

## Decadal effects of wildfire and prescribed burning on the ant community structure



Forest fires have largely determined the post-glacial forest dynamics in the boreal region and are regarded as one of the most important boreal forest disturbances. Fires provide suitable habitat and key food sources for many organism groups and alter assemblage composition and densities of species in the soil and on the forest floor. The succession after fire is also different from that after clear felling and prescribed burnings might also differ from wildfires although this is still not evaluated. Because prescribed burning is used as a restoration tool in Sweden the effects are important to evaluate and in this project the comparison with wildfires are extra interesting.

Previous studies have suggested that the dominating mound building wood ants (*Formica rufa* group) are negatively affected by fire and that other ant species will become more abundant. However, so far the effects of forest fire on ants have only included short term effects and only prescribed fires. In this project natural wild fires as well as prescribed burnings and unburned control sites are included. Ants were sampled in pit-fall traps during 2019.

The aim with this masters thesis is to quantify the long term (>10 years) effects of large scale wildfire and prescribed burnings on the community structure of ants in northern boreal landscapes. Ants constitute an important part of boreal forest biodiversity and because of their interactions with many other taxa they are often considered keystone species or ecological engineers because they contribute significantly to ecosystem function. They also respond strongly to changes in their environment and are consequently good ecological indicators.

The work will consist of lab work with species identification of already collected ants from wildfire and prescribed fire areas and unburned control sites from northern Sweden and Northern Finland. There is also a possibility to collect more data with and mound surveys in the field. The work will be suitable for a 60 credit thesis but 30 credits might also work.

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