DECLARATION

I declare that the thesis entitled **"Studies on microbial diversity of some fish products of North Bengal"** has been prepared by me under the guidance of Prof. (Dr.) Joydeb Pal, Department of Zoology, University of North Bengal. No part of the thesis has formed basis for the award of any degree or fellowship previously.

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CERTIFICATE

I certify that Mr. Rujas Yonle has prepared the thesis entitled **"Studies on microbial diversity of some fish products of North Bengal"** for the award of Doctor of Philosophy (Ph.D.) degree in Zoology of University of North Bengal, under my supervision. He has carried out his research work at the Department of Zoology, University of North Bengal. No part of this thesis has been submitted elsewhere for the award of any degree.

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PREFACE

Fish has been one of the main foods for humans for many centuries and still constitutes an important part of the diet in many countries. The advantage of having fish as a food is that it is easily digestible and has high nutrition value. However, the shortage of the fresh source of fish has resulted in many ingenious ways of preserving fish. Modern technologies of food preservation have greatly developed in many countries, but the age-old methods of fish food preservation are still extensively practiced in India. Among the various practices- fermentation, smoking, drying, salting is the most extensively used methods. Existing scientific data have shown that these processes of preserving not only contributes the nutritive but also the non-nutritive part which contribute in promoting sensory (taste) and health promoting properties which has made it acceptable in almost every part of the globe. There is many scientific information about the various fish products that are being consumed and their associated microflora from North east India. However, very few literatures are available from the state of West Bengal.

The work here aims to document the various traditional fish products and their associated traditional methods of preserving which will benefit in defining a definite protocol and standard fish preservation technique. Secondly the work aims in describing the rich microbial diversity in the traditional fish products of North Bengal, the role of these microbes in the process of preservation and also their possible role in producing definite food taste and aroma. Thirdly the work also aims to ascertain the presence of the pathogenic food bacteria with the associated fish food products, the possible role of these pathogenic microbes in food spoilage and possible health hazards. Fourthly the work aims to discuss the nutritional quality of these fish products and their role in providing food supplement and nutrients.

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