Feature Article

Creating a Scree Garden

By Victor Piatt, *Head Rock Monkey, Mt. Cuba Center*

"I WANT YOU TO CREATE AN OUTCROP/SCREE GARDEN IN THIS AREA," he said. A quick scan of the immediate surroundings; suspicion confirmed he *was* speaking to me! An avid plant collector, Rick Lewandowski, former Director of Mt. Cuba Center (MCC), wanted to create a garden area to grow and interpret native plants that are indigenous to the granitic and dolomitic outcrops he explored in the Piedmont regions of Georgia and Alabama; flat-rock habitats as they are sometimes called. "Well, the Rock Wall is right there, what's wrong with that?" I chirped, while pointing across the Main Drive. He lamented–it was the logical location, but he had a grander vision...as I would soon discover.

Rick proceeded to express his vision of this garden and provided a few guidelines: large rocks would be needed to avoid having to use any mortar, their weight would keep them in place, and the bulk of each rock would be buried; the soil in the area should be removed as much as possible and landscape fabric should be laid as an additional precaution to prevent, or slow, the plants from rooting into richer soil; and lastly, this area should be austere, neither rock nor plant competing against each other. Hmm, the Rock Wall would not suffice.

I had no idea what to do or how to even begin this project. By this time, two staff members, who Rick had asked to join us for the discussion, appeared: Jerry Sterndale and Pete Shotzberger. At this point, neither of them were aware that they were being drafted into this project. These guys have tens of years of seniority and experience over me. Rick shared with them what he had told me. Then his final words to me, and in earshot of Jerry and Pete, "You're in charge." What? Ok, then...I reflected for a few moments on what just happened, and how I was the chosen one for this project. Let's see...I am the rock gardener at MCC and do consider myself to be a rock monkey, but neither made me an expert at rock garden design. I also concluded that, at some point in my future employment, I'd get my comeuppance for this with Jerry and Pete, for my new status as boss. If I were to have anyone's help with a project like this, these guys would be the ones—muscles and a propensity to not take "No" for an answer. With churning doubt and anxiety, I accepted Rick's request.

photo ©Mt. Cuba Center

1993 View north along Main Drive; Rock Wall on left; on right, future site of scree garden.

The Site

The narrow strip of land that would become the Scree Garden runs in a north-south parallel along the Main Drive of MCC and is directly across from the Rock Wall garden. This area's landscape consisted of mature princess trees *(Paulownia tomentosa)* and Chinese juniper *(Juniperus chinensis),* probably forty years old. These were removed, revealing the long unseen stretch of contoured ground that gently rose to about 4' high, then dropped off in a steep slope. The contour suggested, and we thoroughly hoped, that under all that soil there might be a formation of rock. This area of the Main Drive is where workers, in the early 1930s, had to blast through a massive outcrop of rock to lay the driveway, resulting in the creation of the Rock Wall to the west. Perhaps there was some remnant of that outcrop just below the surface on the east side of the driveway? Late September, 2007, Jerry was on the backhoe, excavating, with me, fingers crossed, waiting, and hoping that contours don't lie. As Jerry unearthed the southern end of this site, the hidden geology began to reveal itself. Ultimately, an exposure of 40' in length was unearthed. This outcrop would become the backbone of the scree garden.

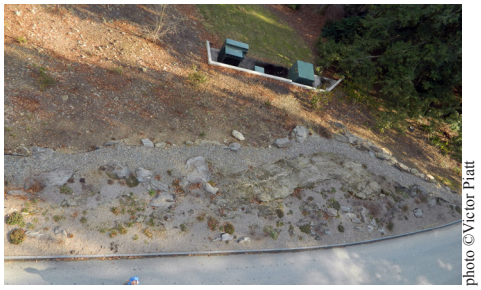


photo ©Victor Piatt

Aerial shot of scree garden—walking path bordering outcrop, arching formation to right, and scree planting bed. (February, 2012)

From a 2012 aerial photograph, the outcrop's outline can be seen and is reminiscent of a raised eyebrow. The outcrop slopes downward from west to east, while stretching northward and gently spilling into grade, ultimately submerging underground again. With the overall perimeter of the garden established, we began contour grading on the eastern edge, and with broom in hand, swept loose soil and debris off of the outcrop. This is when it got exciting for me; this rock formation was mesmerizing! There were, seemingly, endless folds in the formation, each one more intricate than the next. Rock monkey—oh yeah, geologist—uh, nope! I inquired to geologist Sandy

Schenck of the Delaware Geological Survey, University of Delaware, and learned that the formations of rock at Mt. Cuba Center are comprised of Wissahickon gneisses that contain veins of quartz pods and numerous granitic pegmatites. I had seen similar folding patterns in the Rock Wall over my 20 some years of caring for it; confirmation enough for me that, before the driveway was installed, the Rock Wall and this newly unearthed formation were connected. This belief would be my overarching guide in the design and installation of this garden—to visually unite these areas.

