



***Amphilepis neozelandica* sp. nov., the first record of the Amphilepididae in New Zealand waters (Echinodermata: Ophiuroidea)**

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Abstract

A new species of *Amphilepis* is described from several locations around New Zealand. It is distinguished from congeners by the combination of a lack of tentacle scales, separated dorsal and ventral arm plates, ventral interradial disc scaling and characteristic sharp appearance to the disc edge. This is the first record of Amphilepididae from New Zealand waters, and current evidence suggests that it occurs between 900 and 1500 m off eastern and western New Zealand.

Key words: Bathyal, Chatham Rise, Challenger Plateau, Wairarapa

Introduction

The Amphilepididae Matsumoto, 1915 currently contains a single genus, *Amphilepis* Ljungman, 1867. Amphilepidids are closely related to the diverse Amphiuridae, but are usually distinguished by their single apical papilla and second tubefoot outside of the oral cavity (Mortensen 1927). *Amphilepis* currently contains 13 species that are widespread in the northern hemisphere, and found at few locations in the southern hemisphere, including South America, Madagascar and Antarctica.

In 2007, two surveys of large marine geographical features in the New Zealand Exclusive Economic Zone, the Chatham Rise and the Challenger Plateau, were completed as part of Ocean Survey 20/20. Ocean Survey 20/20 is a collaborative programme that aims to provide New Zealand with better knowledge of its ocean territory, qualifying and quantifying habitat types and biodiversity. Large series of Ophiuroidea from many families were collected at both locations with beam trawls and epibenthic sleds, including an *Amphilepis* species, the first record of an amphilepidid from New Zealand. Specimens of the *Amphilepis* species were collected from two locations on the Chatham Rise, one from the Challenger Plateau, and another during a separate survey investigating the cold seep fauna off the east coast of New Zealand. The combination of characters of the New Zealand *Amphilepis* could not be reconciled with known species, and it is described herein as new to science.

Material and methods

Specimens were immediately preserved in 99 % ethanol at sea, and subsequently transferred to 80 % ethanol for storage on land. The holotype and paratypes were measured using an ocular micrometer, disc diameter (d.d.) was measured from radial shield to the midpoint of the opposite interradial area. The holotype was drawn using a camera lucida, attached to a Zeiss Microscope. Holotype drawings were scanned and digitally inked (Adobe Illustrator CS2, version 12.0.0). Specimen images were created using photographs taken on a Leica DC 500 Microscope that were montaged with specialised software (Auto Montage Pro, Synoptics Ltd, 2004, version 5.02). Distributions of the type specimens were mapped using ESRI ArcMap version 9.1.