

A PROJECT REPORT ON:

“STUDY OF DIVERSITY OF BIRDS FROM RANKALA LAKE”

SUBMITTED TO:

DEPARTMENT OF ZOOLOGY

VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)



(स्वायत्त) कोल्हापूर

**IN THE PARTIAL FULFILLMENT OF BACHELOR OF SCIENCE IN
ZOOLOGY**

IN THE YEAR: 2022-2023

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CLASS B. Sc. III

UNDER THE GUIDANCE OF

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CERTIFICATE


This is to certify that the project entitled, “**Study of Diversity of Bird from Rankala Lake**” being submitted herewith for the Degree of Bachelors of Zoology to the Department of Zoology Vivekanand college, Kolhapur (Autonomous) Affiliated to Shivaji University, Kolhapur, under the faculty of Science is the result of the original work completed by **Mr. Devendra Somnath Chavan** under my supervision and guidance and to the best of my knowledge and belief, the work embodied in this project has not formed earlier.

Place: Kolhapur

Date: 29/04/2023


Project Supervisor


Examiner


Dr. G. K. Sontakke
Head,
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DECLARATION

We the undersigned students, declare that the project entitled, “**Study of Diversity of Bird from Rankala Lake**” is submitted by us under the supervision of **Miss Pallavi S. Shetfalkar** Assistant Professor, Department of Zoology, Vivekanand College, Kolhapur (Autonomous).

It is our original work. The empirical findings in this project are based on the data collected by us and it is authenticable to the best of our knowledge. The presented matter is not copied from any other source.

Place: Kolhapur

Date: 29/10/2023

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Devendra Sammath
chavan

CERTIFICATE

This is to certify that the project entitled, “**Study of Diversity of Bird from Rankala Lake**” being submitted herewith for the Degree of Bachelors of Zoology to the Department of Zoology Vivekanand college, Kolhapur (Autonomous) Affiliated to Shivaji University, Kolhapur, under the faculty of Science is the result of the original work completed by **Mr. Adesh Ajit Alman** under my supervision and guidance and to the best of my knowledge and belief, the work embodied in this project has not formed earlier.

Place: Kolhapur

Date: 29/04/2023


Project Supervisor

Dr. G. K. Sontakke

Examiner



ACKNOWLEDGEMENT

I wish to express my deepest sense of gratitude to my project supervisor Miss Pallavi S. Shetfalkar, for his/ her continuous help and valuable guidance during the entire period of my Project work. It is a genuine pleasure to express my deep sense of thanks to **Dr. G. K. Sontakke** Head, Department of Zoology, Vivekanand College Kolhapur (Autonomous) for administrative help and encouragement during the Project work. I express my profound thanks to **Dr. R. R. Kumbhar** Principal, Vivekanand College Kolhapur (Autonomous) for his constant support and inspiration.

I am also thankful to other faculties of Department of Zoology who have directly or indirectly guided and helped me in the Project work.

I am also thankful to non-teaching staff for their constant co-operation during project work.

Mr. Adesh Ajit Alman

Mr. Devendra Somnath Chavan

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Introduction

Birds are the one form of organisms that nearly everyone encounters every day like most insects. However, we sometimes take them for granted, but these creatures have been constant throughout human history (DeGraaf 1978). Humans have a fascination with birds that goes back thousands of years across nearly every culture earth has ever witnessed. One of the fascinating things about the birds is their migration. The movement of birds from one place to another is an incredible migratory behavioral cycle driven by evolutionary trends among different species of birds and makes them one of the unique and fascinating creatures of this natural world (Lincoln & Peterson 1979).

Birds are one the best indicators of our environmental health since we can predict the health of any ecosystem by monitoring birds that are residing in a particular place. Many trophic levels from mid-level consumers to top predators are occupied by the birds. Besides other organisms living in a particular environment, birds help in maintaining sustainable population levels of their prey and predator species (Levey & Stiles 1994). Many species of birds play an important role in plant reproduction through their services as pollinators and many acts as keystone species in an ecosystem (Anderson et al. 2016; Plunkett 1979). The bird composition of a site depends on the vegetation structure. Existences of trees, bushes, creepers are very important to them (Harisha and Hosetti, 2009)

Bird watching or birding is the observation and study of birds with the naked eye or through a visual enhancement device like binoculars. Birding often involves a significant auditory component, as many bird species are more readily detected and identifies by ear than by eye. Most birdwatchers pursue this activity mainly for recreational or social reasons, unlike ornithologist. Who engage in the study of birds using more formal scientific methods. Birding (or, as it's more commonly known, birdwatching) is the observation of birds as recreation. It is a pastime, as opposed to ornithology, the study of birds and their habitats which employs a more scientific approach. Birding is an inexpensive and delightful way to learn about nature's winged wonders – and the perfect to while away the time outdoors.

Rankala Lake is at a distance of 2 km from Sri Mahalakshmi Ambabai Temple, and 4 km from Kolhapur Railway Station. Rankala lake is marked by the natural beauty and serene environment, make it one of the must-visit places as part of Kolhapur Tour Packages. The Rankala Lake was constructed by late Maharajah, Shri Shahu Chhatrapati. It is believed to be linked directly to a well in Panhala Fort which Chatrapati Shivaji Maharaj is believed to have crossed. It is a popular evening spot and recreation centre. The Lake is surrounded by Chaupati and other gardens. In the backdrop stands majestic Shalini Palace. Shalini Palace is the only star-rated Palace Hotel in Maharashtra.

