

Author's Accepted Manuscript

Benthic polychaete diversity patterns and community structure in the Whittard canyon system and adjacent slope (NE Atlantic)

Laetitia M. Gunton, Lenka Neal, Andrew J. Gooday, Brian J. Bett, Adrian G. Glover



PII: S0967-0637(15)00137-5
DOI: <http://dx.doi.org/10.1016/j.dsr.2015.07.004>
Reference: DSRI2516

To appear in: *Deep-Sea Research Part I*

Received date: 2 April 2015
Revised date: 21 July 2015
Accepted date: 29 July 2015

Cite this article as: Laetitia M. Gunton, Lenka Neal, Andrew J. Gooday, Brian J. Bett and Adrian G. Glover, Benthic polychaete diversity patterns and community structure in the Whittard canyon system and adjacent slope (NE Atlantic), *Deep-Sea Research Part I*, <http://dx.doi.org/10.1016/j.dsr.2015.07.004>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Benthic polychaete diversity patterns and community structure in the Whittard Canyon system and adjacent slope (NE Atlantic)Laetitia M. Gunton^{*1,2,3}, Lenka Neal³, Andrew J. Gooday¹, Brian J. Bett¹, Adrian G. Glover³

*Corresponding author. Email: Laetitia.gunton@noc.soton.ac.uk

¹National Oceanography Centre, University of Southampton Waterfront Campus, European Way, Southampton, SO14 3ZH, United Kingdom

²Ocean and Earth Science, National Oceanography Centre Southampton, University of Southampton Waterfront Campus, European Way, Southampton, SO13 3ZH, United Kingdom

³Life Sciences Department, Natural History Museum, London, SW7 5BD, United Kingdom

Abstract

We examined deep-sea macrofaunal polychaete species assemblage composition, diversity and turnover in the Whittard Canyon system (NE Atlantic) using replicate megacore samples from three of the canyon branches and one site on the continental slope to the west of the canyon, all at ~ 3500 m water depth. A total of 110 polychaete species were recorded. *Paramphinome jeffreysii* was the most abundant species (2326 ind m⁻²) followed by *Aurospio* sp. B (646 ind m⁻²), Opheliidae sp. A (393 ind m⁻²), *Prionospio* sp. I (380 ind m⁻²), and *Ophelina abranchiata* (227 ind m⁻²). Species composition varied significantly across all sites. From west to east, the dominance of *Paramphinome jeffreysii* increased from 12.9 % on the slope to 39.6 % in the Eastern branch. Ordination of species composition revealed that the Central and Eastern branches were most similar, whereas the Western branch and slope sites were more distinct. High abundances of *P. jeffreysii* and Opheliidae sp. A characterised the Eastern branch of the canyon and may indicate an opportunistic response to a possible recent input of organic matter inside the canyon. Species richness and diversity indices were higher on the slope compared with inside the canyon, and the slope site had higher species evenness. Within the canyon, species diversity between branches was broadly similar. Despite depressed diversity within the canyon compared with the adjacent slope, the fact that 46 of the 99 polychaete species found in the Whittard

Download English Version:

<https://daneshyari.com/en/article/6383495>

Download Persian Version:

<https://daneshyari.com/article/6383495>

[Daneshyari.com](https://daneshyari.com)