (p. 279).





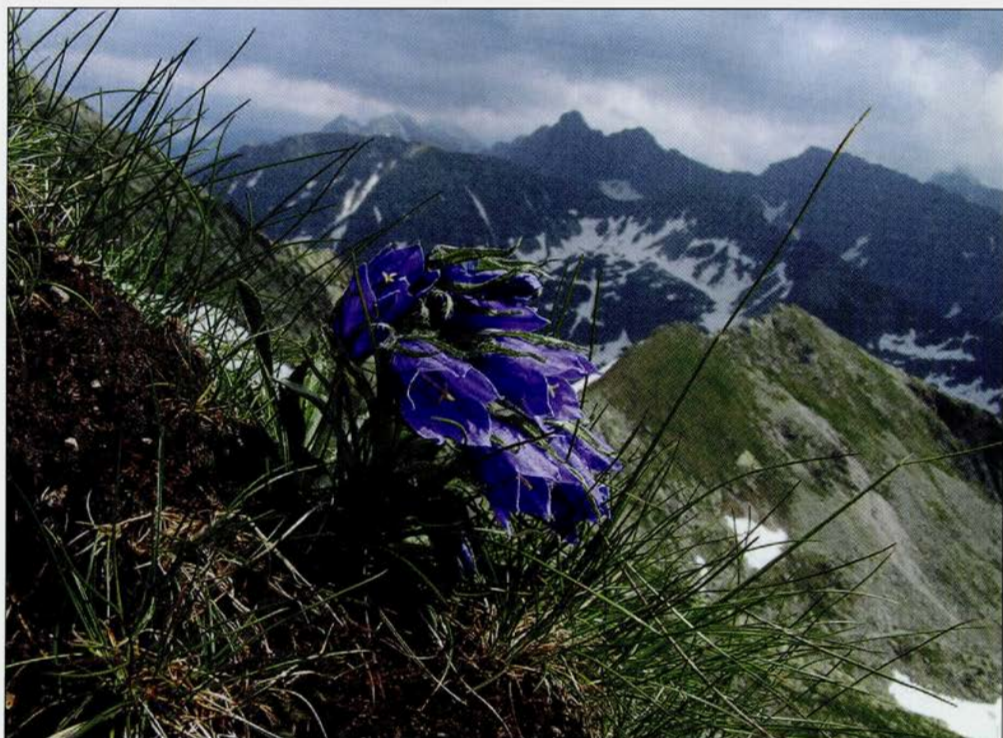
Left, *Corydalis ruksansii* (p. 279); right, *Corydalis schanginii* subsp. *ainae* (p. 278). (M. Kintgen)

*Corydalis wendelboi* (p. 279).





Two award-winning photos by Stefania Wajgert of Poland from the 2007 contest: above, a spring scene in her garden, featuring a blue-flowered *Corydalis*; below, *Campanula alpina* (p. 300) in the Tatra Mountains.





*Lewisia cotyledon* 'Ashwood Strain' (p. 300) in Jack Muzatko's colorful rock garden, second prize, class 3, in the 2007 photo contest.

*Sedum pilosum* (p. 300), photographed by Esther Wrightman, honorable mention, class 3.





*Erythronium montanum* (p. 300) in the Olympic Mountains of Washington, by David Sellars, honorable mention, class 2, exemplifies skill in capturing a difficult subject – a mass of flowers.

*Erigeron compositus* (p. 300), also by David Sellars, third in class 1, is a good example of a portrait of a plant in the wild, showing all its significant characters.





*Dudleya ingens* (p. 300), by Jack Muzatko, honorable mention, class 3.

Yoko Arakawa found this remarkable shot of  
*Bomarea dulcis* (p. 300) in the Andes; honorable mention, class 1.







John Zabkar captured the fine details of *Drosera rotundifolia* (p. 300) in a Pennsylvania bog; honorable mention, class 1.

In an artificial bog in Scotland, Denis Hardy photographed *Lysichiton camtschaticense* (p. 300); honorable mention, class 3.





Geoffrey Charlesworth. A memorial article appears on p. 285.

With the dizzying array of plants that grow here, you'll be hard pressed to remember what you saw where. I had to take photographic notes to keep sections from blurring together. Naturally, I've probably missed some things. If you can, you too may wish to make multiple trips. Saddle Mountain is a veritable cornucopia of plants, and they don't necessarily grow where they're supposed to grow. This should give us all continuing hope that we can grow all those treasures that threaten to keel over if we look at them cross-eyed.

## Further Reading

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Nathan Miller gardens in Newberg, near Portland, Oregon. In addition to his enthusiasm for native Northwest plants, he is a potter and creates containers for things he grows. Plants and kilns compete for space in his garden.

# To See a World in a Grain of Sand

David Sellars

*To see a world in a Grain of Sand,  
And a Heaven in a Wild Flower,  
Hold Infinity in the palm of your hand,  
And eternity in an hour.*

— William Blake

Building a rock garden is a statement of belief—primarily the belief that you have the recipe for the rock garden soil just right. If the mix is not suitable, you may not know for some time; and there is not much you can do about it, because starting again from scratch would be an enormous effort. However, if you build a rock garden in stages over a long time, you have the opportunity to modify the recipe for the soil mix as you proceed.

I started building our rock garden with a mix of crusher fines (the small particles that remain after different sizes of rock have been sieved out at the plant) and compost. Saxifrages liked it well enough, but androsaces did not (with the exception of *Androsace lanuginosa* and *A. studiosorum*), and *Dianthus alpinus* choked just looking at it. I decided this soil had too many fines, and for the next stage I changed to a mixture of washed sand, pea gravel, and compost, but I found preparing the mix time-consuming. Some plants, such as *Penstemon rupicola* and *Dianthus alpinus*, were still not happy.

To reduce the labor, I hunted for a source of material with a wide range of particle sizes to avoid having to mix in the small stones. I settled on “Sechelt sand,” a sand product with a mixture of fine and very coarse particles from southern British Columbia’s “Sunshine Coast.” I mixed Sechelt sand and used greenhouse growing medium (Sunshine #1 Mix, which is mostly peat, adjusted for pH), with some compost mixed in well below the surface (at least 0.5 m). This worked much better for most alpinus; and in our high-rainfall climate, I found that many alpinus prefer the mix to be about 90% sand—which is, happily, easy to prepare. *Dianthus alpinus* is now so content it grows into large cushions. I increased the percentage of greenhouse medium for plants that would like a little more

organic material, and, at the other extreme, I developed a pure sand bed for androsaces.

When I compared the results of a mix with the widely graded sand with those of a washed sand mix such as builder's sand, plants growing in the more natural sand seemed much happier, even though most references on preparing a rock garden mix recommend using washed sand.

As noted by Christian Korner in his seminal work, *Alpine Plant Life: Functional Ecology of High Mountain Ecosystems*, alpine soil profiles, counter to expectations, often contain large fractions of very fine grain sizes, right down to fine clay material. This type of soil, though well drained, also becomes quite compact over time, and few alpiners in nature grow in loose sand beds. When you walk across a fellfield or climb over a moraine, the soil is mostly compacted underfoot. On really loose scree slopes, plants such as *Collomia debilis* var. *larsenii* seem to be magically growing in loose stones—but this is a brilliant illusion. *Collomia debilis* has long, flexible stems that grow up through the scree from a deep taproot embedded in fine-grained soil below the loose surface stones, with flowers and foliage at the tips. The scree flows around the plant and provides a coarse mulch, but the plant is not really “growing in scree” at all. It's growing in soil under the scree.

A point emphasized in *Alpine Plants: Ecology for Gardeners* by John Good and David Millward is that one purpose of soil is to anchor the plants. Alpine plants need to be well anchored in nature; otherwise, they would be uprooted by strong winds, avalanches, and movement of scree. Plants growing in rock cracks and crevices are certainly well anchored. The roots of alpiners on compacted fellfields find cracks that open up in freeze–thaw conditions, or crevices between stones and the finer matrix. So it may well be that plants are happier with more natural sand in the rock garden because, with a broader particle size gradation, the sand matrix compacts more than washed sand and provides better anchoring for the roots. Because alpine plants have evolved to be well anchored, it is possible that they prefer more compact soil conditions than loose sand. Natural sand provides stable root contact and better moisture retention while still maintaining good drainage. The fine particles also probably supply some mineral nutrients.

*Lewisia cotyledon* is an interesting example of a plant with thick roots that likes to be firmly anchored. It will tolerate being rootbound in a small pot for years and is virtually indestructible in that condition. However, if you plant *L. cotyledon* out in a vertical crevice, which is recommended for good drainage, some plants will expire in a few seasons. I suspect that they do not tolerate soil movement around their roots, which frequently occurs in rock gardens constructed with a coarse sand mix. The soil in vertical crevices needs to be really well compacted before planting, and even then there is likely to be soil movement over time.

A sand mix works for rock gardens in coastal British Columbia not because it replicates natural soil conditions in alpine areas, but because it compensates for the wetter climatic conditions. A mix of sand and greenhouse growing medium also has less chance of containing harmful soil fungi that are present in our gardens but not in the high mountains. Using sand with a wide grain size distribution

maintains good drainage in the winter, superior moisture retention in the summer, more mineral nutrients, and better root stability. Get your grains of sand right, and a whole new world awaits.

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David Sellars, an engineer, gardens just south of Vancouver, B.C., and is a frequent contributor of articles and photographs to this magazine. This article originally appeared in the winter 2008 issue of the *Bulletin of the Alpine Garden Club of British Columbia*.

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# *Corydalis* in Colorado

Mike Kintgen

Spring, as we all know, is by far the best season in the rock garden, so why recommend yet more spring-blooming plants? Why not something that blooms in the dead weeks of summer? Nevertheless, my subject here, the bulbous *Corydalis* species, offers spring color, providing a delightful complement to the usual fare of *Draba*, early phloxes, *Primula*, and *Porophyllum saxifragae*.

Denver is sometimes thought of as an “alpine city” by people who have never been here in July, when it is 104° F (40° C) and no rain has fallen in six weeks. The city can have sixty or more days of 90° weather each summer. Denver is not a true summer-dry climate: violent thunderstorms in July and August bring a bit of relief. But these thunderstorms are localized and rarely cause rot even in plants sensitive to summer wet, thanks to the generally low humidity, and within a few days the garden is parched again.

Like gardeners everywhere, we need plants that tolerate such varied conditions with grace. Some of the genera mentioned above can struggle and even lose the battle in July or August, but bulbous corydalis spend the torrid months safely and intelligently below ground. The lion’s share of bulbous corydalis (most North American perennial *Corydalis* species are rhizomatous) are native from Europe across Asia to the Pacific. Evolving in climates that are often seasonally hot and dry, members of this genus have proven tolerant of summer heat and drought in the Rocky Mountain region. The cream of the crop (unless you count the forest-dwelling eastern Asiatic species) originate in Central Asia, from Turkey to the western boundary of China. Denver happens to share a similar steppe climate. In the rock garden at Denver Botanic Gardens, I have been pleasantly surprised by how well many species of *Corydalis* have performed. A few are doing so well as to be considered weeds. Below are my personal experiences with several species.

