



On The Fringe

Journal of the Native Plant Society of Northeastern Ohio

Program Schedule – Spring 2015

Friday, March 27, 8:00 am – 4:00 pm – Ohio Botanical Symposium. Villa Milano Banquet and Conference Center, 1630 Schrock Road, Columbus, Ohio, 43229. The Native Plant Society of Northeastern Ohio will be a sponsor of the Ohio Botanical Symposium, which brings botanists, naturalists, and other nature enthusiasts together to network, provide professional enrichment, and view posters and displays on Ohio's native flora, natural areas, and rare plants. Featuring Dr. Robbin Moran, curator of ferns and lycophytes at the New York Botanical Garden, who will present the keynote on the extraordinary biology of some of Ohio's ferns. **Registration:** go to <http://naturepreserves.ohiodnr.gov/stay-informed/2015-ohio-botanical-symposium>.

Sunday, Apr. 12, 10:00am - Noon – Native Spring Ephemerals' Response to Climate Change. Case Western Reserve University's Squire Valleeview Farm. Professor Jean Burns and doctoral student Anna Osvaldsson lead a tour to see Anna's climate change research on the influence of changing winter snow cover on spring ephemeral plants. As climates in the Ohio region warm, models predict less winter snow cover, and thus less insulation covering soils through the winter. The result may be greater soil freezing, and greater mortality in our native plants. Anna's experiment manipulates over-winter snow cover for many of our spring ephemerals, including wake robin (*Trillium erectum*), jack in the pulpit (*Arisaema triphyllum*), and blood root (*Sanguinaria canadense*). In addition to the experiment, we will also explore some of the farm's beautiful populations of spring ephemerals. **Directions:** Squire Valleeview and Valley Ridge Farms, 37125 Fairmount Blvd, Hunting Valley, OH 44040, between SR 91 and SR 174 (Chagrin River Road). Call Judy for registration at 440-564-9151.

Sunday, Apr. 19, 1:00pm – Earth Day. The West Woods Nature Center, Celebrate Earth Day the Natural way. Kathy Hanratty, Native Plant Society of Northeast Ohio President, will be a featured speaker on Native Plant Landscaping, along with other earth friendly talks and kids' activities. Consider using some of our beautiful native plants when planning your garden or designing your landscape. Natives give our landscape a sense of place and promote a more biologically rich region. This program will be indoors. Joint program with Geauga Park District. **Directions:** take St. Rt. 87 east from Rt. 306 in Russell Township approx. 2 miles to the park entrance on south side of the road. 9465 Kinsman Road, Novelty, Ohio 44072.

Thursday, May 14, 9:00am – Noon – Armstrong Hemlock Swamp, Conneaut, Ashtabula County. Jim Bissell, Curator of Botany at Cleveland Museum of Natural History, leads this joint trip with NEON. Armstrong Hemlock Swamp has outstanding hemlock forests, skunk cabbage, seepages, and lake plain swamp forest. **Directions:** Take I-90 east through Ashtabula County to the SR 7 exit. Travel north towards Conneaut. At the first traffic light north of I-90 turn left. Assemble in the Burger King parking lot. Call Judy to register at 440-564-9151 (H) or 440 279-0890 (W).

Saturday, May 16, 10am – Sherwin Preserve, Waite Hill. Doug Yates leads this special trip to Western Reserve Land Conservancy property. **Directions:** From SR 306 in Kirtland take Eagle Rd west to Smith Rd., turn right/north on Smith Rd., park in large open field on East side of road. Call Judy to register at 440-564-9151 (H) 440-279-0890 (W).

Board

President	Kathy Hanratty
Vice President	Judy Barnhart
Treasurer	Lisa K. Schlag
Secretary	Open
At Large	Diane Christensen
At-Large	Jane McCullam
Environmental	Open
Outreach Chair	Open
Founding President	Ann Malmquist

Standing Committee Chairs

Program	Judy Barnhart
Journal & Media	Diane Christensen
Special Events	Kathy Hanratty
Grant & Awards	Open
Marketing	Open
Mktg Co-chair	Open
Webmaster	Lisa K. Schlag
Membershin	Jane McCullam

On The Fringe

The Journal of the Native Plant Society of Northeastern Ohio is published four times a year at Novelty, Ohio. ISSN 8756-6087. Questions or comments are welcome and may be addressed to chief editor, Diane B. Christensen, 8400 Top Rail Lane, Novelty, OH 44072; 440-666-4870, dbpolice@roadrunner.com; or co-editors Bill Oberdick, 986 Bushwood Ln., Columbus, OH 43235-5016; 216-392-7027, bandbober@wowway.com or Jane McCullam, 9880 Fairmount Blvd., Newbury, OH; 44065, cattermole@windstream.net, 440-338-3253.

The Mission of the Native Plant Society of Northeastern Ohio is to promote the study, appreciation and conservation of the native plants and plant communities of Ohio.

Program Schedule – Spring 2015, cont.**Spring Weekly Wildflower Walks – Wednesdays at 6:30 pm**

No registration is required for these walks. All walks will take place rain or shine.

These easy walks will explore the parade of spring blooming woodland flowers from the first skunk cabbage to the final waterleaf and wild geranium. **Guests** are always welcome.

April 1 – Squire's Castle, North Chagrin Reservation, Cleveland Metroparks. Led by member Kent Scott, we will look for skunk cabbage and other early flowers. **Directions:** Squire's Castle parking is located off River Road about a half mile south of route 6.

April 8 – Chapin Forest, Lake Metroparks. Explore this diverse and easily accessible forested park. **Meet at:** Forest Picnic Area, the 2nd parking area off route 306 in Kirtland.

April 15 – Hach-Otis State Nature Preserve, Willoughby Hills. This preserve contains both a spectacular forest and a very unique geology. Led by Kent Scott. **Directions:** Hach-Otis is about 1 mile north of Squire's Castle on Skyline Drive. From Rt 6 turn north onto River Road (Rt 174). Skyline Drive is maybe 1000' north on your right. Entrance to HO is at the end of Skyline.

April 22 – Eagle Creek State Nature Preserve, Garrettsville, Ohio. Explore this large and diverse natural area with member Fred Losi. Eagle Creek is a combination of both upland and swampy areas so there will be lots of plant diversity.

April 29 – Hemlock Creek Picnic Area, Bedford Reservation, Cleveland Metroparks. Member Fred Losi will lead this walk in an area that grows more than 50 native wildflower species. **Meet at:** 14500 Button Road, Bedford, OH 44146.

May 6 – Brecksville Reservation, Cleveland Metroparks. Join members Lisa Schlag and Ellen Brown-Armstrong to explore Brecksville's Wildflower trail. Along with native spring wildflowers, we'll also observe invasive plants that are threatening the natives. Stops will also include the Harriet Keeler memorial and the prairie. **Meet at:** the Brecksville Nature Center parking lot. 9000 Chippewa Creek Drive, Brecksville 44141.

May 13 – Lantern Court: Holden Arboretum. Tom Yates, former Lantern Court gardener, takes us around the native gardens of this estate, to see the different trilliums and other spring flora. Built in the 1930s as a residence for Warren H. and Maud Corning, Lantern Court is a Georgian Colonial house built of Ohio sandstone, surrounded by 25 acres of informal gardens and woodlands. Directions: 9203 Kirtland-Chardon Rd., parking in the main lot near the gate house.

May 20 – Swine Creek Reservation, Swine Creek Lodge. Enjoy the amazing diversity of colorful spring wildflowers in this mature woods including green violet, and discover some fascinating folklore associated with them. Be prepared for a couple small stream crossings and some hills. Directions: From downtown Middlefield, take Rt. 87 east 2½ miles to Hayes Road. Turn right (south) 1½ miles to park entrance on right. Bear left to Lodge. 16004 Hayes Rd, Middlefield, 44062.

