



Sabatia difformis - lance leaved rose gentian

Welcome to the Torrey Botanical Society 2016 Field Season Review. Botanical field trips have long been part of the tradition of the Society and offer a direct experience of the myriad of habitats, landscapes, and plants which occur in the greater New York area. Furthermore, these trips unite both professionals and amateurs in their shared passion for our natural and cultural heritage. Botanical field trips also serve as a record in time of wild places and species observed. Given that the Torrey Botanical Society is celebrating its 150th anniversary in 2017, there already exists a rich archive from past field seasons that helps current researchers and enthusiasts understand how our flora continues to change. Field trip schedules for each year will be posted and updated online at the Torrey Botanical Society's webpage. At the end of each field season, a year end review will be published to highlight the plants, places, and people who make our field trips so special. Special thanks goes to all of the trip leaders for sharing their time, knowledge, and passion. I sincerely hope you enjoy this synopsis of the Torrey Botanical Society's field season!

Cordially, Uli Lorimer - Field Committee Chair



Our review begins in mid April with the first trip of the 2016 field season to **Corson's Brook Woods** on Staten Island. Trip leaders Will Lenihan and Ray Matarazzo selected this site because it contains an unusual forest cover type for southern NY. Maple-Basswood is a northern hardwood forest type typically found in northern and western NY extending into the Great Lakes Region. It may reach its southern range limit on Staten Island. As this forest cover type is a departure from the oak-hickory forests which surround Corson's Brook, it is a great place to search for unusual species like *Staphylea trifolia* (bladdernut), *Asarum canadense* (wild ginger), and *Veratrum viride* (false hellebore). In addition to locating these beautiful species, the trip participants were treated to carpets of *Erythronium americanum* (trout lily) and *Claytonia virginica* (spring beauty) in full bloom, prostrate beneath the canopy of 180-200 year old *Liriodendron tulipifera* (tulip poplar) trees. Causing concern was the discovery of a healthy patch of *Ranunculus ficaria* (lesser celandine) encroaching along the brook's edge. The theme of non native and invasive plants is revisited throughout the field season and their impacts on our local flora cannot be ignored.

With spring in full swing, the month of May saw more botanical trips than any other month beginning with, former Field Committee Chair Steve Glenn's, trip into **Jenny Jump State Forest** located in Warren County, NJ. Northwest New Jersey bears the scars of the last ice age more than any other part of the state. Ridges of erosion resistant rocks are interspersed by valley and lakes, carved out by the the advance of the Wisconsin ice sheet some 21,000 years ago. The forest here support a rich assemblage of spring fern and wildflower species including *Botrychium virginianum* (rattlesnake fern), *Aquilegia canadensis* (Canada columbine), and *Dicentra cucullaria* (dutchmens breeches). Also of note was the diversity of parasitic plants observed such as *Pedicularis canadensis* (wood betony), *Melampyrum lineare* (cowwheat) and *Conopholis americanum* (American cancerroot). Perhaps a surprise to some, but stealing resources from others is a valid lifestyle for certain members of our flora!

Daniel Atha's excursion along the **Bronx River** highlighted a disturbing discovery of recent years, namely the presence of *Corydalis incisa* (incised fumewort) in Westchester and Bronx counties along the Bronx River corridor. Thought to have spread from garden plantings, the species has since been found in several states from Tennessee to New York. With funding from the Lower Hudson Partnership for Regional Invasive Species Management (LHPRISM), The New York Botanical Garden is working with New York City Parks, Westchester County Parks, the Bronx River Parkway Reservation Conservancy and volunteers from the region to monitor, manage and eradicate the species. Eradication events will be held in May 2018 in Westchester and Bronx Counties.



