



Xeric Scree Gardens at Paul J. Ciener Botanical Garden

by Adrienne Roethling

What is the most suitable environment for plants requiring hot, baking sun with minimal watering and tolerant of vehicular and pedestrian traffic? Give up? The parking lot beds at Paul J. Ciener Botanical Garden. Or, as we like to call them, the Xeric Scree Gardens! Employing a creative use for this hot parking lot, we decided to plant a garden consisting of hardy cacti, succulents and drought tolerant herbaceous perennials, bulbs and woody shrubs.

Xeric Scree is a garden where plants thrive in hot, dry habitats. The beds are covered with PermaTill® which is used in place of hardwood mulch. The Xeric Scree Gardens are raised to aid in drainage as well as providing a much larger planting surface. Now that we have the environment, let's talk about how the space was developed.

Begun at ground level, the pouring of a curb defined the twin garden spaces. Construction crews using masonry trowels dug out perforations along the curbing every twelve inches before the concrete had a chance to cure. The perforations were later planted with 75 different forms of hens and chicks. As the hens and chicks continue to grow, they will cover and hide the curbs.



Photograph by Adrienne Roethling

Before back filling with soil, corrugated pipe was snaked throughout the base of the beds allowing the water to channel into the drains. Once the pipes were in place, the 3-4' raised beds required a soil mix of one part Perma Till (a baked slate soil aggregate that is unbreakable and ideal for drainage and root penetration) to one part top soil. A four inch layer of compost was added into the mix to provide nutrients for the plants.

The planting of the Xeric Scree Gardens began in May of 2009. All hardy cacti should be planted in spring to allow an ample amount of time to root establish before heading into their first winter. Once planted, watering by hand for several weeks will allow for proper root establishment. Once the plants settled in, drip irrigation tubing was laid and lastly, the beds top dressed or mulched with Perma Till.

Among the hardy cacti is *Agave ovatifolia* also known as the whales tongue hardy century plant. This species boasts wide blue-grey leaves with dark spines along the edges of the leaf. It has been proven one of the hardiest of all century plant species suffering little to no winter damage. At

Curb cutouts filled with hens and chickens



Agave ovatifolia

Photograph by Adrienne Roethling

maturity, this *Agave* will reach approximately 50” tall and wide. Flower spikes can reach up to 15 to 20’ and mother plants will die after flowering. Most century plants produce new offshoots during its lifetime. Varieties such as the whales tongue agave that do not offset will set seed after flowering. When planted, our specimen was 6” tall and wide. A short 4 years later and the plant is now 3-4’ wide and tall.

If you like growing cactus without all the pain, try *Manfreda*. *Manfreda* are deciduous agave relatives that flower every year once established, unlike their evergreen counterparts who flower approximately once every 10-15 years (in NC). A new one to hit the gardening world is *Manfreda undulata* ‘Chocolate Chip.’ The low spreading rosette of

wavy, blue-grey foliage is heavily spotted with chocolate colored markings. The marginally evergreen foliage grows to 18” tall and 24” wide. Flower spikes begin to emerge in late April quickly growing to 5-6’ tall producing several buds. The grey buds recurve while the burgundy stamens burst open offering a spidery-like effect.

Paul J. Ciener Botanical Garden decided to take the approach to utilize as much garden space as possible. This includes an area most find unattractive or boring. Your first and last impression of this garden may be reflected on the plantings in our parking lot. ☞

Adrienne Roethling is Garden Curator, Paul J. Ciener Botanical Garden, 215 South Main Street, Kernersville, NC 27284



***Manfreda undulata* ‘Chocolate Chip.’**

Photograph by Adrienne Roethling

Notice from the NARGS Seed Exchange Director

I hope your gardens are doing well this year and they are generating lots of seeds that you can share with your fellow NARGS members through the seed exchange. Donating seeds from just 5 different kinds of plants will give you DONOR status, which allows you to request an additional 10 packets of seeds during the first round. Donor status also allows your order to be filled before non-donors, which will give you a better chance at your first choice (and rarer items). You’ll find instructions for collecting, saving, and sending seeds on the NARGS website:

<https://www.nargs.org/seed-donation-instructions>.

We’re also looking for U.S. chapters or individuals to repack seeds into glassine envelopes. This is an important part of the seed exchange. You’ll receive seeds around Thanksgiving and must return them by December 31st. If you need a printed version of the seed list or want to volunteer for seed repacking, please contact me at: <mmm10@cornell.edu>.

Happy gardening,
 BZ Marranta. Seed Exchange Director
 9056 County Road 142, Interlaken, NY 14847 USA
 Email: mmm10@cornell.edu ☞



Danger in the Garden...