## *Corydalis solida*

Native to eastern Europe and western Asia, this typical bulbous corydalis is no stranger to many gardeners. Displaying a wide range of colors from white to purple, pink, brick red, and almost blue, it is a good performer across most of the northern United States. ‘George Baker’, the beloved brick-red cultivar, has been

the most successful cultivar for us so far, while ‘Snowstorm’ and ‘Harkov’ have been slightly less vigorous. This may, however, depend on their locations in the garden. I have seen drifts of *Corydalis solida* in various colors in a northern Colorado garden that almost brought me to my knees. This year I am trying ‘Purple Gem’ with the hope that it will be as vigorous as ‘George Baker’. Unlike some of the Central Asian species, *C. solida* probably needs some shade and a loamy soil, or at least a clay soil enriched with organic matter.

### *Corydalis malkensis*

Like *C. solida*, this species (photo, p. 265) predates my tenure at the garden, a sign of its true adaptability to hot and dry summers. Originally received as *C. caucasica*, from which it differs in having more divided leaves, it bears very broad-lipped, showy white flowers. These are a lovely contrast to acid-yellow *Draba hispanica* and red ‘George Baker’. If that color combo is too strong, try it with pale blue *Chionodoxa luciliae*. Unlike many of the cultivars of *solida* that for us seem to set seed only if planted with another clone of the same species, our accession of *C. malkensis* is content to self-sow into small drifts. It is such a beautiful pure white that I think it would have to cover all 23 acres of the DBG before I started weeding it out. Similar to *C. solida* in its site preference, it grows on the north sides of berms or large boulders where the soil does not bake in the summer and some water is supplied. The bulbs can be expensive, but with luck in a few years you will have self-sowing colonies to share—or perhaps sell to feed your expensive *Corydalis* addiction.

### *Corydalis paczoskii*

The one true “weed” corydalis at DBG so far was planted in a bed north of the former alpine house (now the Cactus and Succulent House) where tiny treasures are grown. I have to keep a watchful eye lest it get out of control. The great thing about many corydalis is that their leaves die back rather gracefully and quickly, so they don’t smother tiny alpines as so many other bulbs can. Most species, including this one, are going dormant by early May in Denver. The past two springs, to combat the heavy self-sowing, I have stripped off all the leaves and developing seed pods just before the seeds ripen. I haven’t noticed any suffering from lack of photosynthesis, but only time will tell.

### *Corydalis schanginii* subsp. *ainae*

In a neck-and-neck race with *C. ruksansii* as my current favorite corydalis, this has so far surprised me by coming back vigorously two springs in a row (p. 266). (Of course, now it will promptly die.) I planted the \$17 corm with some trepidation, wondering if I should be using public funds this way. The pale pink flowers tipped in yellow, with a brown dot at the end, are among the most striking of any corydalis. A dweller in semi-arid Central Asia, specifically Kazakhstan, it has done well on the Moraine Mound in the Rock Garden, where it receives a fair amount of water but has excellent drainage. Henrik Zetterlund writes that it grows in humus-rich soil beneath trees in canyons. Many of us in Denver have



found that plenty of Central Asian bulbs from “summer-dry” climates actually appreciate an occasional drink when it is hot and dry for weeks on end, especially if they are in well-drained soil. This fall I hope to plant a few more and will keep my fingers crossed that my luck continues.

### *Corydalis wendelboi*

Lacking the personality of the above and *C. ruksansii*, this one (p. 266) compensates with peerless pale pink flowers in large racemes. It is a native of southern Turkey. Let’s hope it adapts to Denver’s similar climate for the long run. Like *C. schanginii* subsp. *ainae* it lives on the Moraine Mound on a northern exposure with full sun all day and has returned larger and better for a second spring. This year it even seems to be setting seed. If only I could have self-sowing colonies like those of *C. malkensis* all my problems would disappear—at least while it’s in bloom. A vigorous grower at 6 to 8 inches (15–20 cm) tall, it can be seen and enjoyed at a distance. This and some others seem to appreciate a north-facing slope where the soil does not heat up too much in the summer. I have tried very few corydalis on south or west sides of berms, having noticed that most of our self-sowing colonies face north or east.

### *Corydalis kusnetzovii*

This pale pink or near-white corydalis (p. 265) at first disappointed me because the flowers didn’t show up well in the garden, but closer inspection reveals a beautifully patterned flower with darker pink stripes when first opening. It pays the rent now with this intriguing detail. It has returned for two years of service. Rather short, it rarely gets over 3 or 4 inches (7.5–10 cm) high, so site it where you can enjoy it at close quarters. It is a native of the Caucasus Mountains, and I grow it in partial shade with some summer moisture.

### *Corydalis ruksansii*

Just planted last fall, only time will tell if this likes Colorado as much as its native Tajikistan. While not as eye-catching as *C. schanginii*, it invites close inspection (p. 266). At first the flowers seem white with a very faint pink blush and a dark purple spur, but there are also delicate pink lines running down the corolla. This is truly one of the gems of the genus, and the literature mentions it is a good garden performer. I could be content with drifts of it.

### *Corydalis paschei*

This was not a show-stopper this spring, but its descriptions sound promising. Pale pink flowers with rather long spurs are a nice addition to the ever-growing collection in the garden. The comparatively high prices asked for bulbs promise a striking plant—or at least happy suppliers. I am growing it in moisture-retentive soil with late afternoon shade in the hope that it will think it is back home in its native Anatolian woodland.

### *C. ornata*, *C. fumariifolia*, and *C. ambigua*

So far, none of the blue-flowered eastern Asian natives has done as well for me. I'm hard-headed, so I'll keep trying. Of the above three, only *C. ambigua* (p. 265) is alive, and it predates my arrival at DBG, but it has not thrived there. *C. ornata* came up one spring and that was it, while *C. fumariifolia* did not even get that far. I think they need more winter moisture and more humus than I generally have given them.

These descriptions cover only a smattering of the multitude of bulbous corydalis that seem to be enjoying a horticultural heyday. They definitely deserve a place in the choicest rock gardens to keep all the other spring gems company, and to carry on after heat and drought have thinned the saxifrages and primulas. Now if only I could have a heat- and drought-tolerant summer-blooming corydalis in either sky blue or turquoise! Perhaps, somewhere out there, one exists. I am waiting—and willing to pay for it.

### Sources

The major source for *Corydalis solida* selections and species *Corydalis* is the catalogue of Janis Rukšāns from Latvia, which may be requested from him at <janis.bulb@hawk.lv>. Species can be grown from seed, but fresh seed germinates much better than stored seed, and the seeds are fragile and can be damaged by rough handling in the mail. Most bulbous corydalis increase quite slowly, only doubling each year, but eventually some specialist growers in North America should start offering them. —Ed.

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Mike Kintgen is a curator at the Rock Alpine Garden of the Denver Botanic Gardens and has carried out a number of special projects for the organization, including the recent NARGS-sponsored seed collecting expedition to Morocco described in this magazine last year.

# The Woody Dilemma

Panayoti Kelaidis

Sooner or later every rock gardener faces the dilemma: Should you or shouldn't you include woody plants among your precious alpinists? There are many facets to this dilemma. Nature's rock gardens certainly have woody plants. Just think of *Krummholz* in Colorado's alpine tundra—the picturesque bristlecone pines (*Pinus aristata*) and flag-tree Engelmann spruce (*Picea engelmannii*). The dry-land rock gardens of the Intermountain region of the United States are punctuated by gnarled sagebrush and any of a hundred unusual shrubs: *Cowania*, *Fendlera*, *Coelogyne*, *Philadelphus*, and many more. Think of *Daphne* in the Alps, or the miniature, twisted *Rhamnus pumila* of southern Europe. The arctic tundra is crammed full of *Phyllodoce*, *Cassiope*, and *Vaccinium*, not to mention dozens of species of *Salix*. And the Mediterranean has more cistus, lavenders, dwarf maples, and other woody genera than you can shake a stick at. And let's not even *think* about the rhododendrons of the Himalaya. Yes, indeed, nature's gardens have an abundance of woody plants. So what's the problem, then?

The problem with woody plants is twofold. Let's begin with the top half, where *Cercocarpus intricatus* is a case in point. In nature this rarely grows more than a foot or two high or wide, making a dense, dark mound—perfect for a rock garden. In nature, though, it rarely gets more than 5 or 10 inches of precipitation; it grows on solid rock; and it's browsed within an inch of its life every year by antelope, deer, rabbits, and who knows what else. Fierce sun burns down on it for months on end, and cruel winds prune its branches with the tenderness of the Demon Barber of Fleet Street. But put this same plant in your garden, a stone's throw from some full-sized silver maples, fluff up the soil with grit, compost, and love, and water copiously (even once a week), and your little monster will attain adult size in a year or two; then it will climb wildly to the sky, reaching its flailing arms up as it never does in nature, with utter delight at your thoughtful pampering. This plant now has nothing to do with what grows on the slickrock of the Colorado Plateau—and quite frankly, it's ugly as sin.

The bottom half of the problem is roots. As any conifer aficionado will tell you, the only thing dwarf about dwarf conifers is their tops. Their roots reach out and spread with the gusto of a gourmand at a lavish banquet. Plant half a

dozen dwarf conifers in your rock garden, and I guarantee that your androsaces, primulas, penstemons, and saxifrages will soon look puny and start to struggle. You'll find that watering must be increased in frequency and duration to ensure that the plants don't flag, and suddenly you have to start feeding things to make them look good.

Between the rangy tops and the voracious roots, many wide rock gardeners eschew woody plants altogether. These are often the same people who avoid bulbs in the rock garden because of their unsightly withering foliage in late spring. These are the Worthy Ones, the restrained, the noble, the few. Fortunately, they're a rare species. Most of us grit our teeth and fill our rock gardens with bulbs and shrubs, and usually live to regret it. If you persevere long enough, though, you learn a few tricks.

## The bag of tricks

**Grow only the tiniest forms.** Avoid the husky plants in 2-gallon pots—the 'Montgomery' blue spruce or 'Alberta' spruce—that would make such an immediate statement in the rock garden. The statement may quickly become a Bronx cheer. These plants will soon grow to 5-gallon size, and you'll need a crane or a front loader to remove them, or perhaps a stick or two of dynamite. Seek out the tiniest miniature conifers, such as Jerry Morris's seven dwarf bristlecone selections; do research beforehand and check mail-order specialty catalogues for those that grow only a fraction of an inch a year. These are the plants that will repay you over time by developing a graceful form and accruing value with age.

**Be ruthless.** If it's too big, take it out. Don't feel wedded to your plants; they're only plants, for heaven's sake. Of course, I'm a big believer in thriftiness: whenever possible, you can dig a shrub carefully at the right time of year and move it into a border where it's more appropriate, or give it to a friend. We have some wonderful people in our chapter, Michael and Joan Roses, who make part of their living by helping repot large plants and moving specimens. If you don't want your overgrown shrub, a landscaper or nursery grower may be able to recycle it.

**Root prune.** Take a straight-edged shovel and slice down deeply an appropriate distance from your woody plant, between it and the area you want to protect from its roots. Clever gardeners can even place a thin slab of stone in the sliced area to slow down the recolonization of the rock garden bed by hungry roots.

**Be judicious.** Don't plant *Salix melanostachys* (a willow with a gigantic rootstock) next to an artificial stream—as I did. The black catkins are amazing in March, but the streambed will ultimately succumb as the willow grows twice as big as the books say it will. If you must have a large woody plant, put it far in the background, in a spot where it can fulfill its promise and not need constant pruning.

