

## **INTERACTIONS BETWEEN NEMATODE BIODIVERSITY AND ANTHROPOGENIC DISTURBANCES ON EUROPEAN SANDY BEACHES**

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The European coastline consists for more than 30% of sandy beaches. In spite of their rather barren and arid view, these European coasts harbour a highly diverse fauna and flora and some of them are even highly productive. In contrast to tropical sandy beaches little is known about the structural and functional diversity of the different benthic components. This project firstly aims to get an idea about the structural and functional diversity of meiobenthos (all Metazoans between 1 mm and 38 $\mu$ m), emphasizing on free-living marine nematodes, of three European sandy beaches (*i.e.* Belgium, Poland and Italy).

European sandy beaches are under strong anthropogenic pressure (e.g. pollution, eutrofication, coastal fisheries and tourism), which has substantial impact on the interstitial life and functioning of the sandy beach ecosystem. Nematodes are very suitable for monitoring and will be used in the second part of this study to compare diversity and productivity between 'disturbed' and 'undisturbed' sandy beaches of three European coasts. Finally, indicator species will be identified based on their occurrence in disturbed sediments. Those indicator species could be used in further investigation as a tool for measuring disturbance of sandy sediments and could also be useful in coastal conservation. In order to document the structural and functional diversity of meiobenthos of the above-mentioned European sandy beaches, quantitative samples along transects from the upper to the lower beach are collected at the end of the touristic season. Meiobenthic communities will be followed during a one year cycle by means of monthly sampling campaigns along the same transect between mean high and low water level on both disturbed and undisturbed parts of the beaches. Meiobenthos will be processed and determined by standard procedures and further analysed by means of statistical and multivariate techniques. Only nematodes will be enumerated and analysed at species level. In addition, productivity of nematodes will be calculated.

Some field experiments to investigate effect of disturbance on sediment will be set up in order to monitor the recolonization of pristine beaches after different degrees of disturbance.