NYFA New York Flora Association

Quarterly Newsletter

Summer 2019 Volume 30 Issue 3

New York Flora Association Newsletter Summer 2019

Editor's Note: We received word that former NYS Botanist and former editor of this newsletter Dick Mitchell passed away in May. A longer note will appear in our next issue, and if anyone has memories of Dick that they would like to share, please send them to editor@nyflora.org. In this issue we have a photo essay by Jackie Donnelly, a wildflower enthusiast and nature photographer who shares her nature adventures in her blog: *Saratoga Woods and Waterways*. We also have two interesting articles on new and noteworthy plant occurrences in the state, an article on a favorite fall flower, New England aster, and a report on a field trip. And of course, don't forget it is almost time for this year's Annual Meeting; see page 12 for details.

Articles Inside:

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Trillium Hanky-panky Along Bog Meadow Brook Trail

by Jackie Donnelly

Bog Meadow Trail

On a break in a long stretch of rainy days this past May, I ventured out to Bog Meadow Brook Nature Trail, which lies on the outskirts of Saratoga Springs. This approximately two-mile-long trail follows an old railroad right-of-way through a variety of wetlands, including forested swamp, open marsh, and just a wee little bit of a sphagnum-y pool that could – by a stretch of the definition – be called a kind of bog. Many parts of the trail support a rich variety of native wildflowers, but the stretch I was visiting today is known mostly for the thickets of invasive honeysuckles that crowd on both sides – except for one notable exception. For it's here in the shade of those same honeysuckles that I find every year a reliable population of Nodding Trilliums (*Trillium cernuum*). It was mid-May now, and time to pay them a visit.

Nodding Trillium, plant

I'd once been told by a state botanist that this species of trillium appeared to be disappearing from many sites where once it had thrived. But I'm happy to say that has not been the case for the Nodding Trilliums that make Bog Meadow Brook Nature Trail their home. I was not surprised, then, to find them blooming beneath the trailside shrubs, their snowy-white blooms dangling beneath their broad green leaves. But I *was* impressed to find this species thriving in greater numbers than I'd usually found before, and some plants had achieved what seemed to me to be a remarkable size, both as individual plants and in numbers that grew in a cluster.

Here were *six* plants, all growing together, and each one a plant of remarkable vigor. I usually think of this species as being more delicate in appearance than our other native trillium that inhabits this trail, the Red Trillium (*T. erectum).*

Nodding Trillium, six plants

A bigger surprise awaited just a few steps away. Here was another vigorous multi-stemmed clump of trilliums with flowers dangling down beneath their leaves, but instead of them having the expected white blooms, these had blooms of a deep rosy red. Okay, I thought, Red Trilliums do inhabit this stretch of the trail. But these flowers seemed somehow different from those of Red Trillium, an earlier blooming species whose flowers had mostly faded by now. For one thing, these reddish flowers were more drooping and with petals more reflexed than would be typical for the flowers of *T. erectum*. And the flowers were a lighter, more rosy color than the dark red typical of *T. erectum*.

Rosy hybrid, plants

When I picked up one of the blooms to examine it more closely, my puzzlement increased. *Trillium erectum* is known to have a dark-red ovary, while this one had a *white* one, although it was tinged with pink toward the curling stigma. Another anomaly could be observed in the filaments holding the anthers. The anthers of *T. erectum* are virtually sessile to the base of the ovary, while these anthers were held on the longer filaments that would be typical for *T. cernuum*.

Rosy hybrid, white ovary

For comparison, here is a close-up photo of the corresponding parts of *T. cernuum*. Note the pure-white ovary and the dark-red anthers held on longish white filaments.

Nodding Trillium, close

And here is the typical flower of *T. erectum*, with its dark-red ovary, sessile anthers, and less reflexed, darker-red petals than those of our mystery trillium.

Red Trillium, pressed

Taking all these factors into account, I suspect that our mysterious rosy trillium is quite likely a hybrid of the two species. Since the two species grow close together at this site, and their bloom times slightly overlap, it seems that cross-pollination would frequently occur. But would hybridization occur as well? That was the question!

Continuing along the trail, I noticed another anomalous trillium that beckoned to me to closely examine it. This one, with its shorter peduncle and yellowish-white flower, suggested that it might be the white-flowered variety of *Trillium erectum*, a not uncommon find at other sites, but one I had never encountered along this trail.

Pink hybrid, white back

But WHOA! While the back of this trillium appeared to be a yellowish white, the face was assuredly PINK! A kind of greenish pink, but definitely more pink than green.

Pink hybrid, hand

And again, I found an ovary more white than red, and anthers held aloft on longer filaments than would be typical of *T. erectum*. Seems like we might have another hybrid here!

Pink hybrid, sex parts

There were two white-backed trilliums close together here, and when I raised the second flower

to examine it, yet another surprise awaited! Do we call a four-parted trillium a *quad*rillium? Wow, but there sure seems to be a lot of trillium hanky-panky along this trail!

Pink hybrid, four petals

As further evidence that Bog Meadow Brook Trail is a real hotbed of trillium admixtures, I recall that five years ago I posted on my blog a photo of another oddball trillium, this one with a snowy-white flower but with a dark-red ovary.

