Long Island Botanical Society

Vol. 32 No. 2 | The Quarterly Newsletter | Spring 2022

Changes in the Orchid Flora of Long Island, NY (Part 1)

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There are evenings when traffic renders all east-west routes on Long Island pointless and there are only so many exits off the expressways where Starbucks can be found. Fortunately, there are also scattered woodlands along the same routes to provide an escape from the rush. Recently, under just such circumstances, I pulled into the roadside parking area of one such woodland, my car's tires scattering gravel and clods of dry soil to the wind. Transformed by 2022's drought, a dark hole in the wilted maple leaves marked the dusty entry into a tired, parched forest parcel; the same unfortunate conditions I've encountered on all my 2022 summer hikes.

It was hard to recall the promise held out by 2022's wet, cool spring. For the most part, plants blooming before June had a good season. Native orchids included.

Figure 1. Albino pink lady's slipper (*Cypripedium acaule* forma *albiflorum*) from western Suffolk County. The white-flowered form is more frequent northward. What is causing the recent decline of the albino form on Long Island? Climate change? Is Long Island getting too warm to support northern species? Photo by David Taft.

But nature's beneficence faded with the advancing season, and here, less than three months later I was surrounded by limp plants, parched soils, and fallen leaves; prematurely yellow and red, covering the strange phthalo green of dried woodland mosses. Among the ruins, six rosettes of *Goodyera pubescens* – the evocatively named "Rattlesnake Plantain" orchid – hung on. In fact, though the plants in this small colony hadn't flowered in 2022, the leaves seemed unusually healthy; cameoed against the dried soils, their leaves still stiff and healthy, the usual velvety blue-green and white.

Eric Lamont and I recently enjoyed a few conversations about the status of Long Island's orchids and he suggested it might be time to update my observations with an article in the LIBS Newsletter. My last article, *A Brief Survey of Long Island Orchids*, was largely based on field work from 2005 to 2012 and published in 2013 (LIBS Newsletter, Vol. 23, No. 1). It has been a decade since I wrote that article and I set to work on the piece you are now reading.

Orchids still persist on Long Island, even in the heavily urbanized, Long-Island-connected, boroughs of Brooklyn and Queens. Over time, I have tried taking the philosophical, long-term view that orchids were probably always rare, and almost as assuredly threatened, from the moment humans set foot on the continent. Generally speaking though, numbers are quite small for almost all local native orchid species, and over my several decades checking, their long-term prospects might be summarized as "troubling" – orchids are plants that favor specific environmental conditions, some favoring completely stable environments, some even favoring heavy disturbance. But habitats are not static; they naturally evolve, or change through anthropogenic means. In a healthy ecosystem, tiny orchid seeds might travel on the winds or the feet or fur of a variety of animals, but the increasingly isolated pockets of

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Long Island Botanical Society

Founded: 1986 • Incorporated: 1989

The Long Island Botanical Society is dedicated to the promotion of field botany and a greater understanding of the plants that grow wild on Long Island, New York.

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(Orchid Flora, continued from cover page)

habitat found on Long Island offer few vectors to bring even their dust-like buoyant seeds to distant new sites. So when conditions at a particular site no longer suit the orchids, they often simply disappear, rather than re-colonize. Long Island itself is an Island, which only exacerbates the situation.

Eleven species of native orchids are covered in this article and are presented alphabetically by scientific name. I remind readers that neither the order nor length of each summary reflects any priority or level of significance of any individual species examined here. Though I may touch upon specific developments within individual species or sites briefly, greater depth would require greater length and that must wait for a longer article at some future time. Part two of this piece will cover the species not described here but included in the 2013 article.

In some cases, specific locations have occasionally been generalized, or left out of the piece altogether, in an effort to protect critically threatened species.

