

**New England Botanical Club - Minutes of the 1008<sup>th</sup> Meeting**  
**3 June 2005**

Karen Lombard, *Recording Secretary*

The 781<sup>st</sup> meeting of the New England Botanical Club, being the 1008<sup>th</sup> since its original organization, was held on Friday, June 3, 2005, in Bowman Hall, Massachusetts College of Liberal Arts, North Adams, MA. There were 18 members and guests in attendance. The Club began its June “away” meeting with a productive and mossy afternoon with moss enthusiast Sue Williams on the Broad Brook Trail in southwestern Vermont, just north of Williamstown, Massachusetts. Saturday field trip plans to Field Farm in Williamstown, a property of The Trustees of Reservations, were announced. (See below for details of field trips.)

In the evening, members heard Dr. Norton Miller speak on “Aspects of Mountain and Alpine Bryology in the Northeast: Results of Recent Studies.” Norton is principal scientist (botany) at the New York State Museum in Albany, New York, where he has worked for the past 23 years. His research interests include bryology, paleobotany, and Quaternary paleoecology, and he and colleagues have also been preparing a generic flora of the southeastern United States. In recent years he has worked extensively in alpine areas of the Adirondacks, the White Mountains, and Mt. Katahdin in Maine. These areas, with the addition of a recent survey on Mt. Everett in Massachusetts, were the focus of his talk.

Norton began with 2600 ft Mt. Everett in Massachusetts, which he recently inventoried. His survey yielded 109 moss species and 45 liverworts. He introduced the group to the summit principle or gipfelphänomen – as one goes higher on a mountain there are fewer species. On Mt. Everett the lower slopes were cleared during charcoal burning, and as a result there are few downed trees providing good bryophyte habitat. The mountain has about 50 fewer species than Mt. Greylock, due to its smaller size and lack of calcareous bedrock. The Mt. Everett survey was published in *Rhodora*, in the winter 2005 issue.

From Mt. Everett, we traveled to Lakes of the Clouds at 5000 ft on Mt. Washington. There, Dr. Miller described paleobotanical studies of sediments in the lakes. These sediments show the history of arctic-alpine vegetation on the mountain and include many fossil mosses. The pollen results were similar to studies in the lowland in that they showed that there was a spruce-balsam fir decline in favor of deciduous tree species during a warming trend beginning 10,500 years ago (Mt. Washington was treeless from the time glacial ice disappeared to then). The moss *Hylocomiastrum umbratum* is one species in the fossil record that had its distribution affected by warming. This species usually grows at warmer, lower elevations; it first appeared on Mt. Washington in the early Holocene then disappeared. This demonstrates that for a time there was a warmer climate, enabling the moss to grow at higher elevations. The species reached its altitudinal limit at Lakes of the Clouds during the middle Holocene.

Norton began our tour of Mt. Katahdin by showing some wonderful photos of the 1900 Kennedy expedition, which was written up in *Rhodora* in 1901. The photos presented a young Merritt Lyndon Fernald as well as bryologist J. Franklin Collins. More recently, Norton participated in a cryptogamic botany expedition that visited the mountain every summer for the past four years. Jim Hinds, also a member of the group, spoke to NEBC last year about lichen finds on the mountain. The expedition has documented a substantial list of new moss records. One of Norton’s focus areas on the mountain has been in the remote North Basin. Although the mountain is primarily granite, he discovered a calcareous seep thought to have been created by rainwater dissolving calcium containing minerals. Some mosses found at the seep are characteristic of rich fens at lower elevations. Prior indication of calcicole plants on Katahdin are few and include *Saxifraga aizoon* (= *S. paniculata*) found in the chimney above Chimney Pond. The seep area has produced many significant discoveries and range expansions, including *Warnstorfia sarmentosa* (otherwise known from the Adirondacks and Mt. Washington), and the surprising occurrence of *Loeskynum wickesiae*, a moss with an oceanic

(near-coast) distribution pattern. Members of the expedition have found additional moss species in the subalpine and alpine areas on every trip, and have determined that about 40% of the total bryoflora of Maine is represented on the upper slopes of Mt. Katahdin.

