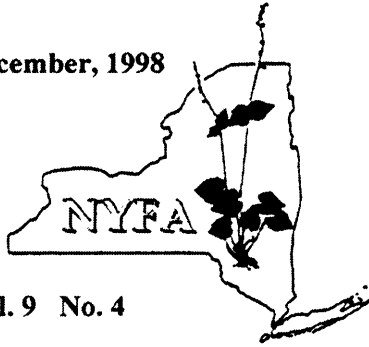


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NYFA Newsletter

New York Flora Association
of the New York State Museum Associates

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Sterling Forest: A Botanical Bonanza

by Richard S. Mitchell, NY State Museum

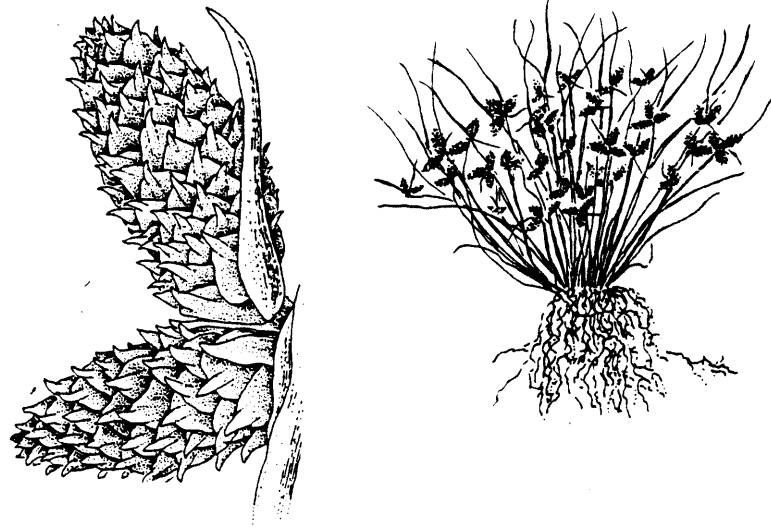
The 1998 purchase of New York State park lands from the Sterling Forest Corporation led to a contract from the Palisades Interstate Park Commission, and that has given us two more years to explore new frontiers in the Hudson Highlands. After a one-year hiatus, we couldn't wait to get out there, and the team put in at least one very long field-day each week from April through November. I was joined by Spider Barbour, Jack Focht and John Yrizzary on nearly all of the field trips, which included a lot of back-road driving, hiking, climbing, canoeing and wetland slogging.

The newly-acquired tracts total over twelve thousand acres and are somewhat scattered between New Jersey and Tuxedo, NY, interrupted frequently by large parcels of private land. Even so, Sterling Forest is a wonderful place, where you can find yourself in a number of wild places, like lakeshores, summits and wooded slopes, without a house in sight -- even though you are less than 30 miles from Manhattan. The botany holds lots of surprises, too.

A Tale of 4-Wheelers and Starworts

Early in the season, we were climbing up a muddy, rutted road toward two ridge-top swamps, where we expected to find good things. Spider Barbour was the first to notice that, in the puddles and ruts recently created by SUVs and pickups, terrestrial starwort (*Callitriche terrestris*) was present in small numbers.

This plant, ranked State Endangered (S1) looks like a tiny, green thread, with leaves the size of pinheads and mature fruits about half a millimeter across. As we climbed, we found it to be abundant in the ruts for over a quarter mile, and also present in some muddy depression off the road. In the next few weeks, we found this species four more times, in similar situations, within a few miles of each other. Spider and Anita Barbour even found it way up-river, at Olana (Frederick Church's famous castle) and at another site in Ulster County when



Lipocarpa micrantha (Vahl) G. Tucker, a tiny sedge ranked endangered (S1) in New York, found on the beach margin at Sterling Lake

doing surveys there.

When I was asked by our museum publicity department about the find, I thought I was being interviewed for an in-house newsletter, but the story got picked up by the Associated Press, and appeared in papers all over the state.

