

**New York Flora  
Association Newsletter  
Fall 2019**

**Editor's Note:** Despite the cancelling of all field trips and workshops this summer, it turned out there was no dearth of articles for this newsletter. As you'll see, the coronavirus did not stop botanizing in the state: this issue is packed full of stories which showcase some of our members' favorite places and botany adventures. Thanks to all who contributed, and if you have a botanical story you'd be willing to share, please do so; send it to the editor at [editor@nyflora.org](mailto:editor@nyflora.org).

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Editor: Anne Johnson



## Botanical Finds on the Sands of Eastern Irondequoit Bay

by Kyle J. Webster

Standing on the bluffs overlooking Irondequoit Bay, I like to imagine what this landscape looked like in the 1600's - old growth trees, alder swamps, rich wetlands, and oak openings. Standing on a little patch of sandy bluff, you can get a taste for what one of those oak openings may have been like. If you squint.

Located on the eastern shore of Irondequoit Bay, on deep sandy soils, a remnant oak opening occurs on a property called the Webster Well Field Area. Owned by the Town of Webster, this property has an interesting past, from being an Onöndawá'ga (Seneca) thoroughfare to the first public water source for the town, and being raffled off in 0.17 acre lots in the 1920s, and now its current state as an unofficial park used by locals.

For the past couple of years, I've been exploring this area and each time I seem to turn up an exciting new find. For such a small area that has been so degraded, it still hosts an impressive number of rare and interesting plants. Unfortunately, many of these populations seem to be in a bad way, many with only a few plant occurrences that tend to be over browsed by deer and in general losing habitat due to lack of fire and the encroaching invasive species.

On the main path into the property, after passing through a thicket of pale swallow-wort (*Vincetoxicum rossicum*) and burningbush (*Euonymus alatus*), you come upon small openings dominated by little bluestem (*Schizachyrium scoparium* var. *scoparium*) in the oak forest. Here you can find many treasures, including: butterfly weed (*Asclepias tuberosa*), Drummond's rock cress, (*Boechera stricta*, state-threatened), Muhlenberg's sedge (*Carex muehlenbergii* var. *muehlenbergii*), shaved sedge (*Carex tonsa*), hairy bedstraw (*Galium pilosum* ssp. *pilosum*) and wild lupine (*Lupinus perennis* ssp. *perennis*, state-rare).



*Asclepias tuberosa* (left) and *Lupinus perennis* (right).



*Boechera stricta*

Keeping on the paths and heading back into the woods, you come across another opening where there is a small, and a bit battered, population of the hairy small-leaved trick trefoil (*Desmodium ciliare*, state-threatened). I was lucky enough to catch it blooming one day (see below), though most of the time it seems to be disturbed by four-wheeler traffic before flowering.



*Desmodium ciliare*

Heading towards the lake, you eventually reach the bluff and forested slope. While it can be a little tricky to navigate the steep slopes, it is worth the trek to enjoy views of the bay while botanizing. In spring the bluffs can be colorful with the blooming maples (*Acer* spp.), budding oaks (*Quercus* spp.), and flowering shadbush (*Amelanchier* spp.).





*Amelanchier* spp.

Heading south along the lake bluff, you pop out in my favorite spot: the open sands next to the town property. The oak forest was recently cleared and leveled by a developer, but for the past three years no development has taken place. This is the most exciting area floristically and it has been interesting to observe the changes over the years; the area starting from almost bare sand and very immature plants succeeding to mature plants filling in the sandy gaps.



This spring I set out to find arrow-leaved violet (*Viola sagittata* var. *sagittata*) in the Monroe County area. None had been reported previously, but since we have plenty of sandy spots, why not? Of course, the Well Fields did not fail to deliver. In the exposed sand of a recently cleared area, I was able to locate one plant. After another hour of walking in spirals I could not find any more.



*Viola sagittata* var. *sagittata*



Returning a little later in the summer, you can find scattered patches of woodland sunflower (*Helianthus divaricatus*), eastern flat sedge (*Cyperus lupulinus* ssp. *macilentus*), Schweinitz's flat sedge (*Cyperus schweinitzii*, state-rare) and hoary mountain mint (*Pycnanthemum incanum* var. *incanum*).



*Helianthus divaricatus* (left) and *Pycnanthemum incanum* var. *incanum* (right).



*Cyperus lupulinus* ssp. *macilentus*

Fall is also a great time to visit this spot, when the fall witch grass (*Digitaria cognata*) is turning purple, its inflorescences like little clouds dotting the sandscape, and purpletop (*Tridens flavus* var. *flavus*) is in full bloom, with its royal purple florets, cream colored anthers, and almost black feathery stigmas swaying in the wind.



*Tridens flavus* var. *flavus*



Gray goldenrod (*Solidago nemoralis* ssp. *nemoralis*) has established itself on the sand and when I was out early in the morning, I discovered it apparently was a good spot for a bumble bee to rest overnight.



You can also find bunches of long-spined sandbur (*Cenchrus longispinus*), sandbar lovegrass (*Eragrostis frankii*), tufted lovegrass (*Eragrostis pectinacea* var. *pectinacea*), hairy bush clover (*Lespedeza hirta* ssp. *hirta*), and sand dropseed (*Sporobolus cryptandrus*) here in the fall.



Close-ups of *Eragrostis pectinacea* var. *pectinacea*.

Currently, there are no plans for the Well Fields, though development has been proposed in the past and is happening in adjacent areas. A non-profit organization, the Well Field Preservation Commission, has been formed to advocate for the protection of this special place. And special it is, as this patch of sandy habitat is a rare glimpse of an oak opening with deep sands that is rarely seen in the greater Rochester area. Once prevalent, most have been developed or degraded beyond recognition. For more information on the non-profit and the Webster Well Fields Area, check out their website:

<https://sites.google.com/site/websterwellfield/>.



