

NYFA Newsletter

New York Flora Association - New York State Museum Associates

Richard S. Mitchell, Editor

Correspondence to: NYFA, 3140 CEC, Albany, NY 12230

Vol. 12 No. 4 Dec, 2001 email: rmitche3@cccdom.sedosm Join \$15, Dues \$10

The Lone Tree Issue

Jack Pine at 4000 Feet in the Giant Mountain Wilderness Area, Adirondack Mountains, New York - by Norton G. Miller, New York State Museum

Among native New York pines, jack pine (*Pinus banksiana* Lamb.) is decidedly uncommon. Native populations occur mainly at scattered places in Essex and Clinton counties in the far northeastern corner of the state, and generally at low altitudes. Jack pine has been widely planted in other parts of New York. Although the history of introduction is often difficult to establish, there is no evidence that jack pine once had a wider range in the contemporary vegetation of New York. However, at the close of the Pleistocene, it was widespread in the Great Lakes-St. Lawrence region on the basis of pollen and plant macrofossil evidence. Cone scales of jack pine from a late Pleistocene sediment at the Hiscock site, Genesee County, western New York, are $11,135 \pm 100$ and $11,200 \pm 100$ radiocarbon years old, ages consistent with conjecture that the Pleistocene refugium of this pine was in eastern North America (Miller, 1990).

In Essex County, native jack pines are known from three principal areas: places near the West and East Branches of the Ausable River in the towns of Wilmington and Jay, the Bouquet River Valley south of Elizabethtown, and from near Lake Champlain in the town of Chesterfield. Poke-O-Moonshine Mountain, Chesterfield, has jack pines growing on its northern spur at an altitude of 1500 ft (Littlefield, 1960), the highest previously reported station for the tree in New York State.

During botanical survey work in August 2001, I discovered a small, solitary, cone-bearing jack pine east of the summit of Rocky Peak (4383 ft max. altitude), a prominent mountain 0.75 mi east-

southeast of Giant (Fig. 1). Complete data for the station follow:



Photo: S. F. McDaniel

Norton Miller with the Rocky Peak Jack Pine, which he discovered 2500 feet higher in elevation than any other New York tree of its species and 800 feet above the highest known record for *P. banksiana* in the northeast

ESSEX County: Town of Keene, e. slope of Rocky Peak above and within sight of Lake Marie

Louise, ca. 4 mi e of Saint Huberts, 44°09'22.6"N, 73°41'57.1"W (GPS), 4000 ft (altimeter). 22 Aug 2001. *N. G. Miller 13,675 (with S. F. McDaniel & N. Pedersen)*; NYS.

When we revisited the tree on 11 Sep, 2001, a search of the east slope of Rocky Peak by Prof. Steven Rice of Union College failed to locate any additional jack pines in the immediate area.

As expected, considering where it grew (a windswept mountain slope), the tree was dwarfed (ca. 3.5 ft tall); it lacked a well-defined bole, and consisted largely of branches that arose in part from positions beneath the shallow soil. The needle fascicles were shorter than those of trees from trees of lower elevations (0.8-1.2 in [mean 1.0 in] vs. 0.9-1.6 in [mean 1.4 in]), and the cones were also smaller. Closed cones were 0.8-1.4 in long (vs. 1.6-1.8 in in lowland trees); open cones were 1.2-1.4 in long and 1.0 in wide (vs. 1.2-1.6 in long [mean 1.4 in] and 1.2-1.4 in wide [mean 1.3 in] in lowland trees). I used specimens from Essex and Clinton counties in the Herbarium of the New York State Museum for these comparative measurements.

The growth-habit of this particular tree was not suited to standard methods of age determination by increment borer. Therefore, three of the lowest branches were studied. Two were cut near their bases, and disks were sawed from the butt ends and sanded smooth. Growth rings in both disks were broken and incomplete, with a wedge of proliferated wood on one side of the largest branch.

