

A new species of *Alvinocaris* (Crustacea: Decapoda: Alvinocarididae) and new records of alvinocaridids from hydrothermal vents north of New Zealand

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Abstract

Alvinocaris niwa n. sp. is described from hydrothermal vents at the Brothers Caldera and Rumble V Seamount on the southern Kermadec Ridge, midway between the Kermadec Islands and Bay of Plenty, New Zealand. Four hundred specimens of *Alvinocaris longirostris* Kikuchi & Ohta, 1995, described from Japan, are recorded at the Brothers. The presence of a possible third *Alvinocaris* at Rumble V and one or two species of *Chorocaris* at Brothers are also reported. Eighty-eight specimens of *A. niwa* and 41 of *A. longirostris* were measured and examined to assess morphological variation. Morphological characters used to distinguish alvinocaridids are shown to be highly variable. Pairwise correlations with carapace length indicate that numbers of teeth, spines and setae are generally not related to shrimp size. Descriptions based on small numbers of specimens are thus questionable. The new species is characterised by: short rostrum; paired sternal spines on abdominal somites I–III; long stylocerite and robust distolateral spine on the antennular proximal segment, with a subterminal spine; two ventral spines on antennal basal segment; row of spines on distal segment of maxilliped III; and two rows of spines on flexor surface of P3–P5 dactyls. It is the shallowest alvinocaridid yet discovered and also inhabits the greatest depth range, at over 700 m.

Key words: Alvinocarididae, *Alvinocaris*, variation, New Zealand, Kermadec, hydrothermal vent, seamount, Brothers, Rumble V.

Introduction

In May 2001 hydrothermal vent biota on seamounts of the southern Kermadec Ridge, north of mainland New Zealand, were surveyed by R.V. *Tangaroa* (Clark & O'Shea 2001). The voyage concentrated on three volcanic seamounts: Brothers Caldera, Rumble III and Rumble V Seamounts. Almost 500 shrimps of the family Alvinocarididae were captured, either on the most northerly or most southerly of these seamounts, Brothers and Rumble V (Webber & Bruce 2002). Virtually all these specimens are of one or other of two species of *Alvinocaris* Williams & Chace, 1982 with four small specimens representing a further one or two species. A range of invertebrates was collected adjacent to hydrothermal vents at all