



<http://dx.doi.org/10.11646/zootaxa.3995.1.15>

<http://zoobank.org/urn:lsid:zoobank.org:pub:00A8B63D-6C16-42EC-AD85-F3808D4668DA>

## The first pagurapseudid species (Peracarida: Tanaidacea) from New Zealand with remarks on paguridean (Decapoda: Paguridea) and pagurapseudid convergence and competition

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### Abstract

A new species of pagurapseudid, *Macrolabrum maui*, is described from the lower eulittoral rocky shore on the East Coast of the North Island, New Zealand. It is similar to *M. haikung* from Bass Strait, Australia and *M. distonyx* from New Caledonia. Males and females show little dimorphism. Typical of the subfamily Pagurapseudinae, *M. maui* inhabits shells of micro-molluscs such as the gastropods *Eatoniella*, *Merelina*, and *Pisinna*. A dichotomous key to the species of *Macrolabrum* is given. Possible competition for micro-mollusc shells between small pagurideans, notably their glaucothoe stage, and pagurapseudids is considered based on their convergent morphologies and on body sizes.

**Key words:** glaucothoe, hermit-crabs, *Macrolabrum*, megalopa, micro-molluscs, Pagurapseudidae, Pagurapseudinae, taxonomy

### Introduction

Pagurapseudids (Family Pagurapseudidae Lang, 1970) are small apseudomorphan tanaidaceans that have adopted a conchicolous lifestyle in much the same way as have their larger distant cousins, the hermit crabs (Order Decapoda, Suborder Paguridea). They appear to be widespread and relatively common in warm-temperate and tropical waters worldwide, in two subfamilies with seven genera and 37 species known to date (Anderson 2013; Błażewicz-Paszkowycz & Bamber 2012).

No formal records of pagurapseudids from New Zealand waters have been published, although the family was known to be present since Morton & Miller (1973: fig. 68, p. 206) illustrated a pagurapseudid (as a species of *Pagurapseudes*) inhabiting a “rissoid shell”. This illustration was re-published by Morton (2004: fig. 13.18, p.254) with the small mollusc identified as *Eatoniella* sp. There is also a figure of an ‘interstitial’ pagurapseudid (as ‘*Pseudoapseudes*’) in Morton & Miller (1973: fig. 387, p.507). Until recently, extensive sampling by the present authors, especially in the southern part of the North Island, had not revealed any of this group but it was always anticipated that pagurapseudids would be encountered in warmer waters of the northern sector of the island, corresponding to the Aupourian Province *sensu* Morton (2004). A collection of tanaidaceans made in 2012 at Tokomaru Bay, on the north-east coast of the North Island, finally delivered specimens of a pagurapseudid species that is almost certainly the same as that illustrated in Morton & Miller (*op.cit.*). It is a new species of *Macrolabrum* Bacescu, 1976, and a description is provided here.

This pagurapseudid joins only five other shallow-water (<200 m) species of apseudomorphans that have been described from the New Zealand Exclusive Economic Zone (NZEEZ): *Aapseudes larseni* Knight & Heard, 2006; *Aapseudes latus* Chilton, 1884; *Apseudomorpha timaruvia* (Chilton, 1882); *Cycloapseudes diceneon* Gardiner, 1973; and *Metapseudes aucklandiae* Stephensen, 1927. This apparently low diversity is deceptive as several other putative species have been recorded but not yet been described, although a new species of *Paradoxapseudes* Gutu, 1991 from the Kermadec Islands is being published (Bird in press) and a review of several published and unpublished taxa from the NZEEZ is ongoing.