The only things of interest offered by the ridge-top swamps were a rare sedge (*Carex abscondita*) and a shy bear, whose scat was all over the road, fertilizing the rare starwort.

Terrestrial starwort is a somewhat weedy native plant in the southern and midwestern states, in similar situations to those where we now find it. Perhaps it is another of those plants moving northward with some haste. At any rate, it will be re-evaluated at our next rare plant status meeting in early December. I promise to refrain from making any management recommendations involving SUVs and bears, though I have a great love of both.

High Diversity

The new Sterling Forest park lands offer a wide range of habitat conditions, from very disturbed logging roads to almost pristine sites. We did not initially expect species-diversity to be as high as it had been in our other park studies, due to the absence of the Hudson River Estuary from the study area, and because of its lack of well-known, limy, or otherwise unusual, habitats where interesting plants had been collected historically.

The total of plant species vouchered from the Sterling Forest area in just the first year of collecting is now approaching 830 (over half the known Hudson Highlands flora), and we have not finished our identifications. Of these, over twenty species are endangered or threatened in New York (see below).

What we found in the area were limy cliffs, some odd lakes, a drowned valley full of aquatics, and a sedgy beach, lined with hot-pink *Rhexia* and rarities. Another truly fascinating area, called the "sand pits," is actually a former lake site. There is a dam and a vernal-moist, summer-dry, exposed lake bed, with a shallow pond at one end. This place is loaded with Coastal Plain species, like *Diodia teres*, *Agalinis purpurea* and *Chamaecrista nictitans*, and there are at least two S1, Endangered species: *Myriophyllum pinnatum* and *Sisyrinchium mucronatum*.

Cedar Pond, which is thankfully difficult to access, boasts a wonderful swamp of Atlantic white cedar (rare inland in New York), and a relatively small, floating bog mat at one end. It is a fine place to see several species occurring outside their typical habitats. All three of our *Kalmia* species are present, the most interesting occurrence being *K. polifolia*, near the southern limits of its range. Hardly recognizable are giant dangleberries or "dwarf huckleberries," (*Gaylussacia frondosa*), eight feet tall, growing right on the floating bog mat. Their berries were tasty when mixed with highbush blueberries (*Vaccinium corymbosum*).

Rare Plants of Sterling Forest (1998)

Twenty one species currently listed by the New York Natural Heritage Program as endangered or threatened were found on Sterling Forest lands during the first year of botanical exploration. Six more had appeared on this list at the outset of our work in the Hudson Highlands, but we have recommended that they be moved from active rarity status to the "watch-list," since we found them at a number of sites in the Palisades Parks. In addition, one historical specimen

of a rare species from the Sterling Forest Region has been found at the State Museum, and this orchid will be actively sought in the 1999 season.