Calopogon tuberosus* var. *tuberosus
Grass Pink (Fig. 2)

Since the time of the 2013 article, I have hunted through much of the northern part of Nassau County in particular in search of this plant with no positive results. Often, sites which might once have been reasonably good habitat, are re-discovered in badly degraded condition. Admittedly, my avid searches in the first years of the 2000's have dwindled to occasional cursory roadside hunts. The plant is still relatively secure in eastern Suffolk County and can be found in well-known sites such as the scoured swales and sandy, wet bowls near Napeague. *Calopogon* is worth seeking out as one of our showiest wildflowers. Until very recently, the species seemed most threatened in these park sites by the ever-growing numbers of cranberry pickers who invade their sunny, vegetated habitats each autumn. Pickers who might be sensitive enough, and careful to avoid the brilliant pink orchids, frequently do not recognize the orchids' brown, ripened seed capsules, or grass-like leaves, and consequently damage plants. One location in Amagansett which produced some of the densest colonies of this orchid a decade ago has been reduced to a handful of plants in the last three to five years. The recent discovery of the Southern Pine Beetle (*Dendroctonus frontalis*) in the sparse pine woods at Napeague, and the even more recent removal of pines from this critically sensitive habitat, may prove more of a threat in upcoming years than all the trampling between the dunes.

Corallorhiza odontorhiza
Autumn Coralroot

One of the most peculiar native plants on Long Island, the achlorophyllous[1], mostly cleistogamous[2] *Corallorhiza odontorhiza* was rediscovered by LIBS members Skip and Jane Blanchard in Flanders along the edges of a recently graded sandy road back in the 1990's. Jim Ash and I documented hundreds of plants at the site that initial autumn. Since that time, repeated surveys have revealed dozens of plants, scattered along the sandy roadsides, but never in the numbers initially discovered. Even at this site with its dry, inhospitable soils Japanese stilt grass (*Microstegium vimineum*) has found a toehold. Though this grass is an annual and has never spread densely at the site, it is to be watched as it is at least partly responsible for the extirpation of several other colonies of this orchid in the northeast.

Figure 2. Grass pink (*Calopogon tuberosus* var. *tuberosus*). This orchid is worth seeking out as one of our showiest wildflowers. "Coming across a clump of these beauties will surely open your eyes" (Jim Fowler, 2005). Photo by Dave Taft.

I have seen and photographed the chasmogamous[3] "variety *pringlei"* frequently at this site over several dozen years. Showy – if one can ever describe a flower measured in millimeters in those flowery terms – in my opinion the validity of this variety is sorely in need of examination. I have even conducted occasional dissections of individual flowers to examine the purported differences between varieties *pringlei* and *odontorhiza*.

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[1] achlorophyllous: not having chlorophyll.
[2] cleistogamous: flowers that are self-fertilized while still closed.
[3] chasmogamous: flowers that are fertilized after opening, generally cross-pollinated.

(Orchid Flora, continued from page 15)

Though at first glance, it seems this orchid is very unparticular about its preferred soils, I have searched for this plant throughout Long Island (including Brooklyn and Queens) and searches of extremely similar sites have proven fruitless. To date, I have not located any other populations of autumn coralroot on Long Island.

Cypripedium acaule
Moccasin Flower, Pink Lady's Slipper

Cypripedium acaule holds the title for the most "discovered" native orchid on Long Island. I have heard countless stories of "rare orchids" found on dog walks and family hikes, have even been presented with specimens for identification. Based upon the sheer number of reports, this magnificent orchid is still relatively abundant in a wide variety of woodland settings, but in recent years, for indeterminate reasons, the species has declined in several sites where it was formerly abundant. In several western Suffolk County woodlands for example, numbers of individuals have been reduced to just handfuls where hundreds had been encountered not long ago. At other sites, the size of the plants or their vigor seems reduced. (Jim Ash recently reported severe declines in the number of populations of this species throughout the Town of East Hampton on the South Fork.) Still, large groups of this stunningly showy orchid can be located, and within the groups, individuals large enough to produce up to 15 or 16 inflorescences. Flower color on Long Island ranges from a deep pink pouch with mahogany petals and sepals, to the starkest albinos with white lips and green sepals and petals. By way of illustration, the photo accompanying this piece shows one spectacular albino plant (Fig. 1) which found its home in a quiet, difficult to access site in western Suffolk County, so close to the Nassau County border that I wondered if I hadn't strayed over the edge. For several years, the plant matured from a single growth with its beautiful white bloom, to a stunning example with five blooms and eight leaf fans. Sadly, the plant was most likely dug up in 2015. Suspicious soil disturbance, and broken blueberry stems at the site were all that was left when I returned to check on this remarkable plant in the spring of 2016. Illustrative of the problems of rapidly developing Suffolk County, the site had become an area used for dumping yard (and other) debris for the owners of several adjoining homes. I suspect one of the locals discovered it and could not resist its beauty. Thankfully, there is no shortage of well drained, highly acidic soils in both Nassau and Suffolk counties. Both counties still have good populations of this plant, and without disturbance, it is a sturdy, adaptable species.

