



Article

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A new leptochelioid family, Heterotanoididae (Crustacea: Peracarida: Tanaidacea), and a new species of *Heterotanoides* from New Zealand

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Abstract

A new species of *Heterotanoides* is described from Waiheke Island, in the warm Aupourian zoogeographic province of New Zealand, and its relationships to other members of the genus are discussed. New characters for *Heterotanoides*, such as plumose epimeral setae, cap-like antennule segment, and four-spined maxilliped endites are presented, and their phylogenetic relevance examined. Based on phylogenetic analyses of *Heterotanoides*, leptocheliids, pseudozeuxids, teleotanaids, and some nototanaids, a new family is established for the genus: Heterotanoididae.

Key words: Tanaidacea, Heterotanoididae, Leptocheliidae, *Heterotanoides*, phylogenetics, Waiheke Island, New Zealand

Introduction

The peracarid crustacean group Tanaidacea had received scant attention in New Zealand until recently (Knight & Heard 2006; Bird 2008, 2011) but this is not unexpected as tanaidaceans are often passed over in ecological surveys. However, increased scrutiny of this group is ongoing, extending into the bathyal environments of the New Zealand Economic Exclusion Zone (e.g. Lörz 2011).

My collection on Waiheke Island in January 2011 revealed a very high abundance of tanaidaceans among the coralline algae and *Hormosira banksii* (Turner) Descaisne ('Neptune's [or 'Venus'] Necklace') attached to silt-covered stones in the eulittoral at Omiha Bay, which lies on the sheltered southern shore of the island. Although dominated by *Parakonarus kopure* Bird, 2011, with fewer individuals of *Paratanais paraoa* Bird, 2011 and *Zeuxoides* Sieg, appreciable numbers of a species of *Heterotanoides* Sieg, 1977 were also present. These minute tanaidaceans were easily distinguished from the larger species and their smaller life stages (such as mancae) by the brown pigmentation on the anterior part of the carapace.

Heterotanoides has been classified successively within the families Paratanaidae Lang, 1949, Pseudozeuxidae Sieg, 1982, Leptocheliidae Lang, 1973, and as *incertae cedis*, by Sieg (1977a), Sieg (1986a), Larsen & Wilson (2002), and Bird & Larsen (2009) respectively. This has arisen partly from the apparent lack of clear homologies among antennal and antennule articulation and setation, as well as a confusing distribution of plesiomorphic and apomorphic characters among genera of Leptocheliidae, Nototanaidae Sieg, 1976 (*sensu* Bird & Larsen 2009), Pseudozeuxidae, and Teleotanaidae Bamber, 2008.

This paper presents a description of the new species of *Heterotanoides*. It examines some of the morphological characters useful for phylogenetic analyses, with relevant issues raised by this and its congeners; these form part of the ongoing development of morphological matrices and 'restricted analyses' to build on the phylogenies offered by Larsen & Wilson (*op.cit.*) and Bird & Larsen (*op.cit.*). One such analysis is carried out here to test the hypothesis that *Heterotanoides* is not part of the main spectrum of leptocheliid taxa.

Materials and methods

Tanaidacea were collected by me from the low-water neap tidal level (eulittoral) at Omiha Bay, Waiheke Island,