

## New England Botanical Club – Minutes of the 930<sup>th</sup> Meeting

19 September 1997 Prepared by Lisa A. Standley, Recording Secretary

The 703rd meeting of the New England Botanical Club, Inc., being the 930th since the original organization, met on Friday, Sept. 19, 1997 at Lyndon State College in Lyndonville, VT, with 55 members and guests (including three future members) present. The meeting followed a social hour and dinner.

Following the reading of the minutes, Vice President Conant called for old business, new business, and gossip. Lisa Standley reported finding *Eichornia crassipes* (water hyacinth) on Nantucket, new since the Sorrie/Dunwiddie flora and reported that *Sporobolus neglecta* is not extirpated in Connecticut. Dave Barrington reported that in an extensive field study of the *Polypodium virginianum/appalachianum* complex, virtually no hybrids had been found. Hybridization is apparently not the source of confusion in this group. Paul Somers reported that the club has purchased Vol. 3 of Flora North America, thanks to Barre Hellquist's author's discount.

David Conant introduced the evening's speaker, Arthur Gilman, who has been working on the flora of Caledonia County in northeastern Vermont for the past 5 years, following in the footsteps of Arthur Stanley Pease, another classics major. Art contrasted the flora of Mount Kinabalu in Bornea, being studied by John Beaman, with that of Caledonia County. Mt. Kinabalu has over 1300 species of orchids and ferns alone, more than the total species count of 1185 for Caledonia County. With 457 genera (326 indigenous genera), Caledonia Co. has 60% of the species-level diversity and 80% of the generic diversity found within Vermont. Art has to date prepared voucher specimens for 900 of the species found in the county, and will distribute specimen sets to Lyndon State College, UVM, and NEBC. Art's work started with the flora of Peacham, and soon extended to the entire county. In addition to field work, he has researched regional and local herbaria, and added six species to the state flora through his herbarium investigations. The flora is still a work in progress - Art added one new species (*Nardus stricta*) only last week.

Art reviewed the history of botanical exploration in the region. Caledonia County was settled in the late 1700's, but not botanized until the mid-1800's. Alfonso Wood, Gray's rival, discovered Lake Willoughby in Orleans County, causing botanists for many years to pass through Caledonia County (without stopping) to get to Lake Willoughby. Jesup and others visited the area in the 1860's and 1870's. Cyrus Pringle took advantage of the new railroad system in 1876 to visit the area and discover *Rhododendron maximum* in Groton. The first serious collector in the region was Dr. Ferdinand Blanchard, a medical doctor who made many collections. Many collectors have worked in the area since 1900, including Pease, Seymour, Dave Conant, Dave Boufford and Emily Wood.

Because no county flora can be discussed without the numbers, Art told us that Caledonia County has 1185 species and 457 genera (326 indigenous). Weedy non-native species contribute about 30 percent of the flora, and many are expanding in their range, while 29 species are state-listed.

The Caledonia County flora represents 60% of the species-level diversity and 80% of the generic diversity found in Vermont.

Caledonia County occupies 619 square miles over 17 townships, including the piedmont and northeast highlands provinces of Vermont. Elevations range from 426 ft along the Connecticut River to 3364 ft on Signal Mountain. Tills over calcareous bedrock are the predominant substrate. These calcareous substrates are responsible for the range of interesting and unique habitats, including Peacham Bog, the largest Vermont peatland and the second largest raised bog in the state. Limestone fens and outcrops support unique floras, including *Saxifraga virginensis*, *Hepatica acutiloba*, *Viola canadensis*, *Parnassia glauca*, *Lobelia kalmii*, *Carex flava*, and *Scirpus hudsonianus*. The calcareous substrates also result in a high diversity of orchids, including *Cypripedium arietinum*, *Cypripedium reginae*, *Listera convallarioides*, *Spiranthes*, *Orchis spectabilis*, and *Calypso bulbosa* (Art says he has seen more herbarium specimens than living plants). Aquatics are also unusually diverse. Barre Hellquist has said that this is one of the most interesting aquatic floras in New England, because of the many "hard" water ponds, "soft" water ponds, and the Connecticut River. Barre claims to have collected 13 species of pondweeds in a single pond.

Many species reach either the northern or southern limits of their range here, including *Epigaea repens*, *Picea glauca*, and *Monarda fistulosa*. Several other southern elements reach their limits in the Connecticut River Valley a few miles south of the Caledonia County limits, including *Carya cordiformis*, *Betula lenta*, *Carex baileyi*, *Diplazium pycnocarpon*, and *Asplenium platyneuron*. Many northern species occur in the county, including *Saxifraga oppositifolia*, *Primula mistassinica*, *Luzula parviflora*, *Astragalus robbinsii*, *Carex capillaris*, *Huperzia selago*, *Woodsia glabella*, *Dryopteris fragrans*, and *Solidago macrophylla*. The flora includes some interesting disjunctions. *Rhododendron maximum* occurs around several ponds in the Groton area, more than 100 miles from the nearest populations in southern New Hampshire. Weedy non-natives include *Iris pseudacorus*, *Lonicera x bella*, *Lythrum salicaria*, *Phragmites australis*, and *Typha angustifolia/glauca*. *Anthriscus sylvestris*, *Polygonum cuspidatum* and *P. sachalinense* are becoming widespread. *Epipactis* is the only weed that is very common in undisturbed woods, not just in disturbed areas. Art recently recorded the first (and so far only) occurrence of *Rhamnus frangula*. The flora is clearly in a dynamic state and will require continued monitoring from the baseline that Art has established. The meeting adjourned at 8:20 PM.