

**PERODERMA TASSELUM SP. NOV. (LERNAEOCERIFORMES;
COPEPODA) PARASITIC ON THE FISH
STOLEPHORUS COMMERMORNI LACEPEDE**

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ABSTRACT

The female of a copepod parasite, *Peroderma tasselum* sp. nov., parasitic on the fish *Stolephorus commersonii* is described from Tuticorin, southeast coast of India. The species can be distinguished from the only other known species of the genus, *P. cylindricum*, by the characteristic shape of the trunk.

The genus *Peroderma* (Lernaeoceriformes; Copepoda) so far contained only one species namely, *P. cylindricum* Heller. Recently the authors collected from *Stolephorus commersonii* Lecepede caught at Tuticorin, fifteen adult females which are different from *P. cylindricum*. They are, therefore, described as a new species. Pillai (1965) gives a comprehensive review of the salient characteristics of the genus and species. Detailed descriptions of *P. cylindricum* from Indian waters by Bennet (1961) and Ho (1966) facilitate easy comparison of *P. cylindricum* with the present species.

PERODERMA TASSELUM SP. NOV.

Material: Fifteen adult females, some with egg sacs fallen were collected from *Stolephorus commersonii* from shore seine catches at Tuticorin on the southeast coast of India during 1973. The parasites were embedded deep in the tissue of the host just behind the pectoral fin, with the egg sacs alone protruding.

Holotype female and one paratype female are deposited in the Reference Collection Museum of the Central Marine Fisheries Research Institute under register numbers T. 198 and 199. Other paratypes are with the authors.

Description of female:

Body (Fig. 1) irregularly cylindrical, divisible into head, neck and trunk. Head swollen and rounded, its dorsal surface with three unequal bulgings, two lateral and one median. Median eye round and large. Oral appendages lodged in a ventral depression. A bunch of long, branched tassellate filaments originate from the ventral surface of the head anterior to the oral appendages. Filament

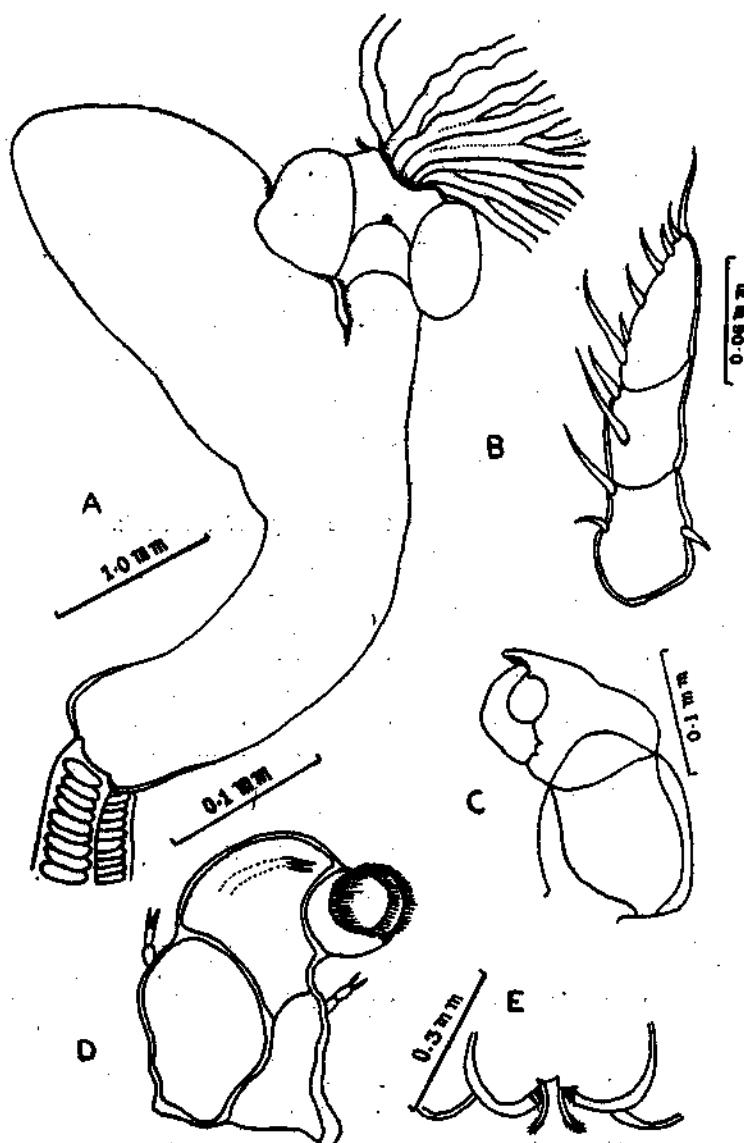


FIG. 1. *Peroderma tasselum* sp. nov. A: female; B: antennule; C: antenna; D: oral tube; E: caudal furca.

slender, surface with nodular sinuations. The neck is short, narrow and cylindrical, attached at an angle with the trunk. On the ventral side of the neck are three pairs of legs. Trunk elongated and bent dorsalwards. Anterior portion, i.e., preneck portion, of the trunk club-shaped, swollen, and half the total length.

