

**“DNA BARCODING OF FRESHWATER FISHES FOUND IN
SONGAON CONFLUENCE OF NEERA AND KARHA RIVER IN PUNE
DISTRICT MAHARASHTRA”**



Tuljaram Chaturchand College of Baramati

In the partial Fulfilment of Requirement for the Degree of

Master of Science In ZOOLOGY

In the faculty of Science

By

Miss. Tamanna Siraj Tamboli

Under the Guidance of

Dr. D.M.Sangale

Co-Guide

Prof.S.P.Chordiya

P.G. DEPARTMENT OF ZOOLOGY

TULJARAM CHATURCHAND COLLEGE, BARAMATI (AUTONOMOUS)



CERTIFICATE

This is to certify that, the project report entitled "**Heavy metal analysis in muscle tissue of *Oreochromis mossambicus* from Nira River, Sangvi Malwadi, Baramati tehsil, Pune district, Maharashtra**" which is being submitted herewith for the award of M.Sc. in Zoology of Tuljaram Chaturchand College of Arts, Science and Commerce, Baramati (Autonomous) affiliated to Savitribai Phule Pune University, Pune. The results incorporated in this report are of the original research work carried out by **Miss. Pooja Shrikrishna Powar** under my supervision and guidance and to the best of my knowledge and belief, the work embodied in this report has not formed earlier for the award of any degree or similar title of this or any other University or examining body.

P. Kulkarni
24/04/2023
Co-Guide

S. Patil
26/4/23
Project Guide

P. Kulkarni
25.4.23
Head of department

P. Kulkarni
27.04.23
Internal Examiner

P. Kulkarni
26/04/2023
P.G. Co-ordinator

P. Kulkarni
27.4.23
External Examiner



CERTIFICATE

This is to certify that **MISS.TAMANNA SIRAJ TAMBOLI** is a M.Sc. final year student has carried out his M.Sc. Dissertation entitled **“DNA barcoding of freshwater fishes found in Songaon confluence of Neera and Karha River in Pune Maharashtra”** as a part of partial fulfillment for the degree of **MASTER OF SCIENCE IN ZOOLOGY** under my supervision in the Department of Zoology, Tuljaram Chaturchand College of Baramati.

Dmangale

Dr.D.M.Sangale

Project Guide

Rusom
25-4-23

Prof.S.P.Chordiya

co- guide

Dmangale

Dr.D.M.Sangale

PG co-ordinator

External Examiner

Rusom
27-4-23

Internal Examiner

prof.S.P.Chordiya

Rusom
25-4-23

Date - 27-04-2023

Head

Place-Baramati



2023/04/27 13:5

CERTIFICATE

This is, to certify that the work incorporated in project entitled "**Preparation of cost effective culture of *Daphnia* for evaluation of pesticide effects on its population and physiological parameters**" submitted by **Mr. Akshay Arjun Bhong** was carried out by the candidate under my supervision in the Post-Graduate Department Of Zoology, Tuljaram Chaturchand College of Arts, Science And Commerce (Autonomous), Baramati-413102, Dist-Pune for the fulfillment of degree of M.Sc. Zoology.

Place:-Baramati

Guide:-Mr. Mayur Shitole

MS
24/04/23

Date:- 24/04/2023

Co-guide: Ms. Shivani Dombale

Sombale
24/04/23

PR
27.4.23
Internal Examiner

Shivani
27.4.23
External Examiner

Shivani
24.4.23
Head

Sombale
24/04/23
P.G. Coordinator



**Anekant Education Society's
Tuljaram Chaturchand College of Arts, Science & Commerce Baramati.
(Autonomous)**

**“HEAVY METAL ANALYSIS IN MUSCLE TISSUE OF
OREOCHROMIS MOSSAMBICUS FROM NIRA RIVER,
SANGVI MALWADI, BARAMATI TEHSIL, PUNE
DISTRICT, MAHARASHTRA”**

A

PROJECT REPORT

SUBMITTED TO

**DEPARTMENT OF ZOOLOGY,
TULJARAM CHATURCHAND COLLEGE,
BARAMATI (AUTONOMOUS)**

**FOR THE PARTIAL FULFILMENT
M.Sc. IN ZOOLOGY**

BY

MISS. POOJA SHRIKRISHNA POWAR

**UNDER THE GUIDANCE OF
MISS. S. K. JAMBLE**

P.G. DEPARTMENT OF ZOOLOGY,

**TULJARAM CHATURCHAND COLLEGE
BARAMATI
APRIL 2023**

Research project report on



“Preparation of cost effective culture of *Daphnia* for evaluation of pesticide effects on its population and physiological parameters”

