

DECLARATION

I am Sri Balaram Manna, certifying that the work embodied in this Ph.D. thesis is my own bonafied work carried out by me under the joint supervision of Dr. Amlan Das, Associate Professor, Entomology Laboratory, Department of Zoology, University of Calcutta and Dr. Smarajit Maiti, Professor and Head of the Department, Cell and Molecular Therapeutics Laboratory, Department of Biochemistry, Oriental Institute of Science and Technology, Vidyasagar University. The matter embodied in this Ph.D. thesis has not been submitted for the award of any other diploma/degree.

I declare that, I have faithfully acknowledged, given credit to and referred to the research workers wherever their works have been cited in the text and the frame of the thesis. I further certify that I have not wilfully lifted up some others work, para, text, data, result, etc. or available at website and included them in this Ph.D. thesis and cited as my own work.

Midnapore, 11th August, 2020

Subha Janmastami

Balaram Manna
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(Sri Balaram Manna)