

LONG ISLAND BOTANICAL SOCIETY NEWSLETTER

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Geological Aspects of the Grandifolia Sandhills, L.I.

John A. Black

While the vegetation of the Grandifolia Sandhills has been well documented (Good & Good, 1970; Lamont, M., 1994; Lamont, E., 1998), its geology, despite the studies conducted by Fuller (1914) and Lewis (1876), is rather poorly understood. A casual examination of the area in May of 1998 revealed that the Sandhills consist of linear, parabolic, dome, and possibly star shaped dunes perched atop a high bluff fronting on the Long Island Sound. The sediment that forms these dunes is derived from the bluff face and is carried to the top by the winds blowing landward across the Long Island Sound.

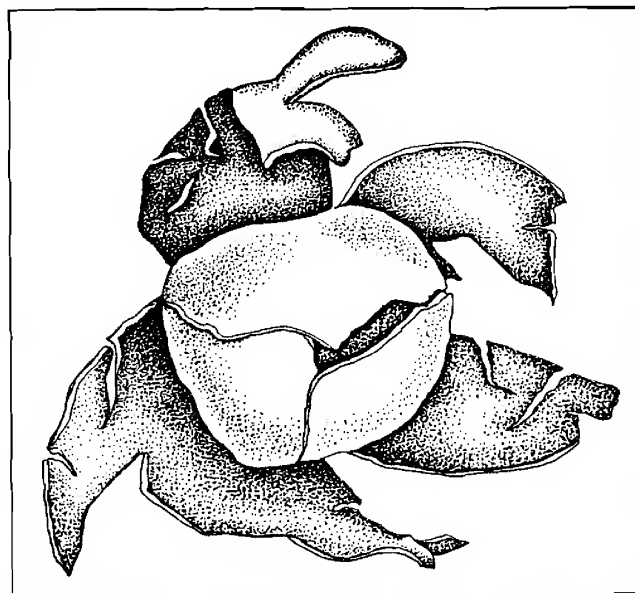
The U-shaped parabolic dunes indicate that these landforms had, indeed, been actively migrating in the past, while the vegetation presently occupying these dunes shows that, for the most part, they have been rather stable for a relatively long period. Parabolic dunes are formed by the prevailing winds focusing on a section of a linear dune. When this occurs the wind's energy discourages the growth of vegetation and causes a blowout on the side of the dune facing the wind. As a result the dune begins to migrate under the continued force of the wind.

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Parabolic dunes may also evolve from dome shaped dunes. In this case wind blown sand begins to accumulate in a particular area and eventually assumes a dome shape. Throughout time, additional sand will accumulate and the dome shaped dune will ultimately reach a certain critical height. When this occurs the continued force of the wind causes a blowout forming a parabolic dune which then begins to migrate (Black, 1993; 1996). It appears that a new dome shaped dune is now forming at the Grandifolia Sandhills. If this is so it can be expected to continue to grow and eventually begin to migrate as a parabolic dune.

As parabolic dunes, driven by the prevailing winds, migrate they may eventually encounter winds blowing from a different direction. When this occurs the migration will stop and if the wind direction continues to vary the dune may begin to assume a star shape.



Earth-star (*Geaster hygrometricus*), a bizarre puffball fungus on shifting dunes at the Grandifolia Sandhills.
Illustrated by Audrey Watson Wigley.

As dunes migrate the vegetational communities change in response. Thus, the community structure is dependent on the formation and migration of the dunes. The Grandifolia Sandhills illustrate the intricate relationship between the geology and biology of a migrating dune system located on, and adjacent to, a coastal bluff. In addition, the collection and analysis of the sediments composing and underlying the older dunes may serve to elucidate Holocene and more recent climatic events. Thus, this area is a valuable resource for the study of these geologic features. Moreover, the area provides an opportunity to study the interactions of an ever changing dune system on the plant and animal life of an ecosystem.

The Napeague Dunes are the only other migrating dune system on Long Island (Black, 1993; 1996). This system, however, has formed under totally different geologic conditions. Thus, the Grandifolia Sandhills are thought to be the last example of a migrating dune system on a coastal bluff in New York State.

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Fall Wildflowers of the South Fork

Larry Penny

Summer's done, Queen Anne's lace and evening primrose are giving over to goldenrods and asters. It might as well be fall.

Eastern Long Island is not visited for its wildflowers. Nonetheless, it has an interesting wildflower flora, particularly so at this time of the year. The goldenrods and the asters, numbering about 25 species locally, are chief among them. There isn't a habitat around that doesn't have at least one aster or goldenrod flowering at this time.

Goldenrods belong to the sunflower family genus *Solidago*. In the Northeast they are all yellow-flowered with the exception of *Solidago bicolor*, or silverrod, which is white-flowered, or silvery-white.

