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EFFECTS OF UNTREATED DOMESTIC SEWAGE ON ZOOPLANKTON COLLECTED FROM VELLAR ESTUARY

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ABSTRACT

The present study revealed the deleterious effect of untreated domestic sewage on plankton. The different groups of zooplankton tested for sewage toxicity showed a tolerance range of 23.5 to 45%. Based on the 24hr LC_{50} values among the zooplankton, it was found that the *Centropages typicus* (copepod larva) was the most sensitive species (23.5%), Zoea larvae of the hermit crab, *Clibanaius olivaceous* (32%) and the larvae of prawn *Penaeus indicus* (38 %) were moderately tolerance and the icthyoplankton, *Ambassis commersonii* (43 %) and *Therapon jarbua* (45%) were the most resistant ones. Between the two species of ichthyoplankton tested, *Therapon jarbua* was more tolerant than *Ambassis commersonii*.

Keywords: Domestic sewage, LC_{50}, Zooplankton, Icthyoplankton

INTRODUCTION

Today, pollution of natural environments including sewage pollution is considered as a serious problem in different facets of life. The untreated sewage carries a wide range of pathogens including Salmonella group (typhoid), Shigella (bacillary dysentery), Mycobacterium (tuberculosis), Vibrio (cholera) etc. In addition, discharges of sewage from municipalities contain large numbers of other bacteria which are normally the inhabitants of human intestine viz. faecal coliforms. When enormous quantities of these organisms are detected in a water sample, it is interpreted that contamination of the water has been recent and/or great as these bacteria tend to disappear immediately after entry due to natural death processes and predation by other organisms. The organism which is most commonly sought as indicator of faecal contamination is *Escherichia coli*. Domestic sewage also contains pathogenic