May 27 – Rocky River Reservation, Cleveland Metroparks. Sometime Clevelander's consider themselves either an East or Westsider. Are there differences in the plants? Let's see as we explore the hillside across from the Mastick Picnic area just South of where Mastick Road crosses the Rocky River valley. Meet in the parking lot for the picnic area.

The Native Plant Society of Northeastern Ohio Awards Fred Losi The Gentian Award for 2014

By Lisa Schlag

The Native Plant Society created the Gentian Award in 2012 to honor those who have made a significant contribution to our Society's mission of promoting the study, appreciation, and conservation of Ohio's native plants and plant communities. This year's recipient exemplifies the spirit of the Gentian Award by the generous sharing of his time, knowledge, and curiosity about nature through his many volunteer and community services. We are proud that this year's Gentian Award goes to Mr. Fred Losi. He joins the fine company of previous award recipients: Perry Peskin and Judy Semroc.

Like Perry, Fred's interest in nature is not his vocation. Fred graduated from Case Western Reserve University with a Bachelor of Science degree in electrical engineering. Professionally, he currently handles technical and architectural aspects of projects especially in the telecommunications area. It is to the benefit of many that his technical training and background never quashed his love for the outdoors nor his thrill of experiencing the wonders of nature that exist right in our backyards. Being an avid hiker, Fred has covered much ground over the years, hiking through the woods of Bedford, Brecksville, North and South Chagrin, and much of the Cuyahoga Valley National Park. With his hiking experience and his respected knowledge of wildlife and plants, Charles Thomas and Carl Casavecchia could think of no better person to take the reins of the Cleveland Metroparks' *Woodlands of Bedford* program. "It does both Chuck and I a lot of good to know a program we started a long time ago is in the capable hands of Fred to carry on the discovery of the outdoor world."

In addition to his involvement as a volunteer naturalist with the Cleveland Metroparks, Fred's appreciation for nature is reflected in his contributions to many other conservation, nature, cultural, and citizen science organizations: Cleveland Museum of Natural History; NEON; Kirtland Birding Club; Ohio Ornithological Society; Cuyahoga Valley National Park; Brecksville Historical Association; Native Plant Society of NEO; to name a few. He is also an avid Boy Scout troop leader and leads spring Audubon bird hikes and wildflower hikes.

He contributes real-time data from both his organized and personal hikes as well as from home, and he keeps a close eye on sensitive plants that may be disturbed by interaction and reports threats to flora and fauna.

Fred has a natural inclination to engage people to truly see all the wonders of nature. “Fred is able to get hardcore birders to stop and admire the blue forest floor created by blooming Virginia blue bells and he always will take time to point out a newly blooming spring wildflower and never hesitates to answer flora questions.” And, just this past spring, “Fred was a great interpreter, leader, and friend to the Ohio Young Birders Club students.” At the conclusion of one of their walks in the Cuyahoga Valley National Park, “Fred pulled out his scope and did an impromptu night sky program!”

On his hikes, you feel welcomed and appreciated for sharing your time experiencing and learning about nature. This inclusive feeling of camaraderie is one of the things that make his field trips so special. Regardless of knowledge or skill level, one feels comfortable to contribute knowledge or an observation, ask questions, take photographs, or do whatever furthers your knowledge and joy of nature.

Fred’s volunteer and community services along with his readily shared hike summary write-ups and photographs exemplify the spirit of the Gentian Award: to further the education, appreciation, and conservation of native plants and plant communities of Ohio.

Please join us in thanking Fred for sharing his good humor and for all his selfless contributions over the years that have brought joy and understanding of our natural world to so many. It is with great delight and honor that we present Mr. Fred Losi with this year’s Gentian Award for 2014.

The plaque has a picture of a Fringed gentian and says:

Gentian Award
For Dedication to the Native Plants of Ohio
Fred Losi
2014

Congratulations Fred!

This is an elaboration of the introduction Lisa Schlag gave at the presentation of the Gentian Award to Fred Losi at the annual dinner of the Native Plant Society at the Pine Lake Trout Club on November 1, 2014.

Carl Casavecchia is a Special Project Manager with the Cleveland Metroparks.
Charles Thomas is a Retired Volunteer Naturalist for the Cleveland Metroparks.

BioCellar Rain Garden Inspired by Native Plant Society of Northeast Ohio Field Trips

By Jean Loria & Pebbles Bush

The BioCellar in Cleveland, Ohio and its Rain Garden

Rain gardens typically are planted swales in residential lots that soak up rainwater. In urban areas, widespread establishment of rain gardens mitigates negative effects of stormwater run-off. The BioCellar built at the Vineyard of Chateau Hough in Cleveland, Ohio (figure 1) is a demonstration site of a broader use of the term rain garden to include an intentional seamless stormwater chain of capture, channeling, storage, diversion, and retention of rainwater and snow. It is a passive solar greenhouse rising up from the basement of a demolished vacant building. Green/natural building, ecological design, and neighborhood connection are defining features for BioCellars as potential mini-economic engines of urban revitalization.

Construction of this BioCellar was completed in October 2014, and as soon as the built stormwater infrastructure of the BioCellar was in place, we began to create the adjacent rain garden designed for it. Rather than “berms & swales”, we would be working with “dunes and swales”.



Figure 1. BioCellar at the Vineyard of Chateau Hough, Cleveland Ohio. Concept and design Jean Loria; architect Robert Donaldson; builder and owner Neighborhood Solutions, Inc., Mansfield Frazier, Executive Director.

The Soil of the Rain Garden

Hough is in the Lake Plain of Cuyahoga County, east of the Cuyahoga River and north of the Portage Escarpment. The area is flat and drains to Doan Brook. The soil is composed of ancient filled-in river valley and ancient lake bottom with deposits of silts, sand, and gravel. Ridges of old glacial lake beaches run east and west throughout (figure 2). The vacant house that was demolished—so the BioCellar could be constructed using the carefully salvaged foundation floor and foundation walls — was more than 100 years old. Layers of asphalt, brick, and rubble encountered while digging a trench for electrical conduit for solar voltaics confirmed that the lot had been used as a dumpsite for many years. We knew that the graded site for the rain garden to the east of the BioCellar was largely sand, grit, small stones, and rubble. Thus we understood that a better design for this rain garden would be one modeled on a sand barren ecosystem rather than the more familiar wetland ecosystem based in a clay-loam soil composition.

Hence Hough is an area of critical concern for stormwater run-off quantity and quality. Stormwater run-off enters the stormwater infrastructure contributing to the serious problem of Combined Sewer Overflow. The BioCellar at the vineyard is, in part, a demonstration project for stormwater best management practices, and the Northeast Ohio Regional Sewer District contributed to funds for construction.

Goals for the Rain Garden

What were our goals for the BioCellar rain garden? We wanted to show clearly the function of the BioCellar outer shell as an efficient passive rainwater harvesting structure (figure 3), so the downspouts were painted to match the roof to make them stand out against the stone foundation walls. One of the Ecological Design Principles articulated by Van der Ryn Architects is “make nature visible”. Therefore, there are no buried pipes channeling stormwater to or through the rain garden.

We wanted to construct the garden to give the impression of water flowing back and forth from the top of the rain garden to the lower elevation. Rapid percolation of rainwater run-off into the sandy rain garden and the challenge of maintaining soil fertility would have to be factored into plant palette selections. Urban-heat-island effect, wind forces, and proximity of foot traffic were also in the mix. It was also important that the rain garden be an attractive and welcome addition to the neighborhood gardenscape and unique to the natural history of the area. Every contribution to wildlife habitat—no matter how modest—would be a boost for enlivening the built urban environment.

Native Plants a Top Priority for the Rain Garden

Featuring native plants was a top priority. Natural ecosystems would be our model (figure 4). The Native Plant Society of Northeastern Ohio organizes fieldtrips that over the years have included numerous trips to Lake Erie protected shoreline areas: Mentor Headlands, Walnut Creek Beach, Geneva State Park, North Kingsville Sand Barrens, and Conneaut Beach are excellent and precious protected areas. We are both members of the society and were fortunate to go on some of these trips. Species lists and physical descriptions published in the Society’s *On The Fringe* journal chronicling the trips provided valuable reference material.