Norton concluded his talk with a discussion of recent studies of moss dispersal and recruitment in the Adirondacks. He and Stuart McDaniel (who received a Ph.D. in bryology from Duke University in 2005) determined that wind is important in the dispersal of mosses in alpine areas. In winter studies at Lake Colden, Algonquin Peak, and Whiteface Mountain, snow samples revealed many moss fragments that had begun to grow, including those of *Andreaea rupestris* and *Pohlia nutans*. Norton also used Whiteface Mountain to study dispersal by comparing recruitment of mosses onto the 70-year-old mortar in rock walls lining the highway up the mountain and along an adjacent trail that lacks mortar. He found many calcicoles on the mortar, which contains calcium carbonate (examples include *Tortella tortuosa* and *Schistidium* spp.), and none on rocks along a trail without mortar. On average, one species per year has colonized the mortar, and dispersal distances from the nearest calcium-rich areas in the lowland are at least 5-10 km distant.

## New England Botanical Club Field Trips

3 – 4 June 2005

By Lisa Standley

On Friday afternoon, Sue Williams led 10 club members on a leisurely walk up Broad Brook, watershed land on the Williamstown MA – Pownal VT town line. Sue explained that the underlying geology – hard Cheshire quartzite with outcrops of dolomite – created limy seeps with a high diversity of bryophytes. She provided the group with a very useful checklist of the bryophytes, sorted by habitat type and location along the brookside trail. Bryophytes seen by the group included common species (*Leucobryum glaucum*, *Bazzania trilobata*, *Conocephalum conicum*, *Hypnum imponens*, *Anomodon attenuatus*, *Atrichum* spp.), several species of *Plagiomnium*, *Dicranum*, and *Rhizomnium*, and several distinctive and memorable species (*Bartramia pomiformis*, *Thuidium delicatulum*, *Hylocomium splendens*, *Rhytidiadelphus triquetrus*, *Climacium* sp., and *Trichocolea tomentella*, a thalloid liverwort that looks like a selaginella). The limy seeps also contained unusual vascular plants, including *Equisetum scirpoides*, *Saxifraga pennsylvanica*, *Ribes lacustre*, *Gymnocarpium dryopteris*, a *Botrychium* (*lanceolatum*?), *Carex pendunculata*, and *Carex plantaginea*. Several people experimented with digital cameras to photograph spectacular clumps of *Galearis spectabilis* and *Cyripedium parviflorum* var. *pubescens*.

On Saturday morning, Pam Weatherbee led 6 club members on a botanical exploration of Field Farm in Williamstown, a property of The Trustees of Reservations. The group enjoyed good views of bobolinks (newly returned to the restored hay pastures), chestnut-sided warblers, yellow-bellied sapsuckers and Baltimore orioles, as well as vascular plants and bryophytes. We explored a rich fen, rich woods, and a rich black ash swamp, and limy ledges, and viewed some mysterious limestone sinkholes. The fen contained *Potentilla fruticosa*, *Geum rivale*, *Carex flava*, *C. leptalea*, and *Pycnanthemum* sp. We searched unsuccessfully for *Carex bushii*, but were apparently too early. *Selaginella* (*apoda* or *eclipes*) was found on exposed soil on trails near the fen. Rocks in the rich woods were crowned with *Asplenium rhizophyllum* and *Cystopteris bulbifera*, while the woods had large populations of *Dirca palustris*, *Carex hitchcockiana*, *Schizachne purpurascens*, and *Deparia acrostichoides*. In the black ash swamp, we found *Mitella nuda*, *Saxifraga pennsylvanica* (in great profusion), and *Cyripedium parviflorum* var. *pubescens*. Notable mosses included *Anacamptodon* sp. (the knothole moss), *Plagiomnium ellipticum*, *Pohlia wahlenbergii*, and *Diphyscium foliosum*.