

**New York Flora
Association**

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Editors Note: I had thought it would be a good idea to do a series of articles on memorable NYS botanists, and, as though he was reading my mind, Knowlton Foote submitted an article on Mildred Faust. Hopefully his article will inspire others to write in with memories of Mildred and/or other NYS botanists who have made a difference. I know Mildred certainly inspired me. I was, unfortunately, one or two years too late to be in one of her classes at SUNY but she frequented the herbarium in Illick Hall at ESF and continued to encourage budding botanists like myself. I have fond memories of Mildred and her friend Orra Phelps, with their walking sticks and sturdy shoes tromping through all kinds of habitat and sharing their overwhelming plant knowledge. If anyone else has memories to share, or good stories to tell about their favorite botanist, please send them to editor@nyflora.org.

**Mildred E. Faust, Ph.D.
A Noted Central New York Botanist
1899 – 1988**

Mildred Faust was born in 1899 in Emporia, Kansas. She earned her bachelor's degree from Penn College of Iowa and her master and doctorate degrees at the University of Chicago. She also studied at Cornell University and the University of Iowa.

In 1926 she came to Central New York as a faculty member at Syracuse University. She taught botany, ecology, and palynology until her retirement in 1965, a period of 39 years. She became the first women biologist to receive tenure at Syracuse. After retirement she became an adjunct professor at the SUNY College of Environmental Science and Forestry to which she donated her extensive herbarium.

Mildred Faust was an authority on the flora of New York State, particularly the Central New York area. She was impressed by the variety of the local flora. She had a genuine fondness for ferns and orchids, some of which are the rarest orchids east of the Rockies. She and her students studied and published about plants known for their high salt content around Onondaga Lake. Dr. Faust would lead her students into bogs and have them drill down 15 to 20 feet, collect the pollen from the drillings, and be able to surmise what grew locally 5000 to 7000 years ago. In 1961 she authored "*Vascular plants of Onondaga County, New York*". Her love for plants led her to

botanize worldwide, including 48 states (one of which was Hawaii), Europe, New Zealand, Australia and Iceland.

During her teaching career and in her retirement years, she was particularly known for her field trips, which were well attended. She helped to organize and establish Baltimore Woods in Marcellus and Beaver Lake Nature Center in Baldwinsville. For her many contributions the Mildred E. Faust Wildflower Garden was established at Baltimore Woods in Baldwinsville and a nature trail was named for her at Clark Reservation in Jamesville. Both still exist today for people to enjoy. In 1982 she received the Post-Standard Woman of the Year Achievement Award.

Among area organizations, Mildred Faust was associated with the Syracuse Botany Club for 40 years, the NYS Advisory Committee on Rare and Endangered Plants, and the Adirondack Mountain Club. Nationally, she was elected a Fellow of the American Association for the Advancement of Science, was listed in Who's Who of American Women, and was a president of the American Fern Society. She was a member of numerous other organizations including the American Institute of Biological Science, the Ecological Society of America, the Botanical Society of America and the American Association of Stratigraphic Palynologists. She received an



honorary degree of Doctor of Science from St. Lawrence University in 1986.

Mildred Faust enhanced our knowledge of the flora of Central New York. And with her dynamic classroom teaching and field trips, she made knowing and learning about plants most enjoyable, which I can verify as I took her ecology class as an undergraduate.

Knowlton Foote, Ph.D.



George Snyder

Mildred E. Faust (1926-1965) was the first woman biologist to receive tenure at Syracuse University. She published on ferns and other vascular plants and taught a variety of courses in botany. An enthusiastic naturalist, she developed a comprehensive list of flora of Onondaga County and led numerous

field expeditions for thousands of Central New Yorkers. A nature trail named for her at Clark Reservation in Jamesville, N.Y., features a plaque in her honor.

Taken from an article written by H. Richard Levy in 2008 when Syracuse University dedicated its new Life Science's Complex (Biology at Syracuse University: The First 135 Years).



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and www.nyfablog.org

The *Amelanchier* Workshop: Plant Identification at Flood-Stage

by Michael Burgess

It is fitting that *Amelanchier* blooms in spring, when high waters and raging rapids torture the landscape, because *Amelanchier* also provides it's own form of torture. Despite this, a group of intrepid botanists decided to brave the *Amelanchier* rapids and join me in exploring the north country's *Amelanchier* diversity.