Submitted to

Tuljaram Chaturchand College of Art, Science and Commerce,

Baramati (Autonomous)

In the partial fulfillment of the requirements for the Awards of Master of Science
(M.Sc.) Zoology

Submitted by

Mr. Akshay Arjun Bhong (Roll number- 17201)

Under the guidance of,

Mr. Mayur S. Shitole (Guide)

&

Ms. Shivani S. Dombale (Co-guide)

Department of Zoology, Tuljaram Chaturchand College, Baramati, Dist pune,
Maharashtra, India,

April 2023



CERTIFICATE

This is to certify that **MR. GHADGE SHUBHAM RAMRAJE** is a M.Sc. final year student has carried out his M.Sc. Dissertation entitled “**DNA barcoding of freshwater fishes found in Backwater of Ujani dam in Pune Maharashtra**” as a part of partial fulfillment for the degree of **MASTER OF SCIENCE IN ZOOLOGY** under my supervision in the Department of Zoology, **Tuljaram Chaturchand College of Baramati.**

Dmeangale
Dr.D.M.Sangale
(Project guide)

Prof.S.P.Chordiya
Prof.S.P.Chordiya
(Co-guide)

Dmeangale
Dr.D.M.Sangale
(PG Co-ordinator)

Internal Examiner
Internal Examiner

External Examiner
External Examiner

Head of Department
Head of Department
(Prof.S.P.Chordiya)

Date: 27-04-2023

Place: Baramati

**“DNA BARCODING OF FRESHWATER FISHES FOUND IN BACKWATER OF UJANI
DAM IN PUNE DISTRICT MAHARASHTRA”**



**TULJARAM CHATURCHAND COLLEGE,
BARAMATI (AUTONOMOUS)**

FOR THE PARTIAL FULFILMENT

Master of Science In ZOOLOGY

BY

Mr. Ghadge Shubham Ramraje

UNDER THE GUIDANCE OF

Dr. D.M. Sangale

Co – Guide: Prof. S.P. Chordiya

P.G. DEPARTMENT OF ZOOLOGY

TULJARAM CHATURCHAND COLLEGE, BARAMATI (AUTONOMOUS)

2022-23

**“DNA BARCODING OF FRESHWATER FISHES FOUND IN BACKWATER OF
UJANI DAM IN PUNE DISTRICT MAHARASHTRA”**



**TULJARAM CHATURCHAND COLLEGE,
BARAMATI (AUTONOMOUS)**

FOR THE PARTIAL FULFILMENT

Master of Science In ZOOLOGY

BY

Miss. Jadhav Shrutika Suresh

UNDER THE GUIDANCE OF

Dr. D.M. Sangale

Co – Guide: Prof. S.P. Chordiya

**P.G. DEPARTMENT OF ZOOLOGY
TULJARAM CHATURCHAND COLLEGE, BARAMATI (AUTONOMOUS)**

2022-23



CERTIFICATE

This is to certify that **MISS. JADHAV SHRUTIKA SURESH** is a M.Sc. final year student has carried out his M.Sc. Dissertation entitled “**DNA barcoding of freshwater fishes found in Backwater of Ujani dam in Pune Maharashtra**” as a part of partial fulfillment for the degree of **MASTER OF SCIENCE IN ZOOLOGY** under my supervision in the Department of Zoology, **Tuljaram Chaturchand College of Baramati.**

Dmeangale

Dr.D.M.Sangale
(Project guide)

S.P.Chordiya
25.4.23

Prof.S.P.Chordiya
(Co-guide)

Dmeangale

Dr.D.M.Sangale
(PG Co-ordinator)

RPB

Internal Examiner

S.P.Chordiya
27.4.23

External Examiner

S.P.Chordiya
25.4.23

Head of Department
(Prof.S.P.Chordiya)

Date: 29-04-2023

Place: Baramati



CERTIFICATE

This is to certify that the project entitled "STUDY OF EFFECT OF UREA AND POTASSIUM FERTILIZER ON EPIGEIC *EISENIA FETIDA*" Submitted by **MR. SHAIKH AASIF UMAR** for the award of M.Sc. degree in Zoology of Savitribai Phule Pune University. She has worked under my supervision and her work is original.

Date: 25/04/2023

Place: Baramati

ASST. PROF. MORE K. U.

(PROJECT GUIDE)

Dr. SANGLE D. M.

(PG CO-ORDINATOR)

ASST. PROF. CHORDIYA S. P.

