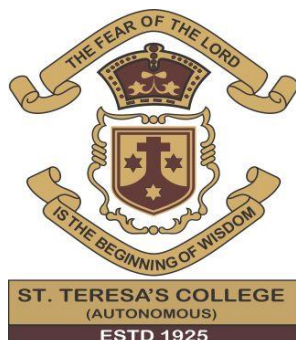


“A STUDY ON WETLAND BIRDS IN ILLATHUPADI, EDAVANAKAD, A COASTAL REGION IN VYPIN ISLAND”



Project Work By

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Submitted to

St. Teresa's College (Autonomous), Ernakulam

Affiliated to Mahatma Gandhi University, Kottayam in partial fulfillment of
requirement for the degree of Bachelor in Science in Zoology

2023-2024

CERTIFICATE

This is to certify that the project entitled “**A STUDY ON WETLAND BIRDS IN ILLATHUPADI, EDAVANAKAD, A COASTAL REGION IN VYPIN ISLAND**” submitted by Ms. MEENU M.N., Reg. No. AB21ZO0010 in partial fulfilment of the requirement of Bachelor of Science in Zoology to the Department of Zoology, St. Teresa’s College (Autonomous), affiliated to Mahatma Gandhi University, Kottayam is a bonafide work under my guidance and supervision and to my best knowledge, this is her best effort.

Dr. Soja Louis
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EXAMINERS

1.

2

DECLARATION

I hereby declare that project work titled **“A STUDY ON WETLAND BIRDS IN ILLATHUPADI, EDAVANAKAD, A COASTAL REGION IN VYPIN ISLAND”** submitted to St. Teresa’s College (Autonomous), Ernakulam affiliated to Mahatma Gandhi University, Kottayam in the partial fulfillment of the requirements of Bachelor of Science in Zoology, is a record of original project work done by me under the guidance and supervision of Dr. Soja Louis, Associate Professor & HOD, Department of Zoology, St. Teresa’s College (Autonomous), Ernakulam.

Ms. MEENU M.N.
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MEENU M.N.

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ABSTRACT

Birds are classified within the class Aves. A bird has been described as a feathered biped. Ernakulam is the central business district of the city of Kochi, Kerala, India. The eastern part of Kochi city is mainly known as Ernakulam, while the western part of it after the Venduruthy Bridge is called as western Kochi. The study was conducted in Illathupadi East, Edavanakad, Ernakulam, Kerala. The place has many pokkali fields that are now not used for cultivation. The study was carried out from 1st November 2023 – 31st January 2024. It was conducted from early morning 6am-10am and in the evening from 4pm-6pm. The birds seen are White Egret, Indian pond heron, Little cormorant and Gray headed swamphen. It was also observed that a number of birds came for feeding and breeding.

INTRODUCTION

Wetlands are one of the most productive ecosystems on the earth and it provides many important services to human society such as recycling nutrients, purifying water bodies, prevent floods, maintain stream flow, recharge groundwater and also serve in providing drinking water, fish, fodder, fuel, wildlife habitat, buffer shorelines against erosion and recreation to the society.

Kerala one of the green states of India well known for its wetlands. Wetland of Kerala constitute a productive ecosystem which supports unique aquata flora and fauna, including water fowls, fish, shellfish and other wildlife. Besides supporting unique biota, it also serve as a source of livelihood for the people who inhabit adjacent to these areas.

Birds are warm-blooded animals and the body is covered with feathers that help in thermoregulation. The classes of birds possess certain characteristics for a life in air. Birds have different types of feet depending on where they live and what they eat. The forelimbs serve as perfect organs of propulsion through the air. Many of their larger bones are hollow and often have air sacs which functions as accessory respiratory organs. Birds

are natural indicators of health of many ecosystems. Birds eat insects, which is a natural way of controlling pests. They aid in pollination of plants. Birds do not have urinary bladder. The resulting formation of semi solid excreta which is insoluble uric acids and urates are seen. Aves are characterized by absence of teeth. They have beak or bill covered by a horny sheath called rhamphotheca.

REVIEW OF LITERATURE

Ornithofauna and its conservation in wetland were studied by Thomas and Vijayan in 2007. 225 taxa of birds belonging to 15 orders and 59 families were recorded. Among the birds recorded 38% were migrants. 55 species were found to breed in the area.

The Hindu in 2020 reported review of climate change and migrating birds at Kadamakkudy Island. It is reported that the climate change and it's affected wetlands and migratory birds population.

Mumthaz (2017) describes the pokkali farming in Kadamakkudy. Pokkali refers to a saline resistant variety of rice. Pokkali fields is highly nutritive agricultural land with paddy and prawn as alternate crops.

Robert E. Stewart in 2016 discovered the technical aspects of wetlands and wetland birds and bird habitat. He speaks about the wetland ecosystem and characteristics of wetland birds.

