

**New York Flora  
Association Newsletter  
Fall 2023**

**Editor's Note:** Fall is here and field trips have mostly wrapped up for the year. This winter would be a good time to think about places you may like to lead a field trip next season, and/or articles you may want to submit for future issues; please feel free to contact any of the board with ideas, and thanks! Sadly, in this issue we have another death to report: Andy Nelson, long time NYFA member passed away, see page 18 for several nice tributes to Andy.

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**NYFA Mission:**

To promote a greater appreciation and knowledge of the flora of New York through conservation, research, and public education and outreach.

**The Ferns of New York: A NYFA Workshop, June 24-25, 2023**

by Fred Haynes

On the final weekend of June, 15 NYFA members and fern enthusiasts converged on Colgate University for a two-day fern workshop. We met the workshop leader, Biology Professor Eddie Watkins, outside Colgate's Ho Science Building where he specializes in organismal plant ecology and physiology with a primary focus on ferns. The weekend event was a unique opportunity to learn about a very interesting set of vascular plants that do not reproduce by flowers or seeds, but by spores. It was certainly a big bonus for me to meet a diverse group of NYFA members with like interests while learning from a known expert.

After we introduced ourselves, Eddie led us up the forested hill behind Colgate's beautiful stone buildings to the first of three field sites we would visit over the weekend. While surrounded by ferns in a mostly hardwood forest, he introduced us to some of the important parts of ferns we would be observing (often with a hand lens). He defined terms such as stipe, rachis, sori, sporangia, and indusia, as well as the concept of once-pinnate, twice-pinnate, and so on when viewing the design and shape of the leaf blades. All of this would be important when trying to identify ferns and also in understanding how they became, and continue to be, the most abundant world-wide group of seedless vascular plants.



**Our first fern identification!** Eddie is holding a frond of hay-scented fern (*Dennstaedtia punctilobula*) in his right hand and one from New York fern (*Amauropelta noveboracensis*) in his left hand. (The New York fern tapers at both ends; the extremely short pinnae at the base of the blade are diagnostic.)

As a geologist, I enjoyed visiting the old quarry near the top of the hill where the sandstone for some of Colgate's historic buildings was obtained. While I was admiring the rock, Eddie found some heart-shaped gametophytes, probably from a wood fern (*Dryopteris* sp.), clinging to the lower wet ledges of the quarry walls. Gametophytes are the sexual stage of a fern; they are small and generally overlooked, but are an important part of the fern's life cycle. Eddie then took us to a spot in the forest where four different lycopod (clubmoss) species were coexisting on the forest floor. Although often classified as fern allies, lycopods are actually quite distantly related to ferns. Surprisingly, ferns are actually closer to roses than to clubmosses.

We avoided the oncoming inclement weather while observing the ferns and clubmosses, but were not able to get back to the Science Center before the rains came. I guess it would not have been a proper fern workshop without getting wet once, and we got soaked! After drying out during lunch, we spent the afternoon in the lab and classroom.

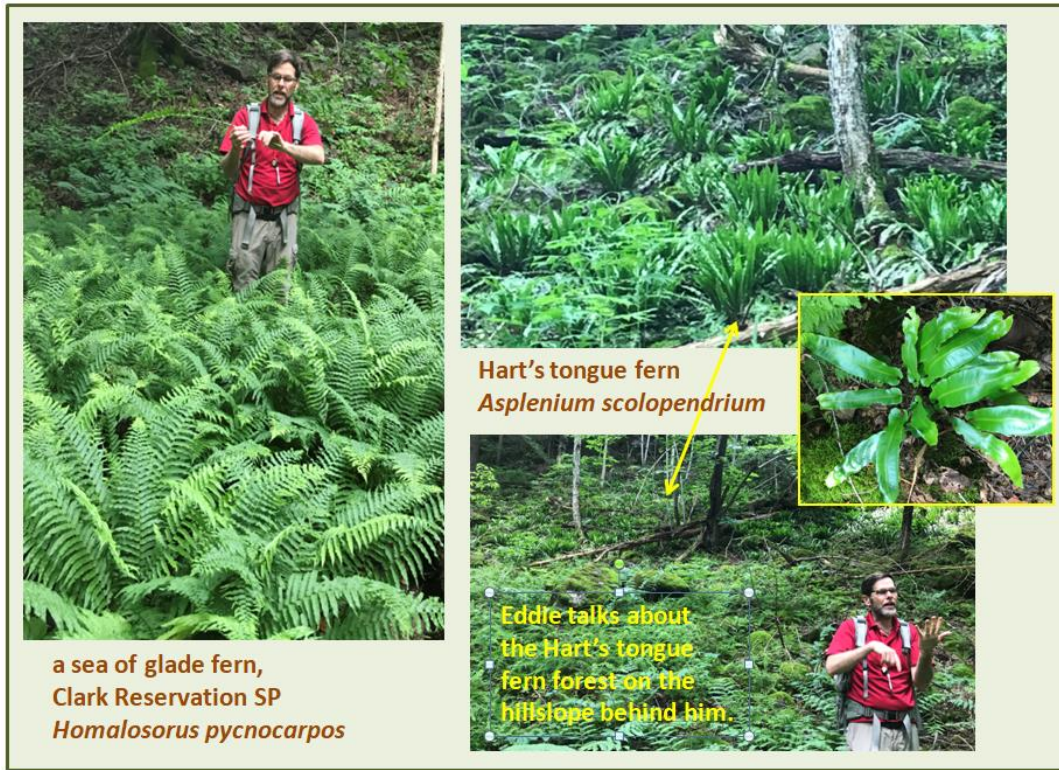
After Eddie reviewed the basics of fern morphology and their complex reproductive process, two of Eddie's students (Porter Comstock and Matt Leopold) set us up with microscopes so we could view the smaller aspects of ferns from the morning foray on the hill. By far the highlight of that session was watching individual spherical black sporangia rise up above their cluster (sorus), lift their cap, and shake violently to release their spores all over the back of the pinnule and the microscope. Stimulated by the heat from the microscope lights, these *Dryopteris intermedia* wood ferns were spilling their spores for us.