## Stories from the Herbarium

### The Power of the Virtual Herbarium

by Steve Young, New York Natural Heritage Program

Recently I was going through the Natural Heritage Program records of *Oxypolis rigidior*, stiff cowbane, a rare plant in the carrot family that is known historically from the coastal plain of New York. One of the records was transcribed in 1985 by Bob Zaremba from a specimen of E.S. Burgess from Spring Lake, collected on August 27, 1880, and housed at the New York Botanical Garden Steere Herbarium. Sanford Burgess was a well-known botanist who at the time made many collections in the northeast US, which he deposited at Hunter College in New York City (Howe 1928). Bob did not map the specimen, because at the time the label was transcribed, there was no county recorded for it and there is more than one Spring Lake in New York. There is one in Allegany County, Nassau County, Rensselaer County, Suffolk County, Westchester County, and a Spring Lakes in Dutchess County.

In the past I would have gone to the Steere Herbarium and looked at the specimen label again or asked someone at the herbarium to take a look at it for me. But now, I can go to the internet and look at the actual specimens that have been scanned to the Steere Virtual Herbarium and the data transcribed to their database. When I looked at the label for the *Oxypolis* (Figure 1), there was a small portion of the original label that I assume was written by Burgess in pencil and later transcribed to the large white label from Hunter College with a location of Spring Lake, New York. Maybe they assumed that Spring Lake was in New York because the specimen was in the Hunter College herbarium. The state was not written on the original label. Later, someone wrote Rensselaer County on the label because I assume they looked at maps that showed Spring Lake in that county. Since *Oxypolis* is coastal I had my doubts that this was correct so I thought if I looked at other specimens that were collected by Burgess on the same date, there might be more information about where he was.

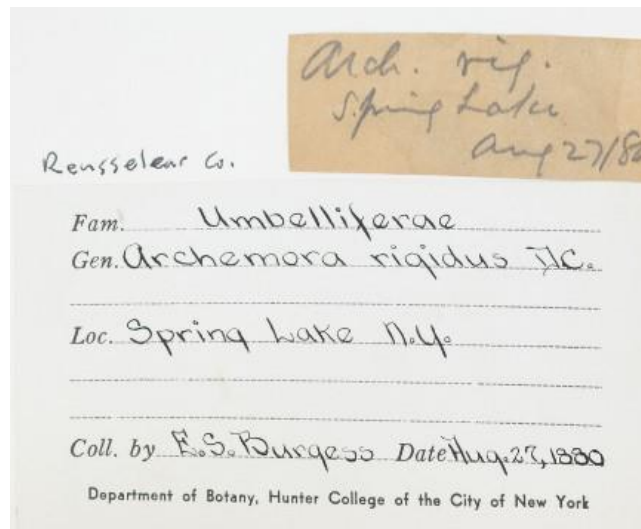




Figure 1. *Oxypolis* label.

This is where the power of the virtual herbarium's data comes in handy. I used the advanced search feature to see what else Burgess collected on the same day (Figure 2). He collected a *Rhynchospora* in Spring Lake (no state on his label) but also a *Botrychium dissectum* on the mainland of New Jersey opposite the barrier beach town of Sea Bright (Figure 3). It just so happens that Spring Lake is a town about 20 miles to the south of Sea Bright in New Jersey. In 1880 it would have been possible to collect in those two places



on the same day either by train (there were railroads on that part of the coast in 1880) or by horse. In Howe’s article about Burgess’ life, it states that he moved from the village of Franklin, in Delaware County, New York, to Johns Hopkins University in the fall of 1880, so he may have collected these plants on his way south (Howe 1928). I believe Burgess collected the *Oxypolis* plants in New Jersey, where it is common, and not in New York where the Spring Lakes on Long Island would have been too far from Sea Bright to reach on the same day. Without the power of the virtual herbarium looking at the dates, the only way I could have known he was in Sea Bright on the same day was if I had examined his field notebooks - if they even exist. I could not have located the other specimens in the herbarium in the traditional way. Not only does the virtual herbarium protect the specimens from being handled too often, but it is also a powerful tool to solve mysteries like this one.

**NYBG** STEERE HERBARIUM

Home Discover Collections Science Digital Index Herbariorum Virtual Herbarium News  

<a href="#">Sceptridium dissectum</a> (Spreng.) Lyon	E. S. Burgess s.n.	27 Aug 1880	United States of America	New York	opposite Seabright	—	3526979		<input type="checkbox"/>
<a href="#">Oxypolis rigidior</a> (L.) Raf.	E. S. Burgess s.n.	27 Aug 1880	United States of America	New York	Spring Lake	—	3497700		<input type="checkbox"/>
<a href="#">Oxypolis rigidior</a> (L.) Raf.	E. S. Burgess s.n.	27 Aug 1880	United States of America	New York	Spring Lake	—	3497699		<input type="checkbox"/>
<a href="#">Rhynchospora</a> capitellata (Michx.) Vahl	E. S. Burgess s.n.	27 Aug 1880	United States of America	New York	Spring Lake	—	2885869		<input type="checkbox"/>

Figure 2. Burgess specimens.

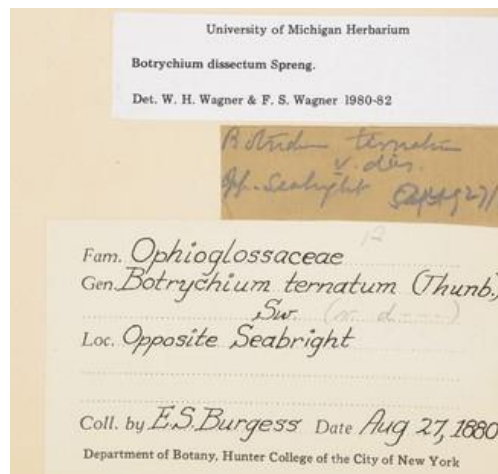


Figure 3. Seabright label.



## Field notes from the Rockefeller State Park Preserve

by Patricia Butter, September, 2020



Inflorescence of *Paspalum laeve*. The Rockefeller State Park Preserve, Westchester County, NY. September 18, 2020.

