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Gnathia pilosus sp. nov. (Crustacea, Isopoda, Gnathiidae) from the East Coast of South Africa

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Abstract

The larvae of gnathiid isopods are known to parasitise a large variety of intertidal fish worldwide. In South Africa, the larvae of *Gnathia africana* Barnard, 1914, have been recorded from various intertidal fish hosts along the cold West and South Coasts. The warmer East Coast, however, has not previously been sampled for gnathiids. From March 2006 to February 2007, intertidal fishes were collected on the East Coast using hand held nets and kept in aerated tanks until the gnathiids completed their feeding. Once fed, the gnathiids were kept alive in 50 ml bottles with fresh sea water till moulting occurred. Results indicated that all the East Coast intertidal gnathiids were from the same species and new to science, and subsequently described as *Gnathia pilosus* sp. nov. The *G. pilosus* male and female can be clearly distinguished from other South African species in having numerous tubercles and setae covering the cephalosome and pereon which are not as pronounced in the other species. The *G. pilosus* larva can also be distinguished from the other South African species by the triangular-shaped cephalosome and numerous sensory pits covering the body.

Key words: Kwazulu-Natal, ecto-parasite, gnathiid, new species

Introduction

Gnathiids are a small group of marine isopods with parasitic juveniles which feed on blood and lymph of teleost and elasmobranch fishes (Smit & Davies 2004). These temporary ectoparasites have a polymorphic and biphasic life cycle. There are three larval stages with each stage having two forms, namely praniza and zuphea. The praniza is a replete, haematophagous phase ectoparasitic on fish, while the zuphea is the unfed benthic dweller phase (Smit & Davies 2004). The free-living adults do not feed and are usually hidden in a cavity or sponge where reproduction will occur.

The taxonomic classification of gnathiids is usually based on the morphological characteristics of the adult male. The detailed descriptions of the female and larva, however, are also important for identifying these life stages to species level when collected in the absence of males. There are only a few descriptions available of female gnathiids (see Monod 1926; Wägele 1987; Brandt & Wägele 1991; Müller 1993; Smit *et al.* 2002; Smit & Basson 2002; Coetzee *et al.* 2008) with two of the most recent female descriptions being that of the South African species, *G. africana* Barnard, 1914 (Smit *et al.* 2002) and *G. pantherina* Smit and Basson, 2002 (Smit & Basson 2002).

The larval stages of the gnathiids are also seldom described which provides a problem during fish parasitological surveys, when only the parasitic larvae are collected from the host fish. Only a few authors have described the larval forms including Davies (1981) for *G. maxillaris* Montagu, 1804; Charmantier *et al.* (1987) for *Paragnathia formica* (Hesse, 1864); Wägele (1987) for *Caecognathia calva* (Vanhöffen, 1914); Brandt and Wägele (1991) for *Euneognathia gigas* (Beddard, 1886); Svavarsson (1999) for *Caecognathia*

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