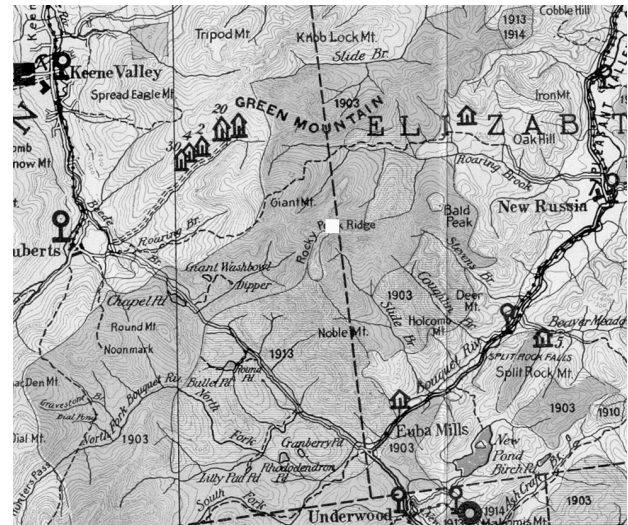
These irregularities led to different ring counts on opposite sides of each disk. The smaller branch had 15 rings on one side and 17 on the other. The larger branch had 26 rings on the side that included the wedge, and 16 on the opposite side. A core was taken on the third and largest branch close to its base, but the core missed hitting the oldest central rings, because the center of the branch was eccentric. Wood retrieved by the borer had 22 rings, and comparisons with the disks indicated that nine additional rings were present but missed. This branch contained 31 annual rings, making the minimum age of the tree 31 years.

Both open and closed cones were present on the Rocky Peak tree. I examined seeds shed from several open cones attached to the voucher specimen, but all were hollow and lacked a megagametophyte or embryo. I also sectioned a two-year (or older) closed cone, but again did not

find any viable seeds. Therefore, the tree appears to be non-reproductive.

The Poke-O-Moonshine station for jack pine is greatly exceeded in altitude by the Rocky Peak tree. Indeed, Baldwin's (1979) summary of the distri-

bution of jack pine in New York and the New England states that the tree has been found as high as 3200 feet on Mt. Webster, New Hampshire, which seems to be the previous highest elevation recorded for the species in the Northeast.



Map of Giant/Rocky Peak area showing the extent of the Roaring Brook fire of 1903; white square is the location of the Rocky Peak jack pine (Modified from Schmitt, 1916).

How did the Rocky Peak tree become established some 4 mi and 3350 ft higher than the nearest other trees of this pine in Essex County? It is impossible, of course, to answer this question with complete satisfaction.

Jack pine is fire-adapted and often sheds seeds from serotinous cones opened by the heat of wildfire. Large parts of the forest in what was to become the Giant Wilderness Area burned in 1903 (Fig. 2), according to information compiled by H. M. Suter (1904) and Karl Schmitt (1916). Jack pine has been observed growing in New Russia in the Bouquet Valley 4 mi east of the Rocky Peak station (record in the State Botanist's office, New York State Museum, by State Forester E. W. Littlefield). It is possible that the Rocky Peak tree originated by natural dispersal from the New Russia population or

an unrecorded stand intermediate in location, with seed carried by the wind or some other vector onto soil prepared by a burn. The Rocky Peak tree is at least 31 years old and probably much older, so the timing and source seem right. However, because the tree occurs along a hiking trail, it is also conceivable that someone may have carried a seedling from the valley and planted it in an attempt to prove the viability of jack pine at a high altitude. We many never know which of these two explanations is correct for the Rocky Peak jack pine. What, however, can be concluded with certainty is that jack pine can grow and persist in the subalpine zone in the Adirondack Mountains, albeit as a semi-bonsai.

Literature Cited:

Baldwin, H. I. 1979. The distribution of *Pinus banksiana* Lamb. in New England and New York. *Rhodora* 81: 549-565.

Littlefield, E. W. 1960. Jack Pine—poor relation or pioneer? *N. Y. State Conservationist* Apr-May 4-7.

Miller, N. G. 1990. Late-Pleistocene cones of jack pine (*Pinus banksiana*) at the Hiscock Site, western New York. *Current Res. Pleistocene* 7: 95-98.

Schmitt, K. 1916. Fire protection map of the Adirondack forest, based on field work of State forest rangers and on United States Geological Survey. 4 sheets. New York State Conservation Commission. J. B. Lyon Co. Albany.

Suter, H. M. 1904. Forest fires in the Adirondacks in 1903. U. S. Dep. Agr. Bur. For. Circ. 26. 15 pp. + map.