“...there is a little valley or rather lap of land among high hills, which is one of the quietest places in the whole world.” Washington Irving

It is often astonishing for travelers driving through the suburbs of Westchester 30 miles north of New York City to suddenly find themselves surrounded by the over 400 acres of rolling pastures and 1,350 acres of woodlands of the Rockefeller State Park Preserve. This pastoral landscape of gently descending slopes from an elevation of 716 feet on Buttermilk Hill to the banks of the Hudson River in Sleepy Hollow still retains some of the peace and mystery from the time of Ichabod Crane’s famous ride. The gentle curves of 45 miles of carriage trails designed by Frederick Law Olmsted draw visitors through sundrenched fields with generous views and one of the largest remaining oak – tulip tree forests in New York State. This land was donated to the state of New York by the Rockefeller family, who made the hamlet of Pocantico Hills their home since 1893. Known to have been farmed since Frederick Philipse received a royal charter in 1693 for 52,000 acres of surrounding lands and built his mill where the Pocantico River empties into the Hudson, these are truly “old pastures”.

The plant communities in these old pastures contain introduced species planted for forage, such as: timothy (*Phleum pratense*), orchard grass (*Dactylis glomerata*), tall fescue (*Schedonorus arundinaceus*), and yellow foxtail (*Setaria pumila*), together with nitrogen fixing clovers (*Trifolium* spp.), vetches, (*Vicia* spp.) and generous helpings of weedy species, such as English plantain (*Plantago lanceolata*), and yellow toadflax (*Linaria vulgaris*). The conventional agricultural practices of the 85 years when the Rockefeller dairy and Hudson Pines Farm maintained cattle on the grasslands and mowed the fields for hay allowed these species to flourish.

In 2019, the estate of David Rockefeller donated 346 acres of pasture to the state park. These pastures are now cooperatively managed with The Stone Barns Center for Food and Agriculture, also established by Mr.





Rockefeller, with the intention of implementing successional grazing management practices to promote greater biodiversity of both flora and fauna. Within a year of implementing these changes, bobolinks have returned to nest in the pastures for the first time in 40 years, and swaths of colorful native grasses have responded to the opportunity to regenerate.

The diversity of flora in the unmaintained margins, wet areas, and hedgerows of these pastures are real treats for native plant enthusiasts. There are colorful grasses: purpletop (*Tridens flavus*), little bluestem (*Schizachyrium scoparium*), Indian grass (*Sorghastrum nutans*), rice cut grass (*Leersia oryzoides*), and purple love grass (*Eragrostis spectabilis*). Wet sedge meadows are populated with sallow sedge (*Carex lurida*), fringed sedge (*Carex crinita*), soft rush (*Juncus effusus* ssp. *solutus*), common wool grass (*Scirpus cyperinus*), *Carex* sect. *Ovales*, swamp milkweed (*Asclepias incarnata*), sensitive fern (*Onoclea sensibilis*), and golden ragwort (*Packera aurea*).

Interestingly, it is the occasionally disturbed areas with poor soil that hold some of the most unique species. Last fall, I found a seed head of an unusual looking grass in one of these meadows. Don't tell Lauren Brown (co-author of the newly released *Grasses, Sedges, Rushes: An Identification Guide*), but I "top snatched" it and brought it home for examination. With the help of botanist Zihao Wang through the iNaturalist platform, we were able to determine that this grass is field bead grass (*Paspalum laeve*), a species ranked S2, endangered in the state of New York. After we had identified the grass, it promptly snowed and we were unable to locate more of that species for the duration of the winter. Spin forward a growing season, and as I write this, the grasses are blooming and we have counted over 300 plants of it scattered through the pastures from Rockwood Hall near the Hudson to a small meadow on the top of Buttermilk Hill. The grass is found surrounded by communities of species, such as its sibling thin paspalum (*Paspalum setaceum* var. *muhlenbergii*), purpletop, horse nettle (*Solanum carolinense* var. *carolinense*), English plantain, and purple lovegrass.

We learned to distinguish the two species of *Paspalum* by examining the size and arrangement of the spikelets. In *P. laeve*, the spikelets are 2.3 – 3.3 mm long, solitary at each node, and often arranged in two distinct rows. In *P. setaceum*, the spikelets are smaller (1.4 -2.5 mm long), and paired at each node, having a slightly crowded, jumbled appearance. (Haines, 2011).



The spikelets of *Paspalum laeve* are solitary at each node (left) while the spikelets of *Paspalum setaceum* var. *muhlenbergii* are paired at each node and the lower lemmas usually with a midvein (right). (Haines, 2011).



This summer we also found another uncommon species that likes mesic meadows with human disturbance: Bush's sedge (*Carex bushii*), ranked S3 in New York State. This species stands out in the field with inflorescences borne on long stems and a bisexual uppermost spike. The carpellate scales have awns that are 0.5 – 2mm long, the perigynia are sparsely pubescent, papillose, and terete in cross-section (Haines, 2011). Thus far we have found just a small population in one meadow. Timing will be key in searching for more next year, since the perigynia disperse from the seed head by mid-July.

These fields keep drawing us back for more as their untold history quietly unfolds. Under the thoughtful and careful management of the teams at the Stone Barns Center and the Rockefeller State Park Preserve, the prospects for regeneration and improving biodiversity look as bright as a sunny Fall afternoon in a windswept meadow.



Inflorescence of *Carex bushii*, Bush's sedge with seed bugs. The Rockefeller State Preserve, Westchester, NY. July 21, 2020.

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## ***Phyllanthus tenellus*, Mascarene Island Leaf Flower, growing spontaneously in New York City**

by Susan J. Hewitt and Daniel Atha

Monitoring efforts of the spontaneous vascular plant flora of New York City by staff and volunteers with the New York Botanical Garden's New York City EcoFlora project has resulted in the discovery of numerous new city, state and even continental North American records. Discoveries included the far eastern smartweed, (*Persicaria extremiorientalis* (Vorosch.) Tzvelev) (Atha et al. 2010) and *Hydrocotyle batrachium* Hance (Atha 2017), both of which were new for North America. Some were novelties and may be exotic species escaped from cultivation and potentially invasive, such as the Italian Arum, (*Arum italicum* Mill.) (Atha et al. 2017). Others are rediscoveries of plants not seen for over a century such as flixweed, (*Descurainia sophia*) (Hewitt et al. 2020). The first author is particularly focused on finding spontaneous plants that are potentially new and may be just beginning to become established. The subject of this article is a case in point.

