New England Botanical Club – Minutes of the 1027th Meeting
4 May 2007

Robert Bertin, Recording Secretary

The 800th meeting of the New England Botanical Club, being the 1027th since its original organization, was held on Friday, May 4, 2007, at New England Wild Flower Society's Garden-in-the-Woods, Framingham, MA. There were 29 members and guests in attendance. President Karen Searcy opened the meeting and awards were announced. The Merritt Lyndon Fernald Award for Best Paper published in *Rhodora* in 2006 was awarded to Paul M. Catling for his paper on *Amelanchier lucida.* The Graduate Student Research Award was presented to Benjamin E. Wolfe of Harvard University for his proposal on *Amanita* in New England.

David Hewitt, NEBC Student Councilor and Ph.D. candidate at Harvard University Cambridge, MA, shared a portion of his doctoral research on two ascomycete fungi in the genus *Neolecta*. His talk was entitled "The genus *Neolecta* - hidden diversity in New England, surprising uniformity across the Atlantic." His work emphasized the developmental biology of these species, but he also learned some things about their ecology and distribution, and it is this work that he shared with the Club.

The Ascomycota are known for the enormous diversity of fruiting bodies exhibited by different species. Virtually all ascomycetes with macroscopic fruiting bodies are assigned to the subdivision Pezizomycotina. *Neolecta*, whose members are sometimes referred to as earth tongues, is an exception. These species have conspicuous, irregular, yellow fruiting bodies ranging up to several centimeters in length, but are assigned to a different subdivision and are the only genus within their class.

The type specimen of the genus was described from forests near Apiahy, Brazil, in the late 1800s, though the species has apparently never been collected there since. Two widespread species of *Neolecta* occur in North America. *Neolecta irregularis* ranges through eastern United States and Canada, while *N. vitellina* occurs across the North American continent as well as in Europe and Scandinavia. *Neolecta irregularis* produces yellow to orange-yellow fruiting bodies up to 10-15 cm long and very variable in shape. This supposedly edible species (David cannot confirm) favors mossy spruce/fir habitats. The type locality is a bog known as Cranberry Vly in Rensselear County, New York. While Dave was unable to turn up the species there, he did find it in several other New England sites. The fruiting bodies of *N. vitellina* are smaller and more regular than those of *N. irregularis*, and of a paler yellow color. Their asci and ascospores are also smaller than those of the latter species. *Neolecta vitellina* favors sandy soils, often with little organic matter, and often occurs with pitch pine. Both species appear to grow in association with tree roots, though it is not known whether the relationship is parasitism, commensalism, or mutualism.

David undertook a genetic analysis of the two species using various measures, including the nucleotide sequence in an internal transcribed spacer region of the ribosomal RNA. *Neolecta vitellina* proved to be genetically similar across its range, while *N. irregularis* divided into two groups. One group occurred only in northern New Hampshire, while the other group was present in coastal Maine as well as in Massachusetts, New York, and Vermont. The significance of this distribution pattern is not known. The lower genetic variation of *N. vitellina* than *N. irregularis* illustrates that high population variation is not essential to the success of a broadly distributed species.

The meeting adjourned to a wide variety of refreshments and stimulating conversation. David was given best wishes for his dissertation defense, which would occur within a few weeks.