



DEPARTMENT OF ZOOLOGY  
GAUHATI UNIVERSITY

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Dr. Dandadhar Sarma  
Professor & Coordinator  
UGC-SAP (DRS-III)  
Aquaculture & Biodiversity Centre

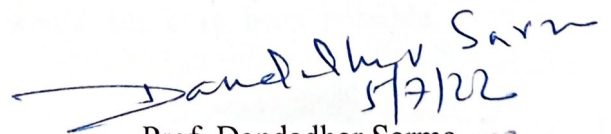
## Certificate

This is to certify that the dissertation entitled "*In vitro* studies on antibacterial efficacy of *Tinospora cordifolia* extract against pathogenic bacteria isolated from *Clarias magur*". is a bonafide record of the research work carried out by Mr. Amar Jyoti Saikia of M,Sc. Fourth semester ( G.U. Roll No: PS-201-801-0001 and Reg.No: 20070670) with specialization in Fish biology and Fishery Science, Department of Zoology, Gauhati University in the year 2022 under my guidance and supervision and has been submitted to Gauhati University for partial fulfillment for the award of Master of Science in Zoology.

The work presented in the dissertation is entirely pursued by the student and is an authentic document of her original works. I am confident that no part of this dissertation work has been submitted to any other university. The assistance and help received during the course of investigation has been fully acknowledged.

Place: Gauhati University

Date: 05/07/22

  
5/7/22

Prof. Dandadhar Sarma  
Dr. Dandadhar Sarma  
Professor  
Department of Zoology  
Gauhati University  
Guwahati-781014



**DEPARTMENT OF ZOOLOGY**  
**GAUHATI UNIVERSITY**  
GUWAHATI: 781014, ASSAM

---

***C E R T I F I C A T E***

This is to certify that Ms. **Anisha Hussain**, bearing University Roll No. PS-201-801-0004, Department of Zoology, Gauhati University was allotted the project entitled “To study the effect of 2,4- Dichlorophenoxy acetic acid (2,4-D) herbicide on the protein and glycogen content in liver and muscle of *Heteropneustes fossilis* ” for the partial fulfilment of the award of M. Sc degree in Zoology (**Specialization: Cell & Molecular Biology**). It is hereby certified that the results incorporated in this report are finding of the experiments conducted by the candidate herself and has not been presented elsewhere for the award of any degree.

Head  
Prof. Jogen Chandra Kalita  
Professor  
Department of Zoology

Supervisor  
Dr. Manuj Kumar Bharali,  
Associate Professor  
Department of Zoology

---

Dr. Manuj Kr. Bharali, Associate Professor  
Cell and Molecular Biology Lab  
Dept. Of Zoology, Gauhati University  
Guwahati: 781014, Assam  
Email: [manujkrbharali@gauhati.ac.in](mailto:manujkrbharali@gauhati.ac.in), M: +919436223708



**DEPARTMENT OF ZOOLOGY**  
**GAUHATI UNIVERSITY**  
GUWAHATI: 781014, ASSAM

---

**CERTIFICATE**

This is to certify that **MS ANKITA THAKURIA**, bearing University Roll No. **PS-201-801-0005**, Department of Zoology, Gauhati University was allotted the project entitled **“EFFECT OF GREEN TEA TREATMENT ON LIPID PEROXIDATION AND NEUTROPHIL INFILTRATION ON ACETIC ACID INDUCED ULCERATIVE COLITIS IN ALBINO MICE”** for the partial fulfilment of the award of M.Sc degree in Zoology (**Specialization: Cell & Molecular Biology**). It is hereby certified that the results incorporated in this report are finding of the experiments conducted by the candidate himself/herself and has not been presented elsewhere for the award of any degree.

