

Abstract

Variability of Micronektonic Crustacean Community along a Latitudinal Transect in the Atlantic Ocean: Implications for Carbon Export

Javier Díaz Pérez *

Affiliation; e-mail@e-mail.com

* Correspondence: e-mail@e-mail.com

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Abstract: The micronekton community of pelagic shrimps was studied by means of taxonomic composition, abundance and biomass analyses, across a latitudinal transect in the Atlantic Ocean from off Brazil coast (15 °S) to the south of Iceland (55 °N). Total abundance and biomass were hauled by Mesopelagos net with a mouth opening of 5 × 7 m and a total length of 58 m, tracked by a cable. Temperature, conductivity, pressure, dissolved oxygen and fluorescence were recorded by a Sea-bird 911Plus conductivity temperature depth (CTD) profiler; with a mounted Dissolved Oxygen Sensor and Seapoint Chlorophyll Fluorometer Sensor. Different depth levels were established and samples were taken during the daytime and nightly. 38 different species were identified of 8 different families. Sergestidae and Euphausiidae were the most abundant and Acanthephyridae was the family that most contributed to the total biomass. Pelagic shrimp assemblages, related with latitudinal changes in biomass and abundance, agreed with previous delimitation of ecoregions in the Atlantic Ocean. Diel vertical migrations were detected along the transect, with a maximum of biomass within the oxygen minimum zone (OMZ) during the daytime. We estimated 158 millions tC of biomass of decapods, euphausiids and lophogastrids in the Atlantic Ocean.

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