

**New York Flora
Association**

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Articles Inside:

<i>The Voice of Plants</i>	1
<i>Hudson River Ice</i>	5
<i>Susquehanna River</i>	7
<i>Chemung Valley field trip</i>	8

Editors Note: In addition to Joe McMullen's very interesting article on what plants can tell us about the natural world in which they grow and Louise Raimondo's report on the Chemung Valley field trip, this issue has two articles relating to river shorelines. Every winter I wonder what the Hudson River ice looks like north of Warrensburg in the floristically diverse and unique area known as the Ice Meadows. Evelyn Green keeps tabs on this and this winter wrote a column for her local newspaper on frazil ice, a shortened version which appears here. Jackie Donnelly was gracious enough to share her photos of the ice encroaching onto the road (see also her blog entries at Saratoga Woods and Waterways). The other article, by Ken Hull, provides us with an enticing picture of summertime vegetation along the Susquehanna and Chenango Rivers. Thanks to Evelyn, Jackie, Joe, Ken, and Louise for providing these articles.

The Voice of Plants - Plants Speak Volumes Without Saying a Word

Joseph M. McMullen, joemcmullen49@gmail.com

I marvel at what plants say. They tell us so many things. Is this area wet or dry? Was this once an agricultural field or other maintained open area? If it was, how long has passed since it was abandoned? Are there signs of pasturing here? Is this forest young or old? Was it always a forest or was it an open area at one time? Can we see that an old road meandered through the forest along this path? Are the soils here sandy, clayey, acidic or calcareous? The plants found growing in an area can tell us all these things and many more. Plants truly do speak volumes without saying a word.

Plants do not vocalize (the whispering of pines, rustling of leaves, and weeping of willows notwithstanding). You cannot carry on a conversation with plants. They do not provide any spring choruses to signify their presence, like so many of our amphibians. No buzz of a rattlesnake's tail to say they are near. You cannot tell what plant species are breeding in an area by listening to the June calls of the males, like you do for birds. They do not leave tracks in the mud like mammals.

Plants do not speak this way. They profess by where and when they set their roots – by where they grow and how long they have been growing there. They illustrate many things by who they pal around with – their collective associates. A community of plants painting a

picture of conditions past and present.

To hear the voice of plants, you need to know what species are what, but you also need to have a sense of their habitat requirements. For example, red maple (*Acer rubrum*) and sugar maple (*A. saccharum*) are closely related and might look similar to the casual observer, but when it comes to shade tolerance, they are light years apart. Sugar maple, along with American beech (*Fagus grandifolia*), are the most shade tolerant deciduous trees in the northeastern United States. Because of this ability, they can germinate under the canopy of mature trees and form a climax community that will perpetuate itself in time. Red maple and silver maple (*A. saccharinum*), on the other hand, struggle to reproduce in their own shade. For this reason, when these latter two maples dominate an area, they tell us that the area was once open with enough light to allow their establishment.

Understanding what plants demonstrate is really just basic plant ecology. Plant ecology is the study of the environment where plants grow and their habitat requirements. Unfortunately, classic plant ecology is seldom taught anymore, although any good field botanist or anyone who has spent time observing plants in the field has an understanding of its principles.

Wet and Dry Conditions

One of the things that plants can



tell us is whether an area is currently, or was in the past, wet or dry. In the historic plant community literature of Daubenmire (1947) and Oosting (1956) certain plants were considered xeric (grow where it is dry), others hydric (grow in the wet), and those in between mesic. More recent work in using plants to define wetlands developed wetland indicator status rankings that assigned plants to indicator categories based on their fidelity to wet or dry conditions. These were explained in my prior article (McMullen 2012) on this subject in the Winter 2012 Newsletter. Indicator status rankings of all plants (not all of which I agree with) can be found at: http://wetland_plants.usace.army.mil.