Head  
Prof. Jogen Chandra Kalita  
Professor  
Department of Zoology

Supervisor  
Dr. Manuj Kumar Bharali,  
Associate Professor  
Department of Zoology

---

Dr. Manuj Kr. Bharali, Associate Professor  
Cell and Molecular Biology Lab  
Dept. Of Zoology, Gauhati University  
Guwahati: 781014, Assam

Email: [manujkrbharali@gauhati.ac.in](mailto:manujkrbharali@gauhati.ac.in), M: +919436223708





DEPARTMENT OF ZOOLOGY  
GAUHATI UNIVERSITY  
GUWAHATI: 781014, ASSAM

---

## *CERTIFICATE*

This is to certify that Mr. **Arindam Dutta** bearing University Roll No. **PS-201-801-0008**, Department of Zoology, Gauhati University was allotted the project entitled “**Assessment Of Pas Positive Areas In Acetic Acid Induced Ulcerative Colitis In Mice And Role Of Green Tea**” for the partial fulfilment of the award of M. Sc degree in Zoology (**Specialization: Cell & Molecular Biology**). It is hereby certified that the results incorporated in this report are finding of the experiments conducted by the candidate himself/herself and has not been presented elsewhere for the award of any degree.

Head

Prof. Jogen Chara Kalita  
Professor  
Department of Zoology

Supervisor

Dr. Manuj Kumar Bharali,  
Associate Professor  
Department of Zoology

---

Dr. Manuj Kr. Bharali, Associate Professor  
Cell and Molecular Biology Lab  
Dept. Of Zoology, Gauhati University  
Guwahati: 781014, Assam

Email: [manujkrbharali@gauhati.ac.in](mailto:manujkrbharali@gauhati.ac.in), M: +919436223708



## CERTIFICATE

This is to certify that Miss **Babita Rabha** bearing Roll Number: PS-201-801-0010, Registration Number: 17001145 has carried out this dissertation work titled “**A study on captive breeding of climbing perch, *Anabas testudineus* (Blotch, 1792) and its developmental stages**” under my supervision, which is being submitted to the Department of Zoology, Gauhati University for partial fulfillment of the degree of Master of Science in Zoology. This work reported in this thesis has been carried out by the candidate and has not been submitted to any other University for any other degree or diploma.

Dissertation Supervisor

**Dr. Dandadhar Sarma**


Professor

Department of Zoology

Gauhati University

## CERTIFICATE

This is to certify that **Miss BIDIPTA PAUL** a student of M.Sc. 4<sup>th</sup> semester of Wildlife Science, Department of Zoology, Gauhati University bearing Roll No: **PS-201-801-0011** has **completed the MS Dissertation** entitled “**Study on the moth fauna diversity in the gauhati university campus**” under my direct guidance and supervision. The present dissertation work is an original work conducted by the student for the degree of Master of Science in the subject of M. Sc. in Zoology, Specialization in Animal Ecology and Wildlife Biology, Gauhati University in the year 2022.

  
**Dr. M. K. Saikia, Asst. Professor**  
Department of Zoology  
Gauhati University  
Ghy-14, Assam



DEPARTMENT OF ZOOLOGY  
GAUHATI UNIVERSITY  
GUWAHATI: 781014, ASSAM

---

**CERTIFICATE**

This is to certify that Mr. **Bishal Ghosh**, bearing University Roll No. **PS-201-801-0012**, Department of Zoology, Gauhati University was allotted the project entitled "*Effect of Green Tea Treatment on Acetic Acid induced Ulcerative Colitis in adult male Swiss albino mice*" for the partial fulfilment of the award of M. Sc degree in Zoology (**Specialization: Cell & Molecular Biology**). It is hereby certified that the results incorporated in this report are finding of the experiments conducted by the candidate himself/herself and has not been presented elsewhere for the award of any degree.

Head  
Prof. Jogen Chandra Kalita  
Professor  
Department of Zoology

Supervisor  
Dr. Manuj Kumar Bharali,  
Associate Professor  
Department of Zoology

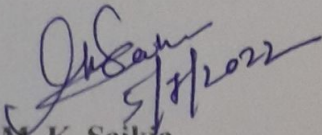
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Dr. Manuj Kr. Bharali, Associate Professor  
Cell and Molecular Biology Lab  
Dept. Of Zoology, Gauhati University  
Guwahati: 781014, Assam  
Email: [manujkrbharali@gauhati.ac.in](mailto:manujkrbharali@gauhati.ac.in), M: +919436223708



## CERTIFICATE

This is to certify that **Ms. Chayanika Gogoi** a student of M.Sc. 4<sup>th</sup> semester, Animal Ecology and Wildlife Biology specialization, Department of Zoology, Gauhati University bearing Roll No: **PS-201-801-0014** has **completed the MS Dissertation** entitled "**STUDIES ON DIVERSITY AND DISTRIBUTION OF ANT AND TERMITE SPECIES AT GAUHATI UNIVERSITY CAMPUS.**" under my direct guidance and supervision. The present dissertation work is an original work conducted by the student for the degree of Master of Science in the subject of M. Sc. in Zoology, Specialization in Animal Ecology and Wildlife Biology, Gauhati University in the year 2022.



