

Norway spruce *Picea abies* L. is economically and ecologically important tree in Europe. During the last glaciation, which occurred about 115,000 to 11,700 years ago, this species was forced by advancing glacier to retreat, and it have survived in two small regions called refuges. One of these regions was located in Asia, and the second refuge was in Alpine-Carpathian region. After the glacier decline, Norway spruce from both refuges has started colonizing new areas. What is particular interesting; north-eastern Poland was colonized by Norway spruce from Asian refuge, while south Poland was colonized from Alpine-Carpathian refuge. These two ecotypes differ both morphologically and genetically, and they are separated by „spruceless zone” which runs through Central and Eastern Poland.

Along with changes in Norway spruce distribution, the ranges of its associated fauna have been changed. Among them were spruce-feeding longhorn beetles. The main aim of this study, it to investigate the effect of Norway spruce range subdivision on phytophagous beetles feeding on it. For my study, I have chosen two longhorn beetles - *Tetropium fuscum* and *Monochamus sutor*, which are consider dangerous pests in forestry. I am going to compare several populations of this species from northern and southern spruce ranges. The comparison will be based on analyzes of two independent DNA fragments and detailed morphological measurements. The planned research will allow answering the question, whether the Norway spruce disjunction caused diversification of fauna associated with it. Moreover, it will be possible to investigate if the Norway spruce colonization routes are corresponding to migration paths of its secondary pests. This knowledge will contribute to a better understanding of speciation processes and the effect of glaciations on Polish fauna.