

**New York Flora
Association Newsletter
Winter 2019**

Editor's Note: Our lead article is a fine overview of a very valuable resource, the NY Flora Atlas; read the note from David Werier at the end of the article – you too can contribute to this worthwhile endeavor! Have a good winter and make sure to renew your membership for 2019; here is the link:

(<http://www.nyflora.org/membership/>)

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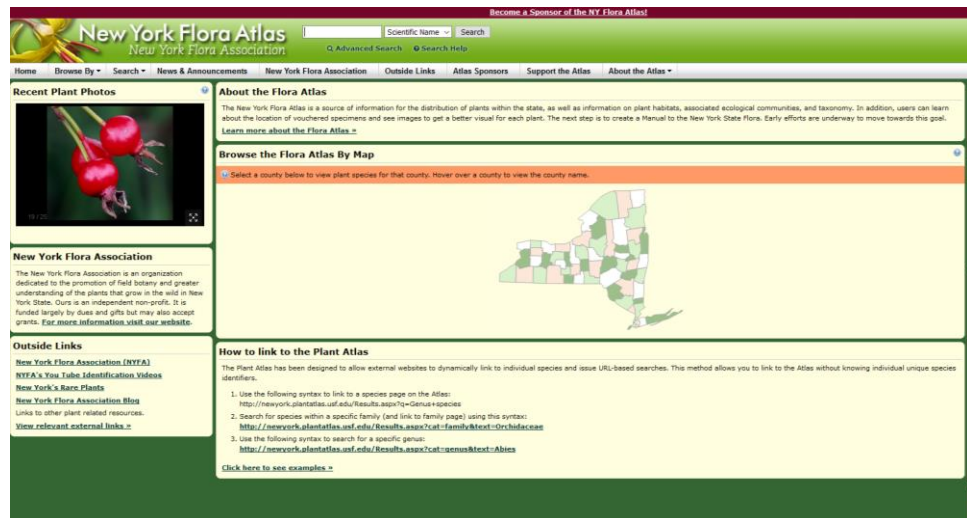
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New York Flora Atlas – General Information, Update on Usage Analytics, and Sponsorship Program

Joseph McMullen, Treasurer, New York Flora Association

I am sure most of you are familiar with the New York Flora Atlas, a tremendously popular online resource of the New York Flora Association. In case you aren't, it is available at: newyork.plantatlas.usf.edu/. In this brief article I have included some general tidbits about using the Flora Atlas, and an update on Atlas usage analytics and our relatively new sponsorship program.



General

Information on all the plants known to occur in New York can be found in the Atlas. Current nomenclature, distribution in the state (based on documented records), habitat preferences, nativity, status listings, and photographs are some of the many items presented for plant species in the Atlas.

There are several aspects of the Atlas I find most interesting and useful. Using the Advanced Search at the top of the website page or under the Search menu tab, you can develop lists of plants documented from any one, or any possible combination of NY counties. You can develop a list of plants recorded in Onondaga **and** Oswego counties or a list of plants from Onondaga **or** Oswego counties. You can search for any portion of a scientific name using the Citation Search tab. For example, if you were curious about what scientific names include the word “*rubrum*” or “*canadensis*” or “*Quercus*” or any other word, the Citation Search will tell you.

When I am looking for a plant in the Atlas, I probably use the Browse By tab the most often. Under the Browse By menu you can look for a plant by: county, family, genus, scientific name, or common name. Going to the alphabetical list by genus is the quickest way to find the plant I am looking for.

For me, one of the most frustrating aspects of botany is keeping up with the changes in scientific nomenclature. Maybe I'm showing my age, as many of the

plant names have changed several times since I first learned them 50 years ago. Thanks largely to David Werier's efforts over the years, the Atlas contains up-to-date nomenclature, and most importantly, you can easily find the current name for a synonym no longer in use. This is especially helpful because a lot of good floras and field guides are over ten years old and include outdated scientific names. If you are looking at a list of plants, for instance the USFWS wetland indicator status ranking list, and are not able to match up a scientific name on the list with the one you found in a field guide, the Atlas can come to your rescue to settle these name differences.

Some of the name changes are easy to sort out. For example, the speckled alder you learned as *Alnus rugosa* is now *Alnus incana*, but you would probably notice that if you were looking in the genus *Alnus*, or scrolling through a plant list arranged alphabetically by genus.