**Dr. M. K. Saikia**  
Department of Zoology  
Gauhati University  
Ghy-14, Assam

## CERTIFICATE

This is to confirm that the thesis entitled “STUDY ON THE ANTIOXIDANT ACTIVITY OF *CENTELLA ASIATICA* AND ITS POTENTIAL ANTIFERTILITY EFFECT ON FEMALE REPRODUCTIVE SYSTEM” submitted by Ms Debarati Paul, bearing Roll No: PS-201-801-0017 with Registration No: 17012886 is a record of original research work carried out by her under my guidance and direct supervision in partial fulfillment for the degree of Master of Science in Zoology, Gauhati University.

The research outputs contained in the thesis is the outcome of her sole continuous efforts that has neither been published elsewhere nor formed the basis for the award of any other degree or diploma as such by any other University or Institution.



# CERTIFICATE

---

Forwarded by:

This is to certify that **Deep Jyoti Roy**, a student of M.Sc 4<sup>th</sup> Semester completed this project under my guidance and supervision for the Master Degree course according to the prescribed syllabus.

This project as per specified in the syllabus is authentically prepared by himself.

Dated:

**Bulbuli Khanikar**  
Assistant Professor  
Department of Zoology  
Gauhati University

---



## **CERTIFICATE**

This is to certify that the dissertation entitled “ **Osteological study of *Esomus danrica* (Hamilton 1822)**” is a bona fide record of the research work carried out by **Doli Sarma** of **M.Sc. 4<sup>th</sup> Semester** with specialization in **Fish Biology and Fishery Science, Department of Zoology, Gauhati University** in the year 2022 under my guidance , and has been submitted to Gauhati University for partial fulfillment for the award of Master of Science in Zoology.

The work presented in the dissertation is entirely pursued by the student and is an authentic document for her original work. I am confident that no part of this dissertation work has been submitted to any other university. The assistance and help received during the course of investigation has been fully acknowledged.

Hrishikesh Choudhury  
Assistant Professor  
Department of Zoology  
Gauhati University

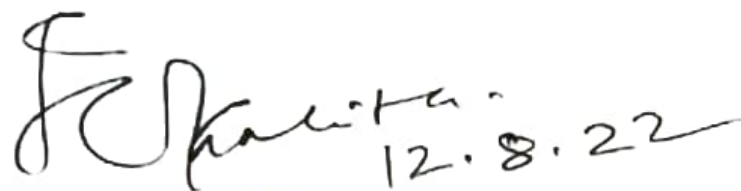
### CERTIFICATE

This is to confirm that the thesis entitled "STUDY ON THE ANTIOXIDANT ACTIVITY OF *BRYOPHYLLUM PINNATUM* AND ITS POTENTIAL FERTILITY EFFECT ON FEMALE MICE MODEL" submitted by Ms Janti Paul, bearing Roll No: PS-201-801-0023 with Registration No: 17037309 is a record of original research work carried out by her under my guidance and direct supervision in partial fulfillment for the degree of Master of Science in Zoology, Gauhati University.

The research outputs contained in the thesis is the outcome of her sole continuous efforts that has neither been published elsewhere nor formed the basis for the award of any other degree or diploma as such by any other University or Institution.

Place:

Signature:

  
12.8.22

Professor & Head  
Department of Zoology  
Gauhati University  
Guwahati- 781014, Assam.



**DEPARTMENT OF ZOOLOGY**  
**GAUHATI UNIVERSITY**  
GUWAHATI: 781014, ASSAM

**CERTIFICATE**

This is to certify that Mr **JAYDEEP KUMAR NATH** bearing University Roll No: **PS-201-801-0024** Department of Zoology, Gauhati University was allotted the project entitled “**Study of cyto-genotoxic effect of Glyphosate herbicide on *Allium cepa L* root system**” for the partial fulfilment of the award of M. Sc degree in Zoology (**Specialization: Cell & Molecular Biology**). It is hereby certified that the results incorporated in this report are finding of the experiments conducted by the candidate himself/herself and has not been presented elsewhere for the award of any degree.

