Zootaxa 2730: 1–22 (2010)
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

Tanaidacea (Crustacea, Peracarida) of the North-east Atlantic: the Agathotanaidae of the AFEN, BIOFAR and BIOICE projects, with a description of a new species of *Paragathotanais* Lang

GRAHAM J BIRD
Valley View, 8 Shotover Grove, Waikanae, Kapiti Coast, 5036, New Zealand. E-mail: zeuxo@clear.net.nz

Abstract

The tanaidacean fauna of the Iceland-Faroes-Shetlands sector of the North-east Atlantic was studied using material from the BIOFAR, BIOICE and AFEN surveys. Seven agathotanaid species were recorded from the genera *Agathotanais*, *Paragathotanais* and *Paranarthrura*, a total comparable to those from a similar bathymetric range in the Rockall-Biscay area and the Gulf of Mexico. A new species of *Paragathotanais* is described. All records of this family were from benthic stations with a mean bottom temperature of ≥2°C, with none from the 'cold-water' region north of the Iceland-Shetlands ridge complex.

An analysis of North-east Atlantic agathotanaid sex-ratios shows that these are not highly skewed in favour of females and are consistent with the status of the males as relatively non-dimorphic and long-lived entities.

Key words: Tanaidacea, Agathotanaidae, *Agathotanais*, *Paragathotanais*, *Paranarthrura*, AFEN, BIOFAR, BIOICE, NE-Atlantic, taxonomy

Introduction

For nearly ninety years after the canonical account of the 'Ingolf' expedition (Hansen 1913), the tanaidaceans of the Iceland-Faroes-Shetlands region have received scant attention. This is especially so with respect to published taxonomic articles or novel distribution records (but see Guerrero-Kommritz 2004, 2005), although there have been several faunal inventories or unpublished reports that have covered at least part of the region (e.g. Stephensen 1929, 1932; Holdich & Bird 1989; Bird 2001; Brandt 1993). However, over the last 10–15 years several important large-scale biological investigations have been undertaken in these northern waters, including significant benthic components. The Icelandic project, BIOICE ("Benthic Invertebrates of Iceland"), is a collaborative effort involving Iceland and other Nordic countries. Two similar projects, BIOFAR - investigating Faroese waters (e.g. Bruntse & Tendal 2001), and the United Kingdom's AFEN (Atlantic Frontier Environmental Network) and DTI (Department of Trade & Industry) initiatives (e.g. AFEN 2001, http://www.oilandgas.org.uk/issues/afen) have also focussed on issues related to economic-zones, fisheries and oil-exploration.

Out of the benthic faunal inventories derived from these projects, abundant tanaidacean material has allowed further progress in understanding the taxonomy, distribution and zoogeography of the North-east Atlantic fauna (Bird 2001, 2002, 2004a, 2004b). Equally, this has been an invaluable opportunity to study the 'Ingolf' area once again and define more closely the zoogeographic patterns of 'cold-water' Arctic and 'warm-water' North Atlantic faunas where they meet or merge along the Greenland-Scotland ridge structures.

Among the 'Ingolf' tanaidaceans were four species in genera later included in the Agathotanaidae Lang, 1971: *Agathotanais ingolfi* Hansen, *Paranarthrura clavipes* Hansen, *P. insignis* Hansen, and *P. subtilis* Hansen. Of these, *P. clavipes* is now placed within the colletteid genus *Macrinella* Lang, 1971. Taxonomic activity on tanaidaceans has been on the increase during the last decade and the Agathotanaidae has had a respectable share of attention. Agathotanaids are an attractive and distinctive group and have been shown to be, at times, the numerically dominant tanaidacean taxa in the deep sea of the Rockall-Biscay region (Bird & Holdich 1988, 1989). With a fairly set-

Accepted by R. Bamber: 15 Nov. 2010; published: 24 Dec. 2010