Tale of Two Bites —Copperhead bites that is!

by Tom Harville

After moving back to North Carolina and really getting into gardening, I had to readjust my thinking about the critters I would encounter while gardening and out on walks in the woods. Especially snakes. I've seen little gray mulch snakes, ring necked snakes, black snakes and copperheads around my house and I am WAY more careful where I step or stick my hands. Over the last couple of years two friends were not so lucky when they encountered copperheads and I thought it appropriate for you to hear what happened to them.

Margo MacIntyre is the Curator at the Coker Arboretum at UNCCH and **Marlyn Miller** is a NCNPS and NARGS member. Both are avid plants folks and are in the garden a lot.

So here's Margo's story:

“It all happened on Memorial Day, 2008 around 8:30 in the evening in the Greenwood neighborhood in Chapel Hill (about a mile east of UNC Campus). Over the 50+ years that Mom and Dad lived there and raised family, there were several copperhead sitings-probably 3 before this day.

Dad had installed a raccoon fence around his corn crop earlier that day, and I thought I would walk over to check on it. On the way across the lawn, I heard the songbirds chirping excitedly. I thought that they were responding to one of two things. Either the irrigation had sprung a leak or there was a cat nearby. Fearing that the water was spraying out all over the place, I did not look down as I approached the edge of the garden. It was then that I felt a pain like the worst bramble encounter on my ankle. When I looked down I saw that it was a 15-inch long copperhead, at which point I screamed and hopped away. When I had hopped far enough, I fell and called for help. It already hurt more than you would think.

Help came and within 15 minutes I was in the ER at UNC and within 20, I was being monitored. The triage person doubted that it was a copperhead bite, but my husband and I are naturalists by trade and we convinced him that we knew what were talking about. There were four small bloody dots on my ankle from what I guess was two attempts to envenomate me.

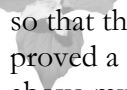
The ER nurses measured my lower leg in two places, recorded the numbers and offered painkillers, which I refused. The ER doctor came by and explained that they would monitor over night and that the antivenin causes severe (deadly) allergic reactions due to the sheep serum they use to produce it and that it's \$17,000 per dose. I reckoned I was really not in that much pain and the swelling, though visible, was not tremendous.

The pain was almost unbearable and was only relieved by keeping my foot well above my heart and by a lot of deep breathing. After about 4 hours I did ask for morphine and I was able to doze through the pain. They monitored the leg a second time around dawn and let me go home as long as I saw our family doctor that day. My creatin levels were high and they wanted to make sure my kidneys were ok.

The family doctor did not know a lot about copperhead bites and could only offer pain management. She did not know how long I would be off my feet or for how long the pain would last.

My friends brought all sorts of home remedies including comfrey and cabbage. Neither of these made a big difference in the pain or the swelling. The hydrocodone they sent me home with really did not make anything any better than just keep it elevated all the time.

Of course, I know the answers to these questions now. The pain was excruciating for more than a week, especially when my foot was below my heart. I maneuvered around the house by putting my left knee on a rolling office chair



so that the blood and fluids would not run down into the injured area and cause so much pain. The pain improved a bit, but was still enough to make me lightheaded for another week or 10 days. The swelling stopped just above my knee and then turned yellow and green and purple. The four bite holes never really changed and certainly were never infected. I returned to work after at least two weeks on the couch. It was still very painful and I could not wear a real shoe. By the time I went home each day, my foot was swollen and would scarcely bear weight.

I looked into lymph massage therapy eventually. At first I used YouTube and worked on my leg myself. After that, I went to a lymph massage facility and I think that is what finally allowed my leg to heal. The pain and swelling subsided slowly, and after a month, those symptoms were gone. After that for a few weeks or maybe months running or jumping felt very odd-I could feel all the damaged tissue.

Lessons learned:

When the birds are going crazy, look where you put your feet/hands

Evening is a good time to encounter a copperhead

Don't know if ER is absolutely necessary, but the option to have strong drugs at the beginning could be important, and if the swelling does not stop, it would be best to be there.

Two weeks minimum bed rest.

It's possible to be bitten, but not envenomated. Copperheads know what they can swallow and digest.

There is no need at all to kill snakes. Black snakes keep copperheads under control-if they are not dead black snakes."

