

## Abstract

The geographical distribution of Piciforms' is one of the factors indicating the state of the forest. These forest birds are bioindicators of climax forest communities. In Šumava National Park, some of the Piciforms' are flag species' and thanks to that, various historical data about them exist. The goal of my study was to evaluate data from 2006-2018 monitoring and add my own monitoring data from years 2019 and 2020. This data consists of location of individual birds living in the region called Smrčina, the southernmost point of the National Park.

The goal of this thesis was to determine which factors influence the distribution. The method chosen for the monitoring was so called "point count method", used from the beginning of April till the end of June. For the statistical analysis, the R software was used. And for the visualization of geographical distribution, I used qGis.

The result of my thesis is that from 10 Piciform species living in the Czech Republic, 8 live in the studied region. The abundance of Black Woodpecker and Great-Spotted Woodpecker from year 2006 and Three-Toed Woodpecker from year 2009 is stable. (Great-Spotted Woodpecker with 1,6, Black Woodpecker with 0,5 and Three-Toed Woodpecker with 0,8 pairs on one hectare.) The most rare species White-Backed Woodpecker was spotted only twice and the other 4 species does not live in the region of long-term monitoring, so I was unable to determine their abundances.

The key factor for Piciforms' distribution is the type of the forest as expected. The other factors positively correlating with Piciforms' abundance are the width of the trees and the ratio of windfalls and dried-up trees, while the forest density correlates negatively. Finally, we observe a variability of diversity along altitudinal gradient. On the other hand, the ratio of windthrows was not significant. The method used is also very important: The number of counted woodpeckers has raised by 50 % by using a call from a playback during additional five minutes. The effect of the month, in which the birds were monitored, was not significant.

Key words: birds, mountains, geographical distribution, woodpeckers, interannual changes, altitudinal gradient, Šumava, Three-Toed Woodpecker