Here we report the occurrence of spontaneous populations of *Phyllanthus tenellus* Roxb., discovered in Manhattan (New York County), New York in 2020. This species is not currently reported as occurring in New York State in the NY Flora Atlas (Weldy et al. 2020; Werier 2017).

*Phyllanthus tenellus*, common name Mascarene Island leaf flower, is an annual herb in the Phyllanthaceae family (formerly a subfamily in the Euphorbiaceae). It is native to the Mascarene Islands (Mauritius and Réunion) and possibly elsewhere around the Indian Ocean (Levin 2016).

This erect herbaceous plant typically has a single stem to about 50 cm tall; stems glabrous, terete; leaves on petioles 0.5–0.8 mm long; stipules present, persistent; blades elliptic to obovate, 0.6–2.4 cm long and 0.4–1.1 cm wide, the apices acute or obtuse, the bases cuneate or rounded, pale beneath; inflorescences in minute cymules, proximally bisexual, distally reduced to a single pistillate flower; pedicels slender, 2.5–8 mm long;

capsules depressed globose, glabrous 1.7–1.9 mm diameter; seeds trigonous, 0.9 mm long, minutely sculptured (Levin, 2016).

The species is naturalized in many tropical and subtropical areas of the world, often in disturbed sites such as flower beds, gardens, roadsides, etc. In North America, the species is reported from scattered localities from Florida to Texas, north to Tennessee and North Carolina (USDA NRCS 2020; Kral 1981). In Ohio it was reported growing around the greenhouses on the Miami University campus in Oxford, Ohio where it was said to be “robust and spreading” (Vincent et al. 2011).

On September 20, 2020, the first author found the species growing wild in Tompkins Square Park, New York County (Manhattan), New York (iNaturalist observation number [60249235](https://www.inaturalist.org/observations/60249235)). The large plant (Fig. 1) was in flower and fruit (Fig. 2).



Figure 1. Whole plant.



Figure 2. Fruiting branch, note persistent stipules.



On September 28, the first author found a smaller plant in flower (Fig. 3), growing wild at the edge of plantings on west 59th Street (iNaturalist observation number [61159373](#) and herbarium voucher *Daniel Atha 16176* (NY)).



Figure 3. Plant with flowering branch.

On August 3, the plant was observed growing spontaneously at Rockefeller Park, New York County (Manhattan), near the Hudson River (iNaturalist observation number [55267837](#)).

Seedlings or saplings of black locust (*Robinia pseudoacacia* L.), are sometimes mistaken for this species. When not in flower or fruit, the leafy branches of *Phyllanthus tenellus* can resemble compound leaves, but the leaves are generally alternate and distichous along the stem, while the leaflets of black locust are distichous and generally opposite on the leaf rachis. In addition, *Phyllanthus tenellus* has persistent stipules (or stipule scars) associated with each leaf, whereas the leaflets of black locust are naked (no stipules).

To date, we are aware of three separate populations growing spontaneously outdoors in New York City. All three populations are in garden beds with ornamental plantings of mostly non-native species. We hypothesize that the *Phyllanthus* were inadvertently introduced with plant material imported from regions where the species is an established weed, such as North Carolina, Florida

and probably farther north.

As temperatures continue to rise in the New York City region, *Phyllanthus tenellus* is expected to join other tropical and subtropical species that are established in our flora. We are monitoring spontaneous occurrences of the congener, *Phyllanthus urinaria* L. to determine its status in the New York City Flora.

### Acknowledgements

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## Snorkeling for Isoetes

by Steven Daniel

One of my most memorable classes way back in graduate school was an ichthyology class where we snorkeled in Oneida Lake - it opened my eyes to the beauty of freshwater fishes in their natural habitat. Fast forward to 2020 - with a point and shoot underwater digital camera in hand I was snorkeling in Cedar Lake in the North Country of New York, photographing bass, sunfish and perch.



In the lake were beautiful stands of a pondweed, *Potamogeton illinoensis*, which is so common in this lake. Truth be told - *Potamogeton* had never grabbed me, despite having taken a couple of aquatic plant workshops. But in their natural habitat, as opposed to a limp specimen in a boat or tub of water, I was smitten.



*Potamogeton illinoensis*.



While snorkeling, I discovered that I would see plants that, depending on conditions, wouldn't even be visible from a canoe. For example, in nearby Trout Lake, I found a nice stand of *Potamogeton praelongus*, that was known historically, but hadn't been seen there since 1930. Note in the photograph how evident the stipules are, a key character that makes the ID relatively straightforward.



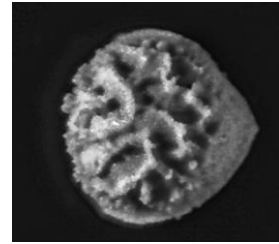
*Potamogeton praelongus*.

Another highlight of snorkeling was finding quillworts (*Isoetes* spp.). We would occasionally find some *Isoetes* while canoeing in lakes and rivers, and nearly always the ubiquitous one - *I. echinospora*, which is easily identified by the spines on the megaspores.

In New York, quillworts typically grow in shallow water, up to 1 m or more, but they nevertheless can be hard to find. While snorkeling, however, they can stand out. I started finding some that were not *I. echinospora*...but what were they? This is where things get quite technical and having an Isoetologist to count on is a great help. Enter Dan Brunton, one of the authors of the FNA treatment of *Isoetes*, who happens to be quite interested in and helpful with any *Isoetes* questions we may have. From my pictures he could make an educated guess - but it was much better to have the specimen in hand so he can take careful measurements (in  $\mu\text{m}$ ). Dan has confirmed, from specimens I sent, that we have turned up our second record for *Isoetes macrospora* (formerly *I. lacustris*) and a new county record for *I. tuckermanii*.