Here's Marlyn's story:

"I was struck in the right heel by a copperhead on Saturday, June 9, 2012 in my front yard. I had gone out in flip-flops, not intending to garden, but a gardener always sees things that need to be done. So I stepped over the railroad ties lining our driveway in a subdivision in the Town of Cary, and began removing the stems of spent day-lilies. As I lifted my foot to take another step, the snake struck. It felt like a sledgehammer hit my heel, but I knew immediately what had happened. I lifted my heel to look at it, and it was bleeding. I swished around in the daylilies looking for the snake, and not seeing it, stepped back over the railroad tie into the driveway. As I started for the house to get my husband, I saw the copperhead about 4 feet farther down the slope, lying full out along the railroad tie. It looked to be about 2' in length with a thick body.

I went to the house and yelled for my husband to drive me to the ER. Then I got a shovel and a bucket, killed the snake, put it in the bucket, and got in my husband's truck to wait. We were at Western Wake Hospital ER within half an hour after the attack. The receptionist made me take a seat and wait, even though the people she was helping insisted she help me first. The ER folks didn't want to look at the snake and asked me to leave it outside the ER. I thought they were supposed to confirm the snake was poisonous! Those 2 events should've prompted driving to another ER!

In the ER my wound was not cleansed (first step in the protocol I found on-line later). They said they would "watch it." That meant marking 4 locations on my foot, ankle and leg and measuring circumferences every 4 hours and reporting the results to the NC Poison Control Center in Charlotte. And I received some pain medication. After a few hours, I was transferred to a room. I never knew why I was admitted rather than being sent home with an antibiotic and pain med like most snakebite victims. Maybe because I was on prednisone, which slows healing, maybe because I have type 2 diabetes which does the same thing, and maybe just because I'm old!

The next day I was transferred to ICU. I never learned the reason; the care was no different, but at least the call button worked and the door to my room didn't stick! The second day, I asked about advisability of antivenin. The hospitalist said, "Didn't you get that in the ER?" And she ordered it (over \$25,000) along with IV antibiotic. The third day I asked the same hospitalist whether a tetanus shot might be advisable since there was a black, non-draining blister over the bite. Her response: "Didn't you get that in the ER?" So I received a tetanus shot. She volunteered that she had never dealt with a snakebite before.

I was returned to a regular room, and they continued to measure the 4 sites on my leg. I had to suggest each nurse turn the tape over because previous measurements had been done with the metric side. If they failed to report to Poison Control, Poison Control called them. By the third day, pain was much reduced. A surgeon came to my room (not at my request) to look at the bite site. By that time, the half-inch disk of skin over the puncture was black, and I asked if maybe it should be removed since there was no drainage. He walked to the cabinet, got a scalpel, excised it, and sent me a bill for \$500!

On the fifth day, I asked a different hospitalist if she thought I should be checked for deep vein thrombosis since I had been in bed with my foot propped up for some time. She said, "We could do that." And they did, but the results were not shared with me, I later learned the test showed blood clot precursors, but they never communicated with me. I was discharged that evening with some bandage material and a prescription for a pain med.

Nine days later at the UNC Allergy Clinic, an allergy doctor said she was alarmed at my swollen and discolored leg and thought I should go to the ER. Disappointed with my quality of care at Western Wake, I went to Rex's ER. They diagnosed a blood clot in my snakebite leg! That called for 2 blood thinners—one short-term stomach injections, the other by mouth for 3 months. Getting the dosage adjusted meant several trips to the Rex Anti-coagulation lab.

Nothing could be easy, so the wound appeared to be infected even though I'd been cleaning and bandaging it. So I was sent to Rex's Wound Care Center where the doctor had never dealt with a snakebite! A sample sent to the lab showed a staph and 2 gram-negative rod bacteria in the wound. A strong antibiotic was prescribed.

Because the leg swelled every day, I wore a compression hose for support every day for 2 months. Three months after the attack, everything seems to be resolved. The foot still swells a little, and I (and everyone who knows me) am (is) more vigilant in watching for snakes.

Do I have to say "forewarned is forearmed?" "

I even walked my garden looking for likely spots and I can see places that a copperhead could hide and I would never see it. So I did the Google thing for some background from those in the know. Here's a couple of links:

http://www.herpnation.com/hn-blog/snakebite-protocol-copperhead/?simple_nav_category=daniel-duff

http://www.snakes-uncovered.com/Snakebite_protocol.html ↪



Mature copperhead

Trouble in the Garden... continues

Autumn's Garden Weeds

by Bobby J. Ward

September is the anniversary of Hurricane Fran's visit to the Triangle in 1996. Fran taught me a thing or two about weeds when it brought down thirteen large deciduous trees in the garden. The shade that disappeared with the trees provided just the environment for unwanted plants whose seeds lay dormant in the shade, perhaps for years. The first season after Fran, the comely pokeweed (*Phytolacca americana*) popped up by the hundreds, producing messy berries that were enjoyed by, but further spread by birds. After controlling pokeweed, two years later the soil produced an invasion of poison ivy (*Rhus radicans*).