**Prune.** I know, I know. Pruning is an art, and you should stick to the five D's: remove only the dead, the diseased, the damaged, the demented (the crazy

growths), and the dumb. But some plants (daphnes in particular) respond wonderfully to tip pruning. Just pretend you're a mountain goat, but try not to drool.

**Candle your conifers.** New conifer growth looks like a taper candle and is quite soft. Snap it off at the preferred spot with your fingers to keep a conifer small and make it bushy.

Is it worth the effort to do all these things? When I look out on my rock garden in the sunny, snowless days of winter, and dozens of dark daphnes contrast beautifully with the reddish stone mulch and pink granite boulders, I say "Yes!" An alpine garden without daphnes is poorer for it. *Juniperus communis* 'Echiniformis' makes the densest of mounds, takes decades to get too big, and has silver-blue foliage that's a perfect foil for everything around it.

A dryland garden without a few windswept sagebrush shrubs is too faux for words. Some of us real westerners vie to see how small a form of *Artemisia tridentata* we can find; varieties *vaseyana* and *wyomingensis* both produce forms that are barely 2 feet (60 cm) high at maturity. Few plants are easier or more wonderfully fragrant to tip prune: make sure you wiggle your nose like a rabbit or antelope as you do it, in the interest of verisimilitude. The real fanatics seek out *Artemisia nova*, *A. arbuscula*, *A. tripartita* and its many forms, not to mention *A. pygmaea* or *A. pedatifida*. The world of tiny sagebrush in our wonderful West is vast, and very fragrant!

I find the notion of woody plants as the "skeleton" of the rock garden to be a bit too pat. I think of skeletons as white and bilaterally symmetrical, so the cliché doesn't appeal to me. Think rather of woody plants as anchors and foils—focal points that you place strategically for their year-round impact—and as highlights to organize the more ephemeral and colorful herbaceous masses around them. Be cold and calculating, selecting only the crème de la crème—say, *Hebe cupressoides*, a wonderful ersatz dwarf conifer that grows so painfully slowly that one day when you notice it's a foot tall and hazy with pale purple stars, you realize the enormous pleasure that comes from persistence and patience. Or the miniature Jujube (*Zizyphus zizyphus*) I saw in Montana, decked with delicious red fruits. Or the Persian rose (*Hultheimia persica*), growing only a few inches tall in a crevice of the limestone cliff at Denver's Rock Alpine Garden, much as it might on the high, dry crags of Iran.

Finally, woody plants last. Many of my favorite alpins are really a flash in the pan: give them two or three years, and they begin to decline. You must divide them, or move them, or propagate them, or desperately hope they produce a few seedlings (but not thousands). Few are the herbaceous plants that live for decades. But there are tiny woody plants that will outlast you in the rock garden, offering beauty and function and form, sometimes with zero maintenance, for decades into the future. What more can you desire?

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# In Memoriam: Geoffrey Charlesworth

Elisabeth Zander



Geoffrey Charlesworth came to gardening during a 1920s childhood in England. Though his family was large and not wealthy, they chose to use their vegetable garden allotment to grow flowers. As a young man, he grew houseplants in his city apartment. But it wasn't until the early 1960s—when, with his lifelong partner Norman Singer, he purchased a New York City townhouse—that he began to explore. While the yard did have an existing garden where he could plant bulbs, annuals, and perennials, as he later wrote, the three A's (alyssum, aubrieta, and arabis) did not flourish there. A tree permitted a maximum of five hours of sunlight per day. So instead, Norman and Geoffrey organized the whole street

with a beautification project that Lady Bird Johnson would have admired.

Since Geoffrey was commuting from the city while teaching mathematics at Hofstra University, it made sense for him to buy a house in Hempstead on Long Island. There he indulged in rhododendrons, azaleas, bulbs, and woodland plants. Then in



1970, he met alpine evangelist Bill Brown at a local garden show. His interest in gardening expanded with a new twist—American rock gardening. He began faithfully attending meetings of the Long Island ARGs chapter. Brown recounted that for years he would see a shy older man sitting in the back. After five years of giving numerous programs, Bill asked for volunteers to speak. Geoffrey gave the second lecture in the show, and demonstrated that he was not only an excellent speaker but also extremely knowledgeable. Later, when asked why he had not stepped forth before, Geoffrey, in his humble way, admitted he was intimidated by not only Bill but also Joel Spingarn, the resident dwarf conifer expert.

In 1971, Geoffrey and Norman purchased property in South Sandisfield, Massachusetts. Norman arranged his work schedule so they could garden together all summer. Naturally, each had his own garden. They immediately placed very large orders with alpine nurseries. This practice continued, Geoffrey's order being distinct from Norman's, and sometimes shipped in several lots to allow enough time to pot up. Geoffrey always said he needed to make sure these specialty nurseries would be around to supply him, so he kept placing large orders. Initially Geoffrey planted several raised beds with alpines, from asperulas to saxifrages, including some alpines moved from Hempstead. The first winter's frost and thaw cycles heaved and burned inordinate amounts of plant material. Undaunted, he ordered more. By the end of his second summer at South Sandisfield, his rock garden species numbered in the hundreds. This small number (considering later developments) was due in part to other ventures and catholic tastes: a vegetable garden, a perennial border, a cutting garden, and a fruit orchard, all going on concurrently.

Through a connection with Timmy Foster's aunt, Norman found Linc Foster and the Connecticut Chapter of ARGs. Geoffrey joined the national ARGs (a chapter requirement) in October 1973 and attended some meetings. Linc Foster was chapter chair, dispensing erudition and plant lore. Linc also exhibited top-quality show plants to compete with the specimens of the superb plantswoman Ellie Brinkerhoff (later Spingarn). An excellent publication for rock gardening in the region, *The Connecticut Plantsman*, was then in its infancy, and chapter plant sales were full of spectacular specimens. Plans were afoot for an Eastern Winter Study Weekend to be held in 1974 in New Haven, Connecticut, with speakers such as John Watson, Paul Palomino, Dick Redfield and, of course, the dean of rock gardening, Linc Foster. Geoffrey did not hesitate to get involved.

Formally retiring from Hofstra in 1981, Geoffrey sold his house in Hempstead and moved his plants to South Sandisfield. By then the dahlias and grapes had given way to specialized rock garden plants. Both he and Norman became life members of ARGs in 1983. By then, Geoffrey had amassed sufficient experience to publish his first article in the *Bulletin*: "The Worthy Sandworts." This was closely followed by the well-received "Some Poppy Kin." He continued to favor us with his wit, knowledge, and elegant prose for many volumes of the *ARGs Bulletin*, later the *Rock Garden Quarterly*.

By then a keen showman, Geoffrey won a first prize at the ARGs Annual Meeting in 1983, competing with the likes of Foster, Roy Clark, and Wally

Alberts. So involved with the Connecticut chapter (and seeds, of course) was he that, with Norman, he volunteered to help fellow member Ev Whittemore with the ARGS Seed Exchange that year. In those days it was a kitchen-table effort. He and Norman would drive from Massachusetts to Connecticut with the list, and Judy Glattstein's husband's computer would chug away, arranging it in alphabetical order (it took an entire night) to ready it for distribution. He fondly recounted this scene to me many times as he entreated me to assume the seed exchange mantle. He promised that he and Norman would help, of course (and they did). The cover he drew for that year's seedlist hints at his sense of humor.

In 1984 Geoffrey became chairman of the Connecticut chapter, and two years later he co-founded the Berkshire chapter as a study group. The first meeting lecture he gave was a magnet to New England gardeners: "Plants you can grow in the Berkshires." His "unselfish contributions at every level" and his "eloquent and informative writing" were rewarded in 1987 with the ARGS Award of Merit. In 1990 he took a turn as BARGS chapter chair.

Gathering all his essays from national and local ARGS newsletters and bulletins, Geoffrey published *The Opinionated Gardener: Random Offshoots from an Alpine Garden* (Boston, 1988), with illustrations by Timmy Foster. This book is now among everyone's top ten horticultural selections. The NARGS Carleton R. Worth Award in 1990 cited his "lucid, witty and eloquent prose." His second book, *A Gardener Obsessed: Observations, Reflections, and Advice for Other Dedicated Gardeners* (Boston, 1994), won the prestigious 1994 Quill and Trowel award for its universal appeal to gardeners. As BNARGS newsletter editor at that time, I replied to a remark by Norman that "Geoffrey writes for himself," saying that I thought he wrote for me. Geoffrey chimed affirmation for us both: he wrote not only for himself but for another person, whether a BNARGS member or friend.

Early on a confirmed seedaholic with encyclopedic tastes, Geoffrey purchased every species listed in the trade. After exhausting them, he turned to countless societies, specialists, expeditions, and exchanges, as well as private lists here and abroad. By the time the Berkshire chapter was launched, Geoffrey and Norman were sowing upwards of 2,000 species each year. Norman did admit to me that one year they hit 2,400 each, but could not maintain that volume. Some, but not many, species were duplicated in efforts to find the best form. When these 4,000 pots germinated in the spring, they would pot seedlings for themselves as well as their friends and local chapter sales. Each September, the plant sale of their "surplus" seedlings drew expert gardeners from all over the Northeast.

The money raised from this sale were generously donated to local chapters, the Berkshire Botanical Garden, and sponsorships of eastern European memberships in ARGS. A complex mathematical formula, worthy of Geoffrey's encryption talent, was used to determine the apportionment.

It is difficult to recount Geoffrey's gardening life without mentioning Norman. Geoffrey grew to know the plants while Norman learned the people. And each gained from the other with far-reaching results. One such friendship was with Vojtech Holubec, the noted Czech author, seed collector and current chair of the Czech alpine garden society, who writes:



“Norman and Geoffrey were my first American pen-friends. As a young teenager I wrote to Norman, secretary of ARGs that I would like to join the society (I guess in 1980). Norman generally answered with a long letter and Geoffrey continued. . . . That time in communistic regime we could go only to Romania and Bulgaria; other eastern countries were not interesting like E. Germany and Hungary, because lack of mountains. Our value for seed exchange were great plants from Carpathians, Prin, Rila, Rhodope etc, which were for westerners ‘terra incognita’, such as western mountains for us. While Norman was, realistic writing about organizational things, ARGs etc., Geoffrey was poetic describing nicely plants and how to grow them.

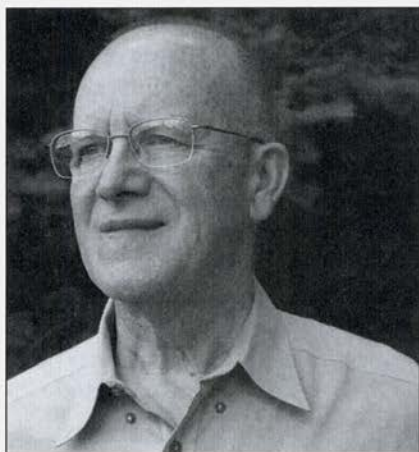
“Geoffrey and Norman definitely corresponded before me with other Czechs like Zdenek Zvolanek, Josef Starek/Frantisek Holenka, possibly Radvan Horny, Olga Duchacova etc. Linc Foster had a talk several times during seventies/eighties for our club and he referred also about his neighbors. Geoffrey and Norman visited us after 1989, after collapse of communism. Geoffrey had an article in our bulletin translated I think twice. I cited his book in my *Rock Gardens and their Construction*.”

