

The epigeic spider fauna of one subalpine Swiss mountain pine-European larch-Norway spruce stand, and two burnt sites in the Nationalpark Kalkalpen (Austria)

Martin Hepner, Norbert Milasowszky, Erch Weigand

Key words

Spinnen, ökologische Bewertung, Rote Liste, Waldbrand, Sukzession, Sengsengebirge

Abstract

The epigeic spider fauna of one subalpine Swiss mountain pine-European larch-Norway spruce stand, and two burnt sites - two years and 55 years old - at approximately 1470 to 1500 m above sea level was examined using continuous pitfall trapping from 17 June 2005 to 18 Juli 2006. Ten pitfall traps were set out in a linear arrangement in each study site. In total, 81 spider species with 1125 adult individuals belonging to 16 families were caught. Fourteen of the 81 species found were recorded for the first time in Upper Austria. According to the Red List of spiders of Bavaria (BLICK & SCHEIDLER 2004), nineteen species are categorised as critically endangered, endangered, vulnerable or extremely rare. Twelve spider species including the endemic *Troglohyphantes noricus* (THALER & POLENEC, 1974) are restricted to the alpine region. The highest number and dominance of forest dependent species occurred in the mountain pine stand, the highest number and dominance of dry grassland dependent species in the old burnt site. Hierarchical cluster analysis based on the Jaccard similarity index showed that the spider assemblages of the mountain pine stand and the adjacent young burnt site were more similar to each other than to the old burnt site. Based on data from the literature, the comparison of the spider assemblages from the three study sites with those from different habitats in the alps (Swiss mountain-pine stands, Norway spruce forests, Scotch pine forests, pastures and meadows, dry grasslands, alpine grasslands and alpine screes) revealed that the three study sites were most similar with each other emphasising the importance of the local species pool. Furthermore, the spider assemblage of the mountain pine-larch-spruce stand is most similar to those of other mountain-pine stands and spruce forests, whereas the old burnt site shows similarities with unburnt and burnt Scotch pine forests as well as dry grasslands. Only the spider assemblage of the young burnt site can not be related to those of other alpine habitats.

Contact

Mag. Martin Hepner
norbert.milasowszky@univie.ac.at

Dr. Norbert Milasowszky
norbert.milasowszky@univie.ac.at

Universität Wien,
Department Evolutionsbiologie
Althanstraße 14
1090 Wien
Austria

Dr. Erich Weigand
forschung@kalkalpen.at

Nationalpark O.ö. Kalkalpen Ges.m.b.H
Nationalpark Allee 1
4591 Molln
Austria