White petals, red ovary

I had assumed that this was simply a white-flowered *T. erectum*, but here's what my friend Andrew Gibson (a professional botanist from Ohio) had to say about it when I showed my photo to him: "I have to wonder if that isn't a hybrid expressing some genes from a *T. erectum*. The red ovary and more sessile-looking anthers says *T. erectum*, but the pure-white petals, their reflexed nature, and the drooping fashion of the flower says *T. cernuum*. I've seen the white colored form of *T. erectum* plenty before, and its flowers have more of a greenish or yellowish cast. What you have here strikes me as something quite different, and I'm very suspicious of some back crossing!"

Just a year later, in 2015, I found yet another anomalous bloom during the same week (mid-May) that the Nodding Trilliums were just coming into bloom and most of the Red Trilliums were fading. This time the petals were frankly pink, the ovary also pink, and the reddish anthers were held on longish filaments.

Frankly pink hybrid

At the time, I believed this frankly pink trillium was perhaps some kind of a mutated form of Nodding Trillium. But now that I've seen so many variations on a theme of trillium along Bog Meadow Brook Trail - where both *T. erectum* and *T. cernuum* share not only the site but also an overlapping season of bloom - I could certainly be persuaded that there's some kind of gene-sharing happening here. I have heard of such hybridizing occurring between *T. erectum* and a similar drooping white trillium called *T. flexipes* in other parts of the country, so it doesn't seem beyond belief that such hanky-panky could happen here in Saratoga County.

Noteworthy Plants from Roberto Clemente State Park, Bronx, New York

by Daniel Atha, New York Botanical Garden, 2900 Southern Blvd., Bronx, NY 10458 (datha@nybg.org)
and Zihao Wang, (zihaowan@buffalo.edu)

Several plant species were found growing spontaneously at Roberto Clemente State Park in Bronx, New York that are listed as not naturalized, expected, excluded or rare for New York in the Catalogue of the Vascular Plants of New York State (Werier, 2017). The plants were found on 1 July 2017 during routine field work for the New York City EcoFlora project. The authors were surveying wooded areas and the Harlem River shoreline and passed through Roberto Clemente Park on the way. Just north of the recreation buildings and surrounded by pavement and playgrounds there were several garden beds planted with eastern North American native perennial species such as *Ilex glabra*, *Nyssa sylvatica*, *Diervilla lonicera*, *Echinacea purpurea*, *Prunus maritima*, *Rosa palustris* and others (Figure 1). In one of the beds, we noticed a large patch of a low growing herbaceous plant that did not resemble any known local species. Upon examination, it was obviously a species of *Sida* in the Malvaceae family and since there are no naturalized *Sida* known from New York, we wanted to document the plants and learn more about them. The landscape manager, Kieron Lindsay granted permission to document the plants. Examination of other beds revealed several interesting plants which we also documented and listed here.

Figure 1. One of the beds at Roberto Clemente State Park planted with native species after Hurricane Sandy. Note abundance of *Sida spinosa* in center foreground inside planting bed.

Sida spinosa L., *Atha & Wang 15940* (NY), Figure 2. We found hundreds of plants in full sun (Figure 1), most of them seedlings, but also a few mature plants with young flowers. The species is reported as "not naturalized" for New York State (Werier 2017). The species is not reported in the *State of New York City's Plants 2018* (Atha & Boom 2018).

Diodia virginiana L., *Atha & Wang 15943* (NY), Figure 3. We found only a couple of plants growing under an *Ilex verticillata* shrub. The species is reported as "expected" for New York State (Werier 2017). The species is not reported in the *State of New York City's Plants 2018* (Atha & Boom 2018).

Bromus carinatus Hook. & Arn. var. *carinatus*, *Atha & Wang 15944* (NY), Figure 4. The species is reported as "excluded" for New York State (Werier 2017). The species is not reported in the *State of New York City's Plants 2018* (Atha & Boom 2018).

Gamochaeta purpurea (L.) Cabrera, *Atha & Wang 15939* (NY), Figure 5. We found a large population consisting of dozens of individuals growing in open ground. The species is an S1 unprotected species in New York State (Young 2019). This is the first report for Bronx county. The species is reported as "pending" in the *State of New York City's Plants 2018* (Atha & Boom 2018).

Oenothera laciniata, *Atha & Wang 15942* (NY). We found several of these plants growing scattered throughout the site. It is an S1 Endangered species in New York State (Young 2019). The species was absent from the *State of New York City's Plants 2018* because portions of the Onagraceae and Orobanchaceae families were omitted during the process of producing the pdf document (Atha & Boom 2018). It has been observed and collected recently from Queens and Richmond counties.

Figure 2. *Sida spinosa*. A, whole plant. B, detail of stem at mid-cauline node with spinose appendage (see red arrow).

Hurricane Sandy struck New York City on 29 October 2012 sending the Harlem River out of its banks and submerging Roberto Clemente State Park under several feet of water. According to Keiron Lindsay, the area was planted with native species after the storm. We can only speculate on how the plants listed here came to be growing at this site. Given that there are no known populations of these species within natural dispersal distance (with the exception of perhaps *Oenothera laciniata*) and the unusual number of novelties concentrated in a small area, we hypothesize that they came with nursery material planted after Hurricane Sandy and persisted for several years up to when we found them. Perhaps some of the nursery material was purchased from nurseries south of New York where species such as *Diodia virginiana* and *Gamochaeta purpurea* are more common. Could at least some of them have come as propagules brought by the hurricane?

The populations and species reported here should be monitored to determine whether they become established.