The final Saturday activity took us to a classroom where Eddie had laid out a suite of pressed wood ferns (*Dryopteris* spp.) as an introduction to this pesky family, several species of which we would encounter on Sunday. There are nine "end-member" sexual *Dryopteris* species listed on the NYFA atlas in New York State and more than a dozen hybrids with intermediate characteristics. With Eddie's help we







Our final stop was Beaver Creek State Forest in Sangerfield, Oneida County, where we tested whether our knee high boots were truly waterproof and whether we had passed our wood fern exam on Saturday. There were several to see in the wet swamp. In particular, I remember crested fern (*Dryopteris cristata*) with its narrow ladder-like frond. Interrupted fern (*Osmunda claytonia*) and northern lady fern (*Athyrium angustum*) were also common along the margins of the swamp.

It was a fun and educational weekend and it provided me with a new appreciation of a very diverse set of plants that are common in the woodlands, bogs, and swamps of New York State. I did not learn them all from this short two-day workshop (see the list on the next page), but it was certainly a wonderful start.



Left to right, back row: Joe McMullen, Sarah Green, Porter Comstock, Eddie Watkins, Bruce Gilman, Fred Haynes, Steven Daniel, Tom Wirickx, Kevin Bliss, David DuBois; front row: Matt Leopold, Phil Bonn, Audrey Bowe, Mary Beth Wagner, Joan Zeller, Patti Tessler.



**THE FERNS, CLUB MOSSES & HORESETAILS**

*Adiantum pedatum*, maidenhair fern  
*Asplenium platyneuron*, ebony spleenwort  
*Asplenium rhizophyllum*, walking fern  
*Asplenium scolopendrium*, Hart's tongue fern  
*Asplenium trichomanes*, maidenhair spleenwort  
*Athyrium angustum*, northern lady fern  
*Cystopteris bulbifera*, bulblet fern  
*Dendrolycopodium dendroideum*, prickly tree clubmoss  
*Dennstaedtia punctilobula*, hay-scented fern  
*Deparia acrostichoides*, silvery spleenwort  
*Diphasiastrum digitatum*, fan clubmoss  
*Equisetum arvense*, field horsetail  
*Gymnocarpium dryopteris*, oak fern  
*Homalosorus pyncocarpos*, glade fern  
*Lycopodium clavatum*, stag's horn clubmoss  
*Matteuccia struthiopteris*, ostrich fern  
*Onoclea sensibilis*, sensitive fern  
*Osmunda claytonia*, interrupted fern  
*Osmunda regalis* var. *spectabilis*, royal fern  
*Osmundastrum cinnamomeum*, cinnamon fern  
*Phegopteris connectilis*, long beech fern

*Polypodium virginianum*, Virginian rock polypody  
*Polypodium acrostichoides*, Christmas fern  
*Pteridium aquilinum* ssp. *latiusculum*, eastern bracken fern  
*Spinulum annotinum*, interrupted clubmoss  
*Thelypteris noveboracensis*, New York fern  
*Thelypteris palustris* var. *pubescens*, marsh fern



**THE WOOD FERNS**

*Dryopteris carthusiana*, spinulose wood fern  
*D. carthusiana* x *D. cristata* = *D. x uliginosa*, marsh wood fern  
*D. carthusiana* x *D. intermedia* = *D. x triploidea*, triploid wood fern  
*Dryopteris clintoniana*, Clinton's wood fern  
*D. clintoniana* x *D. goldiana* = *D. x mickelii*, Mickel's wood fern  
*D. clintoniana* x *D. intermedia* = *D. x dowellii*, Dowell's wood fern  
*Dryopteris cristata*, crested wood fern  
*D. cristata* x *D. intermedia* = *D. x bootii*, Boott's wood fern  
*D. cristata* x *D. marginalis* = *D. x slossoniae*, Slosson's wood fern  
*Dryopteris goldiana*, Goldie's wood fern  
*Dryopteris intermedia*, common wood fern  
*Dryopteris marginalis*, marginal wood fern

In keeping with the fern theme in the first article of this newsletter, here is a handy table of New York State's current fern family and genera names with links to their family pages on the NYFA atlas as well as taxa counts for each; contributed by Steve Young. Thanks Steve!

**Aspleniaceae**

[Asplenium](#) Spleenwort, 11

**Athyriaceae**

[Athyrium](#) Lady fern, 2  
[Deparia](#) Silvery spleenwort, 1

**Blechnaceae**

[Anchistea](#) Virginia chain fern, 1  
[Lorinseria](#) Netted chain fern, 1

**Cystopteridaceae**

[Cystopteris](#) Fragile fern, 6  
[Gymnocarpium](#) Oak fern, 2

**Dennstaedtiaceae**

[Dennstaedtia](#) Hayscented fern, 1  
[Pteridium](#) Bracken fern, 2

**Diplaziopsidaceae**

[Homalosorus](#) Glade fern, 1

**Dryopteridaceae**

[Cyrtomium](#) Netvein holly fern, 1  
[Dryopteris](#) Wood fern, 30  
[Polystichum](#) Holly fern, 4

**Onocleaceae**

[Matteuccia](#) Ostrich fern, 1  
[Onoclea](#) Sensitive fern, 1

**Polypodiaceae**

[Pleopeltis](#) Scaly polypody, 1  
[Polypodium](#) Polypody, 3

**Pteridaceae**

[Adiantum](#) Maidenhair fern, 2  
[Cryptogramma](#) Slender cliffbrake, 1  
[Myriopteris](#) Lip fern, 1  
[Pellaea](#) Cliffbrake, 2  
[Pteris](#) Brake fern, 1  
[Vittaria](#) Shoestring fern, 1

**Thelypteridaceae**

[Amauropelta](#) New York fern, 1  
[Coryphopteris](#) Massachusetts fern, 1  
[Phegopteris](#) Beech fern, 3  
[Thelypteris](#) Marsh fern, 1

**Woodsiaceae**

[Woodsia](#) Cliff fern, 5



## Field Trip Report, Lake Julia Preserve, 8 July 2023

Photos and text by Bruce Gilman

For many years I visited the Nature Conservancy's Lake Julia Preserve in late October with my college students. It was part of a weekend limnology experience where students would learn about a larger variety of water bodies than typically found in the Finger Lakes region. They would experience and sample small reservoirs along impounded streams, abandoned beaver pond meadows, and an acidic Adirondack bog. But with my previous visits being at the end of the growing season, botanical observations were limited to the lingering tree leaves, skeletal remains of some herbaceous plants and the few evergreen groundcover species. Leading a NYFA hike in early July would finally provide a glimpse of the preserve's summer flora.