*Isoetes tuckermanii* from Pansy Pond, Aldrich Wild Forest



*I. tuckermanii* megaspore showing reticulate ornamentation

*Isoetes macrospora* from South Creek Lake, Aldrich Pond Wild Forest



Snorkeling in lakes, ponds, and rivers is not without its hazards. Yes - I've picked up leeches and come face to face with snapping turtles. But it is totally worth it...and definitely no ticks to worry about!



## New, Noteworthy, or Otherwise Interesting Wild Plants of New York State Found During a Late July to Early August Field Trip

by David Werier

I have been traveling around New York (NY) this growing season as part of my ongoing studies of the flora of the state, currently focusing on grasses (more on that another time). In late July through early August, 2020 I visited areas in the eastern and southeastern part of the state. It was an exciting and productive trip, so I thought I would share some of the highlights.

On my way out of town I passed through the village of Owego in Tioga County. An active railroad line runs through the town and when I passed by the railroad I decided to stop and poke around (aka botanize). The area is in the middle of the village and is surrounded by residential housing with sidewalks so the area is more of a residential neighborhood than a railroad yard. I quickly found the grass *Eragrostis pilosa*, Poaceae (27 Jul 2020, D. Werier 6446, BH, duplicates to go elsewhere), which can closely resemble *E. pectinacea*. The two species (*E. pectinacea* and *E. pilosa*) are weedy and common in disturbed areas in NY. The former is native and the latter is nonnative in the state. They have at least the larger spikelets elongate with numerous (> 6) florets per spikelet and often (but not always) have many of the pedicels and upper panicle branches appressed against the main panicle branches making spotting these species relatively easy. In the past, authors differed in how they circumscribed these species and there was confusion regarding the appropriate name to use for each taxon. Additionally, previous authors recognized a third species that is now considered to simply be part of the morphological variability of the two species. Koch (1974) settled these issues but problems still linger in previously determined herbarium specimens. I find that the most reliable and easy to use character to distinguish the two species is the relative length of the first glume to the first lemma. In *E. pilosa* the first glume does not even come close to reaching the middle of the first lemma, while in *E. pectinacea* the first glume about reaches or surpasses the middle of the first lemma. For some reason, I find the tiny first glume of *E. pilosa* very cute and whenever it comes in focus behind my hand lens it makes me smile. Does it make you smile too?



Upper portion of inflorescence (left) and spikelet (right) of *Eragrostis pilosa* var. *pilosa*.

I soon noticed numerous different species in *Euphorbia* section *Anisophyllum* (formerly placed in the segregate genus *Chamaesyce*), Euphorbiaceae and started to look closely. Section *Anisophyllum* is quite diverse in North America (Steinmann et al. 2016) and in recent years a couple of species from that section have been found in NY for the first time (Lamont et al. 2014, Atha et al. 2018). There have also been reports of a few species from the state, which to date I have not been able to substantiate (Werier 2017). In Owego I observed the NY native *E. maculata*, the most common species in NY, as well as another NY native *E.*





*nutans*. *Euphorbia nutans* grows upright versus prostrate; a prostrate growth form is the more typical condition for NY species within section *Anisophyllum*. Then I noticed another species that I wasn't familiar with. One thing that drew me in was the styles, which appeared deeply divided. *Euphorbia maculata* has the styles only divided near the apex. Could this be *E. humistrata*, a species whose name was long misapplied to *E. maculata*? Upon closer examination I was able to determine that the mystery plant was *E. prostrata* (27 Jul 2020, D. Werier 6445, BH, duplicates to go elsewhere). The distribution of hairs on the capsules is distinctive with the edges having long spreading hairs and the regions between the edges being glabrous to sparsely hairy. I observed numerous individuals all somewhat closely associated with the railroad bed. *Euphorbia prostrata* was not reported from NY in recent publications covering the state (Steinmann et al. 2016, Werier 2017, Weldy et al. 2020) although Jiménez-Mejías (2017) reported this species from a range that included NY (i.e., MA to SD, WY, and UT, south to FL, TX, AZ, and CA) but did not specifically note it from NY. Also, Erik Danielsen, a friend and colleague, made an observation of this species from Chautauqua Co., NY on 19 October 2019 and posted it with an image on the website iNaturalist on 6 January 2020 (Danielsen 2020). He originally thought it was *E. maculata*, which makes sense because the two species are superficially similar and *E. maculata* is very common in NY, but Nathan Taylor soon annotated the observation to *E. prostrata*, which as best I can tell from the image seems correct. Nathan Taylor is a student of section *Anisophyllum*; you can hear him on a recent interview he did with the In Defense of Plants podcast. This species is native to tropical America and possibly the southern United States (Steinmann et al. 2016) and should be considered nonnative in NY. So it looks like NY's flora now includes another member of *Euphorbia* section *Anisophyllum*; keep your eyes out for it.



Whole plant (left) and capsule (right) of *Euphorbia prostrata*.

I wasn't making much progress on my trip but was having fun nonetheless. Onward. My next stop was in northern Dutchess Co. at The Nature Conservancy's Thompson Pond Preserve. Here I found many interesting grasses although nothing unexpected. In the pond I found the NY native *Lemna turionifera*, Araceae, (Dutchess Co., 29 Jul 2020, D. Werier 6454, BH). I mention this because this species is currently on the NY Natural Heritage Program's (NYNHP) rare plant status lists (Young 2019) as an S1S3 species. In other words, currently we only have documentation for a few populations in the state but there are likely more. I have been finding it everywhere I travel in the state. This species is similar to another NY native, *L. minor*, which is the most common species in the state. I find that the easiest way to separate the two is by



noting the color on the lower surface of the thalli. In *L. turionifera* the lower surface develops an anthocyanic (i.e., pink or red) cast versus green or brown in *L. minor*. Sometimes the anthocyanic coloration is limited to near where the roots arise but sometimes it covers the entire lower surface.



*Lemna turionifera* lower surface (left and center), and upper surface (right).

