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First record of the Ectoparasite *Salmincola* species (Crustacea) from Nigeria water body

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ABSTRACT: Plankton sampling and investigation of the Lagos harbour, some adjourning creeks and rivers was carried out using plankton, nets of 55µm and 100µm mesh sizes. Yewa river which is located between Lat. 6°25' – 6°30'N and Long. 2°50' – 2°55'E was one of the sampling, stations with salinity values ranging from 0.17 – 0.43% for the 8 months of sampling period, indicating a constant freshwater condition. In the course of analysis and identification of the copepoda, *Salmincola* species which is an ectoparasite of fish was found, and this is its first record from Nigeria water body.

Key words: First record, *Salmincola*, Crustacea, Nigeria water body.

Introduction

Studies on copepods (crustacean) and plankton survey of water bodies is a subject of continuous research because the copepods constitute a good percentage of the permanent zooplankton population. Some copepods also act as ectoparasites on fish species. Brady (1910) analysed some cyclopoid copepod species collected from Northern Nigeria by Dr. J.M. Dalziel. He identified *Cyclops bicolour* Sars, *Cyclops brevipes* Brady, *Cyclops longistylis* Brady, *Cyclops nigerae* Brady, and *Cyclops Themodiaptomus yabensis* from plankton samples they collected in some water bodies in the Yaba area of Lagos. Kiefer (1933) studied some free living copepods from French speaking West African rivers and contributed to their taxonomy. Onabamiro (1952) made a plankton survey of some freshwater bodies in Western Nigeria and described four new species of Cyclops. S.L. Green (1962) identified nine copepod species from the Sokoto river. Bidwell and Clarke (1977) found six copepod species from Lake Kainji. Egborge (1981) reported the occurrence of *Thermocyclops meglectus, Thermocyclops hyalinus* and *Thermocyclops emini* from Lake Asejire, Jeje and Fernando (1986) made a survey of the zooplankton organism in inland waters of Nigeria and produced a standard key for their identification. Gabriel *et al*., (1987) worked on the Warri river and contributed to the knowledge on the ultra-structure used for the identification of *Halicyclops korodiensis*. Oronsaye and Egborge (1996) studied the salinity and distribution of harpacticonds (Crustacea) in the Warri river. Egborge (2000) carried out plankton sampling and investigation of the Lagos harbour and some adjourning creeks and rivers. I was given some of the plankton samples to analyze and identify the

copepod species. Collins *et al*., (2002) made plankton surveys around the British Isles and contributed to the distribution of the cephalopods. Klimpel *et al* (2003) studied the Norwegian sea with regard to metazoan parasites and food composition of the fish *juvenile Etmopterus spinax.*

This paper intends to report the presence of an ectoparasite, *Salmincola* species in the plankton samples which is being recorded in Nigeria for the firsat time.

Materials and Methods

Study Area

The Yewa river which is located between Lat. 6° 25' – 6° 30'N and Long. 2° 50' – 2° 55'E is one of the sampling stations from which Professor Egborge made plankton collections. It is a freshwater river which empties into the Badagry creek in the Lagos area (Fig. 1).

Procedure

Plankton samples were collected by towing two plankton nets of 55µm and 100µm mesh sizes at 5 knots per minute for 5 minutes, behind an out-board engine boat. Samples were preserved in 4% formalin. In order to ascertain the degree of freshness of the Yewa river, salinity was measured in the field with an oceanographic salinity and temperature measuring bridge type MCS. While Silver Nitrate method was used at the Laboratory. Identification of the copepod species was made using the works and keys of the following authors, Kiefer (1933), Onabamiro (1952); Wells (1970); Jeje and Fernando (1986); Karanovic *et al*., (2001).

Drawing of the specimen was made using research microscope with camera Kucida, OLYMPUS VANOX model 204700, and a drawing tube.

Results and Discussion

In the course of analysing and identifying the copepod species we found the *Salmincola* species (Fig. 2). This species was formerly known as a parasitic copepod, but recent classification (Sanders, 1957) has grouped it with the subclass Branchuira due to the presence of certain features namely: paired sessile eyes, the body is markedly dorso-ventrally flattened, there is a large dorsal shield-like carapace (Fig. 2), while members of the subclass, Copepoda (Fig. 3) have a single midian eye, no shield-like carapace and their bodies are not markedly flattened.

