



**New York Flora  
Association Newsletter  
Winter 2022**

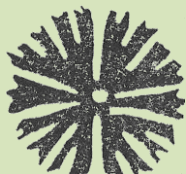
**Editor's Note:** It was a treat to put this issue together; it contains quite a variety of interesting articles, beginning with the story of two flat sedges in Westchester County, and followed by other tales of botanical observations. And this year the NYFA did manage to squeeze in almost a full season of field trips before shutting down again; you'll find some of those reports in here. Happy reading and here's hoping we all have a good field season in 2022!

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**NYFA Mission:**

**To promote a greater appreciation and knowledge of the flora of New York through conservation, research, and public education and outreach.**



***Cyperus echinatus* and *Cyperus brevifolioides* in  
Westchester County, NY**

by Patricia Butter

The August afternoon air was hot and sticky when I set off with a party comprised of a friend, my son, and two dogs for a walk around the reservoir loop in the Rockefeller State Park Preserve. Crossing the circa 1915 earthen dam of a reservoir named Ferguson's Lake, I looked down and saw the most startlingly whimsical flat sedge I had ever seen. I did a double take, and tried to determine if heat stroke had caused me to portal into a Seussian world, or if I still had my feet planted on terra firma. Sporting multiple spikey, round inflorescences, set off at jaunty angles, *Cyperus echinatus* is a flat sedge that could delight even Mr. Grinch himself.



*Cyperus echinatus*, globe flat sedge, S1 endangered-NY at Ferguson Lake, Rockefeller State Park Preserve, Sleepy Hollow, Westchester County, NY, 19 Aug. 2021.

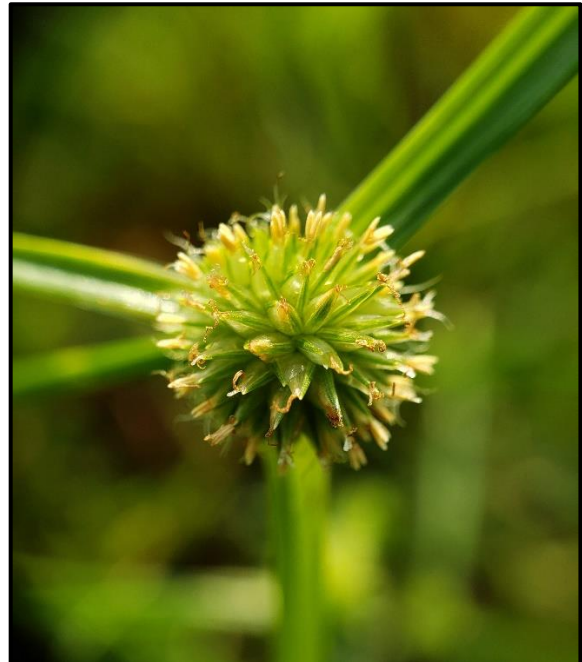
I wish that more of us could experience this plant in nature, but sadly, it is listed S1 endangered in New York State. Known only from the New York City area, Westchester, Nassau and Orange counties, fewer than five remaining populations of this species were known in New York State in 2012 (Young 2012). The plant had not been documented here in Westchester County since 1950 and was believed to have been extirpated. How fortunate we are to have this robust population in our midst, somehow persisting despite consistent mowing of vegetation on the dam.

Coincidentally, on one of my return visits to this site, as I was crossing a small patch of lawn before entering the park I looked down and was surprised at what I saw. There at my feet were large colonies of little flat sedges with globe-like inflorescences. Were these little Seussian sedges following me around? Were these tiny *Cyperus echinatus* stunted by mowing, or a different species? Referring to the usual *Cyperus* keys, I came up empty handed. Fortunately, Richard Ring of the New York Natural Heritage Program was able to stop by for a look. While my original observation on the dam of Ferguson's lake was, indeed *C. echinatus*, he took specimens of the little flat sedges in the lawn by the parking lot back to the office. Steve Young was able to identify them as *Cyperus brevifolioides*, aka *Kyllinga gracillima*, Asian green-headed sedge.

While both the very rare native *Cyperus echinatus* and the exotic, weedy species *Cyperus brevifolioides* have round, dense, globe-like inflorescences, they may be distinguished by noting the number of inflorescences per stem: *C. echinatus* has multiple inflorescences on long rays, and *C. brevifolioides* typically has just one inflorescence per stem. Additionally, *C. echinatus* grows from a nut-like tuber (Haines 2011), while *C. brevifolioides* is rhizomatous.



*Cyperus echinatus*, globe flat sedge at Sleepy Hollow, Westchester County, NY, 19 Aug. 2021.



*Cyperus brevifolioides*, Asian green-headed sedge at Yorktown, Westchester County, NY, 14 Sept. 2021.

The exotic *Cyperus brevifolioides* appears to have been steadily naturalizing in wet lawns here in Westchester without attracting much notice. This species was first documented in New York in 1992 in Jamaica Bay, Queens as *Kyllinga gracillima* by Steve Glenn, (herbarium specimen 00054699 BKL). It was then documented by Daniel Atha as *Cyperus brevifolioides* 22 years later in 2014 in Central Park (14900 NY), where he noted in the observation data “The plant probably introduced with nursery stock.” Daniel documented the species again in Tuckahoe, Westchester County in 2017 (15813 NY) in the “Floodplain of the Bronx River, in wet, black silty soil”. In 2018, Steve Young documented *C. brevifolioides* “in a wet unkempt area along the trail in Rockland Lake State Park” in Rockland County. Observations have also been reported in iNaturalist by @heatherlea from the Greenbelt Nursery in Staten Island in 2019, where they noted it as “Mat-forming, persisting in wet areas all throughout the nursery yard”, and in Massapequa on



Long Island in 2020 by Robert Levy. Since my find of the specimens in the lawn here in Sleepy Hollow on August 30, 2021, it has been found in two additional locations here in the county, as far north as Yorktown by myself and in the eastern part of the county near Portchester by Taylor Sturm. Both the Sleepy Hollow and Yorktown populations are possibly associated with nearby landscape plantings from nursery stock.