Figure 3. Rosette of veined, evergreen leaves of downy rattlesnake plantain (*Goodyera pubescens*). This orchid has the most handsomely marked foliage of any of our native orchids. Photo by Dave Taft.

No plants have yet turned up in my searches of Queens County despite several reliable records and personal communications with individuals intimately familiar with the parks located along the glacial moraine of Long Island in this most populous New York City borough.

Goodyera pubescens
Downy Rattlesnake Plantain (Fig. 3)

By the time of the 2013 LIBS newsletter, I had begun to notice the decline of Long Island's rattlesnake plantain population. Unfortunately, this trend has continued, making a plant which was at one time relatively abundant quite rare. The heat and lack of rain during the height of the 2022 growing season did not improve conditions. This orchid has a tendency to sprawl and form colonies in the leaf litter, one of the largest I am aware of in central Long Island (Yaphank) has declined over the years both in the number of plants and the size of the individual rosettes. No flowering individuals were observed in 2022, but more troubling was the general reduction in size of individuals within the colony, and of the colony overall. Nearby, *Cypripedium acaule* seems to be suffering the same fate.

Unfortunately, the woodlands here are becoming increasingly popular, and with the greater numbers of visitors, there are greater levels of abuse. The meager protections offered by badly faded signs and an understaffed protection team, has been entirely outstripped by this visitation. Over the years, narrow woodland trails have widened to virtual pedestrian highways, dogs – or more properly – their owners, leave

Figure 4. Dark phase of an eastern tiger swallowtail (female) visiting the flower of large whorled pogonia (*Isotria verticillata*). Photo by David Taft.

carefully bagged "gifts" throughout the site, waiting for absent maintenance staff to clean up. At least as troubling, the once dominant canopy of white pine (*Pinus strobus*) has diminished, allowing far more light penetration to the woodland floor. This affords invasive, non-native species more light, and a toehold in the poor soils. In my experience, this form of vegetative competition is often the final chapter for Long Island orchids. Scattered, small colonies, such as the one I reported on in my 2013 article, along the Northern State Parkway still cling to life, even flowering occasionally. This site has fluctuated between two rosettes and six over the last several years, there was one flowering spike in 2021, none in 2022.

Plants reported from Connetquot River State Park Preserve and Caleb Smith State Park Preserve have never been relocated despite annual efforts. But small colonies still occur in Greenport, Napeague, Amagansett, and other sites. These small colonies seem to disappear more often than new sites are discovered.

Isotria verticillata
Large Whorled Pogonia (Fig. 4)

One of Long Island's most unusual orchids, the large whorled pogonia can be found in large numbers at several sites in mid island. It seems particularly fond of the well drained, mesic to dry soils found on the glacial moraines. Numbers of flowers seem to fluctuate widely in certain years within certain colonies, but populations have been stable over the last three years in the colonies I've visited. However, there are locations where the plants had been abundant but are now represented by just two or three individuals. The plant seems to spread rapidly by underground rhizomes, and this may in part have something to do with the specific locations of a site's blooming individuals. Recent research on the far rarer small whorled pogonia (*Isotria medeoloides*) seems to indicate that good years for fungal hyphae mean good years for orchids. Perhaps something similar is happening in this related species.

These large, spidery orchids are remarkably, if subtly, variable, and in 2017 I stumbled upon a peloric individual for the first time in decades of observing this orchid, a return visit established that the unusual flower had not been pollinated.

Though repeated searches for *Isotria medeoloides* have turned up little in the way of plant material, many botanists continue to scour the woods of Long Island for evidence of this highly elusive orchid each spring.

Liparis loeselii
Loesel's Twayblade

A tiny green orchid, this plant is hard to locate even in the best of conditions. I stumbled upon the plant in a transient wet field in southern Queens County in 2009, and for several years its numbers increased and decreased. Eventually, despite extensive efforts to thwart the advance of alder (*Alnus* sp.), common blackberry (*Rubus allegheniensis*), gray birch (*Betula populifolia*), and poison ivy (*Toxicodendron radicans* subsp. *radicans*), the field succeeded into a tangled woodland. On a recent visit I was disappointed to discover that porcelain berry (*Ampelopsis brevipedunculata*) had moved into the openings and was now smothering the young woodlands.