Other name changes are more difficult to find, primarily because the genus was changed. Most of you are familiar with the split up of genera like *Aster*, *Lycopodium*, and *Scirpus*, into several entirely different genera. However, are you current with the changes to *Eupatorium* (don't look for white snakeroot or Joe Pye weed here), or *Dentaria* (the root word dent may mean tooth, but this genus doesn't include the toothworts anymore), or which of the panic grasses are still in the genus *Panicum*? If you are like me, you have to check when listing a smartweed before writing *Polygonum* or *Persicaria*, or to make certain which *Osmunda* fern is now in the genus *Osmundastrum*.

So, how do you use the Atlas to sort out name changes? There are a couple simple ways. First, you can use the Citation Search tab or the Advanced Search tab and enter the name you have. For example, let's say your field guide has soft stemmed bulrush as *Scirpus validus*, but you can't find it in the Atlas or another recent list. Enter it into one of the searches and you will see that it is a synonym for the currently accepted name *Schoenoplectus tabernaemontani*. (I

like to use this example because it is the longest scientific name I know.) Another way is to look under the common names in the Browse By menu tab and see if it occurs there, which it does, and if you click on the common name the species page comes up. Just remember that common names vary and the Atlas only uses one for each species.

I also find the photographs in the Atlas helpful, especially since they are taken in New York, with the county identified. Not every species has photos, but a lot of them do. Thanks to the work by Andy Nelson over the years, there are over 3,500 images in the Atlas. Interestingly, you can compare photos of related species. Just go to the genus page, look to the right side of the page, and check the species in that genus you want to compare. Press compare records and photos for each species will come up.

There is much, much more information in the Atlas. The User's Guide in the About the Atlas tab menu has all the gory details. The Guide is a little difficult to wade through, but if you are looking for something, it is there.

Atlas Usage

The Atlas is free to everyone and is used by individuals from around the world. Usage analytics indicate that the Flora Atlas was used by approximately 27,600 individuals in calendar year 2017. In the third quarter of 2018 (July to September) alone, it was used by about 9,200 individuals.

What impresses me the most is the use of the Atlas from around the world. In 2017, about 5,000

The screenshot displays the Flora Atlas website interface. At the top, there is a green header with the text "Support the Atlas" and a "Contact Us" link. Below this is a search section titled "Flora Atlas Search" with a search bar and buttons for "Search" and "Advanced Search". The "Atlas News & Announcements" section lists several updates, including "Updates to the Atlas in 2018 (updated 10 Dec 2018)", "Errata for Catalogue of the Vascular Plants of New York State", and "Catalogue of the Vascular Plants of New York State published". The "Support the Atlas" section features a photograph of a purple flower and text encouraging users to "Support the NY Flora Atlas! Become an Atlas Sponsor". The "Atlas Statistics" section provides the following data:

Atlas Statistics	
Number of Plant Species	3,927
Number of Plant Images	3,532
Number of Herbarium Records	160,321



individuals from 24 foreign countries accessed the Atlas. The top foreign countries to use the Atlas were Canada, India, China, United Kingdom, and Italy. In the third quarter of 2018, the Atlas was accessed by about 1,000 individuals from a similar mix of foreign countries.

Sponsorship Program

A fairly costly annual hosting fee is paid by the NYFA to keep the Atlas running. To help defray this annual cost and provide funds to further enhance the Atlas, a sponsorship program was instituted last year. There are many different levels of sponsorship available, starting at a rather nominal amount. Donors are acknowledged in the Atlas by sponsorship level for up to three years. If you are interested in becoming an Atlas sponsor, click on the Support the Atlas tab (<http://www.newyork.plantatlas.usf.edu/support-the-atlas>). We encourage you to become an Atlas sponsor and greatly appreciate your support!



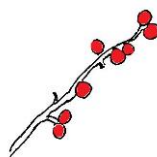
Note from David Werier:

Help gather distribution data for the Atlas!

We are looking for volunteers to help supply the Atlas with specimen data. These additional data will help make the county distribution information in the Atlas more complete. Those interested can work on counties or taxonomic groups (families, genera, or species). Objectives include making the county distribution information more accurate and providing information on what year(s) a species was found in a county. These objectives can be accomplished by either finding specimens of interest already in herbaria or making new collections and depositing them in herbaria. The data from the specimens should be transcribed into our provided spreadsheet and sent to us. For more details and to download the spreadsheet please see the Atlas News and Announcement section on the home page of the NY Flora Atlas. If you have questions please contact us at atlasrecords@nyflora.org. And thanks for your help!

Stay on top of Atlas Updates!

In late 2017 David Werier published the Catalogue of the Vascular Plants of New York State. The NY Flora Atlas was subsequently updated to reflect the Catalogue. Since that time, the NY Flora Atlas has been continually updated with name changes, new additions to the flora, and more. A listing of the significant changes that have been made can be found under the Atlas News and Announcement section on the home page of the NY Flora Atlas. Check back regularly to keep abreast of ongoing updates.