The presence of this species in a predominantly freshwater zone of the Lagos harbour system is consistent with the findings of other authors who stated that they are ectoparasites of freshwater fishes (Marshall and Williams, 1974). The salinity values of Yewa river range from 0.17-0.43% for the 8 months of sampling period which indicates a constant freshwater condition.

It is interesting to observe that this ectoparasite of fish was found in a plankton, tow, which suggests that they could exist temporarily as plankton when dislodged from their host. It is also worthwhile to report the occurrence of this species in the Yewa river because this is its first record from Nigerian water body.

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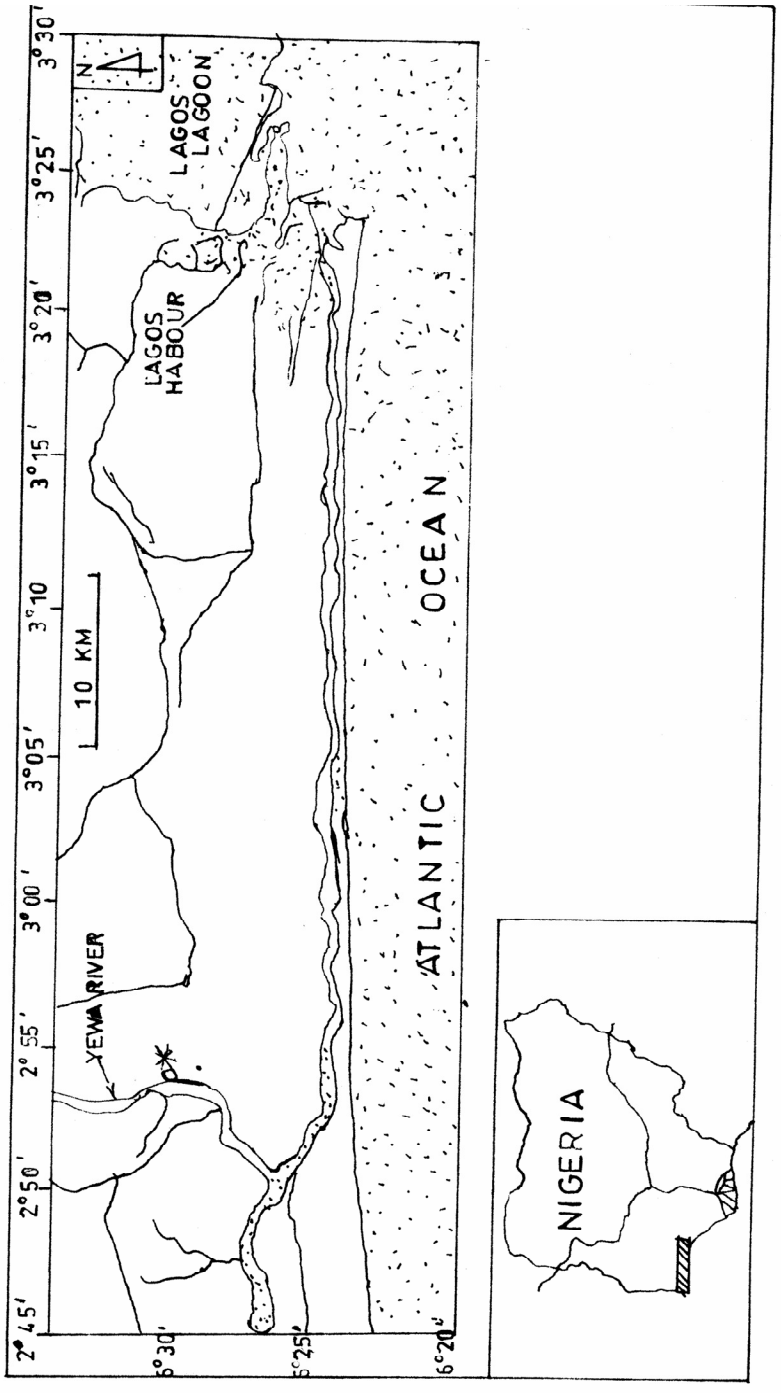

Fig. 1: Map of Lagos harbour system showing the locations of sampling stations.