All local goldenrods are perennials. They can be attractive in the flower garden or natural landscapes. Perhaps the one best utilized for such situations is the seabeach goldenrod, *Solidago sempervirens*. This species has succulent leaves and large, showy, yellow heads. Its preferred niche is the upper shore and foreslopes of dunes, but it is liable to be found in any open spot where the soil is a little sandy and not compacted. It is practically drought-resistant, can tolerate salt spray, and often flowers well into fall.

Seabeach goldenrod is a must for monarch butterflies migrating southward along the Atlantic Coast at this time. It is often the only plant in flower during their lengthy daytime flight over ocean dunes and beaches, and thus is the monarch's most important source of nectaring at such times.

The other prominent yellow flowers holding sway during September are two goldenasters, the Maryland goldenaster (*Chrysopsis mariana*) and the sickle-leaved goldenaster (*C. falcata*). The former is the rarer of the two on the South Fork, although in Rhode Island it is just the opposite. There, the sickle-leaved goldenaster is on the endangered species list. This last one has very narrow, arcing leaves and is low to the ground. It is most common in sandy open spots on the landward side of major sea dunes. The Beach Hampton community in

Amagansett and Montauk-by-the-Sea community on the ocean in Napeague, are, you might say, mini sickle-leaf goldenaster capitals of the world. The Maryland goldenaster is upright, to about a foot in height, and found with goldenrods along roadsides at the edges of woods.

The asters are either blue or white-flowering. Among the blues are some rather brilliant ones including the showy (*Aster spectabilis*), late-flowering (*A. patens*), smooth (*A. laevis*), stiff (*A. linariifolius*), New York (*A. novi-belgii*), and New England (*A. novae-angliae*) asters. The first three are found in dry to slightly moist habitats, especially on roadsides, while the latter two are freshwater wetland species. The New England aster has a touch of magenta and is the rarer of the two; on the South Fork it is confined to a few wet spots south of the highway in Bridgehampton and around Hook Pond in East Hampton Village. Because it is often in bloom on Michaelmas, i.e., the 29th of September, it is sometimes called the Michaelmas daisy.

The white asters, which outnumber the blue ones, are almost all tall, some getting up to four feet or more, as the umbellate aster (*A. umbellatus*) that we find in freshwater wetlands adjacent to Accabonac Harbor along Old Stone Highway in Springs. Cranberry Hole Road on the north side of Napeague provides a good place to see lots of the white-flowering asters and some of the blue-flowered ones as well.

In days of old, when Montauk was covered mostly in grasslands, with numerous pockets of marshes and wet meadows, kept down by annual fires and the grazing of livestock, just about every aster found on Long Island was also found there. A few found nowhere else on Long Island were found in Montauk.

An aster listed on New York State's Natural Heritage List, and one that has endangered and threatened status because of its rarity in the state, is the eastern silvery aster, *Aster concolor*, which is just hanging on in the Shinnecock Hills. A second rare aster reported for the South Fork from swamps in the vicinity of Sag Harbor, but apparently absent in recent years, is the rough-leaved aster, *Aster radula*. Both of these are blue-flowered. The former, a denizen of dry, sandy habitats, has silvery,

silky leaves, while the leaves of the latter are sandpapery.

Several lady's-tresses orchids in the genus *Spiranthes* are also in bloom during September. Four or five of these grassland species can be found locally (*S. cernua*, *S. lacera* var. *gracilis*, *S. ochroleuca*, *S. tuberosa*, and *S. vernalis*). They are the last orchids to bloom, but most are so slender or diminutive that they can be easily passed over. The largest stand of lady's-tresses in this area occurs on the slopes of grassy shoulders alongside Montauk Point State Boulevard where it passes through Hither Woods.

The New England blazing star, *Liatris scariosa* var. *novae-angliae*, is another rarity in New York State. More are found in Amagansett and Montauk in sparsely vegetated openings than anywhere else on Long Island, although about 50 percent or more of our population has been decimated by careless management practices along roadways. They are the only tall species flowering on dry land at this time, having showy panicles of largish rose-purple flowers and nonprickly leaves.

The rarest September flower of all in New York State is the sandplain gerardia (*Agalinis acuta*) of Montauk and a few other spots on Long Island and coastal New England. This small, pink-red flowered annual once covered the grasslands of Montauk from the ocean to Block Island Sound. No longer. There are just a few left.



Sickle-leaved Golden Aster (left)
and New York Aster

Illustration from The New Britton & Brown Illustrated Flora

Notes on Wild Orchids of Long Island

Eric Lamont

During the past decade many of Long Island's remaining populations of native orchids have fallen to development pressures and poor management practices. Recent efforts to protect our orchids have been frustrating, but the fruits of those efforts may finally be starting to mature. It may be a little early to speculate, but it appears that some of our rarest orchids are making a modest comeback.

