

# Spatial resolution and location impact group structure in a marine food web

Mikael Ohlsson<sup>1</sup> and Anna Eklöf<sup>1</sup>

<sup>1</sup>Linköping University

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## Abstract

Ecological processes in food webs depend on species interactions. By identifying broad-scaled interaction patterns, important information on species ecological roles may be revealed. Here, we use the group model to examine how spatial resolution and proximity influence the group structure. We examine a dataset from the Barents Sea, with species occurrences for both the whole region and 25 subregions. Specifically, we test how the group structure in the networks differ comparing i) the regional metaweb to subregions and ii) subregion to subregion. We find that more than half the species in the metaweb change groups when compared to subregions. Between subregions, networks with similar group structure are usually spatially related. Interestingly, although species overlap is important for similarity in group structure, there are notable exceptions. Our results highlight that species ecological roles differ depending on fine-scaled differences in patterns of interactions, and that local network characteristics are important to consider.

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