My next stop was Queens Co., NY in the heart of New York City (NYC) where I searched for the NY nonnative grass *Calamagrostis macrolepis*, Poaceae. This species is closely related to *C. epigeios*, another NY nonnative species and had previously been considered a subspecies of it. Current thinking is that the two are indeed distinct at the specific level (Shenglian and Phillips 2006, Paszko and Ma 2011, Paszko 2013) although the taxonomy of the *C. epigeios* complex is still in need of further revision (Paszko and Ma 2011, Saarela et al. 2017). *Calamagrostis macrolepis* differs in having the spikelets longer, 6.5-9.5 mm long and the glumes greatly unequal in length, 1-2.2 mm different versus spikelets shorter, 3.6-6.0(-7.5) mm long and the glumes subequal in length, at most < 1 mm different for *C. epigeios*. In Aiken et al.'s (1989) wonderful review of the introduction of *C. epigeios* in North America they mentioned that *C. macrolepis* was introduced at only one site in North America, this being Queens Co., NY. The site is along the edge of the East River about ½ mile north of the Queensboro Bridge. Joseph Monachino first collected the species from this site (16 Sep 1937, *J. Monachino 372*, NY!) and noted (as *C. epigeios*) that it occurred as “a weed in dense showy colonies” (Monachino 1940). This species was next collected from this site by Beals (6 Oct 1945, *A.T. Beals s.n.*, PH!) who noted on his specimen label that the site was the “yard of [a] marble processing plant” and that this species was “considered to have been introduced as packing in shipment of marble from Carara, Italy about 1896.” Aiken collected it next (15 Nov 1987, *S.G. Aiken s.n.*, CAN 528827, NY!) and Aiken et al. (1989) noted that “the grass was persisting sporadically along the eroding river bank for a distance of at least 100 m but was not present on more stable ground.” Using Google Earth from my home office I thought I could make out a patch of this grass right on the eastern edge of the East River where the Roosevelt Island Bridge crosses. This is about where this species was collected previously and that is where I ended up going. Immediately upon arriving at the site I saw *C. macrolepis* growing in a weedy garbage strewn area just above the East River under the Roosevelt Island Bridge and made a collection (Queens Co., 30 Jul 2020, *D. Werier 6458*, BH, duplicates elsewhere). There were a couple of large patches including one that was in riprap on the edge of the river immediately below the bridge. Much of the adjacent area is private and industrial and due to the COVID-19 pandemic I did not



pursue getting permission to enter. I did search farther to the north but found no additional patches. There are a number of questions left to answer with this species in North America. First, it would be nice to do more extensive searches up and down the East River to determine the actual size of the population. Second, Aiken et al. (1989) noted a couple of other populations in North America (one in Manitoba and one in Ontario) that may also be this species. Further work is needed to determine if this is in fact the situation. And third, according to Paszko and Ma (2011) this species is not known from as far west in Eurasia as Italy, the suspected origin of the Queens Co. plants. Did the Queens Co. plants indeed come from Italy?



*Calamagrostis macrolepis* habitat (left) and inflorescence (right).



*Calamagrostis macrolepis* habitat (left) and spikelet (right).

While searching for more patches of *Calamagrostis macrolepis* in Queens, I encountered another grass of interest, *Bromus catharticus* var. *catharticus*, Poaceae (Queens Co., 20 Jul 2020, D. Werier 6460, BH, duplicates elsewhere), a native of South America (Pavlick and Anderton 2007). *Bromus catharticus* is in



section *Ceratochloa*, which is defined in part by having strongly laterally compressed spikelets that are folded over the back and V-shaped in cross-section at least distally versus dorsally or moderately laterally compressed spikelets that are rounded over the back and U-shaped in cross-section in all other *Bromus* sections (Pavlick and Anderton 2007). The only other member of *Bromus* section *Ceratochloa* that is known from outside of cultivation in NY is *B. carinatus* var. *carinatus*, a species native to western North America (Pavlick and Anderton 2007). In NY, *B. carinatus* has not become naturalized (Atha and Wang 2019). Among other characters, *B. carinatus* var. *carinatus* differs by possessing long awns, awns 8-17 mm long versus lacking or possessing short awns, awns 0-3.5 mm long in *B. catharticus* var. *catharticus*. The *B. catharticus* population I found in Queens was growing scattered about in a regularly mowed lawn of a park. This grass had previously been reported to occur outside of cultivation in the state but my research to date had only found specimens of this species from NY that were or could have been from cultivation (Werier 2017). Zihao Wang, a fine botanist and naturalist who has made many important observations in the NYC region, made an observation of this species from nearby Kings Co., NY on 12 August 2019 and posted it with very nice images on the website iNaturalist on 14 September 2019 (Wang 2019a). That population also appears to be from outside of cultivation. So, *B. catharticus* var. *catharticus* appears to be naturalized in NY. It likely occurs in more sites in the state and should be sought.



Spikelets of *Bromus catharticus* var. *catharticus* (left) and its habitat (right).

I had a number of other tasks to attend to while in the NYC area including looking into a population of *Eragrostis mexicana* ssp. *virescens*, Poaceae, a native of western North America and South America (Peterson 2003). During the previous winter/spring, while working on a treatment of *Eragrostis* for NY, I reviewed a specimen I had collected in Brooklyn in 2012 (Kings Co., 9 Aug 2012, D. Werier 4570, BH). I had collected the specimen when I was out with the late Rich Kelly, one of the finest botanists and naturalists in the NYC area, looking for rare nonnatives as part of a Long Island Invasive Species Management Area (LIISMA) project (Werier 2013). Back in 2012 I had determined the specimen to be *E. mexicana* ssp. *virescens*, a species not previously reported from the state, but somehow this specimen slipped through the cracks and I did not get this species into my recent Catalogue of the Vascular Plants of New York State (Werier 2017). As I reviewed the specimen this past winter/spring I was reminded that the specimen came from a large fill pile and I wondered if the species was simply an ephemeral introduction that had since disappeared. Thus the need to revisit the site to determine if the grass was still around. It didn't take long to re-find the population. There were 100's of plants covering acres and I didn't even fully



delineate the population. The plants grew in a weedy disturbed area, which in part was an area where an old dirt road occurred. It also occurred in nearby open sandy areas. Growing with it were two old friends, *E. pilosa* and *E. pectinacea*. The *E. mexicana* ssp. *virescens* appeared like a taller and wider leaved version of the former two species. A couple of finer characters that distinguish these species is that *E. mexicana* ssp. *virescens* has fruits with a shallow longitudinal groove and some stems with glandular depressions or pits below the nodes versus fruits lacking longitudinal grooves and stems lacking or rarely with a few glandular depressions below the nodes in *E. pilosa* and *E. pectinacea*.