Head  
Prof. JogenCharaKalita  
Professor  
Department of Zoology  
**Professor & Head**  
Department of Zoology  
Gauhati University  
Guwahati- 781014, Assam

Supervisor  
Dr. Manuj Kr. Bharali  
Associate Professor, Dept. of Zoology  
Gauhati University  
Guwahati- 781014, Assam  
Department of Zoology

Dr. Manuj Kr. Bharali, Associate Professor  
Cell and Molecular Biology Lab  
Dept. Of Zoology, Gauhati University  
Guwahati: 781014, Assam

Email: [manujkrbharali@gauhati.ac.in](mailto:manujkrbharali@gauhati.ac.in), M: +919436223708



# CERTIFICATE

This is to certify that **Ms JINTI DAS** a student of M.Sc. 4<sup>th</sup> semester of Zoology, Department of Zoology, Gauhati University bearing Roll No: **PS-201-801-0026** has **completed the MS Dissertation** entitled "**DIVERSITY AND DISTRIBUTION OF HONEYBEES AND WASPS IN GAUHATI UNIVERSITY**" under my direct guidance and supervision. The present dissertation work is an original work conducted by the student for the degree of Master of Science in the subject of M. Sc. in Zoology, Specialization in Animal Ecology and Wildlife Biology, Department of Zoology, Gauhati University.

**Dr . M. K. Saikia**  
**Assistant Professor**  
Department of Zoology  
Gauhati University  
Ghy-14, Assam

## **Certificate**

This is to certify that **Miss Jusmita Bharadwaj** bearing Roll Number **PS-201-801-0028**, Registration Number **17045692** has carried out this dissertation work titled “A Study on embryological stages of *Heteropneustes fossilis*” under my supervision, which is being submitted to the Zoology Department, Gauhati University for the partial fulfillment of the degree of Master of Science in Zoology. This work reported in this thesis has been carried out by the candidate and has not been submitted to any other university for any other degree or diploma.

Dissertation Supervisor

Prof. Dandadhar Sarma

Prof. of Zoology

Department of Zoology, GU

Date

## **CERTIFICATE**

This is to certify that the dissertation entitled “**Descriptive Study on the Osteological Features of the freshwater barb *Puntius terio* (Hamilton, 1822)**” is a bona fide record of the research work carried out by **Jutirupa Sarma** of **M.Sc. 4th Semester** with specialization in **Fish Biology and Fishery Science, Department of Zoology, Gauhati University** in the year 2022 under my guidance, and has been submitted to Gauhati University for partial fulfilment for the award of Masters of Science in Zoology.

The work presented in the dissertation is entirely pursued by the student and is an authentic document of her original work. I am confident that no part of this dissertation work has been submitted to any other university. The assistance and help received during the course of investigation has been fully acknowledged.

(Hrishikesh Choudhury)



## CERTIFICATE

This is certify that Karpumpuli Mili has carried out this project work entitled studies "Insecticidal activity of garlic oil and its effect on the histological changes on midgut of *Culex sp.* midgut" under my guidance and supervision. The result incorporated in this project report is original and synthesized of her own investigation. The said project is submitted to the department of Zoology, Gauhati University, Guwahati in partial fulfillment of the award of the degree of Masters of Science in Zoology (Entomology).

PROF.J.C.KALITA

Dated:

BULBULI KHANIKOR

Head Dept. of Zoology

Assistant Professor

Gauhati University

Dept. of Zoology

GUWAHATI, ASSAM

Gauhati University

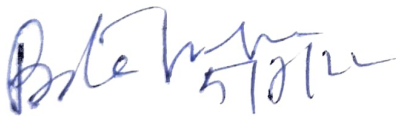
## **CERTIFICATE**

This is to certify that Miss Keerti Devi, Student of M.Sc<sup>4<sup>th</sup></sup> semester, Specialization in Entomology, Department of Zoology, Gauhati University, Session: 2020-2022 has completed the project entitled “STUDY ON LARVICIDAL EFFICACY OF THREE INDIGENOUS FISH SPECIES OF ASSAM AS POTENTIAL BIOCONTROL AGENT OF MOSQUITOES UNDER LABORATORY CONDITIONS.”

