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Scale does matter!

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Introduction

Current woodland conservation policy stresses the importance to preserve, expand and re-connect habitat fragments on a landscape scale. However, Dolman and Fuller (2003) suggest that more studies are necessary on woodland specialists species to provide a firmer basis for current management strategies. To address this knowledge gap, research was undertaken on a specialist woodland invertebrate, the wood cricket (*Nemobius sylvestris*) on the Isle of Wight, UK. In 2005, a landscape scale survey and in 2006 a more detailed study within 3 separate woodland fragments was undertaken. The results of both studies were used to assess the relevance of a landscape scale approach for conservation effort of this species.

Method

In 2005, all mature broadleaf dominated woodland complexes, larger than 5 hectares, on the northern part of the island were surveyed. Wood cricket presence or absence was recorded together with several patch variables. In 2006, within the 3 selected woodlands, 1x1 meter grids were developed recording wood cricket presence and a series of habitat variables. For each, several distance measures were computed using ArcGIS (version 9.1).

Results

The distribution of the species on a landscape scale and within woodlands showed a similar patchy pattern. For the landscape scale, a significant positive relation was found for the probability of wood cricket being present and woodland (patch) area, and a negative relation with distance to the nearest neighbouring inhabited woodland. Within woodlands a significant positive relation was found for the probability of wood cricket being present and leaf litter volume, and negative relations with vegetation cover, vegetation height, South oriented canopy closure and nearest neighbour distance to an inhabited permanent woodland edge. On both scales nearest neighbour distance revealed the highest explanatory power for wood cricket presence.

Discussion

Results reveal the importance of different explanatory factors (related to wood cricket presence) when looking at different scales. Therefore, for wood cricket (and possibly others

woodland specialist species), conservation effort within woodlands seems equally relevant besides the current landscape scale initiatives.

References

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