Soil pH

Another condition that plants speak loudly about is the pH of the soil. The terms acidophile (acid lover) and calciphile (calcium lover) are often used to denote species that favor soils of relatively low or high pH, respectively. Members of the heath family (*Ericaceae*) are probably our best known acidophiles, including blueberries (*Vaccinium*), huckleberries (*Gaylussacia*), azaleas (*Azalea*), rhododendrons (*Rhododendron*), mountain laurel (*Kalmia latifolia*), and even teaberry (*Gaultheria procumbens*). But there are many more, including several of our clubmosses (*Lycopodiaceae*), several ferns like bracken (*Pteridium aquilinum*) and Virginia chain fern (*Woodwardia virginiana*), and bog (poor fen) species of sphagnum moss, sundew (*Drosera rotundifolia*), leatherleaf (*Chamaedaphne calyculata*), and cranberry (*Vaccinium macrocarpon*). When you see these species dominating an area, you know the soil is acidic.

Then there are the calciphiles or other species that favor more alkaline soils. Examples include some ferns, like walking fern (*Asplenium rhizophyllum*), Goldie's fern

(*Dryopteris goldiana*), and glade fern (*Diplazium pycnocarpon*), muhly grass (*Muhlenbergia glomerata*), Kalm's lobelia (*Lobelia kalmii*), golden ragwort (*Packera aurea*), and golden sedge (*Carex aurea*). Woody species in this category include northern white cedar (*Thuja occidentalis*), hop hornbeam (*Ostrya virginiana*), roundleaf dogwood (*Cornus rugosa*), and prickly ash (*Zanthoxylum americanum*). Even when I see herb Robert (*Geranium robertianum*), it tells me the soils are on the basic side.



Many plants tell us the soils are acidic, including several clubmosses, like this staghorn clubmoss (*Lycopodium clavatum*), and numerous species in the heath family (*Ericaceae*), including this good to eat teaberry (*Gaultheria procumbens*). Photo by Joe McMullen.

Light Tolerance/Intolerance

An ear for the tolerance of plant species to light or shade can help ascertain many things about an area. Numerous species require open conditions with nearly full sun to become established. Many of these are considered early successional species that are characteristic of a recently developed or young plant community. As an area matures, there are often remnants of these species present telling us that the area was once open. In young forests, the dominant trees, like red maple mentioned earlier, might indicate a once open area. But even when you have shade tolerant trees prevalent in the canopy, the



presence of remnant shrubs or herbaceous species can broadcast past open conditions. In upland forests of this nature you might find a few straggling shrubs of gray dogwoods (*Cornus racemosa*) or arrowwood (*Viburnum dentatum*), or a field goldenrod (*Solidago*) characteristic of past open field conditions.

There are also clues in wetlands. A good example is tussock sedge (*Carex stricta*). Because of its growth form of distinct elevated clumps, like a hassock, it is one of the more easily recognized species in this difficult group. It is a species that will not tolerate the dense shade of a forested wetland, but the tussocks persist for decades even after the plants have died. These tussock remnants shout: “once an open area”. On the other side is spicebush (*Lindera benzoin*), that fragrant smelling shrub (as expected from a member of the sassafras family) you find under the dense canopy of a forested wetland. This species has great shade tolerance, but it will not tolerate full sun, so its presence says: this area has been a forest with a closed canopy for a while.

Plant Succession

Knowledge of plant succession will help you hear a lot about what plants are saying. Plant succession is the change in plant communities over time, usually in somewhat of a predictable manner. Descriptions of succession date back to the late 1800s, including work by Thoreau (1860), but its foundation was established by Clements (1916). Under this process there is a sequence of plant dominants that tend to succeed each other in a certain order. Exactly what plant dominants develop at different points in time varies depending on numerous factors, including: past use, wetness, soil characteristics, elevation, slope, aspect, landscape position, presence of invasive species, and adjacent plant communities.

However, if you have a basic understanding of plant succession in a region, the plants you see can tell a lot about what an area was in the past and what it will be in the future. In New York, we most often witness plant succession in areas that were abandoned from agricultural use. For these areas, the general successional community progression is as

follows: open field, scrub-shrub, young forest, mature forest, and eventually a climax forest. In each of these successional seral stages there is a group of dominants that are expected.