Veratrum viride



Staphylea trifolia



Erythronium americanum



Asarum canadense



Claytonia virginica



Sanguinaria canadensis



Hepatica americana



Botrychium virginiana



Aquilegia canadensis



Dicentra cucullaria



Corydalis sempervirens



Viola macloskeyi



Pedicularis canadensis



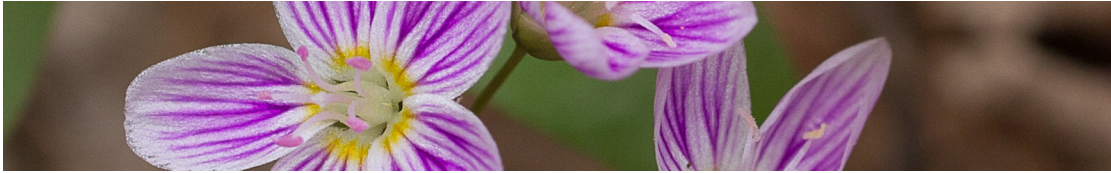
Melampyrum lineare



Conopholis americana



Corydalis incisa



May also saw the first of several joint trips with our sister organizations in the region, the Long Island Botanical Society, the Philadelphia Botanical Club, the Catskill Native Plant Society, and the Olive Natural Heritage Society. **Tiffany Creek Preserve** near Oyster Bay on Long Island offers quality oak-hickory forest along a gentle slope to Shutter Lane Pond where wetland conditions allow for the growth of a *Chamaecyparis thyoides* (Atlantic white cedar) swamp. Swamps such as these were once more common on Long Island and are now restricted to only a few locations.

Our last outing in May took us to **Green-wood Cemetery** in Brooklyn. While there are no wild areas within its boundaries, Green-wood boasts one of the finest collections of mature trees, both native and non native to be found anywhere in Brooklyn. Towering *Liriodendron tulipifera* (tulip poplar), *Quercus rubra* (red oak), and *Magnolia x soulangiana* (saucer magnolia) trees provide gentle shade and a peaceful atmosphere of dignity and respect.

The Flora of Ulster County, New York: An Annotated List of the Vascular Plants co-authored by Mary Domville was published in 1970. Mary often collected near her home in **Lewis Hollow**, located outside of the town of Woodstock. Woodstock has long been known for its progressive environmental stewardship initiatives. She recorded 21 species of plants there that were never found elsewhere in the Catskills. The trip leaders, Sam Adams and Paul Harwood hoped to find some of those elusive species on this trip. Lewis Hollow was used as a bluestone quarry, the fractured shale and slate create conditions ideal for a variety of *Carex* species, 14 in total! Of Mary's 21 species, the group was able to locate *Geranium bicknellii* (Bicknell's geranium), *Cardamine parviflora* (sand bittercress), *Paronychia canadensis* (smooth forked nailwort), *Galium circaea* (licorice bedstraw), *Vaccinium pallidum* (low bush blueberry), and *Vaccinium stamineum* (deerberry). The search also turned up a gorgeous specimen of *Crotalus horridus* (Eastern timber rattlesnake)!

Later on in June, we joined the Philadelphia Botanical Club for an exploration of the **Franklin J. Parker Preserve** in Chatsworth, NJ. The largest property at 16 sq. miles administered by the New Jersey Conservation Foundation, Parker Preserve offers a wealth of prime pine barrens habitat from pine-oak forest, cedar swamps, to open bogs and wetlands. Portions of this property were once in active cranberry production and those cranberry bogs are in the process of being reclaimed by nature. One could describe Parker Preserve as a giant experiment in plant succession and is therefore quite interesting botanically.



*Chamaecyparis
thyoides*



Magnolia tripetala



Liriodendron tulipifera



*Magnolia x
soulangeana*



Lewis Hollow, NY



Carex cephalophora



Carex swanii



Carex gynandra



Paronychia canadensis



Geranium robertianum



Botanists with *Carex*



Crotalus horridus



Franklin J. Parker
Preserve, NJ



Anaxyrus fowleri



Former cranberry bog, NJ



Tephrosia virginica



Asclepias rubra



Utricularia cornuta



Burnt Bridge along the Wading River, Franklin J. Parker Preserve, NJ



Monotropa hypopithys



Sarracenia purpurea



The **Glassboro/Clayton FWMA**, NJ is a ~3,000 acre tract of public land that surrounds the headwaters of the Little Ease, one of the major Maurice River tributaries. Extensive red maple wetlands are punctuated with relic upland ridges that support an interesting mix of Coastal Plain species. This wet forest was used only for lumbering and charcoal. Most of that activity ceased in the 1930's. The State started management in the 1940's, resulting in the forest present today. The land use history and landscape provides opportunities for many unusual Coastal Plain wetland species and the swamp is known to support *Phoradendron sp.* (mistletoe), *Helonias bullata* (swamppink), and *Polygala mariana* (Maryland milkwort) as well as a few other interesting species.

