e-ISSN 2320 –7876 www.ijfans.org
Vol.11, S Iss.1, 2022

Avian Diversity at a Pond in Village Choharian Wali, Fazilka (Punjab).

Dr. Swati Ojha

Associate professor, Zoology

Shri Khushal Das University, Hanumangarh [Raj.]

Sakshi

Research Scholar, Biotechnology

Shri Khushal Das University, Hanumangarh

Abstract

This study was conducted to find out the avian diversity at a pond in Village Choharian Wali, District Fazilka (Punjab) from September 2021 to April 2022. Ponds provides a high nutritional support for the birds to survive and breed. Presence of fishes in the pond is one important factor resulting in selection of pond as habitat. Each year during autumn season, many bird groups leave their specific breeding places and migrate to their specific areas for wintering, located at very far away distances. Climate of Punjab is tropical, semi-arid, hot and subtropical monsoon type with cold winter and hot summer. Birds are found at various ponds in Punjab. A total of 270 Birds of 12 Genera and 10 families have been recorded. Many birds reside on and around these ponds and many are migratory.

Keywords: Avian diversity, ponds, migrating birds, Punjab.

Introduction

Birds are very colourful and lively creatures found all around us in nature. Birds occupy many levels of trophic webs, from mid-level consumers to top predators. Water birds have attracted many scientists because of being beautiful and abundant. Their visibility, social behaviour, as well as their recreational and economic importance also make them attractive for public as well as for researchers. These birds can also act as sources to predict

environmental changes. From 1340 total bird species present in India, only 310 species resides near the ponds. This is related to the pond conditions. (Kumar P, 2009). Ponds provides habitats for water birds. Being rich in nutrients, ponds acts as habitat for various migratory and resident water bird species. Interactions of waterbirds with fishes can be an important factor for habitat selection and breeding. These interactions include food competition and reciprocal predation.

In India wetlands consists of about 58.2 million hectare from which 71878.5 ha are in Punjab (Prasad et al., 2002). Ponds have a peculiar fresh water ecosystem, offering an exceptional ecosystem service (Elton and Miller, 1954).These ecosystems are generally most important and necessary natural resources on the planet for the living creatures. The various freshwater ecosystem include rivers, ponds, etc. These days, with the continuous hike in population rate, amount of waste has increased thereby creating significant discarding problems. Thus, level of water pollution has been increased leading to eutrophication of waterbodies. Another risk to the ponds is the increase in human settlement nearby waterbodies causing discharge of untreated sewage waste into this. These activities have deteriorated the health of these ponds. Thus, evaluation of quality of water is necessary for regulating surface pollution. (Raveen, Daniel, 2010).

Various components such as availability of food resources, wetland size, etc impacts the population of bird gathering here (Paracuellos 2006).To catch their prey, these water birds usually dive from surface or air. The birds attain their key nutrients by utilizing bottom dwelling fauna and phyto/ Zooplanktons. These can be fish, crustaceans, molluscs, parts of aquatic plants.

Each year during autumn season, many bird groups leave their specific breeding places and migrate to their specific areas for wintering, located at very far away distances. Migration involves travelling for longer time periods by crossing various peaks, oceans, etc. (R.Wiltschko, 2003).

Punjab is rich in population of birds. 428 species of birds are found here. It also has rich diversity of migratory birds due to climatic and other environmental factors.one of the pond found in village Choharian Wali, District Fazilka (Punjab) was taken under study. The pond has many resident birds and many migratory birds have been observed here.

Materials and Methods

The studies were done at the pond located in village choharian wali, District Fazilka (30º23'36"N latitude and 74º05'22"E longitude). It is located 7.7 km from Fazilka. It is man-made pond that is particularly used for fish farming. The observations for the study was taken from September 2021 to April 2022. The choharian wali pond is surrounded by various flora like Prosopsis juliflora (pahari kikar), Vachellia nilotica (desi kikar), Azadirachta indica (neem). The area surrounding this pond is covered mainly by grasses like congress grass (Parthenium hysterophorus), Indian lovegrass (Eragrostis pilosa). Various Agricultural fields are also located near by the pond making it suitable habitat for the bird species.

