

DESCRIPTION OF A NEW SPECIES OF LEPEOPHTHEIRUS (COPEPODA: CALIGIDAE) FROM KERALA

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Keywords: Copepod fish parasite. *Lepeophtheirus anguilli* sp. nov. Host: - *Plotosus anguillaris* (Bloch). Locality: - West coast of India**Abstract**

A new species of *Lepeophtheirus* collected from *Plotosus anguillaris* (Bloch) by the author is described in detail. All the related species of the genus are compared with *Lepeophtheirus anguilli* sp. nov.

The genus *Pseudocaligus* A. Scott was dealt with in the previous contribution in this series. The present paper deals with a new species belonging to the genus *Lepeophtheirus* Nordman. During the course of a detailed study of copepods parasitizing the fishes of the Kerala coast, India females and males were collected. A detailed description of the species is given below.

Lepeophtheirus anguilli sp. nov.

Material: Thirty one females and two males were collected from the outer surface of the lower jaw, body surface and gills of *Plotosus anguillaris* (Bloch) by the author at Trivandrum, India.

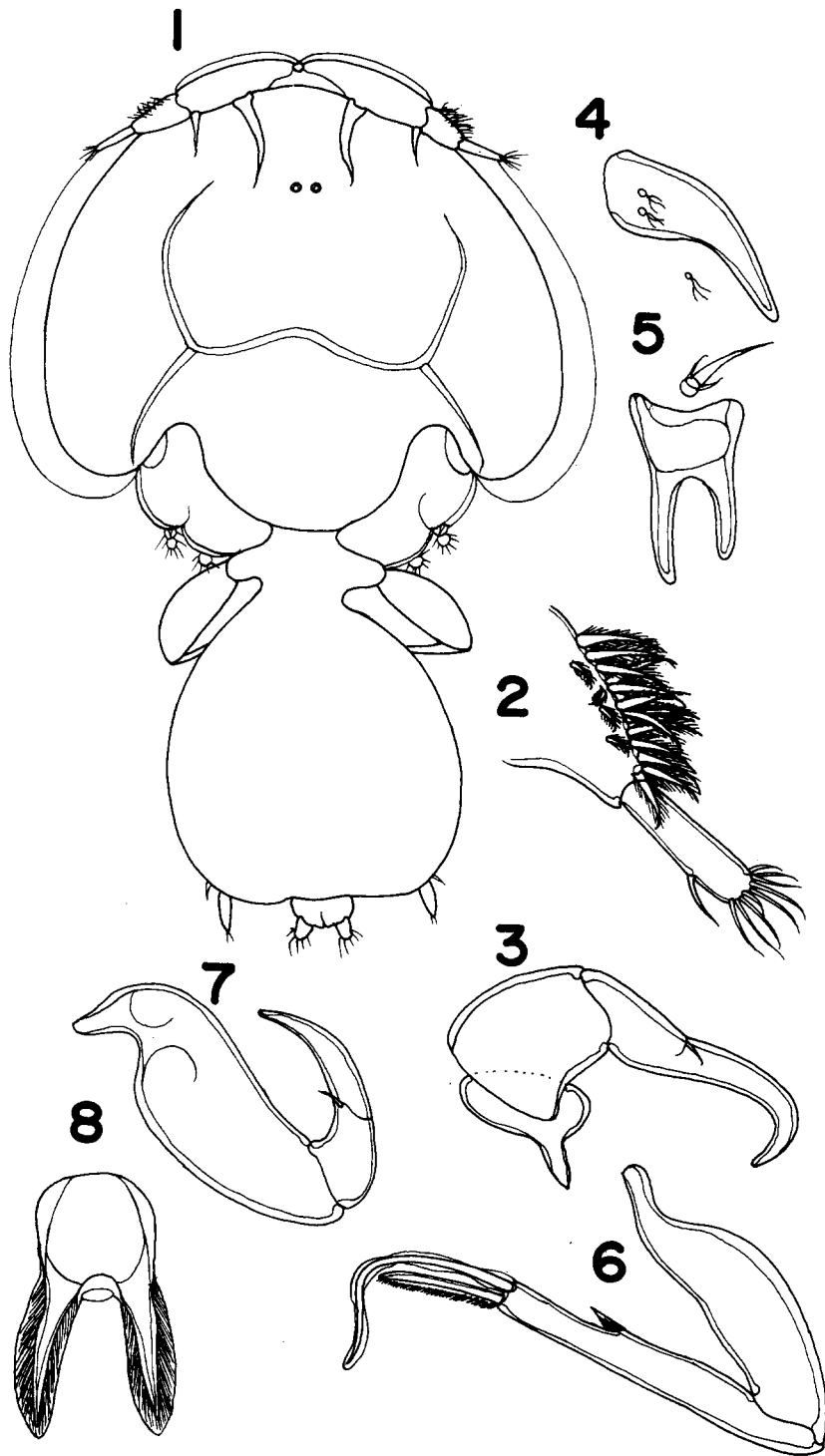
Holotype female and allotype male will be deposited in the Indian Museum, Calcutta, India and the other paratypes will be lodged in the Department of Aquatic Biology, Trivandrum.

