BCYRCs

BHIWAPUR MAHAVIDYALAYA

Bhiwapur, Dist- Nagpur (M.S.) India- 441201

A

PROJECT REPORT

ON

DIVERSITY OF BIRDS IN AND AROUND BHIWAPUR MAHAVIDYALAYA, BHIWAPUR

SUBMITTED TO
DEPARTMENT OF ZOOLOGY

SUBMITTED BY
STUDENTS OF B. Sc. III

1. DEEPIKA D. DURGE
2. RAGINI K. TIKHAT
3. SAMIKSHA D. LEKURWALE
4. RITESH G. JIBHAKATE
5. SANJANA A. MALWE
6. LOKESH D. BHAJBHUJE
7. ASHWINI S. LOKHANDE
8. AHEFAJ A. KHAN PATHAN
9. PRATIK M. BHIMATE
10. PRATIKSHA G. SUDAME

UNDER THE GUIDANCE OF

ASST. PROF. AMIT S. THAKARE
Assistant Professor
DEPARTMENT OF ZOOLOGY
BHIWAPUR MAHAVIDYALAYA, BHIWAPUR

2022-23

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DEPARTMENT OF ZOOLOGY

DECLARATION

This Project work entitled **"DIVERSITY OF BIRDS IN AND AROUND BHIWAPUR MAHAVIDYALAYA, BHIWAPUR"** is our own work carried out under the guidance of **Asst. Prof. AMIT S. THAKARE,** Department of Zoology, Bhiwapur Mahavidyalaya, Bhiwapur, Nagpur. This work in the same form or in any other form is not submitted by me or by anyone else for the award of any degree.

Students Name

1. **DEEPIKA D. DURGE**
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Date: 04/05/2023

Place: Bhiwapur

BHIWAPUR MAHAVIDYALAYA, BHIWAPUR

DEPARTMENT OF ZOOLOGY

CERTIFICATE

This is to certify that the Project work entitled **"Diversity of Birds in and around Bhiwapur Mahavidyalaya, Bhiwapur"**, is the bonafide work done by student and is submitted to Bhiwapur Mahavidyalaya, Bhiwapur, Dist.-Nagpur for the partial fulfillment of the requirements for the degree of Bachelor of Science in Subject name Zoology.

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10. **PRATIKSHA G. SUDAME**

Date: 4th May, 2023

Place: Bhiwapur

Project Guide
Asst. Prof. Amit S. Thakare
Bhiwapur Mahavidyalaya, Bhiwapur

Head
Department Of Zoology
Bhiwapur – Mahavidyalaya Bhiwapur
Dist.- Nagpur (M.S.) 441201

Bhiwapur Mahavidyalaya ★ Bhiwapur, Dist. Nagpur ★

Principal
Bhiwapur Mahavidyalaya
Bhiwapur

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INDEX

1. INTRODUCTION

Biodiversity is the outcome of interaction between the phylogenetic history of life on the earth and ecological process. All kinds of living organisms are required to keep the ecosystem alive. The status and trends in biodiversity reflect the health of an ecosystem that support and enrich human life. So, biodiversity conservation of nature and natural resources is the need of today to safeguard our own survival and that of our planet.

Biodiversity conservation refers to the sustenance of the variety of life. Taxonomy is the tool by which the components of biological diversity are identified, enumerated, and therefore provides basic knowledge underpinning management of biodiversity. At its most detailed level, taxonomy describes the variations present within species and such knowledge contributes in identifying groups of organisms of conservation significance, giving those species and subspecies a formal conservation status.

Bird diversity is much greater than that of reptiles, amphibians and mammals respectively. Presently, there are 10,711 extant species and 158 extinct species of birds of the world. The diversity is astounding, with birds existing almost everywhere in the world.

Birds live all over the world. They range in size from the two-inch bee hummingbird to the nine-foot ostrich. More than half of the known birds on earth are perching birds. Birds first appeared during the Cretaceous, about 100 million years ago. Birds diversified dramatically round about the time of the Cretaceous–Paleocene extinction event 66 million years ago, which killed off all the non-avian dinosaur lines. Birds, especially those in the southern continents, survived this event and then migrated to other parts of the world.

Modern birds have wings which are more or less developed depending on the species; the only known groups without wings are the extinct moa and elephant birds. Wings, which evolved from forelimbs, gave birds the ability to fly. Later many groups evolved with

reduced wings, such as ratites, penguins, and many island species of birds. The digestive and respiratory systems of birds are also adapted for flight. Some bird species in aquatic environments, particularly seabirds and some aquatic birds have evolved as good swimmers.

Some birds, especially crows and parrots, are among the most intelligent animals. Several bird species make and use tools. Many social species pass on knowledge across generations, a form of culture. Many species annually migrate great distances. Birds are social. They communicate with visual signals, calls, and bird songs. They have social behaviors such as cooperative breeding and hunting, flocking, and mobbing of predators.