**Dr. Bulbuli Khanikar**  
**Assistant Professor**  
**Department of Zoology**  
**Gauhati University**

## CERTIFICATE

This is to certify that Miss **KONGKONA BORO** a student of M.Sc. 4<sup>th</sup> semester of, Zoology, Specialization in Animal Ecology and Wildlife Biology, Department of Zoology, Gauhati University bearing Roll No: **PS-201-801-0034** has **completed the MS Dissertation** entitled “**STUDIES ON THE DIVERSITY OF FOREST BIRDS IN GAUHATI UNIVERSITY CAMPUS, JALUKBARI, ASSAM**” under my direct guidance and supervision. The present dissertation work is an original work conducted by the student for the degree of Master of Science in the subject of M. Sc. in Zoology, Specialization in Animal Ecology and Wildlife Biology, Gauhati University in the year 2022.



**Dr. P. K. Saikia, Professor**

Department of Zoology

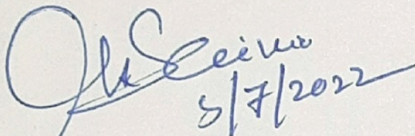
Gauhati University

Ghy-14, Assam



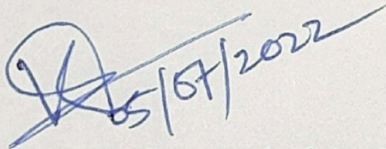
## CERTIFICATE

This is to certify that **Ms. MANALISHA DEKA**, a student of M.Sc. 4<sup>th</sup> semester of Animal Ecology and Wildlife Biology, Department of Zoology, Gauhati University bearing Roll No: **PS-201-801-0035** has **completed the MS Dissertation** entitled “**SPECIES-SPECIFIC ASSOCIATION OF FLOWERING PLANTS AND INSECTS**” under our direct guidance and supervision. The present dissertation work is an original work conducted by the student for the degree of Master of Science in the subject of M. Sc. in Zoology, Specialization in Animal Ecology and Wildlife Biology, Gauhati University in the year 2022.



Handwritten signature of Dr. M. K. Saikia, dated 5/7/2022.

**Dr. M. K. Saikia, Assistant Prof.**  
Department of Zoology  
Gauhati University  
Ghy-14, Assam



Handwritten signature of Dr. Kuladip Sarma, dated 5/7/2022.

**Dr. Kuladip Sarma, Assistant Prof.**  
Department of Zoology  
Gauhati University  
Ghy-14, Assam



## **CERTIFICATE**

This is certify that Manalisha Hazarika has carried out this project work entitled studies on the survey of Distribution of ants at 10 different host plants species of Gauhati University campus,Guwahati,Assam under my guidance and supervision. The result incorporated in this project report is original and synthesized of her own investigation. The said project is submitted to the department of Zoology, Gauhati University, Guwahati in partial fulfillment of the award of the degree of Masters of Science in Zoology (Entomology).

**Place : Guwahati**

**Date :**

**Dr. Bulbuli Khanikor**

**Assistant professor**

**Department of Zoology**

**Gauhati University**



DEPARTMENT OF ZOOLOGY  
GAUHATI UNIVERSITY

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Email: sarma\_dandadhar@yahoo.com

Dr. Dandadhar Sarma  
Professor & Coordinator  
UGC-SAP (DRS-III)

Aquaculture & Biodiversity Centre

## Certificate

This is to certify that the dissertation entitled “**Isolation and Biochemical characterization of pathogenic Bacteria from Disease *Clarias magur***”. is a bonafide record of the research work carried out by Mr. Manash jyoti Barman of MSc. Fourth semester ( G.U. Roll No: PS-201-801-0037 and Reg.No: 17045720) with specialization in Fish biology and Fishery Science, Department of Zoology, Gauhati University in the year 2022 under my guidance and supervision and has been submitted to Gauhati University for partial fulfillment for the award of Master of Science in Zoology.

The work presented in the dissertation is entirely pursued by the student and is an authentic document of her original works. I am confident that no part of this dissertation work has been submitted to any other university. The assistance and help received during the course of investigation has been fully acknowledged.

