

# Amathillopsidae (Crustacea: Amphipoda) from New Zealand, Including the Description of a New Species

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**ABSTRACT.** *Amathillopsis lowry*, a new species of the family Amathillopsidae is described from the south west Pacific. *In situ* images show this amphipod species new to science clinging to a stalked sponge in 4600-metre depth. This increases the number of New Zealand amathillopsid amphipods to three.

## Introduction

The genus *Amathillopsis* currently consists of 13 species globally with only one (prior to this paper), *Amathillopsis grevei* J. L. Barnard, 1961, recorded from New Zealand waters. There are, however, three species known from neighbouring regions: *Amathillopsis australis* Stebbing, 1883, from the Coral Sea; and *A. charlottae* Coleman, 1998 and *A. roroi* Coleman & Coleman, 2008, both from the Antarctic Peninsula. Species of *Amathillopsis* are often enigmatic, being recorded only rarely and mostly in more recent years as deep-sea exploration technology has developed.

Recently in New Zealand waters, amathillopsid amphipods have been observed to cling to stalked sponges in over 4000 m depths. Photographs and video footage were taken by the Remotely Operated Vehicle *Kiel 6000* from the RV *Geomar Kiel* and samples of amphipods collected. Species of *Amathillopsis* have now been observed by ROVs and other camera systems on a number of occasions globally, clinging in pairs (and occasionally in larger numbers), to tubular or stalk-like structures growing in soft substrates, and also on corals attached to hard substrates (Lörz & Horton, 2021). This recently observed species of *Amathillopsis* has

been identified as new to science and is described here in detail. An extension of range for the Antarctic *Amathillopsis charlottae* into the New Zealand EEZ (recorded here) now brings the total of species in this genus in New Zealand waters to three (Fig. 1).

The new species, and hence this paper, is dedicated to Dr Jim Lowry as his exploration of both New Zealand and Antarctic waters lead to the discovery of many new amphipod species as well as range extensions of others.

## Materials and methods

**Collection methods and locations.** During the SO254 expedition on the RV *Sonne*, the ROV *KIEL 6000* was deployed in northern New Zealand waters at station 10ROV03, in the abyssal basin between the Three Kings Ridge and Colville Ridge, Pacific Ocean (30°59.448396'S 177°30.059508'W, depth 4159.4 m), conducting photo and video transects as well as physical sampling. The specimens of the new species of *Amathillopsis* were initially photographed and filmed *in situ*, after which the ROV collected them into a sampling box. Once on board, the specimens collected were immediately photographed and preserved in ethanol.

**Keywords:** Amphipoda, new species, New Zealand, Remotely Operated Vehicle (ROV), abyssal

**ZooBank registration:** urn:lsid:zoobank.org:pub:7132F634-86C3-47E7-A5D9-B0518D2AF97A

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**Submitted:** 23 June 2022 **Accepted:** 24 September 2022 **Published:** 6 December 2023 (in print and online simultaneously)

**Publisher:** The Australian Museum, Sydney, Australia (a statutory authority of, and principally funded by, the NSW State Government)

**Citation:** Lörz, Anne-Nina, and Rachael A. Peart. 2023. Amathillopsidae (Crustacea: Amphipoda) from New Zealand, including the description of a new species. In *Festschrift in Honour of James K. Lowry*, ed. P. B. Berents, S. T. Ahoyong, A. A. Myers, and L. Fanani. *Records of the Australian Museum* 75(4): 459–470. <https://doi.org/10.3853/j.2201-4349.75.2023.1885>

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