Our workshop began with a lecture on Friday evening, May 10, 2013. Throughout the lecture, I tried to inspire a renewed determination to learn this marvelous genus. I made the case that despite the deserving reputation that *Amelanchier* is a "charlie foxtrot," the genus does have a tractable side. In fact, *Amelanchier* actually has species that are morphologically, ecogeographically, and mostly genetically cohesive. I'm sure that's the best news you've heard all day.

On Saturday morning, with spirits high, full tanks of gas, and multiple tins of sardines, we hit the road in search of *Amelanchier* nirvana. Our botany carpool landed first at Point Au Roche State Park. Here we were delighted by New York's very own, *A. humilis*. I say New York's very own because it was our hero, Karl Wiegand, who named *A. humilis*. Thanks to Karl's keen insights, and taxonomic prudence in the face of endless morphological variation, we have inherited a genus not mired in synonymy. *Amelanchier humilis* is one of those well marked species, well...only if you consider diploid *A. humilis*. It turns out that *Amelanchier* includes diploid and polyploid (triploid and tetraploid) forms. It's the diploids that are the well-marked species. The polyploids on the other hand, can easily ruin your mental health. This situation wouldn't be so bad if we could simply ignore polyploids, but unfortunately they are



everywhere, like N.S.A. wire taps. Even worse, polyploids are often morphologically cryptic and thus mimic diploid species morphology. Herein lies the grand challenge of *Amelanchier*. When considering just diploids, species are drop-dead distinct, but when diploids are considered along with polyploids, their distinctiveness is often lost. In the Great Lakes region for example, *A. humilis* diploid and polyploid forms are common, sympatric, and essentially impossible to distinguish morphologically. We'll leave it there for now.

As we were driving out of Point Au Roche, Steve D. began frantically yelling from the back seat to pull the car over. His apparent distress made me think he was under attack by fire ants or actually on fire. Turns out he was overwhelmed by *Gymnosporangium juniperi-virginianae* galls on *Juniperus virginiana*, and just needed to get a picture. With rain from the previous evening, the galls blossomed into spectacular ornaments. Once back on the road, our carpool continued to Flat Rock State Forest. Here we sampled many entities that fit more or less into the large taxonomic basket, *A. spicata*. We also saw some forms that betrayed our attempts to apply a name. As our classification of *Amelanchier* ripens, we will finish the important task of naming more diversity. So, stay tuned.

Our next stop after Flat Rock was Bonnie's field. The day before, upon passing a field of numerous *Amelanchier* thickets, David stopped at the adjacent house and asked permission for our group to access the field. Bonnie was thrilled with the idea and happily let us roam about. In Bonnie's field we found enough *Amelanchier* chaos to make us conclude that some fields are better left mowed. The forms in this field included *A. humilis* and *A. spicata*, plus everything else in between. As we strolled around the field scratching our heads and pleading for mercy, Bonnie's bright personality drew us up to the house. We chatted for several minutes and quickly learned Bonnie was a kindred spirit. The night before, Bonnie was so excited about her new garden bed that she worked until 11pm weeding and planting. Anyone who loves plants that much is an honor to meet.

After Bonnie's field we marched onward and explored a number of spots along Rand Hill Rd. But by this point our mental gas tanks were running on fumes and we began discussing the quickest route to grassfed burgers. We settled on a restaurant in downtown Plattsburgh. As an appetizer, we enjoyed a slideshow of *Amelanchier* from throughout eastern North America. After a wonderful dinner we went our separate ways to prepare for Sunday's adventure. Back at my house, David and I talked most of the night and early morning. We began with *Amelanchier*, but quickly switched to problems much easier to solve, such as negotiating Mideast peace and a baking the perfect sourdough loaf.

Our first stop Sunday morning was a power-line sand plain near the Clintonville Pine Barrens. We found the same situation as Bonnie's field--*A. humilis* and *A. spicata*, plus everything else in between. We also enjoyed the many uncommon to rare plants growing in the sand plains. As time began to run out on the *Amelanchier* workshop, we said farewell to several people, while the rest of us continued on to Lake Placid, in hopes of finding *A. bartramiana*. Although our quest for *A. bartramiana* ultimately fell short, we did find other interesting *Amelanchier*. Thanks to Lake Placid's delayed phenology, these included several early bloomers, including *A. laevis*, as well as one remarkable surprise--*A. interior*. Within a few miles of Lake Placid, we stumbled upon an *A. interior* stronghold. After spending some time getting to know this taxon, we realized that many of the morphs we saw on Saturday throughout central Clinton County were actually variations of *A. interior*. So it turns out that northern NY has a thriving *A. interior* complex.