Using plant succession principles you can determine if an area was abandoned from agricultural or open management uses, and you can get an idea how long ago that was. Usually in the first few years after abandonment, various grasses and herbaceous annuals dominate, with grasses particularly abundant where past herbicide use favors monocots. Various dicots, including asters and goldenrods, will dominate after a while. Areas abandoned from hay production may develop quickly into this stage. As time progresses, shrubs volunteer and increase in cover during the scrub-shrub stage in the 5 to 20 year range. This community may exhibit mixed patches of herbaceous and woody species. Tree species will become more abundant during this time and some areas adjacent to a forest may progress into a stage dominated by seedlings and saplings of tree species without many shrubs. As trees become more abundant, the progression is to a young forest (maybe 15 to 40 years) and eventually a more mature forest (40 to 70 years).

Size and Growth Form

Obviously the size of woody species, especially trees, will say something about an area. Just approach the size of trees as a measure of age with caution. Several early successional trees, like trembling aspen (*Populus tremuloides*), eastern cottonwood (*P. deltoides*), or green ash (*Fraxinus pennsylvanica*), can grow extremely fast in open conditions. Once established, they can easily add up to an inch in diameter a year. Our shade tolerant trees, however, will move like a slug under shaded conditions. A good example is eastern hemlock (*Tsuga canadensis*), which is the most shade tolerant evergreen tree in the northeast. Hemlock’s annual diameter growth will barely register when it is growing under a dense canopy of larger trees (a 4-inch diameter tree could be 50 years old), but if the overtopping trees are cut away it will spring to life and pretend to be a *Populus*.



Growth form is another feature that can provide murmurings about the nature of a forested area. Trees growing in the shade or with adjacent competition tend to grow straight up with few side branches. Scattered older trees with numerous side limbs pronounce that they were open grown before the other trees became established. These forester's "wolf trees" may denote a property line, a hedgerow, or just a past remnant monarch left to provide shade in the middle of a field for a team of horses. I like to put my back against the trunk of these trees and imagine the landscape around them when they were young.



The multiple side branches of these sugar maples are characteristic of open grown trees, which often indicate a hedgerow or property line. Photo by Andy Nelson.

Other Evidence of Note

The presence of some residual species or fencing may provide evidence of past pasturing activities. In young forests, a few scattered hawthorns (*Crataegus*), buckthorns (*Rhamnus*), or roses (*Rosa*), species that livestock will not eat, may say the area was once used for pasturing. On slopes, even the contour trails repeatedly used by cows will persist after the area has developed into a forest. Remnants of fences or wolf trees may add more information about the area.

In older forests, micro topography and woody debris can provide an idea of use in the distant past. Areas of past active agricultural use tend to have smooth, even ground surfaces that persist long after

a forest develops. More mature forested areas that never underwent agricultural use have more of a lumpy terrain, with the "lumps" being the remnants of rootballs from trees that blew over decades ago. Logs, stumps and other woody debris will tell you something as well. Of course, the mix of herbaceous species will provide further evidence of forest age and past use.

Going Forth

When you venture out into the field now take a close look at the plants you see and absorb their features and surroundings. If you listen closely they will speak to you in many ways, and you will hear the incredible sounds of the voices of plants.

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Princeton University Press has published a new field guide – Common Mosses of the Northeast and Appalachians. Karl McKnight, Associate Professor of Biology at St. Lawrence University in Canton, N.Y. is co-author with J.R. Rohrer, K. McKnight Ward, and W.J. Perdizet. It is available from the publisher for \$24.95 or from Amazon for \$16.47.



The Hudson River Ice Meadows in Winter

by Evelyn Green

On January 27th, I was lucky enough to catch the frazil ice collecting, breaking up, and re-coagulating in the Hudson at The Glen while I was standing on the road within feet of where it was happening. Frazil ice is the “river ice” that looks a lot like slush as it floats down the river by the ton on cold days when it is not snowing. Frazil ice can start forming when the air temperature is about 25° F if the water is already at 32°, and the days below 0° have been great for creating massive amounts, which fill the river starting at 1000 Acre Ranch five miles south of the Thurman bridge. This winter it even encroached onto the Golf Course Road just a few miles north of Warrensburg.