Even before this unfortunate woodland succession, the orchid numbers had been declining, and it is illustrative of a hunch I've had for some years that the above-ground vegetation is only a symptom of the changes below ground. In many ways, it only makes sense that roots, mycorrhizae, soil drainage, soil composition, even chemistry changes with the advance of succession. Clear the visible, above-ground vegetation as you will, you are only impacting less than half of the problem. Having seen this cryptic orchid in several locations in the northeast, I suspect that the orchid may still be present in small numbers in this field.

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(Orchid Flora, continued from page 17)

Despite checking on the occurrence of *Liparis loeselii* at Nappeague (reported by Jim Ash decades ago) the plant has not been seen there again.

Malaxis unifolia
Green Adder's Mouth

Another tiny green orchid with a troubled history on Long Island. At the time of the 2013 LIBS article, the species was known from a single Manorville roadside. This site was under management by the Brookhaven Town Highway Department. Repeated roadside mowings were successful in keeping competing vegetation down, but were not timed to benefit the plants at the site which included the *Malaxis* along with healthy populations of round leaved sundew (*Drosera rotundifolia*) and colicroot (*Aletris farinosa*). These were often mowed prior to or during flowering, plants were also sometimes crushed under the wheels of the mowers. The Superintendent of Highways and his staff at that time were wonderfully responsive and interested. Coordinated meetings produced a brief golden age for the orchids and an almost immediate jump in the *Malaxis* numbers. In 2014 a count of 22 plants (11 in bloom) marked the highest number recorded at the site, up from just two or three in the early 2000's.

Unfortunately, and ironically, too much mowing was replaced by a policy of not mowing at all, and despite repeated calls and email correspondences, the site was left to succeed to other vegetation, and heavy grasses and even young woody plants have moved in. Counts in the teens persisted through 2016, and though I suspect orchids remain under the heavy vegetation, a recent search by Eric Lamont and Michael Feder revealed no orchids at the Manorville site. A return to a mowing schedule is critical.

All is not lost for this species on Long Island however. The discovery by Polly Weigand of a single individual of *M. unifolia* at a well-protected site within the Sayville Grasslands led to a survey by Steve Young and me in July of 2015. The survey revealed a large population of *M. unifolia* at a very atypical site. Initial numbers were impressive at a conservative 208 plants. The conditions here seemed quite different than the usual locations for this species, essentially a relatively dry, sandy field with crustose soils, the orchids sprouting in the interstices between grasses and other herbaceous species; quite unlike the shaded damp areas where the plant is often found. The strong possibility of the orchid being the closely related *Malaxis bayardii* was considered and eventually dismissed, however, the habitat is far more similar to the latter's typical preferred habitat.

Figure 5. Southern twayblade (*Neottia bifolia*, aka *Listera australis*). Close-up showing flower's two-lobed lip. This orchid is very rarely observed due to its small stature, inconspicuous nature, and inaccessible habitat preference. "These tiny little plants blend into their surroundings so well that they are almost impossible to spot when walking through the woods. Because the flowers and stem are the same color as the leaf litter and act as a great camouflage, I have found the best technique for spotting them is to look first for a pair of shiny, dark green leaves" (Jim Fowler, 2005). Photo by Dave Taft.

At the risk of editorializing, I'd only add that I wish large undocumented counts of rare plants always turned up to offset Long Island's other losses.

***Neottia bifolia* (*Listera australis*)**
Southern Twayblade
(Fig. 5)

Much has changed for this species since 2013, including its nomenclature. What was *Listera australis* is now *Neottia bifolia*. The species can still be found at Connetquot River State Park Preserve in the shaded, deep sphagnum along the river. Unfortunately, my original article's observation that numbers seemed to be slightly smaller in 2013 proved correct. Unfortunately for this rare orchid, the numbers have continued to fall. A survey conducted by several

LIBS members in June of 2021 documented 60 flowering individuals of this diminutive, attractive orchid, however that number is extremely small relative to past years when counts of hundreds were not uncommon.