Thanks to all for making the *Amelanchier* workshop a truly wonderful experience. And a special thank you to David Werier for his tireless kindness and amazing support!





The very attractive *Amelanchier humilis* in full flower at Point au Roche State Park.



Gymnosporangium juniperi-virginianae gall on *Juniperus virginiana*.



Grasses of New York Workshop

By Nava Tabak

We met on the evening of July 19th at the Bailey Hortorium on the Cornell University campus, where instructor David Werier presented an overview of grass morphology and nomenclature that would be helpful in the weekend's grass ID work. Then David and assistant instructor Steven Daniel helped us practice grass ID, using a wide array of unlabeled dried specimens David had collected throughout the state, as well as some live specimens and specimens that participants brought.



In the field at Edward Lake Cliffs Preserve.

Photo: Jon Titus

specimens and specimens that participants brought.

The following morning we traveled to Edwards Lake Cliffs Preserve.

First David covered the field ID of some common meadow species,

and then we descended into the rich forest where we studied several

Elymus and *Muhlenbergia* species.

These rich woods on the east shore of Cayuga Lake also harbored less common and elegant species such as

Bromus pubescens and *Piptatherum racemosum*.

Next we went to the delta of Salmon Creek

at Myers Point in Lansing. We looked at species such as *Andropogon gerardii* and *Sorghastrum nutans* that appeared to be used in restoration here, as well as a variety of species growing along the roadsides. We also did some urban grass botanizing on the way to and from dinner in downtown Ithaca. Back at the lab David gave a useful overview of the tribe Paniceae flower morphology, and keying practice continued.

On July 21st we made an excursion to Negundo Woods, a floodplain forest along the Cayuga Lake inlet. Here a tawny emperor joined us for a lesson on *Elymus*. Among many other grass species in the floodplain we observed *Bromus nottowayanus*, an interesting species whose status and distribution in the state is still uncertain.

On behalf of the workshop participants, thank you to

David and Steven for sharing their vast knowledge and great enthusiasm with us-

they taught a great workshop, one that would be worth

repeating! Thank you also to Anna Stalter for hosting us at

the Bailey Hortorium, and Bob Dirig for helping us navigate through the Plant Science building and for quoting from

Harrington's "The Identification of Grasses" ("A grass can be glumey in more ways than one..." see NYFA fall 2011 newsletter).



Tawny emperor meets *Elymus*.

Photo: Kris Gilbert



Tim and Steve

Photo: Jon Titus





Workshop participants: back, left to right: Kris Gilbert, Tim Tatakis, Chet Schmitt, Catherine Landis, Kevin Bliss, Bob Dirig, Todd Egan, Joseph McMullen, Anna Stalter, Loree Speedy, Jon Titus. **Front, left to right:** Mark Bowers, Steven Daniel, Nava Tabak, Ed Fuchs, David Werier, Priscilla Titus. Photo: Kris Gilbert

Grass species studied in the field (many more were studied in the lab)

<i>Agrostis gigantea</i>	<i>Leersia virginica</i>
<i>Agrostis stolonifera</i>	<i>Microstegium vimineum</i>
<i>Andropogon gerardii</i>	<i>Muhlenbergia frondosa</i>
<i>Bromus inermis</i>	<i>Muhlenbergia schreberi</i>
<i>Bromus latiglumis</i>	<i>Muhlenbergia sobolifera</i>
<i>Bromus nottowayanus</i>	<i>Phalaris arundinacea</i>
<i>Bromus pubescens</i>	<i>Phleum pratense</i>
<i>Bromus tectorum</i>	<i>Piptatherum racemosum</i>
<i>Dactylis glomerata</i>	<i>Poa compressa</i>
<i>Dicanthelium clandestinum</i>	<i>Poa palustris</i>
<i>Digitaria sanguinalis</i>	<i>Poa pratensis</i>
<i>Echinochloa muricata</i>	<i>Puccinellia distans</i>
<i>Eleusine indica</i>	<i>Schedonorus arundinaceus</i>
<i>Elymus hystrix</i> var. <i>hystrix</i>	<i>Setaria faberi</i>
<i>Elymus repens</i>	<i>Setaria viridis</i>
<i>Elymus riparius</i>	<i>Setaria verticillata</i>
<i>Elymus villosus</i>	<i>Sorghastrum nutans</i>
<i>Elymus virginicus</i> var. <i>virginicus</i>	<i>Sphenopholis intermedia</i>
<i>Eragrostis cilianensis</i>	<i>Tridens flavus</i>
<i>Holcus lanatus</i>	