Figure 3. *Diodia virginiana*. A, mid cauline node showing stipule and salverform corolla. B, sterile stems with crowded nodes. C, stem with elongate nodes and axillary flowers.

Figure 4. *Bromus carinatus*. A, whole plant *in situ*. B, whole plant *ex situ*. C, apical portion of inflorescence. D, close up of spikelets.

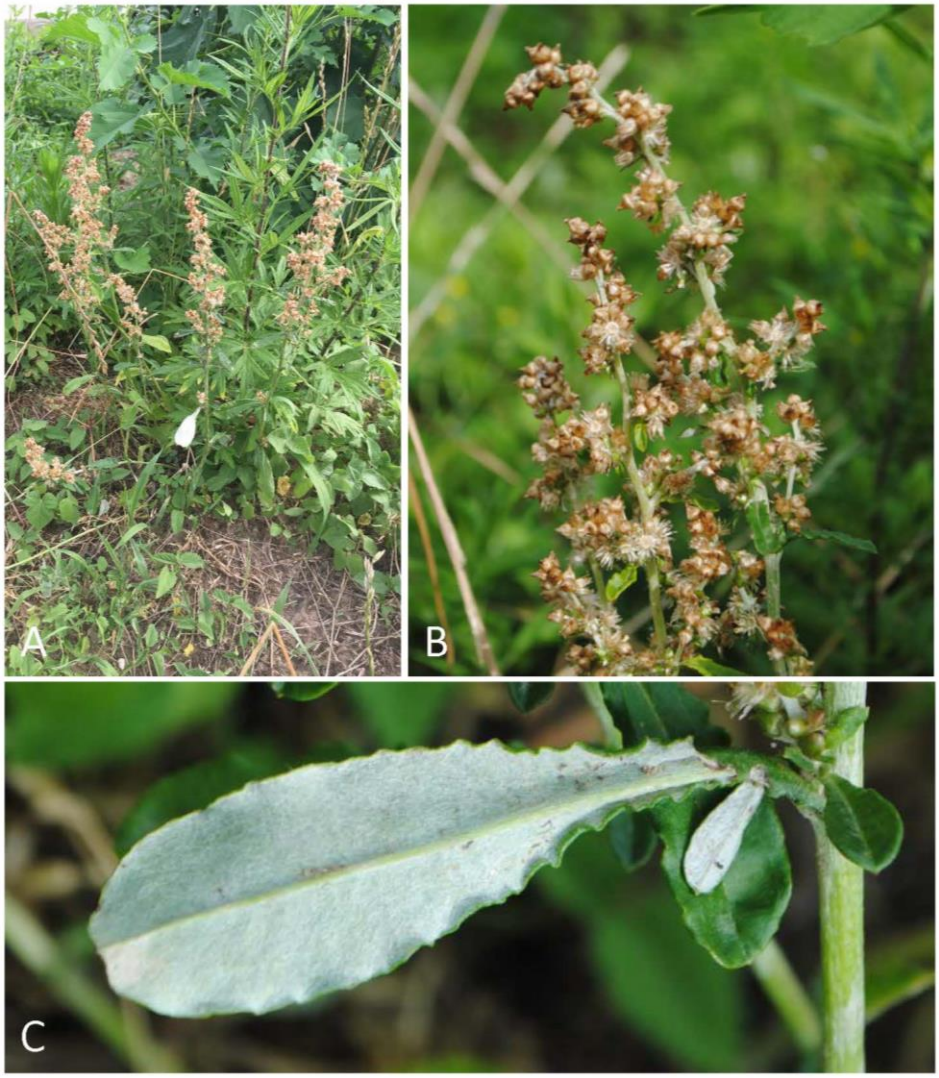

Figure 5. *Gamochaeta purpurea*. A, whole plants. B, apical portion of inflorescence. C, leaves showing strongly whitened, lanose abaxials and contrasting dark green adaxials.

Acknowledgements

We are grateful to Meryl Rubin for databasing and processing the herbarium specimens. We thank Keiron Lindsay for permission to sample plants at the Park. And we are grateful to David Werier for identifying the *Bromus carinatus* specimen and for his work on the flora of New York and his comments on a draft of this manuscript.

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Non-native Sedge Spotted at Letchworth State Park

by Kyle Webster

This May I found an extensive population of the non-native and relatively uncommon sedge, *Carex sylvatica* (European woodland sedge), in the forest behind the Humphrey Nature Center in Letchworth State Park (Wyoming County). *Carex sylvatica* was scattered throughout the forest, often forming large patches as a dominant species in the understory. Though I was not able to survey it thoroughly, the population was occurring over at least 15 acres. I also noted a small, disjunct patch on the roadside leading to the nature center parking area, indicating this species is likely more widespread in the park.

The forest behind the nature center where *C. sylvatica* occurs is a mix of early successional forest and pine plantation dominated by black cherry (*Prunus serotina*), red maple (*Acer rubrum*), sugar maple (*Acer saccharum*), white pine (*Pinus strobus*), red pine (*Pinus resinosa*) and Scotch pine (*Pinus sylvestris*). The understory is dominated by Japanese barberry (*Berberis thunbergii*), white snake-root (*Ageratina altissima*), slender false brome (*Brachypodium sylvaticum*), graceful sedge (*Carex gracillima*), woodland blue grass (*Poa nemoralis*) and brome sedge (*Carex bromoides*).