For me, my fondest memories are from the early 1990s, when I would arrive in South Sandisfield in early afternoon, keeping their “schedule” at the forefront of my mind. Only after duly admiring the plant-of-the-day in each garden would I be ushered into the kitchen. The table would be cleared of seed packets and international correspondence, then placemats and napkins laid. While Norman sat and proofed the latest BARGS newsletter issue, Geoffrey would serve tea. Norman and I would go over every possible turn of phrase, sometimes heatedly. With Geoffrey’s writing, I would need to prove each comma added by reading aloud. Geoffrey would bring out some cookies, or, if I were lucky, a Sacher-torte, while we sipped from our cups, and he gave his view. After we chatted awhile about plants and/or plant people, Geoffrey would get up and bring on the good stuff—a chocolate bar.

One thing led to another, and we would go on to the greenhouse or outside to the seedling bench to look at and perhaps choose a plant or two before my departure. After a few years of this, I told Geoffrey he had become the voice that speaks with my conscience. To which he replied “Oh, really?” with that quizzical style and enigmatic smile so typical of him.

Geoffrey died on May 14, 2008, after a short illness. His legacy of kindness and compassion remain with us as a testament and model. As gardening is a great “performance art,” so too did his generosity and erudition reach star proportions in the way he imparted them to us. By writing articles and books that inspired us, lecturing with wit and scholarship at meetings, and donating copious trays of rare and treasured plants to chapter sales, he gained the voice that speaks to each of us. It wasn’t so much what he had, but rather what he shared with all of us. He is greatly missed.

# NARGS National Awards 2008



## Marvin E. Black Award: Ernie Boyd

Established in 1990, this award is given to a member of the Society who excels at promoting membership in NARGS and at organizing study weekends and national and international meetings. The recipient should also be involved in such activities as planning trips to study plants and to meet other plantspeople. Emphasis is placed on members who have helped other people reach their potential in the plant world.

Ernie Boyd personifies the spirit of the Marvin Black Award in many ways. During his years as a member of NARGS and of the Ottawa Valley Rock Garden and Hardy Plant Society (OVRGHS), he has with enthusiasm and determination undertaken projects involving members both new and longtime, including the seed exchange, conservation efforts, public awareness, and membership growth. The 2008 NARGS Annual Meeting in Ottawa is a testament to his ability to draw upon the talents of the entire Ottawa Valley group. With his gentle persuasion, prodding, coaxing, coercion, mentoring, and good humor, this event and others over the years have been successful, satisfying, and fruitful for NARGS and OVRGHS.

Ernie's personal enthusiasm for trough gardening evolved into traveling far and near in good weather (and truly awful weather), giving classes and workshops on making troughs, choosing appropriate plants, and planting and caring for the miniature rock gardens that were created. In this small way he hoped to draw in beginners to rock gardening and expand the imagination of experienced gardeners. Indeed, the idea was and continues to be successful beyond expectation.

With charm, wit, and great respect—always the gentleman—Ernie continues to inspire and foster others as they learn, grow (literally), share, and spread the message of the joys of the rock garden world. Even now, as he gathers plants, family, and garden paraphernalia for a move to the west coast, he takes along his talents and plans for continuing his involvement in the plant world.

Ernest H. Boyd, thank you for all you have done for the Society, and congratulations. The Marvin E. Black Award is an honor well deserved!

—Marguerite Bennett



## Geoffrey Charlesworth Writing Prize: Kristl Walek

In fall of 2007, Geoffrey Charlesworth, for whom a memorial appears in this issue, donated money to NARGS to endow an annual prize to be awarded for “the best article published in the *Rock Garden Quarterly* each year.” His own articles graced this journal for many years, and his two books on gardening are a delight to read. He wished to encourage other good writers to

help maintain the quality of our publication, and in this way not only to help other gardeners learn, but also to recruit and hold members.

A panel of three judges from three countries was appointed to award the first Charlesworth Prize. Their decision fell to an information-packed, well-written article published in the summer 2007 issue: “Seedy Thoughts,” by Kristl Walek of North Gower, Ontario. Although no consideration was given to the residence of the winner, it was a happy coincidence that Kristl lives in the region where the Annual Meeting took place, and she was able to receive her award in person.

Kristl Walek is the proprietor of Gardens North, where she grows hundreds of species primarily for the purpose of seed production. She also assiduously collects seeds from natural populations. She has distilled her knowledge about collecting, cleaning, and storing seeds in the award-winning article, which will help many readers, novice or experienced, in supporting both their own gardening and the NARGS Seed Exchange.

Congratulations to Kristl on being the very first recipient of the Charlesworth Prize. It is to be hoped that it will inspire others, too, to do their best writing for our *Quarterly*.

—Jane McGary

# Collectors

Robert Nold

"Put that down!"

"But I want it."

"You can't bring that home with you."

"But it looks like a different species . . ."

"It's *gross!*"

"It's just moss."

"It's gross. Look what it's growing in."

"But George Schenk says moss grows in places like that."

"Here we go again. You get a book on moss gardening, and now you feel compelled to scrape up bits of moss from any old place, just so you can grow them in troughs."

"But . . ."

"I don't care if moss is an 'ideal seedbed for Aretian androsaces', it's still gross, and we're not bring any of that home with us."

"It's not that gross."

"It is."

"Who was it . . . who was it . . . who found the dead raccoon, went back at night, cut its head off, came back and boiled the head just to get a raccoon skull?"

"That was science."

"No it wasn't."

"Yes, it was. Get in the car."

"No, it was just you boiling a raccoon head. And let me tell you what boiled raccoon head smells like . . ."

"You're not bringing home the moss anyway."

"I can wash it."

"*That* doesn't wash off."

"I think it does."

"You're wrong."

"But it'd look good in the trough."

"No."

“Yes.”

“No.”

“Okay, then, I get to put the raccoon head in the trough.”

“No.”

Well, maybe it was science, but let me tell you, boiling a raccoon head is something you do outdoors. You have to get on your overalls, take out your front teeth if you can, and when your neighbor sticks his head over the fence wondering what that smell is, you say, in your loudest voice, “Maw found this here raccoon down by the crick, and she’s boilin’ herself up a dinner for the young’uns.”

“Let’s go get some dinosaur poop instead.”

“No.”

I never get my way. You can go to rock shops and buy fossilized dinosaur poop that might look good in a trough. Well, of course it would be fossilized, wouldn’t it? The only thing is, it’s these sort of tannish-gray round rocks, and you’d have to have a sign, which defeats the purpose.

You wouldn’t need a sign with a raccoon head.

Moss is a different story. If there’s a moss Flora for Colorado, I don’t know about it. I have several different kinds, and assume they’re different species. I have the flat one, and a mound-forming one, and one that’s like a little forest of pine cones—no, cycad cones—that grows in a dryland trough. All of these go through a Colorado summer completely dried out, then turn green in the autumn. Birds sometimes pick through them and I have to push the tattered remains back into the ground.

There are some anti-moss people among local rock gardeners, but what do they know?

Anyway, sigh. I headed back to the car. Then something green caught my eye on the other side of the alley. I moved toward it. I heard a voice behind me.

“No more moss! And stay away from that dumpster!”

---

Bob Nold grows his androsaces and moss near Denver, Colorado. He is the author of books on the genera *Penstemon* and *Aquilegia*, and a new 2008 Timber Press title, *High and Dry*. His fellow collector is his wife, Cindy Nelson-Nold, whose paintings have graced the covers of two volumes of the *Quarterly*.

# Establishing Purchased Plants: A Forum

Compiled by the Editor

Although I grow many plants from seed, I also buy plants, especially choice cultivars (selections) that can't be duplicated by growing seedlings. Particularly when these are shipped from nurseries outside my region, the Pacific Northwest, I may have trouble establishing them in the garden. Over 20 years and an uncounted number of failures, I've learned that it's best for me to treat most nursery plants like rooted cuttings or young seedlings. I shake off as much of the attached soil as I can without damaging the roots and repot them in one of the soil mixtures I use for plants propagated here. Then I keep them on my covered deck with other young plants for some months, planting them in the fall (feasible in this climate) or even the next spring. Only very vigorous-looking plants, dormant bulbs, or those I know dislike disturbance (such as *Daphne*) go directly into the ground.

There are several reasons for difficulty in establishing purchased plants. First, they have often been grown in a medium quite different from anything in the garden; to minimize expense and weight and prevent overwatering, nurseries typically use light, inexpensive ingredients like Perlite and composted bark. Even if this is removed before planting out, some gardeners think the root system that has developed in it may not adapt well to a heavier, more mineral soil. Second, some growers fertilize plants heavily to induce attractive growth quickly. This can produce "shelf appeal" but be detrimental to the long-term survival of a plant—as anyone who's tried a big, fat garden-center *Lewisia cotyledon* may know. Finally, there is the unavoidable shock of moving from the climate where propagation has occurred to an extremely different one, from a shaded greenhouse to full sun, and so on.

I wondered how others dealt with this, so I asked on the Internet forum Alpine-L. A lively discussion ensued, with opinions from both growers and customers.

LIS ALLISON in Ontario wrote: "Over the last decade or two, we have gotten so used to buying plants in pots we have forgotten that it didn't use to be like that. I can remember going to a local nursery and picking out the plants I wanted, and the owner getting a spade and digging them up for me. When nurseries

started to sell their plants already in individual pots, at first this was wonderful. You could buy plants growing in pots, plant them when it was convenient, and not lose them to transplant shock.

“It was easier for the nurseries, too: less labor-intensive, fewer losses, easier to tell customers how to deal with their purchases. Having the plants in pots made it possible for them to offer much more choice and sell them over a longer season. As people got more used to buying plants in pots, the mail-order plant nurseries got more customers, too.

“Of course, things couldn’t stay like that. Shipping costs started to climb. The costs of soil and pots rose. Customers (the nongardener ones particularly) wanted rock-bottom prices, and plants in full bloom. Small local nurseries were forced to change from growing and potting (or digging) plants to ordering them from wholesalers and reselling them. Wholesalers brought down their costs by switching to nonsoil mixtures. It’s cheaper and easier to grow plants in soilless mixes even if you have to then make like a chemist with fertilizer, pH adjustments, and so on. Basically, they now grow them hydroponically, which means they have more control over the whole process, and can concentrate on having blooming, shippable plants early in the season, at the lowest possible cost.

“The trouble is, the nurseries, even the small privately owned ones, have been less than forthcoming to their customers about what this means about the plants they buy.

“I first ran into problems with this with the herb plants I was buying by mail from a well-known Canadian herb nursery. They arrived looking bright-eyed and bushy-tailed, and died promptly a few days after I planted them. Seedlings (‘plugs’) from this same nursery wholesaled to a local reseller and potted up into the mixture the wholesaler recommends did the same. I checked with a few other people, and some said they had no trouble at all, but others had the same result I did. It turned out the plants were in a very light, fluffy soilless mix of very low pH, so they had hydroponic-type roots and no resistance to normal soil fauna, and none of the resilience normally the result of growing through a more substantial medium.

“There is a big gap between the advertising of cheap, shippable, interesting plants and educating buyers about how to deal with them. Pro-Mix and its cousins are here to stay, but we need to know that the plants we buy need to be treated like cuttings. I wouldn’t be surprised if the fact that so many potted plants don’t survive planting is one reason we aren’t seeing people taking up gardening as much as we would like.”