Place: Gauhati University,

Date:

Prof. Dandadhar Sarma  
Dr. Dandadhar Sarma  
Professor  
Department of Zoology  
Dept. of Zoology  
Guwahati-781014

## Certificate

This is to certify that **Manaswita Sarma** bearing Roll Number PS-201-801-0038, Registration Number: 17045723 has carried out this dissertation work titled " **A study on Captive Breeding and Embryonic and Larval Development Stages of Garra annandalei (Hora,1921)"** under my supervision which is being submitted to the Zoology Department ,Gauhati University for the partial fulfillment of the degree of Master's of Science in Zoology. This work reported in this thesis has been carried out by the candidate and has not been submitted to any other university for any other degree or diploma.

Dissertation Supervisor

Dr. Dandadhar Sarma

Professor

Department of Zoology

Gauhati University





DEPARTMENT OF ZOOLOGY  
GAUHATI UNIVERSITY  
Gopinath Bordoloi Nagar  
Guwahati - 781014  
Assam: India

Hrishikesh Choudhury  
Assistant Professor

Phone: 0361-2570294 (O)  
+9198647-48407(M)

Email: choudhuryhr165@gmail.com

## CERTIFICATE

This is to certify that the dissertation entitled “ **Study of growth metric of Zebrafish, *Danio rerio* ( HAMILTON,1822) in aquarium** ” is a bona fide record of the research work carried out by **Miss Manisha Bora** of **M.Sc 4<sup>th</sup> Semester** with specialization in **Fish Biology and Fishery Science, Department of Zoology, Gauhati University** in the year 2021 under my guidance, and has been submitted to Gauhati University for partial fulfilment for the award of Master of Science in Zoology.

The work presented in the dissertation is entirely pursued by the student and is an authentic document for her original work. I am confident that no part of this dissertation work has been submitted to any other university. The assistance and help received during the course of investigation has been successfully acknowledged.

*Hrishikesh Choudhury*

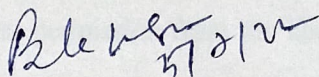
( HRISHIKESH CHOUDHARY )

Assistant Professor  
Department of Zoology  
Gauhati University  
Guwahati-14



## CERTIFICATE

This is to certify that Ms. NABAMALLIKA SARMA a student of M.Sc. 4<sup>th</sup> semester of Animal Ecology and Wildlife Biology, Department of Zoology, Gauhati University bearing Roll No: PS-201-801-0041 has completed the MS Dissertation entitled "STUDIES ON THE DIVERSITY AND DISTRIBUTION OF AMPHIBIAN FAUNA IN GAUHATI UNIVERSITY CAMPUS" under my direct guidance and supervision. The present dissertation work is an original work conducted by the student for the degree of Master of Science in the subject of M. Sc. in Zoology, Specialization in Animal Ecology and Wildlife Biology, Gauhati University in the year 2022.



**Prof. P. K. Saikia**  
Department of Zoology  
Gauhati University  
Ghy-14, Assam



## CERTIFICATE

This is to certify that Neha Hazarika has carried out this project work entitled “**Insecticidal activity of Clove oil and its effect on the histological changes on *Culex* sp.**” under my guidance and supervision. The result incorporated in this project report is original and synthesized of her own investigation. The said project is submitted to the department of Zoology, Gauhati University, Guwahati in partial fulfillment of the award of the degree of Masters of Science in Zoology (Entomology).

Dr.Jogen Chandra Kalita  
(Professor and Head of the Department,  
Department of Zoology,  
Gauhati University

Dr.Bulbuli Khanikor  
Assistant Professor,  
Department of Zoology,  
Gauhati University



# CERTIFICATE

---

Forwarded by:

This is to certify that **Neha Sultana**, a student of M.Sc 4<sup>th</sup> Semester completed this project under my guidance and supervision for the Master Degree course according to the prescribed syllabus.

This project as per specified in the syllabus is authentically prepared by herself.