(HEAD OF DEPARTMENT)

EXTERNAL EXAMINAR



**"STUDY OF EFFECT OF *AZOTOBACTER* AND *RHIZOBIUM* FERTILIZER
ON EPIGEIC *EISENIA FETIDA*"
A PROJECT REPORT SUBMITTED**

TO

**DEPARTMENT OF ZOOLOGY,
TULJARAM CHATURCHAND COLLEGE,
BARAMATI (AUTONOMOUS)**

FOR THE PARTIAL FULFILAMENT

M. Sc. IN ZOOLOGY

BY

MISS: DESHMUKH MADHURA MOHANRAO

M.Sc. -II

EXAM SEAT NO: 6502

UNDER THE GUIDENCE OF

PROF. KISHOR UTTAM MORE

**P.G. DEPARTMENT OF ZOOLOGY
TULJARAM CHATURCHAND COLLEGE**

BARAMATI

YEAR- 2022-23



CERTIFICATE

This is to certify that the project entitled "STUDY OF EFFECT OF AZOTOBACTER AND RHIZOBIUM FERTILIZER ON EPIGEIC *EISENIA FETIDA*" Submitted by Miss. Deshmukh Madhura Mohanrao for the award of M.Sc. degree in Zoology of Savitribai Phule Pune University. She has worked under my supervision and her work is original.

Date: 25/04/2023

Place: Baramati

ASST. PROF. MORE K. U.

(PROJECT GUIDE)

Dr. SANGALE D. M.

(P. G. CO-ORDINATOR)

ASST. PROF. CHORDIYA S. P.

(HEAD OF DEPARTMENT)

EXTERNAL EXAMINAR

**“HEAVY METAL ANALYSIS OF *OREOCHROMIS MOSSAMBICUS*
FROM NIRA RIVER, AT SANGAVI, TEHSIL-BARAMATI DIST-PUNE,
MAHARASHTRA”**



**RESEARCH PROJECT SUBMITTED TO THE SAVITRIBAI PHULE
PUNE UNIVERSITY, PUNE**

FOR THE DEGREE OF MASTER OF SCIENCE IN ZOOLOGY

BY

MISS: SHINDE PUJA VIJAYKUMAR

MSc-II

EXAM SEAT NO: 6517

RESEARCH PROJECT GUIDE

MISS. VARSHA H. BHONG

CO GUIDE: Dr. VITTHAL B. NALE

CERTIFICATE

This is to certify that the project entitled “**HEAVY METAL ANALYSIS OF OREOCHROMIS MOSSAMBICUS FROM NIRA RIVER, AT SANGAVI, TEHSIL-BARAMATI DIST-PUNE, MAHARASHTRA**” Submitted by Miss. Puja Vijaykumar shinde for the award of M.Sc degree in Zoology of the Savitribai Phule Pune University. She has worked under my supervision and her work is original

MISS. VARSHA H. BHONG

(PROJECT GUIDE)

Dr. VITTHAL B. NALE

(PROJECT CO-GUIDE)

Dr. DEEPALI M. SANGALE

(PG CO-ORDINATOR)

MR. SANDIP P. CHORDIYA

(HEAD OF DEPARTMENT)

EXTERNAL EXAMINER

INTERNAL EXAMINER

Research project report on



“Preparation of cost effective culture of *Daphnia* for evaluation of pesticide effects on its population and physiological parameters”

Submitted to

**Tuljaram Chaturchand College of Art, Science and Commerce,
Baramati (Autonomous)**

In the partial fulfillment of the requirements for the Awards of Master of Science
(M.Sc.) Zoology

Submitted by

Mr. Samiran Sutradhar Ahiwale (Roll number- 17197)

Under the guidance of,

Mr. Mayur S. Shitole (Guide)

&

Ms. Shivani S. Dombale (Co-guide)

Department of Zoology, Tuljaram Chaturchand College, Baramati, Dist pune,
Maharashtra, India,

April 2023

CERTIFICATE

This is, to certify that the work incorporated in project entitled "**Preparation of cost effective culture of *Daphnia* for evaluation of pesticide effects on its population and physiological parameters**" submitted by **Mr. Samiran Sutradhar Ahiwale** was carried out by the candidate under my supervision in the Post-Graduate Department Of Zoology, Tuljaram Chaturchand College of Arts, Science And Commerce (Autonomous), Baramati-413102, Dist-Pune for the fulfillment of degree of M.Sc. Zoology.

