

Tanaidacea (Crustacea) of the Northeast Atlantic: non-filiform species of Anarthruridae Lang from the Atlantic Margin

GRAHAM BIRD

Baytree Cottage, 20 Mill Road, Penponds, Camborne, Cornwall, TR14 0QH, UK

Table of contents

Abstract	1
Introduction	2
Materials and methods	3
Taxonomy	6
Anarthruridae Lang, 1971 sensu Larsen & Wilson, 2002	6
<i>Anarthrura</i> G. O. Sars, 1882	8
<i>Anarthrura simplex</i> G.O. Sars, 1882 (Figs. 1–2)	9
<i>Anarthrura edentatus</i> sp. nov. (Figs. 3–5)	12
<i>Ithyomus</i> gen. nov.	17
<i>Ithyomus conopygus</i> sp. nov. (Figs. 6–7)	17
<i>Thorkelius</i> gen. nov.	21
<i>Thorkelius latiremis</i> Hansen (1913) comb. nov. (Figs. 8–10)	21
<i>Thorkelius glacialis</i> (Hansen, 1913) comb. nov. (Figs. 11–12)	27
<i>Anarthrurella</i> gen. nov.	30
<i>Anarthrurella clairae</i> sp.nov. (Figs. 13–14)	30
<i>Anisopechys</i> gen. nov.	33
<i>Anisopechys crinitus</i> sp. nov. (Figs. 15–16)	34
<i>Synanarthrura</i> gen. nov.	37
<i>Synanarthrura celtica</i> sp. nov. (Figs. 17–18)	37
Key to the non-filiform anarthrurids of the ‘Atlantic Margin’	41
<i>Leptognathia profunda</i> Hansen, 1913	41
Discussion	42
Acknowledgments	42
References	42

Abstract

Anarthrurid tanaidaceans are common in the bathyal zone west of the British Isles and their identification has been difficult. The complex history of the taxonomy and classification of the Family Anarthruridae Lang is summarised and H.J. Hansen’s *Leptognathia* group ‘d’ from the ‘Ingolf’ expeditions is transferred to the Anarthruridae. Three known species are re-described (*Anarthrura*

simplex, *Leptognathia latiremis*, and *L. glacialis*). In addition, five new genera are erected and five new species described. A key to their identification is given. Zoogeographic patterns indicate a 'cold-water' fauna north of the Faeroes and Iceland and a separate 'Atlantic Deep Sea' fauna along the Hebrides-Porcupine-Biscay slope.

Key words: Tanaidacea, Anarthruridae, Atlantic Margin, AFEN, BIOFAR, BIOICE

Introduction

Small peracarid crustaceans often present identification challenges to benthic ecologists and this is especially true of tanaidaceans (or 'tanaids') collected during recent surveys west of the Shetland Isles and Outer Hebrides (Bird 2001, 2002). Tanaidaceans belonging to the family Anarthruridae Lang, 1971 are no exception, although they are readily distinguished from other families. They possess a common 'jizz' (general appearance) derived from a relatively short and round cephalothorax, a non-articulated uropod exopod and a cheliped attached to the cephalothorax directly from the posterior margin of the basis via a 'pseudocoxa' (Sieg 1983a). The cheliped has a broad carpus, a (usually) complex fixed finger dentition and deep crescentic dactylus.

Only four genera of Anarthruridae are currently recognised in the most recent review of tanaidacean phylogeny (Larsen & Wilson 2002): *Anarthrura* G.O. Sars 1882, *Allodapsia* Sieg, 1986, *Siphonolabrum* Lang, 1972, and *Anarthruopsis* Lang, 1968. However, it is apparent that the species' attributions to these underestimate the taxonomic breadth in the family and several undescribed species recorded in the Northeast Atlantic also could not be validly placed in these four genera.

In addition, the three species *Leptognathia latiremis*, *L. glacialis* and *L. profunda* described by Hansen (1913) are really anarthrurids. The first is common in the Faeroe-Shetland Channel where co-ordinated benthic sampling is ongoing in relation to oil exploration and recovery (AFEN 2001; www.oilandgas.org.uk/issues/afen) and its identification has generated a large number of synonyms, both species and putative taxon names (Bird 2001).

A number of other anarthrurid species from the Rockall-Biscay area remain to be described but these are rare, largely confined to abyssal depths or are small, highly derived, elongate or even filiform species deserving a dedicated taxonomic analysis. This paper is not intended as a critical review of the entire Anarthruridae; rather it is a contribution to its α -taxonomy. However, it is inevitable that, in order to create a sensible classification of the new taxa, generic-level characters have had to be assessed and five new genera are established. Among the five previously undescribed species is an addition to the British shallow-water (<200 m) inventory. Ultimately, the priority emphasis is facilitation of identification of non-filiform anarthrurids from the 'Atlantic Margin' west of the British Isles.