The BioCellar Lot Intercepts an Amount of Rainfall that would Surprise many.

The BioCellar and lot that it occupies intercept 80,500 gallons on average per year of incident rainfall. The glazing system plus gutter of the BioCellar intercepts approximately 175 gallons of rainwater per inch of rainfall and channels it to a southeast downspout directed to the rain garden, or the stormwater can be diverted to supplement irrigation of the vineyard. The metal roof (engineered to shade the interior during peak summer solar exposure to prevent

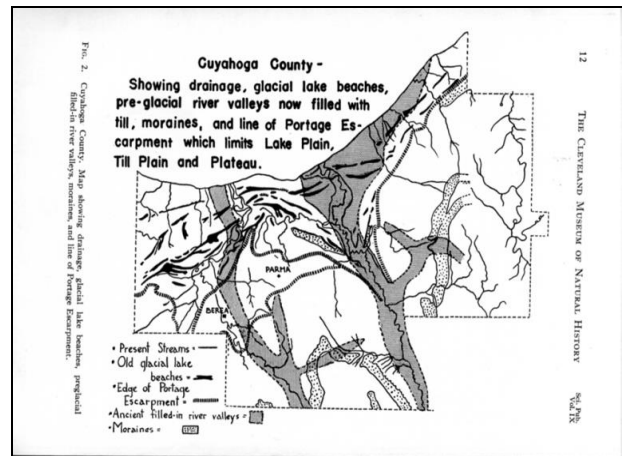
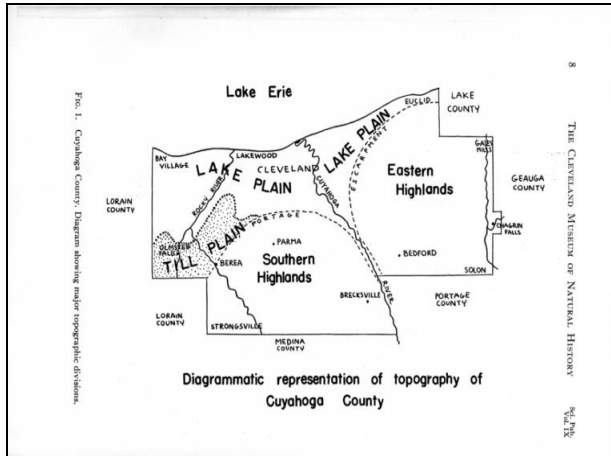


Figure 2. Lake Plain and Glacial Lake Beach Areas of BioCellar Site. From "The Native Forests of Cuyahoga County," Ohio by Arthur B. Williams, PhD., Bulletin Number 1, The Holden Arboretum, Scientific Publications of the Cleveland Natural History Museum, Vol. IX, January 1949.

the BioCellar from becoming a solar oven) intercepts approximately 425 gallons of rainwater per inch of rainfall. Downspout and piping from the roof channel the rainwater to a 1600-gallon cistern positioned on the floor of the BioCellar. When the cistern is filled, rainwater is shunted by back-pressure outside again and into the rain garden.

The core of the rain garden is 20 feet by 20 feet with borders for additional planting both north and south and has a 10% grade east to the sidewalk along E. 66th Street. The two stormwater run-off inflows are located at the top (west side of the rain garden area) with an expected maximum stormwater surge of 600 gallons per inch rainfall from the BioCellar and an additional 250 gallons incident rainwater per inch rainfall captured by the rain garden core. The goal is for the stormwater to be channeled to the rain garden above ground from the two downspouts into a spreader drain trench spanning the upper edge. Most likely stormwater run-off infiltration into the soil bank will occur here and subsurface waterflow will migrate to the lower edge as 'green water' in the plant root zones. Sandy soil has an advantage over soil with a high clay content in that a light rain during dry periods provides more 'available water' for plants in addition to penetrating more deeply.

The Design of the Rain Garden

The visible topographical structure for managing stormwater run-off flow through the rain garden is a simple pattern of three overlapping berms with swales on the upper side of each berm. Swales are shallow trenches with gently curved sides graded with a contour perpendicular to waterflow, and in this case with a

slight downgrade slope. They function to divert and retain stormwater run-off. The berms were constructed by mounding the native sandy soil from the swales to a height of 12 to 24 inches. The berms are armored with stone at each end to prevent erosion and for aesthetics. The topography of the garden suggests waterflow meandering back and forth across the garden to an outflow at the northeast corner. A sidewalk rill would direct overflow—if it reached this lowest elevation—to a French drain across the tree lawn to the street and nearby catch basin.

Soil analysis by sedimentation test showed 78 % sand, 18% silt, and 3% clay. After the surface structure was shaped, two yards of compost were spread across the rain garden and forked into the soil to improve fertility and increase water retention capacity. The rain garden site is in full sun with wind exposure on three sides. Plant species were chosen for their ability to tolerate tough conditions of wind, sun, and drought, root structure to stabilize the 'dunes,' attractive seasonal bloom, and pollen, nectar, fruit and seeds for wildlife.

Native Plants Chosen for the Rain Garden

Border plants for the rain garden are northern bayberry, rugosa rose, and beach plum. "Dunes" are planted with little blue stem grass, butterfly weed, smooth aster, stiff coreopsis, and wild petunia. Swales are planted with sedum, pussy toes, and Little Joe Pye weed. The lowest level of the rain garden bordering the sidewalk is planted with prickly pear cactus and wild lupine. See figure 5 for the BioCellar rain garden plant schedule.

