The Asian longhorned beetle (ALB) (*Anoplophora glabripennis*) is endemic to the Oriental and eastern Palearctic regions. The insect was recently introduced into North America and now infests the urban forests of Long Island, Chicago, New Jersey, and Toronto. Most North American insects from this family (Cerambycidae) normally infest dead and dying material and usually are considered beneficial because they hasten the breakdown of dead trees by opening up the wood to wood rotting fungi. However, members of the Lamiinae subfamily, genus *Anoplophora*, also infest healthy hardwood trees. In its native environment, this insect feeds on more than 24 species of living hardwoods (Yang et al. 1995). In China, its preferred tree species are *Salix* and *Populus* (Li and Wu 1993) whereas in North America *Acer* species are most commonly attacked (Haack et al. 1997, 2006).

**Objective**
The supercooling point of insects has been used to predict the potential northern distribution of insects susceptible to freezing (Sullivan and Wallace 1972, Roden 1981). So far, the supercooling point has provided a reasonably accurate prediction of the northern distribution of the gypsy moth (*Lymantria dispar*) and the smaller European elm bark beetle (*Scolytus multistriatus*) in North America. While there is no guarantee this is an accurate assumption for all insects because of insect physiological and behavioral adaptations that may differ between species, the determination of an insect’s supercooling point provides a useful tool for resource managers unless that species is freeze-tolerant.

The objective of this study was to determine the supercooling temperature of ALB larvae and how this temperature compares to the range and overwintering supercooling point of larvae from a native cerambycid from the same subfamily, the whitespotted sawyer beetle (WSB) (*Monochamus scutellatus*).
Because ALB larval survival is also time dependent, further tests of survival at 2 and 4 weeks at these temperatures are required before it can be ascertained whether these larvae can withstand freezing for longer periods. A 90-plus percent survival rate for 24 hours below the species’ supercooling point certainly suggests they can withstand exposure to lethal cold temperatures for short periods. Normally researchers could scan collection records for an indication of an insect’s presence and successful development. However, Chinese collection records are often incomplete and difficult to obtain.

Current preliminary studies at the Turkey Lakes Watershed (47.02 N. 84.23 W.) near Sault Ste. Marie, ON, suggest the range and survival of ALB also will be affected by tree diameter. These studies suggest external air temperature may be buffered by as much as 10 °C in large diameter sugar maple. Another year of winter weather data is required to complete this aspect of the study.

**Literature Cited**


