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Fluctuation of dominant mesozooplankton species in the Black Sea, North Sea and the Baltic Sea: Is a general trend recognisable?

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Abstract: The distribution and fluctation of dominant pelagic species >300µ (Copepoda, Chaetognatha, Scyphozoa, Ctenophora and ichthyoplankton) of the southern Black Sea were compared with that of dominant species of the North Sea and the Baltic Sea in relation to oceanographic and environmental features. In all three seas, similar changes in the zooplankton composition took place at the end of the 1980's, and the beginning of the 1990's. - decreasing or increasing abundances of certain species, - occurrence of new species (North Sea: *Muggiaea atlantica* Lusitanian fish species; Black Sea: *Mnemiopsis leidyi*), - changes with respect to onset and duration of the bloom period for certain species. - high interannual fluctuations of some species, which were obvious since the end of the 1980's. The changes in the zooplankton of all three seas could be related to a rise in temperature during 1988-89 (North Sea, German Bight: sudden rise in the annual average temperature and salinity during 1988-89; Baltic Sea, Kiel Bight: rise in the temperature of the subthermocline water in the same period; Black Sea: extraordinary cold winter 1987/88 followed by an extraordinary warm winter during 1988/89. It was concluded, that the changes in the zooplankton community since the end of 1980's in the Black Sea, North Sea and the Baltic Sea were triggered in all probability by climatic variabilities.

Key Words: Black Sea, Baltic Sea, North Sea, climate, mesozooplankton, *Aurelia*, *Mnemiopsis*, *Pleurobrachia*, *Engraulis*.

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