Place:-Baramati

Date:- 24/04/2023

Guide:-Mr. Mayur Shitole

Co-guide: Ms. Shivani Dombale

Shitole
24/04/2023

Dombale
24/04/23

Samiran
24/4/23
Internal Examiner

Mayur
27.4.23
External Examiner

Shitole
24/4/23
Head

Dombale
24/04/2023
P.G. coordinator

**“DNA BARCODING OF FRESHWATER FISHES FOUND IN BACKWATER OF UJANI
DAM IN PUNE DISTRICT MAHARASHTRA”**



**TULJARAM CHATURCHAND COLLEGE,
BARAMATI (AUTONOMOUS)**

FOR THE PARTIAL FULFILMENT

Master of Science In ZOOLOGY

BY

Mr. Ghadge Shubham Ramraje

UNDER THE GUIDANCE OF

Dr. D.M. Sangale

Co – Guide: Prof. S.P. Chordiya

P.G. DEPARTMENT OF ZOOLOGY

TULJARAM CHATURCHAND COLLEGE, BARAMATI (AUTONOMOUS)

2022-23

CERTIFICATE

This is, to certify that the work incorporated in project entitled "**Preparation of cost effective culture of *Daphnia* for evaluation of pesticide effects on its population and physiological parameters**" submitted by **Ms. Pratiksha Mohan Changan** was carried out by the candidate under my supervision in the Post-Graduate Department Of Zoology, Tuljaram Chaturchand College of Arts, Science And Commerce (Autonomous), Baramati-413102, Dist-Pune for the fulfillment of degree of M.Sc. Zoology.

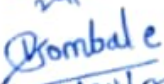
Place:-Baramati


Date:- 24/04/2023


Guide:-Mr. Mayur Shitole


Co-guide: Ms. Shivani Dombale



24/04/2023


24/04/23


23.4.23
Internal Examiner


27.4.23
External Examiner


24.4.23
Head


24/04/2023
P.G. COORDINATOR

**“DNA BARCODING OF FRESHWATER FISHES FOUND IN BACKWATER OF
UJANI DAM IN PUNE DISTRICT MAHARASHTRA”**



**TULJARAM CHATURCHAND COLLEGE,
BARAMATI (AUTONOMOUS)**

FOR THE PARTIAL FULFILMENT

Master of Science In ZOOLOGY

BY

Miss. Jadhav Shrutika Suresh

UNDER THE GUIDANCE OF

Dr. D.M. Sangale

Co – Guide: Prof. S.P. Chordiya

P.G. DEPARTMENT OF ZOOLOGY

TULJARAM CHATURCHAND COLLEGE, BARAMATI (AUTONOMOUS)

2022-23

Research project report on



“Preparation of cost effective culture of *Daphnia* for evaluation of pesticide effects on its population and physiological parameters”

Submitted to

**Tuljaram Chaturchand College of Art, Science and Commerce,
Baramati (Autonomous)**

In the partial fulfillment of the requirements for the Awards of Master of Science
(M.Sc.) Zoology.

Submitted by

Ms. Pratiksha Mohan Changan (Roll number- 17193)

Under the guidance of,

Mr. Mayur S. Shitole (Guide)

&

Ms. Shivani S. Dombale (Co-guide)

Department of Zoology, Tuljaram Chaturchand College, Baramati, Dist pune,
Maharashtra, India,

April 2023

CERTIFICATE

This is to certify that the project entitled "STUDIES ON EFFECT OF TEMPERATURE ON SILKMOTH LARVAE" Submitted by Mr. Krantisen Dinkar More for the award of M.Sc. degree in Zoology of the Savitribai Phule Pune University. He has worked under my supervision and her work is original.

Date: 25/04/2023

Place: Baramati



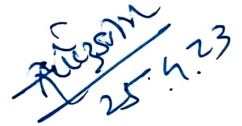
Asst. Prof. K. U. MORE

(PROJECT GUIDE)



Dr. D. M. SANGALE

(P. G. CO-ORDINATOR)



Asst. Prof. S. P CHORDIYA

(HEAD OF DEPARTMENT)



EXTERNAL EXAMINAR



CERTIFICATE

This is to certify that **MR. GHADGE SHUBHAM RAMRAJE** is a M.Sc. final year student has carried out his M.Sc. Dissertation entitled “**DNA barcoding of freshwater fishes found in Backwater of Ujani dam in Pune Maharashtra**” as a part of partial fulfillment for the degree of **MASTER OF SCIENCE IN ZOOLOGY** under my supervision in the Department of Zoology, **Tuljaram Chaturchand College of Baramati.**

Dmeangale
Dr.D.M.Sangale
(Project guide)

Rusom
25.4.23
Prof.S.P.Chordiya
(Co-guide)

Dmeangale
Dr.D.M.Sangale
(PG Co-ordinator)

APB
Internal Examiner

Rusom
27.4.23
External Examiner

Rusom
25.4.23
Head of Department
(Prof.S.P.Chordiya)

