



# HIGHLIGHTS OF FIELD TRIPS

Brookfield, Vermont ~ June 2019 Away Meeting  
New England Botanical Club

**Saturday 6/15/2019**

**Saturday Field Trip 1:** Berlin Pond and [Ainsworth State Park](#) with Art Gilman.

Summary by Art Gilman.

The NEBC group explored general plant diversity and ferns in three areas. First, the group stopped at a shrub swamp/marsh on the west side of Berlin Pond. While the pond is owned by the State of Vermont, it and its surrounding lands are managed as a public water supply by the City of Montpelier, and are free of shoreline development. Here, we studied several species willows including *Salix bebbiana*, *discolor*, *eriocephala*, *nigra*, *petiolaris*, and *sericea*. These are all common willows, but reviewing the identifying characters of the foliage stimulated rather lengthy discussions. We located one probable hybrid, *S. eriocephala* × *sericea* that nicely combines the morphological characters of its two progenitors (e.g., persistent stipules of *S. eriocephala* and abundant, silky hairs on abaxial leaf surfaces of *S. sericea*).

Next, we visited a small area along the Berlin Pond Road near the Northfield/Berlin town line to see a fern hotspot, with numerous species common to rich forests in Vermont including Goldie's fern (*Dryopteris goldiana*), bulblet-bladder fern (*Cystopteris bulbifera*), maidenhair fern (*Adiantum pedatum*) and others. The area is near the Paine Mountain populations of male fern (*Dryopteris filix-mas*), and we encountered one large clump of that species, as well as a large clump of its frequent hybrid with marginal fern (*D. marginalis*). This hybrid was first found in Vermont and was long known as the Vermont Fern, but has recently been given a scientific name, *D. × montgomeryi* and may be also known as Jim Montgomery's Fern.

This was followed by a pleasant stop at a tiny park in Pond Village, Brookfield, next to the floating bridge, for lunch. This unique bridge was originally supported by floating wooden barrels and although modernized (it now floats on large pontoons) is an interesting complement to Vermont's numerous covered bridges.

Finally, we traveled north into Williamstown Gulf, a deep north-south chasm carved by sudden release of glacial meltwater and at the headwaters of the White River. Crossing those headwaters, a little riskily due to continued wet weather, but without incident, we explored the very steep western slope. Here we explored a very rich northern hardwood community with a near 100% ground cover of large herbs including abundant ferns, blue cohosh (*Caulophyllum*, species not resolved by the group), waterleaf (*Hydrophyllum virginianum*), sweet-cicely (*Osmorhiza claytoniana*), Canada violet (*Viola canadensis*). The wetness caused some difficulty up-and-down the steep slope, but the group carefully picked their way through the greenery. Eventually, near the Williamstown town line, Wherry's hybrid woodfern (*Dryopteris* × *neo-wherryi*, *D. goldiana* × *marginalis*) was located as advertised. Just as exciting, perhaps more so, was a large population of glade fern (*Homalosorus pycnocarpon*), an extreme rich-hardwoods plant in Vermont.

Hopping gingerly back across the stream, we returned to the road through large patches of mint, including both native Canada wild mint (*Mentha canadensis*) and what was apparently a pubescent form of introduced spearmint (*M. spicata*). The field trip leader vowed to return later to determine, if possible, exactly what that may be.

**Saturday Field Trip 2:** [Chickering Bog Natural Area](#) and Calais Town Forest with Brett Engstrom. No detailed summary yet.

The NEBC group walked along the trails and boardwalks at The Nature Conservancy's Chickering Bog (more appropriately an intermediate fen), followed by an afternoon at nearby Calais Town Forest at Bliss Pond. They explored a small northern white cedar swamp, some enriched northern hardwood forest, and mixed conifer-northern hardwood forest.

## **Sunday 6/16/2019**

**Sunday Field Trip 1:** [White River Ledges Natural Area](#) with Matthew Peters.

Summary by Matt Peters.