Much has changed at the Connetquot site over the years, perhaps most significant is the loss of a good deal of the pine canopy. The invasion of the Southern Pine Beetle (*Dendroctonus frontalis*) has caused the death of many of the large, spreading pines in several areas of the park. The increase in light levels in the mossy areas where southern twayblade has traditionally been located is notable. This, in itself is probably not the problem as the orchid can be found in full sun at other locations, rather the increase in other vegetation now competing for light (and potentially changing the subsurface conditions as well) may be significant. Orchids' famous reliance on mycorrhizal arrangements and their sensitivity to changing growing conditions could be a potential cause of the decline.

Interestingly, a nearby site shared with me by Annie McIntyre usually supports a dozen or two plants as well. The habitat at this related site seems more stable and plant numbers were stable in 2022.

Efforts to locate other Long Island populations of this species (for example at Caleb Smith State Park Preserve) have not proved fruitful to date, but other wetland areas where sphagnum can be found would be worth checking by LIBS members who are interested in locating additional populations of this small jewel of an orchid.

Platanthera blephariglottis* var. *blephariglottis
White Fringed Orchid (Fig. 6)

One of the largest and most stately of Long Island's orchids, the white fringed orchid can be found scattered widely in damp sunny areas in both eastern Nassau and Suffolk counties. In Nassau County, one remaining site produced more than 55 non-flowering leaves in 2015. However, numbers fluctuate widely. In a 2022 visit to the site, only two plants were found. One large enough to flower, but unfortunately located close to a heavily used trail, and not far from a homeless encampment.

Suffolk County is home for the species at several sites. One of the best known is within the Quogue Wildlife Refuge. Here, a small wet meadow which always hosted the orchid (as well as several other state rarities) has been the subject of several volunteer clearings over the past two decades. The site had a banner year in 2011 with 123 plants in flower (hard to estimate the true number of plants present as the sterile leaves are most often obscured by a variety of other plants). Unfortunately, deer and other herbivores have had a severe impact on the numbers of plants and other changing conditions have also caused the reduction in the numbers of flowering individuals. In a visit to the site in late June 2022, I counted 7 flower spikes; Eric Lamont reported 6 flowering individuals on a later visit in the same year.

Figure 6. Northern White Fringed Orchid (*Platanthera blephariglottis* var. *blephariglottis*). a. (above) colony in a wet meadow, b. (right) inflorescence. Photos by Tom Nelson.

It's been a decade since flowering individuals were regularly observed along sunny, wet trail edges at specific sites at Connetquot River State Park Preserve in Oakdale. During this time, efforts to relocate plants at these sites proved unproductive. However, sterile leaves could still be found in the preserve's deep woods. Though these rarely flowered, they are evidence that the species is still present and could potentially recolonize suitable sunnier sites.

Small populations of this orchid can still be found in scattered wet, open woodlands and sunny meadows in eastern Suffolk County, excluding the North Fork where the species is considered extirpated (Eric Lamont, personal communication).

To be continued . . .

Additions to the Flora of the Magothy Formation on Long Island, New York

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INTRODUCTION

The Cretaceous Magothy Formation is middle and lower Santonian Stage in age (ca. 83-86 my; [<https://Wikipedia/wiki/Santonian>; accessed June 15, 2022]). In New Jersey, it comprises six units; they are, in increasing age: Cliffwood Member, Morgan Member, Amboy Stoneware Clay Member, Old Bridge Sand Member, and South Amboy Fire Clay Member.<Magothy Formation (NJKmg;1) (usgs.gov) accessed June 15, 2022>. Sirkin (1986), in correlating stratigraphy of the Long Island Magothy Fm exposures with those of New Jersey, included the South Amboy Fire Clays in the Raritan Fm, and considered it to belong in the Turonian Stage.

The Magothy Fm sits unconformably on the Raritan Fm, where most of the above units were once classified (e.g., Table 1 in Richards 1958).

On Long Island today, the Magothy Fm yields fossil plant parts (Hollick 1906) and some fossilized invertebrates (cf. Richards 1958) in two locations, Garvies Point (Glen Cove, Nassau County; https:garviespoint museum.com/[accessed June 15, 2022]) and Caumsett State Historic Park Preserve (Lloyd Neck, Huntington Township, Suffolk Co., N.Y., https://parks.gov.ny/23/dtails.aspx [accessed June 15, 2022]). The fossilized plant remains are found in iron oxide deposits (hematite, limonite and goethite). They are preserved as casts, petrifactions, or as compressions/impressions; rarely, they are found mummified. In addition, meso-fossils have been extracted from lignite that is embedded in clays (Greller pers obs, 2021; after P.R. Crane)

MATERIAL AND METHODS

Specimens were gathered from the beach, having been eroded from the cliffs by rain. Some specimens appear to have been sorted by the tides and moved westward from their points of deposition. The first author has been collecting fossils at Caumsett State Park under permits issued annually by New York State. All collections have been deposited at the New York State Museum in Albany, N.Y.