Nestled in the Adirondack foothills of northern Oneida County, this nearly 900-acre Nature Conservancy Preserve contains several distinct plant communities that are accessible along the Gibson Nature Trail, named in honor of the 1976 land donor, Cynthia Anne Gibson. We met in the roadside parking area at 10:00 am. Our group of 16 was an enthusiastic bunch. The previous day's rain had not dampened anyone's desire to explore and botanize, and we soon discovered that the enhanced soil moisture from that rain would bring out a pleasant bonus; no, not biting insects, but rather a wide variety of fungi!

We left the trailhead and travelled first through a mature, mixed conifer plantation of white, red, and Scotch pine (*Pinus strobus*, *P. resinosa*, and *P. sylvestris*). The forest floor was dominated by common wood fern (*Dryopteris intermedia*). We surmised the conifers had been planted back in the CCC days as many were now decrepit and native hardwoods were establishing beneath them. I challenged the group to call out when they perceived we were leaving the plantation. Nearly all noticed the sudden lack of pine needle litter as the trail transitioned into an upland deciduous tree community. Here the forest was dominated by sugar maple (*Acer saccharum*) interspersed with beech (*Fagus grandifolia*), red maple (*Acer rubrum*), yellow birch (*Betula allegheniensis*), hemlock (*Tsuga canadensis*), and black cherry (*Prunus serotina*). The latter two tree species had astoundingly large dimensions. So, although the forest was second growth, we wondered about the possibility of one location being an old growth stand of eastern hemlocks. One hemlock tree had fallen across the trail and sections had been removed by chainsaw. Preliminary ring counts of a "cookie" from ten feet up the hemlock trunk suggested an age approaching 275 years!



Kyle Webster admiring a large black cherry (*Prunus serotina*).



Farther along, the trail approached Baker Brook, which farther downstream had been diked by previous landowners to form Lake Julia. But here the stream had been dammed by nature's engineers – beaver. We left the trail to explore this naturally disturbed area. The marshy meadow along the stream corridor had numerous sedges (*Carex*, *Dulichium*, and *Scirpus*), grasses (*Calamagrostis*, *Cinna*, and *Glyceria*), ferns (*Dryopteris*, *Onoclea*, *Osmunda*, and *Thelypteris*) as well as many other additional wetland indicator plants.

Our group returned to the trail and continued farther into the nature preserve. We eventually left the trail again, crossed a sandy glacial morainic ridge (esker?) and dropped into a kettle depression. After enjoying a restful lunch, we carefully crossed the moat along the edge of the kettle depression, passed through a border of bog forest, and stepped onto the open mat. This *Sphagnum* bog community had numerous indicator plants, including leatherleaf (*Chamaedaphne calyculata*), bog rosemary (*Andromeda polifolia*), Labrador tea (*Rhododendron groenlandicum*), bog laurel (*Kalmia polifolia*), round-leaved sundew (*Drosera rotundifolia*), and cranberry (*Vaccinium macrocarpon*). Blooms of grass pink (*Calopogon tuberosus*) and white fringed orchid (*Platanthera blephariglottis*) were spectacular. From my previous limnology class trips here, I shared that the open water pool in the center of the mat is acidic (pH ~ 5.2), dark brown in color, and clear. The *Sphagnum* mat at the edge of the pool thins and forms a treacherous quaking mat! Fortunately, no one ventured too close on this trip. We returned to the Gibson Trail and finished the loop back to the trailhead and parking area. It had been a lengthy (time-wise!) 2-mile roundtrip, well enjoyed by all attending.



Lake Julia bog.



Two of the bog beauties, *Calopogon pulchellus* (left) and *Platanthera blephariglottis* (right).





The group exploring the bog mat.



Some of the fungi that caught everyone's eyes.



Indian cucumber root (*Medeola virginiana*).





Plant list for Lake Julia, compiled by the group; an asterisk (\*) indicates a non-native species.

**WOODS**

**Ferns/Lycopods**

*Dendrolycopodium dendroideum*, Clubmoss, Prickly tree  
*Dennstaedtia punctilobula*, Fern, Hay-scented  
*Diphasiastrum digitatum*, Groundcedar, Southern  
*Dryopteris intermedia* ssp. *intermedia*, Fern, Common  
*Huperzia lucidula*, Firmoss, Shining  
*Osmunda claytoniana*, Fern, Interrupted  
*Pteridium aquilinum* var. *latiusculum*, Bracken fern  
*Amauropelta noveboracensis*, Fern, New York

**Graminoids**

*Brachyelytrum erectum*, Shorthusk, Southern  
*Carex communis* var. *communis* Sedge, Common  
*Carex debilis* var. *rudgei*, Sedge, Weak  
*Carex novae-angliae*, Sedge, New England

