

Structural and Functional Observations on the Appendages of Gill Parasite, *Lernanthropus Kroyeri* (Copepoda: Lernanthropidae) Infesting the Sea Bass *Dicentrarchus Labrax*

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Abstract: About 60 parasitic copepods of the species *Lernanthropus kroyeri* were isolated from the gills of sea bass *Dicentrarchus labrax* and the morphological and functional characteristics of their appendages were investigated by both light and electron microscopy. The first maxillae were bilobate and ended by two horny spines and a setule cover. The second maxillae were uniramous with a distal calamus claw armed with two sharp denticles. Maxillipeds appeared with a robust, terminal claw. The first and second thoracic legs were smaller than the other thoracic appendages and ended with hand fingers-like spines. This structure is thought to serve in the attachment to the adjacent secondary gill lamellae and to increase the parasite stability. The third and fourth thoracic legs were the largest appendages and appeared free of any cuticular structures. This unique structure is suggested to serve in adjusting the parasite position and in providing tight attachment. Light and scanning electron microscopy shows that the second antenna of *Lernanthropus kroyeri* is characteristically prehensile and uncinata and thus provides the main force for the attachment to the host tissue. The assisting action in the process of attachment is thought to be achieved by first maxillae, second maxillae, maxillipeds and the first four thoracic legs. The present study reveals that *Lernanthropus kroyeri* is well adapted to the attachment to the gill filaments of the sea bass and, therefore, can cause severe damage to the host tissues.

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