Figure 1. Fossil GP 200830-1 AMG. Tree trunk cross-section (Garvies Point, collected August 30, 2020).

Figure 2. Fossil CAUM 160628-1 AMG. Putative berries (Caumsett State Historic Park Preserve, collected June 28, 2016).

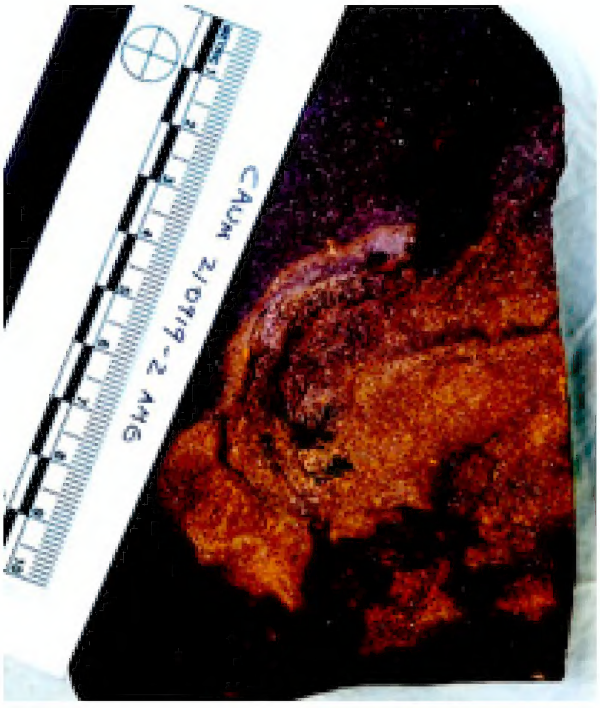

Figure 3a. Fossil CAUM 210919-2 AMG (Caumsett State Historic Park Preserve, collected September 19, 2021).

Figure 3b. Fossil CAUM 210919-2 AMG (Caumsett State Historic Park Preserve, collected September 19, 2021); and compared with the pedicel and lower portion of the fruit of *Curcurbita okeechobeensis* (Cucurbitaceae).

Figure 4. Fossil CAUM 180817 AMG. (Caumsett State Historic Park Preserve, collected August 17, 2018) Putative "staminate ament."

RESULTS

A. Descriptions

1. Fossil GP 200830-1 AMG. (Figure 1). Tree trunk cross-section with growth rings. At least 10 evenly spaced rings can be distinguished, not including the central ring.

2. Fossil 160628-1 AMG. (Figure 2). Putative berries. Two black spherical objects that appear to contain smaller spherical units.

3. Fossil CAUM 210919-2 AMG. (Figures 3a, 3b). Putative fruit of a gourd (lower portion, attached to stem/pedicel; Comparison is made with *Cucurbita okeechobeensis,* Cucurbitaceae).

4. Fossil CAUM 180817-9 AMG. (Figure 4). Putative "staminate ament." This is the term used by J.S Newberry (1895, Plate XLVI: Figures 23-27) for similar specimens in the Amboy Clays of New Jersey.

(Magothy Formation, continued from page 21)

DISCUSSION

Arthur Hollick (1906) published the accumulated collection of Cretaceous plant fossils collected from Long Island and coastal New England in a monumental monograph. Hollick (1912) and Berry (1907) added newly discovered taxa to that publication. More recently, Greller and co-authors (Greller 2008; Greller and Goudket 2007a, 2007b, 2010; Greller et al. 2019) have been adding taxa from the Long Island Magothy Fm exposures.

Since about 2015, the frequency of fossilized fruits has increased, and the frequency of leaf specimens has decreased, at both Caumsett SP and Garvies Point CP. We interpret this as an exposure of a new section of the Magothy Fm stratum that was previously deeper into the cliff, eroded by increasingly heavy rains. Fruits are distinctive in many families of modern plants (e.g., Fabaceae, Apiaceae, Rosaceae, and Brassicaceae), in contrast to the relative uniformity of leaves, which often require the persistence of tertiary- and higher venation for identification. Leaf compressions in the Long Island Magothy Fm are fragmented and rarely preserve such fine detail. Wood in the LI Magothy is preserved mostly as casts that contain little cellular material. Most of the wood we have collected can be referred to conifers, as suggested by the occasional small pores that we detect in thin sections, and may be interpreted as tracheids, not vessels.