The tiny disk shaped frazil ice crystals form in rocky, turbulent rivers where the cold air above the river gets mixed into the water enough to keep the water slightly below freezing (“super-cooled”). Projections, or “dendrites”, try to grow from the frazil disks but break off in rough water, creating billions more nuclei for frazil crystals to grow on. The whole river, top to bottom, will then have frazil crystals tumbling in the water, hitting the bottom.

Oldtimer Adirondackers around here call frazil “anchor ice”, a term ice engineers use for ice that collects underwater, clinging to rocks in masses on the river bottom in shallow areas and on objects such as water intakes for turbines. 100 years ago, seamstresses in the shirt factory in Warrensburg would have a day off when anchor ice shut down the water turbines necessary to power their sewing machines.

So, what makes the Hudson fill up with frazil? **Hanging dams.** Hanging dams, an engineers' term, form in very cold weather after a complete cover of frazil bridges the river. The ice cover usually starts in a relatively calm area of the river and often where there is a big curve from what I have observed. When the surface water carrying the frazil is moving over two miles an hour, the water ducks under the ice cover carrying the frazil with it. Underneath the cover the frazil floats up wherever the water slows down, plating out on the underside of the cover, then thickening downwards in huge masses of frazil. These hanging dams eventually slow the current down to where it starts backing up, saturating the bright white frazil cover and loosening all the crystals which may have frozen together. The entire frazil surface gets raised up by the rising water and floats the cover above the sloping shores. You can tell when the river is backing up when you see greenish water amongst the frazil cover, pools form next to the shore, and you hear crackling from frozen parts of the pools.

When some of the hanging dams finally break, as they have to because the river flow is inexorable, the water level falls quickly and the whole cover of frazil lowers and settles onto the sloping shores on the edges of the river. This process can happen a few times at the beginning of the winter, but eventually the cover stabilizes at a level slightly above the river, allowing the water to flow unhampered by hanging dams and leaving frazil deposits ten feet thick on shore. These ten foot high deposits can last into mid-April at the Warrensburg park next to Cronin's Golf Course.





These three photos of this winters ice were taken by Jackie Donnelly and can also be seen on her website saratogawoodswaters.blogspot.com. The first photo was taken on January 23rd before the frazil ice collected. Next to it was a photo taken on February 8th and shows the ice covering the banks and the last photo shows it encroaching on the road. See her website for other photos, including one taken in the summer from the same spot.

iMapInvasives training sessions offered statewide this spring!

iMapInvasives is an online mapping tool that supports efforts to protect New York State from invasive species. All interested groups, from land managers to the general public, are encouraged to help keep the NYS map up-to-date and accurate by reporting invasive species locations. Volunteers, citizen scientists, and educational groups will find the simple reporting interface perfect for local projects.

Conservation professionals can also use the advanced interface to manage detailed information about infestations, surveys, and treatments in a standardized format.

Learn about the program and become trained to contribute data by attending an iMapInvasives training session! Training is required to enter data, and free sessions are being offered throughout the state this spring: www.nyimainvasives.org/Training/nyimapschedule (Click on the “2013 PRISM Spring Training” for details).



Susquehanna and Chenango River Floodplains

By Kenneth Hull

Inspired by the NYFA Chemung River Valley field trip last year, led by David Werier, I decided to check out the Susquehanna River behind Lourdes Hospital in Binghamton on July 21, 2012. I found the following plants of interest :

<i>Arisaema dracontium</i> (green dragon)	5 plants
<i>Scrophularia marilandica</i> (eastern figwort)	1 plant
<i>Hypericum ascyron</i> (great St. Johnswort)	1 plant
<i>Teucrium canadense</i> (American germander)	Tens of thousands
<i>Centaureum pulchellum</i> (branching centaury)	Hundreds
<i>Anagallis arvensis</i> (scarlet pimpernel)	50 plants
<i>Rudbeckia triloba</i> (three-lobed coneflower)	Hundreds

Also there were *Solidago gigantea* (smooth goldenrod), *Persicaria virginiana* (Virginia knotweed) and the most pervasive plant *Fallopia japonica* (Japanese knotweed).