Rankala lake is also a hotspot of research. Various types of researches has already done by many scientist and researchers on Rankala lake. And also Rankala lake is a hotspot of birds in

Kolhapur so we decided to explore birds on Rankala lake as well as to know extra knowledge about birds and this information is helpful to conserve the biodiversity from that Rankala lake.

A PROJECT REPORT ON:

“STUDY OF ORNAMMENTAL FISHES IN KOLHAPUR CITY”

SUBMITTED TO:

DEPARTMENT OF ZOOLOGY

VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)



(स्वायत्त) कोल्हापूर

IN THE PARTIAL FULFILLMENT OF BACHELOR OF SCIENCE IN

ZOOLOGY

IN THE YEAR: 2022-2023

NAME- Rutuja Chandrakant Patil (8450)

CLASS B. Sc. III

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DECLARATION

We the undersigned students, declare that the project entitled, **STUDY OF ORNAMMENTAL FISHES IN KOLHAPUR CITY**. is submitted by us under the supervision of **Yogita Shamrao Pujari**, Assistant Professor, Department of Zoology, Vivekanand College, Kolhapur (Autonomous).

It is our original work. The empirical findings in this project are based on the data collected by us and it is authenticable to the best of our knowledge. The presented matter is not copied from any other source.

Place: - Kolhapur

Date: 28/04/2023

Student sign

(Rutuja Chandrakant Patil)

CERTIFICATE

This is to certify that the project entitled, “**STUDY OF ORNAMMENTAL FISHES IN KOLHAPUR CITY**” being submitted herewith for the Degree of **Bachelors of Zoology** to the Department of Zoology Vivekanand college, Kolhapur (Autonomous) Affiliated to Shivaji University, Kolhapur, under the faculty of Science is the result of the original work completed by *Rutuja Chandrakant Patil* under my supervision and guidance and to the best of my knowledge and belief, the work embodied in this project has not formed earlier.

Place: Kolhapur

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Examiner
Examiner



ACKNOWLEDGEMENT

I wish to express my deepest sense of gratitude to my project supervisor....., for his/ her continuous help and valuable guidance during the entire period of my Project work. It is a genuine pleasure to express my deep sense of thanks to **Dr. G. K. Sontakke** Head, Department of Zoology, Vivekanand College Kolhapur (Autonomous) for administrative help and encouragement during the Project work. I express my profound thanks to **Dr. R. R. Kumbhar** Principal, Vivekanand College Kolhapur (Autonomous) for his constant support and inspiration.

I am also thankful to other faculties of Department of Zoology who have directly or indirectly guided and helped me in the Project work.

I am also thankful to non-teaching staff for their constant co-operation during project work

Name of Student

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I. INTRODUCTION:

Fishes that kept in home aquariums or for aesthetic purposes are considered ornamental fishes. These fishes encompass wide variety of species of many shapes, sizes and colors. Ornamental fish are usually kept in tanks or other aquarium systems. Water quality is extremely important in aquaculture, because the fish are dependent on the care taker for their health.

- **Ornamental Fisheries of India:**

Inland and marine waters in India possess a rich diversity of ornamental fish, with over 195 indigenous varieties reported from North-East Region and Western Ghats, and nearly 400 species from marine ecosystems. The major fish exported from India are of wild varieties collected from rivers of the North-East and Southern States that contribute about 85% to the total export of all types of ornamental fish from the country. Among the 195 reported fish species from the North-East Region, 155 species are of ornamental value. The region also exhibits exceptional biodiversity and high degree of endemism with respect to freshwater ornamental fishes. Prominent among them are Loaches, Eels, Barbs, Catfish, and Goby. On the other hand, the Western Ghats of India is one of the 34 'Biodiversity Hotspot' Areas of the World. Among the total freshwater fishes reported from the Western Ghats, 40 are of ornamental value of which 37 species are endemic to the Western Ghats.

Brackishwater ornamental fishes such as *Monodactylus argenteus*, *M. sebae* and *Scatophagus argus* are common in Indian waters and they could be collected, reproduced cultured and traded. The Pearl-spot (*Etroplus suratensis*) Orange Chromid (*E. maculatus*) and Indian Glassfish *Ambassis* sp. have been successfully bred in low saline fishponds.

Marine ornamental fish are widely collected from the coral reef habitats throughout the Indo-Pacific region. The marine aquarium trade has developed into a vibrant multimillion-dollar industry offering livelihood prospects to people who depend on the coral reef ecosystems. Potential marine ornamental fish species resources are Clown Fish, Damsel Fish, Moorish Idol, Lion Fish, Parrot Fishes, Box Fishes or Trunk

Fishes, Marine Angels, Butterfly Fish, Cleaner Wrasse, Cardinal Fishes, Sergeant Fishes/ Unicorn Fish, Rabbit Fish, Squirrel Fish, Scorpion Fish, Blennies, Sand-smelt Fish and Seahorse.

Indian ornamental fish trade mostly deals with freshwater fish (90%) of which 98% are cultured and 2% are captured from wild. The remaining 10% are marine fishes of which 98% are captured and 2% culture. Majority of the Ornamental Fish Breeders in India breed exotic fishes and very few breed indigenous, marine and brackish water fish. Goldfish has the highest preference among hobbyists and hence its breeding dominates the Indian Ornamental Fish

sector. Apart from the common Live-bearer varieties, breeders prefer to breed highly specialized varieties such as Oscar, Flower Horn, Tetras, Discus and Cichlids.

- OBJECTIVE OF THE STUDY:
 - To collect base line data on the ecosystem, socio-economy and diversity of fishes and to analyze the impact of aquarium fish trade on social and natural environments.