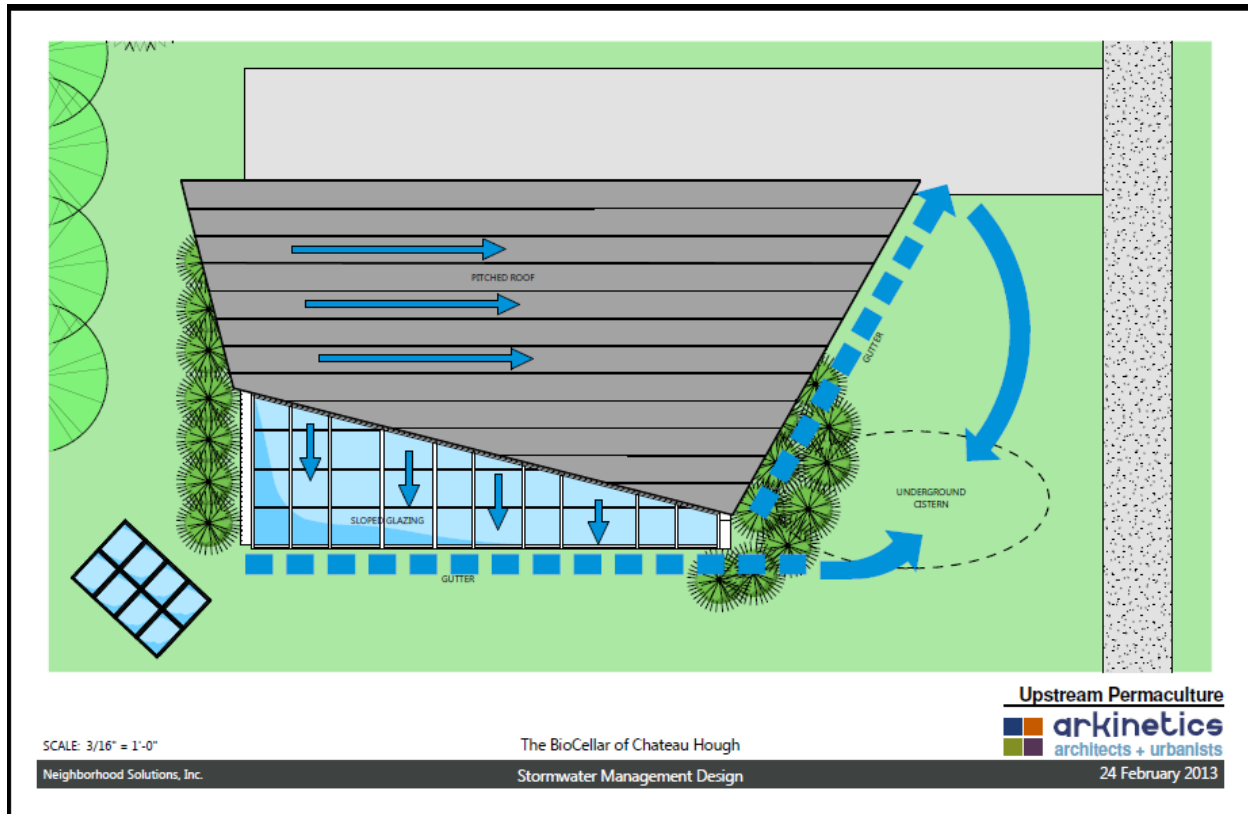


Figure 3. Schematic of Cleveland BioCellar Topview Showing Rainwater Harvesting Path

Beach plum and northern bayberry are part of a shrubland alliance found on sand dunes along the Atlantic Coast. A number of species from the Atlantic coast are also found on the Lake Erie shores. This interesting phenomenon of plant occurrence in widely separate geographic area is called disjunct. (See the article by Tom Sampliner in *On the Fringe* Vol. 31, No 2, June 2013 for more information). We added rugosa rose as a border plant as well. It is not native but is found naturalized and commonly present in maritime dune shrublands with beach plum and northern bayberry.

Beach plum fruit, called by some “Rubies of the Dunes,” is a choice edible for humans as well as wildlife. The plant blooms in mid-April, and dime-to-quarter-sized fruit ripens in August or September. It grows at the Headlands Dunes State Preserve. Northern bayberry is tolerant of salt spray and drought. It is used in parking lot “hell” strips and other tough urban spots as a hedge. The fruit is an important source of food for birds. It remains on the shrub well into winter. Northern bayberry fixes atmospheric nitrogen into soil, enriching it. Fragrance derived from the fruit gives us the familiar bayberry candle.

Rugosa rose is a popular ornamental rose with large, showy flowers in early summer. The blooms

form very large red hips by late summer, earning its less commonly known name of “Beach Tomato”. A big bonus is that the hips are high in vitamin C and easily dried for herbal teas. Rugosa rose is hardy, disease resistant and develops a strong root system we knew would be useful in stabilizing the edges of the BioCellar rain garden soil structure. For wildlife, it offers berries, forage, and shelter. Bees are attracted to its fragrant flowers.

Berms/dunes are planted with little bluestem grass, butterfly weed, smooth asters, stiff coreopsis and wild petunia. Little bluestem, *Schizachyrium scoparium*, is a grass found in the herbaceous layer of maritime dune shrubland. Little bluestem, ‘Prairie Blues,’ with its lesser stature was a better match for the scale of this rain garden. Contributions are berm stabilization via its powerful root system, fall color of the tall, graceful seedheads in bloom from July to October lasting into winter, and wildlife habitat. It is a larval host to assorted skipper butterfly species and provides nesting material, cover, and seeds for small mammals. Butterfly weed, also found in the Headlands Dunes area, is a member of the plant genus *Asclepias*, critical for survival of the Monarch Butterfly. Attracted by the bright orange flowers, they lay eggs on the leaves containing protective phytotoxins consumed by larva as



Figure 4. Headland Dunes State Nature Preserve



they develop into caterpillars. Stiff coreopsis, another butterfly attractor, also provides nectar for bees and carries lovely yellow flowers late into the growing season. Smooth aster like stiff coreopsis is a favorite Monarch nectary plant. It can bloom as late in the season as November—a boon for bees. Birds eat the seed in winter. Wild petunia blooms from June through August and is a favorite nectar source for hummingbirds. Though this plant has a shorter height than the other berm plants, it sows seed readily and is likely not to be out competed in this rain garden. These plants do well in full sun and are drought tolerant, making them good choices for the sandy berms.

The sandy swales of the rain garden are dotted with masses of *Sedum caudicola* 'Lidakense', a species cultivar not native to North America but in a family that is naturally drought tolerant. It has a prostrate habit that will fill the swales, turns bright pink when it blooms in late summer to early fall, and is a nectar source for pollinators and butterflies. *Antennaria dioica*, pussy toes, is planted to outline the pattern of the impression of waterflow through the rain garden and will bloom from May to June. Little Joe Pye is planted in a stand at the top of the BioCellar rain garden to add height and

occupy what is expected to be the wettest spot to satisfy its higher moisture requirement. Prime bloom time for this native plant is July through August. Nectar, pollen, and seeds for bees, butterflies, and birds round out its multi-purpose rain garden function.

The lower east edge of the rain garden bordering the sidewalk profiles both the native cactus *Optunia humifusa* and the rare *Lupinus perennis*. Eastern prickly pear cactus requires a well-drained sunny location. We expect the bright yellow bloom and red fruit borne June through July to be a pleasant surprise. Bees, butterflies, and beetles will also appreciate this intimidating plant. Found in the same sandy well-drained habitat as prickly pear cactus, and locally at North Kingsville Sand Barrens, is *Lupinus perennis*—common names, sundial and wild lupine. It is a member of the pea family and like Northern Bayberry will fix nitrogen into the soil as an important eco-service for the fertility of the rain garden. It's an obligate host for Blue Karner butterfly eggs and larval host for both the Karner Blue and Frosted Elfin butterfly. Humming birds are attracted to the bluish-purple elongated flowers. The status of wild blue lupine is listed as "Potentially Threatened" in Ohio. We were pleased to include it in this rain garden.



Figure 6. 'Dunes & Swales' of BioCellar Rain Garden

What the Rain Garden will do for the Neighborhood

As the rain garden establishes and matures, it will detain and retain stormwater run-off, provide nectar, pollen, seeds, forage, and habitat for wildlife, and also demonstrate a rain garden uniquely suited to the topography of the site (figure 6). From mid-April beach plum flowers to May emergence of wild lupine and pussy toe blooms and with a continuous show of color from rugosa rose, wild petunia, stiff coreopsis, butterfly weed, Joe Pye, sedum and smooth aster, the rain garden will add interest and vitality to this important urban neighborhood. The moment we placed the plants in the rain garden, shovels in hand, a Monarch Butterfly arrived to visit the butterfly weed and continued to fly about the entire day. We could not have asked for more immediate or meaningful approval.

Jean Loria and Pebbles Bush are members of the Native Plant Society of Northeastern Ohio. Jean is a Permaculture Designer and can be contacted at biocellars@gmail.com. Pebbles is a Horticulturist with a particular interest in native plants. For further information about the BioCellar in Hough go to <http://www.neighborhoodsolutionsinc.com> and http://www.cleveland.com/food/index.ssf/2014/10/innovative_biocellar_in_clevel.html.

To read more about Biocellars in general go to the Cleveland Urban Design Collaborative website: http://www.cudc.kent.edu/projects_research/research/biocellar.html.

Biocellar Rain Garden References

On The Fringe, Flora of Northeastern Ohio's Beaches, Dunes, Swales and other Palustrine Habitats, Tom Sampliner, Vol 31, No 2, June 2013.

On The Fringe, Northeast Lakeshore Ohio State Nature Preserves, Vol 25, No 3, September 2007.

On The Fringe, D-Day on the Beaches of Ashtabula, Jean Roche, Vol 21, No 4, December 2003.

The Native Forest of Cuyahoga County Ohio, Arthur B. Williams, PhD, Bulletin Number 1, The Holden Arboretum Scientific Publications of the Cleveland Natural History Museum, Vol IX, January 1949.