BOB NOLD, gardening in a Denver, Colorado suburb: “Here, alpine plants have to arrive by mid-April or there is no hope at all. It gets too hot and too dry too quickly. I unpack the plants and set them in extra-fancy custom-built flats (my wife made them) covered for protection from rodents for a few days, and then they go straight into the ground, or trough. I make a little flag out of a bamboo skewer and duct tape, the handyman’s secret weapon, to remind me to water my little plants.

“Spring temperature fluctuations in Denver have to be experienced to be believed (where else could the forecast for one day be 80° F [about 27.5° C] with

snow?), but the little alpine plants take these in stride. If they go in the ground quickly, even if they get frozen solid as some did a couple of weeks ago, they have much better chances of survival than if they were allowed to linger in the flats and get planted at the proper planting time for my area.

“My mail ordering is now limited to alpiners, and after the brief hardening-off period I just jam the plants into the garden, or trough. When I ordered dryland plants, many years ago, I found it was necessary to soak the soilless mix off the roots before planting.”

ROBERT PRIES, in Missouri: “Whether it be mail order or plants from the big box stores or local nurseries, I have found that all of them need replanting when received. The soilless mixes are great if one likes to water three times a day. They are terrible if one wants to set a plant directly into the garden. Maybe some people replace their garden soil with potting soil, but in my garden the clay soil would just form a small vase that would either fill with water or totally dry out if the root balls were placed directly into the ground. Even plugs of annuals need some care to break up the potting soil and get the roots into the clay soil.

“Whenever I receive a plant it goes into a new potting mix made up of about half and half the original potting soil and clay loam. If I don’t do this the plants invariably dry out too much. This can happen in a day’s time with the soilless mixtures. Many perennial plants go into a sort of halfway house, a large pot with a new soil mix, and after perhaps a season get put into the garden. The problem is that I always have a large pot garden of plants that are being acclimated, but it actually doesn’t look too bad when all the pots are black plastic.”

The grower’s point of view was expressed by ELLEN HORNIG, whose nursery, Seneca Hills, offers a remarkable range of unusual plants, especially for the woodland garden: “As a purveyor of potted mail-order plants, all grown in those dreadful artificial composts (in my case, Fafard 52), I have to say that (a) we get very, very few complaints about plants dying, and (b) my own garden is to some extent composed of the tired, end-of-season, over- or under-grown plants from my own nursery, and despite the fact that they’re sometimes in rough shape and planted late in the season, they usually settle in and grow awfully well.

“I think there is a certain Luddite perspective at work in criticisms of artificial mixes. The mixes really work extraordinarily well for a lot of plants. It is true that the plants will transplant best if the root ball is loosened and the potting mix strewn about or mixed with soil; I don’t think this is because the roots are effectively developing ‘hydroponically,’ but rather that planting the root ball intact will produce a bathtub effect, where moisture in the large-pore-spaced root ball will migrate out into the small-pore-spaced surrounding soil, leaving the root ball dry. So you have to handle them a little differently than you would a field-dug plant. Is this really a problem?

“There are many advantages to these mixes. Not only do they enable us to grow good-looking plants, they knit well in the pot so the plants can be shipped without making a huge mess; they’re light-weight (cheaper shipping); they’re



much freer of pathogens than soil will ever be (would you really want to purchase soil from all over the country and put it in your garden?); and to an increasing extent they're made with organic waste products. To complain because they require different handling is, to my mind, akin to complaining that your computer keyboard doesn't produce the same outcomes that your old typewriter did.

Replying to a subsequent comment about plants shipped bare-root, Ellen wrote: "Any nursery that keeps track of its costs can tell you that bare-rooting a plant takes a lot longer than wrapping it for shipping, particularly if the plant has developed a large root system in a confined pot. Labor is our single biggest expense. Whatever you gain in weight lost from bare-rooting, I am sure you lose in time spent on the process. It's only when you don't factor in the labor time involved that shipping bare-root looks inexpensive.

"With the sorts of plants we grow (mostly in pots that hold 1.5pt/706ml or less), weight is not as much a factor in shipping costs as people might think. UPS charges start with the basic fact that they're moving and delivering something for you; that tends to cost a minimum of \$6 almost anywhere, and the costs don't rise proportionally with the weight. What makes shipping expensive is the combination of UPS charges (which rise almost daily now), shipping materials, and the big one: labor. Orders have to be entered into Quickbooks, charges run, paperwork printed, orders pulled, plants groomed and wrapped for shipping, boxes packed. This is why most nurseries use a high base shipping charge: there's a substantial fixed cost involved in shipping even one plant.

"The vast majority of comments we get are in favor of shipping in pots. Many customers don't want to have to deal with plant shipments the moment they arrive. Many have to wait until the weekend. Plastic pots are indisputably a problem, and I think most growers would be thrilled to find an alternative that would hold up long enough to allow them to grow and ship the plant. So far I haven't encountered any that work."

JAMES WADDICK, a botanist who grows a very large variety of species in the difficult climate of Missouri: "What is the purpose of sending a pound of dirt and a plastic pot except to ensure that the sender doesn't get hassled by inept recipients? Sometimes shipping is 50% or more of my order. I recall when plants to be shipped were gently shaken free of most of the soil and the small root ball wrapped in aluminum foil or plastic and tucked into packing materials (there still are some growers who do this). On receipt I'd open the box and deal immediately with the plants instead of being tempted to have potted plants sitting around for days or weeks. I have even got totally bare-root plants packed in Ziploc bags and carefully cushioned. Recently I got some shrubs from the west coast with most of the soil removed; they were dropped into plastic bags tied shut around the root ball—all very neat. Another shrub shipment came from the Midwest completely bare-root. I was surprised they were able to remove every hint of soil from a fine, fibrous root system that still kept the shape of the original pot. Sent dormant and potted within hours of receipt, all have since leafed out and

look none the worse for this gentle treatment. Of course there are a few plants that may be so very delicate they can't be shipped any way except potted, but even these ought to be sent when dormant.

"I almost always repot plants on arrival. I'll shake most of the soil off and use my own soil mix in a larger size pot. I'll keep the plants in some shade and barely water (although I might spray the foliage) until the plant has recovered. Gradually it goes outside into sun or shade as appropriate and is carefully planted in soil a few days or a week later."

The English botanist, plant explorer, author, and gardener JOHN GRIMSHAW adds some important tips: "I don't buy many plants mail-order, but plants arrive here by mail/courier from one source or another quite frequently. Most are bare-rooted, some are washed clean (if coming from overseas), but few are potted.

"I think it's important to think that any plant, however robust it was before the lifting/depotting, and however short the journey time was, is bound to be a bit stressed. It needs a bit of extra care. I would always repot and reestablish a good root system before planting it in the garden. In doing so, it is important to choose an appropriately sized container, and to me that means not too large. The roots must be able to push out vigorously into fresh, airy compost, and if a little plant is immersed in a large volume of compost it can struggle to get going. Thorough washing of roots, especially if the plants are not really dormant, can be very damaging, and it is worth treating such plants almost as cuttings, using the propagator and other methods to give optimal growing conditions until they're fit again.

"If transit has taken more than a day or two, it is very probable that there will be soft, new, pale leaves on the plants. If so they need careful hardening off in a still, shady place. Both wind and sunshine can cause tremendous damage to pallid, etiolated shoots."

DICK CAVENDER has sold both rhododendrons and pleiones from his nursery "Red's Rhodies" south of Portland, Oregon: "I have been on both the sending and receiving end of this over the years. First off, anyone who orders plants from distant nurseries should be a fairly knowledgeable gardener to start with. They should realize that the plants were grown under very different conditions than their own. They should have the proper facilities to reestablish the plants and get them accustomed to their new location. This may require a greenhouse or shade house, proper watering and light. Other than dormant bulbs, no mail-order plant should be set directly into the garden if you expect it to survive. You would not do well if you were uprooted, packed in a box, and shipped a long distance.

"Soil mixes vary with the type of plant. Soilless mixes are preferred because the nursery can control the pH and other factors much better. If you plan to ship a plant out of state or out of the country, they are required. Oregon, for instance, prohibits the import of 'garden soil.' I think Washington, California, and Florida have similar restrictions. A rhododendron grown in Oregon and shipped to an East Coast catalog firm cannot be shipped back to Oregon! For export, it is often

required that the roots be washed 'until the water runs clear.' The days of going out in the nursery and digging a plant are gone as well; for one thing, you will eventually run out of soil! I can't dig a plant in soft growth, but I can sell you the same plant in a container any time of the year. There is a problem planting out of containers of soilless mixes into the field, and you learn to tear apart the roots some and completely cover the potting mix because it acts as a wick. Fall is the best time for moving woody plants.

"Shipping is a complex problem for nurseries because the type of material being shipped has a short 'box life.' I have tried a number of methods to calculate costs. I used to add a straight percentage of the order for shipping and packaging, but these were small, inexpensive plants that could go by first class mail. I don't ship much now, but I charge a base rate and charge my actual cost after that. That works well with credit cards. I am fairly certain that shipping and handling charges are *not* a profit center for any mail-order nursery. With fuel costs going through the roof, shipping cost is certain to increase. I know several field growers who think they may be priced out of the East Coast market because of this. This will have a huge impact on both West Coast growers and East Coast customers."

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# BOOKS

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***Hardy Succulents: Tough Plants For Every Climate***, by Gwen Moore Kelaidis; photographs by Saxon Holt. Storey, 2008. ISBN 978-1-58017-700-9. 159 pp.

*Reviewed by* KRISTL WALEK, North Gower, Ontario

I am not normally a fan of the pretty, generalist gardening book, where one gleans too little worthwhile among too many glossy pages. The hard-core-gardening-information side of me tends to bristle at the waste of it all. Also a long-time lover and grower of succulents, I live in the cold, wet climate of eastern Canada, which would severely test the parameters of a book subtitled “tough plants for every climate.” But the more I perused this volume, the more I realized that the author has succeeded in both educating and inspiring (which are, surely, the whole points of garden writing). And she has done it in a deceptively effortless way with her ability to create a user-friendly context for her extensive personal knowledge of her subject.

One is initially attracted to succulents because of the visuals they offer the garden, and a book devoted to them would be remiss in not glorifying their form, texture, and architecture. Saxon Holt’s photographs are exquisite. His eye has captured so well the beauty we see when admiring succulents in our own spaces, but are so rarely able to translate into awesome photographic form ourselves.

The very first thing I did on receiving this book was superficial “flipping” of pages, letting my eye catch words or pictures of particular interest. The first major stop was at a photograph of an *Opuntia fragilis* hybrid beautifully displayed in a container. This I have grown for years as a no-name, now identified because of this book as *O. fragilis* ‘Potato.’ A very good omen, I thought.

At the end, having proceeded more logically, my sense was a desire to congratulate the author. The book is full of practical advice and solid information: identifying the featured species and their potential use (or drawbacks) in the garden; and how to highlight them or join them with companions. There are

sections on care, soils, landscaping, and propagation. I particularly liked the hefty, inspiring section devoted to succulents in pots and troughs.

One thing kept me wondering, however: Moore Kelaidis states, "For the purposes of this book, I consider plants that can withstand (short of long) periods of -20F to be hardy. I live on the high Great Plains in USDA Zone 5 in Denver Colorado, at 5,280 feet elevation, so I have tried to highlight plants that live through my winters." She also points out the variables affecting hardiness in different areas of North America (primarily issues of heat and wetness).