***Stellaria media* (chickweed)**

Photo from jugday.org

Having brought it under control by the third year, I have since continued to combat *Microstegium vimineum* (Japanese stilt-grass) and *Stellaria media* (chickweed)—a procession of plants that had been previously rare in my garden.

Some years ago the Weed Science Society of America published a list of 1,934 species of plants from 57 botanical families that were deemed to be weeds—plants that are in some way pestiferous, bothersome, or that interfere with human activities, particularly in the growing of food and agricultural crops; the production of timber, fibers, and dyes; and in the yielding of chemical and medicinal products.

Grasses (Poaceae) and asters (Asteraceae) contribute a little more than a third of the most obnoxious weeds, the report noted. Sedges (Cyperaceae) accounts for about 6 percent of the most pesky and much-scorned plants. These three families provide nearly half of the world's worst weeds, despite the fact that these families also contribute some of the most important, highly valued economic plants. Members of the Poaceae, for example, include wheat, rice, corn, oats, and sugarcane.

Surprisingly, weeds have moved authors to include them among their botanical conceits. For example, there are several references to weeds in the writings by William Shakespeare. In *Love's Labour's Lost*, Shakespeare notes "He weeds the corn and still lets grow the weeding" (I, i, 96). He even includes a bit of gardening advice: "Now 'tis the spring, and weeds are shallow-rooted:/ Suffer them now, and they'll o'er-grow the garden/ And choke the herbs for want of husbandry" (2 *Henry VI*, III, i, 31).

The name "weed" is from Old English *weod* and Anglo-Saxon *wiod*, a general all-purpose word for herbs, grass, or weeds. "Weed" is not a botanical or horticultural designation. Which plants are weeds depends on one's viewpoint. Ralph Waldo Emerson said in 1878 that a weed is "a plant whose virtues have not been discovered." Thus, a weed is a plant growing where it is not desired or is unwanted and generally objectionable.



***Microstegium vimineum* (Japanese stilt-grass)**

Photo from nabg.unc.edu

It is early autumn now for NARGS members in the Northern Hemisphere and the time of the year when gardens have passed the longest complement of daylight. It is the season when rock gardens are slowing down, looking least luxuriant, but, alas, it is the period when we continue to fight pesky weeds. I thought of Emerson recently while pulling young blades of pernicious *Microstegium*: I am still searching for its virtues. ☞



The Rock Garden Society and the JC Raulston Arboretum

by Charlie Kidder

The Piedmont Chapter of the Rock Garden Society has been holding its monthly meetings at the JC Raulston Arboretum for the past few years. We greatly appreciate the Arboretum's hospitality, although I do wonder if this alliance may have led to a blurring of the boundary between the two organizations, particularly among newer members. I'm currently on the board of the Piedmont Chapter of NARGS, and in the past I sat on the board of the JC Raulston Arboretum. So, allow me a couple of minutes to explain how the two work together.

Members of the Piedmont Chapter, as well as members of the JCRA, are admitted to these monthly lectures for free; the general public pays \$5.00. (Unfortunately, those who belong to both organizations don't receive a \$5.00 refund!) Since you're reading *The Trillium*, I'm going to assume that you're already a member of the Piedmont Chapter. (Distribution of our newsletter is almost entirely electronic, so it's not likely you picked up a discarded copy on a park bench.) The Chapter selects the speakers you hear on Saturdays, provides them with an honorarium, and covers their travel expenses. All of that is made possible in part by your membership dues in the Piedmont Chapter. Still, I encourage every one to *also* become a member of the JC Raulston Arboretum. Here's why.

Of most immediate relevance to chapter members, the JCRA provides an excellent venue for our meetings at very little cost. By co-sponsoring our speakers as Friends of the Arboretum lectures, they have encouraged larger attendance and increased the volume of our plant sales. But there are certainly other reasons to support the Arboretum, as well.

Foremost among these: the plants! There are not too many places where you can see 6,000 different taxa for free, every day of the year. And part of the reason the JCRA can do this is substantial support from private sources, especially membership. Yes, Arboretum members also receive many other benefits: free plants at the Annual Distribution, discounts on programs and workshops, as well as at area nurseries and other businesses. But I think the gardens and the plants are The Number One attraction to gardeners and plant nuts, monikers that undoubtedly apply to most of us. And becoming a Friend of the Arboretum helps to make all of that possible.

