KROYERIA SPHYRNAE RANGNEKAR, 1957 (COPEPODA, SIPHONOSTOMATOIDEA, KROYERIIDAE): FIRST DESCRIPTION OF THE MALE, SUPPLEMENTARY REMARKS ON THE FEMALE, A NEW GEOGRAPHIC RECORD FOR THE SPECIES, AND A KEY TO KROYERIA MALES

BY

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ABSTRACT

Kroyeria sphyrnae Rangnekar, 1957, collected from scalloped hammerheads, Sphyrna lewini, and smooth hammerheads, S. zygaena, is reported for the first time from the Indian Ocean off the coast of South Africa. The male of K. sphyrnae is described for the first time and supplementary notes on the female are provided. All females exhibited dorsal stylets with bifid tips, and females collected from S. zygaena exhibited an unusual, balloon-like inflation of the first third of the genital complex. However, all females conformed in all other respects to published descriptions of K. sphyrnae. A key to the identification of known males of Kroyeria is also provided.

RÉSUMÉ


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INTRODUCTION

*Kroyeria* Van Beneden, 1853 (Copepoda, Siphonostomatoida, Kroyeriidae) contains 19 species (see Deets, 1994; Dippenaar, Benz & Olivier, 2000). All *Kroyeria* spp. are ectoparasites that infect the gill filaments and inter-filament excurrent water channels of sharks, except for *K. caseyi* Benz & Deets, 1986, whose mesoparasitic adult females burrow deeply into the interbranchial septa of sharks (Benz & Deets, 1986; Benz & Dupre, 1987; Deets, 1994; Dippenaar et al., 2000).

The literature contains reports of five *Kroyeria* spp. from waters off southeastern Africa, including: *K. carchariaeglauci* Hesse, 1879 (see Cressey, 1967; Kensley & Grindley, 1973; Oldewage, 1994), *K. dispar* Wilson, 1935 (see Cressey, 1967; Dippenaar & Olivier, 1999), *K. spatulata* Pearse, 1948 (see Cressey, 1967), *K. gemursa* Cressey, 1967 (see Cressey, 1967), and *K. deetsi* Dippenaar, Benz & Olivier, 2000 (see Dippenaar et al., 2000). Herein we report a sixth *Kroyeria* species found in this region, *K. sphyrnae* Rangnekar, 1957, and we provide the first description of the male of this species along with supplementary remarks on the female. In addition, we present a key to the identification of the known males of *Kroyeria*.

MATERIALS AND METHODS

The gills of 15 scalloped hammerheads *Sphyrna lewini* (Griffith & Smith, 1834), captured in Natal Sharks Board nets set off KwaZulu-Natal, South Africa, and six smooth hammerheads *Sphyrna zygaena* (Linnaeus, 1758), caught in Natal Sharks Board nets set off Durban, South Africa, were examined for copepods (specifics regarding field collections are provided below). Copepods were fixed and preserved in 70% ethanol. In the laboratory, copepods were studied using the wooden slide technique of Humes & Gooding (1964). Before being dissected, copepods were cleared in lactic acid into which a pinch of lignin pink had been dissolved. Measurements were made using an ocular micrometer and drawings were made with the aid of a camera lucida. Some specimens were studied using scanning electron microscopy. These copepods were prepared for sputter-coating (gold-palladium) by dehydrating them through a graded ethanol series (70, 80, 90, 100, 100%, immersed in each for 30 min.), followed by immersion in a small volume of hexamethyldisilazane (30 min.). Before mounting, drying was achieved by placing specimens under a slight vacuum to remove the hexamethyldisilazane. Anatomical terminology used in this report conforms mostly to that of Kabata (1979), and prevalence and mean intensity values were calculated according to Margolis et al. (1982).