**Herbs**

*Aralia nudicaulis*, Sarsaparilla, Wild  
*Clintonia borealis*, Lily, Bluebead  
*Coptis trifolia*, Goldthread  
*Cypripedium acaule*, Lady's slipper, Pink  
 \**Epipactis helleborine*, Helleborine; Weed-orchid.  
*Lysimachia borealis*, Starflower,  
*Maianthemum canadense*, Mayflower, Canada  
*Maianthemum racemosum*, Solomon's seal, False  
*Medeola virginiana*, Cucumber-root, Indian  
*Mitchella repens*, Partridge berry  
*Oclemena acuminata*, Aster, Whorled wood  
*Oxalis montana*, Wood-sorrel, Common  
*Polygonatum pubescens*, Solomon's seal  
*Rubus allegheniensis*, Blackberry, Common  
*Rubus hispidus*, Dewberry, Swamp  
*Rubus repens*, Dewdrop  
*Streptopus lanceolatus*, Rose twisted stalk  
*Trillium erectum*, Trillium, Red  
*Trillium undulatum*, Trillium, Painted  
*Uvularia sessilifolia*, Wild-oats; Bellwort  
*Viola blanda*, Violet, Sweet White

**Shrubs**

*Lonicera canadensis*, Honeysuckle, Fly  
*Viburnum dentatum* var. *lucidum*, Arrowwood  
*Viburnum lantanoides*, Hobblebush, Witch-hobble

**Trees**

*Amelanchier* sp., Juneberry  
*Acer rubrum* var. *rubrum*, Maple, Red  
*Acer saccharum* var. *saccharum*, Maple, Sugar  
*Betula alleghaniensis*, Birch, Yellow  
*Fagus grandifolia*, Beech, American  
*Pinus resinosa*, Pine, Red  
*Pinus strobus*, Pine, White  
 \**Pinus sylvestris* var. *syvestris*, Pine, Scotch  
*Prunus serotina*, Cherry, Black  
*Tsuga canadensis*, Hemlock

**MARSH**

**Ferns/Lycopods**

*Dryopteris cristata*, Wood fern, Crested

*Equisetum arvense*, Horsetail, Field  
*Onoclea sensibilis*, Fern, Sensitive  
*Osmunda regalis* var. *spectabilis*, Fern, Royal  
*Thelypteris palustris* var. *pubescens*, Fern, Marsh

**Graminoids**

*Agrostis scabra*, Bentgrass; Hairgrass  
*Calamagrostis canadensis* var. *canadensis*, Grass, Bluejoint  
*Carex bebbii*, Sedge, Bebb's  
*Carex echinata* ssp. *echinata*, Sedge, Prickly  
*Carex interior*, Sedge, Inland  
*Carex intumescens*, Sedge, Bladder  
*Carex scoparia* var. *scoparia*, Sedge, Broom  
*Carex stipata* var. *stipata*, Sedge, Stipitate or Crowded  
*Carex vesicaria*, Sedge, Bladdery  
*Cinna latifolia*, Woodreed, Drooping  
*Dulichium arundinaceum*, Sedge, Three-way  
*Glyceria melicaria*, Mannagrass, Slender  
*Glyceria septentrionalis*, Mannagrass, Floating  
*Juncus effusus* var. *solutus*, Rush, Soft

\**Phragmites australis* ssp. *australis*, Reed, Common  
*Scirpus atrocinctus*, Bulrush, Northern

**Herbs**

*Bidens* sp., Beggar-ticks, Stick-tight  
*Coptis trifolia*, Goldthread  
*Fragaria virginiana*, Strawberry, Wild  
*Galium tinctorium*, Bedstraw, Cleavers  
*Hydrocotyle americana*, Pennywort, Water  
*Hypericum* sp., St. John's-wort, Marsh  
*Hypericum mutilum*, St. John's-wort, Dwarf  
*Impatiens capensis*, Jewelweed, Spotted  
*Lycopus* sp., Bugle-weed, water horehound  
*Oxalis stricta*, Lady's sorrel  
 \**Persicaria hydropiper*, Water-pepper, Smartweed  
*Potentilla norvegica* ssp. *monspeliensis*, Cinquefoil  
*Symphyotrichum* sp., Aster, Tall white  
*Symphyotrichum puniceum*, Aster, Purple-stemmed

**FEN/BOG**

**Ferns**

*Osmundastrum cinnamomeum*, Fern, Cinnamon

**Graminoids**

*Carex billingsii*, Sedge, Billing's  
*Carex canescens* ssp. *canescens*, Sedge, Silvery  
*Carex oligosperma*, Sedge, Few-seeded  
*Carex pauciflora*, Sedge, Few-flowered  
*Carex trisperma*, Sedge, Three-seeded  
*Eriophorum virginicum*, Cottongrass, Tawny  
*Rhynchospora alba*, Beakrush, White

**Herbs**

*Calopogon tuberosus*, Grass pink  
*Drosera rotundifolia* var. *rotundifolia*, Sundew, Round-lvd  
*Maianthemum trifolium*, Solomon's seal, Three-lvd  
*Neottia bifolia*, Twayblade, Southern  
*Platanthera blephariglottis*, Orchid, White fringed  
*Sarracenia purpurea*, Pitcher plant



**Lake Julia plant list cont.****Shrubs**

*Andromeda polifolia* var. *latifolia*, Bog rosemary  
*Aronia melanocarpa*, Chokeberry, Black  
*Chamaedaphne calyculata*, Leatherleaf  
*Gaultheria hispidula*, Snowberry, Creeping  
*Gaultheria procumbens*, Wintergreen, Checkerberry  
*Ilex mucronata*, Holly, Mountain  
*Kalmia angustifolia*, Laurel, Sheep  
*Kalmia polifolia*, Laurel, Pale  
*Rhododendron groenlandicum*, Labrador Tea  
*Vaccinium angustifolium*, Blueberry, Lowbush  
*Vaccinium corymbosum*, Blueberry, Highbush  
*Vaccinium oxycoccos*, Cranberry, Small  
*Viburnum cassinoides*, Wild raisin

**Trees**

*Abies balsamea*, Fir, Balsam  
*Larix laricina*, Larch, American  
*Picea mariana*, Spruce, Black