Carex sylvatica forming large, dense patches in the understory of pine plantation (above) and successional hardwoods (below).

The terminal spike of *C. sylvatica* is staminate. The lateral spikes are pistillate and pedunculate, drooping characteristically. The perigynia are glabrous, 5-6 mm in length, and have 1-2 nerves. The body of the perigynium is obovoid and abruptly contracts to form a straight beak nearly as long as the body. The basal sheaths are glabrous, brownish-green, and lack any reddish/purple coloration.

Left: *C. sylvatica* perigynium. Right: *C. sylvatica* lateral pistillate spike.

Left: basal sheaths. Right: lateral pistillate spikes and terminal staminate spike.

Carex sylvatica belongs to the section Hymenochlaenae, also known as the "woodland danglers." The section is mostly made up of woodland *Carex* that have nodding, pedunculate, pistillate spikes. Similar species with brownish-green bases and beaked perigynia in this section include *Carex sprengelii* and *C. prasina*. Key characters to distinguish the species are: *C. sprengelii* has dense, bristle like fibers on the lower leaves and basal sheaths, short-creeping rhizomes, and perigynia with more or less spherical bodies, while *C. prasina* has a perigynium beak that is short and twisted with prominent veins. Another similar species that

was co-occurring with *C. sylvatica* was *C. gracillima*. However, *C. gracillima* can be easily distinguished by its red-purple basal sheaths, beakless perigynia, and often gynecandrous terminal spike.

Carex sylvatica is one of twelve non-native *Carex* species in New York (Werier 2017). According to the NY Flora Atlas, this species is only known from 6 sites in 4 counties (Madison, Nassau, Onondaga, and Westchester). Checking the C.V. Starr Virtual Herbarium, I found two additional collections from New York County. On the USDA Plants website, it is only listed from New York, Michigan, Washington, and Canada (Ontario and British Columbia).

Based on the distribution information, it seems likely *Carex sylvatica* is more widespread than currently known. I collected a voucher specimen to document this population, and would encourage all to keep an eye out for this species and document its occurrence when found.

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New York Flora Association 2019 Annual Meeting

Sunday, August 4, 10 am - 4 pm

Letchworth State Park Octagon Shelter, Castile Entrance, Denton Corners Road Castile, NY

Activities will include presentation of the 2019 Plant Conservationist Award, botanizing at the center or other nearby sites, the Annual Meeting and 2019 Board of Directors election, Steve's Plant Quiz, and more! Lunch will be provided. RSVP by clicking on the REGISTRATION FORM by August 3. Events are open to NYFA members, past, present, and future. Friends and family welcome!

In accordance with the Organization and Bylaws of the New York Flora Association, the Nominating Committee is recommending that the following current Directors whose terms expire in 2019 return for another three-year term: Emily DeBolt, Michael Hough, Anna Stalter, Daniel Atha, Ed Frantz and David Werier. Write-in candidates are also accepted. Please cast your ballots by mail, email, or other form of technology, **prior to, or in person, at the NYFA Annual Meeting.** Electronic votes can be sent to **annualmeeting@nyflora.org**. You can find a ballot in this newsletter on page 23. Paper ballots should be sent to **New York Flora Association, PO Box 22, Albany, NY 12201**.

Directions to the Octagon Shelter, Letchworth State Park: From the village of Castile take East Park Road-Glen Iris Road, County Route 55, to a T with Denton Corners Road. Go east on Denton Corners Road to the Castile entrance of the park. Follow the park road south to the Lower Falls Trailhead Parking. The shelter is opposite the parking area beyond the Footbridge Nature Shop.

A map of the area is here: https://parks.ny.gov/parks/attachments/LetchworthTrailMapSouth.pdf

New England Aster, *Symphyotrichum novae-angliae*

by Knowlton C. Foote

In 1895 Professor Anton Kerner of the University of Vienna, after years of observing flowers, made this statement: “They show the marvel of floral construction.” As an example of this marvel, we need to go no further than a discussion of asters, and in this case, New England aster, one of the conspicuous wildflowers we see in New York State.

The striking purple and yellow flowers of New England aster are shown in photos 1 to 3. These flowers, along with their distinctive aroma, help characterize our fields in the fall - a sight and aroma well remembered by this author in his boyhood romps through fields in Central New York. Of the numerous aster species in North America, this species was described as “the showiest of the native species”, and as the most important of these horticulturally, according to James Pringle (1971), a taxonomist at the Royal Botanical Garden in Hamilton, Ontario Canada. W.P. Alexander wrote of it in 1920: “except for the goldenrod, the most conspicuous and most loved and admired wild flower of our northern hills in autumn.” This aster has a long history of cultivation on both sides of the Atlantic, and is one of the parent species of the hybrid Michaelmas Daisy.

Name and classification

The name “aster” comes from the Greek word meaning “star” and is in reference to the radiating appearance of the flower. New England aster received the botanical name *Aster novae-angliae* from Carolus Linnaeus in 1753, *novae angliae* being Latin for “of New England.” This species was reclassified by Guy L. Nesom (1994) from the genus *Aster* into the genus *Symphyotrichum*, a genus that contains about 90 species found primarily in the New World. *Symphyotrichum novae-angliae* (L.) G. L. Nesom is its full botanical name today.