*Eragrostis mexicana* ssp. *virescens* plant (left), inflorescence (center), and habitat (right).

After a few days of botanizing in the NYC area I headed east and met up with Eric Lamont and Enrico Nardone near Oakdale in Suffolk Co., NY. We botanized along West Brook, a small tributary of the Connetquot River that had been dammed for over a century creating a shallow pond. In 2019 the dam failed exposing large flats along the stream edge. There was a large diversity of native and nonnative plants present. One species of interest was *Cyperus nipponicus*, Cyperaceae (Suffolk Co., 3 Aug 2020, D. Werier 6477, BH), an east Asian native (Naczi 2017). This species was first collected in North America in 2011 in Indiana and then again in 2016 in Connecticut (Naczi 2017). Naczi's (2017) *Cyperus* treatment for northeastern United States and adjacent Canada came in very handy because this species is not included in any other key to *Cyperus* of North America that I am aware of. *Cyperus nipponicus* is distinct from all other *Cyperus* that occur in NY by a combination of having two ranked scales, achenes lenticular/stigmas 2, spikelets  $\geq 5$  flowered, and achenes with the wider sides (not the edges) facing the rachilla (Naczi 2017). The inflorescence is composed of a dense head-like, sessile cluster of spikelets radiating out from a  $\pm$  common point and often lacks rays. There are a few bracts that project way beyond the inflorescence. It superficially resembles *C. lupulinus* ssp. *lupulinus* but differs in having the roots red and achenes lenticular/stigmas 2 versus roots not red and achenes trigonous/stigmas 3 in *C. lupulinus* ssp. *lupulinus*. The scales on *C. nipponicus* also appear shorter and closer together on the spikelets than in *C. lupulinus* ssp. *lupulinus* giving the spikelets a different appearance. This species was not reported from NY in recent publications covering the state (Tucker 2002, Naczi 2017, Werier 2017, Weldy et al. 2020). A check of the iNaturalist website revealed that there are reports with images of four populations (with 11 separate observations) of this species from NY. One from Richmond Co. observed on 4 Aug 2019 and submitted to iNaturalist on 25 Aug 2020 by Zihao Wang (2020a); two from Queens Co.: one observed on 2 Oct 2018 and submitted to iNaturalist on 25



Aug 2020 by Zihao Wang (2020b) and a second observed on 7 Sep 2019 and submitted to iNaturalist on 8 Sep 2019 by Zihao Wang (2019b); and one from Nassau Co., NY with seven observations from 16 Aug 2020 through 25 Sep 2020 and submitted to iNaturalist on 17 Aug 2020 through 25 Sep 2020 by Robert Levy (2020). The images in these reports appear to be *C. nipponicus* and it is clear that this species is well naturalized in NY.



*Cyperus nipponicus*: whole plant (left); inflorescence (center); upper portion of spikelet with one scale pulled back to reveal the achene, which is oriented such that the wide face (not the edges) faces the rachilla.

After weathering tropical storm Isaias (I slept in my car versus my tent that night) I made it to Montauk, Suffolk Co., NY, where Victoria (Vicki) Bustamante hosted me and showed me around. Two years earlier in 2018 Vicki had found a population of *Elymus glabriflorus*, Poaceae at Montauk. I determined her specimen to be *E. glabriflorus* var. *glabriflorus* (Suffolk Co., 23 Aug 2018, V. Bustamante 1389, BH!, NY) and Julian Campbell (*Elymus* worker; personal communication) confirmed my determination on a duplicate. Prior to her find there had been some reports of this taxon or *E. glabriflorus* in the broad sense from NY but I had been unable to substantiate these reports and many of these reports appeared to be based on specimens of *E. glabriflorus* var. *australis* or the relatively recently described *E. macgregorii* (Werier 2017). *Elymus glabriflorus* is morphologically similar to *E. virginicus*, *E. curvatus*, and *E. macgregorii*. They differ as noted in the key below.

- 1a. Spikes inclusive of awns 10-25(-28) mm wide; glume awns 0-10 mm long; lemmas inclusive of awns 13-31 mm long; lemma awns 0-21(-27) mm long
- 2a. Lemma awns 3-21(-27) mm long, most > 5 mm long; common plant in New York....*E. virginicus*
- 2b. Lemma awns 0-4 mm long, most ≤ 3 mm long; very rare plant in New York.....*E. curvatus*
- 1b. Spikes inclusive of awns 24-40 mm wide; glume awns (8-)10-18 mm long; lemmas inclusive of awns 26-42 mm long; lemma awns 18-37 mm long
- 3a. Spikes with 6-20 nodes; mid-spike rachis internodes 4-7 mm long; larger auricles 2-3 mm long; plants widespread in New York.....*E. macgregorii*
- 3b. Spikes with 16-36 nodes; mid-spike rachis internodes 3-5 mm long; larger auricles 0-2 mm long; plants restricted to Long Island in New York.....*E. glabriflorus*

*Elymus glabriflorus* var. *glabriflorus* has glabrous or scabrous glumes and lemmas versus glumes and lemmas pubescent for *E. glabriflorus* var. *australis*. Vicki led me to the population of *E. glabriflorus* var. *glabriflorus* that she had found. The population occurred on the edge of dense shrub and dwarfed tree thickets and a dirt road in a sandy near coastal environment. Compared to the closely related species the



spikes of this species were quite impressive due to the large size of their parts and the numerous densely packed spikelets. *Elymus glabriflorus* var. *glabriflorus* appears to be native in the state with the range continuing both northeast and south of the state (Haines 2011, Weakley 2015).



*Elymus glabriflorus* var. *glabriflorus* spike.