Observation of birds was done in three slots; morning, afternoon and in the evening. The identification of birds was done by observational methods, camera, through google lens. Bird species were also identified using "The Handbook of Indian birds" (Salim Ali). Birds were counted with the help of Binoculars on the basis of observed physical characters. These observations were recorded in the field book. Certain information was also collected from the local villagers. The checklist was prepared by use of the standardized common and scientific names of the observed birds following Manakadan and Pittie (2001).

RESULTS AND DISCUSSIONS

A Total of 270 birds of 13 different species and 12 different Genera were observed around the choharian wali pond during the period of September 2021 to April 2022. During the Study various birds observed were Black winged Stilt, Pied Stilt, Northern Shoveler, Great egret, Painted Stork, Common Coot, Common Moorhen, Red- wattled Lapwing, House Crow, House Sparrow, Common Myna, Domesticated Goose, Rose ringed Parrot.

From the recorded data, 9 bird species were found to be water-dependent and 4 bird species were found to be terrestrial (House Crow, Common Myna, House Sparrow and Rose-ringed Parrot). 38.46% bird species were observed to be resident, 7.69% bird species were observed to be Local Migratory, 23.07% were observed as Resident/ Local Migratory and 30.77% were observed as Migratory. It is indicated in Figure 1.

The bird species observed during the study period belongs to the various orders: Charadriiformes, Gruiformes, Pelecaniformes, Ciconiiformes, Passeriformes, Anseriformes,

Psittaciformes. This is depicted in Table 1 and number of birds of different orders observed at village Choharian Wali pond, Fazilka (Punjab) is indicated in figure 3.

It was observed from the study that feeding behaviour of different birds was different. They may be Insectivorous, Piscivorous, Omnivorous and herbivorous. The Feeding Habits of the observed birds are indicated in Table2. It was observed that Black winged Stilt, Common Moorhen, Red- wattled Lapwing are mostly insectivorous. Common Coot, Common Moorhen, Great Egret, Painted Stork are mostly piscivores. House Sparrow, House Crow, Common Myna, Rose-ringed Parrot and Northern Shoveler are Omnivorous and Domestic Goose is Herbivorous. From the recorded data, it was found that maximum bird species have Omnivorous feeding habit followed by Piscivorous, Insectivorous and then Herbivorous. Total number of different bird species observed at Village Choharian Wali pond, Distt. Fazilka (Punjab) is indicated in Table 3.

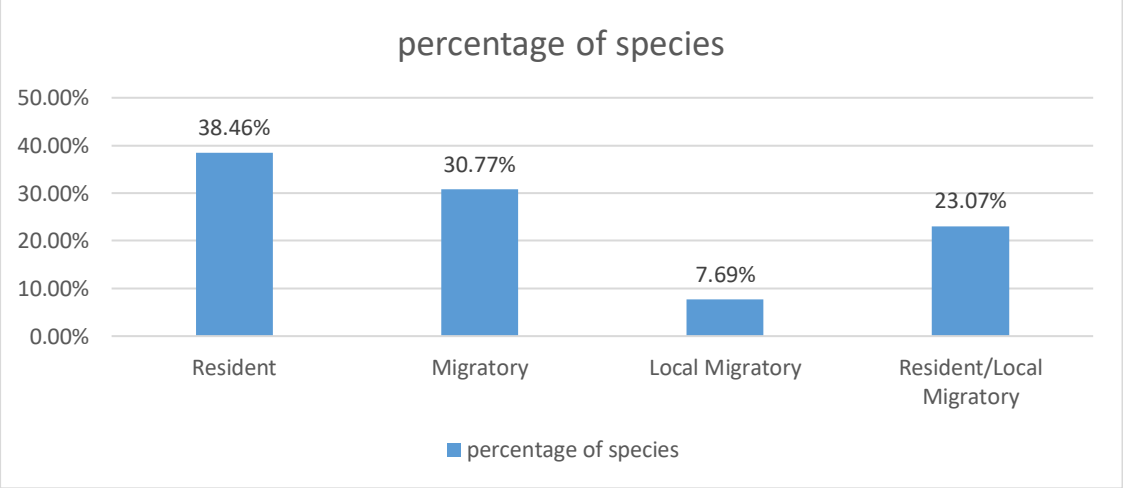

Figure 1: Bar- Graph depicting percentage of Bird Species Diversity recorded around pond located at Village Choharian Wali, Fazilka (Punjab). (Keywords: LC- Least Concern, EN- Endangered, NT- Near Threatened)

Figure 1: Photograph of pond at Village Choharian Wali District Fazilka (Punjab) showing Various water Birds

According to IUCN Red List, Maximum number of the species observed are of Least concern. Only 1 species out of the observed have been found to be Near Threatened and 1 bird species to be Endangered. This diversity of birds is due to the presence of fishes in the pond as well as due to the flora present near the pond. This is depicted in figure 2.