While *Cyperus brevifolioides* is relatively new to us here in New York, it has been present through the mid-west and mid-Atlantic regions for some time. It was first described in 1967 by James Delahoussaye and John Thieret; their work was based on examination of 1,200 specimen records, the oldest from Philadelphia in 1878 which had been misidentified as *Cyperus brevifolius*, a very similar species. They found that similarly misidentified specimens had been collected in Fairfield County, Connecticut in 1949, and in Virginia and North Carolina. Delahoussaye and Thieret (1967) were able to determine that true *C. brevifolius* has a more southern range, and described the distinctions between the two species. The two species can be differentiated by close examination of the spikelets: *C. brevifolioides* will have smooth scale keels and 2 - 3 stamens, while *C. brevifolius* has denticulate scale keels and a single stamen. There are beautiful illustrations of the spikelets on page 130 of Delahoussaye and Thieret (1967).

Next summer, when the air is hot and thick, take a closer look at a wet lawn to see if these exotic little sedges may have found their way to your neighborhood.

Thank you to Steve Young and Rich Ring for generously providing their expertise and suggestions for this article.

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## Rethinking Rarity: sundial lupine (*Lupinus perennis* L.) performance compared across two microhabitats in a reclaimed gravel pit

by Ian Winick, MPS Natural Resources, Cornell University 2021 NYFA Research Grant Recipient

### Introduction

Sundial lupine (*Lupinus perennis*) is native throughout eastern North America. In the state of New York, however, lupine is declining and is now considered rare (Young 2019). It is well-known for its critical role as the sole larval food source of the federally endangered Karner blue butterfly, *Lycaeides melissa samuelis* Nabokov (Dirig 1994; Forrester *et al.* 2005; Pavlovic and Grundel 2009; Plenzler and Michaels 2015; Smallidge *et al.* 1996; Zaremba and Pickering 1994). Therefore, lupine is not only a charismatic native plant, but it is also critical in the conservation of a globally imperiled insect. The major cause of lupine's decline is habitat loss resulting from land development and the interruption of forest disturbance regimes, such as fire (Chang-Seok *et al.* 2019; Dirig 1994; Forrester *et al.* 2005; Zaremba and Pickering 1994). Lupine is an early-successional species that thrives on well-drained soil and in bright, filtered light (Forrester *et al.* 2005; Pavlovic and Grundel 2009; Smallidge *et al.* 1996). Throughout the northeast, such conditions are typically associated with pine barrens, oak savannas, and similar community types that are dominated by deep glacial sand deposits often subject to frequent burns (Dirig 1994; Edinger *et al.* 2014; Grigore and Tramer 1996; Pavlovic and Grundel 2009). In fact, remnant pine barrens have been at the center of lupine restoration in New York State in localities such as the Albany Pine Bush and Rome Sand Plains (Gifford and O'Brien 2010; NYSDEC 2006). However, historical specimens at L.H. Bailey Hortorium Herbarium (BH) show that lupine existed throughout New York, including locations in the Finger Lakes, that are not particularly sandy, so most restoration efforts today are focused on a shrinking percentage of lupine's potential range (Chang-Seok *et al.* 2019; Forrester *et al.* 2005; Grigore and Tramer 1996). That being said, an important question needs to be addressed in the conservation of this species: does lupine truly require sandy barrens and savannas to survive or is it simply adept at tolerating these harsh conditions where competition for light is less restrictive?

Though I am questioning the role of barrens and savannas in lupine's ecology, I am not necessarily questioning the environmental conditions that lupine requires to survive. This nuance is important because, while remnant barrens and savannas are becoming increasingly rare, habitats that are bright and well-drained are plentiful; the modern landscape is rich in novel habitats and ecosystems that are the result of active management practices (Edinger *et al.* 2014). For example, power line rights-of-way have become important refugia for lupine; regular mowing prevents encroachment by woody vegetation, thus maintaining an early-successional ecosystem in an otherwise inhospitable late-successional forest (Dirig 1994; Forrester *et al.* 2005; Smallidge *et al.* 1996). Indeed, one of the last remaining populations of lupine in Tompkins County persists in the absence of sand on a steep, south-facing, power line right-of-way (personal observation; Robert Dirig, personal communication, 3 March 2021). Landscape features such as power line rights-of-way are novel, but the association of lupine with human disturbance might not be new. I suspect that the distribution of lupine may have depended on human disturbance for millennia and that the species only became rare with the changes in landscape management that followed the arrival of European settlers. Although there are gaps in the archaeological record for this immediate region (Levine 2003), numerous accounts from early settlers describe how indigenous peoples would clear patches of forest across the northeast and what is now New York using fire and other means, which would have left the landscape pockmarked with early-successional ecosystems (Day 1953; Gerard-Little 2017). Once this cycle of natural forest disturbance is interrupted, it does not take long for succession to shade out and exclude lupine (Dirig and Cope 2012). There is still debate about what the pre-European landscape may have looked like (Clark



and Royall 1995; Day 1953; Maenza-Gmelch 1997; Russell 1983), but the fact remains that lupine was able to exist in the Finger Lakes as evidenced by herbarium records and that it is now almost extirpated from the region.