Date: *27-04-2023*

Place: **Baramati**

**“Study of Morphometry and Length-Weight Relationship
of *Pterygoplichthys pardalis* from Bhima River”**

**A PROJECT REPORT SUBMITTED TO
TULJARAM CHATURCHAND COLLEGE OF ARTS, SCIENCE & COMMERCE,
BARAMATI. (AUTONOMOUS)**



**FOR THE PARTIAL FULFILMENT OF
M.Sc. IN ZOOLOGY**

BY

MISS. GHANWAT KOMAL SANJAY

Roll No: 17186

Exam Seat No: 6518

**UNDER THE GUIDANCE OF
MR. SUDARSHAN RAMBHAU MARKAD
P.G. DEPARTMENT OF ZOOLOGY,
TULJARAM CHATURCHAND COLLEGE, BARAMATI.
(AUTONOMOUS)**

2022-23



Department of Zoology

CERTIFICATE

This is to certify that Ms. Ghanwat Komal Sanjay has satisfactorily completed his project work carried out for a period of one year towards the partial fulfilment of M.Sc. in Zoology, Tuljaram chaturchand College, Baramati.

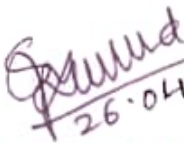
Her work submitted in the dissertation is entitled: -

**“Study of Morphometry and Length-Weight Relationship of
Pterygoplichthys pardalis from Bhima River”**

This project has been conducted under my supervision and guidance.

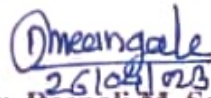
Place: Baramati

Date: 27 April 2023


26.04.2023

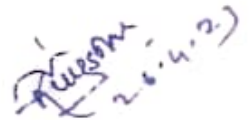
Mr. Sudarshan R. Markad

Project Guide


26/04/23

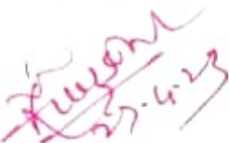
Dr. Deepali M. Sangale

P.G. Coordinator

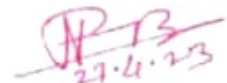

26.4.23

Prof. Sandip P. Chordiya

Head, Department of Zoology


27.4.23

External Examiner


27.4.23

Internal Examiner



CERTIFICATE

This is to certify that **MISS. JADHAV SHRUTIKA SURESH** is a M.Sc. final year student has carried out his M.Sc. Dissertation entitled “**DNA barcoding of freshwater fishes found in Backwater of Ujani dam in Pune Maharashtra**” as a part of partial fulfillment for the degree of **MASTER OF SCIENCE IN ZOOLOGY** under my supervision in the Department of Zoology, **Tuljaram Chaturchand College of Baramati.**

Dmangale

Dr.D.M.Sangale
(Project guide)

S.P.Chordiya
25.4.23

Prof.S.P.Chordiya
(Co-guide)

Dmangale

Dr.D.M.Sangale
(PG Co-ordinator)

APB

Internal Examiner

S.P.Chordiya
27.4.23

External Examiner

S.P.Chordiya
25.4.23

Head of Department
(Prof.S.P.Chordiya)

Date: 27-04-2023

Place: Baramati

HEAVY METAL ANALYSIS IN LIVER TISSUE OF *OREOCHROMIS MOSSAMBICUS* AND WATER ANALYSIS FROM NIRA RIVER, SANGAVI TEHSIL-BARAMATI DISTRICT-PUNE MAHARASHTRA”

Savitribai Phule Pune University

सावित्रीबाई फुले पुणे विद्यापीठ



**RESEARCH PROJECT SUBMITTED TO THE SAVITRIBAI PHULE
PUNE UNIVERSITY, PUNE**

FOR THE DEGREE OF MASTER OF SCIENCE IN ZOOLOGY

BY

MISS: SALVE ADITI PRADIP

MSc-II

EXAM SEAT NO: 6509

RESEARCH PROJECT GUIDE

ASSI. PROF. VARSHA. H. BHONG

CO GUIDE. DR V.B. NALE



2022 – 2023

CERTIFICATE

This is to certify that the project entitled HEAVY METAL ANALYSIS IN LIVER TISSUE OF *OREOCHROMIS MOSSAMBICUS* AND WATER ANALYSIS FROM NIRA RIVER, SANGAVI TEHSIL-BARAMATI DISTRICT-PUNE MAHARASHTRA" Submitted by Miss. Salve Aditi Pradip for the award of M.Sc. degree in Zoology of the Savitribai Phule Pune University.

She has worked under my supervision and her work is original.

