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Gnathia grutterae sp. nov. (Crustacea, Isopoda, Gnathiidae) parasitising representatives of the Balistidae, Labridae and Tetraodontidae from Lizard Island, Great Barrier Reef, Australia

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Abstract

A new species of gnathiid was collected in March 2002 and November 2005 at Lizard Island, Great Barrier Reef, Australia. Third stage pranizae taken from balistid, labrid and tetraodontid fishes were maintained in fresh sea water until their moult into males (4 days post feeding) or females (11 days post feeding). Distinctive features of the adult male cephalosome include conical superior fronto-lateral processes directed anteriorly, with 4 simple setae in a row on each process, while the mediofrontal process is inferior with a shallow conical notch dividing the anterior part of mediofrontal process in two. The male mandible has a prominent internal lobe with small tubercles forming two rows from the internal lobe up to half the length of the mandible. The adult female has a broadly rounded cephalosome, with two pairs of long simple setae laterally on the mid-dorsal area, whereas the third stage praniza has a mandible with 9 teeth, comprising two small teeth at the tip and seven large, triangular, backwardly directed teeth on the mesial margin.

Key words: Gnathiidae, gnathiid, morphology, fish ectoparasitic juveniles

Introduction

Species of the family Gnathiidae are distributed world wide from the intertidal zone to the abyssal depths (Smit & Davies 2004). These isopods show extreme morphological differences between juveniles and adults, and adult males and females (Tanaka 2004). The juveniles of gnathiids are haematophagous fish ectoparasites and are known to be the main food source of the coral reef cleaner fish *Labroides dimidiatus* Cuvier and Valenciennes, 1829 (see Grutter 1997). These small ectoparasites have been found feeding on 70% of 56 species of reef fish surveyed on the Great Barrier Reef (Grutter & Poulin 1998). To date, publications regarding gnathiid taxonomy in north eastern Australia have been scanty, though recent descriptions include those of *Gnathia grandilaris* Coetzee, Smit, Grutter and Davies, 2008 and *Gnathia trimaculata* Coetzee and Smit, 2009 from elasmobranchs, and *Gnathia aureamaculosa* Ferreira and Smit, 2009 from teleosts (Ferreira *et al*. 2009). This paper reports on another species new to science from Lizard Island on the Great Barrier Reef, Australia.

Materials and methods

Fish hosts of the families Balistidae, Labridae and Tetraodontidae were collected using hand- and barrier-nets at Lizard Island Research Station (14º40’54.68’’S, 145º27’53.72’’E), during March 2002 (GBRMPA permit G00/101) and November 2005 (GBRMPA permit G12306/17934.1). Transportation of hosts to the laboratory and collection of their gnathiid loads followed Ferreira *et al*. (2009).

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