Sterling Forest Plants Listed Endangered or Threatened

- Atriplex subspicata* (Nutt.) Rydb. SPEARSCALE, ORACH
Rarity Status: State: *E* TNC Rank: G5 S1
- Callitriche terrestris* Raf. TERRESTRIAL STARWORT
Rarity Status: State: *E* TNC Rank: G5 S1
- Carex abscondita* Mackz. SEDGE
Rarity Status: State: *E* TNC Rank: G4G5 S1
- Carex albicans* Willd. ex Spreng. SEDGE
var. *emmonsii* (Dewey ex Torrey) Rettig
EMMONS' SEDGE
Rarity Status: State: *T* TNC Rank: G5T5 S3
- Carex cumulata* (Bailey) Mackz. SEDGE
Rarity Status: State: *E* TNC Rank: G3G4 S2S3
- Carex mesochorea* Mackz. SEDGE
Rarity Status: State: *E* TNC Rank: G4G5 S1
- Corydalis flavula* (Raf. ex Desv.) DC. YELLOW
HARLEQUIN,
Rarity Status: State: *T* TNC Rank: G5 S2
- Crotalaria sagittalis* L. RATTLEBOX
Rarity Status: State: *E* TNC Rank: G5 S1
- Cyperus odoratus* L. CYPERUS, FLAT SEDGE
Rarity Status: State: *T* TNC Rank: G5 S2S3
- Desmodium obtusum* (Muhl. ex Willd.) DC. BEGGAR-
LICE, TICK-TREFOIL
Rarity Status: State: *E* TNC Rank: G4G5 S1
- Lechea racemulosa* Lam. PINWEED
Rarity Status: State: *T* TNC Rank: G5 S3
- Lechea tenuifolia* Michx. SLENDER PINWEED
Rarity Status: State: *T* TNC Rank: G5 S2
- Lespedeza violacea* (L.) Pers. LESPEDEZA, BUSH-
CLOVER
Rarity Status: State: *T* TNC Rank: G5 S2
- Lipocarpha micrantha* (Vahl) G. Tucker RUSH, SEDGE
Rarity Status: State: *E* TNC Rank: G4 S1
- Megalodonta beckii* (Torrey ex Spreng.) Greene
WATER-MARIGOLD
Rarity Status: State: *E* TNC Rank: G4G5TU S1S3
- Myriophyllum pinnatum* (Walt.) BSP. GREEN
PARROT'S-FEATHER, MILFOIL
Rarity Status: State: *E* TNC Rank: G5 S1

† *Platanthera hookeri* (Torrey ex Gray) Lindl.
HOOKER'S ORCHID, PAD-LEAF
Rarity Status: State: *E* TNC Rank: G5 S1S2
HISTORICAL in the Hudson Highlands: a record from the vicinity of Sterling Forest in the 1950s, with a specimen at the New York State Museum (NYS)

Polygonum careyi Olney SMARTWEED, PINKWEED
Rarity Status: State: *T* TNC Rank: G4 S2

Potamogeton diversifolius Raf. PONDWEED
Rarity Status: TNC Rank: G5 S1?

Potamogeton pulcher Tuckerm. PONDWEED
Rarity Status: State: *E* TNC Rank: G5 S1

Ranunculus micranthus Nutt. ex Torrey & A. Gray
SMALL-FLOWERED CROWFOOT
Rarity Status: State: *T* TNC Rank: G5 S2

Scutellaria integrifolia L. HYSSOP SKULLCAP
Rarity Status: State: *E* TNC Rank: G5 S1

Sisyrinchium mucronatum Michx. BLUE-EYED GRASS
Rarity Status: State: *E* TNC Rank: G5 S1

Rare Species Formerly Listed Endangered or Threatened

Aster racemosus Ell. SMALL WHITE ASTER
Rarity Status: State: *R* TNC Rank: G5 S2
(Active rarity status recommended discontinued)

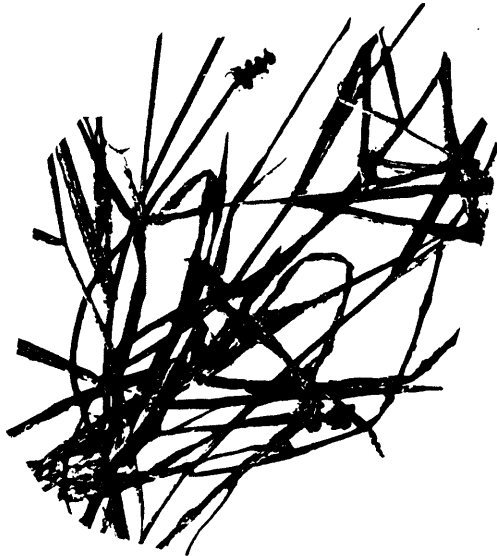
Aster schreberi Nees LARGE-LEAF ASTER, SCHREBER'S ASTER
Rarity Status: *T*, G5 S2 ((Active rarity status recommended discontinued)

Carex bushii Mackz. SEDGE
Rarity Status: State Rank: *R* TNC Rank: G4 S2
(Active rarity status recommended discontinued)