ASST. PROF. VARSHA H. BHONG

(PROJECT GUIDE)

DR. VITTHAL B. NALE

(PROJECT CO GUIDE)

DR. DEEPALI M. SANGALE

(PG CO-ORDINATOR)

PROF. SANDIP P. CHORDIYA

(HEAD OF DEPARTMENT)

EXTERNAL EXAMINER

INTERNAL EXAMINER

STUDIES ON EFFECT OF LEAF AGE ON SILKMOTH LARVAE

Savitribai Phule Pune University

सवित्रीबाई फुले पुणे विद्यापीठ



**RESEARCH PROJECT SUBMITTED TO THE SAVITRIBAI PHULE
PUNE UNIVERSITY, PUNE**

FOR THE DEGREE OF MASTER OF SCIENCE IN ZOOLOGY

BY

MISS.GIRME PRADNYA SANTOSH

MSc-II

EXAM SEAT NO: 6506

RESEARCH PROJECT GUIDE

Asst. Prof. K.U. MORE



2022 – 2023

CERTIFICATE

This is to certify that the project entitled "STUDIES ON EFFECT OF LEAF AGE ON SILKMOTH LARVAE" Submitted by Miss. Girme Pradnya for the award of M.Sc degree in Zoology of the Savitribai Phule Pune University. She has worked under my supervision and her work is original.

Date: 25/04/2023

Place: Baramati



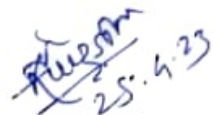
Asst. Prof. K. U. MORE

(PROJECT GUIDE)




Dr. D. M. SANGALE

(P. G. CO-ORDINATOR)



Asst. Prof. S. P. CHORDIYA

(HEAD OF DEPARTMENT)


27.4.23
EXTERNAL EXAMINAR

**“STUDY OF EFFICIENCY OF PLANTS AS NATURAL INSECT REPELLANTS
AGAINST COCKROACHES”**

A PROJECT REPORT SUBMITTED TO

**TULJARAM CHATURCHAND COLLEGE OF ARTS, SCIENCE & COMMERCE,
BARAMATI, (AUTONOMOUS)**



FOR THE PARTIAL FULFILMENT OF

M.Sc. IN ZOOLOGY

BY

MISS. CHANDGUDE PRANALI SHIVAJI

Roll No: 17225

Exam Seat No: 6503

UNDER THE GUIDANCE OF

Ms. SHARVARI SHAH

P.G. DEPARTMENT OF ZOOLOGY,

TULJARAM CHATURCHAND COLLEGE, BARAMATI, (AUTONOMOUS)


2022-23

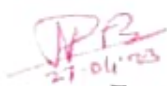


CERTIFICATE

This is to certify that the project report "STUDY OF EFFICIENCY OF PLANTS AS NATURAL INSECT REPELLANTS AGAINST COCKROACHES" which is being submitted herewith for the award of the M.Sc. in Zoology of Tuljaram Chaturchand College, Baramati. (Autonomous) is the result of the original research work completed by Miss. Chandgude Pranali Shivaji under my supervision and guidance and to the best of my knowledge and belief the work embodied in this report has not formed earlier the basis for the award of any Degree or Similar title of this or any other University or examining body.


P. G. Coordinator


Project Guide
(Ms. Sharvari Shah)


Examiner


Head,

Department of Zoology,
T. C. College, Baramati



Department of Zoology

CERTIFICATE

This is to certify that Ms. Salunkhe Pragati Santosh has satisfactorily completed his project work carried out for a period of one year towards the partial fulfilment of M.Sc. in Zoology, Tuljaram chaturchand College, Baramati.

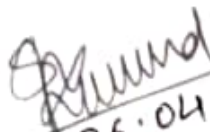
Her work submitted in the dissertation is entitled: -

“Study of Sex Ratio and Gonadosomatic Index of *Pterygoplichthys pardalis* from Bhima River”

This project has been conducted under my supervision and guidance.

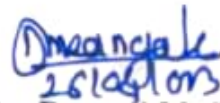
Place: Baramati

Date: 27 April 2023


26.04.2023

Mr. Sudarshan R. Markad

Project Guide


26/04/2023


Dr. Deepali M. Sangale

P.G. Coordinator


26.4.23

Prof. Sandip P. Chordiya

Head, Department of Zoology


27.4.23

External Examiner


27.4.23

Internal Examiner



Department of Zoology

CERTIFICATE

This is to certify that Ms. Ghanwat Komal Sanjay has satisfactorily completed his project work carried out for a period of one year towards the partial fulfilment of M.Sc. in Zoology, Tuljaram chaturchand College, Baramati.