Rain Gardens: Managing Water Sustainably in the Garden and Designed Landscape, Nigel Dunnet and Andy Clayden, Timber Press, Inc. 2007.

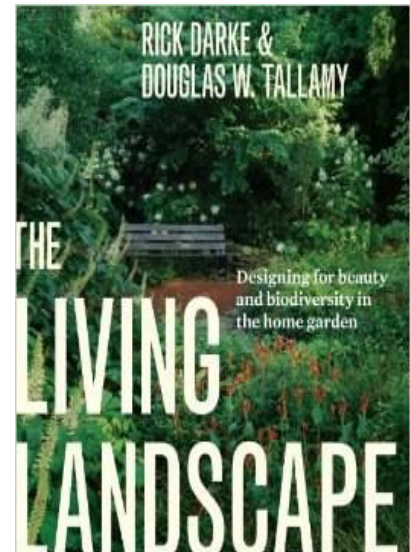
The Study of Plant Communities: An introduction to Ecology, Henry j. Ossting, W.H. Freeman and Company 1956.

Design for Water: Rainwater Harvesting, Stormwater Catchment, and Alternative Water Reuse, Heather Kinkade-Levario, New Society Publishers 2007.

BioCellar Rain Garden Plant Schedule

- | | |
|--|---------------------|
| • <i>Antennaria dioica</i> 'rubra | Pussytoes |
| • <i>Aster laevis</i> | Smooth aster |
| • <i>Asclepias tuberosa</i> | Butterfly weed |
| • <i>Coreopsis palmata</i> | Stiff coreopsis |
| • <i>Eupatorium dubium</i> 'phantom' | Little Joe Pye Weed |
| • <i>Lupinus perennis</i> | Lupine |
| • <i>Myrica pensylvania</i> | Bayberry |
| • <i>Opuntia humifusa</i> | Prickly cactus |
| • <i>Prunus maritima</i> | Beach Plum |
| • <i>Rosa rugosa</i> | Rose |
| • <i>Ruellia humilis</i> | Wild Petunia |
| • <i>Schizachyrium scoparium</i> 'Prairie Blues' | Little Blue Stem |
| • <i>Sedum caudicicola</i> 'Lidakense' | Sedum |

Figure 5 BioCellar Rain Garden Plant Schedule

Book Review:**The Living Landscape: Designing for Beauty and Biodiversity in the Home Garden****By Rick Darke and Doug Tallamy****Publisher:** Timber Press (July 1, 2014)**Pages:** 392 pages**ISBN-10:** 1604694084**ISBN-13:** 9781604694086**Hardcover****Price:** \$39.95; Amazon \$25.27

Many gardeners today want a home landscape that nourishes and fosters wildlife. But they also want beauty, a space for the kids to play, privacy, and maybe even a vegetable patch. Sure, it's a tall order, but *The Living Landscape* shows how to do it. By combining the insights of two outstanding authors, it offers a model that anyone can follow. Inspired by its examples, you'll learn the strategies for making and maintaining a diverse, layered landscape—one that offers beauty on many levels, provides outdoor rooms and turf areas for children and pets, incorporates fragrance and edible plants, and provides cover, shelter, and sustenance for wildlife. Richly illustrated with superb photographs and informed by both a keen eye for design and an understanding of how healthy ecologies work, *The Living Landscape* will enable you to create a garden that is full of life and that fulfills both human needs and the needs of wildlife communities.

Content for this article was taken from Amazon.com.

Miner's lettuce, *Claytonia perfoliata*

By Hank Shaw



Miner's lettuce, *Claytonia perfoliata*. Photo by Hank Shaw

Here in Northern California, our spring has already begun. Manzanita is in flower, and the almonds and wild plums are in full bloom. Everything that's not concrete is green, greener than anything you can imagine. Ireland green. It is the Time of Salads.

And no wild salad green is more important than miner's lettuce, *Claytonia perfoliata*. I took a walk yesterday near Folsom, and within a mile I saw enough of the plant to feed a small town. It is everywhere, so much so that no one can see it. It's become wallpaper, an anonymous part of the green world we're enjoying these days. I watched scores of people pass one of the world's great salad greens without so much as a second glance.

I wonder if they just didn't recognize the plant in its natural setting. After all, next to blackberries and wild fennel, miner's lettuce is probably the most recognized wild edible in this part of the country. Even dazzling urbanites seem to know it, possibly recalling dim memories of summer camps gone by, or of a fancy Alice Waters salad they might have enjoyed at Chez Panisse back in 1989 or something. In gourmet circles, miner's lettuce has become a commonplace, an afterthought. It is the iceberg lettuce of wild foods.

Undeservedly so. Miner's lettuce is pleasingly crunchy, mild-tasting, has large leaves, remains tender even when in flower, and is so loaded with vitamins it will cure scurvy. The plant got its name because the Gold Rush miners ate it to stave off the disease, which is caused by a

vitamin C deficiency; they learned this trick from the local Indians, no doubt.

According to a study in the Journal of the American Dietetic Association, 100 grams of miner's lettuce—about the size of a decent salad—contains a third of your daily requirement of vitamin C, 22 percent of the vitamin A, and ten percent of the iron. Combine this with stinging nettles, and you have everything you need to revive your system from a winter's worth of heavy meats, dried grains and roots.

All of these qualities impressed early explorers so much they saved the seeds of *Claytonia perfoliata* and brought them back to Europe to grow, first as a curiosity, then as a food plant.

Many sources say this happened in 1749, but I have never found any reference to any original source of this date, which I think is a transposition of the real date the plant reached Europe. According to *Hortus Kewensis*, an 1811 catalog of everything growing in England's famous Kew Gardens, the great Scots naturalist Archibald Menzies discovered miner's lettuce on the West Coast of America in 1794, not 1749, and he brought seeds back to Kew, where it flourished.



Miner's lettuce, *Claytonia perfoliata*. Photo by Hank Shaw

I took a look at Menzies' journal of the expedition—he was with George Vancouver on Vancouver's famous round-the-world voyage—and it appears that Menzies actually found the plant along Puget Sound, in current-day Washington, on May 7, 1792:

A little before won the Fog dispersd... we walkd along shore... In this walk I found growing in the Crevices of a small rock about midway between the two points a new Species of Claytonia [a small flowering herb] & as I met with it no where else in my journeys, it must be considerd as a rare plant in this country. I namd it Claytonia furcate & took a rough sketch of it which may be seen in my collections of Drawings.

It is not exactly clear whether this is miner's lettuce or not, but this is Menzies' only mention of claytonia in the journals he kept on the voyage, and there are any number of accounts published before 1820 that mark this as the plant's European provenance.

Miner's lettuce was so important as a source of Vitamin C that the British planted it in Cuba and, later, in Australia. An early 19th century article I found notes that miner's lettuce was already well-established in Cuba by 1811, and that it was "spontaneously growing" in the Botanical Gardens of Paris. By mid-century it was being sold by seedsmen as a salad green and potherb—and was rapidly becoming a weed in England.

This is a rare thing. Nearly all our edible household weeds are of European origin: dandelion, plantain, most thistles, chickweed, purslane, mallow, cat's ear, garlic mustard, shepherd's purse. For our very own miner's lettuce to be brought back to Europe, and for it to become a widespread edible weed, is almost unprecedented.

What's more, miner's lettuce is one of the very few foods native to North America that we commonly eat. Think about it: How much of the food in your pantry is native to this place? Wild rice, turkey, cranberries, jerusalem artichokes for sure. Chiles and some squash and beans can qualify, but they are more Central American. Let's face it, when it comes to the salad course, miner's lettuce is the king of our indigenous cuisine.

Why it hasn't become part of our standard "salad mix" is beyond me. It's ridiculously easy to grow, loves moist shade, and you can buy miner's lettuce seeds pretty much anywhere. I am growing some this spring, and, like my wild arugula, will be happy to have this little plant colonize my yard.

