intertidal. Sympatric populations of closely related species often compete for mutual resources. Small differences in their life-histories or responses to environmental variation can differentiate their niche breadth and support coexistence. The present experiments examine population fitness and behavioural responses of a free-living nematode, *Halomonhystera disjnucta*, under different temperature regimes in the presence or absence of a competitor. Both stressors (temperature and competition) affected species life-history traits and population development in different ways; *H. disjuncta* showed higher fitness under a daily fluctuating regime and lower under increased constant temperature. The presence of a closely related competitor had a negative effect on population fitness and taxis behaviour of the species. Interaction of competition and temperature stress was apparent and can influence the response of individual species, the stronger effects of competition being under the highest temperature. Thermal stress affects not only species fitness but also species interactions, which in turn will affect species coexistence.

Keywords: Population fitness, interspecific interactions, competition, taxis, thermal stress

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Unraveling fatty acid bioconversion in harpacticoid copepods facing a changing environment

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Global climate change is threatening coastal marine ecosystems by causing changes in oceanographic conditions such as temperature and pCO_2. These shifts affect the physiological performance and productivity of organisms in marine food webs and thus the overall functioning of the ecosystem. A better understanding of the physiological response and adaptive capacity of coastal marine organisms is critical to assess their fate in a rapidly changing ocean. Harpacticoid copepods are a dominant component of estuarine benthic meiofauna, efficient grazers on diatoms, and a major food source for juvenile fish. They are known to contain high levels of polyunsaturated fatty acids (PUFAs), which are essential dietary constituents for fish and humans as the latter can't produce these omega-3 and omega-6 fatty acids themselves. Harpacticoid copepods on the other hand are able to bioconvert PUFAs that originate from primary producers. This capacity might be an essential strategy for harpacticoid copepods to respond quickly to environmental changes, since climate change reduces the amount of PUFAs within primary producers, and thus, their availability for higher tropic levels.Our research aims to uncover the genetic pathways of PUFA bioconversion in harpacticoid copepods and how this mechanism responds to a combination of a reduced PUFA diet and realistic ocean warming. Our species of interest is *Platychelipus littoralis*, a harpacticoid copepod occurring abundantly in the Westerscheldt estuary, the Netherlands. We generated RNA-Seq data and fatty acid profiles from *P. littoralis* subjected to different diet and temperature treatments. Even when fed a PUFA-deficient diet (i.e. the chlorophyte *Dunaliella tertiolecta*), *P. littoralis* maintained similar PUFA levels compared with a control treatment. By means of a

de novo transcriptome assembly and subsequent annotation and differential gene expression analysis, we were able to identify putative genes involved in fatty acid bioconversion. Taken together with the fatty acid profiles, our results hint that the bioconversion capacity of *P. littoralis* could be a potential acclimation mechanism for the species to mitigate the effects of future ocean warming.

Keywords: Transcriptomics, global change, harpacticoid copepods, fatty acid metabolism

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Meio - and nematofauna living inside polymetallic nodules from the CCFZ

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The mining of polymetallic nodules, which occur in abyssal sediments in oligotrophic oceans, is potentially imminent. The Clarion Clipperton Fracture Zone (CCFZ) in the eastern Tropical Pacific, has gained most attention from industries because it is thought to harbor one of the most extensive high-grade reservoirs. Currently, 18 license areas have been delineated in the CCFZ for the exploration of polymetallic nodules. Studies from the 90's in the Peru Basin, south of the CCFZ, reported for the first time the existence of meiofauna living inside the crevices of nodules, which differed from the fauna present in the surrounding sediments. For the CCFZ, published information on the so-called crevice meiofauna is currently lacking. As mining will remove the nodules, it is important to investigate the associated meiofauna to predict future mining-induced losses in meiofaunal diversity. In the present study, nodules were sampled from the license area of Global Sea Mineral Resources in the eastern CCFZ for the analysis of crevice meiofauna with a focus on the nematodes. Per nodule, 2 to 79 meiofaunal organisms were retrieved, most of which belonged to the phylum of the Nematoda. These nodule data were compared with sedimentary data to estimate the contribution of the nodules to the overall meiofaunal and nematode diversity in the area.

Keywords: Deep-sea mining, Nematoda, biodiversity, crevice meiofauna