Posterior region of the trunk narrower; caudal end with bulbous swellings. Furcal rami indistinct, each ramus with three setae, inner seta long and distally hairy.

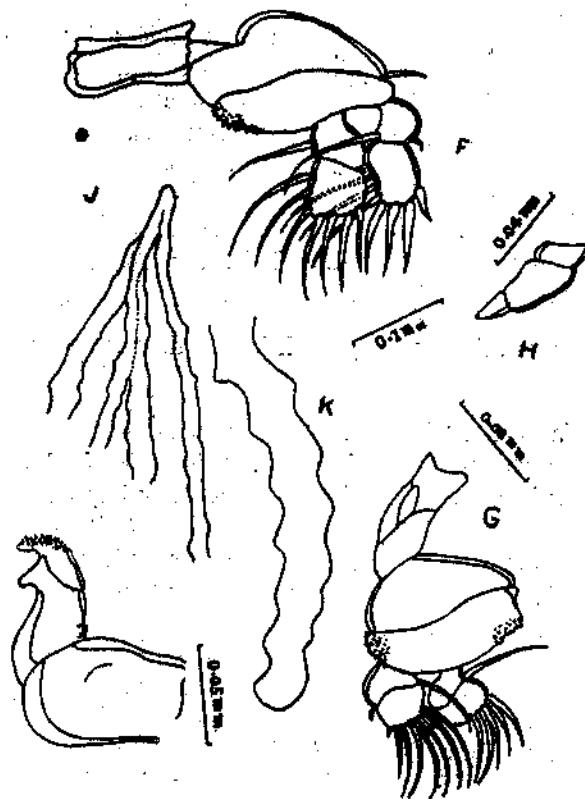


FIG. 2. *Peroderma tasselum* sp. nov. F: first leg; G: second leg; H: third leg; I: maxilliped; J & K: cephalic filaments.

The antennules, situated on either side of the filamentous bunch, short and three segmented. The basal segment of the antennule with three setae of which one is on the inner margin; middle segment with two setae and distal segment with seven setae of which the first and last are long. All the antennular setae are nonplumose. The antenna is of the usual structure, three-segmented and chelate. First segment stout and powerful, second also stout but shorter than first; both without accessory structures. Third segment of antenna in the form of a powerful prehensile chela. Mouth tube protruding, marginal membrane fringed with hairs. Intrabuccal style present. Unfortunately the structure of the mandible could not be studied as it could not be clearly observed in the specimens dissected. The maxillæ are on either side of the buccal tube, two-segmented; distal segment with a pair of fine setae. Maxilliped occupy the usual position

lateral to the remaining oral appendages. The first segment is large and thick, second elongated and with a blunt spine at the lower distal part; terminal segment in the form of a short claw provided with spinules along the outer margin.

There are three pairs of legs in the neck region; first two pairs biramous and the third uniramous. First leg with an external seta near the articulation between coxa and basis. The basis is narrow with fine denticles at the lower proximal part. Exopod and endopod of leg I two-segmented, segments normally developed with an external spine and an internal seta on the basal segment and seven simple setae on the terminal segment. Second leg smaller than first, coxa and basis without seta, margin of basis with fine denticles. Rami of leg II two-segmented. Segments with simple setae. Third leg small, uniramous and three-segmented, without setae or spines.

Ovisac long and filamentous, much longer than length of body; eggs large and uniserial.

The only known species of *Peroderma* so far was *P. cylindricum* Heller. The present species shows similarities to *P. cylindricum* in the mode of attachment with the host; in the broad divisions of the body into head, neck and trunk; in the structure of the oral appendages; in the segmentation of the first two pairs of legs and in the shape of the egg sacs. On the other hand, it differs from *P. cylindricum* in the following respects: Surface of the head in *P. cylindricum* with numerous irregular lobes; in the present species the head has three unequal bulgings. Preneck portion of the trunk in the present species is greatly enlarged and club-shaped, postneck portion is narrower and bent at right angles dorswards. In *P. cylindricum* the trunk is cylindrical and more or less straight. Arrangement of the cephalic filaments in the present species gives the appearance of a tassel and individual filaments have nodular sinuations along the margin. In *P. cylindricum* cephalic filaments are rhizoid-like and free from nodule-like sinuations. Leg III in the present species has no seta, whereas, in *P. cylindricum* it has normal setae. There are differences between the present species and *P. cylindricum* in the fine structure of the antennule, antenna and furcal rami.

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- BENNET, P. SAM. 1961. *J. mar. biol. Ass. India*, 3 (1 & 2): 70-74.
 HELLER, CAMIL. 1968. *Reise der Novara*, Wien, 270.
 HO, JU-SHEY. 1966. *Bull. Mar. Sci.*, 16 (2): 195-96.
 PILLAI, N. KRISHNA. 1965. *Sympostum on Crustacea, Mar. biol. Ass. India*, V, 1948-49.