So far as eating miner's lettuce is concerned, there is really no reason to stray beyond the salad. This is how most of us enjoy it today, and it's how the Native Americans ate the plant—although I think I'll skip the trick performed by a few tribes that lived around Auburn, California: They would apparently strew miner's lettuce leaves along the highways of a particular kind of ant, which would then excrete something acidic (formic acid,

maybe?) on the leaves, flavoring them like vinegar. Weird, eh? I think I'll stick to vinaigrette.

Normally I mix greens to create certain flavors and textures, but sometimes I prefer to eat miner's lettuce solo. You really get to know a green when you do this, and you don't want to dress such a salad too heavily; just a light coating is all.



Photo by Holly A. Heyser

I made a light mustard vinaigrette for the dressing, and added some fresh ground black pepper and a little flake salt for texture and crunch. The effect is tart, smooth, a little crunchy, and very "green" tasting. Miner's lettuce is also known as winter purslane (they're both in the portulaca family), and if you have ever eaten regular summer purslane, you can appreciate the succulent texture of this plant.

For those of you who live anywhere from British Columbia east to the Great Plains, you can find miner's lettuce, and its various claytonia cousins, in shady, moist spots in spring. According to the USDA, miner's lettuce has naturalized in a few places east of the Plains, notably Ohio, Georgia and New Hampshire. Pick from February to May, but you will need to find deeper, cooler, places the later you go.

The best leaves grow under trees. Miner's lettuce is perfectly fine when in flower—unlike most spring greens—but pick before the flower stalk gets too long. Once picked, miner's lettuce leaves will last in a plastic bag in the fridge for 3-5 days without too much loss of quality. Keep a damp paper towel in the bag to keep everything nice and fresh.

Hank Shaw is a cook, a hunter, angler, forager and wild foods expert constantly on the lookout for new things to catch and eat. Although he has caught fish and foraged since he could walk, Hank is an "adult onset" hunter who did not pick up a shotgun until 2002; he's never looked back. Hank and his partner Holly Heyser — avid duck hunters — now hunt or fish for all the meat they eat at home, and foraged foods form a daily part of their diet. Hank runs the wild foods blog Hunter Angler Gardener Cook (www.honest-food.net), which won the James Beard Award for Best Blog in 2013. He won the International Association of Culinary Professionals award for Best Blog in 2010 and 2011, and his work was featured in the book *Best Food Writing 2012*. Shaw's magazine writing has appeared in *Food & Wine*, *Organic Gardening*, *Field & Stream*, as well as many other publications. He lives near Sacramento, CA.

Delores Pinchot, a member of the NPSNEO, suggested this article. The Editors appreciated the suggestion and liked the article. If you also liked this and would like to read the article, go to: <http://honest-food.net/2011/02/23/on-miners-lettuce-americas-gift-to-salad/>

Folklore:

Trout Lily *Erythronium americanum*

By Denny Garvin

A much-anticipated moment occurs each spring when I encounter my first Trout Lily. Its small, yellow, downward-pointing flower is not always visible at first glance and always brings a smile to my face when seen after one of our tenacious winters.

These little lilies are common in the rich, moist woods of the Great Lakes region, although their range extends from Nova Scotia to Georgia and from Arkansas to Minnesota. They grow to a height of 4-10 inches (10 - 25 cm) and bloom locally in mid-to-late April.

They often form a mat of semi-succulent greenness on the forest floor. With a little imagination, you can envision them as a group of trout schooling beneath the trees. The Trout Lily's two large basal leaves are mottled with reddish-brown markings from which it gets its name.

Its many names illustrate its more prominent features: Adderleaf, Adder's Tongue, Bastard Lily, Chemise Lily, Cornflower, Deer's Tongue, Dogtooth Violet, Easter Lily, Fawn Lily, Jonquil, Lamb's Tongue, Rattlesnake-Violet, Scrofula- Root, Serpent's Tongue, Trout- Flower, Yellow Bells, Yellow Hookers, Yellow Snowdrop, and Wild Yellow Lily.

These names paint a picture of some common themes which found their way into the written musings of one of our more celebrated American naturalists:

How it came to be called 'adders tongue' I do not know; probably from the spotted character of the leaf, which might suggest a snake, though it in no wise resembles a snake's tongue. A fawn is spotted too, and 'fawn lily' would be better than adder's tongue. Still better is the name 'trout lily' which has been recently proposed. It blooms along the trout streams, and its leaf is as mottled as a trout's back.

- John Burroughs, 1894

Most observers would agree that the adders tongue, to which Mr. Burroughs was referring, is the pistil attached to the fertilized fruit and seen after the petals have fallen off.

The lily is, in the cultural history of the West, the sacred flower of motherhood. The ancient Greeks and Romans adopted the lily as the symbol for many of their goddesses, including Hera (a Greek goddess responsible for a woman's marriage and childbirth) and Juno (a Roman goddess responsible for the lives of women). This is especially interesting when one considers that women of the Iroquois nation commonly ate the raw leaves of the Trout Lily to prevent conception.



Trout Lily, *Erythronium americanum*
www.uswildflowers.com



Trout Lily, *Erythronium americanum*
www.thegardenerseden.com

Reprinted, with some changes, from the Ottawa Park Nature Education Center, City of Toledo Parks, Recreation & Forestry 2000 *Teachers' Resource Packet*.

Invasive:

Star-of-Bethlehem, *Ornithogalum nutans* & *O. umbellatum*

Background:

Star-of-Bethlehem, a name that refers to two commonly cultivated and similar species, was likely introduced into New England as a horticultural plant. The exact date of introduction is unknown.

Range:

O. nutans is native to Asia, while *O. umbellatum* ranges across Europe and North Africa. Both species can be found across much of the United States, with *O. umbellatum* being more common and wide-ranging.

Description:

Both species are herbaceous plants that grow from bulbs and have narrow, linear, grass-like leaves formed into dense tufts. The leaves have a distinct white midrib and are often folded in *O. nutans*. The showy, white flowers exist in a spike-like raceme in *O. nutans*, and appear more umbel-like in *O. umbellatum*.

Habitat:

Star-of-Bethlehem prefers moist to wet habitats along the banks of rivers and streams, and in disturbed situations in early successional forests, forest edges, floodplain forests, wet meadows, yards and gardens.

Biology and Spread:

Star-of-Bethlehem spreads mainly through the dispersal of its bulbs, which can travel by water or careless gardener. Its ability to disperse by seed is currently unclear.

Ecological Threat:

This plant is a potential threat to native vegetation. It can form dense stands along the edges of rivers and streams, traveling rapidly downstream to new locations. Since it is still being used in horticulture, it will likely continue to spread beyond its current range. Star-of-Bethlehem is poisonous to livestock, as well as to curious children.



Spring Beauty, *Claytonia virginica*



Star of Bethlehem, *O. umbellatum*

How to Control this Species:**Physical**

Small infestations may be eliminated by digging up entire plants, being sure to remove and dispose of all bulb material. The bulbs may be extremely deep.

Chemical

Chemical control of star-of-Bethlehem is difficult since the plant is non-responsive to several herbicides and often regenerates following herbicide injury.

Native Alternatives:

Many delicate native wildflower alternatives to star-of-Bethlehem exist, such as rue anemone, *Thalictrum thalictroides*, bloodroot, *Sanguinaria canadensis* and liverleaf, *Hepatica nobilis*.

Look-A-Likes:

The flowers and leaves of Star-of-Bethlehem look similar to some other spring-flowering herbaceous bulbous plants, such as our native spring beauty, *Claytonia virginica*.



Drooping Star of Bethlehem, *Ornithogalum nutans*

Information downloaded from the Invasive Plants in Pennsylvania, Department of Conservation and natural Resources. www.dcnr.state.pa.star-of-bethlehem. Pictures taken from www.Wikipedia.org.



