



A transect of living benthic Foraminifera assemblages in the Rockall Trough (NE Atlantic)

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Foraminifera play an important role in global biogeochemical cycles. Benthic foraminifera are good proxies for marine parameters due to their high diversity, abundance and rapid turnover rates, therefore it is important to study their assemblages in marine areas.

Seven cores from the Rockall Trough, NE Atlantic, were collected by a multicorer on the RRS Discovery cruise DY051 in May 2016. This area is characterised by 2 main water masses: the upper more saline Eastern North Atlantic Water (ENAW) and the lower North Atlantic Deep Water (NADW). The NADW consists mainly of Labrador Sea Water with some addition of Norwegian Sea Deep Water and Antarctic Bottom Water and circulates anticlockwise within the Rockall Trough due to topography. Nutrient concentrations increase moving west and north in the Trough and the salinity ranges from 34.8 to 35.6 PSU.

The cores of the sampled transect were taken at water depths between 1008 to 2205 m. Surface sediment samples were analysed for living (Rose Bengal-stained) benthic foraminifera to gain insight into the recent distribution of the foraminiferal fauna. The cores were sliced from 0-3 cm into 0.5 cm intervals and from 3 to 10 cm in 1 cm slices and prepared for the analysis. They were wet-sieved and divided into the fractions $> 125 \mu\text{m}$ and $125 - 63 \mu\text{m}$ and then dried at 50°C . A list with all 'living' foraminiferal taxa and densities is generated for each sample and core. The cores differed in assemblages, diversity, abundances and vertical distribution. For example, *Nonionella iridea* occurred in every core and *Cibicidoides* (except *C. wuellerstorfi*) and *Melonis barleeanum* are limited to water depths between 1008 and 1610 m. All cores show a minimum of abundance and diversity at 2 to 4 cm sediment depth. Calcareous species dominated the sediment and the agglutinated species decreased rapidly with sediment depth.