While the conservation of remnant pine barrens and savannas are of importance in the conservation of lupine, a new approach that embraces the ecological potential of novel habitats is necessary to prevent the further decline of this rare, native species. With the generous support of the New York Flora Association Research Grant and a combination of field trials and greenhouse studies, I have been evaluating the current perceptions of lupine's place on the landscape and working to elucidate the true range of edaphic environments that can support this species.



Figure 1. The reclaimed gravel pit at Botsford Nature Preserve. Photo by Ian Winick.

## **Methods**

The field trials were initiated this past summer in Botsford Nature Preserve, a preserve owned by the Finger Lakes Land Trust in Yates County (Figure 1). Botsford Nature Preserve is home to a 14 acre reclaimed gravel pit on the western slope of the West Branch Keuka Lake valley. This site was selected for the xeric conditions and early-successional plant communities that exist there as a result of human disturbance (i.e. mineral extraction). The plants for this project were grown from seeds donated by the Albany Pine Bush Preserve. In June 2021, I established 10 fenced plots in the gravel pit, each planted with 10 lupine seedlings, divided evenly across two habitat types: a south-facing slope and a north-facing slope. The south-facing slope is moderately covered in vegetation and is dominated by crown vetch (*Securigera varia*), spotted knapweed (*Centaurea stoebe* ssp. *micranthos*), and various non-native grasses. The north-facing slope is considerably less vegetated, with extensive bare ground, and is dominated by spotted knapweed, linear-leaved rosette grass (*Dichanthelium linearifolium*), white sweet clover (*Melilotus albus*), and lichens (*Cladonia* sp.) (Figure 2). I also established three extra plots for ancillary investigation: two in nearly pure sand and one protected in a stand of red pine (*Pinus resinosa*). I collected data on soil moisture, soil temperature, and air temperature in each habitat to determine if the two habitats have significantly different environments. The temperature data were collected continuously over the course of the growing season and the moisture data were collected at a single time point. I attempted to measure the impact of slope aspect on light in each habitat, but the data were uninformative due to interference from surrounding vegetation on the data loggers. I will be analyzing soil cores from each habitat later this year to determine if there is a significant difference in texture and organic matter. I monitored the plots each week from the first



week of June until the last week of July. Each plant was given a semi-quantitative score based on overall health and performance ranging from 1 to 5, where 1 indicates complete above-ground death and 5 indicates a healthy plant that is actively growing. I also watered the plants as needed during the first few weeks to remove anomalous drought as a potential variable while the young plants became established.



Figure 2. Representative photos of north-facing habitat (left) and south-facing habitat (right). Photos by Ian Winick.

**Results**

Plants on the south-facing slope performed significantly better than the plants on the north-facing slope (Figure 3). Soil moisture, soil temperature, and air temperature were all significantly different between the two habitats, and contrary to expectations, the north-facing slope site was warmer and drier and the south-facing slope was cooler and more moist (Table 1). The plots in the sand and pine stand were not used in the statistical analyses, however the plants in the sand performed the worst of all the treatments and the plants in the pine stand performed the best.

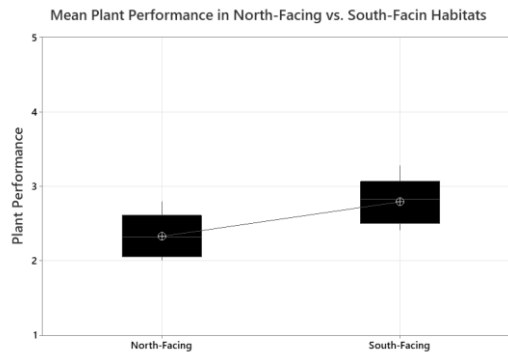


Figure 3. The plants on the south-facing slope performed significantly better than the plants on the north-facing slope ( $p = 0.028$ ).

Table 1. Difference in environmental conditions between north-facing (N) and south-facing (S) slope		
Variable	Mean Difference (N minus S)	P Value
Soil Temp	+1.53°C	<0.0001
Air Temp	+0.88°C	<0.0001
Soil Moisture	-4.5%	<0.0001



## Discussion

These results suggest that when identifying restoration sites for *L. perennis*, it may be beneficial to select sites that are bright and well-drained, yet are buffered by the cooling effects of herbaceous vegetation. This may be especially true as the northeast begins to experience increases in temperature and drought due to climate change. These seedlings were planted in the first week of June, which happened to be during a heat wave. It would be valuable to repeat this study earlier in the spring to see how *L. perennis* performs in these same habitats in cooler temperatures. Given the extremely hot and dry conditions, I was not surprised that the plants in the pure sand did not perform well. I will carry out a greenhouse study over the winter to investigate the importance of sand in lupine's germination and development. I would also be interested to look further into the pine stand as a potential habitat; I suspect the strong performance may be a result of the transient shade provided by the surrounding trees. While the north-facing and south-facing habitats were exposed most of the day, the plot in the pine stand would experience intermittent sun and shade. This light condition remains an area for further study.

This project is still in progress, as the final data will be collected in 2022 after evaluating winter survivorship based on number of plants to emerge in the spring. These data will not only help determine which of the two habitats may be more suitable, but will help determine if reclaimed gravel pits can, in fact, serve as habitats for *L. perennis* in future restoration projects.