The yellow fringed orchid (*Platanthera ciliaris*) was almost completely annihilated from East Hampton township due to roadside mowing during peak flowering time. During the early 1980s, hundreds of these magnificent orchids adorned several roadsides, but by mid-1990 only a few individuals precariously struggled to survive. The mowing has finally ceased. One population in particular has been slowly recovering and this year several dozen individuals successfully flowered and produced seed. Two other populations are still extant, but have not recolonized adjacent roadsides which are now dominated by non-native weeds.

Roadside populations of the crested fringed orchid (*P. cristata*) and white fringed orchid (*P. blephariglottis*) south of Sag Harbor also appear to be slowly recovering from previous mowing. The rare hybrid between these two species, the pale fringed orchid (*P. x canbyi*), was also observed this year. As an aside, Dr. Richard Mitchell has listed the recently described *Platanthera pallida* as a synonym of *P. x canbyi*.

Another rare and interesting hybrid was observed near Georgica after a long absence. *Platanthera x bicolor* (*bi* = "two," *color* = "color," referring to the two colors of the flower which mix to create this hybrid) appeared in the midst of several white fringed and yellow fringed orchids.

Of significant note is the recent rediscovery of the spotted coralroot orchid (*Corallorhiza maculata*) at Montauk by Jim Ash, John Lawrenson, Guy Tudor, and Marc Weinberger. Roy Latham last observed this species at Montauk in 1927; currently no other populations are known from Long Island. Coralroots are named for their multi-branched

underground rhizomes which strongly resemble some types of marine corals.

In early August while botanizing near the swamp cottonwood forest in Greenport, I chanced upon a small population of spring ladies' tresses (*Spiranthes vernalis*). This is the only population currently known from the North Fork, although Roy Latham reported several North Fork localities earlier this century. According to the New York Natural Heritage Program, fewer than a half dozen populations of this rare orchid remain in the state.

A previously unreported population of the downy rattlesnake plantain (*Goodyera pubescens*) was located by Mike Bottini at Fresh Pond town park north of Amagansett during January of 1998. Jim Ash relocated a population at Napeague; the last report from that locality was in 1928 by Roy Latham. Another population south of Sag Harbor magically reappeared this summer after several years of absence. The Moores Woods population of *Goodyera* remains stable, although a nearby stand in Peconic has not been recently observed. Two Nassau County populations, one at Muttontown the other at Oyster Bay, are thriving. Apparently, it has been a good year for *Goodyera*.

At the turn of the century, 23 native orchid species occurred in Queens County; in 1995, only two species were thought to remain (*Cypripedium acaule* and *Spiranthes cernua*). Well, add a third extant species to the county list. Skip Blanchard and Rich Kelly recently located a healthy population of the ragged fringed orchid (*Platanthera lacera*) from the vicinity of East Pond at Jamaica Bay Wildlife Refuge. Additionally, Barbara Conolly and Betty Lotowycz reported *P. lacera* from Oyster Bay in Nassau County; the last report from that locality was in 1926 by William Ferguson.

Finally, Long Island's only non-native orchid, the helleborine orchid (*Epipactus helleborine*), continues to vigorously expand its range. First reported on L.I. from Greenport in 1962 by Roy Latham, *Epipactus* is now known from more than 30 localities. The first reports from Southampton Township are arriving: Steve Biasetti reported more than three dozen plants from the south end of Long Pond, and Tom Meoli reported a population at Big Woods Preserve, just west of North Sea. Ironically, Richard Stalter reported a large population of the "immigrant orchid" from Ellis Island, in New York Harbor.

Plant Sightings

Mike Bottini located a population of featherfoil (*Hottonia inflata*), a rare aquatic member of the Primrose Family, in a wetland off Brick Kiln Road north of Bridgehampton. **Steve Clemants** reported that the five-angled field-dodder (*Cuscuta pentagona*) is frequently observed in the boroughs of New York City; NYNHP lists this species as rare. Steve also reported the rare red pigweed (*Chenopodium rubrum*) from Shelter Island. **Eric Lamont** added a new species to the flora of Gardiners Island: mock-pennyroyal (*Hedeoma hispidum*) was collected from a grassy barren on a knoll overlooking Bostwick Creek. Eric also reported cat-tail sedge (*Carex typhina*) and primrose violet (*Viola primulifolia*) from Moores Woods in Greenport. **Barbara Conolly** and **Betty Lotowycz** reported goat's beard (*Aruncus dioicus*) as escaped in Coffin Woods, Locust Valley. They also located little-leaf tick-trefoil (*Desmodium ciliare*) along Swamp Road south of Sag Harbor, and ipecac spurge (*Euphorbia ipecacuahana*) at Rocky Point Preserve. **Tom Meoli** also reported ipecac spurge from the sandy banks of Big Fresh Pond at Wolf Swamp Sanctuary, and **Eric Lamont** reported two additional populations from near Calverton. **Mary Laura Lamont** reported a ruby-throated hummingbird (*Archilochus colubris*) feeding on flowers of joe-pye weed (*Eupatorium purpureum*) in Northville. **Mindy Block** reported what may be the largest population of wild lupine (*Lupinus perennis*) on Long Island; roughly a thousand individuals occur in an opening in the pine barrens near Manorville.