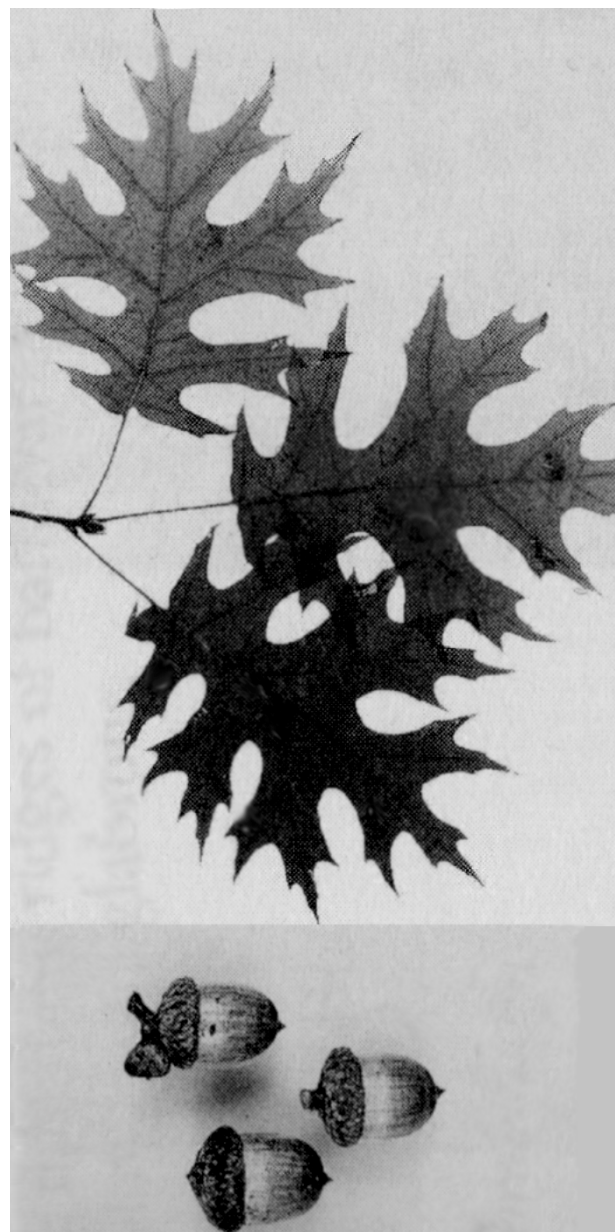
Norton G. Miller, New York State Museum, Albany, NY 12230; e-mail: nmiller2@mail.nysed.gov

Acknowledgment. Louis C. Curth (NYS Department of Environmental Conservation, Watertown) provided helpful leads on forest fire history in the Adirondacks.

**Shumard Oak (*Quercus shumardii* Buckley)
Discovered in Western New York -
by Carol R. Sweeney, Department of Biology,
Niagara University, NY**

A single large specimen of Shumard Oak, *Q. shumardii*, has been found in Niagara County. It is a tree of more than 24 inches dbh, located in a wet woodland within the city limits of North Tonawanda, NY. The woodland is owned in part by the city, including the area where this specimen

is growing, and by several conservation groups and private land owners. Specimens were collected by Shawn McCourt, a student at Niagara University, and cited in his honors thesis, which treated the flora of Klydel Woods (Mccourt, 2000). The



Shumard oak, *Quercus shumardii* Buckley, now reliably reported for New York, but known from a single tree in Niagara County

vouchers are housed in the Niagara University Herbarium.

Specimens were sent to Richard Jensen, author of the red oak division of the genus *Quercus* in the *Flora North America*. He annotated all the sheets, including one with acorns, as Shumard oak, *Quercus shumardii*, but stated that they show signs of introgression with red oak, *Q. rubra*. Such introgression apparently occurred historically in the northern parts of the range of *Q. shumardii* (Jensen, personal communication, 2001).

Shumard Oak is a midwestern species that ranges from Ontario to Florida, eastward to Maryland west to Kansas and Texas. It is found on poorly drained soils and stream banks (Jensen, 1997). Ontario specimens occur along Lake Erie, extending eastward to the Niagara Peninsula (Waldron, 1987). Morphologically Shumard oak most closely resembles Red Oak, (*Q. rubra*) but the leaf outline is broader and more deeply dissected. The sinuses of the leaf extend more than half way to the midrib in typical *Q. shumardii* (Gleason & Cronquist, 1991). The lobes of the leaves of the New York specimens are mostly 7-9, intermediate between *Q. shumardii* (5-9) and *Q. rubra* (7-11). The upper leaf surface is glossy rather than dull green, as in *Q. rubra*; the lower surface has distinctive, obvious tufts of reddish hairs in the axils of the veins, a trait of *Q. shumardii*. The twigs and terminal buds of our specimens are reddish brown, more like *Q. rubra* than the gray brown of *Q. shumardii*. In addition, the scales of the acorn cup have darker margins as in *Q. rubra*.

