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Community Composition of Scavenging Amphipods at Bathyal Depths on the Mid-Atlantic Ridge

Tammy Horton*, Michael H. Thurston & Grant A. Duffy

National Oceanography Centre, University of Southampton Waterfront Campus, European Way, Southampton
SO14 3ZH, UK

*Corresponding author email: tammy.horton@noc.ac.uk; Tel: +44 (0)2380 596352; Fax: +44 (0)2380 596247.

Abstract.

This study focussed on a section of the Mid-Atlantic Ridge with one pair of sampling areas at 49° N and the other at 54° N, north and south of the Charlie Gibbs Fracture Zone and east and west of the ridge, at a water depth of 2500 m. Sixteen baited-trap samples of necrophagous amphipods were collected during three research cruises on the R.R.S. *James Cook* in 2007, 2009 and 2010. Amphipods of the superfamily Lysianassoidea are numerically dominant and taxonomically diverse and form the most important group of necrophages in most deep-sea environments. A total of 39 scavenging species from 253306 specimens were identified at the four sampling areas over the four year study period. Less than half of the entities could be ascribed to known species. More than 25 % of the species recorded were found at all of the sampling areas, supporting the view that necrophagous amphipods are widely distributed animals. The number of lysianassoid species (31) was higher than expected when compared with other studies of necrophagous amphipods, particularly as all sampling was done at one depth (2500 m). Deep-sea scavenging amphipods are generally thought to have low diversity and previous studies have supported this view. Sample sizes were large with some traps containing more than 40,000 specimens. The most abundant species, *Abyssorchomene abyssorum*, dominated all trap samples with percentage compositions over 90 % at the NE sites in 2009-10. Univariate and Multivariate analyses indicated a significant difference in community composition and species richness between the northern and southern stations. There are at least 15 new species to be described from these samples, and particular effort is required in the genus *Paracallisoma* and the genus *Tryphosella*.