Hempstead Plains Flora Field Trip Report

Steve Young, NYFA Secretary

Hempstead Plains Preserve is the last remnant of what was once a vast expanse of grassland in Nassau and Suffolk Counties. Fourteen rare plants have been documented there and three of them are the largest occurrences in the state. On Saturday, September 8th, 15 people (and a baby!) joined Steve Young and Greg Edinger from the New York Natural Heritage Program for a walk around the preserve and the adjoining Purcell Preserve to take a look at the incredible diversity in the area. We were fortunate to have the Massachusetts state botanist, Bob Wernerehl, along too. We saw a wide variety of species, including the federally endangered Sandplain Agalinis (*Agalinis decemloba*) in full bloom. Bob discovered a new exotic plant that none of us had seen before, *Kummerowia striata*, Japanese clover, a new county record for Nassau County. Thank you, Friends of Hempstead Plains, for hosting us and for protecting this invaluable preserve.



Recent mowing has helped restore the grasslands (left). *Agalinis decemloba* (right)



Monitoring the Adirondack Alpine: Soils and Plant Abundance in New York's Highest Ecosystem

Connor Moore, Columbia University, 2018 NYFA grant recipient

Arctic-alpine ecosystems are rare in the continental United States, and are under increased threat from both recreational use and climate change. Alpine summits in the Northeast, particularly in the Adirondacks, are notably low in elevation (approx. 1300 m) for their mid-latitude location. This rare ecosystem is supported by ice storms and other factors that inhibit the growth of dwarfed trees (krummholz). The health of mid-latitude alpine zones is expected to be a climate change indicator, because as the climate warms and ice storm intensities change, non-alpine species may expand their range into previously unsuitable territory. Tree expansion into historical alpine areas has already been observed as a function of changes of temperature and precipitation in Sweden and Russia (Kullman 2008, Moiseev and Shiyatov 2003). Alpine tundra plant communities in the Adirondacks, however, are much smaller size (Carlson et al. 2011) and face possible extirpation due to upward migration of non-alpine species such as fir/spruce krummholz and lowland generalists.

The Adirondack alpine is spread thinly across 21 summits that are frequently travelled by recreators, which can be highly damaging to the vegetation and soils. The Adirondack High Peaks Summit Stewardship Program (SSP), supported by the Adirondack Mountain Club, the Nature Conservancy, and the NYS Department of Environmental Conservation, was established in 1989 to rehabilitate and protect alpine areas in the High Peaks from erosion and trampling. The soils, which hold the ecosystem together, can be lost to the wind when the vegetation is trampled. Before the establishment of the program, alpine meadows were being heavily impacted, and the outreach efforts of the SSP have significantly reduced trampling and have facilitated the regrowth of native sedges, grasses, and other herbaceous plants on the rehabilitated alpine soils (Goren and Monz 2011, Ketchledge et al. 1985).

Populations of alpine plant communities on these summits were modeled based on species abundance data from stratified plots and GIS layers, such as flow length, insolation, and western exposure. To investigate if soil depth was a useful model parameter, this past summer I hiked to 189 plots on six remote summits (Wright Peak, Algonquin Peak, Boundary Peaks, Mt. Colden, Mt. Marcy, and Whiteface Mt.), estimated the abundance of 17 target species, and took 19 soil depth measurements in each plot. Deer's hair Sedge (*Trichophorum cespitosum*), mountain firmoss (*Huperzia appressa*), pincushion plant (*Diapensia lapponica*), black crowberry (*Empetrum nigrum*), alpine blueberry (*Vaccinium boreale*), northern bentgrass (*Agrostis mertensii*), Bigelow's sedge (*Carex bigelowii*), and bearberry willow (*Salix uva-ursi*) were found in more than ten plots and were useful for analysis. I measured soil depth using a thin, graduated 50 cm rod, which I pushed to the bedrock at one meter intervals along the perimeter of each plot and along 1.4 m intervals across the NW hypotenuse of the plot.

I hypothesized that most alpine species (those with sufficient sample sizes) will show either a tendency to grow in medium or shallow soil depths. A better understanding of the role soil depth plays in the arctic-alpine ecosystem could modify expected changes to the ecosystem due to climate change, provide support for programs like the SSP, and increase our ecological knowledge of New York's highest ecosystem.