The age of the tree is unknown, but its trunk is comparable to other oak species in the area that are at least 150, and up to 250 years old. The tree has buttressed roots and branches that arise more than 40 feet up the trunk. The few specimens we obtained had been broken off in a storm and were collected where they had scattered on the ground around the tree. They compared favorably to those still on the tree. There are also other trees in the same woodland that do not appear to be typical red oak, and these may prove to be additional specimens of *Q. shumardii*.

Literature cited:

- Gleason, H.A., and A. Cronquist. 1991. Manual of Vascular Plants, 2nd ed. N.Y. Botanical Garden, Bronx, NY.
- Jensen, R.J. 1997. *Quercus* L.: sect. Lobatae Loudon. Red or black oaks. In *Flora of North America*, Vol. 3; 447-471. Oxford University Press, New York.

McCourt, S.C. 2000. The flora and ecology of Klydel Woods, a wetland forest in North Tonawanda, NY. *Clintonia* vol 16 (3): 1-4; vol 16 (4) 7-10.

Waldron, G.E., et al. 1987. Shumard oak, *Quercus shumardii*, in Canada. *Canadian Field-Naturalist* 101 (4): 532-538.

Sterling Forest Flora – Summary of a Four Year Project –

By Richard Mitchell, N.Y. State Museum

THIS season marked the end of our four year inventory of the plants of Sterling Forest State Park. With the State purchase of additional tracts of land formerly owned by the Sterling Forest Corporation and other private parties, the need for a renewed botanical survey led to a contract allowing our studies to proceed. Former reports to the Palisades Interstate Park Commission covered the plants of Bear Mountain, Harriman and Storm King Parks. The principal goal of the overall undertaking has been to produce an annotated list of the flora of combined multi-use parklands for the purpose of establishing a botanical baseline.

This joint project, sponsored by the PIPC and the New York State Museum, and recently funded by the Biodiversity Research Institute, has been extensive, with thousands of hours devoted to team exploration and plant collection in the field. Over 8,000 voucher specimens have been collected, a large number of which have been mounted and are on deposit at the herbarium of the New York State Museum (NYS), where they provide legal substantiation for species-occurrences in the parks. Thus, future questions involving rarities may be answered, relying on specimens that are continually available for reassessment.

A major goal of the study has been to pave the way for informed management decisions regarding potential impacts of a variety of activities on the biota of the region. The primary benefit to the public will be a wider and more diversified use of the parks without serious danger of impacting fragile habitats. Secondly, information on the forests and other plant life of the parks will be passed on to visitors through educational programs. By fostering greater appreciation of the Hudson Highlands Region, its beauty and natural history, we hope to provide an added dimension to recreational diversity, while insuring the perpetuation of the area's rich biological heritage.

Background:

For 165 years, biology staff members of the New York State Museum have been engaged in

cataloging the plants of the state (Miller & Mitchell, 1995). The Museum's herbarium houses over 200 thousand dried, pressed plant specimens, and the State Botanist's Office maintains a master list of plant distributions for New York State dating back to the early 19th Century. In 1992-3, this office was engaged by the Army Corps of Engineers to complete an ongoing study of the flora of West Point Military Reservation. Field work in lands adjacent to Bear Mountain, Harriman and Storm King State Parks placed the State Museum in a unique position to carry out further botanical studies in the Hudson Highlands. These studies continued for nine years, of which the past four have been focused on Sterling Forest State Park.

In 1993, the Palisades Interstate Park Commission approved funding for a three-year, cooperative plant survey of Bear Mountain and Harriman State Parks. In 1996, that study was continued, but revised to include Storm King State Park. When the funding period ended, work continued, but at a slower pace in 1997, still, a number of species were added to the catalog. In 1998, the purchase of Sterling Forest lands provided a new opportunity to continue the studies. In 2000, the purchase of additional lands in the Sterling Forest region prompted continuation of the survey, now funded by the New York Biodiversity Research Institute. The following is a report on the findings of the botany team during the four year study.