**PARKING AREA**

*Athyrium angustum*, Fern, Northern Lady

**FUNGI WITHIN THE PRESERVE** (Thanks to Paul Brach and Fred Haynes for identifying and compiling this list)

*Amanita ceciliae*, gilded grisette  
*Amanita muscaria* var. *guessowii*, yellow-orange fly agaric  
*Amanita phalloides*, death cap  
*Calocera cornea*, orange tuning forks  
*Entoloma serrulatum*, blue-toothed entoloma  
*Fomes fomentarius*, tinder polypore  
*Fomitopsis pinicola*, red-belted polypore  
*Fuligo septica*, scrambled eggs slime  
*Ganoderma lucidum*, lingchih  
*Gloephyllum sepiarium*, yellow-red gill polypore  
*Gymnopus dryophilus*, oak-loving collybia  
*Hymenopelis furfuracea*, beech rooter  
*Kretzschmaria deusta*, burnt crust fungi  
*Lycogala epidendrum*, wolf's milk slime  
*Marasmius rotula*, pinwheel mushroom  
*Marasmius siccus*, orange pinwheel  
*Megacollybia rodmanii*, platterful mushroom  
*Pluteus cervinus*, deer mushroom  
*Radulomyces copelandii*, Asian beauty  
*Royoporus badius*, black-footed polypore  
*Russula* sp.  
*Stemonitis splendens*, chocolate tube slime  
*Stereum ostrea*, false turkey tail  
*Trichaptum bifforme*, violet-toothed polypore  
*Xeromphalina* sp.

**Field Trip to Hitchins Pond Bog, Saturday, August 19**

by Steven Daniel

On one of the chilliest days of the summer, with temperatures not rising above the mid-50's the whole day, 11 hardy folks traveling from points near and far, met Dan Spada, Anne Johnson, and me in the morning as we prepared to explore Hitchins Pond Bog. Hitchins Pond Bog is adjacent to the Bog River Flow - while that canoe route is known by thousands of canoeists, this nearby peatland is unknown to many.

The damp mist and cold didn't deter this avid group (we were mostly dressed for the weather - lacking only gloves) but this was not an alpine trip and it was midsummer! Nevertheless we had a fabulous time exploring this large and structurally diverse patterned peatland. Botanical highlights included finding the cleistogamous flowers of the hidden-fruit bladderwort (*Utricularia geminiscapa*). 2023 wasn't a repeat of 2022, where there were "seas" of yellow chasmogamous flowers of this species, filling many of the bog pools, but the hidden cleistogamous flowers were of interest to many. There were many flowers of the larger, showy horned bladderwort (*U. cornuta*), and the lovely, flowering stems of bog aster (*Oclemena nemoralis*), a fairly rare (S3) species found in acid bogs, was in peak flowering. We marveled at the strange graminoid known as pod grass (*Scheuchzeria palustris*), which was locally common in wet pockets of the bog, and learned to identify it vegetatively by the distinctive pore at the leaf tip. The tawny cottongrass (*Eriophorum virginicum*) and rough cotton grass (*E. tenellum*) were nice to see and compare. Thousands of stems of white-fringed orchid (*Platanthera blephariglottis*) were seen in good fruit, the population having been in flowering glory just a few weeks earlier.

The chilly damp weather precluded the spotting of any rare dragonflies or butterflies. But we did have an avian treat as some Canada jays paid us a visit as we were having lunch on a forested island in the middle of the bog. All in all, an exhilarating day in one of the treasured landscapes in the Adirondacks.





The botanists have descended into the fen after lunch in the forest above. Photo by Kyle Webster.



The colors of the fen in the rain; pitcher plant (left) and sundew in Sphagnum (right). Photos by Sue Woodruff.



Reflections in the fen pool. Photo by Anne Johnson.



**Plant list for the Hitchins Pond Bog field trip.****Ferns/Lycopods***Lycopodiella inundata*, Clubmoss, Bog*Onoclea sensibilis*, Fern, Sensitive*Osmundastrum cinnamomeum*, Fern, Cinnamon**Graminoids***Carex billingsii*, Sedge, Billing's*Carex exilis*, Sedge, Starved*Carex limosa*, Sedge, Mud*Carex magellanica* ssp. *irrigua*, Sedge, Stunted*Carex oligosperma*, Sedge, Few-seeded*Carex pauciflora*, Sedge, Few-flowered*Carex stricta*, Sedge, Tussock*Carex trisperma* var. *trisperma*, Sedge, Three-seeded*Carex utriculata*, Sedge, Beaked*Dulichium arundinaceum*, Sedge, Three-way*Eriophorum tenellum*, Cottongrass, Rough*Eriophorum virginicum*, Cottongrass, Tawny*Glyceria canadensis*, Grass, Rattlesnake*Glyceria melicaria*, Mannagrass, Slender*Juncus canadensis*, Rush, Marsh*Juncus pelocarpus*, Rush*Rhynchospora alba*, Beakrush, White*Rhynchospora fusca*, Beakrush, Sooty**Herbaceous Plants***Calopogon tuberosus*, Grass pink*Doellingeria umbellata*, Aster, Flat-topped*Drosera intermedia*, Sundew, Narrow-leaved*Drosera rotundifolia* var. *rotundifolia*, Sundew, Round-leaved*Epilobium leptophyllum*, Willow-herb, Narrow-leafed*Iris versicolor*, Iris, Wild. Blue flag*Maianthemum trifolium*, Solomon's seal, Three-leaved*Menyanthes trifoliata*, Buckbean, Bogbean*Oclemena nemoralis*, Aster, Bog*Platanthera blephariglottis*, Orchid, White fringed*Platanthera clavellata*, Orchid, Little club spur*Pogonia ophioglossoides*, Pogonia, Rose*Rubus hispidus*, Dewberry, Swamp*Sarracenia purpurea*, Pitcher plant*Scheuchzeria palustris*, Pod-grass; Scheuchzeria*Solidago uliginosa* var. *linoides*, Goldenrod, Swamp or Bog*Utricularia cornuta*, Bladderwort, Horned*Utricularia geminiscapa*, Bladderwort**Shrubs***Andromeda polifolia* var. *latifolia*, Bog rosemary*Aronia melanocarpa*, Chokeberry, Black*Chamaedaphne calyculata*, Leatherleaf*Gaultheria hispidula*, Snowberry, Creeping*Ilex mucronata*, Holly, Mountain*Kalmia angustifolia*, Laurel, Sheep*Kalmia polifolia*, Laurel, Pale*Vaccinium macrocarpon*, Cranberry, Large*Vaccinium oxycoccos*, Cranberry, Small*Viburnum cassinoides*, Wild raisin**Trees***Acer rubrum*, Maple, Red*Larix laricina*, Tamarack*Picea mariana*, Spruce, Black*Pinus strobus*, Pine, White**And from the roadside/moat:***Trillium undulatum*, Trillium, Purple*Gentiana linearis*, Gentian, Narrow-leaved*Calla palustris*, Calla, Wild*Anaphalis margaritacea*, Everlasting, Pearly*Danthonia compressa*, Grass, Northern Oat**Abbreviated Bryophyte List, compiled by Ruth Brooks****Open Bog Habitat***Polytrichum commune**Pleurozium schreberi**Sphagnum rubellum**Sphagnum fuscum**Sphagnum palustre**Sphagnum capillifolium**Sphagnum russowii***Upland Island Habitat (lunch)***Dicranum fulvum**Dicranum scoparium**Hypnum imponens**Platygyrum repens**Thuidium delicatulum**Tetraphis pellucida**Bazzania trilobata**Nowellia curvifolia**Lophocolea heterophylla**Ptilidium pulcherrimum*A *Bryoria* lichen. Photo by Tammy Somasundaran.