I found that alpine plants grow in significantly shallower soil depths than krummholz vegetation ($M_{\text{alpine}} = 13.06$ cm, $M_{\text{krummholz}} = 26.64$ cm, $p < 0.0001$; Figure 1). The maximum average soil depth in alpine habitat recorded was 37.3 cm, but most populations were found within the 5 to 20 cm range. Krummholz migration into alpine tundra environment due to climate change may be impeded by this difference in soil depth, perhaps lowering the 'invasibility' of the trees. Lowland generalist plants associated with 'snowbank communities,' or lower elevation shrubs and herbs that can exist in the alpine zone in cirques or other areas sheltered from the wind and late season frosts, might be more likely to colonize historically alpine



ecosystems because they can grow in similarly shallow soil depths.

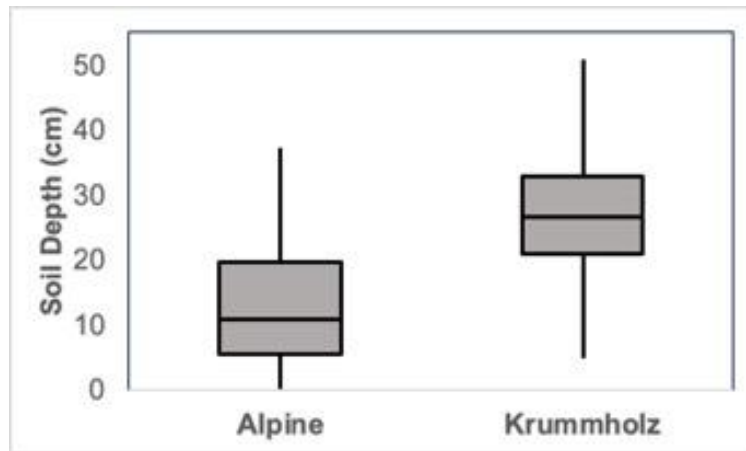


Figure 1. Alpine and krummholz soil depth. (Alpine communities were found in shallower average soil depths than krummholz communities.)

Most major target species exhibited a large variance when comparing abundance to soil depth. *Agrostis mertensii*, however, showed a significant, simple linear relationship with average soil depth, indicating that abundance decreased with soil depth (M = 9.12 cm; Figure 2). This model was determined to be a higher quality fit than any multiple or polynomial models, assessed with Akaike information criterion (AIC) values for model selection.

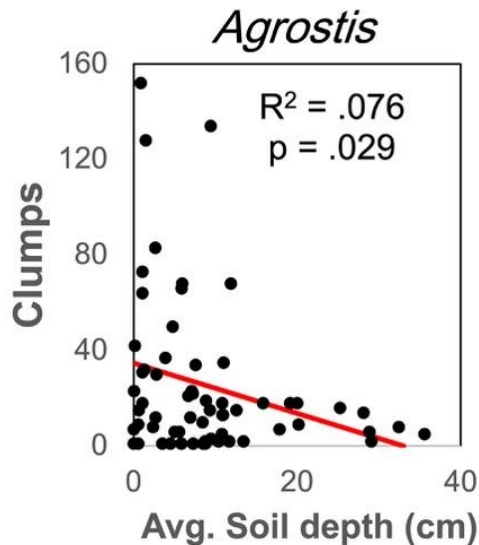


Figure 2. Scatter plot showing abundance of *Agrostis mertensii* against average soil depth.

When all species were evaluated at shallow soil depths (0 to 5 cm), only *Trichophorum cespitosum* showed a significant relationship, for which a simple, second order regression was the highest quality



relationship, evaluated using AIC values. At both shallow and total average soil depths, *Trichophorum cespitosum* shows a tendency to grow in medium soil depths ($M_{\text{shallow}} = 1.80 \text{ cm}$; $M_{\text{total}} = 13.05 \text{ cm}$; Figure 3). I was surprised to find that this relationship was not significant, either linearly or polynomially, with any of the other major target species. This could be due to error, sample size, or another factor.

