

**New England Botanical Club – Minutes of the 1037th Meeting
June 7th, 2008**

Bryan Hamlin, Recording Secretary

The 810th meeting of the New England Botanical Club, being the 1037th since its original organization, was held in a lecture room at the Ramada Inn in Hammonton, New Jersey, as part of the Club's annual field trip. Dr Alfred E. Schuyler gave an illustrated talk on the history and ecology of the New Jersey Pine Barrens.

Dr Schuyler took us back to 18,000 years ago before the last ice age started to retreat. The ice shelf stopped at its southernmost limit about 60 miles north of Hammonton, and because the sea level was lower, the coast was about 50 miles further to the east than at present. What is now the Pine Barrens were a grass/dwarf shrub tundra growing on marine sediments of sand, clay, and gravel. Megafauna, such as mammoth, mastodon, caribou, musk ox, and giant beaver, roamed in the area. Starting 15,000 years ago, the ice sheet to the north started to retreat, temperatures rose, and pollen records indicate a northward migration of southern plants including pine and oak. The first humans arrived in the area about 13,000 years ago, and we see the beginning of the eradication of the megafauna and the beginnings of the current vegetation with *Pinus rigida*, the dominant tree of the drier sandy barrens, and *Chamaecyparis thyoides*, the dominant tree of acidic swamp depressions and stream banks as the water table is not far below the surface. As these progressive changes occurred, a putative refugium was created in what is now southern New Jersey, involving a number of rare species with disjunct ranges. The sandy soil and acidic peat swamps are low in nutrients, but rich in iron, creating some special conditions. Today 18 globally rare species can be found in the New Jersey Pine Barrens, including two endemics.

The earliest human site to be excavated dates to 10,500 years ago, belonging to the Shawnee-Minisink people. From then on human impact on the region steadily increased, reaching a crescendo in the 19th century with strip mining for the iron ore, massive logging for the voracious furnaces needed to smelt the iron, along with mining of sand and gravel, and the harvesting of Atlantic White Cedars for ships' masts. Fortunately for the Pine Barrens, the iron industry collapsed in the mid-19th century because of competition from the more efficient mining operations that opened up in western Pennsylvania. Whole small towns of industrial workers within the Barrens were abandoned and have been swallowed up again by the regrowth of the forest. After World War II, commercial growing of cranberries and blueberries took off in the area. In 1979 came federal legislation to protect the New Jersey Pine Barrens. However, today, thirty years on, the Barrens have come under increasing pressure again from developers and the blueberry and cranberry agribusiness.

Through and despite all this, there is today a remarkable flora within the New Jersey Pine Barrens. Dr. Schuyler went on to show us photographs of many of the rare and interesting plants of the Barrens. It was heartening that earlier that day we had been fortunate to see several. We had for example seen a couple of plants of the Pine Barren Gentian *Gentiana autumnalis*, yet to bloom amongst the grass on a road-side. In damp sandy depressions can be found the tiny Curly Grass Fern *Schizaea pusilla* which Field Trip organizer George Newman had shown us that day. In similar habitat can be found Knieskern's Beakrush *Rhynchospora knieskernii*; and in swales *Scirpus longii*; in swamps Swamp Pink *Helionas bullata*; and in bogs *Eupatorium resinsum*, the Pine Barren Boneset. In or on the edges of ponds themselves can be seen *Rhexia aristosa*, *Sagittaria teres*, and *Panicum hirstii*. Finally, in slightly drier grassland, which Dr Schuyler called savannah, can be found *Narthemcium americanum* and *Platanthera integra*.