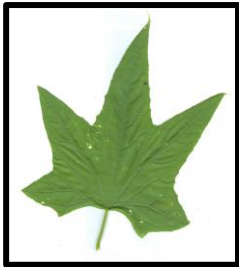
David: "wait guys, one more grass!"
Photo: Mark Bowers



FRUIT AND LEAF QUIZ. Match the fruit to the leaf. Answers on page 11.



1



2



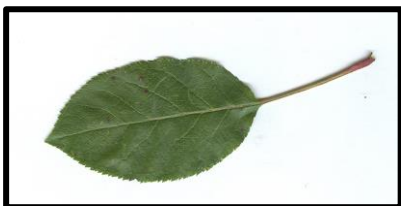
3



4



5



6



A



B



C



D



E



F



Some St. Lawrence County Gentians

Photos by Natalie Aldrich



Fringed Gentian (*Gentianopsis crinita*)



Narrow-leaved Gentian (*Gentiana linearis*)



Bottle Gentian (*Gentiana andrewsii*)



Lesser Fringed Gentian (*Gentianopsis virgata*)



Gentiana andrewsii f. *albiflora*



Early Bluegrass - *Poa cuspidata* – A Native Species Rediscovered In Western New York After 170 Years And A Lesson in Using Manuals

by Steven Daniel

Over the last few years I've become especially fascinated with graminoids – grasses and sedges especially, and, thanks to a jumpstart from NYFA workshops, have made some progress in learning them.

I was surprised, in early April of 2012, to find a lovely species of *Poa* in flower on state land in Rush, New York. It was growing on thin, rocky soil overlaying the Onondaga Escarpment. There are other unusual plants there, including the state rare *Valerianella chenopodiifolia*. 2012 was an unusual year, with an extremely warm and early spring, yet I still thought it surprising to find a grass in flower at this early date, when the very first wildflowers of the season were just appearing. I figured its phenology should be a clue to its identity, but couldn't find a good match.

At the time, I hadn't gotten a handle on many species of *Poa*. I had gotten into the habit of using the keys in *Field Manual of Michigan Flora* (Voss and Reznicek, 2012) and *Flora Novae Angliae* (Haines, 2011). The keys in these manuals are generally excellent, and between them essentially cover nearly all of what we might find in western New York. But I found the *Poa* keys difficult – those lemma nerves and pubescence were making me crazy! (It wasn't until later I learned that these keys are typically written for herbarium specimens, when some of those characters are much easier to see than in fresh specimens.) Bottom line – I could not work out a good match. Perhaps it was *Poa interior* or *Poa glauca* or *Poa sylvestris* – NO - try as I might, the characters for those species just didn't fit.

I decided to try again this spring (2013), and it was in flower in mid-April. It is a very attractive plant, with flexuous panicle branches mostly in 2's. I spent many more hours of studying this grass under the microscope and still couldn't work it out. This lovely grass had become my nemesis!



Inflorescence of *Poa cuspidata*.



Spikelet of *Poa cuspidata*.

I brought a sample to my friend David Werier, with whom I had been corresponding about this grass. Within 24 hours my phone rang and David excitedly informed me that this was *Poa cuspidata*, a grass that hadn't been known, as far as he knew, in Western New York since Torrey mentioned it in his 1843 *Flora of the State of New York*. In that *Flora* Torrey lists it under the name of *Poa pungens*, and writes "Moist, rocky places, western part of the State (Dr. Sartwell)." The NYS Atlas lists it as SH (historical) – i.e. no recent records. Early bluegrass is its very appropriate common name.