Left: Lupine seedlings coming up in the greenhouse. Center: A lupine plant that lost all of its leaves after being transplanted, but is still alive underground and is putting out new growth. Right: A lupine plant taking root! Photos by Ian Winick.

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## New York Rare Plant Status Lists November 2021

Compiled by Stephen M. Young



New York Natural Heritage Program

A Partnership between SUNY ESF and the NYS Department of Environmental Conservation  
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The new 2021 Rare Plant Status Lists publication is now available from the NY Natural Heritage website at:

[https://www.nynhp.org/documents/5/rare\\_plants\\_2021.pdf](https://www.nynhp.org/documents/5/rare_plants_2021.pdf)

Six plants were added or removed from lists, six plants had rank changes, and four plants had scientific name changes. There are now 638 endangered, threatened, and rare plants that are actively tracked and surveyed. To see what they are, download a copy today!





## Rock Hair Lichen, *Cystocoleus ebeneus* (Dillwyn) Thwaites, New to New York State

by Norm Trigoboff and Scott LaGreca

On August 12, 2021, Trigoboff found the filamentous lichen *Cystocoleus ebeneus* (Trigoboff 2162, DUKE; barcode 383623) on a damp shady rock face by Enfield Creek in the ravine at Upper Robert H. Treman State Park in Ithaca, New York. The damp or dripping shale, shaded year-round by conifers and tall cliffs, combined with the constant high humidity from the rushing creek and its many falls (both large and small) make Treman's big ravine and surrounding woods a nice home for ferns, bryophytes and algae—some rare in the region. The bryophytes *Conocephalum conicum* and *Gymnostomum* spp. are abundant on wet rock at Upper Treman, along with cyanobacteria such as *Nostoc*, *Scytonema* and the large and striking *Petalonema alatum* (Trigoboff 12109, BH), these sometimes forming macroscopic growths. In the field, the *C. ebeneus* looks much like cyanobacteria.



Upper Treman Falls. The *Cystocoleus* grows on the rock wall to the left of the falls.

*Cystocoleus ebeneus* may also be confused with the similar rock hair lichen *Racomitrium rupestre*: both possess filaments of *Trentepohlia* algae enveloped by dark-pigmented fungal hyphae. They must be distinguished by careful examination under the microscope: *C. ebeneus* hyphae are knobby, while those of *R. rupestre* are smooth (Brodo et al. 2001). LaGreca (2012) reported *C. ebeneus* for the first time from New England. It was discovered on a siliceous rock face in Windsor Jamb's Gorge (Berkshire County, Massachusetts); a macroscopic photograph can be found in that publication. Harris (1994, 2004) listed this species for New York State, but did not cite any specimens. And, no historic specimens could be found on the Consortium of North American Lichen Herbaria website (CNALH 2020). Therefore, we report this lichen here for the first time from New York State.





Branches of *Cystocoleus ebeneus*, showing the knobby, jigsaw-puzzle-like fungal cells (Trigoboff 2162, DUKE).

The high humidity and deep shade of Treman Gorge (AKA Enfield Glen) provide just the right microclimate for many uncommon and rare species. LaGreca (2013) reported the crater lichen, *Diploschistes gypsaceus*, from Treman (photograph only)—one of only a handful of New York sites for this lime-loving species. Dirig (2018) listed 20 species of fern from Treman, including calciphiles such as *Asplenium trichomanes* and *Cystopteris bulbifera*. In 1949, Schuster noted the locally rare liverworts *Jubula pennsylvanica*, *Leucolejeunea clypeata*, *Radula obconica* and *Tritomaria exsecta*. Schuster (1949) called *Metzgeria furcata* (found in nearby Lick Brook) "exceedingly rare locally." It now sometimes forms large growths on tree trunks, even on the main trails at Treman. In 2013, Trigoboff suggested that Schuster missed how common *M. furcata* was in Central New York. It now seems far more likely that this plant has—along with some other damp and shade-loving bryophytes—increased much here over the last 70 years. In the past few years, the fern *Trichomanes intricatum* (Trigoboff 21120, BH), the liverwort *Lejeunea (Microlejeunea) ulicina* (Trigoboff 2199, BH) and the mosses *Conardia compacta* (Trigoboff 2167, BH), *Plagiothecium latebricola* (Trigoboff 1867, BH), *Platydictya jungermanniioides* (Trigoboff 20359, BH), *Thuidium (Pelekium) pygmaeum* (Trigoboff 20362, BH) and *Zygodon viridissimus* var. *rupestris* (Trigoboff 2168, BH) have been found at Treman.

### Acknowledgements

We thank Jerry Oemig, Adrianna Hirtler and Barbara Tabak for their help.

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## From Abandoned Cattle Pasture to Historical Grasslands – Restoration and Prescribed Fire at Ganondagan State Historic Site

by Kyle Webster, Stewardship Project Coordinator, NYS Office of Parks, Recreation, and Historic Preservation

On August 4th, a hot and humid summer day, the fourth-ever prescribed fire was conducted at Ganondagan State Historic Site in Victor, NY. OPRHP (Office of Parks, Recreation, and Historic Preservation) stewardship staff worked with historic site interpretive staff, contractors, and local and state partners to complete a prescribed burn across thirty acres of restored grassland in the northeast corner of the site.



(Top) View of active summer prescribed fire in the Oak Unit. Summer fires are often less intense and slower moving compared to early spring burns. (Bottom) This photo shows where the fire had a complete burn, while areas seen in the background burned in a patchier manner. Summer grassland burns are often patchy by nature, which helps create more habitat diversity.