About asters

The Asteraceae is a large (voluminous!) and important plant family. With well over 20,000 species worldwide, it is surpassed only by the Orchidaceae. Asteraceae life forms include trees, shrubs, vines, succulents, and herbs. These species, long known as “composites,” are found from the Arctic to the Antarctic. Composites through the ages have obviously been very successful. Their flower is known as a “head” and is composed of many smaller flowers called florets. A flower head may consist of just a few florets to as many as 1000, as in the Sunflower.

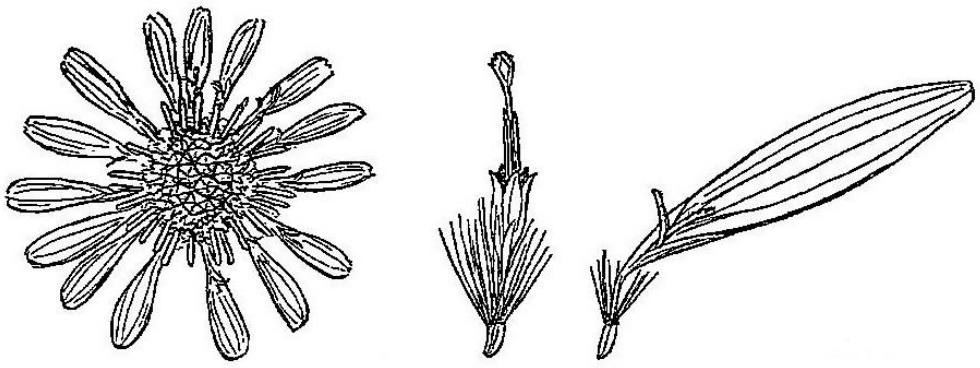

Figure 1.from left to right: an aster flower-head enlarged, a disk floret, and a ray floret (Comstock, 1939).

The head of New England aster is composed of both ray and disk florets as diagrammed by gifted nature writer Anna Comstock (1939, Fig. 1). The strap-shaped ray florets, seen radiating on the outside, are pistillate and fertile. The disk florets on the inside of the flower have both stamens and pistils and are fertile. The rays are blue to violet through various shades of purple, red, or pink and the disk florets are usually yellow, changing to red as they age. Photo 1 shows this species in a fall field of Central New York.

Photo 1. A field of New England aster in bloom in central New York in early fall.

Asters can be challenging to identify. John Torrey, coauthor of "**A Flora of North America**" in 1840 and 1843, described asters along with goldenrods as "abominable genera". Asters are identified by such features as presence or absence of hairs on stems and leaves, color of ray florets, shape and size of leaves, whether leaves clasp the stem or not, and habitat. Naturalists often know the names of three or four of the commonest asters found in New England and New York by such descriptive names as bluewood aster, smooth aster, starved aster, frostweed aster, swamp aster, crooked stem aster, arrow-leaved aster, and wavy leaf aster. From an ecological standpoint, perennial species of asters (which most species are) form an important component of nearly every terrestrial community in temperate North America. New England aster itself is often codominant and occasionally the dominant species found in our mature fall fields.

Photos 2 & 3. Close up of aster plant in bloom (left), and aster head showing reddish ray florets and yellow disk florets (right).

Habitat and range

Asters exhibit a high degree of adaptability to many different environmental conditions (Jones, 1978). New England aster shows this adaptability by the different habitats in which it is found. It occurs in moist thickets, meadows, wooded areas, and in open dry fields. It does well in calcareous (basic) soils. Wiegand and Eames (1926) noted that this species is common in heavier soils, especially the clay-gravel soils of Central New York. The different site conditions may reflect the genetic plasticity of the species or may reflect many different ecotypes that have developed within the species over time.

While the specific name "novae-angliae" implies New England, its range spreads far beyond New England into the North American continent. It is found from southern Ontario to Alabama and westward to North Dakota, Wyoming, and New Mexico (Gleason, 1991).

Description

New England aster (as are most aster species), is a perennial that blooms in the fall (August to early November) with peak bloom in September. It is not uncommon for entire fields in Central New York to be filled with the purple of this species as shown in Photo l. The stems develop from a short thick rhizome which has numerous fibrous roots with an occasional creeping shoot as shown in Photo 4.

Photo 4. Perennial root system of an aster plant, with a yard stick.

The leaves are numerous, lance or shield shaped, smooth along the edges, and 1 to 5 inches long and 1/4 to 4/5 inches wide. They lack a petiole and their broad bases clasp the stem. The lower leaves are often shed by late summer. Covering the buds and involucres are numerous small gland tipped hairs called trichomes, each 1/25 to 2/25 inches long. The trichomes are most likely the source of the fragrance of the species, playing a role in attracting pollinators.

The flower head is arranged in a loose flat topped cluster of smaller florets called a corymb (shown in Photo 2). The flat topped arrangement makes it easier for insects to visit the numerous florets, similar, for instance, to Queens Anne's Lace (*Daucus carota)* and Golden Alexanders (*Zizia aurea*). The flower head is enclosed by an involucre of 25 to 45 small green leaf-like bracts. Extending beyond the involucre are 30 to 70 bright purple rays 2/5 to 4/5 inches long (photos 2 and 3). These rays, which flare outward, show

nocturnal movements. They fold in at night to cover the head and reopen in the morning. The disk florets usually number between 47 and 77 (Reitz 1932). These tubular florets are at first cream to pale yellow in color and as they mature they become reddish. The change in pigment color may be a signal to pollinators. Both disk and ray florets produce a single seed called an achene. Achenes are 2/25 to 3/25 inches in length and weigh 0.4 mg (Wetmore and Delisle, 1939). Each achene has numerous pappus hairs 2 to 3 times the length of the achene which function in distribution (Figure 1). Ray florets produce more achenes than the disk florets even though there are more of the latter (Wetmore and Delisle, 1939). Seed production is potentially high but often severe predation occurs.