## WHAT are those yellow growths on the butterfly's head??

Photo essay by Steven Daniel

When Dan Spada and I scouted Hitchins Pond Bog a few weeks before our August field trip, we were pleasantly surprised to see thousands of flowering white-fringed orchis (*Platanthera blephariglottis*). It was a stunning display. We were further surprised to see so many different butterflies actively nectaring on it - we saw 5 different butterfly species visiting this orchid.

As we were exiting the bog, I noticed a little brown dun skipper with some strange yellow growths appearing to come out of its head. What were they??



Female dun skipper with yellow growths stuck on its head.

Later, looking at my pics of butterflies nectaring on the orchid, I saw that the Atlantis fritillary also had these similar yellow “growths”.

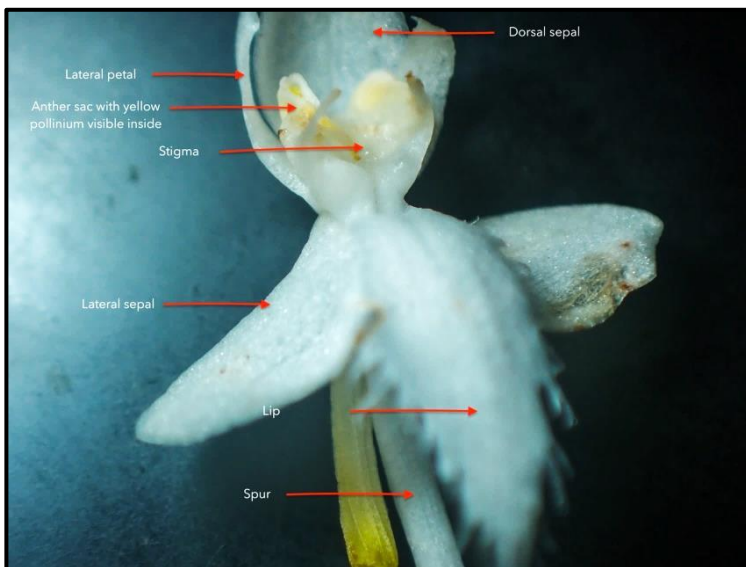


I didn't even notice the yellow stuck to this Atlantis fritillary until I looked closely at the picture!

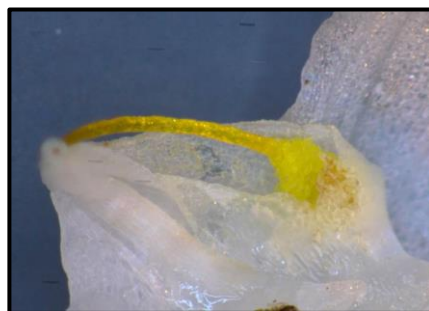
Suddenly a light bulb turned on in my aging brain.... could these be the pollinia of the orchid that were stuck to the head of the butterflies?



I had taken a sample of the white-fringed orchid to further study the flower structure, as orchid flower structure is so different than other flowers, and every so often I find I need to review it. Orchids are unique (along with milkweeds) in generally holding their pollen grains together in a mass called a pollinium. The pollinium will get attached to a pollinating visitor by means of a sticky structure called a viscidium. Here is an annotated pic of a flower of white-fringed orchid showing its parts, and a partly opened anther sac showing the pollinium inside.



Annotated *P. blephariglottis* - note the anther sac and you can see the pollinium inside. The sticky end (viscidium) is at the base.



Partly opened anther sac showing pollinium.

I put my forcep into the anther sac and the viscidium immediately stuck to it - just the way it does to the head of a butterfly!



Viscidium with pollinium stuck to forcep, **mystery solved!**



**From the Editor:** Andy Nelson, long time NYFA member, passed away this past July at the age of 86. Many of you will know him from field trips and from his photographs on the NYFA Atlas. We have received some remembrances which we are including here.

### **Dr. Andrew P. Nelson's gifts to SUNY Oswego and New York botany**

Remembrance contributed by C. Eric Hellquist, Department of Biological Sciences, SUNY Oswego

One of Andy Nelson's first jobs as a teenager was harvesting "flag" in the wetlands of Cayuga and Wayne Counties. In those days, cattail leaves, or flag, were harvested manually for use as caulking between barrel staves and for chair caning. Andy described the work as hot, backbreaking, and thankless. However, despite the difficulties, I think it is safe to say, the wetlands left an indelible positive impression on Andy. After taking a botany class early in his time at SUNY ESF, Andy embarked on a career in botany that took him to UC Berkeley for his Ph.D. and would eventually bring him back to the Lake Ontario wetlands where he grew up.

