

# MORPHOLOGICAL CHARACTERIZATION AND PLANT BASED CONTROL OF LERNAEA CYPRINACEA COPEPOD FISH PARASITE

Abdur Rehman Azam<sup>1</sup>, Naveeda Akhtar Qureshi<sup>1</sup>, Tooba Latif<sup>2</sup> and Shaista Bibi<sup>3</sup>

<sup>1</sup>Quaid I Azam University Islamabad, Pakistan

<sup>2</sup>University of Veterinary and Animal Sciences, Pakistan

<sup>3</sup>Pir Mehar Ali Shah Arid Agriculture University, Pakistan

**L***ernaea*, a copepod parasite commonly known as (Anchor worm) contamination is a major sickness issue experienced in fish culture in the Indian subcontinent. Different developmental stages in parasites and numerous associated impacts of full scale and small scale, environment impact the parasitic fauna of fish. The present study reveals the external morphology and control the highly infested copepod parasite *Lernaea cyprinacea* which have contributed disease problems to the aquaculture industry in Pakistan. The external morphometric parameters i.e. full body length, length of cephalothorax, length of thorax region, length of abdomen, length of dorsal and ventral head region, length of dorsal and ventral anchors, length of dorsal anterior and dorsal posterior anchor, length of 1st and 2nd maxillae, length mandible, length of dorsal and ventral antennule were measured and statistically analysed for mean, standard deviation, standard error, coefficient of variability, confidence interval (95%) and analysis of variance. To determine anti-copepods potential of ethanol extracts of leaves of *Carica pappaya*, *Eucllyptus camaldulensis* and *Grevillea robusta*, 10 infected fish with three average copepod parasites were placed in each glass aquarium treated with different concentrations (10 ppm, 25 ppm, 50 ppm). The survival percentage of *L. cyprinacea* copepod was observed after 6 hrs, 12 hrs, 24 hrs, 36 hrs, 48 hrs, 60 hrs and 72 hrs. The results were analysed by using one way Anova and Tukey test. Among all extracts bioassays, the maximum activity was observed in extracts of *Grevillea robusta*, *Carica pappaya*, *Eucllyptus camaldulensis*. To estimate the toxicity level of each plant, extract was calculated by determining LC<sub>50</sub> and LC<sub>90</sub>. To estimate the protein (mg/g), carbohydrate (mg/g) and lipid mg/dl (cholesterol) level in effected copepods were estimated by Lowry's method, phenol sulphuric acid method by biochemistry analyser. Protein, carbohydrate and lipid contents of copepod parasite were decreased as compared to control.

rehman.azam@outlook.com