

**EVALUATION OF TWO FRESHWATER MACROPHYTES SUPPLEMENTED  
FEED ON THE GROWTH PERFORMANCE, DIGESTIVE ENZYMES AND  
BIOCHEMICAL PARAMETERS OF TWO AIR BREATHING FISH SPECIES**

**THESIS SUBMITTED TO THE BODOLAND UNIVERSITY  
FOR THE DEGREE OF  
DOCTOR OF PHILOSOPHY IN ZOOLOGY  
UNDER THE  
FACULTY OF SCIENCE AND TECHNOLOGY  
(2025)**



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### CERTIFICATE

I am pleased to forward the Ph.D. thesis titled "*Evaluation of Two Freshwater Macrophytes Supplemented Feed on the Growth Performance, Digestive Enzymes, and Biochemical Parameters of Two Air Breathing Fish Species*" by Mr. Sanraja Muchahary. This thesis has been submitted in fulfillment of the requirements for the Doctor of Philosophy (Ph.D.) degree in Zoology under the Faculty of Science and Technology at Bodoland University.

Mr. Sanraja Muchahary conducted this research under my supervision, adhering to all regulations stipulated for Ph.D. degree by Bodoland University. He is registered with Bodoland University under the designated registration number FINAL.ZOO00272 of 2019-20.

I certify that this thesis represents original work conducted entirely by Mr. Sanraja Muchahary and that no part of it has been submitted to any other institution or university for the award of a degree.

Signature

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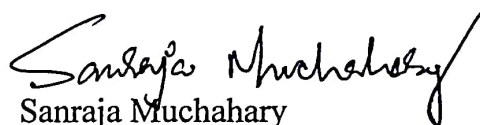
## DECLARATION

I, Sanraja Muchahary, hereby declare that the thesis titled "*Evaluation of Two Freshwater Macrophytes Supplemented Feed on the Growth Performance, Digestive Enzymes, and Biochemical Parameters of Two Air Breathing Fish Species*" is my original Ph.D. research work conducted under the supervision of Dr. Khangembam Bronson Kumar, Assistant Professor, Department of Zoology, Bodoland University.

This thesis is submitted to Bodoland University for the degree of Doctor of Philosophy (Ph.D.) award, with the final registration number FINAL.ZOO00272 of 2019-20. The work presented herein is the result of my investigation, and no part of it has been previously submitted for the award of any degree or other research purpose.

Place: Kokrajhar

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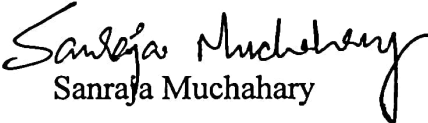
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