The Scree Planting Bed

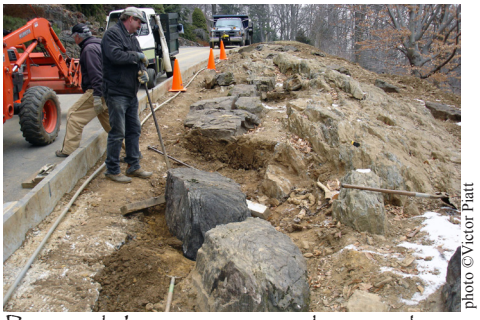
With the contour grading mostly complete, and the outcrop cleaned off, attention turned to the details of what would be the scree planting bed. The borders of this planting bed would be defined to the east, in part, by the newly unearthed rock outcrop, and to the west, entirely by the thick granite curbing installed in 2006. This is the area where the large rock elements, suggested by Rick, come into the design. They would function as a visual interest and slow the flow of water during heavy rains, mitigate some of the soil being removed, complete the eastern border where the outcrop submerged underground, and establish a north and south border. This defined area would serve as the featured planting site for those granitic and dolomitic outcrop plants from Rick's collection trips. To simulate the lean soils of these outcrops, the existing soil was removed as much as possible, and, as added insurance, landscape fabric was laid to prevent or slow the plants from rooting into what richer soil remained. A growing medium would be needed, but at this point we did not know what that would be. Soil removed. Fabric laid. It was time to place the rocks.

Rock Elements

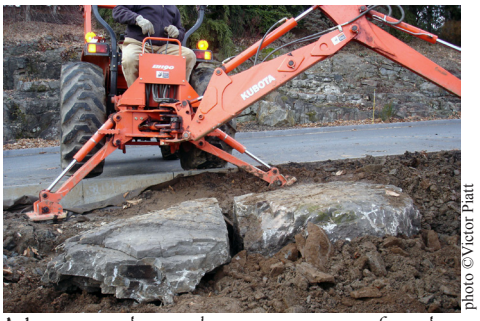
All of the large rocks were found on the property and required a backhoe and a heavy chain to move them—oh, and one large forklift. I am of the ilk that, if you are going to use stone/rock in such a visual context, it should be indigenous to your locale. And don't scratch them up—at least the part you're going to be viewing. That issue was cleverly solved by Jerry, who simply sleeved the chain in an old canvas wrapped fire hose. I handpicked each rock, scrutinizing the details of each one to determine the best "face" and profile, remembering that the majority of each rock would not be visible. Once I determined the profile, I struck a chalk line, and anything below this line would disappear below grade—essentially creating the flat rock design Rick had envisioned. Crusher run was used to set the height of some of the rocks and to mitigate the removal of soil. Wanting this garden to present as natural as possible, I took great pains to mate the rocks and align the fold orientations with the newly exposed outcrop. This placement aspect of the design process was undoubtedly the most time consuming and got me many an eye-roll from Jerry. The finished garden contained 54 "hand-placed" rocks, and I laid out a gravel path along the eastern border for maintenance and visitor access. The overall design is of a half-ellipse, 130' long and at the widest point 25'.

Planting Medium

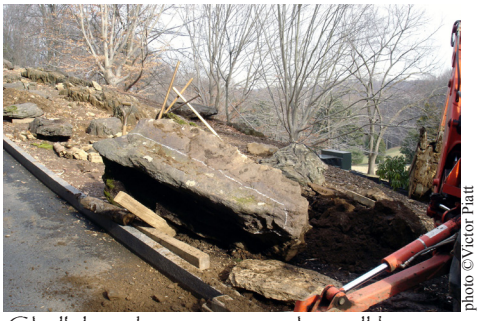
Quite satisfied with the placement of each rock and with the layer of crusher run installed, it was time to focus on the planting medium. I was completely clueless as to what a scree medium was, let alone where to get it. Rick postulated that, basically, we had created a green roof—it just happened to be on the ground. He suggested that we use an extensive green roof planting medium. I contacted Laurel Valley Soils (laurelvalleysoils.com) to inquire about such a product. They suggested that I use their 80/20 mix for this application. This mixture is 80% mineral, comprised of expanded shale and calcine clay, and 20% organic matter. In this instance, it was mushroom compost. It took seven one-ton bags to complete the scree planting area. Let the planting begin!