At SUNY Oswego, we were very fortunate to have Andy teach and lead our Rice Creek Field Station (RCFS) over fourteen years spanning the 1990s and 2000s. As the Director of RCFS, Andy was ahead of his time. Andy astutely recognized that GIS and digital data were the future of biodiversity monitoring and land management. He learned ArcGIS and created maps of the RCFS grounds and trails. He created a publicly available digital flora of RCFS that provided a model for future projects. Similarly, he contributed hours upon hours of service to the online New York Flora Atlas. By the time smart phones were in everyone's pocket, Andy's RCFS digital flora had long been online and was ready for hand held field access. His digital flora remains an exceptional resource for SUNY Oswego faculty, students, and the public.

In retirement, Andy continued to lead the way for access to botanical data on our campus through the establishment and modernization of the SUNY Oswego Herbarium. Prior to moving into a new building in 2013, the SUNY Oswego Herbarium was stranded in a basement hallway. The approximately 50,000 specimens had been salvaged from the dissolution of the Syracuse University herbarium. The collection was in desperate need of taxonomic revision and general curation. When approached by the department about relaunching the herbarium, Andy generously agreed to lead the efforts and spent countless hours organizing all the plants into their appropriate classifications with new folders. He accessioned, databased, repaired, and annotated. By 2017, SUNY Oswego had a fully functional herbarium ready for the next step in its modernization. Not long after Andy completed the revitalization of our collections, our colleagues Kamal Mohamed and Kristen Haynes received a \$224,000 NSF grant to complete a comprehensive herbarium digitization. Without Andy's efforts, the herbarium would not have been so well positioned for the NSF opportunity.

Andy fearlessly embraced technology, but he came from a tradition of botanists whose taxonomic skills were hard-earned from time in the field and in herbaria with specimens and botanical manuals arrayed around dissecting scopes. Andy was careful and meticulous and developed a comprehensive knowledge of the flora of central New York. In the field, Andy initiated many floristic projects throughout Oswego County including the flora of the Oswego waterfront. I was especially excited when he told me he had found saltmarsh goldenrod, *Solidago sempervirens*, on a pier where the Port of Oswego stored salt. His projects also included various peatlands, farms, and the tree diversity of an Oswego cemetery. His floristic projects created botanical time capsules that are critical for our region and the inevitable transitions that will be driven by global heating. Andy's work will show us where we've been and will serve as a benchmark for where succession is taking our flora.

On a personal level, Andy was a soft-spoken, generous, gentle soul who introduced me to central New York botany. We shared a mutual love of peatlands. Andy and fellow SUNY Oswego colleague, Peter Rosenbaum, explored dozens of central and western New York wetlands examining historical and potential



sites for bog turtle occupation. When I arrived in Oswego, they gave me personal tours of their favorite wetlands among many other sites. One peatland Andy and Peter showed me was near and dear to both of them. On my first visit, Andy pointed out the encroachment of *Typha angustifolia* onto the floating mat. For the last ten years, my students and I have been working at this peatland, trying to understand and slow the spread of *Typha* to maintain the integrity of the fen's habitat structure. Since we can't use herbicides at this sensitive site, we employ a method Andy knew well. We cut flag.

Like so many botanists engaged by floristics and herbaria, at his core, Andy was a historian. He documented the botanical present for immediate appreciation and for future reference. He marked succession via the species he collected. Whether it was collecting specimens on the Oswego Harbor breakwall, creating a digital flora of RCFS, or annotating herbarium specimens, Andy was a long-term investor in botanical capital. In 2017, upon the completion of the Andy's work reorganizing the entire SUNY Oswego herbarium, we gratefully recognized Andy's accomplishments. We hosted a reception that even included the President of SUNY Oswego offering her gratitude to Andy. We gave Andy a plaque to express our thanks. I chose a quote for the plaque that reminded me of Andy, and I think he appreciated its message. The quote from Aldo Leopold was, "A sense of history should be the most precious gift of science and the arts."

At SUNY Oswego, we were extremely fortunate that Andy was our colleague and friend. His dedication and botanical knowledge were always deeply appreciated. We miss his expertise and his gentle disposition. We miss talking about plants and looking over maps to plan a field trip. We miss our friend, but we take comfort in Andy's precious gifts that he gave to us, our campus, and botany.



### **Remembrances contributed by Joe McMullen and Mike Holy:**

Andy was a former NYFA treasurer, board member, active Atlas contributor, and member at large, and he was a nice guy - a reserved person, with a mild demeanor. He worked quietly with others to help get the NYFA set up as an independent corporation and a 501 (c) 3 entity.

About 10 or 11 years ago when the NYFA was transitioning from being under the umbrella of the State Museum to an independent organization, we were undergoing some tough financial times, as we were uncertain when and if the money held by the State Museum on our behalf would be available to us. Our remaining operating funds were limited, and although it is not widely known, Andy made a sizable personal donation to the NYFA to get us through. It was a very welcome contribution.

One botanical item that I attribute to Andy was his take on how the use of plant keys can sometimes be frustrating. His statement was: "plant keys are made by people who don't need them, for people who can't use them". I always found that to be a good description.

A friend of mine, Mike Holy, the author of the recent book *Wandering Wings - Encounters with Butterflies at Rice Creek*, worked closely with Andy and had the following to say.

Andy's tenure as Director at the field station ranged from 1990s to 2008. After he retired, he gave two talks at the field station: *Flora of Oswego* (April 27, 2014) and *Trees* (Sept. 28, 2019). Both were well received. When speaking, Andy chose his words carefully, as evidenced in the way he spoke slowly. He backed his actions with the reasoning behind them. He was quite approachable, at times stopping what he was doing to give assistance to those requesting his help. Some more general terms to describe him are kind and mellow, never to my knowledge displaying a show of anger. He could discuss things that upset him in a matter of fact sort of way. Andy's professional manner was one few could match. He was deeply respected and will certainly be missed.