Female: Carapace (Fig. 1) is broader than long, narrowing towards the anterior end. Posterior sinuses are broad and shallow, wide open, postero-median lobe is twice as broad as the lateral lobes and projects well beyond them. Frontal plates are moderate, carrying a narrow flange. Membranous flange of carapace is broad. Fourth thoracic segment is much broader than long, fused with the genital segment. Genital segment is pear-shaped, postero-laterally rounded. Abdomen is very short,

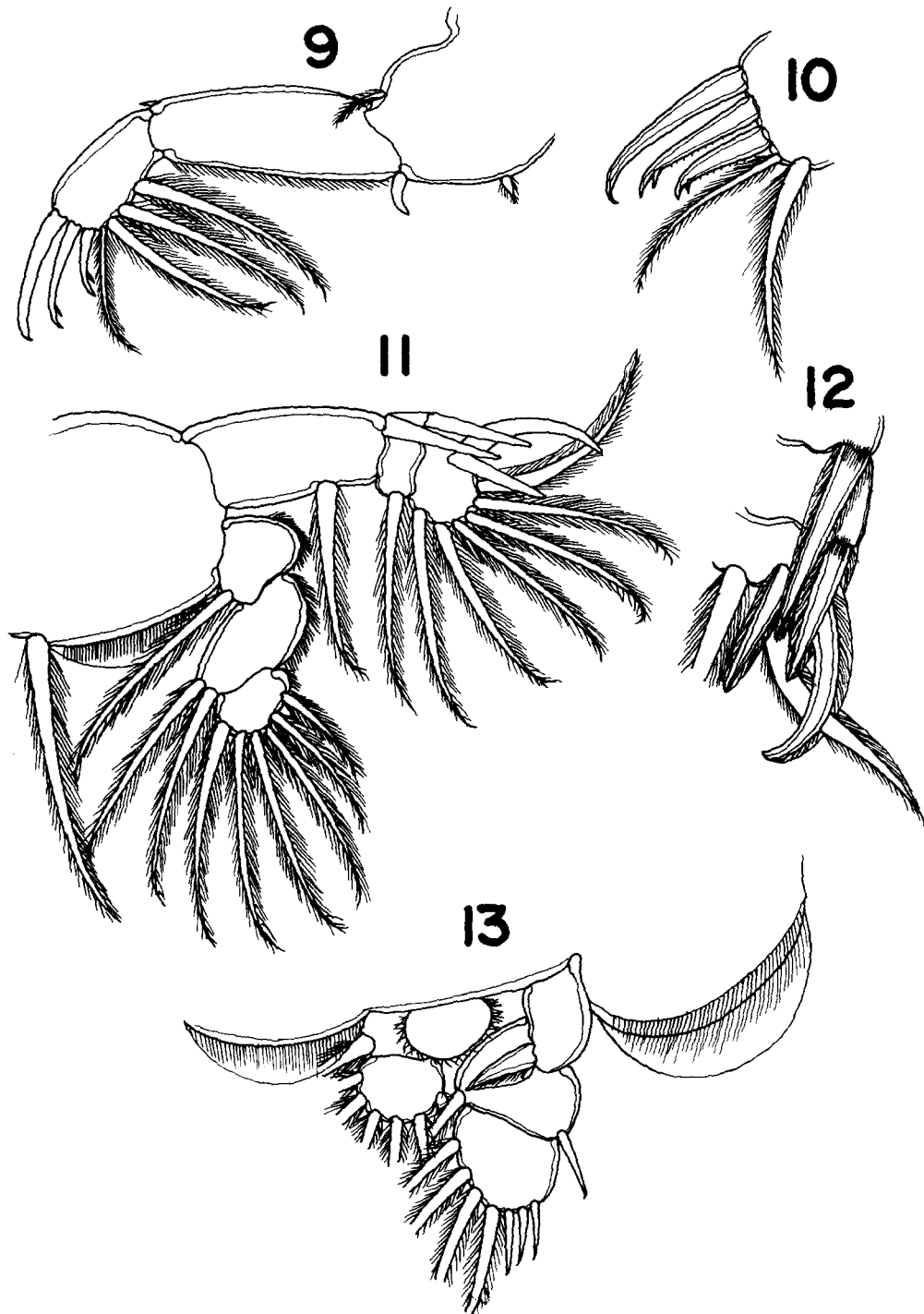
broader than long, anal laminae are slightly longer than broad, carrying three long and three very short setae.