I garden in a humid and sometimes wet USDA Zone 4/5, yet I am not able to grow a fairly high percentage of the particular genera highlighted in this book (*Agave*, *Aloinopsis*, *Cylindropuntia*, *Dasyllirion*, *Dudleya*, *Echeveria*, *Grusonia*, *Hesperaloe*, *Nolina*, *Othonna*, *Stomatium*, and many of the species of *Yucca*, *Delosperma*, *Opuntia* and *Talinum* particularly). This is not a surprise, considering all the differences in elevation, soils, and weather between Ontario, Canada and the Rocky Mountain region of the western United States.

What did surprise me was the exclusion of entire succulent genera that are in fact growable in most areas of North America (notably, *Rosularia* and *Rhodiola*). I would also have found a space to include *Manfreda virginica* and the very hardy Patagonian cactus *Maihuenia poeppigii*.

This is a timely and overdue book for both novice and experienced gardeners. For newcomers, it will introduce them to plants beyond the traditional hens-and-chicks and sedums. For seasoned gardeners, it will inspire fresh thoughts about succulents and alternative ways we might consider covering the ground with them.

# Notes on the Photo Contest Plants

*Campanula alpina* (photo by Stefania Wajgert, p. 267) forms rosettes of leaves, sometimes solitary. Its flower stems can be 4 inches (10 cm) tall, or a little more. Found in the Alps, the Tatra range where the photo was taken, and the Balkans, it grows at subalpine elevations. Most report that they find it difficult to keep more than a few years.

*Lewisia* 'Ashwood Strain' (photo by Jack Muzatko, p. 268) is a seed strain developed at Ashwood Nurseries in England, primarily from unusual color forms of *L. cotyledon* but with some hybridizing, for instance with *L. longipetala*. Named clones of this strain are also grown, such as 'Ashwood Pearl' and 'Ashwood Ruby'. The seed strain produces many interesting and beautiful color forms, some with large, numerous blooms.

*Sedum pilosum* (photo by Esther Wrightman, p. 268) comes from dry, rocky sites in Turkey, Iran, and the Caucasus and is shown growing on a limestone construction in the Wrightman garden. Long cultivated and readily available as seed, this species is a biennial, producing its attractive rosettes the first year, and the showy flowers the second or third year. Growing it in lean soil in a sunny site helps keep it compact.

*Erythronium montanum* (photo by David Sellars, p. 269) is described in detail in the winter 2008 issue, p. 44. Widespread in the Pacific Northwest at high elevations, it is notoriously difficult to maintain in lowland gardens but is always enjoyed by hikers.

*Erigeron compositus* (photo by David Sellars, p. 269) is a widespread species with several subspecies in the American West. Easy from seed, it is widely grown in troughs and scree beds, but in gardens it tends to die after flowering.

*Dudleya ingens* (Crassulaceae) (photo by Jack Muzatko, p. 270) is a rare native of Baja California, Mexico. Plants are available from a few succulent specialists.

*Bomarea dulcis* (photo by Yoko Arakawa, p. 270) belongs to a western South American genus closely related to *Alstroemeria*. Most species are sprawling or climbing, and not very cold-hardy. They can be grown in hanging baskets or in pots with supports, growing during winter, flowering in spring, and going dormant in summer.

*Drosera rotundifolia* (photo by John Zabkar, p. 271) occurs in peat bogs of temperate and cold areas all around the Northern Hemisphere. It is a carnivorous plant; insects become stuck to the secretions on the tips of the hairs and are digested by enzyme-secreting glands in the leaves. It is often grown in artificial bogs in gardens, or in specially designed troughs.

*Lysichiton camschatcense* (photo by Denis Hardy, p. 271) favors seeps and streamsides but can also be grown in artificial bogs. Native to both coasts of the North Pacific, including southeastern Alaska and British Columbia, it is available from nurseries. Its habit is a bit more restrained than that of *L. americanum*, the yellow skunk cabbage, and it does not have a strong odor. The two species can hybridize to produce plants with pale yellow spathes.



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**2009 Eastern Winter Study Weekend:** January 30–February 1.  
“Global Warming and the Rock Garden.”

Hosted by the Potomac Valley chapter at Sheraton Reston Hotel near Washington, DC’s Dulles Airport.

**2009 Western Winter Study Weekend and Annual General Meeting:** March 13–15.  
“Revitalizing the Rock Garden.”

Hosted by the Columbia-Willamette chapter at Doubletree Lloyd Center Hotel, Portland, Oregon. Registrar: Jan Dobak, 2921 NE 25th Ave., Portland, OR 97212; [jddobak@pcez.com](mailto:jddobak@pcez.com)

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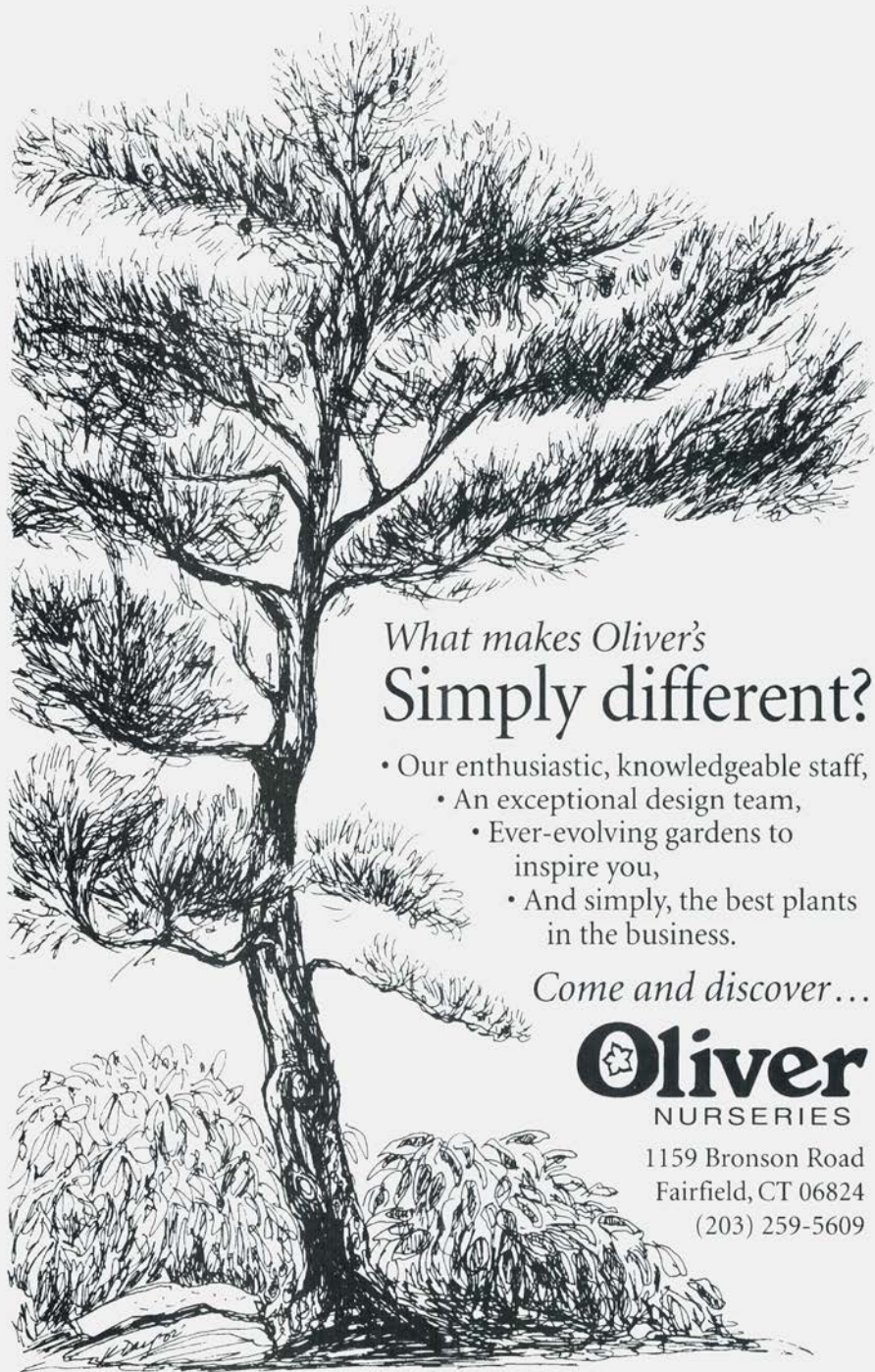
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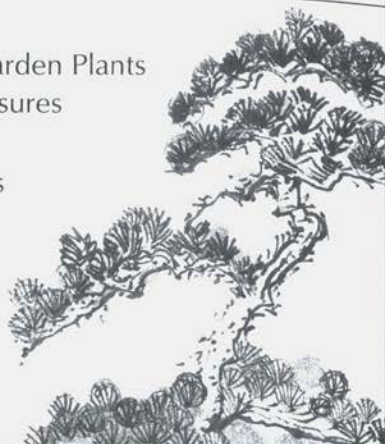
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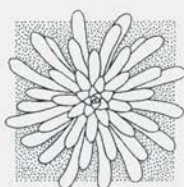


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## Some *Like* it Hot!

Coping with Climate Change, Beautifully

Sheraton Reston Hotel, Reston, Virginia  
January 30-February 1, 2009

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**Join us for an exploration of how global warming may affect our choices of plants for the rock garden. Hear suggestions from experts of familiar plants to reconsider, as well as promising new plants now becoming available. Browse among the plants offered by a number of nurseries including some that are new to NARGS.**

On Friday evening, **Tony Avent** shares his experiences with the many hardy Aroids. The proprietor of Plant Delights Nursery, North Carolina, and well-known to NARGS members, he is a preeminent introducer of wonderful plants.

On Saturday morning, **Peggy Olwell**, Bureau of Land Management and Plant Conservation Alliance, Washington, D.C., will give an overview of global climate changes and how they may affect the gardener.

**Judith and Dick Tyler**, Pine Knot Farms, Clarksville, Virginia, share their experiences with collecting, propagating and growing hellebores.

**Mark Bridgen**, Cornell University, New York, is the 2008 winner of the International Bulb Society's Herbert Medal. A longtime breeder and introducer of South American bulbs, most recently *Alstroemeria* 'Mauve Majesty', he will speak on his experiences collecting and breeding Chilean geophytes.

**Nick Turland**, Missouri Botanical Garden, Saint Louis, MO, currently co-directs the Flora of China project. His long-time interest is in the flora of Crete, and he will introduce us to some of his favorite plants from the Mediterranean.

**Richard Critz**, former editor of the *Primrose Journal* and longtime primrose guru, presents a program on maintaining primulas in warmer gardens.

Choose one of three afternoon breakout sessions.

1.- **Karen Rexrode**, longtime Potomac Valley Chapter member and owner of the late lamented Windy Hill Plant Farm in Aldie, VA, will present her thoughts on plant photography in the digital age.

2.- **Bill Aley**, a senior import specialist from the United States Department of Agriculture's Animal and Plant Health Inspection Service (APHIS), will discuss current issues in plant and seed importation.

3. - **Mike Bordelon**, manager of the Botany Research Greenhouse, Smithsonian Institution, and **Audrey Faden**, Coordinator of Simpson Park Gardens, will share their experiences with a gravel garden in the hot and humid Washington, D.C. area.