Clearly, our Piedmont Chapter and the JCRA enjoy a great synergy. Supporting each helps both. ♪

Plant Profile: *Aspidistra* 'Asahi' by Mark Weathington

Botanical name: *Aspidistra elatior* 'Asahi'
Common name: Morning Sun Cast Iron Plant
Botanical name: *Aspidistra elatior* 'Asahi'
Family: Asparagus (Asparagaceae)
Category: Herbaceous perennial
Primary uses: Shade gardens
Dimensions: 24 to 36 inches tall by 36 inches wide
Culture: Light to full shade; best in a moist, well-drained location.



Aspidistra is commonly called cast iron plant since it withstands a great deal of abuse including very dry shady areas. For best results wait until the new foliage emerges before cutting back the old leaves. Cutting last year's foliage too early can lead to somewhat stunted growth. New growth tips can be damaged by late frosts and covering plants before a late frost will keep them looking good all season.

Bloom time: Summer
Bloom color: White, not showy
General attributes: Morning sun or 'Asahi' cast iron plant is one of the finest variegated perennials for the shady garden. Large clumps of broadly lanceolate leaves emerge in spring with white tips which gradually develop until they encompass the top third of the leaf. Newly planted or divided specimens often take a year or two to develop good color. ♪



The Granville Gardeners Garden Festival

WIN THIS TOM JORDAN BIRDHOUSE!

Raffle tickets only \$1.00 each

The winning ticket for this bird nesting box
will be drawn at 2:00 p.m. at the
Granville Gardeners Garden Festival Saturday, September 14
on the lawn of the Agriculture Extension Building at 208 Wall Street, Oxford.
Tickets will be on sale Aug.1 through Sept.14.

· Tom's handcrafted cedar birdhouses are well known and sought after.
They have a back door for easy cleaning. A mounting pole is included.
In 1999, as silent auction items at the NCSU JC Raulston Arboretum Gala in the Garden fundraiser,
They sold for \$195 each.

The Granville Gardeners Garden Festival offers plants and garden items for sale, free refreshments,
buy 3 plants and get 1 free, and additional raffle items.

For information, use this link: ggbirdhouse@yahoo.com

To buy tickets, send request for the number you want to: ggbirdhouse@yahoo.com

Or to The Granville Gardeners

Attention: Birdhouse Raffle

P.O. Box 1261 Oxford, NC 27565



NARGS Rock Garden Speakers Fall of 2013

Oct. 19, 2013

Tim F. Alderton

“Spring Wildflowers of the Blue Ridge”

4233 Laurel Ridge Dr.

Raleigh, NC 27612

Email: tim_alderton@ncsu.edu

919-513-7011

Nov. 2, 2013

Ian Young

“Bulbs in the Garden”

How we use bulbs in the garden to create interest
and colour for as many months as possible - concen-
trates on the use of bulbs rather than their botany.

&

“Inspired to Rock Garden”

The gardens and places that inspired me to grow
rock garden plants and how I interpreted them into our
garden.

63 Craigton Rd.

Aberdeen City

Scotland AB15 7UL, United Kingdom



NARGS Piedmont Chapter Meeting 9:30 a.m.

JC Raulston Arboretum
Ruby McSwain Education Building

“Xeric Scree Gardens ”
September 21, 2013

Adrienne Roethling
Paul J. Ciener Botanical Garden
Kernersville, NC

The Trillium, Newsletter of the Piedmont Chapter
The North American Rock Garden Society
1422 Lake Pine Drive, Cary, NC 27511

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OTHER SIGNIFICANT POSITIONS:

- Sept. Plant Sale Manager: Kirtley Cox
Refreshments: Gwen and Maurice Farrier

Food Goodies to Share

If your last name begins with the letter below,
please consider bringing something to share.

Sept A-D	Jan M-P
Oct E-H	Feb Q-T
Nov I-L	March U-W
April Any & all	

Attention Piedmont Chapter Members

This is your opportunity to show your support for the excellent programs you enjoy brought to you by the Piedmont Chapter of NARGS. We count on membership participation at plant sales which allows us to bring outstanding monthly speakers to you.

Bring your Checkbooks or wallet. No credit cards used on the plant sale day.

Chapter Annual Fall Plant Sale

Our September 21 meeting and plant sale is nearly here, so take the time to get your contributions divided and potted up. Good plants of all sizes, shapes and maturity are needed.

Bring plants in clean pots and label each pot; we don't have time to do it that morning. **Remember to have the labels complete, accurate and legible. Please print.**



We will start setting up at 9:00 am, and will be eagerly accepting plants at any time between then and the start of the sale. The program starts at 10am with the sale beginning immediately afterwards. Remember that contributors will have a few minutes head start at the beginning of the sale.

For more information, contact me at 919-489-7892 (H) or by email (kirtley@ncrrbiz.com). ☺