Dated:

**Bulbuli Khanikar**  
Assistant Professor  
Department of Zoology  
Gauhati University

---



DEPARTMENT OF ZOOLOGY  
GAUHATI UNIVERSITY  
Gopinath Bardoloi Nagar  
Guwahati -781 014, Assam, India

UGC-SAP (DRS Phase -III), DST (Govt. of India) FIST

Sponsored Department Center for: Aquaculture & Biodiversity & Bioinformatics  
Facilities

**Dr. Manas Das**  
ASST. PROFESSOR  
Phone 0361-2700294(O)  
09864827589 (Cell)

**CERTIFICATE**

This is to confirm that the thesis entitled “ROLE OF AQUAPORIN IN STREPTOZOTOCIN INDUCED HYPERGLYCEMIC MICE TREATED WITH POLYHERBAL FORMULATION (MD2021)” submitted by Ms Parishmita Mudai, bearing Roll No: PS-201-801-0047 with Registration No: 17012907 is a record of original research work carried out by her under my guidance and direct supervision in partial fulfillment for the degree of Master of Science in Zoology, Gauhati University.

The research outputs contained in the thesis is the outcome of her sole continuous efforts that has neither been published elsewhere nor formed the basis for the award of any other degree or diploma as such by any other University or Institution.

Place: Guwahati

Signature: *Manas Das.*

DR. MANAS DAS Ph.D. (NEHU)  
Asst. Prof. Deptt. of Zoology  
Gauhati University  
Guwahati-14



**DEPARTMENT OF ZOOLOGY**  
**GAUHATI UNIVERSITY**  
GUWAHATI: 781014, ASSAM

---

***C E R T I F I C A T E***

This is to certify that Mr/Ms **PRASTUTI BORUAH**, bearing University Roll No. **PS-201-801-0049**, Department of Zoology, Gauhati University was allotted the project entitled “**CYTOTOXIC AND GENOTOXIC EFFECTS OF THE INSECTICIDE CYPERMETHRIN ON *Allium Cepa* AT DIFFERENT STAGES OF MITOSIS**” for the partial fulfilment of the award of M.Sc. degree in Zoology (**Specialization: Cell & Molecular Biology**). It is hereby certified that the results incorporated in this report are finding of the experiments conducted by the candidate himself/herself and has not been presented elsewhere for the award of any degree.

Head  
Prof. Jogen Chandra Kalita  
Professor  
Department of Zoology

Supervisor  
Dr. Manuj Kumar Bharali,  
Associate Professor  
Department of Zoology

---

Dr. Manuj Kr. Bharali, Associate Professor  
Cell and Molecular Biology Lab  
Dept. Of Zoology, Gauhati University  
Guwahati: 781014, Assam  
Email: [manujkrbharali@gauhati.ac.in](mailto:manujkrbharali@gauhati.ac.in), M: +919436223708

## CERTIFICATE

This is to certify that Miss Rajlakshmi Ozah submits the dissertation entitled **“Study on certain aspects of biology of the razorbelly minnow, *Securicula gora* (Hamilton, 1822) from the Brahmaputra basin in Majuli, Assam”** in partial fulfillment for the award of the degree of Master of Science in Zoology. This dissertation is truly the result of her own investigation and has been completed under my supervision and guidance. Neither the dissertation as a whole nor any part of it was submitted by any other University for any research degree.

I further declare that the result of the dissertation has not been submitted to any other University or institution for the award of any degree or diploma course.

Hrishikesh Choudhury  
Assistant Professor  
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## CERTIFICATE

This is to certify that Miss **Rakhi Tumung** bearing roll number- PS-201-801-0054, registration number-17008329 has carried out this dissertation work titled **Study on captive breeding & larval rearing of indigenous fish Esomus danrica (Hamilton, 1822)** under my supervision, which is being submitted to Zoology Department, Gauhati University for the partial fulfilment of the degree of Master of Science in Zoology. The work reported in this thesis has been carried out by the candidate and has not been submitted to any other university for any other degree or diploma.

Dissertation Supervisor

Dr. Dandadhar Sarma

Professor

Department of Zoology

Gauhati University

## CERTIFICATE

This is to certify that **RUPTALIN ENGTIPI ROLL NO. PS-201-801-0055a** student of M.Sc. 4<sup>th</sup> semester of, Zoology, Specialization in Animal Ecology and Wildlife Biology, Department of Zoology, Gauhati University bearing Roll No: PS-201-801-0055 has completed the **MS Dissertation** entitled “**STUDIES ON THE DIVERSITY AND DISTRIBUTION OF DRAGONFLY FAUNA IN GAUHATI UNIVERSITY**” under our direct guidance and supervision. The present dissertation work is an original work conducted by the student for the degree of Master of Science in the subject of M. Sc. in Zoology, Specialization in Animal Ecology and Wildlife Biology, Gauhati University in the year 2022.

