

# Ophiostomatoid fungi associated with invasive *Tetropium* spp. (Fabr.) (Coleoptera:Cerambycidae) in Atlantic Canada.

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## Abstract

Species of the Ascomycete genus *Ophiostoma* are well-known for causing stain in living trees and lumber, as well as devastating pathogens, for example *O. ulmi* and *O. novo-ulmi*, the causes of Dutch elm disease. *Ophiostoma* spp. occur in close association with insects, especially bark beetles in the family Scolytidae, which may function as vectors. In 1998, red spruce trees (*Picea rubens*) in a small area of the Halifax Regional Municipality in Nova Scotia, Atlantic Canada, were discovered infested by *Tetropium fuscum*, an Eurasian species of longhorn beetle in the family Cerambycidae. *Tetropium fuscum* was infesting and killing red spruce tree species absent from the insect's native range. Several ophiostomatoid fungi occurred with this beetle. The aims of this study were to identify the fungi associated with *T. fuscum* in Halifax and compare them with ophiostomatoid fungi associated with this insect in Europe. *Ophiostoma* species associated with *T. cinnamopterum* (indigenous to and transcontinental in Canada) were also compared to those with *T. fuscum*. Species were identified based on morphological and molecular characters. *Ophiostoma tetropii* appears to be the major species associated with *T. fuscum* in Europe and Canada and was probably introduced into Atlantic Canada by the insect. Other species isolated from trees attacked by *T. fuscum* include *Ophiostoma piceae*, a ubiquitous secondary colonizer of conifer sapwood, and the rarely reported *Pesotum fragrans*.