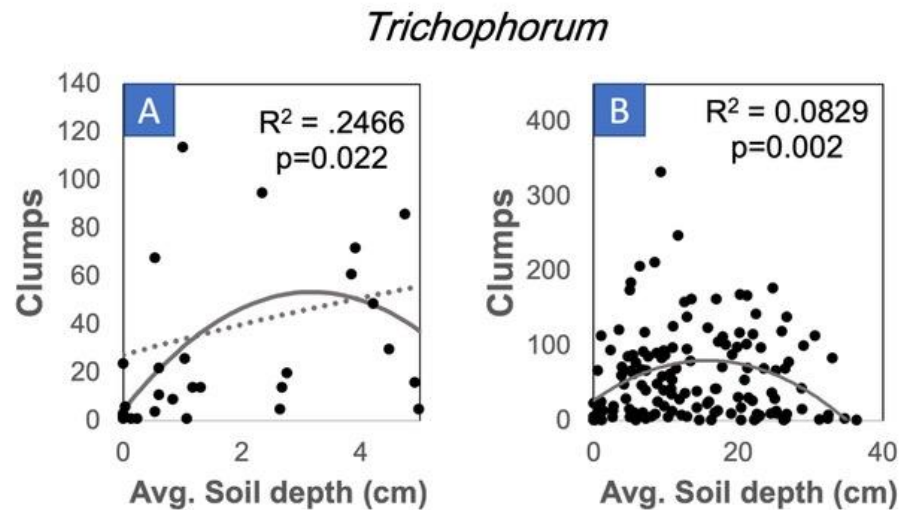


Figure 3. Scatter plots showing abundance of *Trichophorum cespitosum* against shallow (0-5cm; A) and all average soil depths (B). The solid gray lines represent a simple 2nd order regression, which was the highest quality regression for the species at shallow soil depths and is significant at all average soil depths. The dotted gray line in the shallow soil depth scatter is the regression line for the entire *Trichophorum* soil depth range, shown on the right graph as a solid line.

The Summit Steward program has a high profile in the local and visiting public eye, because stewards talk with visitors about minimizing soil erosion and staying off the vegetation; in 2018, Summit Stewards spoke with 38,033 individuals (White 2018). For Summit Stewards and recreational visitors who encountered researchers in the field, the project provided exposure to active conservation research being conducted on summit lands. Under the watch of the public eye, it was important to maintain proper Leave No Trace (LNT) behaviors and good stewardship of this iconic ecosystem. Additionally, LNT research is important because it shows that scientists are caring for the resource in the same short-term way that the general public is encouraged to, in addition to the long-term conservation benefits of research. Recreators are an increasingly varied audience--ethnically, racially, socioeconomically, and politically--and this increased access could translate to increased public interest in conservation.

This project was conducted as a part of a larger study on monitoring and modeling plant populations in the Adirondacks managed by Tim Howard and Julia Goren, who served as my research mentors. These data may help sharpen models of alpine communities, and ultimately help establish conservation priorities in the Adirondack High Peaks.

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Sampling in the alpine zone.



New Rare Plant Finds Submitted to the NY Natural Heritage Program in 2018

Steve Young, Chief Botanist, NYNHP

The field season of 2018 was a great one for new discoveries of rare plants in New York, many of them state-endangered species. There were many professional and amateur botanists out there exploring all kinds of natural areas and finding rare plants that they reported to me. The presence of iNaturalist projects like the New York City EcoFlora, the New York Wildflower Monitoring Project, and the Adirondack Orchid Survey have helped locate new rare occurrences that may have been overlooked otherwise. I had many updates to known locations, but this list shows the new occurrences that were found (not all of them in 2018, but I learned about them this year) and sent to me either by email or by the online reporting form www.nynhp.org/report-rare. Thank you all for your great work and amazing finds! Let me know if I missed any so I can update the list. I look forward to the 2019 field season!

Long Island

Suffolk Co. - Commack - *Spiranthes vernalis* S1S2 - Dave Taft
 Suffolk Co. - Commack - *Asclepias viridiflora* S2 - Dave Taft
 Suffolk Co. - East Setauket - *Stachys hyssopifolia* S2 - David Laby
 Suffolk Co. - East Setauket - *Ageratina aromatica* S1 - David Laby
 Suffolk Co. - East Hampton - *Monarda punctata* var. *punctata* S1 - Vicki Bustamante
 Suffolk Co. - East Hampton - *Suaeda rolandii* S1 - Vicki Bustamante
 Suffolk Co. - Montauk County Park - *Eleocharis ambigens* S1 - Vicki Bustamante
 Suffolk Co. - Montauk County Park - *Cyperus flavescens* S1 - Vicki Bustamante
 Suffolk Co. - Lake Montauk - *Chenopodium berlandieri* var. *macrocalycium* S1S2 Vicki B.
 Suffolk Co. - Shadmoor State Park - *Solidago latissimifolia* S1 - Vicki Bustamante
 Suffolk Co. - Brookhaven - *Agalinis decemloba* S1 - Hannah Emouna

