ACKNOWLEDGEMENT

My deepest gratitude and sincere thanks to my guide Dr. Manu Oommen, Reader, Post Graduate and Research Department of Zoology, Catholicate College, Pathanamthitta, for his inspiring guidance, scholarly supervision, constant encouragement and constructive criticism throughout the period of this work, without which this thesis would not have been a reality.

I am grateful to Dr. Saramma Varughese, Principal, Catholicate College, Pathanamthitta and the former Principals, Prof. Prasad Thomas, and Dr. George Eappen for providing necessary facilities to carry out the work successfully.

With great pleasure, I extend my heartfelt thanks to Dr. Elizabeth M. J., Head of the Department of Zoology, for extending me all the facilities for carrying out this research. I would also thank Prof. C.K. George, and Prof. Elizabeth Idiculla, the former Heads of the Department, and all the faculty members of Department of Zoology for their timely advice and encouragement.

I sincerely express my deepest sense of gratitude to Dr. Annie John, Scientist, Biomedical Technology Wing, Sree Chithira Thirunal Institute of Medical Sciences and Technology, Trivandrum for providing facilities to conduct
Scanning Electron Microscopic studies and her valuable help in the successful completion of the work.

My sincere thanks to Dr. Kurian Mathew Abraham, Lecturer, Department of Zoology, Marthoma College, Thiruvalla for his valuable help in the statistical analysis of the data.

I am also grateful to Mr. Rajan C.K, Asst. Director, Department of Fisheries, Pathanamthitta District for granting me permission to carry out a part of the work at the Fisheries Complex, Pannivelichira and also for giving timely expertise.

My loving husband Mr. Thomas Jacob and daughters Revathy and Aswathy deserves special mention for their prayers, love and encouragement which have been inspiring, driving and motivating force for the successful completion of the work.

Paying respectful homage to my deceased parents Shri. John Mathew (Retd. D.E.O) and Smt. Mariamma John, I dedicate this work in all humility to their living memory.

Finally I am indebted to countless others who helped me in completing this project.