Life cycle

In the fall, buds for next spring's shoot develop from the rhizome. Some of these buds may even begin to produce short leafy shoots in the fall. One plant I examined, for instance, had a cluster of 4 stems (Photo 4). By early November this plant had produced 20 buds of short leafy shoots within two inches from the parental stem. Propagation also occurs by seeds, which normally germinate in the spring. Flowering may or may not occur the same year, depending on growth conditions.

Floral biology

In New England aster, the purple ray florets are pistillate and lack nectar but are fertile. It is easy to find the number of ray florets - just count the number of showy rays around the periphery of the flower. The yellowish disk florets, on the other hand, are bisexual, contain nectar and are fertile. Within a head, the florets mature from the outside towards the center, i.e. centripetally. The ray florets are receptive to pollen before the disk florets open and probably remain receptive longer than the disk florets (Jones, 1978).

Opening of the disk floret

Here we see the complexity and beauty of flower "construction" as described by Anton Kerner in 1895. In each disk floret there are five anthers. These anthers are joined along their lateral margins to form an "anther tube", a feature that is common to composite flowers (diagramed in Figure 1). In the center of the anther tube is a single yellow style. As this style grows, it splits into two sections. At the tip of each style section a spoon-shaped lobe develops (Figure 1). Each lobe is covered on the inner surface with many small hair-like papillae and is now receptive to pollen.

The disk floret opens in several stages. First, the anther tube elongates, pushing beyond the lobes of the corolla. Next, over a period of 1 to 2 days, the style elongates and pushes out through the anther tube. As the style, now divided into two branches, emerges from the anther tube, it pushes ahead of it a mass of sticky yellow pollen grains. Each floret of New England aster is self-sterile (Wetmore and Delisle, 1939); self-pollination in this species does not occur. Seeds may, however, be produced asexually by apomixis (Davis, 1967).

Pollinators and seed production

The list of different pollinators visiting New England aster is impressive. In Illinois, the 41 species of pollinators identified included 20 species of bees, 11 species of flies, eight species of butterflies, and two moth species (Robertson, 1929). The large number of insects visiting New England aster can partially be explained by the easy availability of nectar. The corolla of the disk floret is only about 1/6 inch deep and thus the nectar is available to many different insect species (Graenicher, 1909).

Achene production of this aster is potentially high, but not every floret produces a fruit. Jones (1978) observed that the flower heads typically contained 90 to 150 florets, but achene production rarely exceeded 30. The rather low number may be due in part to failure of pollination and or fertilization. However, there is

another cause for the low achene production - insect predation. New England aster supports a large number of uninvited guests including four achene-eating insects, the major one being the little black beetle *Phalacrus podlitus* (Loben Sels, l934). If a flower head contained just one larva of this beetle, the achenes were almost completely devoured.

Concluding thoughts

New England aster is a species to enjoy and to appreciate for the many roles it plays in our ecosystem. It is a major component of the food chain in many of our New York State fields. The plants, via photosynthesis, represent a major nutrient and energy source to this ecosystem. They supply insects with pollen, nectar, and plant parts to feed on. They provide a supermarket of seed for numerous seed eaters such as birds, mice, and voles. The decaying plant detritus is decomposed by fungi and converted into an organic form available for such invertebrates as nematodes, soil mites, springtails, pill bugs, centipedes.

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Added Note: the author would like express his thanks to talented botanist Robert Dirig for his help with botanical articles and issues over the years.

Lonesome Bay State Forest - Trip Report. May 18, 2019

by Steven Daniel

Ten botany enthusiasts and all-around naturalists gathered on May 18 at Lonesome Bay State Forest in St. Lawrence County in Northern NY. And what a trip it was! Lonesome Bay sports a variety of rocky knolls with sparse woody vegetation, while the slopes and bottomlands are carpeted with a variety of ferns and spring flowers. On the rocky tops we found several different sedges, including loads of Sprengell's sedge, puzzled over some sedge hybrids, and enjoyed seeing rock spikemoss, hairgrass, and rock elm. Not to mention the discovery of a county record for *Cerastium nutans*. On wooded, rocky slopes we found Back's sedge, columbine, Dutchman's breeches (mostly in fruit), and several species of violets including masses of Canada violet. Rich bottomlands were places with leatherwood, bladdernut, bellwort, bloodroot, and much more. Forested wetlands with pools of open water offered stunning sights of unfolding royal and cinnamon ferns, amidst hummocks of Carex bromoides.

And if this wasn't enough, the group had close up looks of a black rat snake, the rare golden-winged warbler on its breeding territory, and mustard and West Virginia white butterflies. At the end of a full day, we bumped into some folks with metal detectors who also happened to have a bag filled with pounds of morels!

The group on a rocky high point.

