

ACKNOWLEDGEMENT

It is indeed an immense honour for me to express my deep sense of gratitude to my two research guides, Dr. Naren Kumar Dutta, (Selection Grade, Lecturer), Department of Zoology, Cotton College, Guwahati and Professor Amalesh Dutta, Department of Zoology Guwahati University, under whose dual supervision and valuable guidance, this research work was carried out and paved the way towards completion of this work. I also express my heartfelt gratitude and indebtedness to Dr. Naren Kumar Dutta for his continuous efforts and constant encouragement during my research period despite of his physical unwellness quite often at the time of my research tenure. It would not have been possible on my part to complete the task without their valuable suggestions, active support and generous help extended to me in the course of my study.

I acknowledge with gratitude, former Principal Dr. Ram Prasad Bhatta and present Principal Mr. Amarendra Sarma, Rangia College for granting me necessary permission to pursue the work and for their constant encouragement.

I am grateful to Prof. D.K. Sarma, the Head, Department of Zoology, Gauhati University for providing me necessary laboratory facilities and inspiration to complete this research work. I am also thankful to Prof. A. Borkataki, Prof. M.M Goswami, Prof. U.C. Goswami, Prof. P.C. Bhattacharya, Prof. J. Kalita, Dr. J.C. Kalita, Department of Zoology, Gauhati University for their stimulating advice and necessary help.

I also express my gratitude and satisfaction to the University Grant Commission (UGC) New Delhi and Regional Office (NER) Guwahati for providing me **Teacher Fellow** under **FIP Scheme** during **X Plan** which only pave the way towards the momentum of my research work.

I offer my sincere thanks to all the faculty members of the Department of Zoology, Gauhati University for their help and inspiration.

I acknowledge the co-operation of Dr. A.K. Reddy, Dr. M.P. Singh Kohli and Dr. N.P. Sahu of CIFE, Mumbari and Dr. A.N. Mohanty, Dr. D.R. Kanaujia and Dr. D.K. De of CIFA, Bhubaneswar for their valuable advice, information and co-operation. I also take the opportunity to express my gratitude to Prof. K.V. Joychandran, Kerela Agricultural University, Kochi for valuable suggestion.

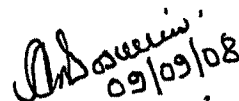
I acknowledge the co-operation of Prof. K.K. Baruah, Nutrition Department and Prof. B.C. Sarma, Animal Physiology Division, College of Veterinary Science, Khanapara for providing technical help and laboratory facilities. I must not forget to express my gratitude of Rabin Gogoi and Manalisha Nath of College of Veterinary Science, Kahanapara for their co-operation.

I sincerely acknowledge the co-operation of Mr. Niranjana Bhagawati of Institute of Advance Study in Science and Technology, Guwahati for valuable suggestion with statistical analysis.

I wish to thank my Departmental colleagues, Dr. P. Thakuria, Dr. A. Razzak, Mr. I. Ali and particularly Dr. P.K. Singha for their encouragement and information provided to me during my research work.

I also wish to acknowledge Dr. B.K. Bhattacharya Sr. Scientist, Central Inland Capture Fisheries Research Institute (ICAR, NER) for the kind help and necessary information.

I also express my gratitude to all the family members, specially my wife Smt. Aparajita Devi for her responsibilities in the family maintenance and necessary help and inspiration to complete this thesis.


09/09/08

(APURBA KUMAR GOSWAMI)

Department of Zoology
Gauhati University
Guwahati, Assam

Place : Guwahati.....

Date : 09th September, 2008