Vicki continued to bring me to all sorts of interesting habitats with cool plants. On my final full day at Montauk, while walking along an infrequently used vegetated dirt road that is often inundated, I noticed a grass beginning to show its inflorescences and wondered what it was. I bent down and grabbed a small piece from a large clump of the grass and quickly noticed that it appeared to be a species in the genus *Coleataenia*. I then noticed that it had relatively wide scaly rhizomes and I thought, could this be *C. anceps*? I knew *C. anceps* had only been observed/collected once before in NY by Roy Latham sometime long in the past. At the time I had thought he had collected it somewhere on the North Fork of Long Island; Montauk is on the South Fork of Long Island. I measured the spikelets and they were relatively huge! This was indeed *C. anceps* ssp. *anceps*! After looking at my notes I saw that Roy Latham had actually collected this species in Montauk in 1921. So 99 years later it was still here (Suffolk Co., 7 Aug 2020, *D. Werier 6521*, BH). I consider this species native in NY with the Montauk population the most northeastern population known. That day we found four clumps, some of which were very large. Vicki (personal communication) has since found three more clumps bringing the total to seven clumps. All of the plants occurred in the area of the road between the tire tracks where the vegetation was denser and taller. This species had been ranked SX by the NYNHP but now will be ranked S1. To the south of NY where this species is more common it has been described as “often weedy” (Weakley 2015) so perhaps it will be shown to be more widespread in the Montauk area or perhaps it will begin to spread. *Coleataenia* differs from the related genus *Panicum* by its spikelets occurring on  $\pm$  one side of the panicle branches and plants perennial versus spikelets on all sides of the panicle branches and/or plants annual in *Panicum*. *Coleataenia anceps* differs from all the other *Coleataenia* species that occur in NY by the plants having  $> 4$  mm wide, prominent, pale (sometimes tinged with red), densely scaly rhizomes and spikelets 2.7-3.9 mm long versus plants with hard non-scaly crowns, lacking rhizomes and spikelets 1.6-3.1 mm long for all the other species of *Coleataenia* that occur in NY. In addition we noted in the field that *C. anceps* had very wide leaves relative to the nearby *C. rigidula*, which is the most common *Coleataenia* species in the state.

It was certainly an exciting field trip and I could go on as I had many more interesting finds but this will have to do for now. More later!





Vicki Bustamante pointing to a large *Coleataenia anceps* plant (left) and inflorescence of *C. anceps* (right).



*Coleataenia anceps* stem (left) and scaly rhizome (right).

Special thanks to Vicki Bustamante for hosting me (and feeding me lots of delicious meals) during my visit to Montauk. I also thank Eric Lamont and Enrico Nardone for showing me around. Thanks to the New York Flora Association for sponsoring my Flora work. Thanks to the NYS Parks, NYS DEC, and the The Nature Conservancy for providing collecting permits. Thanks to the Bailey Hortorium Herbarium (BH),





New York State Museum Herbarium (NYS), and the New York Botanical Garden Herbarium (NY) as well as their curators and staff for providing space to me while I conducted my research and for protecting the collections they house. Thanks to Nathan Taylor for annotating the *Euphorbia prostrata* iNaturalist observation. And as always thanks to all the collectors and observers of the plants who took the effort to make herbarium specimens and/or post their observations on iNaturalist including Victoria Bustamante, Erik Danielsen, Robert Levy, and Zihao Wang. Thanks to an anonymous reviewer for helpful edits.

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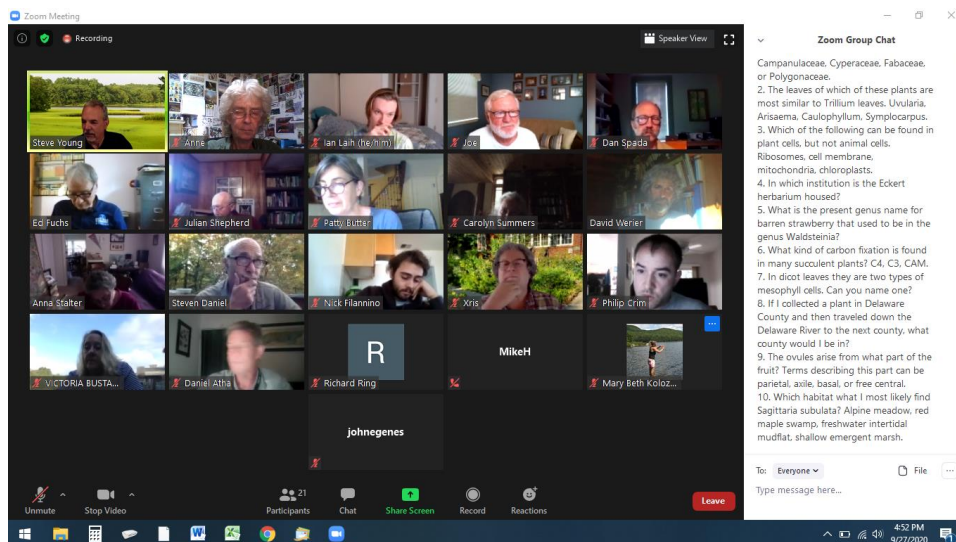
### **Botanical Notes:**

Elizabeth Lombardi, a doctoral student at Cornell, is seeking participants for an online survey about Dame's Rocket (*Hesperis matronalis*). Elizabeth writes:

*One of my doctoral projects is assessing the geographic distribution of Hesperis matronalis populations. In analyzing the spatial data, I have found a correlation between plant distribution and human population density. To tease this apart, I've conducted some in-person surveys of human aesthetic preferences for particular floral phenotypes. However, the pandemic curtailed my effort to conduct in-person interviews and so I'm asking for participation through this online survey instead. Please consider participating if you have a few minutes! Thank you in advance.*

Link to the survey: [https://cornell.ca1.qualtrics.com/jfe/form/SV\\_0U2Zh7k7wCDpyBf](https://cornell.ca1.qualtrics.com/jfe/form/SV_0U2Zh7k7wCDpyBf)

Below is a screen shot of some of the 2020 Annual Meeting attendees partaking in the plant quiz (on side bar). See the next issue for a complete recap of the meeting.





Botanical social distancing in 2020. Photo by Sally Hart.



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