

## **Preface**

The thesis incorporates isolation and identification of different parasites and bacterial pathogen of carp in West Bengal. It contains morphology of different group of parasites, biochemical, haematological and histological variation of the host due to bacterial infection and the antibacterial activity of some locally available plant extracts in different solvent system against the isolated bacterial pathogen and the chemical constituents of the methanolic leaf extracts of this plants exhibiting antibacterial activity by GC-MS technique.

The study was carried out during the period of January' 2010 to March' 2013 at the Parasitology laboratory, Department of Zoology, University of Kalyani, Kalyani, West Bengal. Two species of freshwater fish namely *Labeo bata* and *L.calbasu* were collected from different ponds and local farms of three districts i.e. Howrah, Hooghly, Nadia, North and South 24 Parganas, Purba and Paschim Medinipur of West Bengal.

The thesis has been divided into four parts:

- ❖ Isolation and identification of different fish parasites.
- ❖ Isolation and characterization of *Pseudomonas aeruginosa* PB112 (JN996498) from infected fish by 16S rRNA gene sequence analysis and fatty acid methyl ester (FAME) analysis.
- ❖ Effects of enzyme concentration, haematology and histology of different tissues of *Labeo bata* and *L.calbasu* due to bacterial infection.
- ❖ In vitro control of *Pseudomonas aeruginosa* PB112 strain isolated from infected carp by some plant extracts and the analysis of chemical constituents of these plants by GC-MS studies.