Personnel and Procedures

Our team of botanists carried out intensive botanical exploration of newly-acquired State lands in Sterling Forest, from April through October, 1998-2000, visiting different parts of the area each week. The botanists were Dr. Richard S. Mitchell (State Botanist, N. Y. State Museum) and biological consultant and Hudson Highlands naturalist J. G. (Spider) Barbour. Jack Focht, Director of the Trailside Museums, participated in museum field expeditions on a weekly basis and also carried out some independent field collecting on his own time. John Yrizarry, a local biological artist and naturalist, provided expertise on habitats, and accompanied the team, guiding them to areas of special interest.

Plant specimens were pressed and heat-dried, with at least one voucher specimen of each species encountered will be deposited at the New York State Museum. Duplicates specimens are set aside for the Trailside Museums.

Critical Habitats Identified:

The following are our current, informal designations for areas that we feel are in need vegetation-mapping and isolation from standard management practices or potential disruptive impacts. They have special ecological significance

or harbor State Threatened or Endangered plant or animal species.

- 1) Cedar Pond Area
- 2) Little Dam Lake
- 2) Beaches at the north end of Sterling Lake
- 3) Sand Pits Pond Area
- 4) Eagle Lake & Vicinity
- 5) Fitzgerald Falls Area

- 6) Limy Bluffs nw of intersection: Rt. 17-A and Benjamin Meadow Rd.
- 7) "Butterfly Field" northwest of Indian Hill
- 8) Wetland at the jct. of Rt. 19 & Bramerton Rd.
- 9) Eagle Lake Area

Results of the Floristic Survey:

One thousand one hundred thirty three (1,133) taxa of trees, shrubs and herbs were cataloged on State-owned Sterling Forest lands during 1998-2001. This amounts to 83 additions to the flora in the 2001 season, so far, with a number of specimens still to be studied in the laboratory. The flora now comprises 35% of all species known from New York State and 67% of species known from the Hudson Highlands Region (currently 1,684). Of these, 50+ species had not been previously found in the PIPC parks. Such a high level of diversity was not expected, since the botany team spent much of the first two years collecting common plants, and the second collecting season was plagued by severe drought followed by flooding. The third and fourth seasons, however, was especially successful.

Two factors had lead us to believe that species-diversity would *not* be high:

- 1) the lack of large tracts of lime-influenced terrain, and
- 2) no lands adjacent to the Hudson River Estuary were included in the study. The presence of sandy lake beds, freshwater beaches, marshes and a flooded valley stream, however, led to the discovery of a number of southern rarities, including four Coastal Plain species not previously known from inland New York.

Rare Native Plants of Sterling Forest (2001):

Thirty four (34) species currently listed as endangered or threatened by the New York Natural Heritage Program were found on Sterling Forest lands during four years of botanical exploration, in addition to a number of plant species listed threatened or endangered prior to our studies, but removed from rarity status because we found them in significant numbers. Two other rare plant species, one threatened and one endangered, are known historically from the park.

Eight Rare Species Discovered in 2001:

American Waterwort (*Elatine americana*), which is endangered; an endangered dodder (*Cuscuta obtusifolia*), two endangered sedges (*Carex aggregata* and *C. striatula*), three threatened sedges

(*Carex davisii*, *C. seorsa*; *C. willdenovii*), and a threatened arrowwood (*Viburnum dentatum* var. *venosum*). Stiff gentian, *Gentianella quinquefolia*, although not listed as a rarity statewide, is extremely rare in southeastern New York, and was found at its southern range limit for the state.

Endangered Species Sites Located in 2000:

The previous season yielded two S1 Endangered species: Weak Rush (*Juncus debilis*) and Lance-leaf Loosestrife (*Lysimachia hybrida*); two new sites for each of these were discovered in Sterling Forest during the 2001 field season.

Species Currently Listed Endangered or Threatened in Sterling Forest State Park:

***Atriplex subspicata* (Nutt.) Rydb.** SPEARSCALE,
ORACH

[*A. patula* var. *subspicata* (Nutt.) S. Wats.]