Segments of first antenna (Fig. 2) are nearly equal in length. Basal segment is stout and carries a marginal row of thirteen long setae and a submarginal ventral row of four short setae. Distal segment is slender carrying an apical bunch of about nine smooth setae. Basal segment of second antenna (Fig. 3) is short, produced into a large conical process, second segment is stout, third segment is strongly curved carrying a small spine in the middle. Post antennal process (Fig. 4) is slender, nearly triangular, with blunt tip, its base carries three bunches of hairs. Post oral process (Fig. 5) is bifid, inner limb is longer than outer, first maxilla carries one long and two short setae. Basal segment of second maxilla (Fig. 6) is short and stout, distal segment is long and slender, outer spine is long and winged, inner is short and pectinate, there is a thin outer membrane also. Basal segment of maxilliped (Fig. 7) is only moderately stout, the distal segment carries a strong claw with a spine in the middle. Sternal fork (Fig. 8) has a squarish base, rami long and diverging, apically narrowed, with broad wings.

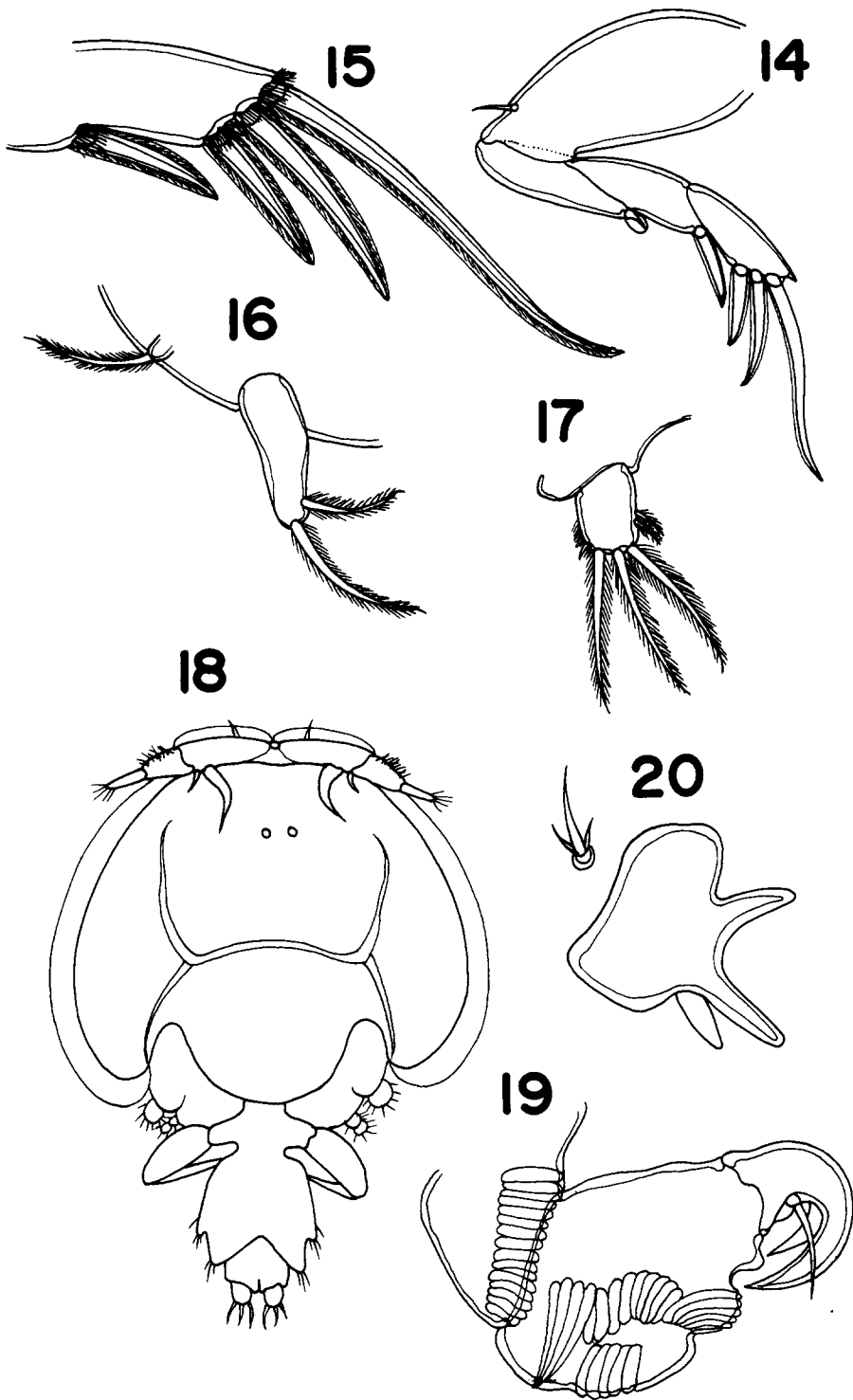
Basipod of first leg (Fig. 9) has an upper long and a lower short seta, vestigial endopod is cylindrical. Distal segment of first leg (Fig. 10) carries three claws, gradually decreasing in length, a simple seta and three setae on the lower margin. Second and third claws carry an accessory spine and are barbed on the lower border. Segments of the endopod of the second leg (Fig. 11) are hairy on the outer border. First and second segments of exopod of second leg (Fig. 12) carry one long claw, the third segment is having two claws, a short straight claw and a long curved externally flanged claw, first seta of the segment is flanged externally. Rami of third leg (Fig. 13) is fairly broad, claw at the base of exopod is strong, pointed dis-



