

Background

Today **old deciduous trees** are rare due to timber harvesting. Many species are dependent on these trees and therefore threatened.

When the deciduous trees are several hundred years, some develop **trunk hollows** due to fungi.

The trunk hollows often contain **wood mould**, which is loose wood mixed with dead leaves, remains of bird nests, insects and fungi.

A special kind of **beetles** live in the wood mould and are dependent on dead wood for their survival.

Many wood-living beetles have been shown to live in old hollow **oaks**.

The aim of this study was to compare beetles in hollow trees of **oak, ash, maple and lime** to see if the beetles living in oak, can also live in other tree species.

Methods

Beetles were collected with **pitfall traps** and **window traps** on hollow trees of oak, ash, maple and lime around Linköping. Both traps were **filled with a solution** of propylene glycol, water, alcohol to prevent animals from drinking the solution, and washing-up liquid to reduce surface tension.



Pitfall trap

The pitfall trap collects insects that are walking on the wood mould. It was a small plastic jar placed in the hollow with the opening level with the wood mould surface.



Window trap

The window trap collects flying insects. It was a vertical transparent plastic plate with a tray underneath and was placed near the entrance of the tree hollow.

Results

About **67 %** of the wood-living beetles found in oak, were found in the other tree species **ash, maple and lime**.

About **33 %** of the beetles found in oak, seem to **only** live in **oak**.

The species composition of beetles found in pitfall traps were more similar compared to window traps.

Discussion

The reason for the result that the species composition in pitfall traps were more similar than for window traps between trees is probably due to that the wood becomes more similar between the tree species when they get older. The more differences in window traps might be due to different fungi outside the trees.

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Can beetles living in hollow oaks live in other tree species?

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Conservation implication

The other tree species can be a complement to oaks but they also have some unique species themselves. Hence, hollow trees of all the different tree species should be saved.

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The hermit beetle
Osmoderma eremita



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