

The sexuality of a papaya plant may thus depend on the specific male and female florigenic substances. Hence, it will be worthwhile to undertake further studies to understand the possible role of endogenous phenolics and its components in sex differentiation in papaya.

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# ON THE OCCURRENCE OF *LEYDIGIA CILIATA* GAUTHIER, 1939 (CLADOCERA, CHYDORIDAE) FROM MADURAI, SOUTH INDIA.

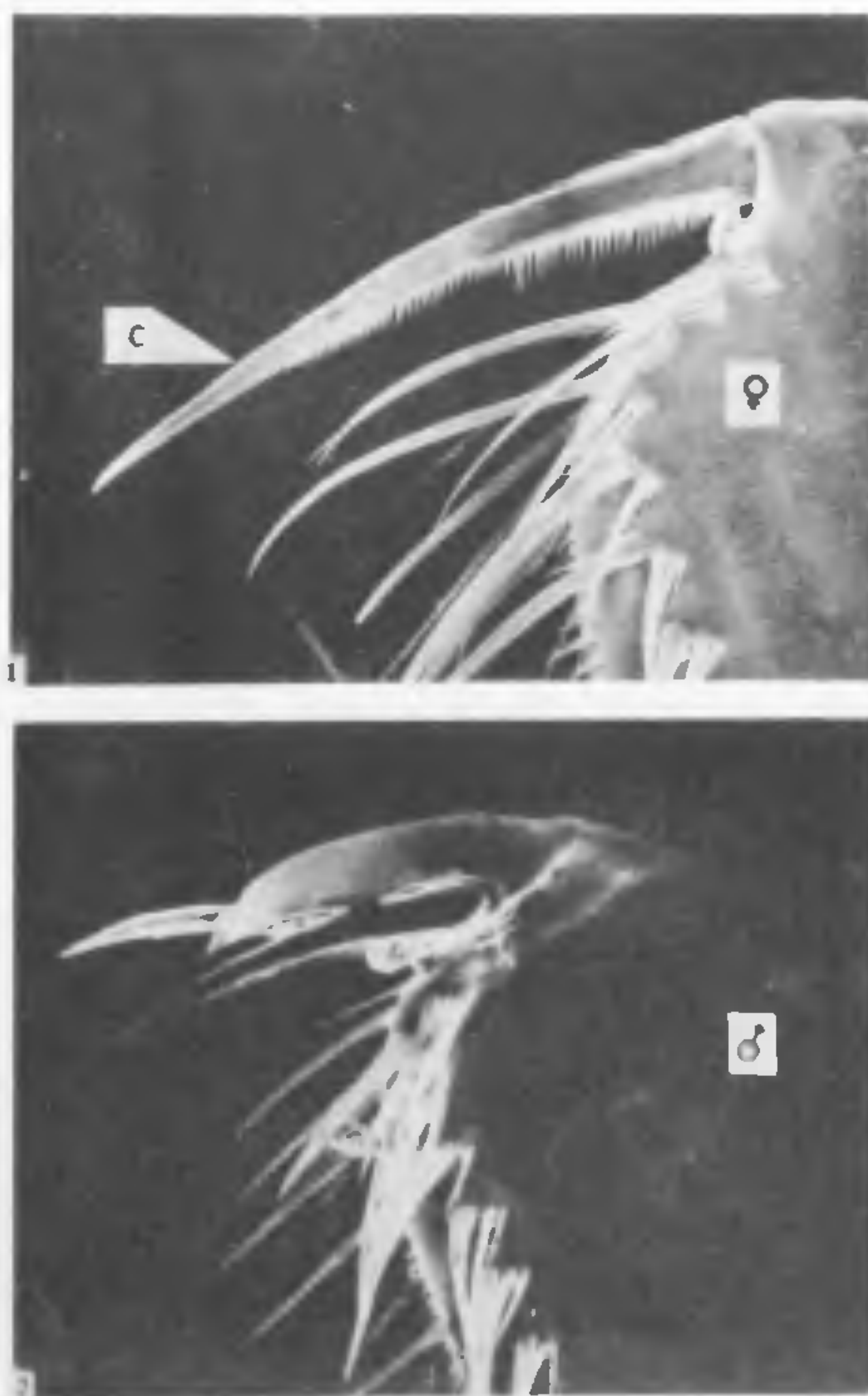
K. VENKATARAMAN and  
S. KRISHNASWAMY,

Department of Environmental Biology, School of Biological Sciences, Madurai Kamaraj University, Madurai 625021 India.