At the Saturday evening banquet, **J.P. (Koos) Roux**, Curator of the Compton Herbarium, South African National Biodiversity Institute, Cape Town, South Africa, will give an overview of elements of the South African Flora.

On Sunday morning, **Bill McLaughlin**, curator, United States Botanic Garden, Washington, D.C., will talk about mid-Atlantic and other natives for rock and dry gardens.

**Koos Roux** will return again with another view of South African Flora.

**Richard Olsen**, researcher at the U.S. National Arboretum, Washington, D.C., will discuss the ins and outs of new plant introductions, particularly woodies.

Multiple Vendors - NARGS book sales - Plant Photo Contest - Raffle - Silent Auction - Members' Slide Show

**For information and on-line registration go to**  
**www.pvcnargs.org**  
**or contact Registrar Sue Hodapp sshodapp@cox.net**  
**or EWSW Chair Alice Nicolson, 703-979-5871 taxonomy@verizon.net**

### **Registration and Hotel Information**

Conference registration will be limited to 200. Cancellations are subject to a \$25 processing fee. No refunds will be made after January 10, 2009

For rooms, register directly with the hotel. Mention Rock Garden Society. Conference rates are \$89 plus tax and fees, single or double. Rates available until January 5, 2009

Sheraton Reston Hotel  
11810 Sunrise Valley Dr.  
Reston VA 20191  
**1-800-325-3535**

online hotel registration at

**[http://www.starwoodmeeting.com/StarGroupsWeb/booking/  
reservation?id=0805287957&key=DECF3](http://www.starwoodmeeting.com/StarGroupsWeb/booking/reservation?id=0805287957&key=DECF3)**

### **Conference Registration for 2009 EWSW**

**Print your name as it should appear on your nametag**



**Registrant 1**

Name \_\_\_\_\_

Address \_\_\_\_\_  
\_\_\_\_\_

Phone (\_\_\_\_) \_\_\_\_\_

Email \_\_\_\_\_

Are you a member of NARGS? Yes \_\_\_ No \_\_\_

**Registrant 2**

Name \_\_\_\_\_

Address \_\_\_\_\_  
\_\_\_\_\_

Phone (\_\_\_\_) \_\_\_\_\_

Email \_\_\_\_\_

Are you a member of NARGS? Yes \_\_\_ No \_\_\_

Dietary preference or restriction, if any \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Saturday dinner selection	Reg 1	Reg 2
Black Bass	_____	_____
Chicken Breast	_____	_____
Vegetarian/other	_____	_____

Will you bring slides/digital for the Friday evening after-hours members' show? Your presentation may last up to 10 minutes. \_\_\_\_\_

Will you be bringing entries for the Photo Contest? \_\_\_\_\_

Preferred breakout session 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_

## Conference Registration Fees

The registration fee covers admission to all lectures and sales areas, continental breakfasts on Saturday and Sunday, buffet lunch on Saturday, and the Saturday evening Banquet. The Friday buffet dinner is optional and is billed separately.

### Registrant 1

Registration by 12/31/08	\$265	\$ _____
[Registration after 12/31/08	\$275	\$ _____]
Optional Friday evening dinner	\$55	\$ _____
Saturday Banquet for guest	\$55	\$ _____

### Registrant 2

Registration by 12/31/08	\$265	\$ _____
[Registration after 12/31/08	\$275	\$ _____]
Optional Friday evening dinner	\$55	\$ _____
Saturday Banquet for guest	\$55	\$ _____

Total enclosed (US funds only) \$ \_\_\_\_\_

Check \_\_\_\_\_ Money Order \_\_\_\_\_

Credit Card - Visa \_\_\_\_\_ Mastercard \_\_\_\_\_ Amex \_\_\_\_\_  
Number \_\_\_\_\_ Exp Date \_\_\_\_\_

Please fill out *both* sides of this form and mail, with check, money order in US dollars, made out to PVC-NARGS, or credit card information, to:

Sue Hodapp, Registrar  
2100 Twin Mill Ln  
Oakton, VA 22124  
sshodapp@cox.net

You may also register online, at  
[www.pvcnargs.org](http://www.pvcnargs.org)  
2009 Eastern Winter Study Weekend  
North American Rock Garden Society  
Potomac Valley Chapter

## Western Winter Study Weekend and 2009 Annual General Meeting

### “Revitalizing the Rock Garden”

March 13–15, 2009 — Portland, Oregon  
Hosted by the Columbia-Willamette Chapter

Do you want to make a new garden, or make an old rock garden new and exciting again? The 2009 NARGS Western Winter Study Weekend will offer a full slate of lively, informative, varied talks and exhibits, a pleasant venue, early spring gardens and wildflowers, and a great sale.

This meeting, owing to the cancellation of the previously planned annual meeting at Calgary, has also been designated the 2009 Annual General Meeting, in accordance with the Bylaws of the Society. Election of officers and presentation of national awards will be added to the program.

Join us at the Doubletree Lloyd Center Hotel, just across the river from downtown Portland, with light rail service to the airport and city center and free guest parking. Wander the huge exhibit hall where some of the finest nurseries in the Pacific Northwest fill their first sale tables of the year, along with sales of books, garden tools, and artwork. Relax with fellow gardeners during evening social hours and table-service dinners. Tour some of the area's glorious public and private gardens, and perhaps the early flowers of the Columbia Gorge.

Non-gardening family members will find plenty to do in accessible Portland while you luxuriate in plants, plant talk, and plant ideas. Bring them along!

Some of the featured speakers:

**Ian Young** from Scotland, one of the most popular presenters to UK and worldwide rock gardening groups, on unusual bulbs and his own garden.

**Carlo Balistreri**, curator at The Gardens at Turtle Creek and formerly with the New York Botanical Garden, writer and frequent presenter to gardening groups nationwide, discusses innovative stonework and small gardens.

**Rex Murfitt** of Victoria, BC, with a special presentation celebrating the 75th anniversary of NARGS.

**John Lonsdale** of Pennsylvania will talk about how successive enthusiasms for different plant groups form and reform the garden.

**David Sellars** from British Columbia presents new ideas for constructing rock gardens that reflect nature and use the materials actually available in the North American West.

**Fred Weisensee and Leonard Foltz**, proprietors of Oregon's Dancing Oaks Nursery with its amazing display garden, offer new themes, constructions, and plant introductions.

**Garden tours:** Self-driven visits to area private and public gardens on Thursday, Friday, and Sunday.

**Plant sale:** The hotel has made a very large space available to showcase the famous Pacific Northwest specialty nurseries as well as artwork and tools.

**Plant show:** Choice container specimens will be on exhibit.

**Auction:** Rare and desirable plants will be offered in a silent auction.

**Door prizes** from our vendors and other donors at the start of every program segment!

**Members' photo show:** Registrants may bring their own photos in digital or slide format for showing Saturday afternoon (8 minute limit, please).

**Post-conference field trip:** There will be an opportunity to visit botanical preserves in the Columbia River Gorge (weather permitting) on Monday. The outing is self-driven and self-catered, but local guides will be on site. This area is remarkable for the presence of species usually seen at higher elevations and for its lavish display of early flowers (*Olsynium*, *Fritillaria*, *Erythronium*, more).

**Hotel:** The hotel is one block north of the MAX light rail line from Portland International Airport and a few blocks northeast of the junction of the freeways I-5 and I-84. Please make reservations directly with the Doubletree Lloyd Center Hotel, 1000 NE Multnomah St., Portland, OR 97232, where a special conference rate of \$111 per night is available. Mention "North American Rock Garden Society" and "Western Winter Study Weekend" when reserving.

800-996-0510 / [www.portlandlloydcenter.doubletree.com](http://www.portlandlloydcenter.doubletree.com)

For more information, contact us at [wsw09@gmail.com](mailto:wsw09@gmail.com) or 1-503-248-9242. Clip and mail the registration form on the next page to:

Jan Dobak, Registrar  
2921 NE 25th Ave.  
Portland, OR 97212, USA

**2009 Western Winter Study Weekend  
and Annual General Meeting**  
Portland, Oregon                      March 13–15, 2009  
**Registration Form**

*Please print name as it is to appear on your nametag/badge.*

Name #1 \_\_\_\_\_

Name #2 \_\_\_\_\_

Address \_\_\_\_\_

City, State/Prov., Zip/Postal Code \_\_\_\_\_

Home telephone \_\_\_\_\_

E-mail \_\_\_\_\_

**Registration Fee** (includes Saturday evening banquet and coffeekicks)

Rec'd by Jan. 15, 2009.....\$220 each                      \$ \_\_\_\_\_

After Jan. 15, 2009.....\$250 each                      \$ \_\_\_\_\_

Optional Friday dinner.....\$ 25 each                      \$ \_\_\_\_\_

Nonregistrant banquet guest.....\$ 35 each                      \$ \_\_\_\_\_

Non-members of NARGS, VIRAGS, or

AGCBC, add \$30 for 1-year NARGS membership.....\$ \_\_\_\_\_

Total enclosed:.....\$ \_\_\_\_\_

Check your Saturday banquet choice(s) here:

Registrant #1: \_\_\_ fish \_\_\_ meat \_\_\_ vegan

Registrant #2: \_\_\_ fish \_\_\_ meat \_\_\_ vegan

Check your optional Friday dinner choice here:

Registrant #1: \_\_\_ fish \_\_\_ meat \_\_\_ vegan

Registrant #2: \_\_\_ fish \_\_\_ meat \_\_\_ vegan

Please make **checks** payable to "Columbia Willamette NARGS." US funds preferred; Canadian funds accepted at par with no bank fee added. Sorry, we cannot process credit card payment. Cancellation fee of \$50 will be charged after Feb. 15, 2009. Make room reservations directly with the hotel. For more information, contact us at [wsw09@gmail.com](mailto:wsw09@gmail.com) or 1-503-248-9242.

**Mail to:**                      Jan Dobak, Registrar  
   2921 NE 25th Ave.  
   Portland, OR 97212, USA

**NORTH AMERICAN ROCK GARDEN SOCIETY**  
**Annual Financial Report for Years Ending**  
**December 31, 2007 and 2006**

Respectfully submitted,  
Randy L. Tatroe, Treasurer  
August 5, 2008

**Introduction and Summary**

The North American Rock Garden Society, Inc. (NARGS, or the Society) is a not-for-profit organization founded in 1934 and incorporated in New Jersey in 1943 as the American Rock Garden Society. Its present name was established in 1994. The Society encourages and promotes the cultivation, conservation, and knowledge of rock garden plants. To further these objectives, it publishes the Rock Garden Quarterly, supports local Chapters which host several major conferences each year, and supports the publication of books on the subject of rock gardening and rock garden plants. The Society also promotes the knowledge of rock gardening through numerous other activities, such as operating a bookstore and slide library, awarding grants to projects related to its aims, and providing internships to educational institutions involved in subjects related to rock gardening. The Society promotes cultivation and conservation through its operation of a worldwide seed exchange program. Educational endeavors include a program to bring foreign experts to North America for extended lecture tours for the Society's chapters, and a Program Resource Center to identify suitable and recommended speakers to chapter heads for local meetings. A program to sponsor botanical expeditions within North America was initiated in 2001. In 2006, the Society hosted the International Interim Rock Garden Plant Conference in Snowbird, Utah, in conjunction with the Wasatch Chapter, as well as a post-conference expedition to the Big Horn Mountains of Wyoming. These activities are described on the NARGS website ([www.nargs.org](http://www.nargs.org)), along with much other information and illustrations. Financial support for these activities comes primarily from membership dues, contributions, book sales, charges for services, and interest and dividends earned on the Society's investment pool.