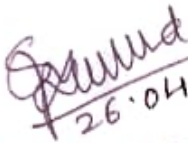
Her work submitted in the dissertation is entitled: -

**“Study of Morphometry and Length-Weight Relationship of
Pterygoplichthys pardalis from Bhima River”**

This project has been conducted under my supervision and guidance.

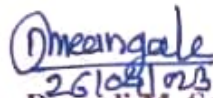
Place: Baramati

Date: 27 April 2023


26.04.2023

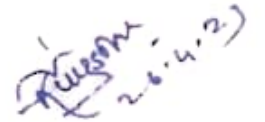
Mr. Sudarshan R. Markad

Project Guide


26/04/23

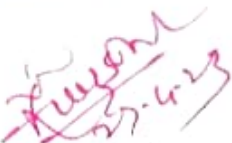
Dr. Deepali M. Sangale

P.G. Coordinator

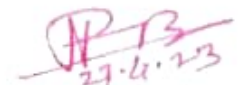

26.4.23

Prof. Sandip P. Chordiya

Head, Department of Zoology


27.4.23

External Examiner


27.4.23

Internal Examiner

**“Study of Morphometry and Length-Weight Relationship
of *Pterygoplichthys pardalis* from Bhima River”**

**A PROJECT REPORT SUBMITTED TO
TULJARAM CHATURCHAND COLLEGE OF ARTS, SCIENCE & COMMERCE,
BARAMATI. (AUTONOMOUS)**



**FOR THE PARTIAL FULFILMENT OF
M.Sc. IN ZOOLOGY**

BY

MISS. GHANWAT KOMAL SANJAY

Roll No: 17186

Exam Seat No: 6518

**UNDER THE GUIDANCE OF
MR. SUDARSHAN RAMBHAU MARKAD
P.G. DEPARTMENT OF ZOOLOGY,
TULJARAM CHATURCHAND COLLEGE, BARAMATI.
(AUTONOMOUS)**

2022-23

**“STUDY OF PHYSICOCHEMICAL PARAMETERS OF NIRARIVERFROMBARAMATI
TEHSIL, PUNE DISTRICT, (MAHARASHITRAS :INDIA)”**

A PROJECT REPORT SUBMITTED TO
TULJARAM CHATURCHAND COLLEGE OF ARTS, SCIENCE & COMMERCE, BARAMATI.
(AUTONOMOUS)



FOR THE PARTIAL FULFILMENT OF
M.Sc. IN ZOOLOGY

BY

Miss : SHILWANT VIDYA BAPU

Roll No: 17200

Exam Seat No: 6522

UNDER THE GUIDANCE OF

Dr. NALE V. B .

P.G. DEPARTMENT OF ZOOLOGY,
TULJARAM CHATURCHAND COLLEGE, BARAMATI. (AUTONOMOUS)

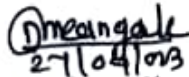
2022-23

CERTIFICATE

This is to certify that the project report "STUDY OF PHYSICOCHEMICAL PARAMETERS OF NIRA RIVER FROM BARAMATI TEHSIL, PUNE DISTRICT, MAHARASHTRA, INDIA" which is being submitted herewith for the award of the M.Sc. in Zoology of **Tuljaram Chaturechand College, Baramati. (Autonomous)** affiliated to Savitribai Phule Pune University, Pune. The results incorporated in this report are of the original research work carried out by **Miss. Shilwant Vidya Bapu** under my supervision and guidance and to the best of my knowledge and belief the work embodied in this report has not formed earlier the basis for the award of any Degree or Similar title of this or any other University or examining body.




Project Guide
(Dr. Nale V. B.)



P. G Coordinator



Head of Department



Examiner

**“Study of Sex Ratio and Gonadosomatic Index of
Pterygoplichthys pardalis from Bhima River”**

**A PROJECT REPORT SUBMITTED TO
TULJARAM CHATURCHAND COLLEGE OF ARTS, SCIENCE &
COMMERCE, BARAMATI. (AUTONOMOUS)**



**FOR THE PARTIAL FULFILMENT OF
M.Sc. IN ZOOLOGY**

BY

MISS. SALUNKHE PRAGATI SANTOSH

Roll No: 17187

Exam Seat No: 6519

UNDER THE GUIDANCE OF

MR. SUDARSHAN RAMBHAU MARKAD

P.G. DEPARTMENT OF ZOOLOGY,

TULJARAM CHATURCHAND COLLEGE, BARAMATI. (AUTONOMOUS)

2022-23



Anekant Education Society's

Tuljaram Chaturchand college of Arts, Science & Commerce Baramati.