IN view of the paucity of knowledge of Cladocera taxonomy and since several species of the organisms occur in the vicinity of Madurai (Long.: 78° 8' E; Lat.: 9° 56' N) a detailed study of Cladocera of this region was undertaken. So far twelve species of chydorid Cladocera have been recorded in India<sup>1-3</sup>. During the course of the present study, a collection was made in a pond at Panjamalai Hill near the Madurai Kamaraj University, which contained several females and males of *Leydigia ciliata* Gauthier. This is the first record of

the occurrence of this species in India. A brief description of the material from Madurai is presented in this note.

The structure of the female is oval in shape. The carapace is ornamented with longitudinal rows of granule. The ocellus is triangular in shape, slightly larger than the eye situated nearer to the eye than to the apex (figure 3). The antennule is broad at the base, tapers distally which does not reach the tip of the rostrum and is fringed with three rows of small hairs on the anterior margin. The undulating labrum carries hairs throughout its anterior margin. Wide flattened postabdomen is provided with 28 to 31 lateral setae in groups. The ventral margin of the postabdomen is provided with a basal spine but the claw pecten is present in this species (figure 1). Head shield is broader at the posterior region than the anterior. Headpores are situated just below the posterior margin. Three



Figures 1, 2. *Leydigia ciliata*, Female and Male: C-Claw; Vd-Vas-deferens.