The greatest surprise was about 50 plants of *Hasteola suaveolens* (sweet-scented Indian plantain) – a NYS endangered species. The plants are 5 to 6 feet tall and have halberd-shaped leaves that are unmistakable. They were in the annual floodplain surrounded by *Fallopia japonica* and *Solidago gigantea*. A week later, a thunder storm knocked most of them down. Subsequent trips (I live only a mile away) showed them to be healthy, though prostrate.



Sweet-scented Indian Plantain (*Hasteola suaveolens*) along the Chenango River.
Photo by Kenneth Hull.

I also checked out the Chenango River floodplain at Otseningo Park and to my surprise, counted over 70 *Arisaema dracontium*, all within 20 feet of the path used by hundreds of people every day. Up until now, I thought green dragon was a rare find, but in the floodplains it proves to be even more common than *Arisaema triphyllum* (Jack-in-the-pulpit), a few of which were also present.

I learned that some of the most interesting flora occurs right in our own back yards.



Chemung River Valley Field Trip led by David Werier, June 23-24, 2012 by Louise Raimondo

A group of thirteen plant enthusiasts from around New York state was treated to David's tour of the Chemung River Valley early last summer. Located in the Southern Tier area of NYS, with many species of southern affinity not found elsewhere in the state, this area was studied by botanists Thomas F. Lucy, Stanley J. Smith, and Robert T. Clausen.

We started out on a sunny Saturday at Narrow Hill, a privately owned tract of land near the Village of Chemung. Following a dirt road up the southwest-facing hill, we observed a nice selection of sedges that provided a review of the species *Carex* for participants of Tony Reznicek's recent (and past) sedge workshops. This included the following from section Cyperoideae (which now includes all species previously placed in Section Ouales): *Carex scoparia*, *C. projecta*, and *C. normalis*. Sedges observed from the upland star group, section Phaestoglochin, included *Carex cephaloidea*, *C. rosea*, *C. radiata*, and *C. retroflexa*. We were able to review many of these sedges periodically on Narrow Hill and at sites later explored in the area.

Species found in bloom on Narrow Hill included *Dianthus armeria*, *Solidago juncea*, *Triodanis perfoliatum* (the Venus' Looking Glass), *Hylodesmum glutinosum*, *Ceanothus americanus*, and *Penstemon digitalis*. There were at least 5 species of grasses in the genus *Dichanthelium* in fruit: *D. acuminatum ssp. fasciculatum*, *D. clandestinum*, *D. dichotomum ssp. dichotomum*, *D. latifolium*, and *D. linearifolium*, and as they were plentiful on this hillside, we were able to review and compare them frequently. Other interesting species found included *Helianthus divaricatus*, *Viburnum rafinesquianum*, *Quercus velutina*, *Boechera laevigata*, *Ulmus rubra*, *Desmodium rotundifolia*, *Viola subsinuata*, and *Vicia caroliniana*.

The top of Narrow Hill is maintained as meadow, with a beautiful view to the west of the Chemung River Valley. Meadow species included *Allium cernuum*, *Monarda fistulosa*, and *Uvularia perfoliatum*, with many *Hieracium* in bloom. Some of us took an excursion along a very steeply sloped shrub area, where *Quercus ilicifolia*, *Amelanchier amabilis*, *Rhus aromatica*, *Crataegus populnea*, and *Viburnum rafinesquianum* reside. David found a small population of the rare grass *Sphenopholis obtusata*, an S1 ranked species in NYS (more on this species to follow).

The group carpooled to the banks of the Chemung River nearby, which was characterized largely by weedy native and non-native species, including *Salix nigra*, *Heteranthera dubia*, *Potamogeton nodosus*, *Brassica nigra*, *Phalaris arundinacea*, *Fallopia spp.*, *Acer saccharinum*, *Fraxinus pennsylvanica*, and the Green Dragon, *Arisaema dracontium*. Another outstanding native species found there was *Angelica atropurpurea*, a personal favorite of the wetland world, impressive in bloom and height.

The group met for dinner at Beijing Garden in Elmira, which proved to certain skeptical members of the group that there is at least one good restaurant in Elmira. The next day botanizing resumed at Newton Battlefield State Park, in the shadow of Sullivan's monument to destruction. This is the second monument built at the site, the first having been dismantled with explosives by the local youth, who apparently were not in favor of this tribute to Sullivan and his army. General Sullivan was sent by General George Washington, who sought to eradicate the Haudenosaunee (Six Nations, aka Iroquois) because they sided with the British during the Revolutionary War.

