

Biological control efforts of hemlock woolly adelgid (*Adelges tsugae*, HWA) in the eastern United States include the release of *Laricobius nigrinus* (Coleoptera: Derodontidae). This species was assessed for potential efficacy as a control agent and for non-target effects prior to release, but it was recently discovered that the released populations were hybridizing with endemic relative *Laricobius rubidus* (Coleoptera: Derodontidae). *L. rubidus* primarily feeds on white pine adelgid on eastern white pine, although they can also feed HWA.

The impact of this hybridization on current and future biological control efforts of HWA is unknown. The purpose of this research is to assess host selection behaviors of *L. nigrinus*, *L. rubidus* and *L. nigrinus* x *L. rubidus* hybrids. *Laricobius* spp were collected from eastern hemlock at release sites near Banner Elk, NC. Host selection behaviors were assayed using a four-chambered olfactometer. The choices included eastern hemlock infested with HWA, eastern hemlock without HWA, eastern white pine, and a blank control. Following the behavioral assays, the species and/or hybrids of individual beetles was determined using PCR and analysis for six microsatellite loci following the Promega IQ protocol. Our results suggest that there are differences in host selection behaviors of *L. nigrinus*, *L. rubidus*, and *L. nigrinus* x *L. rubidus* hybrids. We will discuss the possible implications this may have on the efficacy of the current biological control efforts of HWA.