Most bird species are socially monogamous, usually for one breeding season at a time, sometimes for years, but rarely for life. Other species are polygamous (one male with many females) or, rarely, polyandrous (one female with many males). Birds produce offspring by laying eggs which are fertilized by sexual reproduction. They are often laid in a nest and incubated by the parents. Most birds have an extended period of parental care after hatching. Some birds, such as hens, lay eggs even when not fertilized, though unfertilized eggs do not produce offspring.

2. RELATED WORKS

Many researchers worked on diversity, distribution, status and abundance of birds all over India that includes checklist of 453 bird species [2], 127 avian species belonging to 38 families from Dindori District [3], 140 species from the TERI campus of Madhya Pradesh [4]. About 113 species from the Sultanpur National Park Gurugram Haryana [5], 109 species from Gauhati University Campus, Assam [6], 304 species from Pond Dam Wetland in Himachal Pradesh [7], 99 species from Vansda National Park Gujarat [8], 93 species from Campus of University of Jammu [9].

In Maharashtra also several research works reported on the Avian fauna in which 540 bird species reported from Maharashtra [10], about 450 bird species listed from western Maharashtra [11], 64 species from Salim Ali lake Aurangabad [12, 13], 151 species from Nanded city [13]. Total 165 species from Osmanabad district [14], 53 species from Parbhani district [15, 17], 55 species from the Ghotnimbala lake of Chandrapur district [16], 50 species in Aundha Nagnath of Higoli district [18] and 84 species Majalgaon of Beed District [19]. However, no proper data are available on the diversity, distribution, status and abundance of avian fauna of Bhiwapur. By keeping this mind, we conducted this survey to investigate the same. This study would be baseline information for future studies.

3. STUDY AREA:

Bhiwapur Mahavidyalaya is located in Bhiwapur, in the Nagpur district of Maharashtra, India (20.7649° N, 79.5148° E). Bhiwapur is a rural place with 137 small villages and is very close to the tribal dominated belt of forest area. Located in the serene natural environment with lush green forests and agriculture as the basic occupation.

Bhiwapur a small flourishing town is 72 Km away from Nagpur. Bhiwapur is also a tehsil in Umred subdivision of Nagpur district in Nagpur revenue Division in the Berar region in the state of Maharashtra, India. Umred - Karandla wildlife sanctuary is situated about 25 Km from Bhiwapur Mahavidyalaya. The sanctuary is home to resident breeding many birds, Tigers, Gaur, wild dogs and rare animals like flying squirrels, pangolins and honey badgers.

Bhiwapur city had a gram panchayat and 2015 it became a Nagar Panchayat. As per Indian government census of 2011, the population was 81,519. Bhiwapur is famous for red chillies and the main occupation of people in this town is red chilli cutting. A tiny river called Maru river flows from the outskirts of Bhiwapur which dries up during hot summers and overflows during good monsoon season. This serves as a source of water for irrigation purpose for the nearby villages.

Bhiwapur Mahavidyalaya has a large water body at the back side of the college campus which plays an important role in fulfilling the basic needs of many animals living in the vicinity. Among these animals bird diversity plays a vital role in balancing the pond ecosystem. They play an important role in the ecosystem as potential pollinators, scavengers and a good indicator [1]. This project was undertaken to understand the local diversity of birds and their role in the environment.

In the present proposed project attempts were made to study the aspects of diversity of birds in and around Bhiwapur Mahavidyalaya. Since there is no published checklist and record of birds from this study area by earlier workers. The study of these aspects would help in understanding the Birds' ecology and factors influencing their status in this region of central India in order to formulate strategies for their conservation.

3. OBJECTIVES:

1. To identify the bird diversity.
2. To study the general morphology and terminology of birds.

4. METHODOLOGY:

The bird surveys carried out above mentioned areas during wildlife week from 2nd October 2022 to 8th October 2022. Survey of birds made by digital camera (Canon EOS 700D, EFS 55-250 lens) for keeping the birds' record. We made direct observations and species, noting of birds by walking on the roads, tracks, wetlands and agricultural areas.

5. SIGNIFICANCE:

1. The present study will record biodiversity of birds.
2. The checklist will be beneficial to study the fauna of birds of Bhiwapur area of Central India.
3. It will clear the picture of effects of changing environment on present status of birds' diversity.

6. OBSERVATIONS AND CONCLUSION:

In total 16 different species of birds were identified during the project survey.

List of identified birds

Sr. no.	Name of the bird	Scientific Name	Photo
1.	White Throated Kingfisher	*Halcyon smyrnensis*	
2.	Common Stonechat	*Saxicola maurus*	

3.	Pied Bushchat	*Saxicola caprata*	
4.	Little Ringed Plover	*Charadrius dubius*	
5.	Brahminy starling	*Sturnia pagodarum*	