Lonesome Bay State Forest Plant List

Compiled by the group, an asterisk (*) indicates a non-native species

Herbaceous Plants

*Yarrow - Achillea millefolium var. millefolium
Baneberry, White - Actaea pachypoda
Snakeroot, White - Ageratina altissima var. altissima
Leek, Wild; Ramp - Allium tricoccum var. tricoccum
Columbine, Red - Aquilegia canadensis
Sarsaparilla, Wild - Aralia nudicaulis
Spikenard - Aralia racemosa ssp. racemosa
*Sandwort - Arenaria serpyllifolia var. serpyllifolia
Jack-in-the-pulpit - Arisaema triphyllum ssp. triphyllum
Wild ginger - Asarum canadense
*Rocket, Yellow - Barbarea vulgaris
Rock-cress, Smooth - Borodinia laevigata
Corydalis, Pink - Capnoides sempervirens
*Shepherd's purse - Capsella bursa-pastoris
Bittercress, Small-flowered - Cardamine parviflora
Blue cohosh - Caulophyllum giganteum
*Chickweed, Mouse-eared - Cerastium fontanum ssp. vulgare
Chickweed, Nodding - Cerastium nutans
Turtlehead - Chelone glabra
Enchanter's nightshade,Large - Circaea canadensis
Spring-beauty; Mayflower - Claytonia virginica var. virginica
*Basil - Clinopodium vulgare
*Swallowwort - Cynanchum sp.
Squirrel-corn - Dicentra canadensis
Dutchman's breeches - Dicentra cucullaria
*Vipers bugloss, Blueweed - Echium vulgare
Fleabane, Daisy - Erigeron annuus
Troutlily - Erythronium americanum ssp. americanum
Aster, Bigleaved - Eurybia macrophylla
Bindweed, Fringed - Fallopia cilinodis
*Strawberry, Woodland - Fragaria vesca ssp. vesca
Strawberry, Wild - Fragaria virginiana
*Bedstraw, Hedge - Galium album
Bedstraw, Cleavers - Galium aparine
Licorice, Wild - Galium circaezans var. circaezans
Bedstraw, Sweet-scented - Galium triflorum
Geraniuim; Cranesbill - Geranium bicknellii
*Herb-robert - Geranium robertianum
Avens, White - Geum canadense
Avens, Rough - Geum sp.
Stickseed - Hackelia virginiana
Liverleaf - Hepatica americana
Bluets, Quaker ladies - Houstonia caerulea
Bluets - Houstonia sp.
Waterleaf, Virginia - Hydrophyllum virginianum
*St. John's-wort - Hypericum perforatum
St. John's-wort - Hypericum punctatum
Jewelweed, Spotted - Impatiens capensis
Wood-nettle - Laportea canadensis
*Motherwort - Leonurus cardiaca
*Cow-cress - Lepidium campestre
*Butter-and-eggs - Linaria vulgaris
Bugle-weed, Water horehound - Lycopus sp.
Mayflower, Canada- Maianthemum canadense ssp. racemosum
Solomon's seal, False - Maianthemum racemosum
Cucumber-root, Indian - Medeola virginiana
*Black medick - Medicago lupulina
Saxifrage, Early - Micranthes virginiensis
Partridge berry - Mitchella repens
Miterwort - Mitella diphylla
Sandwort, Grove - Moehringia lateriflora
*Catnip - Nepeta cataria
Evening-primrose, Common - Oenothera sp.
Sweet Cicely - Osmorhiza claytonii
*Hawkweed, Orange - Pilosella sp.
*Plantain, English - Plantago lanceolata
*Cinquefoil, Rough-fruited - Potentilla recta
Rattlesnake Root - Prenanthes sp.
Buttercup, Kidney-leaf - Ranunculus abortivus var. recurvatus
Buttercup, Hooked - Ranunculus recurvatus
Blackberry, Common - Rubus allegheniensis ssp. strigosus
Raspberry, Red - Rubus idaeus
Raspberry, Purple-flowering - Rubus odoratus var. pubescens
Raspberry, Dwarf - Rubus pubescens ssp. pyrenaicus
*Sheep sorrel - Rumex acetosella
Bloodroot - Sanguinaria canadensis
Sanicle - Sanicula sp.
*Soapwort, Bouncing-bet - Saponaria officinalis
*Nightshade, Deadly - Solanum dulcamara var. dulcamara
Goldenrod, White - Solidago bicolor
Goldenrod, Blue-stemmed - Solidago caesia
Goldenrod, Zig-zag - Solidago flexicaulis
Twisted-stalk; Rose mandarin - Streptopus lanceolatus
Aster, Heart leaved - Symphyotrichum cordifolium
*Dandelion - Taraxacum officinale
Meadow-rue, Early - Thalictrum dioicum
Foamflower - Tiarella cordifolia
Trillium, Purple or Red. - Trillium erectum
Trillium, White - Trillium grandiflorum
Bellwort - Uvularia grandiflora
Wild-oats; Merrybells - Uvularia sessilifolia
*Mullein - Verbascum thapsus
*Speedwell, Corn - Veronica arvensis var. canadensis
Violet, Canada - Viola canadensis
Violet, American Dog - Viola labradorica
Violet, Sweet White - Viola pallens
Violet, Long-spurred - Viola rostrata
Violet, Common - Viola sororia

Ferns and Fern Allies

Fern, Maidenhair - Adiantum pedatum
Spleenwort, Ebony - Asplenium platyneuron var. platyneuron
Spleenwort, Maidenhair - Asplenium trichomanes
Fern, Rattlesnake - Botrychium virginianum
Fern, Fragile - Cystopteris tenuis

Wood fern, Spinulose - Dryopteris carthusiana
Wood fern, Crested - Dryopteris cristata
Fern, Fancy - Dryopteris intermedia ssp. intermedia
Wood fern, Marginal - Dryopteris marginalis
Horsetail, Field - Equisetum arvense
Fern, Sensitive - Onoclea sensibilis
Fern, Cinnamon - Osmundastrum cinnamomeum
Fern, Royal - Osmunda regalis var. spectabilis
Polypody, Common - Polypodium virginianum
Fern, Christmas - Polystichum acrostichoides
Spikemoss, Rock - Selaginella rupestris

Selaginella rupestris. Photo by Robert Wesley.