In late July, we visited **Marine Park**, the largest city-owned park in Brooklyn at 798 acres. Over half of the park is comprised of coastal forest, grasslands and salt marsh. Significant investment by NYC Parks and the US Army Corps of Engineers over the last decade have restored vital habitat to the eastern side of the park and to White Island, a man-made island in the mouth of Gerritsen Creek. The western side of the park (133 acres) contains similarly important natural resources; however it remains highly-impacted and at risk of further degradation due to destructive uses. Maritime Shrubland and Successional Maritime Forest habitat, dominated by *Rhus sp.* (sumacs), *Prunus serotina* (black cherry), *Morella pensylvanica* (bayberry) and *Baccharis halimifolia* (groundsel) flourish in pockets and represent a unique forest type in NYC. Other sections of the site, however, are dominated by invasive species. We explored the "wilder" western side of the park.

August is a great time to visit wetlands and river watersheds as the growing conditions are best for a variety of flowering plants, sedges, and rushes. The **Manumuskin River** is a 16 mile tributary of the Maurice River in Cumberland County, NJ. In tandem with the Philadelphia Botanical Club, our group explored the area surrounding Cumberland Pond as well as further downstream near the historic Defiance Bloomery Forge (est. ca 1785) and Cumberland Iron Furnace (est 1810). An active Forge and Furnace would need approximately 20,000 acres of forest to supply enough fuel for the fires. At a former railroad station site, we observed *Ipomopsis rubra* (scarlet gilia) which was first collected over a century ago from this very same location and has not spread since! The group visited a remote bog along the Lawrens Branch of the Manumuskin and were delighted to find large stands of *Rhynchospora inundata* (horned beaksedge) and a good size population of *Utricularia juncea* (southern bladderwort). Portions of the Manumuskin River are influenced by the tides, with the water levels rising and falling accordingly. Along the banks, just above the high water mark the group was able to find the federally listed *Aeschynomene virginica* (sensitive joint vetch), a highlight of the day.



Phoradendron species



Helonias bullata



Polygala mariana



Prunus serotina



Rhus copallina



Scutellaria galericulata



Hypericum densiflorum



Rhynchospora inundata



Utricularia juncea



Pachydiplax longipennis



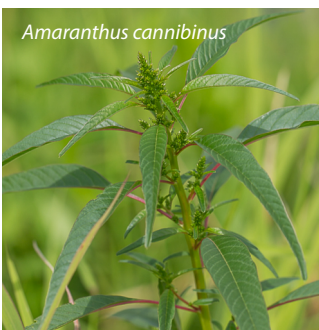
Ipomopsis rubra



Deer skull



Eurybia compacta



Amaranthus cannabinus



Aeschynomene virginicus



Manumuskin marsh,
NJ



The sand barrens and acidic wetlands of **Clay Pit Ponds State Park Preserve** are unique in New York City for their similarity in character to the New Jersey Pine Barrens. This 244-acre park sits atop a layer of sand and clay that was deposited during the Cretaceous Period. Mining operations of clay for brickworks and pigment during the mid-19th century to early 20th century have marked the landscape with numerous ponds and wetlands that now support locally rare species such as *Drosera intermedia* (spatulate-leaved sundew) and *Vaccinium macrocarpon* (cranberry). In the upland xeric areas, we found *Quercus stellata* (post oak), *Quercus marilandica* (blackjack oak), *Quercus x bushii* (hybrid oak), and *Pinus rigida* (pitch pine) as well as the two most endangered pine species in New York State, *Pinus echinata* (shortleaf pine) and *Pinus virginiana* (Virginia pine).

With autumn in the air, our field season returned to Long Island with an excursion to **Bayard Cutting Arboretum** in Suffolk County. We looked for interesting weeds around the community garden and at the maintenance/dump area. The Paradise Island Native Woodland trail has a pine barrens type wet woodland a variety of sandy soil species were located. The bulk-headed Connetquot River yielded further species of interest, including *Plantago rugellii* (American plantain) and *Anagallis arvensis* (scarlet pimpernel).