Photo taken from Wikipedia.org

Triangle Lake Bog

Triangle Lake Bog State nature Preserve is one of the best examples of a kettle lake bog and is one of the finest and least disturbed sphagnum kettle-hole bogs in Ohio.

Kettlehole bogs are among the rarest natural communities in the region and are confined to the shores of glacial, kettlehole lakes. Such lakes were formed by large blocks of ice left by retreating glaciers. As the ice blocks melted, they formed a deep lake dammed by glacial debris. The vegetational zone surrounding this glacial kettle lake follows the classic pattern of boreal bogs. The edges of these lakes developed swampy flats layered with decomposed sphagnum (peat) moss. The moss creates a very acidic medium that provides habitat for many rare plants, including relicts of boreal vegetation that moved south in front of the glacial ice sheets.

The vegetation is dominated by evergreen and semi-evergreen shrubs, including leatherleaf, highbush blueberry, and lowbush cranberry, catberry, and poison sumac. Coniferous trees, such as tamarack, are found on the edges and on peat moss hummocks on the floating mats. Sedges and other grass-like plants are the most abundant components of the herbaceous cover. It is home to a number of insectivorous plants including the northern purple pitcher plant, round-leaved sundew and bladderwort.

A relatively short and quite well-built boardwalk allows visitors into the innards of the bog. Without it, a person would have a bear of a time gaining access. Thick shrub zones form a nearly impenetrable tangle around the outside rim of the bog. One of the dominant shrubs is highbush blueberry, *Vaccinium corymbosum*. Its blueberries are quite tasty, and the plant is commonly cultivated for the fruit.

One can also find spotted turtles, four-toed salamanders, and iridescent dragonflies and damselflies such as American emerald, racket-tailed emerald, chalk-fronted corporal, frosted whiteface, and sphagnum sprite. Bogs are also habitat for many waterfowl, as well as masked shrews and least weasels.

Triangle Lake Bog is comprised of 61 acres in Portage County. It is located 1.5 miles northwest of the intersection of State Rte 44 and I-76 on the south side of Sandy Lake Rd. in Rootstown Township, south of Ravenna. The address is 3612 Sandy Lake Rd., Ravenna, OH 44266. There is a parking lot, bulletin board, interpretive signs and a .25 mile trail.

Content for this article was taken from ohiodnr.com, naturepreserves.ohiodnr.gov, wikipedia.org and jimmccormac.blogspot.com.

Two Proposed State-Threatened Plant Species in Minnesota:scap

***Utricularia geminiscapa* Benj. (Twin-stemmed Bladder Wort) and
Carex novae-angliae Schwein. (New England Sedge)**

By Scott Milburn

Utricularia geminiscapa Benj.

U. geminiscapa is generally distributed in the northeast portion of North America and successfully avoided detection in Minnesota until 2004. The discovery was made by Perry Scott who happens to be a longtime cellist with the Indianapolis Symphony Orchestra. To date, there have only been eight total collections in the state. It's a species of bog pools and softwater lakes, which can make collecting a difficult task.



Hidden-fruited bladderwort,
Utricularia geminiscapa
Photo by Scott Milburn

U. geminiscapa is a member of the bladderwort family and one of eight members in the genus *Utricularia* to inhabit Minnesota. Two of the other *Utricularia* species, *U. purpurea* (E) and *U. resupinata* (T) are currently state-listed. *U. geminiscapa* is now listed as Threatened. The specific epithet is based on the morphology of this bladderwort, with gemellus referring to being twin-born or paired, and scap referring to the scape itself. Depending on preference of common name, one can refer to this species as the twin-stemmed bladderwort or hidden-fruited bladderwort.

Due to its diminutive size, it is easy to understand why so few records have been documented. The leaves are reduced and are alternating. Small bladders are present as

is typical with other members of the genus. The bladders, which are actually modified leaves, serve to provide a source of nutrients for the plant by allowing for the trapping of small insects and larvae. Once captured, these organisms are digested and provide nutrients to the plants. This species, unlike any other members of the genus in Minnesota, has both chasmogamous and cleistogamous¹ flowers. The chasmogamous flowers resemble those of *U. vulgaris*, but at a reduced size. The species will generally flower in August through September, making it easier to detect. Yet, the easiest way to identify this species is the presence of the cleistogamous flower. These flowers lack the typical petal and sepal structure and are likely submerged.

Carex novae-angliae Schwein.

New England sedge is a member of the Cyperaceae and one of 150-plus species of *Carex* in Minnesota. Generally all but two species in this genus are native to Minnesota, the exceptions being *C. bushii* and *C. shortiana*. What separates Carices from the remainder of the genera in the family is that the ovary is enclosed in a sac-like structure technically referred to as a perigynium.

The distribution of this species is as far east as Newfoundland, down south to West Virginia, and as far west as Minnesota. New England sedge remained undetected in Minnesota until 2001, when Michael Lee of the Minnesota Biological Survey detected the species in Lake County. Since then, it has been well documented within a linear area that now extends into Cook County. Despite the increase in the number of detections in the past decade, this species is being proposed under the status of Threatened. That is a very agreeable decision based on the limited distribution range in Minnesota.

C. novae-angliae inhabits moist upland forests and transitions between upland forests and forested wetlands. This species has filiform leaves and is loosely cespitose. It resembles *C. radiata* and *C. rosea* in appearance, but the combination of white perigynia and black achenes allow for an easy pair of diagnostic features to home in on when targeting this species. However the perigynia may be lacking, thus making an accurate identification very difficult.

Editor's note:

Hiddenfruit Bladderwort, *Utricularia geminiscapa*, is native to Ohio. New England Sedge, *Carex novae-angliae* Schwein is not native to Ohio.

¹ In a chasmogamous flower, the pollination takes place after the flower opens. In a cleistogamous flower, the flower fertilizes itself before it opens. *The Editors*

The Minnesota DNR has finalized proposed changes to the State's endangered, threatened and special concern (ETSC) species list, including the two species described in the article. The Minnesota DNR revised list of ETSC species became effective on August 19, 2013. For more information go to the Minnesota Department of Natural Resources: www.dnr.state.mn.us/ets.

To see Endangered and Threatened Species in Ohio, go to United States Fish and Wildlife Service website: <http://ecos.fws.gov/>.

Passion Flower, *Passiflora incarnata* Mythological and Symbolic Meaning

Among the most beautiful flowers in the world are the passionflowers which bloom on a lattice-work of vines. The flowers range from pale non-descript tones to bright reds and the gorgeous regal coloration of our largest native species, the Purple Passionflower, *Passiflora incarnata*.

Few wildflowers can draw the eyes of even the most unobservant or uninterested as easily as the purple passionflower. You wouldn't be wrong to assume its home is the steamy tropics near the equator; most members of the *Passiflora* genus are native to tropical areas and have an equatorial distribution. However, this species is right at home in the southeastern section of the country and even makes it into extreme southern Ohio. It does grow in Northeast Ohio, but it requires mulching, and it does not emerge until well after the last frost, sometimes as late as June. But it grows quickly, growing as much as 20 feet each year. Many are probably most familiar with this passionflower in the garden and/or cultivation scene, but it does exist within the state naturally, albeit quite infrequently.

Passiflora is Latin for "passion flower," a name that Spanish missionaries, working in South America in the 16th century, gave the plant. Some missionaries used the flower's elaborate structure to teach about the crucifixion of Jesus Christ, commonly referred to as "The Passion," which in Christian tradition refers to the period of time between the Last Supper and Christ's death.