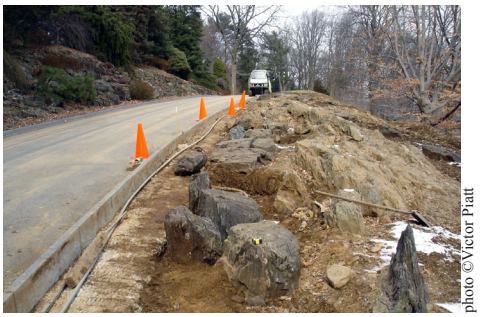
Pete and Jerry positioning large rocks. (January, 2008)



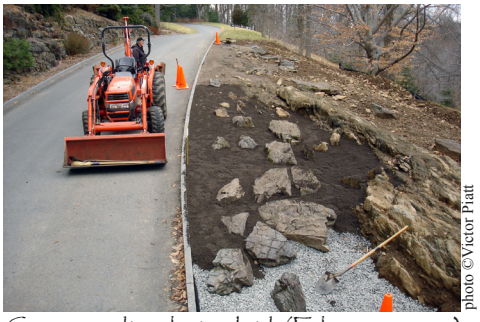
Mating rocks to determine area of rock to be buried. (January, 2008)



Chalk line denoting area that will be buried. (January, 2008)



Water line laid. (January, 2008)



Scree medium being laid. (February, 2008)


photo ©Victor Piatt

Jerry and I temporarily placing rock. (March, 2008)

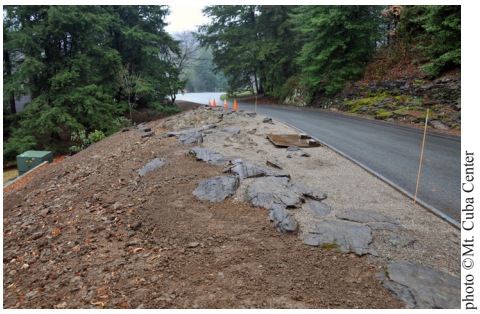


photo ©Mt. Cuba Center

Completed garden. (March, 2008)


photo ©Victor Piatt

Scree garden. (June, 2009)

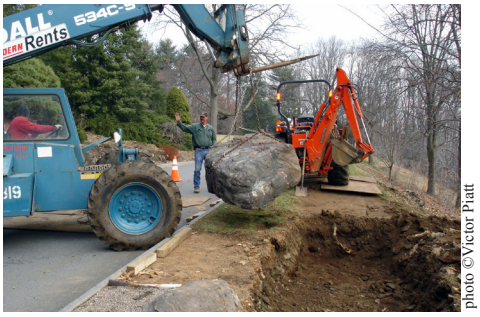


photo ©Victor Piatt

Largest rock element being placed—about 6,000 pounds. (March, 2008)

Within six months' time, we created this flat rock habitat garden. By using the elements of the indigenous rock and the wild collected plants, I achieved my desire to unite this garden with the Rock Wall garden. I've provided the names and photos of some of my favorite scree plants—I didn't forget you plant people!

Victor Piatt *is the Rock Outcrop & Scree Gardens horticulturist at Mt. Cuba Center in Hockessin, DE, where he has been blissfully employed for 22 years. He held the positions of Cut Flower gardener and Plant Evaluation horticulturist for eight years, respectively. He is a 1992 graduate of Longwood Gardens' Professional Gardener Program.*

Ed Note: For a full-color version of this article, go to the HPS/MAG web site, www.hardyplant.org.


photo ©Victor Piatt

Scree bed planting. (August, 2009)


photo ©Victor Piatt

Rock in place, 9 x 4 x 2½'. (March, 2008)

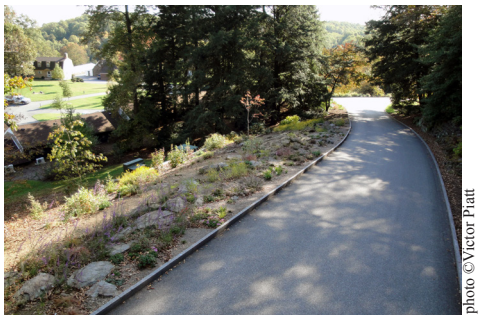


photo ©Victor Piatt

Scree garden. (October, 2009)

Victor Piatt's Favorite Scree Plants


photo ©Victor Piatt

Lithospermum canescens


photo ©Victor Piatt

Delphinium alabamicum


photo ©Victor Piatt

Silene virginica


photo ©Victor Piatt

Xerophyllum asphodeloides


photo ©Victor Piatt

Bigelowia nuttallii