Back in New Jersey, trip leader Mary Leck provided an aquatic plant primer with explorations of **Abbot Marshlands**, in Mercer County. Growing in Spring Lake, part of Roebing Park the group discovered a variety of aquatic and emergent species including *Decodon verticillatus* (water willow), *Pontederia cordata* (pickerelweed) and two species of *Wolffia* (watermeal), considered rare for New Jersey. After lunch, the group moved to tidal marsh along the Delaware River and uncovered *Bidens bidentoides* (estuary beggars tick), a state rarity, along with *Helenium autumnale* (sneezeweed) and *Heteranthera dubia* (mud bouquet plantain).

In September, Council member Daniel Atha conducted a master class on the smartweeds of New York. With twenty species in the northeastern United States, the genus *Persicaria* ranks among the largest genera of flowering plants, just behind milkweeds and sunflowers. Many are native wetland species whose seeds are an important food source for waterfowl. Others such as the East Asian mile-a-minute vine can inflict great ecological and economic harm. The group explored the floodplain forest in **Bronx Park**, just north of the Botanical Garden. In areas that had once been a nearly solid stand of *Polygonum cuspidatum* (Japanese knotweed), participants observed the native *Persicaria pennsylvanica* (Pennsylvannia smartweed) dominating the understory beneath the extremely rare Ash species, *Fraxinus profunda* (pumpkin ash).



Clay Pit Pond, NY



Drosera intermedia



Odocoileus virginianus



Quercus marilandica



Vaccinium macrocarpon



Aralia nudicaulis



Pinus echinata
bark



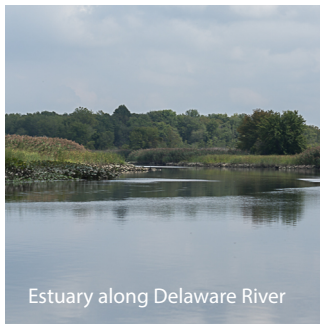
Anagallis arvensis



Decodon verticillata



Bidens bidentoides



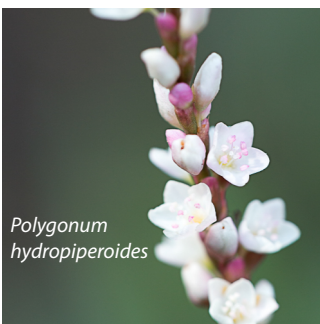
Estuary along Delaware River



Heteranthera multiflora



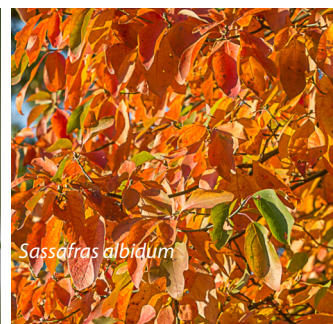
Impatiens capensis



Polygonum hydropiperoides



Persicaria pensylvanica



Sassafras albidum



Liberty State Park, is a true “urban wilderness,” the normally off-limits, intensively studied 102 ha interior of a former rail yard that underwent natural succession for more than 50 years. Unique species-rich, plant communities formed by the fusion of non-native and native species. This area, formerly known as “the ballast dumps of Communipaw,” has been the historical entry point of many non-native species and was the botanical “playground” for numerous early botanist (e.g., Addison Brown, Joseph Schrenk, Nathaniel Lord Britton, and later on, Karl Anderson) who added many new species to the North American flora checklist here. The group followed old railroad beds and black topped roadways through a variety of early successional habitats. *Betula sp.* (birch) and *Populus sp.* (poplar) dominated sections of the forest and were gradually giving way to *Quercus sp.* (oak) compositions. Along the trailside, common annual species such as *Trichostemma dichotomum* (forked bluecurls) and *Chamaecrista fasciculata* (partridge pea) were observed.

The final trip for our 2016 field season took place at **Hempstead Plains**, NY in early October. Over 250 species of plants are found on the Hempstead Plains, along with countless numbers of birds, butterflies, and other insects. Some are considered rare and endangered, such as the globally endangered plant, *Agalinis acuta* (sandplains gerardia), which occurs in only 11 places in the world. The habitat is managed by Friends of Hempstead Plains at Nassau Community College, a not-for-profit organization, whose mission is to protect and restore the native prairie grassland through scientific education and research. Led by Betsy Gulotta, the group trundled through tawny grasses and goldenrods and were treated to the last few blossom of *Agalinis acuta*. *Eupatorium hyssopifolium* (hyssop-leaved thoroughwort) and *Schizachyrium scoparium* (little bluestem) created the basis for an autumnal scene set against the backdrop of a cloudy, and windy day.