What historical records exist for *Poa cuspidata* in New York? Diana Hurlbut at the NYS Museum



Herbarium kindly checked and informed me that there are two specimens of *Poa cuspidata* in that herbarium (one is a Bicknell collection from Manhattan in 1897, and the other was a Torrey specimen (no data included on the label)). Anna Stalter at the Bailey Herbarium (BH/Cornell) checked there and the only New York specimen listed as *Poa cuspidata* appears to be a duplicate of the Bicknell collection from 1897. Tom Zanoni at the New York Botanical Garden checked its collections. NYBG has two collections by Torrey (no label data), another duplicate of the Bicknell collection, and a 1909 collection from Staten Island (collected as *Poa pratensis*, and annotated to *P. cuspidata* in 1953 by Stanley Smith). I checked the Rochester herbarium (ROCH) and there are no specimens of *P. cuspidata*. BUFF is in the process of databasing their grasses, and so far the only *P. cuspidata* specimens are from out of state. It is still possible there may be other specimens from NY somewhere. It does appear, however, that even in the 19th century, this grass was rare in New York.

But why wasn't I able to key it out successfully? It turns out that *Poa cuspidata* is neither in *Flora Novae Angliae* nor in *Michigan Flora*. It is a southern species - I was using the wrong books! Had I tried *Gleason and Cronquist*, David asked me. And there it was. The plant keyed out immediately and easily in *G and C*. If only I had tried using that manual sooner it would have saved me over a year of puzzling and great frustration!

Anyway...that is a lesson to be learned, and a happy ending to a saga of a mystery grass.

2013 Additions to the St. Lawrence County Flora

by Anne Johnson

We've continued to add to our list of St. Lawrence County flora, this past year adding another nine species. Three are native species and six non-native. The county total now stands at 1392 vascular plant species (including subspecies and varieties). Added this year were:

Japanese Brome (*Bromus japonicus*). A wispy brome grass found in the Massena area along Richards Landing Dike and along the rip-rap at the Robert Moses State Park marina. It had not been previously noticed in those areas. Non-native.

Pallas Bugseed (*Corispermum pallasii*). An exciting find in the sands of the Parishville Desert. It was immature when first noticed (early August) and we had to wait a long time to identify it (mature in late September). It grows with the abundant *Cyperus schweinitzii* in the open, shifting sands. Non-native.

Fleshy Hawthorn (*Crataegus succulenta*). David Werier noticed this, what I take to be, more southern hawthorn in the town of Hammond along NY 12. *C. succulenta* had been previously reported for the county, but that was based on a specimen of *C. macracantha*.

Closed Gentian (*Gentiana clausa*). Steven Daniel found this closed bottle gentian along the West Branch of the Oswegatchie in the town of Fowler. Previously I had assumed that the only closed gentian we had in the county was *G. andrewsii*, so now I have to keep a sharp eye out!

Prince's-Feather (*Persicaria orientalis*). An extremely showy, car-stopping smartweed found growing on a roadside in the town of Lisbon. Non-native.

Sea-spurry (*Spergularia maritima*). Found growing with other salt tolerant weedy species along the highway near the bridge to Canada in Ogdensburg. Non-native.

Japanese Spiraea (*Spiraea japonica*). This showy Spiraea was found growing in a thicket along the Partridge Run walking trail in Canton. A number of stems had apparently established themselves and were persisting despite occasional mowing. Non-native.



Spiraea (*Spiraea x vanhouttei*). A robust clump of this showy Spiraea was found very near the shore of the St. Lawrence River west of Ogdensburg in a floodplain forest, as though it had washed in with the wind and waves, perhaps from some camps upriver. Non-native.

Blunt-lobed Woodsia (*Woodsia obtusa*). It was quite a surprise to find a new fern for the county. This Woodsia is larger than our more common rusty Woodsia (*W. ilvensis*) and was growing on a limey rock face in the town of DeKalb



Opened flowers of *Gentiana andrewsii* (left) and *G. clausa* (right).

Answers to fruit and leaf quiz: 1-E (*Sicyos angulatus*, Bur-cucumber) , 2-F (*Echinocystis lobata*, Wild Cucumber), 3-B (*Abutilon theophrastis*, Velvet-leaf), 4-A (*Chenopodium album*, Lambs-quarters), 5-C (*Atriplex patula*, Orache), 6-D (*Malus pumila*, Apple)

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