Fossil GP 200830-1 AMG rings (Figure 1), is the cast of a thin cross-section of tree trunk with growth rings. At least 10 evenly spaced rings can be distinguished, not including the central ring. These resemble the growth rings seen on young trunks of *Pinus* where they are cut for posts. We suspect these are annual rings and reflect a seasonal change in temperatures. The equidistance between rings suggests uniform growing conditions. A small portion of the trunk appears detached from the main body; this is interpreted as an artifact of fossilization. *Pinus* species are well known from the Magothy Fm (Penny 1947).

Fossil CAUM 160628-1 AMG (Figure 2) is a compression which includes two small black spherical objects that appear to contain smaller spherical units. These can be interpreted as berries and resemble in size, shape, and hue the compound fruits of black raspberry (*Rubus occidentalis*).

Fossil CAUM 210919-2 AMG (Figures 3a, 3b) is the putative mature fruit of a gourd (Cucurbitaceae; lower portion, attached to stem/pedicel). Comparison is made with *Curcurbita okeechobeensis*. As we interpret this fossil compression, most of the fruit has been lost; only a small distal section remains attached to a curving, relatively thick pedicel. The pedicel is differentially exposed in the specimen; the distal portion, away from the attachment with the fruit, appears to show parenchyma tissue, the proximal portion shows epidermal tissue.

Fossil CAUM 180817-9 AMG (Figure 4) is a putative "staminate ament." An ament is the pendulous male flower cluster that is often seen on wind-pollinated trees such as Salicaceae, Juglandaceae and Fagaceae. This is the term used by J.S Newberry (1895, Plate XLVI: Figures 23-27) for similar specimens in the Amboy Clays of New Jersey. Hollick (1906) illustrates such a structure, as well, in the Magothy Fm. Neither author comments further upon the taxonomic affinities of this type of specimen. This specimen is therefore new only to the Long Island Magothy Fm.

ACKNOWLEDGEMENTS

The authors thank Caumsett State Historic Park Preserve Superintendent Leonard Krauss, Jr., for his help in all aspects of the collection process.

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Plant Sightings

Observations of seabeach knotweed (*Polygonum glaucum*) on the South Fork of Long Island

Jim Ash

During the last week in September 2022 I went over to Long Beach in Noyac, Suffolk County to check on the *Polygonum glaucum* (Polygonaceae) that I see there every year. Usually I see a dozen or so plants so I was surprised to count 376 individuals this year. All of the plants were located at the eastern most end of Long Beach where there is a nesting tern enclosure each summer. There is no beach driving there and limited pedestrian traffic throughout the summer. Wondering if the seabeach knotweed was having such a good year on other beaches I visited three other beaches where I have seen it in the past. Much to my dismay each of those beaches were heavily rutted by ORVs [off-road vehicles] and I found no seabeach knotweed with the exception of 3 or 4 plants precariously hanging on at a very steep incline that was too steep to drive or even walk on. In my mind, there could be no better example of the deleterious effect that joy riding on the beach has on the marine environment. When you bring up the subject with any of the ever increasing number of beach riders, they invariably say beach riding does no harm because it's just sand and the next high tide or wind will erase their tracks. It just goes to show, ignorance is bliss or more than likely they just don't care.

First report of redbud (*Cercis canadensis*) spontaneous on Long Island

Jenny Ulsheimer

During the past three decades members of the LIBS Flora Committee have been paying particular attention to the status of *Cercis canadensis* (Fabaceae; Fig. 1) on Long Island and before this report no spontaneously occurring individuals had been reported. On the July 17, 2021 LIBS field trip to Carlls River Botanical Garden at Geiger Park in Deer Park, Suffolk County, Jenny Ulsheimer pointed out more than a dozen 3 to 4 year old seedlings/saplings of redbud growing along the edge of a woodland on the west side of Carlls River. Potential parents are in cultivation at the park and each year they produce copious numbers of flowers and seeds but not until recently have individuals spontaneously colonized new habitat. At a few localities in upstate New York, redbud is listed as "cultivated and naturalizing although somewhat local in distribution. At naturalized sites it can become quite abundant." (NY Flora Atlas; www.newyork.plantatlas.usf.edu).