Trees, Shrubs, and Woody Vines

Maple, Striped - Acer pensylvanicum var. saccharum
Maple, Sugar - Acer saccharum
Maple, Mountain - Acer spicatum
Shadbush, Juneberry - Amelanchier sp.
Birch, Yellow - Betula alleghaniensis
Hickory, Shagbark - Carya ovata
Dogwood, Pagoda - Cornus alternifolia
Honeysuckle, Bush - Diervilla lonicera
Leatherwood - Dirca palustris var. communis
Ash, White - Fraxinus americana
Ash, Black - Fraxinus nigra var. virginiana
Juniper, Pasture - Juniperus communis
Cedar, Red - Juniperus virginiana
Honeysuckle, Fly - Lonicera canadensis
*Honeysuckle, Fly - Lonicera x bella
Hop hornbeam - Ostrya virginiana
Virginia creeper, - Woodbine Parthenocissus inserta
Pine, White - Pinus strobus
Aspen, Big-toothed - Populus grandidentata
Cherry, Pin - Prunus pensylvanica
Cherry, Choke - Prunus virginiana
Oak, Northern red - Quercus rubra
*Buckthorn, Common - Rhamnus cathartica var. americana
Gooseberry, - Prickly Ribes cynosbati var. racemosa
Elderberry, - Red Sambucus racemosa
Bladdernut - Staphylea trifolia
Basswood - Tilia americana
Elm, American - Ulmus americana
Elm, Rock; Cork elm - Ulmus thomasii
Blueberry, Lowbush - Vaccinium angustifolium
Viburnum, Maple-leaf - Viburnum acerifolium
Arrowwood, Downy - Viburnum rafinesqueanum
Prickly ash - Zanthoxylum americanum

Zanthoxylum americanum. Photo by Robert Wesley.

Grasses, Sedges, and Rushes

*Vernalgrass, Sweet - Anthoxanthum odoratum
Hairgrass, Common - Avenella flexuosa
Shorthusk, Northern - Brachyelytrum sp.
Sedge, White Bear - Carex albursina
Sedge, Back's - Carex backii
Sedge, Charming - Carex blanda
Sedge, Brome-like - Carex bromoides ssp. bromoides
Sedge, Common - Carex communis var. communis
Sedge, Dewey's - Carex deweyana var. deweyana
Sedge, Loose-flowered - Carex laxiflora
Sedge, Peck's - Carex peckii
Sedge, Peduncled - Carex pedunculata
Sedge - Carex pensylvanica
Sedge, Plantain leaved - Carex plantaginea
Sedge, Broad-leaved - Carex platyphylla
Sedge, Wrinkle-seeded - Carex rugosperma
Sedge, Sprengel's - Carex sprengelii
Sedge, Umbel-bearing - Carex umbellata
Poverty-grass - Danthonia spicata
Grass, Panic - Dichanthelium sp.
Bottlebrush - Elymus hystrix var. hystrix
Milletgrass - Milium effusum
Ricegrass, Spreading - Oryzopsis asperifolia
Ricegrass - Patis racemosa
Canary-grass, Reed - Phalaris arundinacea
*Bluegrass, Annual Poa annua
*Bluegrass, Canada - Poa compressa
*Bluegrass, Kentucky - Poa pratensis ssp. pratensis
Melic, False - Schizachne purpurascens

Botanical Notes:

From the editor: Our woodbines, *Parthenocissus quinquefolia* and *P. inserta*, can be hard to distinguish. *P. quinquefolia* climbs higher in trees, its tendrils have a round adhesive disc, and its inflorescence has a definite central axis. *P. inserta* sprawls (but also can climb), its tendrils lack adhesive discs (although they can look very much like they do sometimes), and its inflorescence is dichotomous. In northern New York we seem to have much more *P. inserta* than *P. quinquefolia*. Just because a woodbine is climbing high in the trees was not enough to convince me that it is *P. quinquefolia*, as I have seen some *P. inserta* managing to gain quite a bit of height. And I have a bit of trouble convincing myself that a tendril has a round adhesive disc rather than a somewhat flattened and rounded clasping end. Therefore I am always glad and relieved to see the diagnostic inflorescence, which is so often hard to see in the high climbing *P. quinquefolia*.

We were fortunate to come across some *P. quinquefolia* climbing on a large roadside rock (above). Note the central axis.

And here is the more often and much easier seen dichotomous inflorescence of *P. inserta*. Both photos by Steven Daniel.

While botanizing we come across more than just plants at times. Map turtles on the Indian River. Photo by Steven Daniel.

It was a very good year for morels in St. Lawrence County. Photo by Steven Daniel.

A good example of the corky twigs of rock elm (*Ulmus thomasii*). Photo by Robert Wesley.

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