

JOHNSON, J, A.G. SIRULNIK, A.R. TUININGA and J.D. LEWIS. Comparison of molecular and morphological analyses of ectomycorrhizal fungal community composition across host composition and defoliation gradients. Louis Calder Biological Field Station, Fordham University, Armonk, NY

In forests of the northeastern US, eastern hemlock (*Tsuga canadensis*) has been experiencing defoliation and subsequent mortality from infestations of the hemlock woolly adelgid (HWA; *Adelges tsugae*), an invasive aphid-like insect. We are currently examining effects of hemlock defoliation and distribution on ectomycorrhizal fungal community composition from local to regional scales in forests currently being invaded by the HWA. Here we compare molecular and morphotyping approaches to assessing ECM fungal communities in healthy hemlock, declining hemlock, and hardwood dominated stands in three watersheds. Soil cores were collected in June, July and October of 2004 and 2005. EM fungal root tips were identified by standard morphotyping techniques. DNA sequence analysis will be used on the 10 most common morphotypes in each stand type in order to determine the identity of these morphotypes to genus or species.