State Rarity Status: Listed Endangered

***Callitriche terrestris* Raf.** TERRESTRIAL STARWORT

[*C. austinii* Engelm.; *C. deflexa* A. Br. var. *austinii* (Engelm.) Hagelm.; var. *deflexa*]

State Rarity Status: Listed Threatened

***Carex abscondita* Mackz.** THICKET SEDGE

State Rarity Status: Listed Threatened

***Carex aggregata* Mackz.** SEDGE

[*C. gravida* of NY reports in part, not Bailey; *C. sparganioides* var. *aggregata* (Mackz.) Gleason]

State Rarity Status: Listed Endangered

***Carex cumulata* (Bailey) Mackz.** CLUSTERED
SEDGE

State Rarity Status: Listed Threatened

***Carex davisii* Schwein. & Torrey** SEDGE, DAVIS'
SEDGE

State Rarity Status: Listed Threatened

***Carex seorsa* Howe ex Gord. & Howe** SEDGE

(*C. rosaeoides* Howe ex Gord. & Howe)

State Rarity Status: Listed Threatened (Watch
List)

***Carex striatula* Michx.** SEDGE

(*C. laxiflora* var. *angustifolia* Dewey;
var. *latifolia* of Staten Island reports, not Boott)

State Rarity Status: Listed Endangered

***Carex willdenowii* Schkuhr ex Willd.** SEDGE

State Rarity Status: Listed Threatened

***Ceratophyllum echinatum* A. Gray** COONTAIL,
(PRICKLY) HORNWORT

(*C. muricatum* of authors, not Cham.)

State Rarity Status: Listed Threatened

***Chamaecyparis thyoides* (L.) BSP.** ATLANTIC
WHITE-CEDAR

State Rarity Status: Listed Rare

***Crotalaria sagittalis* L.** RATTLEBOX

State Rarity Status: Listed Endangered

***Cuscuta obtusiflora* Kunth** DODDER

var. ***glandulosa* Engelm.**

[*C. glandulosa* (Engelm.) Small]

State Rarity Status: Listed Endangered

***Desmodium humifusum* (Mühl.) Beck** SPREADING
TICK-CLOVER, TRAILING TICK TREFOIL

[*D. glabellum* of New York reports, not (Michx.)
DC.; *Meibomia humifusa* (Mühl.) Kuntze]

State Rarity Status: Listed Endangered

***Elatine americana* (Pursh) Arn.** AMERICAN
WATERWORT, WATER PURSLANE

[*E. triandra* var. *americana* (Pursh) Fassett]

State Rarity Status: Listed Endangered

***Hottonia inflata* Ell.** FEATHERFOIL, WATER-VIOLET

State Rarity Status: Listed Threatened

***Juncus debilis* A. Gray** WEAK RUSH

[*J. acuminatus* var. *debilis* (A. Gray) Englm. ex
A. Gray; *J. diffusissimus* of NY reports, not
Buckley]

State Rarity Status: Listed Endangered

***Lechea racemulosa* Lam.** PINWEED

(*L. minor* var. *gracilis* Torrey & Gray)

State Rarity Status: Listed Rare (Watch List)

***Lechea tenuifolia* Michx.** SLENDER PINWEED

State Rarity Status: Listed Threatened

***Lespedeza repens* (L.) Barton** TRAILING
LESPEDEZA

State Rarity Status: Listed Rare (Watch List)

***Lespedeza violacea* (L.) Pers.** LESPEDEZA, BUSH-
CLOVER

(*L. frutescens* L., not Ell. or Britt.)

State Rarity Status: Listed Rare (Watch List)

† ***Liparis lilifolia* (L.) L. Rich. ex Ker** LARGE
TWABLADE, PURPLE TWAYBLADE

State Rarity Status: Listed Threatened;

Historical in the Hudson Highlands: a record
from Sterling Forest, with a specimen at the
New York State Museum (NYS); possibly
extirpated in the region.

***Lipocarpha micrantha* (Vahl) G. Tucker** DWARF
BULRUSH, SEDGE

[*Hemicarpha micrantha* (Vahl) Pax ex Engl. &
Prantl]

State Rarity Status: Listed Endangered

***Lysimachia hybrida* Michx.** LANCE-LEAVED
LOOSESTRIFE

[*Steironema hybridum* (Michx.) Raf.; *L.*
lanceolata of NY reports, not Walt.; *L.*
lanceolata var. *hybrida* (Michx.) A. Gray]

State Rarity Status: Listed Endangered

***Megalodonta beckii* (Torrey ex Spreng.) Greene**
WATER-MARIGOLD

(*Bidens beckii* Torrey ex Spreng.)

