

# The origin of dead wood does matter for saproxylic beetles

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Saproxylic species have evolved with dead wood dynamics characterizing their habitat range. Since wildfires are the main source of snags in northern boreal forest, fire killed trees are thus a key component for many saproxylic species. So far, we do not know the relative contribution of fires for maintaining biodiversity, compared to other disturbances. In this context, our study aimed at discriminating burn-associated species from those associated with unburned recently killed snags, in the northern boreal forest of Quebec, Canada. In June 2008, we collected 80 logs from Black spruce and Jack pine snags that were either burned by wildfires in 2007 or girdled in 2006. Each treatment (tree species × perturbation) was replicated 5 times. In each site 2 trees were cut down, from which we harvested 2 logs, one at 0.7 m from the ground and the other at 1.3 m. Logs were reared in a field insectarium over 17 months. We identified 22 648 insects distributed among 35 species and 7 families (*Cerambycidae*, *Cleridae*, *Corylophidae*, *Curculionidae*, *Lathridiidae* and *Salpingidae*). Abundance patterns were mainly explained by disturbance type with girdled trees yielding more individuals than burned trees. Species richness was higher in black spruce than in jack pine. More species were found to be associated with girdling and with black spruce, without considering disturbances. We found a clear distinction in assemblages between disturbances. The effect of tree species on assemblages was greater within girdled logs.

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