Chenopodium standleyanum Aellen GOOSEFOOT
Rarity Status: State Rank: *R* TNC Rank: G5 S3
(Active rarity status recommended discontinued)

Mimulus alatus Ait. WINGED MONKEYFLOWER
Rarity Status: State Rank: *R* TNC Rank: G5 S3
(Active rarity status recommended discontinued)

Polygonum tenue Michx. SLENDER KNOTWEED
Rarity Status: (Active rarity status recommended discontinued)



Ogden's Pondweed (*Potamogeton ogdenii*) Now Known to Persist at Three Sites in New York State -

Ogden's pondweed (*Potamogeton ogdenii* Hellquist & Hilton) is a very rare, thread-like, submerged-aquatic plant found in New York and New England. It is similar to *P. hillii* Morong, and has been considered by some botanists to be a hybrid between that species and *P. zosteriformis*. However, Hellquist and Crow, in a soon-to-be-published book on the aquatic plants of the U.S. will treat it as a species, as do Kartesz (1994) and Mitchell & Tucker (1997) in the state checklist.

The species was named for Dr. Eugene C. Ogden, who began to develop his great expertise with pondweeds when he studied them for his dissertation at Harvard in the 1930s. Dr. Ogden currently resides in Del Mar, near Albany, and is actively interested in botany at age 93.

Steve Young and Debbie Albert (NYNHP) have discovered a third extant site for *P. ogdenii* in New York, in a lake in Dutchess County. It had been known historically from the site, but it had not been verified there since E. H. Eames collected it in 1936, long before this globally-rare species was named.

A Second Population of Large, Floating Bladderwort Discovered in New York -

While canoeing in a small lake in Black Rock Forest, Spider and Anita Barbour checked out a floating vegetation mat, which had little of botanical interest, but, on their return trip, they discovered the second known population of *Utricularia inflata* to be found in New York State.

New York Rare Plant List Now on the Internet

An updated New York Natural Heritage rare plant list is now available on the web. It is free and may be downloaded or printed from the site at:

<http://www.heritage.tnc.org/nhp/us/ny/index.html#10>

It is a number of miles from the population we discovered in Harriman State Park in the early 90s.

Since Hugh Raup spent many years studying the flora of Black Rock Forest in the 1930s, it is likely that this population has established since then. Keep your eye out for these plants if you live in southeastern New York. They appear to be on the move. (Editor)

Botanical News from Long Island

Notes on Two Long Island Exotic Waifs by Steve Young, New York Natural Heritage Program

You may cross out the symbol for extirpation in your checklist for the following two exotic waifs that we have recently rediscovered:



Tribulus terrestris L., puncture vine, is a member of the tropical family Zygophyllaceae. It is a prostrate, mat-forming vine with spiny fruits. I have found plants at Breezy Point, Queens for the last two years during searches for *Amaranthus pumilus*. This year there was a plant 10 feet in diameter! It was last collected on Long Island in 1879 at Hunters Point, Queens. A native of the Mediterranean Region, it was seen in 1961 at the port of Albany, and is probably a hitchhiker in ballast waste.

Bassia hyssopifolia (Pall.) Kuntze is a member of the Chenopodiaceae that was last collected by Joseph Monachino in Queens in the 1940s. Bob Zaremba and I observed a large colony of plants at the marina at Long Beach Peninsula west of Stony Brook this fall. It is a native of Eurasia.