New York City

Bronx Co. - Van Cortlandt Park - *Fraxinus profunda* S1 - Daniel Atha
 Bronx Co. - Van Cortlandt Park - *Cyperus echinatus* S1 - Zihao Wang
 Bronx Co. - Van Cortlandt Park - *Paspalum laeve* S1 - Zihao Wang
 Bronx Co. - East Bronx - *Paspalum laeve* S1 - Zihao Wang
 Bronx Co. - Bronx River Park - *Paspalum laeve* S1 - Zihao Wang and Daniel Atha
 New York Co. - Central Park - *Acalypha virginica* S1 - Alex Hodges
 Queens Co. - Floyd Bennett Field - *Juncus brachycarpus* S1 - Zihao Wang
 Queens Co. - Rockaways - *Cyperus retrorsus* S1 - Chris Mangels
 Queens Co. - Rockaways - *Eupatorium torreyanum* S2 - Chris Mangels
 Richmond Co. - Snug Harbor - *Callitriche terrestris* S2S3 - Erik Danielson

Lower Hudson

Dutchess Co. - Appalachian Trail - *Lechea pulchella* S1 - John Egenes
 Rockland Co. - Stony Point - *Bolboschoenus novae-angliae* S1 - Rob Naczi
 Westchester Co. - Croton Point Park - *Silene caroliniana* ssp. *pensylvanica* S2 - Karalyn Lamb
 Westchester Co. - Crotonville - *Bolboschoenus novae-angliae* S1 - Rob Naczi
 Westchester Co. - Peekskill - *Bolboschoenus novae-angliae* S1 - Rob Naczi
 Westchester Co. - Montrose - *Bolboschoenus novae-angliae* S1 - Rob Naczi
 Westchester Co. - Crugers - *Bolboschoenus novae-angliae* S1 - Rob Naczi



Eastern New York

Greene Co. – Coxsackie - *Bordinia missouriensis* S2 – David Werier
 Greene Co. - Coxsackie - *Carex glaucoidea* S2 – David Werier
 Greene Co. - Coxsackie - *Carex molesta* S2S3 – David Werier
 Greene Co. - Coxsackie - *Carex retroflexa* S2S3 – David Werier
 Greene Co. - Coxsackie - *Oxalis violacea* S2S3 – David Werier
 Greene Co. - Coxsackie - *Scirpus georgianus* S1S2 – David Werier
 Greene Co. - Coxsackie - *Solidago rigida* var. *rigida* S2 – David Werier
 Greene Co. - Coxsackie - *Stachys arenicola* S1 – David Werier

Adirondacks

Clinton Co. – Ausable River Delta – *Lysimachia hybrida* S1 – David Werier
 Franklin Co. - Spring Pond Bog - *Neottia bifolia* S2 - Scott Namestnik
 Franklin Co. – Paul Smiths – *Neottia bifolia* S2 – Brian McAllister
 Franklin Co. – Oseetah Lake – *Arethusa bulbosa* S2 – Lem Hegwood
 Franklin Co. – Paul Smiths – *Arethusa bulbosa* S2 – Carol Gates and Brian McAllister
 Hamilton Co. – Pine Island Piseco – *Diphasiastrum complanatum* S2 - Steve Langdon
 St. Lawrence Co. – Massena – *Lilium michiganense* S1 - Anne Johnson
 St. Lawrence Co. – Macomb – *Arethusa bulbosa* S2 - Anne Johnson
 St. Lawrence Co. – Macomb – *Carex chordorrhiza* S2 - Anne Johnson
 St. Lawrence Co. – Macomb – *Carex livida* S1 - Anne Johnson
 St. Lawrence Co. – Edwards – *Arethusa bulbosa* S2 – Steven Daniel
 St. Lawrence Co. – Briggs – *Arethusa bulbosa* S2 – Steven Daniel

Central New York

Cortland Co. – SUNY Cortland – *Polygonum buxiforme* S1S2 - Michael Hough
 Jefferson Co. – Lucky Star Alvar – *Viola nephrophylla* S1- Michael Hough
 Lewis Co. – Tug Hill – *Carex haydenii* S1S2 - Michael Hough
 Onondaga Co. - Tully - *Stachys arenicola* SH - Michael Hough
 Onondaga Co. – Rand Tract – *Carex careyana* S1S2, *Carex jamesii* S2S3 - Michael Hough
 Tompkins Co. – Treman State Park – *Bromus nottowayanus* S1 – David Werier

Western New York

Cattaraugus Co. – Allegany State Park - *Botrychium oneidense* S2S3 – Aaron Heminway
 Chautauqua Co. - Chautauqua Creek Gorge - *Cardamine douglassii* S2S3 - Erik Danielson
 Erie Co. – Grand Island - *Cardamine douglassii* S2S3 - Erik Danielson
 Erie Co. - Bizer Creek Woodlot - *Carya laciniosa* S2 - Mike Wilkinson
 Erie Co. – Lake Erie State Park – *Aralia spinosa* S1 – Aaron Heminway



Carex chordorrhiza, photo by Steven Daniel.