Society News

American Chestnut Update

John Potente reported that the nuts collected last fall were kept in cool storage over the winter. Unfortunately, they did not germinate when planted this past spring. Increased humidity in seasonal storage and/or possible immediate fall planting are being considered for this year's attempt.

As a result of news coverage in *Newsday* (23 April 1998) and the *New York Times* (3 May 1998) readers have helped locate additional flowering trees at Stony Brook, Huntington, and Lloyd Harbor. The one in Lloyd Harbor being the largest and most majestic found so far at about thirty to forty feet high. There are now eight potential trees on Long Island that produce flowers that are relatively accessible (six of those eight are blight infected). They were pollinated during the first week of July, 1998, and again will hopefully bear nuts come this autumn.

Bibliography of Environmental Literature

David Kunstler has been compiling an extensive list of natural history literature pertaining to Long Island, SE New York and adjacent New Jersey. The single-spaced manuscript currently totals 36 pages and includes more than 1500 citations in the areas of geology, marine/aquatic/precipitation/groundwater, botany, community ecology, terrestrial invertebrates, fishes, amphibians & reptiles, birds, mammals, history & native Americans, biographies, and general (wildlife, impact assessments, restoration, & other topics). For a copy, please contact David at: City of N. Y. Dept of Parks & Recreation, Van Cortlandt & Pelham Bay Parks Administrator's Office, 1 Bronx River Parkway, Bronx, N.Y. 10462.

Field Trips

26 September 1998 (Saturday), 9:30am.

David Weld Sanctuary, Boney Lane, Nissequogue.
Leader: **Tom Meoli**. This TNC preserve is on the north shore in the township of Smithtown, near the mouth of the Nissequogue River. Directions: Take 25A from either the E or the W to the tiny town of St. James. Turn N at traffic light onto Moriches Rd (from the W turn left at the light after passing the "Deepwells" manor; from the E turn right at the light after passing the St. James Firehouse). Continue to the end of Moriches Rd and bear right onto Horse Race La. (Moriches Rd. becomes Horse Race La.). Turn left onto Boney Lane. Look for sign and parking lot on right, within 1/4 mile. You've gone too far if you end up at Short Beach at the mouth of the river. For further info please contact **Tom Meoli** at 516/427-9458.

3 October 1998 (Saturday), 10:00am.

Bent of the River Sanctuary, Southbury, CT.
Leader: **Muriel Stoker**. This sanctuary is administered by the National Audubon Society and features large tracts of oak-hickory and hemlock forest and other southern New England ecosystems. Directions: I-95 to Whitestone Bridge to Hutchinson River Pkwy to I-684 (toward Brewster) to exit 9E to Interstate-84 (toward Danbury, CT). From I-84 take exit 14 (South Britain), proceed N on Route 172 for exactly one mile after passing through the traffic light with Main St. (located just N of I-84). In South Britain turn left onto East Flat Hill Rd. (between Red General Store & Church), and proceed 4/10 mile to driveway on left. Parking is on the immediate left. Bring lunch, etc. For further info including car pooling, please call **Al Lindberg** at 516/922-0903 (h), 516/571-8500 (w).

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.

President	Eric Lamont
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	Jane Blanchard
Editor	Eric Lamont

Membership

Membership is open to all, and we welcome new members. Annual dues are \$10. For membership, make your check payable to LONG ISLAND BOTANICAL SOCIETY and mail to: Lois Lindberg, Membership Chairperson, 45 Sandy Hill Road, Oyster Bay, NY 11771-3111

PROGRAMS

8 September 1998 - 7:30 pm*

Otto Heck

(Professor Emeritus, College of New Jersey)

"Ferns of the Northeast"

A joint program with The Nature Conservancy featuring one of L.I.'s most popular field naturalists

Location: Uplands Farm Nature Center,
Cold Spring Harbor.

13 October 1998 - 7:30 pm*

Joann Knapp

(Planting Fields Arboretum)

"Western Mountain-Top Hopping"

Spectacular photographs of extensive trips to the most beautiful high alpine areas of the western U.S.

Location: Bill Patterson Nature Center,
Muttontown Preserve, East Norwich.

*Refreshments & informal talk begin at 7:30pm, the meeting starts at 8pm. For directions to 1) Uplands Farm please call 516/367-3225, 2) Muttontown Preserve call 516/571-8500.

LONG ISLAND BOTANICAL SOCIETY

c/o Muttontown Preserve

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