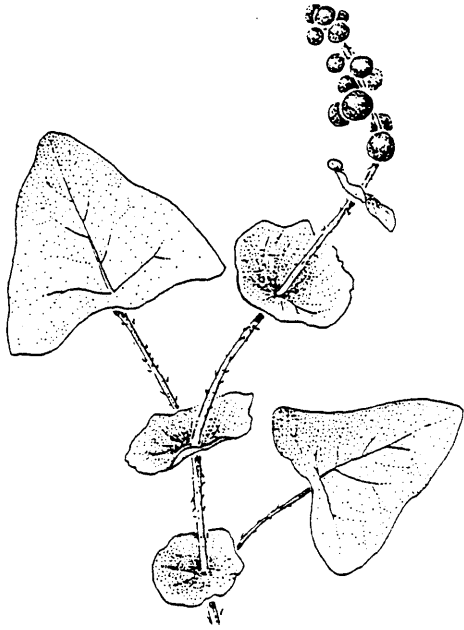
The following two articles are reprinted from the Long Island Botanical Society Newsletter, Vol. 8, No. 7, since they are of interest statewide. Thanks to Eric Lamont, editor of the LIBS Newsletter (R. Mitchell)

Mile-a-minute (*Polygonum perfoliatum*) Invades Long Island - by Eric Lamont

While walking along the Greenbelt Trail in eastern Nassau County this past summer, my attention was drawn to a tangled mass of vegetation sprawling over the ground and clambering up and over shrubs and small trees. Upon closer examination, I observed a prickly-stemmed, vine with perfectly triangular leaves and bizarre sheaths that were expanded into saucer-shaped collars clasping the stem. The immature fruits were berry-like, fleshy, and approximately pea-sized. I immediately knew that the plant was the dreaded mile-a-minute-weed. For a brief moment I was excited, for I realized that this was the first time the species had been observed on Long Island. But, then, the magnitude of the discovery set in.

A native of Japan, mile-a-minute was accidentally brought to Pennsylvania in the 1930s with a shipment of rhododendrons. Its seeds were soon spread by birds and rodents that ate the fruits. It crept down the coast into Maryland, Delaware and Washington, D.C. In eight years, from 1981 to 1989, mile-a-minute extended its range in Pennsylvania from five to eleven counties. It crept into New Jersey, northern Virginia and Ohio. In 1994, Sara Stein reported mile-a-minute from Westchester County, New York. A conference on the spread and potential control of the weed was held at the University of Pennsylvania in 1995.

Mile-a-minute thrives in areas with plenty of direct sunlight and damp soil. It is especially abundant along roadsides, ditches, stream banks, wet meadows and clearcuts. Rapidly growing at



Mile-a-minute-weed, *Polygonum perfoliatum* L., was first reported from New York State in this newsletter almost four years ago, from Westchester County. It has now been found on Long Island, Suffolk County, and is spreading in the Hudson Valley as well.

about half a foot per day, it can reach lengths of 20 feet. Its rapid growth and viny nature allow it to overtake the native vegetation of an area, smothering seedlings and out-competing mature plants for space, nutrients and sunlight.

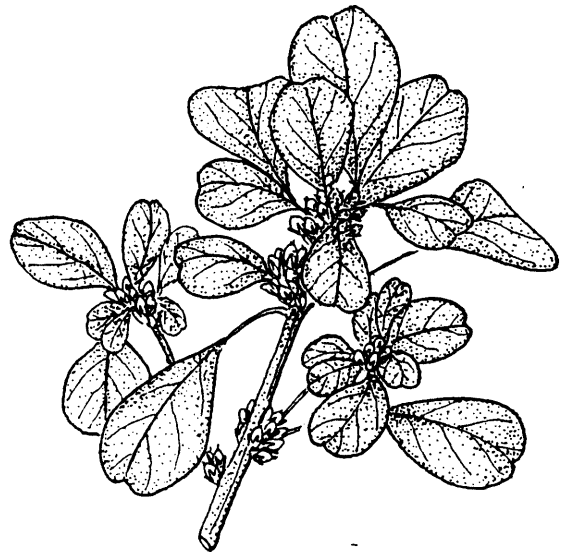
Because mile-a-minute is an annual with a shallow root system, it is best removed from lightly infested areas by hand-pulling (with gloves to protect hands) and disposing of them before they go to seed.