The restoration of this grassland has taken the area from an abandoned cattle pasture dominated by invasive plants, such as pale swallow-wort (*Vincetoxicum rossicum*) and smooth brome (*Bromus inermis*), to



a grassland community dominated by big bluestem (*Andropogon gerardii*), Indian grass (*Sorghastrum nutans*), goldenrods (*Solidago* spp.), asters (*Symphyotrichum* spp.), bee balm (*Monarda fistulosa* var. *fistulosa*) and more.



(Top Left) View of grassland dominated by pale swallow-wort and smooth brome prior to restoration efforts. (Top Right) View of restored grassland in August where it is dominated by native grasses and wildflowers. (Bottom Left) View of open grown oak (*Quercus rubra*) and shagbark hickory (*Carya ovata*) at the grassland edge in fall. (Bottom Right) Frost aster (*Symphyotrichum pilosum*) flowering from seed sown in spring of that same year.

Ganondagan was the site of the Onöndawá'ga (Seneca) capital in the late 1600's, and the area surrounding the village would have been of mix of agricultural fields, grasslands, oak savannas, and forests. Expansive grasslands are known to have occurred throughout the lake plain, especially around Ganondagan, from journal entries written by French missionaries visiting in the late 1600's.

“...for the most part beautiful, broad meadows, on which the grass is as tall as myself. In the spots where there are woods, these are oak plains, so open that one could easily run through them on horseback. This open country we are told, continues eastward more than one hundred leagues. Westwards and southward it extends so far that the limit is unknown, especially towards the south, where treeless meadows are found more than one hundred leagues in length, and where the Indians who have been there say very good fruits and extremely fine corn are grown.”

from Le Voyage de MM. Dollier et Gallinee in 1677



These grasslands (later becoming known as oak openings) were documented in the area as late as the 1960's. Today only small remnants can still be found, the largest and best example of which is Rush Oak Openings, a NYS DEC Unique Area in Rush, NY.

A combination of historical resources and extant community occurrences were used to construct a reference ecosystem and planting plan for the restoration. The majority of seed used in the restoration was collected by the OPRHP Plant Materials Program from locally occurring, wild populations. Overall, 37 species were used in the planting, totaling around 200 pounds of seed and 2500 plugs. Planting and seeding took place over two years, with a round of seeding in 2019, followed by another round of seeding and plug planting in 2020.



(Top Left) Seeding the grassland, from left to right, Amy Kochem, Michael Serviss, Lindsey Dombroski, Kira Broz. (Top and Bottom Right) Plugs grown from wild collected seed by the Plant Material Program ready to be planted. (Bottom) Charles Ippolito, left, and Kira Broz, right, planting limestone meadow sedge (*Carex granularis*), gray goldenrod (*Solidago nemoralis*), and other native plants into a droughty hillside. Photo credit: top right and bottom right, Lydia Martin.

The positive effects of the restoration are already being noted. Native plants are now dominant in a field that was a cattle pasture for the last 100 years. Rare grassland breeding birds, such as Northern Harrier (NY-Threatened) and Grasshopper Sparrow (NY-Special Concern), have been seen using the grassland; and pollinating insects abound, including the rare black and gold bumblebee (*Bombus auricomus*, NY-Endangered).





(Left) Wildflowers and warm-season grasses are establishing throughout the Oak Unit. (Right) Black and gold bumble bee (*Bombus auricomus*) pollinating wild bergamot (*Monarda fistulosa*), one of this bee’s favorite nectar plants.

This fall, new signage was installed along the central trail in the grassland to explain the historical use of prescribed fire by the Onöndawá’ga and its goal of using it today to benefit to pollinators, plants, and birds.



(Above) Grassland signage installed along the main walking trail in the Oak unit explains the importance of grassland habitats in New York and how fire was used by the Onöndawá’ga (Seneca) to manage these habitats.

Ganondagan State Historic Site is a National Historic Landmark, the only New York State Historic Site dedicated to a Native American theme, and the only Seneca town developed and interpreted in the United States. Visit Ganondagan to learn more about the site, it’s rich history, and the story of Haudenosaunee (Iroquois) contributions to art, culture, and society (see <https://ganondagan.org/>).

Thanks to the historic site staff, particularly G. Peter Jemison, Site Manager, and Michael Galban, Site Historian, for their help and support. A myriad of other OPRHP staff including Whitney Carleton, Kira Broz, Lydia Martin, Emma Kubinski, Brigitte Wierzbicki, David Rutherford, Elizabeth Padget, Charles Ippolito, and Andrew Leonardi contributed to the success of the project. This work was funded in part by the US Forest Service through grants awarded to the Finger Lakes Partnership for Regional Invasive Species Management (FL PRISM); a big thanks to Hilary Mosher for working with OPRHP to support the project.



## Update to the National Wetland Plant List

by Joseph McMullen, NYFA Board Member, [joymcmullen2@msn.com](mailto:joymcmullen2@msn.com)

In November 2021, the U.S. Army Corps of Engineers (Corps) released an update to the National Wetland Plant List (NWPL), which is a list of the indicator status ratings of plants. This updated list is referred to as the 2020 list (USACE 2020). It became effective on November 2, 2021 and can be obtained at <https://wetland-plants.sec.usace.army.mil/>.

The species indicator status ratings on the NWPL are used to determine whether the hydrophytic vegetation criterion is met when performing wetland delineations under federal statutes. An indicator status rating is assigned to a plant taxa based on a species' likelihood of occurring in wetlands versus non-wetlands. The rating is the perceived measure of a plants fidelity to wetlands or uplands habitats. The five plant rating categories are: obligate wetland (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and upland (UPL). The categories vary from plants that almost always occur in a wetland (OBL) to those that almost always occur in an upland (UPL), and are described in Lichvar et al. (2012).

