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Metopelloides paguri sp. nov., a new species of symbiotic stenothoid amphipod (Crustacea: Amphipoda: Stenothoidae) associated with sublittoral hermit crabs from the Russian coasts of the Sea of Japan

IVAN MARIN[1] & SERGEY SINELNIKOV
A. N. Severtzov Institute of Ecology and Evolution of RAS, Moscow, Russia.
E-mail: coralliodecapoda@mail.ru, vanomarin@yahoo.com, sinelnikoff@yandex.ru
[1]Corresponding author. E-mail: coralliodecapoda@mail.ru

Abstract

A new species of amphipod from the genus *Metopelloides* Gurjanova, 1938 (Crustacea: Amphipoda: Stenothoidae) associated with two species of sublittoral hermit crab species, *Pagurus pectinatus* (Stimpson, 1858) and *Elassochirus cavimanus* (Miers, 1879) (Crustacea: Decapoda: Paguridae), is described from the Russian coasts of the Sea of Japan. The new species clearly differs from the congeners by the combination of morphological features such as telson without lateral spines, an elongated mandibular palp with single apical setae, the structures of distoventral palmar margins of subchela on gnathopods I and II in females, bright white-red body coloration. Thus, the record of *Metopelloides paguri* **sp. nov.** represents the second record of the family Stenothoidae in the association with sublittoral hermit crabs from the Sea of Japan.

Key words: Amphipoda, Stenothoidae, *Metopelloides*, new species, symbiosis, hermit crab, Paguridae, Russia, Peter the Great Bay, Sea of Japan

Introduction

Amphipod family Stenothoidae including nearly 200 presently known species is a cosmopolitic group of marine benthic amphipods recorded from littoral to the depth of 5000 meters (Gurjanova, 1951; Barnard & Karaman, 1991; Krapp-Schickel & Koenemann, 2006; Tandberg & Vader, 2009). Representatives of this family are known to be associated with different large marine invertebrates such as hydroids (Krapp-Schickel, 1993), sea anemones (Vader, 1984; Vader & Krapp-Schickel, 1996; Krapp-Schickel & Vader, 1998), bivalves (Vader, 1972; Tandberg et al, 2010) and hermit crabs (McGrath, 1978). Nevertheless, the diversity and associations of this family are poorly known, especially in arctic sublittoral waters.

During the trawling in Vostok Bay of the Sea of Japan (the most northern bay within the Peter the Great Bay) at the depth from 60 down to 100 meters several specimens of large hermit crab *Pagurus pectinatus* (Stimpson, 1858) (Crustacea: Decapoda: Paguridae) occupying sponges *Suberites* sp. (Porifera: Suberitidae) were collected. Carefull dissection of sponge tissue revealed the presence of numerous specimens of brightly colored small amphipods inside the internal space within the sponge close to the soft body of hermit crabs. The specimens of amphipods were extracted and identified as a new species belonging to the genus *Metopelloides* Gurjanova, 1938 (Crustacea: Amphipoda: Stenothoidae). At the same time, the question whether amphipods are associated with hermit crabs or sponges was opened. Further examination of the collections of hermit crabs from the Sea of Japan deposited in the Museum of the Institute of Marine Biology (MIMB), Vladivostok, showed that the same amphipod species also presents inside gastropod shells occupied by the other sublittoral hermit crab species, *Elassochirus cavimanus* (Miers, 1879) (Crustacea: Decapoda: Paguridae). Thus, the new species of stenothoid amphipods associated with hermit crabs from the Sea of Japan is described below.

Total body length, the dorsal length from the distal margin of head to the distal margin of telson (tbl., in mm), is used as a standard measurement of size. The material is deposited in zoological collection of the Museum of the

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