*Dr. Malabika Kakati Saikia*  
5/7/2022

**Dr. Malabika Kakati Saikia, Asst. Professor**  
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**CERTIFICATE**

This is to certify that Ms Sabana Sargam Rahman, bearing University Roll No. **PS-201-801-0056**, Department of Zoology, Gauhati University was allotted the project entitled "*Histopathological Changes in the Liver of Heteropneustes fossilis Exposed to 2, 4-Dichlorophenoxyacetic Acid*" for the partial fulfilment of the award of M. Sc degree in Zoology (**Specialization: Cell & Molecular Biology**). It is hereby certified that the results incorporated in this report are finding of the experiments conducted by the candidate himself/herself and has not been presented elsewhere for the award of any degree.

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Professor  
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Supervisor  
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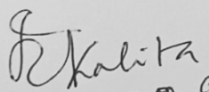
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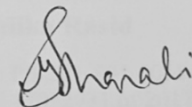


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### CERTIFICATE

This is to certify that Ms SHEHNAZ SIDDIKA RASID, bearing University Roll No. PS-201-801-0058, Department of Zoology, Gauhati University was allotted the project entitled "EVALUATION OF MICRONUCLEI AND NUCLEAR ANOMALIES IN *HETEROPNEUSTES FOSSILIS* AFTER SHORT TERM EXPOSURE TO 2,4-DICHLOROPHENOXYACETIC ACID (2,4-D)" for the partial fulfilment of the award of M. Sc. degree in Zoology (Specialization: Cell & Molecular Biology). It is hereby certified that the results incorporated in this report are finding of the experiments conducted by the candidate himself/herself and has not been presented elsewhere for the award of any degree.

  
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This is to certify that **Sukanya Baruah** bearing University Roll No. **GU-PS-201-801-0060** Department of Zoology, Gauhati University was allotted the project entitled "*An Evaluation of Genotoxicological Impacts of 2, 4-Dichlorophenoxyacetic Acid (2,4-D) on DNA Damage of Heteropneustes fossilis*" for the partial fulfilment of the award of M. Sc degree in Zoology (Specialization: Cell & Molecular Biology). It is hereby certified that the results incorporated in this report are finding of the experiments conducted by the candidate himself/herself and has not been presented elsewhere for the award of any degree.

Head

Prof. Jogen Chandra Kalita

Professor

Department of Zoology

*J. Kalita*  
19.12.22

Supervisor

Dr. Manuj Kumar Bharali

Associate Professor

Department of Zoology



# **CERTIFICATE**

**This is certify that Upasana Saikia has carried out this project work entitled A STUDY OF DIVERSITY OF MOTH (LEPIDOPTERA) IN GAUHATI UNIVERSITY CAMPUS, KAMRUP METRO, ASSAM, INDIA. under my guidance and supervision. The result incorporated in this project report is original and synthesized of her own investigation. The said project is submitted to the Department of Zoology, Gauhati University, Guwahati, Assam, India in partial fulfillment of the award of the degree of Masters of Science in Zoology (Entomology)**

**Bulbuli Khanikor**

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This is to certify that Bandana Kalita bearing Roll No. PS-201-801-0064 and Regd. No. 17001147 has carried out her study entitled "FUMIGANT TOXICITY OF 3 DIFFERENT PLANT ESSENTIAL OILS IN CONTROLLING SUBTERRANEAN TERMITE *Odontotermes obesus*" under my supervision. She has done the work sincerely and worked hard for preparing her dissertation. She has fulfilled all the requirements laid down in the regulations of Master of Science (M.Sc) examination, Gauhati University.

The dissertation is the result of her investigation and it has not been submitted by others for any degree. This dissertation is a record of original work done by her with sincere and persistent efforts that she had made in the course of this investigation. Above all, this dissertation work makes a genuine contribution to the field of further scientific investigation. I wish her grand success in future academic career.

Signature of Supervisor

Dr. Bulbuli Khanikor