

CAN THE EXOTIC BROWN SPRUCE LONGHORN BEETLE, *TETROPIUM FUSCUM*, SUCCESSFULLY COLONIZE HEALTHY TREES IN CANADA?

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ABSTRACT

The exotic brown spruce longhorn beetle, *Tetropium fuscum* (Fabr.), (Coleoptera: Cerambycidae) was discovered emerging from red spruce, *Picea rubens* Sarg., in Halifax, Nova Scotia in 1999. It is likely that *T. fuscum* has been established in the Halifax area for more than 19 years and was introduced in infested wood packing material in shipping containers received at the Halifax port. *Tetropium fuscum* primarily infests weakened or recently cut Norway spruce, *Picea abies* (L.) Karst., in its native Europe, but in Canada has been reported to attack several species of apparently healthy spruce (*Picea* spp.). The mechanism that may allow *T. fuscum* to colonize healthy trees in Canada is unknown, however the potential

impact and risk associated with this invasion depends on whether this species acts as a primary or secondary colonizer. This research evaluates the effect of host tree condition on the colonization success and subsequent performance of *T. fuscum*. Performance was assessed with and without exposure to natural enemies. Preliminary results indicate that *T. fuscum* can colonize apparently healthy trees in Canada, but that their survival is reduced on these trees. Natural enemies causing mortality in exposed *T. fuscum* included two native endo-parasitoids, *Rhimphoctona macrocephala* (Provancher) and *Wroughtonia occidentalis* (Cresson), and woodpeckers.