(Autonomous)

**"HEAVY METAL ANALYSIS IN MUSCLE TISSUE OF *Oreochromis mossambicus* FROM NIRA RIVER,
SANGAVI MALVADI, BARAMATI TEHSIL, PUNE DISTRICT, MAHARATHRA"**

A

PROJECT REPORT

SUBMITTED TO

DEPARTMENT OF ZOOLOGY,

TULJARAM CHATURCHAND COLLEGE,

BARAMATI (AUTONOMOUS)

FOR THE PARTIAL FULFILMENT

M.Sc. IN ZOOLOGY

BY

MISS. KOTHMIRE AARTI SANTOSH

UNDER THE GUIDENCE OF

MISS: S. K. JAMBLE

P.G. DEPARTMENT OF ZOOLOGY,

TULJARAM CHATURCHAND COLLEGE

BARAMATI

APRIL 2023



CERTIFICATE

This is to certify that, the project report entitled "**Heavy Metal Analysis in muscle tissue of *Oreochromis mossambicus* Nira River, Sangavi malvadi, Baramati tehsil, Pune district, Maharashtra**" which is being submitted herewith for the award of M.Sc. in zoology of Tuljaram Chaturchand College of Arts, Science and Commerce, Baramati (Autonomous) affiliated to Savitribai Phule Pune University, Pune. The results incorporated in this report are of the original research work carried out by **Miss. Kothmire Aarti Santosh** under by supervision and guidance and to the best of my knowledge and belief, the work embodied in this report has not formed earlier for the award of any degree or similar title of this or any other University or examining body.

K. Kothmire
24/04/2023

Project CO- Guide

G. Gembh

21/4/23

Project Guide

K. Kothmire
24/4/23

Head of the department

P. B.
27.4.23

Internal Examiner

D. Mangale
29/04/23

P. G. Co. ordinator

K. Kothmire
27.4.23

External Examiner

STUDIES ON EFFECT OF TEMPERATURE ON SILKMOTH LARVAE

Savitribai Phule Pune University

सावित्रीबाई फुले पुणे विद्यापीठ



RESEARCH PROJECT SUBMITTED TO THE SAVITRIBAI
PHULEPUNE UNIVERSITY, PUNE
FOR THE DEGREE OF MASTER OF SCIENCE IN ZOOLOGY

BY

MR. KRANTISEN DINKAR MORE

MSc-II

EXAM SEAT NO: 6508

RESEARCH PROJECT GUIDE

Asst. Prof. K. U. MORE



2022 – 2023

CERTIFICATE

This is to certify that the project entitled "STUDIES ON EFFECT OF TEMPERATURE ON SILKMOTH LARVAE" Submitted by Mr. Krantisen Dinkar More for the award of M.Sc. degree in Zoology of the Savitribai Phule Pune University. He has worked under my supervision and her work is original.

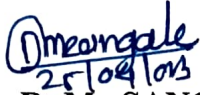
Date: 25/04/2023

Place: Baramati



Asst. Prof. K. U. MORE

(PROJECT GUIDE)



Dr. D. M. SANGALE

(P. G. CO-ORDINATOR)



Asst. Prof. S. P CHORDIYA

(HEAD OF DEPARTMENT)



EXTERNAL EXAMINAR



**“STUDY OF EFFECT OF UREA AND POTASSIUM FERTILIZER
ON EPIGEIC *EISENIA FETIDA*”**

A PROJECT REPORT SUBMITTED

TO

**DEPARTMENT OF ZOOLOGY,
TULJARAM CHATURCHAND COLLEGE,
BARAMATI (AUTONOMOUS)**

FOR THE PARTIAL FULFILAMENT

M. Sc. IN ZOOLOGY

BY

MR: SHAIKH AASIF UMAR

M.Sc. –II

EXAM SEAT NO: 6529

UNDER THE GUIDENCE OF

PROF. KISHOR UTTAM MORE

P.G. DEPARTMENT OF ZOOLOGY

TULJARAM CHATURCHAND COLLEGE

BARAMATI

YEAR- 2022-23



CERTIFICATE

This is to certify that the project entitled “STUDY OF EFFECT OF UREA AND POTASSIUM FERTILIZER ON EPIGEIC *EISENIA FETIDA*” Submitted by **MR. SHAIKH AASIF UMAR** for the award of M.Sc. degree in Zoology of Savitribai Phule Pune University. She has worked under my supervision and her work is original.

Date: 25/04/2023

Place: Baramati

ASST. PROF. MORE K. U.

(PROJECT GUIDE)

Dr. SANGALE D. M.

(PG CO-ORDINATOR)

ASST. PROF. CHORDIYA S. P.

(HEAD OF DEPARTMENT)

EXTERNAL EXAMINAR