METHODOLOGY

STUDY AREA

The area opted for this study is pokkali fields at Illathupadi situated in Edavanakad panchayath of Ernakulam district. Two sites were selected, both are not in use for cultivation. One field is about 4 acre and the 2nd field is 6 acre. The study was carried out from November 1st to January 31st, in the morning from 6am-10am and in the evening from 4pm-6pm. Canon ixus camera was used to capture the pictures of the bird.

OBSERVATIONS

Illathupadi is a rural area with many pokkali fields which are not used for cultivation now. During its cultivation time, six months were used for fish farming and prawn farming and during the remaining six months for pokkali rice. Pokkali wetland is important for birds due to its habitat diversity, food resources, lesser disturbances etc. Four different kinds of birds were spotted – Great egret, Indian pond heron, Little cormorant and Gray headed swamphen.

1. GREAT EGRET (*Ardea alba*)

Kingdom :- Animalia

Phylum :- Chordata

Class :- Aves

Order :- Pelecaniformes

Family :- Ardeidae

Genus :- *Ardea*

Species :- *A.alba*

The great egret is a large heron with all white plumage. Large lanky, long necked white heron. Size and black legs helps separate from other egret. Widespread and fairly common across the globe. Bill colour varies across range. Occurs in any shallow wetland including ponds, marshes and tidal mudflats. It feeds on fishes, aquatic insects and small aquatic animals.



GREAT EGRET (*Ardea alba*)

2. INDIAN POND HERON (*Ardeola grayii*)

Kingdom :- Animalia

Phylum :- Chordata

Class :- Aves

Order :- Pelecaniformes

Family :- Ardeidae

Genus :- *Ardeola*

Species :- *A. grayii*

Found throughout the Indian subcontinent, the Indian pond heron or the paddybird, sports a streaked appearance on its head and neck and has brown and black feathers. Pond herons prefer shallow water bodies as habitats and are also seen near rice fields, irrigated agricultural land and man made reservoirs. The bird is known to stand still, akin to a statue, while on the look out for fish, insects, waterbugs etc.



INDIAN POND HERON (*Ardeola grayii*)

3. LITTLE CORMORANT (*Microcarbo niger*)

Kingdom :- Animalia

Phylum :- Chordata

Class :- Aves

Order :- Suliformes

Family :- Phalacrocoracidae

Genus :- *Microcarbo*

Species : - *M.niger*

The little cormorant is a member of the cormorant family of sea birds. Slightly smaller than the Indian cormorant, it lacks a peaked head and has a shorter beak. Little cormorant tend to forage mainly in small loose groups and are often seen foraging alone. They swim underwater to capture their prey mainly fish.



LITTLE CORMORANT (*Microcarbo niger*)

4. GRAY HEADED SWAMPHEN (*Porphyrio poliocephalus*)

Kingdom :- Animalia

Phylum :- Chordata

Class :- Aves

Order :- Gruiformes

Family :- Rallidae

Genus :- *Porphyrio*

Species :- *P.poliocephalus*

A very large bluish -purple water bird with a red bill and forehead shield as well as red legs and feet with long toes. The grey headed swamphen is a species of swamphen occurring from the Middle East and the Indian subcontinent to southern china and northern Thailand. An inhabitant of marshy, vegetated fresh water bodies such as swamps, rivers, lakes, usually in small groups. The male has an elaborate courtship display, holding water weeds in his bill and bowing to the female with loud chuckles.



GRAY HEADED SWAMPHEN (*Porphyrio poliocephalus*)

RESULT

The study was conducted in Illathupadi, Edavanakad, Ernakulam, kerala from November 1st – January 31st and it revealed that the birds observed during this period were Great egret, Indian pond heron, little cormorant and Gray headed swamphen.

Among these the most commonly observed was Great egret. Great egret is a heron with white plumage. Indian pond heron was sighted only a few times during the period of the study. Little cormorant was seen swimming underwater. Gray headed swamphen was seen alongside the great egret.

DISCUSSION

The unique wetland ecosystems of Kerala include marshy and water logged areas, paddy cultivation areas associated with back waters. Birds are useful biological indicators of broad scale habitat change and environmental contaminants.

Four species of birds were observed and captured by camera. Here the field chosen is a pokkali field which is now not used for cultivation. Pokkali farming was used to be done but now only wetland is present with no farming. Birds like Great egret, Indian pond heron, little cormorant and Gray headed swamphen were observed.

This project was conducted in a selected area within a limited period of time. Hence only a limited number of species were observed.

CONCLUSION

The present project was done to identify wetland birds in Illathupadi, Edavanakad, Ernakulam. Four different wetland birds were recorded. Paddy fields and marsh fields need proper management for biodiversity conservation. Availability of non- cultivated marsh lands near paddy fields ensure uniform distribution of birds. Maintenance of wetlands is essential as they also act as bio control agents of many pest species.

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