State Rarity Status: Listed Threatened (Watch
List)

Mimulus alatus Ait. WINGED MONKEYFLOWER
State Rarity Status: Listed Rare (Watch List)

† *Platanthera hookeri* (Torrey ex A. Gray)
Lindl. HOOKER'S ORCHID, PAD-LEAF
 [*Habenaria hookeri* Torrey ex A. Gray; *Lysias hookeri* (Torrey ex A. Gray) Rydb. ex Britt.; *L. hookeriana* of authors]
State Rarity Status: Listed Endangered;
Historical in the Hudson Highlands: a specimen from Sterling Forest at the New York State Museum.

Polygonum careyi Olney SMARTWEED, PINKWEED, (CAREY'S) SMARTWEED
 [*Persicaria careyi* (Olney) Greene]
State Rarity Status: Listed Threatened

Polygonum tenue Michx. SLENDER KNOTWEED
State Rarity Status: Listed Rare (Watch List)

Pycnanthemum muticum (Michx.) Pers. MOUNTAIN-MINT
 [*Koellia mutica* (Michx.) Britt.]
State Rarity Status: Listed Threatened

Ranunculus micranthus Nutt. ex Torrey & Gray SMALL-FLOWERED CROWFOOT
 [*R. micranthus* var. *dilitescens* (Greene) Fern.]
State Rarity Status: Listed Threatened

Scutellaria integrifolia L. HYSSOP SKULLCAP
State Rarity Status: Listed Endangered

Sisyrinchium mucronatum Michx. BLUE-EYED GRASS (MICHAUX' BLUE-EYED GRASS) (*S. intermedium* Bickn.)
State Rarity Status: Listed Endangered

Viburnum dentatum L. ARROWWOOD
 var. *venosum* (Britt.) Gleason SOUTHERN ARROWWOOD
 [*V. dentatum* var. *pubescens* Ait.; *V. pubescens* (Ait.) Pursh]
State Rarity Status: Listed Threatened

Wolffia braziliensis Wedd. WATERMEAL (*W. papulifera* Thompson)
State Rarity Status: Listed Threatened

Species Previously Listed as Endangered, Threatened or Rare in New York State:
 Most species on the following list were removed from endangered or threatened status because our team found significant populations in the Hudson Highlands.

Asclepias purpurascens L. PURPLE MILKWEED
State Rarity Status: (Watch List; Unprotected)

Aster racemosus Ell. SMALL WHITE ASTER
 [*A. vimineus* of authors, not Lam.; *A. lateriflorus* of authors, not (L.) Britt.]
State Rarity Status: Formerly listed Threatened/Rare; now removed from the Watch List)

Aster schreberi Nees LARGE-LEAF ASTER, SCHREBER'S ASTER
State Rarity Status: Formerly listed Threatened/Rare; now removed from the Watch List)

Carex albicans var. *emmonsii* (Dewey ex Torrey) Rettig EMMONS' SEDGE
 [*C. emmonsii* Dewey ex Torrey]
State Rarity Status: (Watch List; Unprotected)

Carex bushii Mackz. SEDGE
State Rarity Status: (Watch List; Unprotected)

Chenopodium standleyanum Aellen GOOSEFOOT
State Rarity Status: Formerly listed Threatened and Rare; now removed from the Watch List)

Corydalis flavula (Raf. ex Desv.) DC. YELLOW HARLEQUIN, PALE CORYDALIS
 [*Capnoides flavulum* (Raf. ex Desv.) Kuntze]
State Rarity Status: (Watch List; Unprotected)

Cyperus odoratus L. CYPERUS, FLAT SEDGE
 (*C. engelmannii* Steud.; *C. ferax* L. Rich.; *C. ferruginescens* Boeck.; *C. speciosus* Vahl)
State Rarity Status: (Watch List; Unprotected)

Discovery of Invasive Plants New to the State:
 In addition to rare native plants, the survey has revealed several previously unrecorded non-native species, three of which may prove invasive.

Actinidia polygama (Sieb. & Zucc.) Maxim SILVER-VINE, KIWI-BERRY
 [*A. volubilis* (Sieb. & Zucc.) Planch.]
 This is the first report of any plant of the Kiwi Family in New York State (July, 2000). An extensive stand of a large vine was found around a reconstructed coke furnace in Sterling Forest. The plant is a native of eastern Asia that was probably planted or brought in accidentally with soil or bricks. The vines are extremely vigorous, spreading into a nearby stream and woodland. We will continue to check their reproductive status and ability to produce seeds to determine whether there is a danger that the plants might become aggressive invaders.