Although the recently effective 2020 list is an important reference to those performing wetlands delineations, there are only three changes for plants in New York: northern wild monkshood (*Aconitum noveboracense*), with a rating of FACW; hart's-tongue fern (*Asplenium scolopendrium*), with a rating of UPL; and oriental bittersweet (*Celastrus orbiculatus*), with a rating change from UPL to FACU. Northern wild monkshood and hart's-tongue fern are endangered in NY and would not be encountered during wetland surveys.

Indicator status ratings in the NWPL are provided by geographic regions. Most of New York is within the Northcentral and Northeast Region (NCNE), with a very small area (about 2%) of the state within the Allegheny River drainage basin in portions of Cattaraugus and Allegany counties being in the Eastern Mountains and Piedmont Region (EMP).

Indicator status ratings are provided in the New York Flora Atlas (Weldy et al. 2021) for those species for which a status rating has been assigned. The minor changes on the 2020 NWPL are reflected in the Atlas.

### Literature Cited

- USACE. 2020. National Wetland Plant List, version 3.5 <https://wetland-plants.sec.usace.army.mil/> U.S. Army Corps of Engineers, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH.
- Lichvar, R.W., N. C. Melvin, M. L. Butterwick, and W. N. Kirchner. 2012. National Wetland Plant List Indicator Rating Definitions. ERDC/CRREL TN-12-1. US Army Corps of Engineers, Cold Regions Research and Engineering Laboratory, Hanover, NH.
- Weldy, T., D. Werier, and A. Nelson. 2021. New York Flora Atlas. (original application development by S. Landry and K. Campbell, USF Water Institute, Univ. of South Florida). New York Flora Association, Albany, NY.

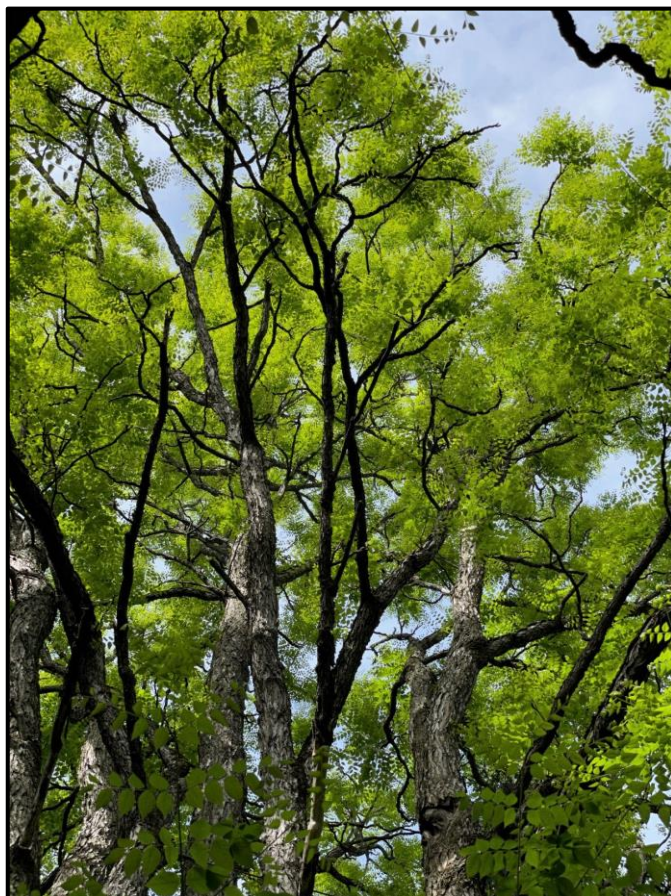


## Field Trip to the SUNY Morrisville Arboretum

by Steve Young, NY Natural Heritage Program

On June 10, 2020, a group of 10 NYFA members gathered at the arboretum on the campus of SUNY Morrisville. Associate professor Dr. Rebecca Hargrave showed us the native and exotic plants growing there as part of New York's invasive species awareness week. Most of us weren't familiar with the arboretum which was started over 75 years ago. It was a pleasant surprise to see the large variety of small to very large trees that are growing there behind Brooks Hall on the north side of Route 20. A formal tree survey of the campus had discovered that some of the exotic trees, like Japanese trees lilac (*Syringa reticulata*), yellow buckeye (*Aesculus flava*), and Amur cork tree (*Phellodendron amurense*), were naturalizing. There were also some beautiful native trees like butternut (*Juglans cinerea*), American chestnut (*Castanea dentata*), big shell bark hickory (*Carya laciniosa*), and Kentucky coffee tree (*Gymnocladus dioica*). We toured the Arboretum and Rebecca told us about the history of the Arboretum and the trees. After the tour we visited the college's woodland to the east of the arboretum across North Street and looked at the common invasive species there and a recent infestation of Asian bittersweet (*Celastrus orbiculatus*). It was a beautiful day and a good time was had by all. If you are ever in the area stop by the arboretum and take a look! The website for the arboretum is:

<https://www.morrisville.edu/arboretum>.



This is a giant Kentucky coffee tree.



There were lots of Kentucky coffee tree pods.



Beautiful American chestnut leaves.







The golden brown peeling bark of an old Japanese tree lilac.



The group with Rebecca in the middle.