Botanical Notes:

Dale Leadbeater and Anne Barbour's article "What's in a name? The 2016 Cohosh Quest in the City of Kawartha Lakes" in the most recent Field Botanists of Ontario newsletter inspired this botanical note*. The introduction to their piece in the Editor's Note states:

*It is late fall now, but all the stories in this issue take us back, or are relevant to, the springtime. Thus, when forest wildflowers emerge in April and May come next year, remember to refresh your knowledge of one of the most common of them: Blue Cohosh. Chances are you have been "misidentifying" it all these years: very likely, what you have been calling *Caulophyllum thalictroides* was in fact *C. giganteum*! As reported by Dale Leadbeater and Anne Barbour, these two are now recognized not just as two varieties (or even as a single species - *C. thalictroides*, from the times of Asa Gray in 1848, Fernald in 1950, to Voss and Reznicek in 1985) but as bona fide separate species. Differences between them are subtle, but distinct. Just bring your magnifying lens and a small ruler and look closely at their flowers.*

For a good history of the name revisions over the years and a discussion of the morphological and phenological differences, see their full article. Hopefully this botanical note will inspire NY botanists to go out and document which species (or species) they have in their county. Collect a voucher specimen so the atlas can be filled out to reflect the current understanding of this plant. (See the note from David Werier on page 3). The below photos, taken in Monroe County by Steven Daniel were found on NYFA Atlas website.



C. giganteum (left) and *C. thalictroides* (right). Note color difference and style lengths.

* Reprinted by permission.



Botanical Notes:

Frank McKnight sent a note saying that he noticed that group photographs taken on his natural history walks could be improved and he thought NYFA readers may be interested as well. To that end he sent us some photo tips.

PROFESSIONAL-LOOKING PHOTOS INDOORS and OUT
Use Flash Like Wedding and Fashion Photographers

Frank Knight, frankknight@earthlink.net

Professional photographers use flash indoors and out, and so should we amateurs. Flash outdoors seems counterintuitive, but if folks try it, they will be impressed with the difference. Landscapes and flora seldom need flash enhancement, but formal group shots and spontaneous people close-ups nearly always do - filling in shadows in the shade and under hats. "I wish I had brought my camera today!" and "Does anyone have any spare batteries?" are two camera concerns we no longer hear. Since nearly everyone now has a smartphone, we have a fully-charged camera at our fingertips. Extraordinary photo quality on fully automatic devices lulls us into complacency. What we should be asking now is: "Why are peoples' faces so dark?" and "Why aren't my pix as appealing as those I see in outdoor clothing catalogs?" The main difference is the consistent use of flash for faces by fashion and wedding photographers indoors and out in every lighting condition.

INDOORS:

- Strong **overhead lighting** puts shadows in eye sockets, under nose, and chin - **FLASH for professional even lighting.**
- **Windows or white wall behind people trick light meter. Move in closer - FLASH at angle to window to avoid glass reflection.**

OUTDOORS with FLASH:

- **Turn on smartphone or camera flash for even up-close lighting.**
- **Photograph people with their back to the sun** shining in your eyes, not theirs for squint-free smiling or engaged faces with halo highlight around their hair or hats.
- **Shoot the whole scene then move in closer** to focus on what people in foreground are seeing or doing.
- **Outdoor flash brightens only closest subjects; backgrounds natural.**

OUTDOOR non-flash alternative with CAMERAS ONLY (NOT smartphones):

- As above, shoot the whole scene; then move in close aiming not at your subject, but instead at darkest, shadowed foreground.
- Depress shutter button half-way to lock light meter to dark area; then raise camera to recompose before fully pushing shutter.

ALWAYS REMEMBER:

- We read our phones' words vertically but photograph horizontally.
- Take HORIZONTAL SHOTS for PowerPoints and some publications. Make both verticals and horizontals for your creative pleasure.
- Practice all techniques above with family and friends indoors and out to perfect your professional photography skills.

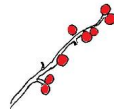
USE FLASH CONSERVATIVELY, IT SHORTENS BATTERY LIFE

See the next page for an example of the difference a flash makes.





Photos illustrating the difference a flash makes: Left: sun, back-lit, no flash, Right: sun, back-lit, with flash.



2018 Additions to the St. Lawrence County Flora

Anne Johnson, NYFA Editor

With a lot of help from Steven Daniel, another year in the North Country has once again turned up a number of new plants to add to the known flora. The county total now stands at 1452 taxa (including subspecies and varieties). Added this year were the following (an asterisk (*) denotes a non-native species).