Crotalaria rotundifolia J Gmel. RATTLEBOX
 This rattlebox is native to the eastern United States from Virginia southward (also to South America). It was found on fill dirt mulched with hay, on a roadside near Indian Hill, at the same site as "mile-a-minute weed," (*Polygonum perfoliatum*).

Phellodendron sachalinense (F. Schmidt) Sarg. VELVET-TREE (CORK-TREE)
 A 45-50 ft tree was found on the wooded slopes below Kings College property near the intersections of Rts. 84/17E. This old tree is thriving, and young trees and seedlings are found

elsewhere in the forest. It is a hardy native of Japan and Sachalin Island, and may eventually spread in New York to become a more serious forest invader. Our discovery of it was the first in New York.

***Aralia elata* (Miq.) Seem.** ANGELICA TREE, JAPANESE ANGELICA

This invasive plant is an Asiatic species closely related to Hercules' club, *A. spinosa*, which is native to the southern Appalachians. It reaches a height of 40 ft, and has sharp spines on the trunk and stems. Previously, angelica tree has been mistaken in New York for Hercules' club, which also escapes northward into our range. It was first recognized in the State only a few years ago, on Staten Island, along park pathways. It has been found in this survey to be naturalized in a number of locations in Sterling Forest, invading disturbed woodlands and open hillsides. It is also reported to be established on northeastern Long Island and on the rocky steep cliffs of the Palisades themselves.

***Azolla filiculoides* Lam.** MOSQUITO-FERN, WATER-FERN

This tiny plant is pantropical, but also cold tolerant, and an invader northward. It can cover a pond surface quickly, shading, removing nutrients and altering the ecological balance. It is sometimes grown as an aquarium, terrarium or frog-pond plant and escapes cultivation when dumped out of containers to clean them.

**Mile-a-Minute-Weed (*Polygonum perfoliatum*):
An Invasive Plant Species Now in the Palisade Parks:**

In July of 2000, I found *Polygonum perfoliatum*, called "mile-a-minute-weed," in Sterling Forest, on straw and fill dirt brought in for purposes of highway shoulder management. It later appeared in greater numbers on Rt. 19, but has now been eradicated there. This species is a well-known invasive pest in states south of our range, and has been the subject of extensive management and weed control meetings, especially in Pennsylvania. It has since invaded Round Island (south end of Iona Island, Rockland County, NY), where it is spreading aggressively.

Literature:

- Cronquist, A. 1981. An Integrated System of Classification of Flowering Plants. New York. xviii + 1262 pp.
- Crow, G. E., & C. B. Hellquist. 2000. Aquatic and Wetland Plants of Northeastern North America. Vol. 1, University of Wisconsin Press. 480 pp.
- Miller, N. G. & R. S. Mitchell. 1995. Tracking the mosses and vascular plants of New York (1836-1994). pp. 209-210 In: LaRoe, E. T., G. S. Farris, C. E. Puckett, P. D. Doran & M. J. Mac (eds.) Our Living Resources: A Report to the Nation on the Distribution, Abundance, and Health of U. S. Plants,

Animals, and Ecosystems. U. S. Department of the Interior National Biological Service, Washington, DC., 530 pp.

Mitchell, R. S. 2000. Database and Revised Checklist of New York State Plants. Part 1) Mitchell, R. S. A Database of New York State Plants. In *Microsoft Access*TM, 3781 entries.

Part 2) Mitchell, R. S. & G. C. Tucker, Revised Checklist of New York State Plants, Edition II. In *Microsoft Word*TM. 332 pp.

_____ & G. C. Tucker. 1997. Revised Checklist of New York State Plants. New York State Mus. Bull. 490, 400 pp.

Young, S. M. (ed.) 2001. New York Natural Heritage Program Rare Plant Status List. New York Dept. Environ. Conserv. Publ. (xerographic), 48 pp.

DUES:

Don't forget to send in your \$10/year dues.

To check the last year you paid, look on the mailing envelope, just above your name. We'll be doing some really exciting things next year, and we want you to be with us.

Have You Told Potential New Members
About our
NYFA Website?

They can find us at: www.nyflora.org



Historical News Clip: The third and fourth State Botanists of New York in 1991. The late Eugene Ogden and your editor, Richard Mitchell, promoting their book on fruit identification