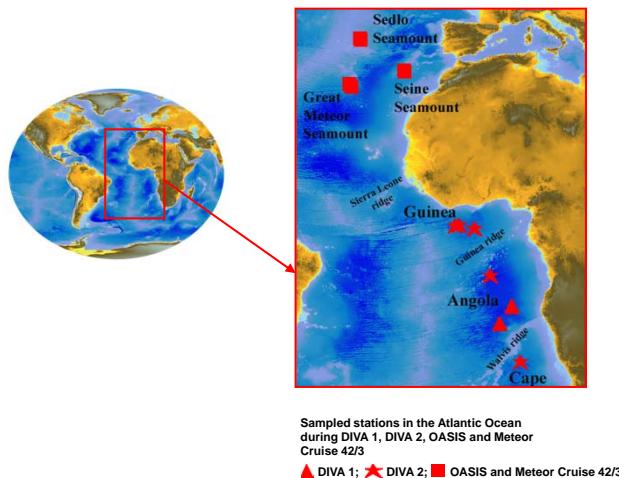


The distribution of the taxa *Eurypletodes* Sars, 1909 and *Mesocletodes* Sars, 1909 in the Eastern Atlantic Ocean: a comparison between deep sea and seamount fauna

Marco Büntzow & Lena Menzel • Forschungsinstitut Senckenberg • Abt. DZMB • Südstrand 44 • D-26382 Wilhelmshaven



Results

The 11 sampled stations contained 53 species of *Mesocletodes* and 26 species of *Eurypletodes*, with a maximum of about 40 species in the Guinea Basin and a minimum between 2 and 9 species at the Seamount summits.

The Bray Curtis Similarity Analysis shows less than 10% common species between the deep sea and the summit stations, whilst the similarity within the deep sea stations reaches more than 70% in the Guinea Basin.

Discussion and Conclusions

Possible geographical barriers in the deep sea are ridges, like Walvis, Guinea or Sierra Leone Ridge in the area studied. If such a ridge is a barrier for dispersal, we should find somehow distinct communities between them. In the cluster analyses, the deep sea stations are quite mixed, e.g. the Sedlo deep sea station lies somewhere between the DIVA stations in terms of similarity. We find the same species from North to South, so we have to state that for most of the species ridges are no dispersal barriers.

On the other hand, the Guinea basin shows a well defined cluster. The reason for that cluster is that we found just more species in this region. The sampling effort during the DIVA cruises was nearly the same, so the Guinea basin must provide something more suitable for the studied taxa than the other regions do. Taking the higher primary production in the surface waters of that area into account, it seems a reasonable assumption, that the Guinea basin simply provides more food. Hence, the Guinea community is not a result of barriers.

The fact that we found some identical species in the deep sea and the GMB also could be used as an argument against geographical barriers. But we cannot know what was first, the seamount or the deep sea. The geological character and the currents around the seamounts makes it pretty unlikely, that the seamounts were colonized out of the deep sea. The nature of the African Continental Shelf makes it much more likely that both, the deep sea and the seamounts, were colonized from shallow waters.

Introduction

Our knowledge about large scale distribution of harpacticoids in the deep sea is still very limited. Mainly because of two reasons:

- 1) concerning meiofauna the oceans in general are undersampled
- 2) each time sampling the deep sea we find a lot of new species, which will never be described and just get numbers valuable for the single study.

So the studies get stuck in ecological analyses and are in taxonomical terms not comparable to others. That is the reason why the present study focuses on two supraspecific taxa to cover a large geographical range.

This study shows the species distribution of the taxa *Mesocletodes* Sars, 1909 and *Eurypletodes* Sars, 1909 in the deep sea and on two seamounts in the Eastern Atlantic Ocean between Azores (38°40'N) and Cape of Good Hope (34°50'S). The material studied was collected during the cruises of RV Meteor DIVA 1 (2000), DIVA 2 (2005), OASIS (2003) and M42/3 (1998). 9 deep sea stations between 2800m and 4500m depth and the summits of Seine Seamount (200m) and Great Meteor Bank (400m) were sampled using multicorer, boxcorer and epibenthos-sledge.

Questions we tried to answer with this study are:

- Are there geographical barriers in the deep sea?
- Are there any barriers for the distribution of harpacticoid copepods?
- Are seamounts colonized from the deep sea?