Atriplex prostrata (Seaside Orach). I like to stop and check a low weedy area on the south side of NY 37 near the turn to the bridge to Canada, as a variety of salt tolerant plants seem to come and go (and/or stay) there. One I hadn't noticed previously turned up this year – this prostrate version of our common orach.

Ampelopsis glandulosa* (Porcelain Berry). Anthony Beane, SUNY Canton Veterinary Technology professor, noticed this plant spreading in a garden in Ogdensburg. He alerted SLELO PRISM who came up and eradicated it. Unfortunately new growth appeared later in the year. We once again attempted eradication (and pressed one for a voucher) and will continue to monitor the site.

Bromus pubescens (Canada Brome) Bromus species can be very interesting, and confusing. I noticed a woodland Bromus in some rocky woods and it appeared to be a non-pubescent form of *B. pubescens*. Later, in the same vicinity, we noticed some more that were hairy, and had very shiny leaves; we wondered if they could be *B. nottowayanus* or something intermediate between the two. The situation needs a bit more study next field season.

Carex laxiculmis var. copulata (Coupled Sedge). Several nice patches were found under a white pine – hardwood canopy in Glen Meal State Forest with *Poa alsodes*, *Carex hitchcockiana*, *C. arctata*, and *C. gracillima*.

Carex oligocarpa (Few-fruited Sedge). An exciting find on a rocky outcrop in Hickory Lake SF. It was exciting because it had been known in the county (a 1918 record) but had not been recently encountered.



***Lilium michiganense* (Michigan Lily).** Martha Grow had noticed this lily in past years and insisted it looked different than our normal Canada lily. I filed her spotting away in my brain, thinking that it was probably just an odd Canada Lily, but she was right – it certainly did look different and certainly does appear to be Michigan Lily! Note the highly recurved petals in the photo. This past summer Paul Siskind was monitoring native lily populations for the lily beetle, so we checked his and other known lily locations to see if any others in the county were similar - all others appeared to be *L. canadense*, though one (see lowest photo) was recurved more than others, though not as much as *L. michiganense* (tepals recurved 180° to 360° for *L. michiganense* vs. up to 90° in *L. canadense*).



Lilium michiganense (left) compared to typical *L. canadense* (right). Photos by Martha Grow (right) and Natalie Aldrich (left).



An atypically recurved *L. canadense* or perhaps an intermediate?



Macleaya cordata* (**Plume Poppy**). Mike Morgan of the DEC found this tall and robust plant spreading under sparse tree canopy at an old house site with *Sorbaria sorbifolia* on Nichols Island in Wilson Hill WMA. This persisting ornamental is growing in the same vicinity of another robust ornamental – *Miscanthus sacchariflorus*. Two tall plants from the same historic garden perhaps?

Pellaea atropurpurea (**Purple Cliffbrake**). *P. atropurpurea* had been recorded historically in the county though I had thought it must have been a misidentification, as the very similar *P. glabella* is not uncommon on limey rocks in the southwest portion of the county. Steven Daniel noticed an odd looking cliffbrake on the steep shore of Pleasant Lake this year, and after confirming the identification of this patch as *P. atropurpurea* rather than *P. glabella*, we later searched for a 1918 Orra Phelps record from Sylvia Lake, and did indeed find it there as well. Interestingly, both *Pellaea* species occur on the rocks at Sylvia Lake, though at far ends from each other.



P. atropurpurea, photo by Steven Daniel

Sabulina michauxii (**Rock Sandwort**). I had expected to find this in the county sooner than we did, as it is not uncommon just over the border in Jefferson County on limey rock faces. This St. Lawrence County population was found on the steep dry west shore of Pleasant Lake.

Schoenoplectus torreyi (**Torrey's Bulrush**). Another relocation of a historically known plant, this one a Muenscher record from the 1930's growing near shore in Joe Indian Pond. We had just seen this species on the field trip David Werier led at the Ausable River Delta so had a good search image in mind when we went to check Joe Indian.

(Spiranthes incurva) (**Ladies' Tresses**). After learning that *Spiranthes cernua* is a complex and has been divided into three different species, we checked some of ours and so far they appear to be the segregate *S. incurva*. We will keep an eye out for the other that may be likely to occur here (*S. acrisepala*). To read about this see: Pace, M.C. and K.M. Cameron. 2017. The Systematics of the *Spiranthes cernua* Species Complex (Orchidaceae): Untangling the Gordian Knot. Systematic Botany, 42(4): pp. 1–30.



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