## Annual Trip to Whiteface Mountain 2021

by Steve Young, NY Natural Heritage Program

Six intrepid explorers made it to the top of Whiteface Mountain this last August 7 to see the alpine and Krumholz plants that grow there and to see if we could add any new plants to the list we have been compiling over the years. At the castle, where we started our trip, we saw path rush (*Juncus tenuis*) and as we ascended the staircase to the top, we saw tiger lily (*Lilium lancifolium*), two new additions to the list. Our streak of finding new species continues! The day was mostly sunny and nice, so we had to share the mountain with many tourists that had driven to the top and hikers that were summiting from the base. We saw almost all the rare plants on our list even though some of them, like Boott's rattlesnake root (*Nabalus boottii*), were nearing the end of their flowering period. At the end of the walk, we were treated to a sighting of the tiny lesser shinleaf (*Pyrola minor*), the only known extant occurrence of this plant in the state. We were able to obtain better location information for the northern bristly clubmoss (*Spinulum canadense*) and saw the

tiny little blueberries of the northern lowbush blueberry (*Vaccinium boreale*). I hope you can join us next summer for another trip to see the beautiful plants of Whiteface Mountain.



Boott's rattlesnake root was still flowering at the base.

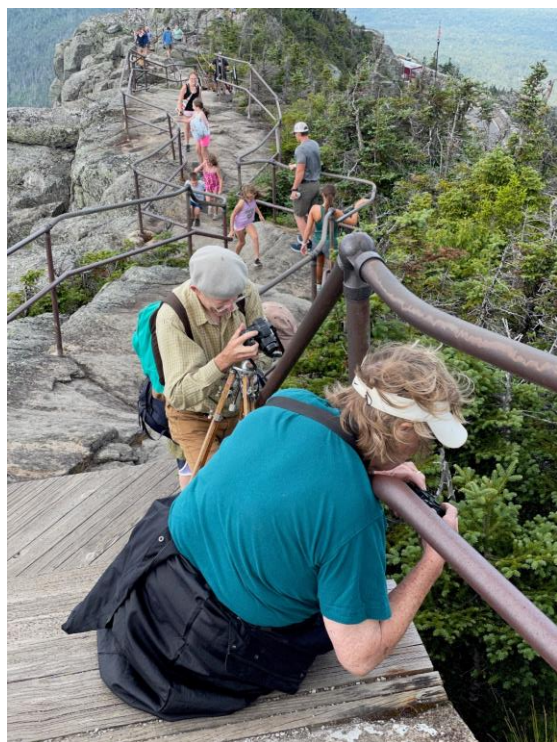




Three-leaved rattlesnake root (*Nabalus trifoliolatus*) is here too, but it has more cream-colored flowers and dissected leaves.



*Spinulum canadense* and *Spinulum annotinum* are both here but this is *Spinulum canadense* with shorter strobili and shorter leaves that have obscure to no teeth on them.



Jackie Donnelly and Bob Wesley photographing a rare plant from the stairway to the top. We were often asked what it was that we were looking at.



The summit steward was kind enough to take our picture, but we had to wait in line! From left to right: Laura Lehtonen, Steve Young, Ruth Brooks, Bob Wesley, Jackie Donnelly, and Amy David.



## A Damp Search For VanBrunt's Jacob's Ladder (*Polemonium vanbruntiae*) at MKNHP

by Dan Spada, with photos by Steve Young



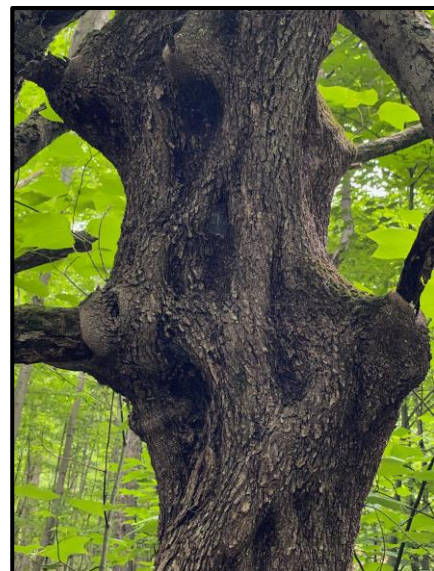
On June 28, 2021, 12 of us assembled at the Michael Kudish Natural History Preserve just south of Stanford, NY. The trip was billed as a search for Jacob's ladder, a state rare plant with a rank of S3, but there was much more in store. The MKNHP is a 101 acre preserve dedicated to the support and protection of the natural and human heritage of the Catskill Mountain Region through both education and research. It was created in 2010 with fully operational programming since 2017. The Preserve is typical of the northwestern Catskills; half abandoned pastures and half 3rd (or more) growth of northern hardwoods. But, it is the abundance of seeps and rills that make the flora unusually diverse.

We made it through half of the day before a cool drizzle began to dampen our clothes. Dr. Kudish began by describing the Preserves' forest history, as well as the history of the Catskill Mountains in general. The Preserve was once part of a typical Catskills hill farm. We found clear indications of where cultivation, grazing, and logging ended, upslope of which the forest would be considered first growth. We saw huge specimens of hop hornbeam (*Ostrya virginiana*) and American basswood (*Tilia americana*). We did find a healthy population of *P. vanbruntiae* in typical wetland habitat, along with swamp saxifrage (*Micranthes pennsylvanica*), pussy willow (*Salix discolor*) and

jewelweed (*Impatiens capensis*). A preliminary, partial list of plants we encountered follows.



Group learning about the history of the forest at the large Hop Hornbeam.



A large, old Hop Hornbeam.