Cattail sedge (*Carex typhina*) reported from North Fork Preserve, Northville, Long Island

Eric Lamont

Carex typhina (Cyperaceae) is listed as Endangered (S2) in New York (NY Flora Atlas; www.newyork.plantatlas.usf.edu). Before this report only five small extant populations were known from Long Island: three from Queens County and two from the North Fork in the vicinity of Greenport, Suffolk County. During the summer of 2021 Lamont found a third small colony on the North Fork at North Fork Preserve (aka North Fork County Park) in Northville, Suffolk County. At all three of the North Fork localities cattail sedge grows in or adjacent to mature forested wetlands.

Hydrocotyle sibthorpioides (Araliaceae) colonizes Long Island's North Fork

Eric Lamont

Hydrocotyle sibthorpioides (lawn marsh pennywort), native to eastern Asia, has been aggressively invading Long Island from west to east during the past decade. Although first collected in New York in 1934 (Long Island, Suffolk Co., Cold Spring Harbor, in lawn, Sep 20, 1934, *K.E. Maxwell 18598*, BH) it was not reported again from New York until 2017 when Daniel Atha et al. (see Phytoneuron 2017-56: 1-6) documented it from western Long Island (Kings and Queens counties), Manhattan Island (New York Co.), and Westchester Co. In 2018, Lamont collected it from Nassau Co. (see LIBS Newsletter vol. 28, no. 3) and in 2021 he collected it from a lawn on Sound Shore Road in Northville, Suffolk Co. The cause of its rapid colonization of southeastern New York is not known; possibly, the species has been overlooked because of its inconspicuous nature and preference for lawns and other weedy habitats.

Figure 1. Redbud (*Cercis canadensis* var. *canadensis*) in flower. The bright pink, pea-like blooms produced in the spring, before leaf-out, give redbud its name. Image from Gobotany.org.

Long Island Botanical Society
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Field Trips

September 24, 2022 (Saturday) 11am
The Montauk Miracle Mile
Joint field trip with New York Flora Association
Trip Leader: Vicki Bustamante

This walk has been recently coined "the Montauk Miracle Mile" due to the many rarities in a one mile stretch along Big Reed Pond which is flanked by a fresh water shallow emergent marsh and a high salt marsh/salt shrub community. Over twenty S1-S3 state ranked plants can be seen including *Coleataenia anceps* subsp. *anceps, Cyperus flavescens, Edrastima uniflora, Hydrocotyle verticillata* var. *verticillata, Xyris torta, Paspalum setaceum* var. *psammophilum, Eupatorium torreyanum*, and *Eleocharis ambigens*.

Plan to bring water, lunch and/or snack, sunscreen. Note there are no bathrooms in the park, it is recommended to allow for time to stop in downtown Montauk beforehand and find one of the public bathrooms in town. Ticks are a special concern (and sometimes mosquitos), come prepared – boots, tick spray, tick clothing, gators.

Pre-register with Vicki Bustamante (vickibustamante@gmail.com). More details about the trip and the meeting place will be sent after completing registration.

December 3, 2022 (Saturday) 11am
Lichen Survey
North Fork Preserve, Northville, Suffolk County
Trip Leader: James Lendemer

This field trip will primarily focus on learning about the natural history of lichens and how to identify them; we will also take note of mosses, liverworts, and other inconspicuous often overlooked plants. We will survey a variety of ecological communities (including old growth forest, old growth buttonbush swamps, marshes and other freshwater wetlands, as well as successional fields, shrublands, and disturbed sites) and pay particular attention to the lichens growing on glacial erratics scattered throughout the preserve. A list of observed species will be published in the LIBS Newsletter.

James is the staff lichenologist and an assistant curator at The New York Botanical Garden (the lichen collection at NYBG is the largest such collection in the western hemisphere). During the past few years James has led several LIBS field trips and has presented programs on lichens -- sensitive indicators of environmental quality often considered to be the equivalent of corals on land.

Pre-register with LIBS field trip chair, Bob Chapman (bob.chapman516@icloud.com). More details about the trip and the meeting place will be sent after completing registration.