Interesting Facts:

- The three spreading styles atop the stigma were thought to represent the three nails by which Christ was attached to the cross. To some the five hammer-like anthers atop of the stamens exemplified the hammers used to drive the nails. To others, they represented Christ's five wounds (four by the nails and one by the lance).
- Beneath these floral structures is a fringe of colored filaments, known as the corona, which symbolize the crown of thorns. Around it is a veil of fine hairs colored like peacock feathers, seventy-two in number, which are said to correspond to the number of thorns of which the crown was composed.
- Beneath it sits the corolla, with ten petals, each representing the ten faithful apostles at the Crucifixion, excluding Judas, who betrayed Jesus, and Peter, who denied him three times on the night of his trial.
- The purple blossoms are the purple robe, which was put on Christ in mockery. The white blossoms represent the purity and brightness of the Son of God.
- The pointed tips of the tri-lobed leaves were taken to represent the Holy Lance, the spear that pierced the side of Jesus as he hung on the cross, according to the Gospel of John.
- The tendrils that help the vines climb by growing rapidly and wrapping around branches represent the whips used in the flagellation of Christ.
- The small seed vessel is the sponge filled with vinegar, which was offered to quench His thirst.
- The dark spots on the underside of the leaves symbolize the silver that Judas was paid to betray Jesus.
- A wreath of passion flowers was, by the express request of Queen Victoria, laid upon the last resting place of the Abraham Lincoln. It is considered a suitable decoration for All Saints' Day.



The passion flower serves as the place where beautiful orange, black and silver Gulf Fritillary butterflies, also known as the passion butterflies, lay their eggs and their caterpillars feed. Once you have this plant established in your yard, you are guaranteed to have fritillaries constantly flitting about.

This article was based on material taken from www.TheBuckeyeBotanist, www.loyno.edu, www.ehow.com, www.britannica.com and www.missouribotanicalgarden.org. Picture from www.bio.utexas.edu

iNaturalist

iNaturalist is citizen science project and online social network of naturalists, citizen scientists, and biologists built on the concept of mapping and sharing observations of biodiversity across the globe. Observations may be added via the website or from a mobile application. The observations provide valuable open data to a variety of scientific research projects, museums, botanic gardens, parks, and other organizations. Users of iNaturalist have contributed over one million observations since its founding in 2008.

The iNaturalist platform is based on crowdsourcing of data. Users of iNaturalist can submit observations of organisms in the form of photographs, sound recordings, or visual sightings. Observations are either "casual" or "research" grade, and research grade observations are incorporated into online databases to be utilizable for scientists.

As of 7 November 2014 the iNaturalist community consisted of more than 63,000 users contributing over 1,000,000 observations of plants, animals, and other organisms worldwide. Users have created and contributed to over 2000 different projects, spanning hundreds of themes. A few project examples include taxa- and location-specific bioblitzes, roadkill observations, animal tracks, and documenting the spread of invasive species. In 2011 iNaturalist was used as a platform to power concurrent Global Amphibian and Global Reptile BioBlitzes, in which observations were used to help monitor the occurrence and distribution of the world's reptiles and amphibian species.

To help you record your observations and to view observations made around the globe, visit www.inaturalist.org. Download the app onto your smartphone so you can make recordings while out in the field.

Information taken from Wikipedia.com.

Donations to the Society for the Year 2014

Listed below are the names of those who have contributed to the Society for 2014.

Endowment Fund

William & Barbara Oberdick
Susan Norton
Judy Semroc
Doug Ralston
Dave Roberts
Abraham Bruckman
Mike Klein
Charles Fletcher
Andrew Pratt
Paul E. Knoop, Jr.
Dr. Eyup Erdogan
Edward & Janice Flaws

Donations

Susan Norton
Tom & Mix Cooperrider

Cyndy & Hal Goodwin
Doug Ralston
Margaret Gibson
Dave Roberts
Charles Fletcher
Paul E. Knoop, Jr.
Abraham Bruckman
Dr. Eyup Erdogan
Edward & Janice Flaws
Susan Root & John Sullivan

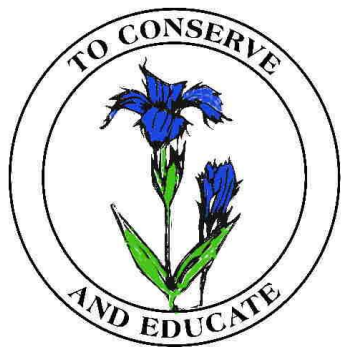
Patrons

Akron Garden Club
Natalie Barratt
Judy Bradt-Barnhart
Diane Christensen
Karen & Tony Colini

Jean Gokorsch
John Kaminski
Jane McCullam
William & Barbara Oberdick
Randall S. & Ann P Over
Carol Palansky
Andrew Pratt
Florence Selby
Mary Slengluff
Kathy Smachlo
Bert Szabo
Eileen & Doug Yates

Trillium

Donald Lynch
William C. McCoy
C. W. Eliot Paine
Tom Yates



Chapters of the Ohio Native Plant Society

The Native Plant Society of Northeastern Ohio

Kathryn Hanratty
PO Box 1064
Chardon OH 44024-9639
oldefarm@windstream.net
<http://www.nativeplantsocietyneo.org>

Cincinnati Wildflower Preservation Society

Christine Hadley, President
445 Ward-Koebel Road
Oregonia OH 45054
513-850-9585
cncywildflower.org
<http://www.CincyWildflower.org>

The Mohican Native Plant Society

Joanne Wrasse
1633 St.Rt.603
Ashland OH 44805
419-281-3690
jwrasse@zoominternet.net

The Botanizers

The Wilderness Center
Gordon T. Maupin
P.O. Box 202
9877 Alabama Ave. SW
Wilmot OH 44689-0202

MEMBERSHIP APPLICATION

Membership includes invitations to all field trips, programs, the Annual Meeting and an online subscription to the quarterly journal *On The Fringe*. Membership runs from January 1 to December 31.

NAME: _____
ADDRESS: _____
CITY: _____
STATE: _____ ZIP: _____
PHONE: (____) _____
E-MAIL: _____

(We will not sell or distribute contact information.)

Membership Types (circle type chosen):

Individual \$15; Family \$20;
Sustaining \$30; Patron \$50
Trillium Society \$100; Gentian Society \$200
Corporate Level \$250

☐ Check here and add \$10 to have a Print edition of *On The Fringe* mailed to you.

Donations to the Endowment Fund to support the annual grant are always welcome.

The Annual Grant is offered for work in the field of botany or conservation that supports our mission and demonstrates excellence in research, conservation or education.

Make checks payable to:
The Native Plant Society of Northeastern Ohio
and mail to:

Jane McCullam
NPS Membership Chair
9880 Fairmount Rd.
Newbury, OH 44065-9712

RENEW NOW
Don't miss an issue of
ON THE FRINGE

The Native Plant Society of Northeastern Ohio
is a 501(c)(3) organization. Your donation is tax deductible to the extent allowed by law.

On The Fringe
8400 Top Rail Lane
Novelty, Ohio 44072

**DATED MAIL – DO NOT DELAY
RETURN SERVICE REQUESTED**



- Promote conservation of native plants and natural plant communities through habitat protection and other means
- Foster public knowledge and appreciation of native plants
- Support natural landscaping
- Raise awareness of the ethical issues regarding native plants
- Encourage surveys and research into native plant species and the publication of findings
- Promote cooperation with other programs and organizations concerned with the conservation of natural resources

On The Fringe

In this issue:

The Gentian Award for 2014 given to Fred Losi
BioCellar Rain Garden, Inspired by Native Plant Society of Northeast
Ohio Field Trips – Jean Loria & Pebbles Bush
Book Review: The Living Landscape: Designing for Beauty and
Biodiversity in the Home Garden
Miner's Lettuce, *Claytonia perfoliata* – Hank Shaw
Folklore: Trout Lily, *Erythronium americanum* – Denny Garvin
Invasive Plant: Star of Bethlehem, *Ornithogalum nutans* & *O. umbellatum*
Triangle Lake Bog
Two Proposed State-Threatened Plant Species in Minnesota:scap – Scott Milburn
Interesting Factoid: Passion Flower, *Passiflora incarnate*, Mythological and Symbolic Meaning
Website: iNaturalist
2014 Donations to the Society

Journal
of
The Native Plant
Society of
Northeastern
Ohio

Volume 33, No. 1

March 2015