Figs. 1-8. *Lepeophtheirus anguilli* sp. nov. female 1. Dorsal view. 2. First antenna. 3. Second antenna. 4. Post antennal process. 5. Post oral process and first maxilla. 6. Second maxilla. 7. Maxilliped. 8. Sternal fork.



Figs. 9-13. *Lepeophtheirus anguilli* sp. nov. female. 9. First leg. 10. Same, tip enlarged. 11. Second leg. 12. Same, exopod. 13. Third leg.



Figs. 14-20. *Lepeophtheirus anguilli* sp. nov. female. 14. Fourth leg. 15. Same, tip enlarged. 16. Fifth and sixth legs. 17. Anal lamina. 18. Male, dorsal view. 19. Second antenna. 20. Post oral process and first maxilla.

tally and is flanged on the outer margin. Fourth leg (Fig. 14) is four-segmented, first segment is stout, carrying a seta distally, second segment carries a short spine covered by membranous flange, third segment (Fig. 15) with one and fourth with three fairly broad winged claws, last claw is nearly twice as long as the penultimate. Fifth leg (Fig. 16) is represented by a single seta, sixth leg is a long process carrying two setae.

Length: 2.7 mm.

Male: Carapace (Fig. 18) is as in female, genital segment is longer than broad, antero-laterally curved and shoulder-like, postero-lateral areas are produced into a pair of conical processes. First process is small, carrying the fifth legs, second process bearing the sixth legs. Abdomen has sunk into the genital segment.

The second antenna (Fig. 19) is highly modified, basal segment is short, carrying a long corrugated patch. Second segment is very stout with two corrugated patches, one long and the other short just above the base of the segment, the third segment is a strongly curved bifid claw and a long spine near the base. Post oral process (Fig. 20) is tripartite, apart from the usual inner and outer limbs having a comparatively small limb, base roughly squarish.

Remarks: In the general shape of the body *L. anguilli* resembles *L. intercurrents* Kroyer (1863), *L. bychowskyi* Gussev (1951), *L. lagocephali* Pillai (1963) and *L. plotosi* Barnard (1948). In *L. intercurrents* the abdomen is two-segmented whereas in *L. anguilli* the abdomen is comparatively short and one-segmented. The shape of the carapace and genital segment of the female of *L. bychowskyi* is close to that of *L. anguilli* but the males of the two species are totally different. The carapace of *L. lagocephali* is equal in length and breadth but in *L. anguilli* the carapace is broader than long. *L. anguilli* is closest to *L. plotosi*, another species recorded from *Plotosus anguillaris*. Both have the same body shape and in both the fifth leg is a well developed chitinised process. However *L. plotosi* has short bracket shaped rami for its sternal fork whereas in *L. anguilli* the sternal fork has comparatively long diverging rami. Further comparison is difficult since Barnard's (1955) description is very short and he has illustrated only the genital segment and the sternal fork. The specific name alludes to the specific name of the host.

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