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Description of free-living marine nematodes found in the intestine of fishes from the Brazilian coast

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Abstract

The marine nematodes usually comprise free-living species, although a few are parasitic. However, several cases of free-living nematodes found accidentally in the digestive tract of certain vertebrates, especially fishes, have sometimes been recorded and categorized as pseudoparasites. In the present work, two species of marine fishes, the rhomboid crappie, *Diapterus rhombeus,* and the silvered crappie, *Eucinostomus argenteus* (Perciformes: Gerreidae), from Angra dos Reis on the coast of Rio de Janeiro (Brazil) were examined. Seven species of free-living marine nematodes were found in the digestive tract of these fish. Several of these species remain unknown as free-living forms in Brazil. The combination of the fish feeding strategies and the poor preservation of the body of the nematode specimens found could indicate that these nematodes are pseudoparasites, appearing in the fishes' digestive tracts through accidental ingestion and thereafter surviving for brief periods of time. Descriptions, illustrations and tables of measurements are provided for all species. Six of these species (*Croconema torquens*, *Dorylaimopsis pellucida*, *Oncholaimellus labiatus*, *Parodontophora breviamphida*, *Prooncholaimus ornatus*, *Trissonchulus latus*) have been reported for the first time from the Brazilian coast.

Key words: Brazil, *Croconema torquens*, *Dorylaimopsis pellucida*, *Metoncholaimus amplus*, Nematoda, *Oncholaimellus labiatus*, *Parodontophora breviamphida*, *Prooncholaimus ornatus*, *Trissonchulus latus*

Introduction

Although most marine nematode species are free-living, a few are parasitic. However, sometimes individual nematodes may be either commensal or temporary parasites, the latter being accidentally ingested and surviving briefly in the intestine, and known as "pseudoparasites" (*cf.* the KMLE Medical Dictionary). Several authors have found free-living nematodes in the digestive tract of fishes and categorized them as pseudoparasitic. For example, Moorthy (1938) examined *Barbus puckelli* (Day), a freshwater fish, and found several species of free-living nematodes living in its intestine. Moravec *et al.* (1990) found *Metoncholaimus amplus* Hopper, 1967, a free-living nematode, in the intestine of *Haemulon sciurus* (Shaw) captured off the Brazilian coast. Martonelli (2002) examined *Pleoticus muelleri* (Bate), a decapod crustacean, and found *Croconema stateni* (Allgen, 1927) Wieser, 1954 in the stomach contents. These nematodes can live epizoically on other animals and possibly on the mouthparts of *P. muelleri* and may accidentally enter the crustacean digestive system along with food and may be mistakenly thought to be parasitic. Likewise, Hassani *et al.* (2012) found an oncholaimid nematode in the intestine of *Mullus surmuletus* Linnaeus.

In the present study, two species of the family Gerreidae (Osteichthyes, Perciformes) collected off the Brazilian coast were examined: the rhomboid crappie, *Diapterus rhombeus* (Cuvier), a fish that consumes mainly hydrozoans, polychaetes, gastropod eggs, amphipods, shrimp, and fish (Aguirre-León & Díaz-Ruiz 2006, Denadai *et al.* 2012, Pereira dos Santos 2009), and the silvered crappie, *Eucinostomus argenteus* (Baird and Girard), an

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