With immense pleasure, I would like to take the privilege to express my deepest sense of gratitude to Dr. Karabi Dutta, Professor, Zoology Department, Gauhati University for her valuable guidance through constructive suggestions, instructive advice with constant encouragement throughout the tenure of investigation and preparation of this manuscript.

I also offer my deepest sense of gratitude to the Head, Department of Zoology, Gauhati University, for granting me necessary permission and access to the available laboratory facilities for carrying out my work in the department. I also express my sincere thanks to all my teachers of the Department of Zoology namely, Dr. H. C. Mahanta, Dr. M. Das, Dr. D. K. Sarmah, Dr. U. C. Goswami, Dr. A. Borkataky, Dr. A. Dutta, Dr. B. Bhola, Dr. J. Kalita, Dr. J. C. Kalita and Dr. P. Saikia for their encouragement.

I would like to offer my deepest sense of gratitude to Mr. Bidyut Chaudhury (Asstt. Director), Mr. Digambar Prasad (Tech. Asstt.) of Research Extension Centre, Central Silk Board (CSB), Mangaldai; Mr. T. C. Talukdar, Mr. Doimari and Mr. Thakuria of Govt. Sericulture Farm, Department of Sericulture, Mangaldai; and Dr. A.K. Sahu, Asstt. Director, Regional Muga Research Station, CSB, Boko for helping me in my Research work. I am also thankful to the staff of Eri Seed Production Centre, Mirza for providing me eri seeds.

I would like to thank Mr. S. N. Mishra, Scientist C, Mr. Debasish Chattopadhaya, Scientist B, and the staff of Demonstration cum Technical Service center, Central Silk Technological Research Institute, Sualkuchi, Assam for helping me in the spinning part of my research work.

I express my sincere thanks to Dr. Samindra Baishya, Assistant Professor, Biochemistry and Agricultural Chemistry, Assam Agricultural University (AAU), Jorhat for helping me in biochemical analysis of food plants. I also acknowledge the suggestion rendered by Prof. L. C. Dutta, Sericulture Dept. A.A.U, Jorhat.

I would like to thank Prof. Joyanti Chutia, Director, Institute of Advanced Study in Science & Technology (IASST) for permitting me to do biochemical tests and fibre analysis in the institute. My sincere thanks goes to Dr. Dipali Devi, In-charge of the Seri-Biotech section along with Bijit Talukdar, Ramesh Nath and Phulmoni Chaudhury, all of the Seri-Biotech section of IASST for kind help in the experiments.
I also acknowledge the help rendered by Dr. R. Chakraborty, Director, Mr. Gunamani Bora and Mr. Narendra Singh of Central Muga and Eri Research & Training Institute, Lahdoigarh, Jorhat, for their help and encouragement.

I availed the library facilities at K.K. Handique Library, Gauhati University, Library of the Zoology Department, G.U, Library of Regional Muga Research Station, Boko. Library in Central Muga and Eri Research & Training Institute, Lahdoigarh, Jorhat. Library of A.A.U, Jorhat, Library of I.A.S.S.T. I wish to put on record my appreciation for the help provided by the staff at these libraries.

I am especially indebted to Dr. Utpal Dutta, Dr. Jayanta Deka and Jayanta Sharma of Zoology Department. I will remember the help rendered by Nitu, Sandip and my student, Kamal Azad. Mr. Naren Kalita and Mukul Deka also helped in my research work and I acknowledge their help.

I am also thankful to University Grants Commission for granting me Minor Research Project.

I also express heartfelt thanks to Mr. Niranjan Bhagobaty, IASST, who helped me in statistical analysis of data, preparation of figures, scanning of photographs and giving the final shape to the thesis. I am also thankful to my brother Pradyut. Hemanta of C-DAC, Mangaldai for their help in typing of the manuscript.

My heartiest thanks also go to the Principal, Ex. Principals and colleagues of Mangaldai College especially Dr. Amanul Haque and Seema Jyoti, for their help and encouragement.

My sincere gratitude and special thanks are due to my beloved father Late Madhu Saikia, who recently departed to heavenly abode, and my mother Mrs. Hiran Saikia for their blessings and support throughout the period of my study. I thank to my brother Kajal, sister Mali, brother in law Jyotish, sister-in-law Kuwali and all my family members for their constant encouragement. I am indebted to my loving daughter Julina for her affectionate love and inspiration.

My sincere thanks are also due to all those unnamed, whose help was invaluable during the study period.

Guwahati

\[ dt = 3.3 \, 09 \, \text{th} \]

(Leena Saikia)