I hope you have enjoyed this synopsis of the Torrey Botanical Society's 2016 field season. Please consider joining us next year as we sally forth into the wilds of the Northeast, eager to discover its botanical and cultural richness and diversity.



Liberty State Park, NJ



Trichostemma dichotomum



Liberty State Park, NJ



Chamaechrista fasciculata



Agalinis acuta



Hempstead Plains, NY



Stagmomantis carolina



Hempstead Plains, NY



Asclepias tuberosa



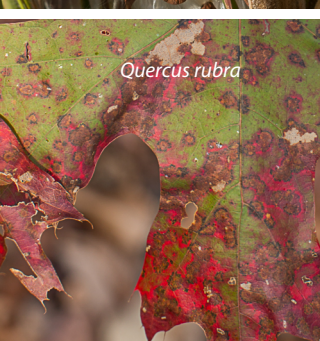
*Eupatorium
hyssopifolium*



Lesepeza capitata



Lesepeza cuneatum



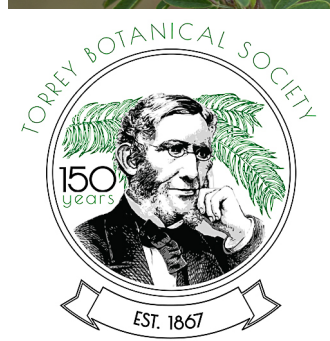
Quercus rubra



Quercus alba



Poanes viator





2016 Field Trip Dates & Locations

April 17: CORSON BROOKS WOODS, STATEN ISLAND, NY

May 14: JENNY JUMP STATE FOREST, WARREN COUNTY, NEW JERSEY

May 15: BRONX PARK NORTH, BRONX, NY

May 21: TIFFANY CREEK PRESERVE, OYSTER BAY COVE, NY (w/LIBS)

May 25: GREEN-WOOD CEMETERY, BROOKLYN, NY

June 2-5: JOINT MEETING OF THE NORTHEASTERN SECTION, BOTANICAL SOCIETY OF AMERICA AND TORREY BOTANICAL SOCIETY, OHIO PYLE STATE PARK, FAYETTE COUNTY, PA

June 10: FOREST PARK, QUEENS COUNTY, NY (w/LIBS)

June 10-11, GATEWAY NATIONAL RECREATION AREA, NYC Bioblitz

June 18: LEWIS HOLLOW TRAIL, WOODSTOCK, ULSTER CO., NY

JOINT TRIP WITH THE OLIVE NATURAL HERITAGE SOCIETY AND THE CATSKILL NATIVE PLANT SOCIETY

June 18: FRANKLIN PARKER PRESERVE, BURLINGTON COUNTY, NJ (w/PBC)

June 24-25: UPPER DELAWARE BIOBLITZ, SULLIVAN COUNTY, NY

July 16: GLASSBORO/CLAYTON NJ FISH AND WILDLIFE MANAGEMENT AREA, GLOUCESTER COUNTY, NJ (w/PBC)

July 30: MARINE PARK, BROOKLYN, NY

August 6: MANUMUSKIN RIVER WATERSHED, CUMBERLAND COUNTY, NJ (w/PBC)

August 7: CLAY PIT PONDS STATE PARK PRESERVE, STATEN ISLAND, NY

August 27: BAYARD CUTTING ARBORETUM STATE PARK, SUFFOLK COUNTY, NY (w/LIBS)

September 3: BLACK RUN PRESERVE, BURLINGTON COUNTY, NJ (w/PBC)

September 10: THE NEW YORK BOTANICAL GARDEN, BRONX, NY.

September 10: ABBOTT MARSHLANDS, CENTRAL, NJ

September 17: LIBERTY STATE PARK, HUDSON CO., NJ

October 1: HEMPSTEAD PLAINS, HEMPSTEAD, NY (w/LIBS)

LIBS = Long Island Botanical Society

PBC = Philadelphia Botanical Club