

# Preface

This Ph.D. thesis is the outcome of my five years of restless journey which was commenced in February 2012 at the Molecular Biology laboratory, Department of Botany, University of North Bengal and Department of Botany, Raiganj University. Since evidenced-based pharmacognostic studies on complementary and herbal medicines had been paid great attention because of some imperative advantages over synthetic drugs, I have decided to evaluate several ethnopharmacological claims of varied medicinal Mimosoids under the title-“*Medicinal and molecular documentation of some members of Mimosaceae and their microsymbionts*”. During this tenure, I came in contact with several individuals who helped me a lot to accomplish my research work. Henceforth, it’s my pleasure to express thanks to all those personnel who contributed in many ways to the success of this endeavor and made it a memorable experience for me.

First and foremost, I would like to take this opportunity to express my sincere gratitude to my research supervisor, Prof. Arnab Sen, Department of Botany, University of North Bengal for his excellent guidance, valuable suggestions, motivation and constant encouragement throughout my research journey. This endeavor would not have been possible without his unconditional support. I am truly grateful

to Sir for making me aware of A to Z of research - “*Anyone who has never made a mistake has never tried anything new*”. He pushed me in the right direction whenever he thought I needed it. His unwavering courage and conviction will always inspire me and I hope to continue to work with his noble thoughts. Thank you very much Sir, for everything you made for me.

At this moment of accomplishment, I would like to pay keen respect to my research co-supervisor, Dr. Dilip De Sarker, Department of Botany, Raiganj University for his constant support, understanding, inspiration and personal attention which have provided good and smooth basis for my Ph.D. tenure. I am very much thankful to Sir for picking me up as a Project Scientist at the beginning stage of my research career and also for providing me a platform to pursue further Ph.D. work. The door to Sir’s home was always open for me. Thank you Sir.

I am also extremely indebted to one distinguished person, Prof. Partha Deb Ghosh, Emeritus Scientist, Department of Botany, University of Kalyani, whose contribution means a lot to me. In fact, I have grown up watching his research activities since my Graduation. He always guided me like a father whenever I need.

I gratefully acknowledge Prof. Tapas

Kumar Choudhuri, Department of Zoology, NBU being kind enough to lend me his laboratory infrastructure and animal resources to accomplish my research work with rodent model. His keen scientific knowledge is always inspiring and I admire his distinguished helping nature. The door to Prof. Choudhuri's office was always open whenever I ran into a trouble spot or had a question about my research or writing. Thank you Sir, for all of your kind assist and support.

Words are short to express my deep sense of gratitude towards my dearest friend cum colleague, Dr. Priyankar Dey. I was lucky to have the chance to work with him, who patiently taught me every method of antioxidant assay, in addition to a number of other laboratory skills, and who worked closely with me in the analysis of GC-MS, diabetic complications etc. that I represented in this thesis. In addition, I gained a lot from his vast bio-chemistry knowledge and scientific curiosity. It is obvious that without his efforts my job would have undoubtedly been more difficult. Eventually, this paragraph is not enough to express my gratitude to him.

My thanks are due to Prof. A.P. Das for his kind advice during plant identification. I am also thankful to the Head, Prof. Aniruddha Saha, and others dignitary faculty members of Department of Botany, NBU for offering me necessary help at every phases throughout my research.

It's my pleasure to acknowledge Dr.

Manoranjan Chakraborty, Department of Botany, Bankura Christian College, University of Burdwan who was the source of inspiration for me in my early days and who gave me the confidence to start my research without any delay. I also admire the distinguished support and untried help of my elder sister, Dr. Chandra Ghosh since the commencement days of my research. She encouraged and motivated me in all aspects, indeed.

Most of the results described in this endeavor would not have been obtained without a close collaboration with few laboratories. I owe a great deal of appreciation and gratitude to Prof. Bratati De, University of Calcutta, for HPLC and GC-MS analysis as well as for her valuable suggestion and advice; Dr. Sajal Das, Department of Chemistry, University of North Bengal, for NMR analysis. My warm gratitude is due to all the research fellows of those labs also.

Words fail me to express my admiration to my dear lab-mate cum brother, Pallab Kar and sister, Indrani Sarkar. I can see the good shape of my thesis because of their unvarying help and suggestions in formatting the entire thesis. My thanks go in particular to Ayan Roy, Somit Dutta and Arnab Chakraborty with whom I started this work and many rounds of discussions on my research with them helped me a lot. Thank you doesn't seem sufficient to them for their unvarying support, care, encouragement, understanding and valuable

friendship.

I am ever indebted to my senior lab mates Dr. Malay Bhattacharya, Mrs. Ritu Rai, Dr. Tanmayee Mishra, Dr. Debadin Bose, Dr. Subarna Thakur and Dr. Arvind Kr. Goyal. I wish to thank my junior fellow researchers, Mousikha Lala, Reha Labar, Mousumi Saha, Shilpee Pal, Saroja Chhetri and Sanghati Bhattacharya for rendering the utmost help. I expand my thanks to Krisanu da and Basu for their constant support and fun-loving nature.

I owe a great deal of appreciation and gratitude to madam, Mrs. Gargi Sen and Jathima, Smt. Dipali Sen for their support, generous care and the homely feeling at Siliguri.

My special thanks go to my best friends including Bidyut Kr. Mandal, Devnil Chanda, Amrita Duttachowdhury and Aniruddha Biswas for their love, care, and encouragement throughout my entire research. They were always close to me during the ups and down moments to push me and encourage me.

It's my luck to gratefully acknowledge the support of my elder brother, Mamud Salim who willingly devoted so much time in giving guidance to me. I am also indebted to my beloved uncles, Sri Sadhan Ch. Pal and Sri Safiqur Rahaman Chaudhuri and I admire their distinguished helping nature throughout my research. This list is incomplete without acknowledging Dr. Debabrata Debnath, Department of

Education, University of Gour Banga for his constant motivation and suggestions. I take this opportunity to say heartfelt thanks to my dear elder brothers, Dr. Tulsi Dey and Dr. Dhruva Das for their vigorous support and generous care.

I also want to acknowledge the funding support from UGC-BSR for providing Meritorious fellowship.

No words are enough to express my sincere gratitude to my Meso (Sri Apurba Dutta) and Masi (Mrs. Chinnu Dutta) and my sweet brother Sri Amartya Dutta for their constant support, motivation and encouragement.

Finally, I would like to convey high regards to my parents, Shri Madhai Chandra Saha and Smt. Jyostna Saha for their sincere encouragement and inspiration throughout my research work and lifting me uphill this phase of life. I doubt that I will ever be able to express my love and respect fully, but I owe them my eternal gratitude. Baba and Maa, I love you a lot. Moreover, I want to dedicate this thesis to them. In addition to this, it's my fortune to gratefully acknowledge the love and support of my sweetest sister ever, Ms. Maitri Saha.

Last but not least, I like to thank all those personnel whose names are not listed here but, knowingly and unknowingly helped me a lot in the successful completion of this endeavor.

  
[Manas Ranjan Saha]  
29/5/2017