

Exerpt from Nathan Havil research report in USDA HWA Newsletter
(<http://www.na.fs.fed.us/fhp/hwa/news7/hwa7.pdf>) – not currently accessible online:

DNA used to trace origin of the hemlock woolly adelgid in Eastern North America

“We performed a molecular phylogenetic study using mitochondrial DNA to examine the relationship among adelgids found on hemlock worldwide ...in order to locate the source of the introduced *Adelges tsugae* in Eastern North America. The adelgids in Eastern North America were clearly introduced from the population that is living on *Tsuga sieboldii* in lower elevations in southern Honshu, Japan. Adelgids from mainland China and Taiwan are quite diverged from those living in Japan and North America and should probably be considered a separate species. Finally, hemlock woolly adelgids living in Western North America appear to be a separate lineage that is endemic to that area.”