

PREFACE

The Zoology Department of Yashawantrao Chavan College of Science, Karad, India, is engaged in extensive work on the effects of pollution on various tissues of aquatic invertebrates and vertebrates having economic importance. The main research work in this line concerns the mortality rate, LC_{50} values and changes in many tissue metabolites, such as polysaccharides, glycogen, lipids and proteins in various organ systems of the fresh water molluscs. The work embodied in the present Dissertation forms a part of the said Project and concerns mainly with the effect of distillery effluents on mucopolysaccharides, lipids and amino acids in the mantle, gill and digestive gland of a fresh water mussel *Lamellidens marginalis* (Lamarck). The experimental, histochemical and biochemical techniques employed, give a reliable information on the changes in these metabolites for a better understanding of the life activity of mussel in polluted environment.

The Dissertation is divided into Four Chapters. The **First Chapter** gives a detailed and critical account of the existing literature on the bivalves and the effects of water pollution on different aquatic animals. It also includes the reasons that led to taking up of the present investigation. The **Second Chapter** describes in detail the material and the techniques employed for the present study. The **Third Chapter** describes all the observations in detail, the text of the observations being well supported by tabulated data,

photomicrographs of histochemical observations and photographs of TLC separation and ascending chromatographic separation. The Fourth Chapter deals with the discussion of the observed facts. The results have been critically discussed in the light of the existing information. This Chapter also gives a summary of the entire research work carried out and some concluding remarks containing some ideas for future work in this line. This dissertation ends with an extensive Bibliography of the vast literature cited in various Chapters.

I assume all the responsibilities for the opinions expressed in the present Dissertation and also for the omissions and errors, if any, in the body of the Dissertation. I feel and hope that this Dissertation will be interesting, informative and stimulatory.

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