6.	Indian Pied Myna	*Gracupica contra*	
7.	Rufous Tailed Lark	*Ammomanes phoenicura*	
8.	Little Egret	*Egretta garzetta*	

9.	Black Drongo	*Dicrurus macrocercus*	
10.	Green Bee Eater	*Merops orientalis*	
11.	Red crested pochard	*Netta rufina*	

12.	Spot Billed Duck	*Anas poecilorhyncha*	
13.	Purple Heron	*Ardea purpurea*	
14.	Purple Moorhen	*Porphyrio porphyrio*	

15.	White Browed Wagtail	*Motacilla alba*	
16.	Red Wattled Lapwing	*Vanellus indicus*	

REFERENCES

[1] C. Bhatnagar K. Jani, V. Sharma, et al., ‘‘Aquatic bird diversity of Lake Bari (A component of Udaipur important bird area) with a special note on its habitat management’’. Proceedings of Taal 2007: The 12th World Lake Conference, International Lake Environment Committee Foundation, Shiga, Japan, pp. **554-557, 2008.**

[2] C. Sashikumar, J. Praveen, M. J. Palot, P. O. Nameer, “A checklist of birds of Kerala”. Malabar Trogon **7 (3), 2–13, 2010**. DOI**:** https://doi.org/10.11609/jott.2001.7.13.7983-8009

[3] M.S. Mewada, “Ecological Study and Avian Faunal Diversity of Narmada River and its Surrounding Areas of Dindori District (M.P.)**”,** International Journal of Scientific Research in Biological Sciences, **5** (**1**), pp.**18-27**, **2018**.

[4] A. D. Tiple, N. Kulkarni, S. Paunikar and K. C. Joshi, “Avifauna of Tropical Forest Research Institute Campus, Jabalpur, Madhya Pradesh, India”, Indian Journal of Tropical biodiversity, **18** (**1**): **133-141, 2010.**

[5] G. Chopra, A. K. Tyor, S. Kumari and D. Rai, “Status and conservation of avian fauna of Sultanpur National Park Gurgaon, Haryana (India)”, J. Applied and Natural Science, **4** (**2**), **207-213, 2012.** https://doi.org/10.31018/jans.v4i2.251

[6] O. S. Devi, M Islam, Das, J. and P. K. Saikia, “Avian-fauna of Gauhati University Campus, Jalukbari, Assam”, The Ecoscan, **6** (**3** & **4**): **165 -170**, **2012**.

[7] V. Jindal, G. S. Dhaliwal, O. Koul, “Pest management in 21st century: roadmap for future”, *Biopesticides International,* **9, 1–22. 2013.**

[8] Vikas Kumar, “Biodiversity of Avian Fauna of Vansda National Park, Gujarat”: Conservation Issues. Nature Environment and Pollution Technology, **14** (**3**), **70 9 -71 4, 2015**.

[9] M. A. Kichloo, A. Sohil, P. Kumar, and N. Sharma, "Avian diversity at new campus of University of Jammu, Jammu and Kashmir", Researcher: A Multidisciplinary Journal, **13** (**2**), **28-40, 2018.**

[10] H. Abdulali, "*Checklist of the Birds of Maharashtra with Notes on their Status around Bombay, Maharashtra'',* Bombay Natural History Society, Bombay, pp. **16**, **1981**.

[11] A. Prasad, "Annotated checklist of the birds of western Maharashtra", *Buceros* **8** (**2** & **3**), **1–174, 2003**.

[12] D. Yardi, S. S. Patil and R. G. Auti, "Diversity of Avian Fauna from Salim Ali Lake of Aurangabad", Paper presented in 21st meet of bird's lovers of Maharashtra held at Nanded on 3rd, 4th April **2004**.

[13] A. N. Kulkarni, V. S. Kanwate, **V. D**., "Deshpande, Birds in and around Nanded city, Maharashtra", Zoo s Print Journal, **20** (**11**), **2076-2078, 2005**. https://DOI:10.11609/JoTT.ZPJ.1321.2076-8

[14] Sujit Narwade and M. M. Fartade, "Birds of Osmanabad district of Maharashtra, India", *Journal of Threatened Taxa,* **3** (**2**), **1567-1576, 2011**. DOI: 10.11609/JoTT.o2462.1567-76

[15] J. V. Balkhande, C. S., Bhowte, A. N. Kulkarni, "Checklist of Birds of River Godavari, Dhangartakli near Purna, Dist. Parbhani, Maharashtra'', Bionano Frontier, **5** (**2**). **2012**.

[16] N. V. Harney, "Avifaunal diversity of Ghotnimbala lake near Bhadrawati, Chandrapur, Maharashtra, India", International Journal of Life Sciences, **2** (**1**), **79-83, 2014**.

[17] S. P. Chavan, D. Dudhmal, S. Hambarde A. N. Kul, "Birds from Godavari River Basin in Nanded District of Maharashtra State, India", Annotated status and new reports, International Journal of Current research and Academic Review, **3** (**4**), **328-351, 2015**.

[18] D. P. Katore, “Avian fauna of Aundha dam in Aundha Nagnath dist. Hingoli”, International J. of Life Sciences, **5 (1)**, **114-116, 2017.**

[19] R. T. Pawar, T. S. Pathan, Y. M. Bhosale, “Avifaunal study of Majalgaon Reservoir and their tributaries, District Beed, Marathwada region of Maharashtra, India”, International Journal of Scientific Research in Biological Sciences, **6** (**4**), **51-55, 2019**. DOI: 10.26438/ijsrbs/v6i4.5155