### A Botanizing and Bushwhacking Weekend with Andy, Remembrance contributed by Steven Daniel

Back in 2012, I asked Andy whether he would be interested in leading a weekend trip for NYFA exploring the fens and dunes on the east end of Lake Ontario. And what a weekend it was! Andy's write-up for our newsletter is at this [link](#). We had a very full Saturday in July with Andy leading us to two fens and a dune complex in the Deer Creek area, some of which involved a fair bit of bushwhacking. But Andy was indomitable - he wanted to show the group these areas that he knew well, and which had a host of interesting orchids, sedges, willows, and more. I think he, certainly the oldest in the group, ended up outpacing most of the participants. Most of the Saturday group had made other plans for Sunday, so it was just Andy and me that met to bushwhack and explore another fen and swamp complex in the Deer Creek area. And slog we did. I couldn't help but being impressed at Andy's stamina, excitement, and his overall kindness as he led me through the muck and thickets to show me the many botanical treats. At the end of the day, we were both tired; he had given his all for the weekend and I was so appreciative. And I clearly recall, when we were done and saying our goodbyes, telling me his age - and that he didn't know how much longer he could be doing trips as physically taxing as this! Thanks, Andy. You've been a wonderful role model.



### Remembrance contributed by David Werier

Andy Nelson has passed from this earth. What a wonderful, sweet, smart, and hard-working person he was. I truly feel lucky to have gotten to know him. His wonderful chuckle and smile will never leave me.

I got to know Andy through our work together as fellow NYFA board members. Wow, did Andy work hard! During NYFA's transition from being under the auspices of the New York State Museum we needed to gain 501c3 (non-profit) status, become incorporated, and revamp our bylaws. Andy did the lion share of that work, coordinating with lawyers and government agencies, and dealing with the endless bureaucracy that this work entailed. And he did this work so selflessly and with such grace. NYFA is in the position it is in today due in large part to Andy's hard work. Thank you Andy!

And then there is all the work Andy did for the NY Flora Atlas. In particular, Andy was responsible for the photographs. In addition to helping get other people's images onto the Atlas, Andy posted thousands of his own. He paid close attention to the presentation of the plants he was highlighting, often placing a solid background behind the plants or highlighting fine details. His images not only show the plant in question but are often diagnostic and beautiful. Many of his images combine numerous aspects of a plant, thus creating a composite. Thankfully his images will live on. Visit the NY Flora Atlas to see some of Andy's photographs.

I could go on and on about what Andy did for NYFA, and I am sure others will remind you of this as well. But instead I will conclude with a sweet memory of a day when the two of us were in the field together. I came up to the Oswego area to see a number of interesting blackberries (*Rubus*) species that he had found. Andy led me to numerous sites including a gorgeous bluff above Lake Ontario with many interesting plants including *Houstonia canadensis*, a plant I was very interested in getting to know. Also on the bluff was a fantastic population of *Amelanchier sanguinea*. The plants were in mature fruit and we feasted ourselves. This particular form of *A. sanguinea* had such tasty fruits that I decided to see if I could grow them out. I was successful and now a dense thicket of them grace the area around my house. When I look out and see these shrubs, I am reminded of that day and of Andy with his always present smile and deep knowledge of the plants.



### Celebration of Life Andrew P. Nelson December 13, 1936 – July 22, 2023



When: Saturday, October 28, 2023

Where: [Rice Creek Field Station](#)

193 Thompson Road, Oswego, NY 13126 Time: Noon to 2:30pm

What: Potluck lunch from Noon to 1:30pm

We will have desserts and beverages. If you are able, please bring a dish to share.

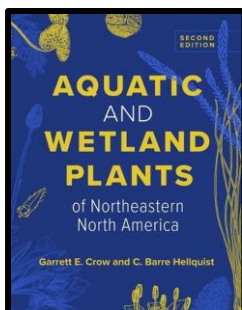
A short program from 1:30 to 2:30 will follow lunch.



#### Message from NYFA President Dan Spada:

At this writing, Fall is upon us with the glory of NYS's broadleaved trees turning colors and beginning to shut down for the winter. Up north the eastern larch are turning that special gold. In the fields and on the roadsides, the asters and goldenrods are spectacular and sporting the yellow and purple colors of my old elementary school. Even though plants are beginning to senesce, there are still great botanizing opportunities. With all the moisture this past growing season, the bryophytes have put on amazing growth and the new guide by Sue Williams should entice you to get out and look at these worthy plants. Since our last newsletter we lost past NYFA Board member and long-time supporter Andy Nelson. Check out the NY Flora Atlas to see the many excellent photos that Andy uploaded. We will miss him. In August we held our annual meeting at Joralemon Park. The food was good, the weather cooperated, the company was excellent and the botanizing was so much fun. We'd love to have more members join us at the annual meeting; it's a great opportunity to meet your Board, express any comments you may have regarding NYFA, and meet with like-minded botany enthusiasts of all abilities. Enjoy Autumn!

**Book Announcement:** Crow, G. E. and C. B. Hellquist. 2023. *Aquatic and Wetland Plants of Northeastern North America*. Second Edition. University of Wisconsin Press. Madison, WI.



#### Features include:

- general keys to families and keys within families and genera
- covers 112 families, 325 genera, 1,223 plant species (1,267 taxa); 633 pages of illustrations
- keys include figure numbers corresponding to drawings to facilitate identification
- vegetative characters are emphasized as well as flowering/fruitlet features
- habitat information, geographical ranges, and synonymy

Available on the University of Wisconsin Press website:

<https://uwpress.wisc.edu/>





Message from the trees in the Brasher State Forest – support each other! Photo (and quote) by Martha Grow.



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