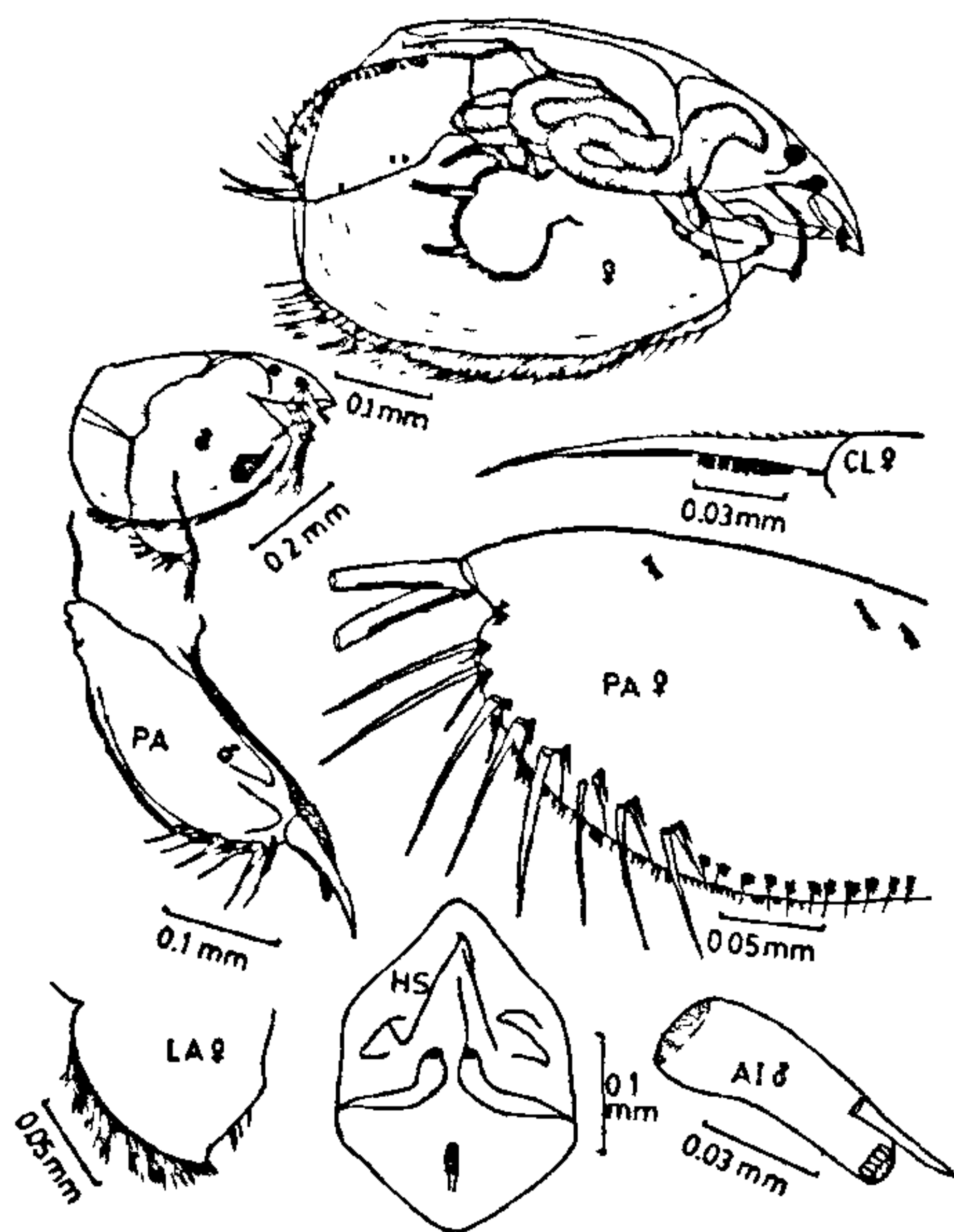


Figure 3. *Leydigia ciliata*, Female and Male: AI-antennule; LA-labrum; PA-postabdomen; CL-claw; HS-headshield.

main headpores are connected and two lateral pores at the sides of the middle pores are present.

The male resembles the female in all respects except in the following features. The size of the male is smaller than the female. The first antennule of male is provided with a spear shaped cilia. First leg is provided with well developed hook. On the ventral side of the postabdomen, a penislike vas-deferens hangs down in between the two claws (figures 2, 3).

*L. ciliata* is reported from the Ethiopian region<sup>4,5</sup>, Neotropical region<sup>6,7</sup> and Central Asia<sup>8-11</sup>.

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## RELATIONSHIPS OF DEMERSAL PRODUCTION IN KARWAR WATERS

R. SUDARSHANA, M. S. KUSUMA, U. G. NAIK and B. NEELAKANTAN

Department of Marine Biology, Karnataka University, Kodibag, Karwar 581 303, India.

THE demersal fish production is the consequence of a long food chain involving four major steps. First, the death and decay of phytoplanktonic organisms produce richly nutritive detritus which collects over the seabed as a form of organic matter unassimilable for most pelagic animals<sup>1</sup>. Secondly, the detritivorous meio and macrobenthos (62 to 500 and > 500  $\mu$  sized sediment dwellers respectively) utilise the detritus for the production of biomass<sup>2</sup>. Thirdly, the benthic invertebrates are fed upon by the demersal fish whose nutritive quality is a direct indication of productivity of the bottom environment<sup>3</sup>. Lastly, the detritus and the fecal pellets of benthic metazoans are infested by microbenthos (mainly bacteria) which regenerate the nutrients into water thereby assisting the planktonic production and also diatomic production at meiobenthic level<sup>1</sup>. Summarising, the gross demersal production depends entirely on the biomasses and production at planktonic and benthic levels along with the available amount of nutrients for the metabolic activity of plankton.

In this paper, it has been attempted to indicate the various elements of demersal food chain in Karwar waters (14°50'N and 74°07'E), covering an area of 32 km<sup>2</sup>.

The present study was conducted during March