Politics aside, the park was as beautiful as the weather. After taking in the lovely rose bushes (*Rosa setigera*) lining the parking lot, David led us to a population of *Calamagrostis porteri*, a rare plant in NY (S1S2), found here at the northern edge of its range, characterized by its flipped leaf pattern & bearded collar. This population may be dwindling due to the leaves blown from the



adjacent lawn area. After taking a brief detour to enjoy the impressive view to the southeast from the overlook, we observed a thriving population of *Triosteum perfoliatum*. Further along, we encountered more of the rare grass (S1 in NY, you may recall) viewed the previous day, *Sphenopholis obtusata*. At this location, there was also plenty of *Sphenopholis intermedia*, the more common species, to contrast with the rarer *S. obtusata*. The *S. intermedia* was past flowering, with longer inflorescence, and (get your hand lenses out for this one, folks) the second glume on *S. intermedia* is acutely angled, as opposed to truncate, or broadly obtuse, as in *S. obtusata*. Apparently this rare plant is not as rare in New York as believed. Perhaps it is just a matter of catching the plant in flower, David concluded.

Other species of note in the park included *Salix humilis*, *Cercis canadensis*, *Ulmus americana*, and *Cornus rugosa*. We spent some time reviewing the differences in several species of *Crataegus*, including *C. pruinosa*, *C. populnea*, and *C. succulenta*. Several members of the group observed a hungry adolescent flicker calling out to its parents from a tree cavity, a welcome sight as this species has been in decline in the Northeast.

We convoyed to Golden Glow Park to explore its flora, typical of floodplains, with species including *Teucrium canadense*, *Fraxinus americana*, *Monarda fistulosa*, *Lonicera mackii*, *Juglans nigra*, *Galium aparine*, *Ligustrum sp.*, *Elymus macgregorii*, *Leonurus cardiaca* (in bloom), *Carex aggregata*, and *C. sparganioides*. Further along was the dry bed of Hendy Creek, a small tributary of the Chemung. Typical creek bed species included *Platanus occidentalis*, *Brassica nigra*, *Mentha arvensis*, *Dipsacus laciniatus*, *Apocynum cannabinum*, and *Stachys palustris*. On the return, we found *Carex conjuncta*, a species first found at this site in 2010 by David, which had not been previously recorded in the Chemung River valley. It is currently the only known population in NYS, though it was recorded historically in the Mohawk River valley over 20 years ago.

The main group departed, having miles to travel, but a small group of us explored a power line across town, accessible only by private property. In the dry, steep hillside opening of an oak-hickory forest, we found *Eupatorium sessilifolium*, *Pycnanthemum incanum*, *Desmodium cuspidatum*, *D. paniculatum*, *Turritis glabra*, *Lespedeza procumbens*, *Ranunculus hispidus*, *Ceanothus americanus*, *Carex cephalophora*, *C. mesochorea* (S2 in NY, normally a more southern species), *Elymus hystrix*, *Myosotis stricta*, *Symphytotrichum urophyllum*, *Euthamia graminifolia*, *Bromus pubescens*, *Penstemon hirsutus*, *Carex radiata*, *Silene antirrhina*, *Viburnum rafinesquianum*, & *Lespedeza frutescens*.

All in all, a great outing with exceptional weather, botanical discovery, and good company.



Looking west over the Chemung River Valley (left) and *Rosa setigera* (right). Photos by Louise Raimondo.