The NEBC group met at the trailhead for The Nature Conservancy's White River Ledges Preserve in Sharon, Vermont. This recently expanded preserve has a diversity of enriched natural communities including some extremely rich coves of Rich Northern Hardwood Forest and Temperate Calcareous Cliffs in addition to the very rare Calcareous Riverside Seeps that were the focus of this field trip. Waits River Formation bedrock underlies the area and its 'dirty marble' members, interbedded with non-calcareous phyllite, is largely responsible for this enrichment and the corresponding diversity of plants. We hiked briskly (for a bunch of botanists) to reach the ledges, stopping only for brief examination of a few ferns and sedges, including a patch of grape ferns that included both dissected grapefern (*Botrychium dissectum*) and daisy-leaf moonwort (*Botrychium matricariifolium*). The riverside ledges and calcareous seeps are not fully accessible by trail, so were accessed via a final bushwhack across a tussock sedge (*Carex stricta*) filled wet swale and a lush old field. TNC planted disease resistant American elms (*Ulmus americana*) here, which were suffering from significant deer browsing. The riverside ledge and seep communities are a mosaic of bare rock and moist turfs embedded in cracks and crevices along the banks and outcrops. They are created through intense water and ice scour processes in the riparian zone and some areas have groundwater seepage. Annual high flows (15,000-20,000CFS) on the relatively 'flashy' White River are 20-30 times greater than the base flows observed during our visit and it is clear that the entirety of the ledge and seep community is regularly inundated and scoured. Large mats of stranded driftwood and debris, including an entire, uprooted massive eastern cottonwood (*Populus deltoides*) corroborates this; an abundance of Japanese knotweed (*Fallopia japonica*) stem debris may be altering the volume and extent of debris accumulation that affects these communities. The riverside seeps support a number of rare and uncommon plants including four State-Threatened species, most of which were observed. Other more common plants observed included greenish sedge (*Carex viridula*), yellow sedge (*Carex flava*), porcupine sedge (*Carex hystericina*), marsh spike-rush (*Eleocharis erythropoda*), dwarf ragwort (*Packera paupercula*), big bluestem (*Andropogon gerardii*), Indian hemp (*Apocynum cannabinum*), Kalm's lobelia (*Lobelia kalmii*), grass-of-parnassus (*Parnassia glauca*), Philadelphia fleabane (*Erigeron philadelphicus* var. *philadelphicus*), and others. Side by side comparison of immature golden-fruited sedge (*Carex aurea*) with a rare sedge illustrated the clear suite of distinguishing characteristics that allow separation of these species prior to mature coloration (orange) of *Carex aurea* perigynia. Two new rare species were documented at the site as a result of the trip.

**Sunday Field Trip 2:** [Allis State Park](#) with John Burns.

Summary by John Burns.

On Sunday morning, a group of us headed out to Allis State Park in Brookfield. It's funny that the group of botanists weren't interested in the least in the fire tower next to the parking lot, but started right in looking at plants on the way to the trail. The trail was a patchwork of rich site indicators, such as blue cohosh, Dutchman's britches, and leeks, which reflect the influence of the rock ledge below. In between were less diverse areas under red spruce or less rich, northern forest species. Few extraordinary species were found in earlier passes on this trail, but immediately the trip took on a new level of excitement. While reviewing the differences between *Dryopteris intermedia* and *D. campyloptera*, I happened to catch a glimpse of *Botrychium dissectum*. I wasn't really expecting it and so a bit exciting, but while describing what it is we just found, I happened to spy another, tiny, different *Botrychium* in the background. Sure enough it was potentially a very small *B. matricariifolium*. It looked like a small *B. tenebrosum*, but there were lobes on the trophophores. With a little more searching, we found another more developed specimen that still couldn't be accurately identified. We continued on our loop with a new glow of enthusiasm and on to see *Viola canadensis* in bloom and in fruit, a dozen other ferns, and numerous sedges. The trail descends in a loop down a hill with large broken ledge covered in mosses and saxifrage and then ascends up the other side. It was interesting to see the changes in the species as we progressed. The mountain maple and striped maple displayed the perfection of spring in their fruiting and flowering arrangements. The group was full of knowledge, stories, and conviviality. . . and it didn't rain!

