**Declaration** 

I hereby declare that the matter embodied in the report entitled **Eco-evolutionary** 

dynamics of finite populations from first principles are the results of the work

carried out by me at the Department of Biology, Indian Institute of Science Education

and Research, Pune, and the Centre for Ecological Sciences, Indian Institute of

Science, under the supervision of Vishwesha Guttal, Centre for Ecological Sciences,

Indian Institute of Science, with Rohini Balakrishnan, Centre for Ecological Sciences,

Indian Institute of Science as a co-supervisor, and the same has not been submitted

elsewhere for any other degree

Ananda Shikhara Bhat

Date:  $30^{th}$  March 2023