Field Trips and Workshops for 2013

for more information check the NYFA website: <http://www.nyflora.org/field-trips-and-workshops/>

5 May (Sunday), 10 am – 3 pm. **Annual NYFA Meeting and walk, Nelson Swamp, (Madison Co.)** led by Sara Scanga. To register, contact Steve Young at (518) 588-8360 or at nisky912@gmail.com

10-12 May (Friday-Sunday) – **Amelanchier (shadbush) workshop** based out of Plattsburgh, NY (Clinton Co.). Led by Michael Burgess. Cost \$115 for NYFA members and students, \$145 for non-members. For inquiries or to register contact Anne Johnson at (315) 322-4058 or ritzko@northnet.org

17-19 May (Friday-Sunday) – **Ethnobotany workshop** based out of the Ithaca area (Tompkins Co., NY). Led by Arthur Haines. Cost \$115 for NYFA members and students, \$145 for non-members. For inquiries or to register contact David Werier at (607) 273-1765 or at nakita@lightlink.com

9 June (Sunday), 9:30 am - 4 pm, **Michigan Hollow Swamp (Tompkins Co.)** led by David Werier. *Joint with Finger Lakes Native Plant Society.* Pre-registration is required; contact David Werier at (607) 273-1765 or at nakita@lightlink.com

18 – 20 June (Tuesday – Thursday) **Sedge workshop with Tony Reznicek in Morrisville, Madison County.** Cost \$150 for NYFA members and students, \$180 for non-members. Cost does not include meals or lodging. For inquiries or to register contact Ed Frantz at (315) 793-2421 or at EdFrantz@dot.ny.gov

June 29 (Saturday), 9:30-3:30, **Bonaparte Swamp and Fitzgerald Pond (Lewis County)** led by Rich Ring and Anne Johnson. To register contact Anne Johnson at (315) 322-4058 (ritzko@northnet.org) or Rich ring at richardmring@gmail.com

13 – 14 July (Saturday – Sunday) **Little Rock City and Zoar Valley (Cattaraugus County).** *Joint with Niagara Frontier Botanical Society.* To register or for inquiries contact Joanne Schlegel at (716) 835-6042 or at joanneschlegel@gmail.com

19-21 July 2013 (Friday-Sunday) – **Grasses of New York workshop** based out of the Bailey Hortorium, Ithaca, N.Y., Tompkins Co. Led by David Werier. *Co-sponsored by NYFA and the Bailey Hortorium.* Cost \$115 for NYFA members and students, \$145 for non-members. For inquiries or to register contact David Werier at (607) 273-1765 or at nakita@lightlink.com

27 July 2013 (Saturday), 10am to 1pm. **Whiteface Mountain Field Trip**, led by Steve Young. *Joint with Adirondack Botanical Society.* To register, contact Steve Young at (518) 588-8360 or at nisky912@gmail.com

25 August (Sunday) 10 am. **Edgewood Preserve, Suffolk County**, led by Mike Feder. *Joint with Long Island Botanical Society.* To register, contact Mike Feder at mdfeder2011@yahoo.com

7 September 2013 (Saturday), 10am to 2pm. **Joralemon Park Fern Hotspot Field Trip, Albany County**, led by Al Breisch and Mark Fitzsimmons. To register, contact Steve Young at (518) 588-8360.



21 September 2013 (Saturday), 10am to 4pm. **Cryptogamic Field Trip (Mosses and Lichens)**, Chaumont area, Jefferson County, led by Jim Battaglia.

26 October 2013 (Saturday), 9am to 1pm. **Albany Pine Bush. Bark: Get to Know Your Trees** by Michael Wojtech, author of *Bark: A Field Guide to Trees of the Northeast*. Cost is \$35 for NYFA members and \$65 for non-members. Signed copies of Michael's book *Bark: A Field Guide to Trees of the Northeast* will be available. To register, contact Steve Young at (518) 588-8360 or at nisky912@gmail.com

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editor@nyflora.org

We would also like to know what articles are most interesting to you about our flora. We like feedback!

Don't forget:

**Our Annual Meeting is May 5th. Save the Date!
 Food, Fun and a walk in Nelson Swamp.**

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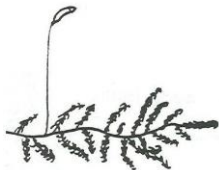
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membership@nyfa.org and put "NYFA electronic newsletter" in the subject line. We appreciate your efforts to save paper, money, and time by receiving your newsletter electronically. An electronic membership has the added advantage of delivery before paper copies are sent out, clickable links, and full color photographs. To date, more than 75% of our members receive the newsletter electronically. In the future, we hope to convert most of our members to the electronic newsletter format. Don't be left out!

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