Searching for *Polemonium van-bruntiae*.



The search was successful.



Group discussing the forest history.

### Partial List of Plants Seen at MKNHP on 6/28/21

**Trees:**

- Acer saccharum
- Fagus grandifolia
- Betula alleghaniensis
- Betula papyrifera
- Ostrya virginiana
- Tilia americana
- Quercus rubra
- Fraxinus americana
- Ulmus rubra (tentative i.d.)
- Pinus strobus
- Prunus serotina (dead)
- Crataegus punctata
- Crataegus flabellata
- Crataegus sp.
- Castanea dentata (planted)
- Populus tremuloides

**Shrubs:**

- Prunus virginiana
- Ribes cynosbati
- Salix bebbiana
- Salix discolor
- Salix sericea

**Herbs:**

- Polemonium vanbruntiae
- Circaea canadensis
- Impatiens capensis
- Lysimachia ciliata
- Pyrola elliptica
- Micranthes pennsylvanica
- Geum canadense
- Caulophyllum giganteum
- Allium tricoccum

**Ferns:**

- Athyrium filix-femina
- Onoclea sensibilis

**Bryophytes:**

- Climacium americanum
- Hylocomiadelphus triquetris
- Porella sp.
- Anomodon attenuatus
- Brachythecium rivulare
- Atrichum undulatum
- Dicranum viride



## 2021 Additions to the St. Lawrence County Flora

by Anne Johnson, with photos by Steven Daniel

Each year in this newsletter we report plants added to the list of those known to occur in St. Lawrence County in northern New York. The past field season resulted in the following 13 “new” species being added to the county flora, illustrating just how much more there is always to see and discover.

*Ajuga reptans* (Carpet Bugle). This non-native must have escaped from a garden somewhere, or perhaps someone planted it on purpose beneath a stop sign from where it spread from there up and down the road.

*Andersonglossum boreale* (Northern Wild Comfrey) (S1S2). This state-listed plant was growing in upland calcareous woods at Cedar Lake.

*Avena sativa* (Cultivated Oats). Found growing wild in a natural setting at Wolf Lake State Forest, and found elsewhere as a waif, or persisting from agricultural or wildlife plantings.

*Carex x trichina* (*C. tenuiflora* x *C. trisperma*). This hybrid was found in a cedar swamp growing with *C. trisperma*. *C. tenuiflora* had also been previously recorded in the general area. Steven Daniel had just recently bumped into some of this same hybrid in New Hampshire so was “in tune” to notice more.

*Cerastium semidecandrum* (Five-stamened Chickweed). This diminutive, easily missed non-native chickweed is most easily noticed in early summer. David Werier had said to keep an eye out for this plant as it was likely under-reported, and when specifically looked for, it was, indeed found to grow here and there.

*Chenopodium foggii* (Fogg’s Goosefoot) (S1). This goosefoot, though similar to the very common *C. album*, had a noticeably different overall aspect to its growth form, being more upright and less spreading. It was found growing amongst rocks in woods.

*Huperzia selago* (Northern Firmoss) (S1). Keith Bowman came across this very rare clubmoss near Cranberry Lake (see photos below). It is not exactly new to the county, but is a noteworthy find as the very small population we previously knew about had disappeared a few years ago.



*Hedeoma hispida* (Rough Pennyroyal) (S2S3). Noted in two places this year, both on very thin soil over rock and both growing with *Panicum philadelphicum* ssp. *philadelphicum*.



*Nardus stricta* (Mat Grass). David Werier noticed this non-native grass growing on the west side of Cranberry Lake while on one of his travels through the North Country.

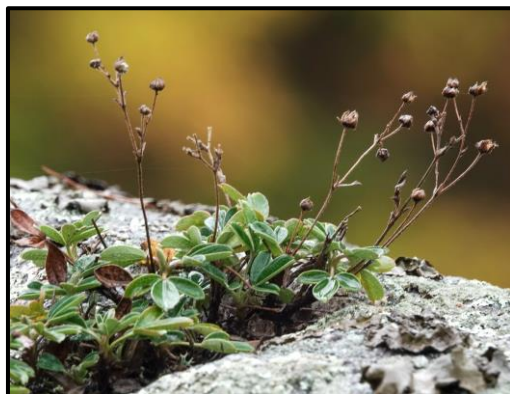
*Paspalum setaceum var. muhlenbergii*. This small grass with attractive flowers (see photos below) was found in a sandy field behind Rossie Community Center.



*Poa saltuensis ssp. languida* (Weak Blue Grass). Growing on a hummock in a cedar swamp near Pitcairn.

*Potamogeton bicupulatus* (New England Snailseed Pondweed). Also noted by David Werier, in Dead Creek Flow on Cranberry Lake.

*Sibbaldia tridentata* (Three-toothed Cinquefoil). We were surprised and very pleased to find this attractive cinquefoil (photo below) growing with bearberry high up on top of a ridge bordering the Black Creek.



*Spiranthes arcisepala* (Appalachian Ladies' Tresses). Noticeably larger and more robust than the more commonly found *S. incurva*. Scattered plants were found growing in a moist area of a sandy field behind Rossie Community Center building.

*Trapa natans* (Water Chestnut). We were not so pleased to find this invasive clogging a side water of the Oswegatchie south of the village of Heuvelton. It was first noticed in 2019 when it was reported as "scattered plants". Now it is much more abundant and creating an impenetrable thicket (much to the chagrin of the unhappy adjacent landowner whose boat and dock are stranded).





Foretelling the winter season. Photo by Martha Grow.



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