

## **Meiobenthos and nematode community diversity patterns on isolated sandbank systems from the Belgian Continental Shelf**

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The Belgian Continental Shelf is characterised by the presence of four isolated subtidal sandbank systems (the Coastal Banks, the Flemish Banks, the Hinder Banks and the Zeeland Banks), which increase greatly the habitat heterogeneity of the area. These sandbanks form a geologically unique area and they are important for both marine and seabird life since they act as internationally important resting and foraging areas for various seabird species, feeding on small pelagic fish and macrobenthos. The rich marine and bird life makes them suitable areas for designation as marine protected areas as already recognised in other areas (e.g. the Baltic Sea). Surprisingly, the benthos of the sandbanks systems is poorly investigated. Therefore, all sandbanks belonging to the Flemish Banks, Hinder Banks and Zeeland Banks were visited during spring and fall of 1997 and 1998. Samples for meiobenthos were taken on all sandbanks and for each sandbank system, the nematodes from one sandbank (two sandbanks for the Hinder Bank system) were identified to species level:

On the meiobenthic taxon level, no distinction between the meiobenthos from different sandbanks could be made. Stations originating from one sandbank system or a single sandbank are distributed among different groups when multivariate analyses were performed, reflecting sedimentological diversity on a sandbank rather than geographical position. Meiobenthic taxon diversity and density was highest in sediments with a median grain size of 300-400 $\mu$ m, while coarser sediments showed a similar diversity in lower densities. Both density and diversity was lower when median grains size dropped below 300 $\mu$ m.

When nematode communities were considered, a very different picture emerged. The community composition from four sandbanks, representing three sandbank systems showed major differences. Every sandbank represented one group in multivariate analysis. Moreover, the Kwintebank community was separated in three groups. Here, a channel station was separated from the sandbank itself, the latter group being subdivided in the northern area, where sand extraction occurs regularly and the less influenced southern part. This clear geographical separation of the communities suggests the sandbanks to be isolated 'islands' from the point of view of the nematode communities. This can be explained by water movements around the sandbanks, preventing exchange of species between the sandbanks and sandbank systems.

Generally it can be put forward that sandbanks are clearly different from the surrounding channels, both in terms of densities and diversity. The study of nematode communities clearly revealed the geographical differences between the sandbanks, therefore it is suggested that nematodes should be identified to species level in order to clarify possible differences between sandbanks or sandbank systems.