

Tanaidacean (Crustacea: Peracarida) fauna from chemically reduced habitats—the lucky strike hydrothermal vent system, mid-atlantic ridge

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Abstract

The tanaidacean fauna from the hydrothermal vents in the Lucky Strike Field on the Mid-Atlantic Ridge is examined. The material reveals species belonging to the genera *Agathotanaeis*, *Apseudes*, *Leviapseudes*, *Sphyrapus*, *Armaturatanaeis*, *Leptognathiella*, *Mesotanaeis*, *Pseudotanaeis* and *Typhlotanaeis*. One new typhlotanaid genus, *Obesutanaeis*, and five new species, *Armaturatanaeis atlanticus*, *Obesutanaeis sigridae*, *Mesotanaeis styxis*, *Leptognathiella fragilis*, and *Typhlotanaeis incognitus*, are described.

Key words: Tanaidacea, Hydrothermal vents, Lucky Strike vent field, Mid-Atlantic Ridge, *Armaturatanaeis*, *Leptognathiella*, *Mesotanaeis*, *Obesutanaeis*, *Typhlotanaeis*

Introduction

This is the second in a series of taxonomic papers on the tanaidaceans from chemically reduced habitats (hydrothermal vents, cold seeps, mud-volcanoes) from around the world. The previous paper (Larsen 2006) dealt with the fauna of the Juan de Fuca Ridge. This contribution documents the fauna of the hydrothermal vents of the Lucky Strike Field on the Mid-Atlantic Ridge (MAR).

Only two species (*Leptognathia ventralis* Hansen, 1913 and *Typhlotanaeis* sp.) have previously been recorded from the MAR hydrothermal vents (Desbruyères & Segonzac 1997). In this study, the tanaid fauna of the Lucky Strike hydrothermal vent field on the MAR is examined and the new taxa described. The recently collected specimens of tanaids are the first record of the families Agathotanaidae, Colletteidae, Leptocheiliidae and Pseudotanaidae from hydrothermal vents in the Atlantic.

Although many differences in faunal composition and abundance between individual vents and different distance to the vent opening have been revealed by studies on vent communities (Grassle & Petrecca 1994; Wolff 2005), the sampling effort has been focused in the most active areas close to the vent openings and chimney walls where steep gradients of temperature and chemistry occur. On the other hand, the sample collection is frequently directed to large-sized organisms that can be easily seen during submersible dives or ROV operations. During geological surveys carried out in August 2000, and August 2002 by a joint program of the Geological and Mining Institute of Portugal, Moscow State University and University of Aveiro, Portugal. Over 100 different taxa were retrieved and the fauna collected yielded not only the most typical vent species but also a variety of vagrant or background organisms (Cunha *et al.* 2001, 2003). Small crustaceans accounted for about 50% of the species richness and included eleven tanaidacean species.