The investment funds consist of three restricted funds and one unrestricted fund. Restricted funds are the Norman Singer Endowment Fund, the Carleton R. Worth Award Fund, and the Robert Senior Award Fund. Unrestricted operating reserves principal is available for operations, and income from this fund is used for the general purposes of the Society.

The Singer Endowment Fund income is available for grants approved by the Board of Directors. Recent projects have included construction and renovation of rock gardens and studies of rock garden plants and habitats. In recent years the Society has awarded grants in excess of this Fund's income; this excess has been paid from the unrestricted funds of the Society. The Carleton R. Worth Fund income goes for cash awards to authors of noteworthy rock garden publications. The Robert Senior Award Fund was created by the Ohio Valley Chapter in memory of Robert Senior; its income is used to finance awards for outstanding exhibits of campanulas.

The financial records of the Society generally are maintained on a cash basis, recognizing income when it is received and expenses when they are paid. Investments (CDs and bonds) are recorded at their face value, not their market value, reflecting the Society's practice of holding them to maturity. Book Service and Seed Exchange inventories are stated at cost.

The accounts of the Book Service, the Seed Exchange, and the Slide Library are maintained primarily by the managers of those services, and are audited separately, as is the deposit account maintained by the Executive Secretary for membership dues and some other receipts. The accounts of the Society presented here are the consolidated results of all the Society's operations.

The Society's financial condition remains strong, with unrestricted reserves equal to about 1.5 times annual disbursements. Total assets have been near \$500,000 since 1999 (see below). Membership continues to decline (8% from 2006 levels), however, reaching 3,200 at the end of 2007, and this is reflected in many of the Society's activities.

## NORTH AMERICAN ROCK GARDEN SOCIETY 2007 Audit Report

Richard Bartlett, President  
North American Rock Garden Society (NARGS)  
1569 South Holland Ct.  
Lakewood, CO 80232

Dear Mr. Bartlett,

I have examined the NARGS financial records maintained by the Treasurer, Randy Tatroe. The records, including the consolidated statements of NARGS and affiliated operations, are complete and are being maintained in accordance with accepted accounting standards. I have examined the bank statements, deposit records, and balances for the 2007 calendar year.

I have also reviewed the 2007 Annual Financial Report and find it to be in agreement with the records in all cases with the exception of the following items:

The investment balance shown on the report of Assets and Liabilities as "Wachovia CD's and Notes" could not be reconciled with the Wachovia 2007 year-end statement. This item requires further examination in order to reconcile the difference.

The balance of the "North American Bancard" account listed under "Cash in Banks" on the report of Assets and Liabilities is a cumulative account whose balance is derived from the consolidation of monthly activity statements. Therefore, there is no cumulative bank statement to which a reconciliation can be made. However, it is my opinion that this balance should never be less than zero and likely will always be more than zero at any given point due to the delay of a few days between the receipt of the bankcard credit and the transfer of the balance to the Wachovia Money Market Account. This account requires further examination.

Therefore, in my opinion, the report of Assets and Liabilities does not accurately reflect the financial status of the North American Rock Garden Society as of December 31, 2007. However, in both instances, the discrepancies are relatively small. The adjustment to the investment account is likely a minor technical adjustment and the adjustments required to the NABancard likely will be to the financial advantage of NARGS. The remainder of the 2007 Annual Financial Report is accurately presented.

This audit does not include records maintained in the office of the Executive Secretary, Seed Exchange, Slide Library, or Book Service, only the results as reported to and reviewed by the Treasurer.

Sincerely yours,  
William Adams  
330 Carlile Ave.  
Pueblo, CO 81004-1054

**NORTH AMERICAN ROCK GARDEN SOCIETY**  
**Summary Balance Sheet**

	2/31/2006	12/31/2007
	(000)	(000)
<u>Assets</u>		
Cash in Banks		
NARGS Accounts	\$ 44.8	\$ 61.3
Book Service	(1.8)	(2.9)
Seed Exchange	0.6	0.6
Slide Library	0.2	0.2
Total Cash in Banks	\$ 43.8	\$ 59.1
Advances to Affiliates	(25.2)	(6.4)
Investments (CDs)	386.0	411.0
Inventories		
Book Service	\$ 16.4	\$ 15.8
Seed Exchange	2.9	2.9
Total Inventories	\$ 19.3	\$ 18.7
Total Assets	<u>\$ 423.9</u>	<u>\$ 482.5</u>
<u>Equity</u>		
Restricted Funds		
Norman Singer Endowment	\$ 149.3	\$ 149.3
Carleton Worth Award	3.3	3.3
Robert Senior Award	1.3	1.3
Total Restricted Funds	\$ 153.9	\$ 153.9
Retained Earnings	309.3	330.1
Net Income	(39.3)	(1.5)
Total Equity	<u>\$ 423.9</u>	<u>\$ 482.5</u>



**NORTH AMERICAN ROCK GARDEN SOCIETY**  
**Operating Accounts**

	<u>2006</u>	<u>2007</u>
	(000)	(000)
<u>Gross Receipts</u>		
Annual Dues and Life Memberships	\$ 93.4	\$ 83.9
Book Service Gross Sales	23.6	29.5
Seed Exchange Receipts	14.1	13.5
Expeditions Registrations	16.7	-
Interest	20.9	21.3
Other, primarily contributions, royalties	12.1	7.2
<b>Total Receipts</b>	<u>181.8</u>	<u>155.4</u>
<u>Disbursements</u>		
Rock Garden Quarterly	(62.8)	(75.6)
Other Membership Publications	(6.5)	(0.5)
Book Service Costs	(35.5)	(24.5)
Seed Exchange costs	(18.1)	(16.6)
Expeditions Costs	(12.0)	-
Speakers Tour	(5.9)	(2.9)
Endowment Grants	(11.5)	(8.8)
Meeting Stipends and Awards	(2.1)	(1.2)
Administrative Expenses/Study Weekends	(24.8)	(25.6)
Other, primarily Internet costs	(0.5)	(1.0)
<b>Total Disbursements</b>	<u>(179.5)</u>	<u>(184.8)</u>
<b>Net Cash</b>	<u>2.3</u>	<u>(29.4)</u>
<u>Changes in Inventories</u>		
Book Service Inventory	1.9	-
Seed Exchange glassine envelopes	-	1.5
Advances to chapters	9.8	-
<b>Net Inventories and Advances</b>	<u>11.7</u>	<u>1.5</u>
<b>Net Result</b>	<u>14.0</u>	<u>(32.9)</u>

**Comments on Results**

Results for 2007 were a net outflow of \$39,000 compared with a positive income of \$13,000 in 2006. This was due to net losses at both the Eastern Winter Study Weekend and the Western Winter Study Weekend. However, the Annual General Meeting saw a \$6,800 positive cash flow. A \$20,000 CD that was close to maturing was redeemed to cover the losses. Total receipts were down \$46,100 primarily because dues receipts declined about 10%; Seed Exchange receipts declined slightly and there was no expedition.

**NORTH AMERICAN ROCK GARDEN SOCIETY**  
**Major Programs Results**

	<u>2007</u>	<u>2006</u>
	(000)	(000)
<u>Book Service</u>		
Gross sales	\$ 29.5	\$ 23.6
Cost of books	(15.8)	(15.8)
Operating expenses	(16.5)	(19.6)
Change in inventory	1.0	1.9
Net (Cost)	<u>\$ (2.0)</u>	<u>\$ (9.9)</u>
<u>Seed Exchange</u>		
Gross Sales	\$ 10.4	\$ 14.1
Operating expenses	(10.5)	(18.1)
Increase/(Reduction) in Inventory	0	0
Net (Cost)/Contribution	<u>\$ (0.1)</u>	<u>\$ (3.9)</u>
<u>Expeditions</u>		
Registrations	\$ 0.0	\$ 16.7
Operating expenses	0.0	(12.0)
South Africa Expedition Share	0	0
Net (Cost)/Contribution	<u>\$ 0.0</u>	<u>\$ 4.7</u>

Comments on Results

**Book Service** gross sales were up 25% in 2007. The net cost for the Book Service was \$9,900, down from \$12,900 in 2005.

**Seed Exchange** gross sales were down from 2006, partly due to continuing difficulties with international shipments. Increased operating expenses were mostly the result of increased postage, both domestic and international.

**Expeditions.** There were no expeditions in 2007.

**Study Weekends and the Annual General Meeting.** The Eastern Winter Study Weekend was held in New York and the Western Winter Study Weekend was held in San Mateo CA. Both study weekend had reduced participation which resulted in net losses. The Annual General Meeting was held in Canaan Valley WV and was a fiscal success.

**NORTH AMERICAN ROCK GARDEN SOCIETY**  
**Restricted Funds Reconciliation**

	<u>2007</u>	<u>2006</u>
	(000)	(000)
<u>Norman Singer Endowment Fund</u>		
Balance at 1/1	\$ 149.3	\$ 148.3
Contributions	0.0	1.0
Share of Investment Earnings	5.6	5.6
From operating reserves for	2.9	5.9
Grants	<u>(8.8)</u>	<u>(11.5)</u>
Balance at 12/31	<u>\$ 149.3</u>	<u>\$ 149.3</u>
 <u>Carleton Worth Award Fund</u>		
Balance at 1/1	\$ 3.3	\$ 3.3
Share of Investment Earnings	<u>0.0</u>	<u>0.0</u>
Balance at 12/31	<u>\$ 3.3</u>	<u>\$ 3.3</u>
 <u>Robert Senior Award Fund</u>		
Balance at 1/1	\$ 1.3	\$ 1.3
Share of Investment Earnings	<u>0.0</u>	<u>0.0</u>
Balance at 12/31	<u>\$ 1.3</u>	<u>\$ 1.3</u>

**Comments on Funds Results**

**Norman Singer Endowment Fund** received no contributions in 2007, compared with a \$1,000 contribution in 2006. In 2007, the Board approved grants totaling \$8,775: \$2,875 for the Toronto Botanical Garden for work in three rock gardens to include three troughs to showcase what could be done in home gardens; \$2,250 for the University of Michigan Matthaei Botanical Garden and Arboretum to rebuild the 100-year-old Marie Azary Rock Garden; the University of Newfoundland to create an example of a crevice garden; and \$1000 for Diana Reeck to study *Erythronium revolutum*. In 2007, the amount of the grants funded from operating reserves was 31%, down from 51% in 2006.

**Carleton Worth Award** was not given.

**Robert Senior Award** was not given.

**Awards of Merit** were given to John Bieber and Joyce Fingerut in 2007.



# N · A · R · G · S Book Service

## **Complete Book List Fall 2008**

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This list replaces all previous annual lists. This listing is posted on the NARGS web page at [www.nargs.org](http://www.nargs.org) and will occasionally be updated there and in the Book Service ads in the *Rock Garden Quarterly*

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# N · A · R · G · S Book Service

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2) Hardcover books are denoted by asterisk (\*) following the title.

3) Titles in **bold print** are new to the list this year.

4) Most books listed have some color photographs or illustrations. Those which have no color at all are denoted by the symbol "nc".

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