ON TWO SPECIES OF MARINE INTERSTITIAL TARDIGRADA FROM THE EAST COAST OF INDIA

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ABSTRACT

The paper reports the occurrence of two species of marine interstitial tardigrades, *Stygarctus bradypus* Schulz and *Batillipes carnonensis* Fize, from Indian waters. The morphological variations of the Indian forms differing from the European species are given, along with some ecological notes.

INTRODUCTION

Several new genera and species of marine interstitial tardigrades have been described in recent years from different parts of the world (for bibliography see Renaud-Mornant, 1967). But no previous records of the fauna are known from Indian waters. The preliminary results of a collection of tardigrades made by the present author on the Waltair coast, has been published elsewhere (Chandrasekhara Rao and Ganapati, 1968). During a general marine faunistic survey of the Orissa coast undertaken by a party of the Zoological Survey of India in December 1966, the author had an opportunity of examining the intertidal sands at Puri and Konarak. Two species of Tardigrada, *Stygarctus bradypus* Schulz and *Batillipes carnonensis* Fize, were encountered in the collections. The two species were also recorded on the Waltair coast and the specimens from both the areas are morphologically identical in structure. The occurrence of the European species on Indian coast throws considerable light on their geographical distribution.

Order : HETEROTARDIGRADA

Sub-order : Arthrotardigrada

Family : STYGARCTIDAE

Genus : *Stygarctus* Schulz

*Stygarctus bradypus* Schulz, 1951 (Figs. 1–3)
Schulz (1951) described the species from the beach sands of the Baltic and North Sea coasts. Later, its occurrence has been reported from Arca-chon and Bahamas in the Atlantic waters (Renaud-Debyser, 1959 a, b). The specimens collected in the present study conform to the original description except for certain minor variations in the structure of the body.

The adult specimens on this coast reach a length of 120–140 μ and 50–60 μ in width, while those of the European species, according to Schulz, vary between 90–150 μ in length. The disposition of cephalic appendages resembles that of the specimens described by Schulz. The dimensions of the head appendages are as follows: median cirrus–12 μ, internal buccal cirrus–10 μ, external buccal cirrus–12 μ, cephalic papilla–18 μ, lateral cirrus–12 μ and clava–8 μ. The mouth cone is often protruded, giving the appearance of a conical lobe on the anterior part of the head.

In the type description, the pair of dorsal hooks which are disposed obliquely on the posterior border of the second trunk segment are 23–25 μ long and slightly notched at their distal ends. In the Indian specimens, on the other hand, the dorsal hooks are 36–40 μ long with a strong bifurcation at their distal ends.* The pair of lateral bristles on the terminal trunk segment are 32 μ long. The divergent spikes on the posterior border of the terminal segment are slender and reach a length of 40 μ. All the four pairs of walking legs are seen in dorsal view extending from lateral and posterior sides of the trunk. The digits are finger-like, while those figured by Schulz are claw-like. The two internal toes of all the legs bear slender bristles. The cuticle is opaque and light-brown. Intervening the first and the second and the second and the third trunk segments occur two pairs of dorsal oval patches, differing in shape from the rhomboid patches of the European specimens. Other features agree with those described for the type material.

Family: DISCOPODIDAE
Genus: Batillipes Richters

Batillipes carnonensis Fize, 1957 (Figs. 4–5)

Fize (1957) described the species from the beach sands at Carnon (Hearault, France). The individuals on the Indian coast conform to the original description except for minor variations in body size, position of external buccal cirri and the dimensions of cephalic appendages.

* However, in a personal communication Dr. Renaud-Mornant stated that the pair of dorsal hooks on the European specimens show a terminal bifurcation similar to that of the Indian specimens.