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Lernaea cyprinacea (L.) Infection of Gold Fish in Taiwan

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Infections with *Lernaea cyprinacea* (L.) was examined and illustrated. The lernaeid copepods was found to be associated with gold fish and reported as a new host in Taiwan.

Introduction

Lernaeid copepods are important of both fresh-water and marine fish, especially young fish, which may be killed by only a few parasites. In fresh-water the most important species is perhaps *Lernaea cyprinacea*, a non-host-specific species of worldwide distribution (Roberts 1989, Post 1987). Heavy infections with *L. cyprinacea* has been occurred in a variety of cultured fresh-water fishes including, *Carassius auratus* (L.), *C.carassiius* (L.), *C. carpio* L. *Ctanopharyngodon idella* Valen., *Hypophthalmichthys molitrix* Valen., *H. nobilis* (Richardson) and *Misgurnus anguillicaudatus* in Taiwan (Egusa 1983, Chen 1990).

During a survey of parasites and diseases of fish cultured in Taiwan, *Lernaea cyprinacea* (anchor worm) belongs to the order Branchiura, the family Argulidae (VanDuijn 1976) was encountered, and owing to it has not been worked so far. Chen (1990) indicated that infection of Lernaeid copepods can be treated with Dipterex at 0.25 ppm or Masoten at 0.2-0.5 ppm. Samples were collected from gold fish in aquaria to be associated with heavy infection. The purpose of this paper is to examine and illustrated the common ectoparasite as new report from Taiwan.

Materials and Methods

Specimens were collected monthly from the aquaria located in Tainan between November 1993 and February 1994. A total of 28 gold fish were trapped and pick up the post-metamorphosis female's bodies. Holdfast region was carefully pull to be kept it as perfect in shape. Bodies were fix in 10% formalin. Samples examined were made onto slides by using direct mounting and added small amount of glycerin alcohol, then added cover slips and labelled. Drawings were made by means of a camera lucida and examined under light compound microscope (Orthoplan, LEITZ).

Discription

Post-metamorphosis female. Cephalothorax very small, semispherical situated in centre of holdfast system. Holdfast variable in size and shape, consisting of pairs of arms; dorsal pair much larger than vental, dividing into two branches some distance from their bases; ventral pair slender, usually simple. Arms arranged either in anteroposterior plane or at right angles to it. Neck consisting of second to forth leg-bearing segments, more or less circular in cross-section, expanding in girth posteriorly and imperceptibly passing into genital segment. Abdomen conical, usually displaced dorsally from long axis of body, in some specimens with shallow transverse constriction. Uropod present. (Figs. 1 & 2)

Length 7.2-9.6 mm; width anterior trunk 0.5-0.72 mm, posterior 0.3-0.52 mm; span of anterior holdfast branches 2.4-4.4 mm; egg sacs upto 3.6 mm, diameter 0.21 mm.

The external morphological characters of *L. cyprinacea* are body unsegmented, its anterior part deeply embedded in host tissue and anchored by very large holdfast (Kabata 1985).

Note : *Lernaea cyprinacea* occurs on Cyprinidae, loach as well as a variety of fishes. It is known as a common ectoparasite and attacks skin and mouth cavity (Reichenbach-Klinke 1973).

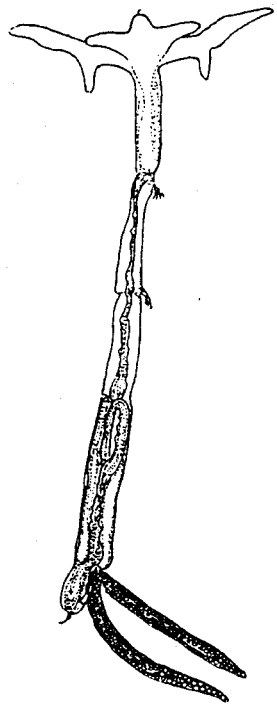

Fig. 1. Female's body of *Lernaea cyprinacea* parasitic on gold fish.

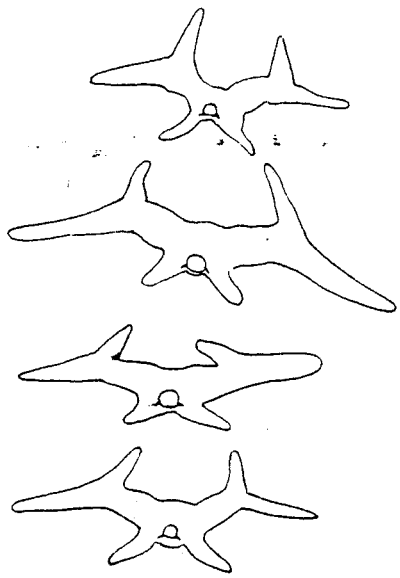

Fig. 2. Various shape of holdfasts of *Lernaea cyprinacea* from gold fish, *Carassius auratus* (L.) from fresh-water aquaria.

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簡秋源

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錨蟲的感染已被檢驗及圖說明。臺灣產甲殼類橈足類寄生金魚已被報導爲新寄主。