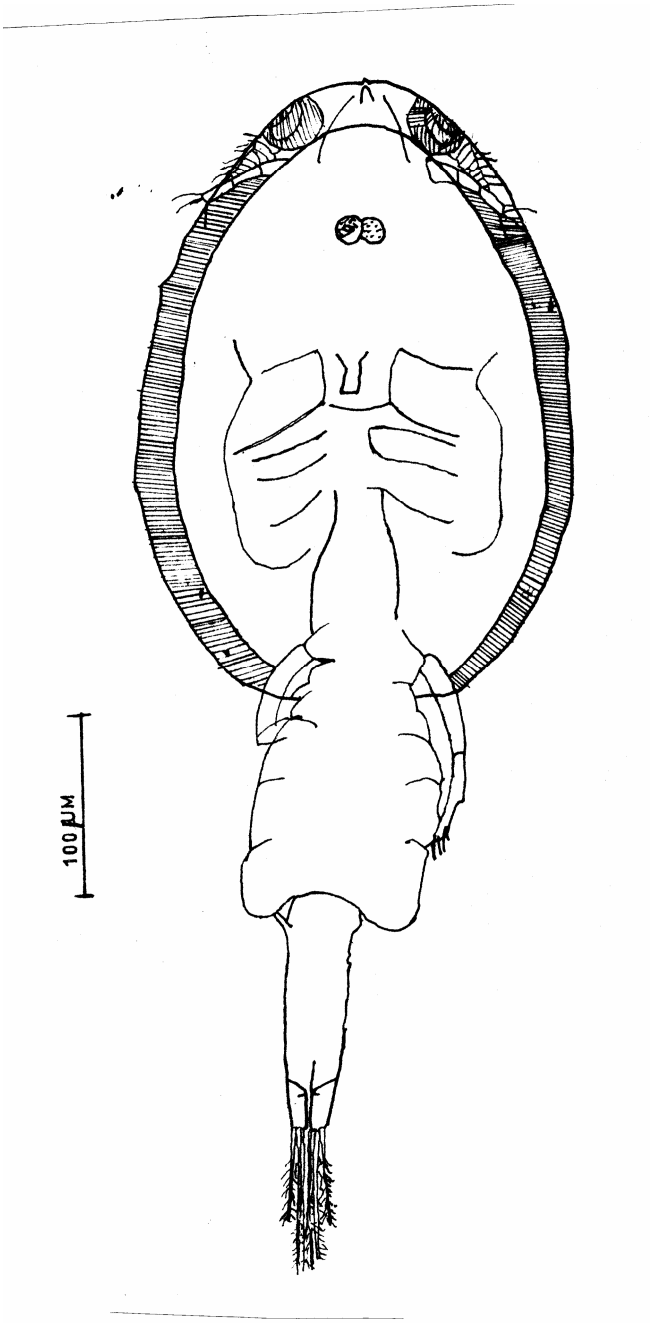

Fig. 2: *Salmincola* sp.

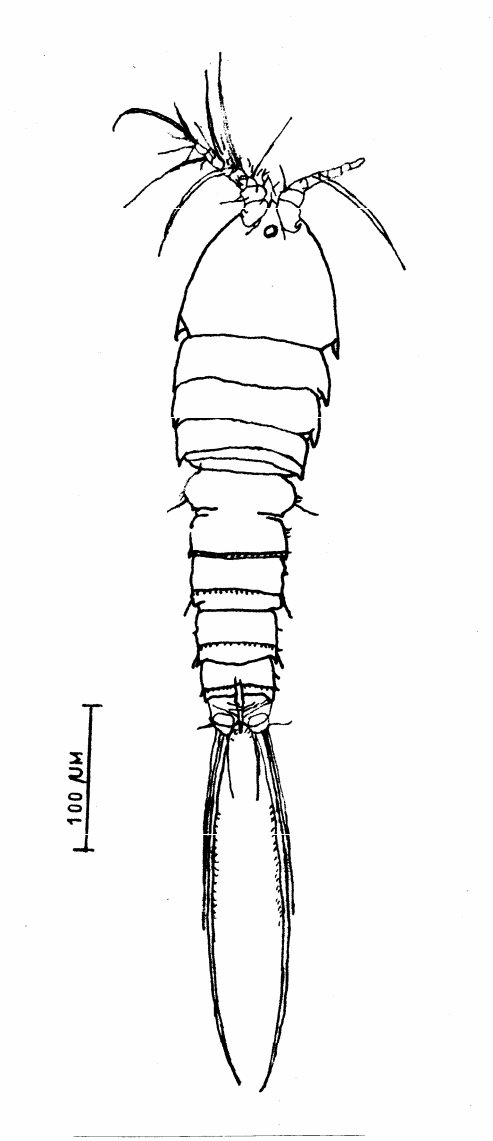

Fig. 3: A copepod.

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