Considering the apparent attraction of birds and small rodents to the sweet, berry-like fruits, this invasive weed is likely to become quite common throughout Long Island in the near future.

**Seabeach Amaranth: Increased Numbers Again in 1998 -
by Steve Young, New York Natural Heritage Program**

A total of just under 8600 plants of the federally threatened species, seabeach amaranth (*Amaranthus*

pumilus) were counted on Long Island beaches this year. Annual counts have taken place on Long Island since 1990 (see Table below) when the plant was rediscovered, and this year's count is the highest ever, surpassing the 8000 plants observed in 1997. Most of the plants are concentrated at three sites in central Suffolk, western Nassau and eastern Queens Counties, but plants are found east to Westhampton Island. Because North and South Carolina plants have suffered from numerous, recent hurricanes, Long Island has the most flowering plants in the world at this time (only 810 plants were counted on half of the known sites in NC this year...). The recent success of Long Island plants seems to be primarily due to the protection provided by the fencing of beaches for rare piping plovers and terns, and [to] a lack of hurricanes.



Numbers of Seabeach Amaranth Plants Observed on Long Island, N.Y. (1990-1998)

| Year | Number of Plants Observed |
|------|---------------------------|
| 1990 | 331 |
| 1991 | 2100 |
| 1992 | 442 |
| 1993 | 195 |
| 1994 | 182 |
| 1995 | 599 |
| 1996 | 2263 |
| 1997 | 7990 |
| 1998 | 8600 |

**Recommended Books and
CDs for Holiday Reading,
Gifts, or Adding to Your 1999
Botanical Library**

**Leopold, Donald J. *et al.* 1998. Trees of the
Central Hardwood Forests of North America.
Timber Press. \$49.95 (hard cover)**

The central hardwood forests are found in New York on Long Island, in the lower Hudson Valley, Finger Lakes and the Lake Plains of Erie and Ontario. Those of you living in these areas will be particularly interested in this book. If you ever took a dendrology course, it will be a very familiar format to you -- one which is almost identical to the Harlow, *et al.* texts of the past four decades, but more specialized and comprehensive. It is loaded with valuable information about trees and shrubs, and includes black and white photos and maps for all major species treated.

Fern Enthusiasts!!

**Tryon, Alice F., & Robin C. Moran. 1997. The
Ferns and Allied Plants of New England.
Mass. Audubon Society, Nat. Hist. of New
England Series. \$39.95 (hard cover)**

This is a beautiful book on ferns and fern "allies," (vascular cryptogams) that covers almost all of the taxa of New York State as well as New England, for which it was specifically intended. In addition to the well-thought-out format, with keys, descriptions, etc., it includes an extraordinary series of black and white photos of the species, taken over 50 years ago by Robert Coffin. These alone make the book worth the purchase.

**Mitchell, Richard S., L. Danaher & G. Steeves.
1998. Northeastern Fern Identifier. CD disc
with instruction booklet, 91 text screens, 150+
photos. (PC compatible) N. Y. State Museum
Publications, 3140 CEC, Albany, NY, 12230
\$19.95 plus \$4 shipping and handling.**

This innovative software package allows identification of fern species from Maryland to Newfoundland by just pointing and clicking. Each of the 70 species is illustrated with a color photograph taken in the field. Word search and slide show features round out this very friendly, PC compatible software available on CD-ROM disc.

Don't Forget Your 1999 Dues

Please check your envelope, just above your name and address, to find out the last year you paid your \$10 dues. We don't want to lose any members, so missing a year or so of dues does not get you cut from our mailing list, but **please** support our organization. We are proud to be starting our tenth year with a sustained membership of over 350 field botanists and wild-plant enthusiasts.

**Comments, Letters to the Editor, and
Especially Articles on Field Botany and
Systematics are Welcomed.**

Send your contributions and opinions, whatever they may be, to Richard Mitchell, at the address on the banner, or e-mail me at:

rmitch3@mail.nysed.gov

Happy Holidays !