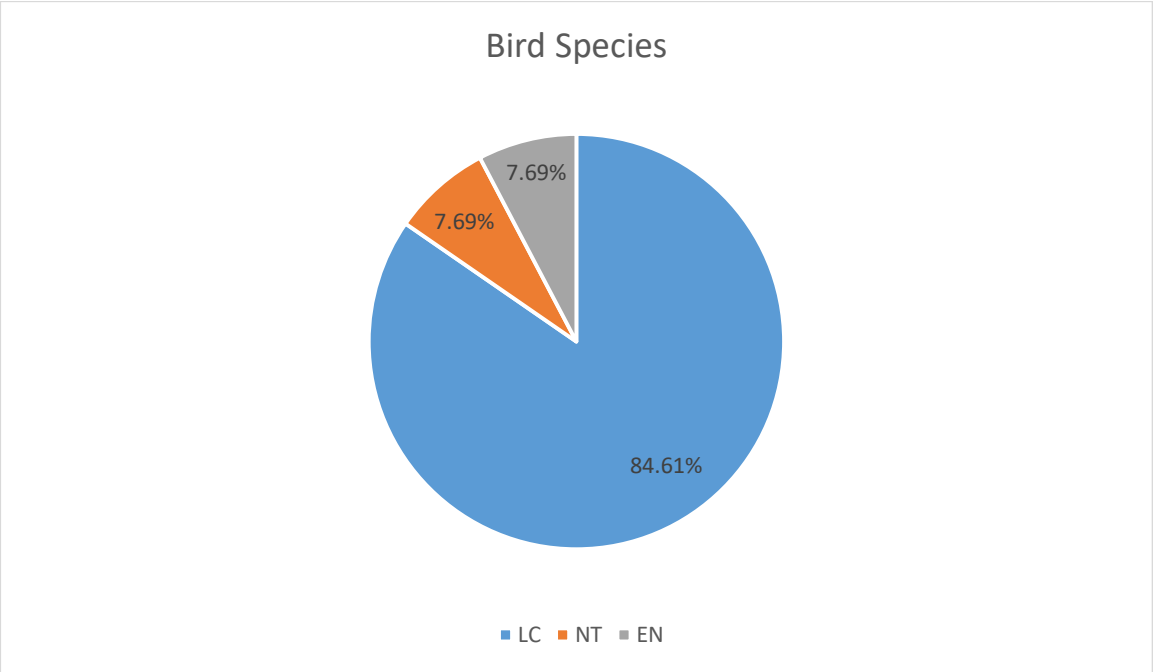

Figure 2. Pie Chart representing percentage of bird species observed around Choharian wali pond according to their IUCN status. (Key words: LC- Least Concern, EN- Endangered, NT- Near Threatened)

e-ISSN 2320 –7876 www.ijfans.org
Vol.11, S Iss.1, 2022

Sr. no.	Name of bird	Scientific name	Order	Family
1.	Black winged stilt	Himantopus himantopus	Charadriiformes	Recurvirostridae
2.	Pied stilt	Himantopus Leucocephalus	Charadriiformes	Recurvirostridae
3.	Common moorhen	Gallinula chloropus	Gruiformes	Rallidae
4.	Common coot	Fulica atra	Gruiformes	Rallidae
5.	Great egret	Ardea alba	Pelecaniformes	Ardeidae
6.	Painted stork	Mycteria Leucocephala	Ciconiiformes	Ciconiidae
7.	Red-wattled lapwing	Vanellus indicus	Charadriiformes	Charadriidae
8.	House sparrow	Passer domesticus	Passeriformes	Passeridae
9.	Common myna	Acridotheres tristis	Passeriformes	Sturnidae
10.	Northern shoveler	Spatula clypeata	Anseriformes	Anatidae
11.	Domestic goose	Anser anser domesticus	Anseriformes	Anatidae
12.	Rose Ringed Parrot	Psittacul krameri	Psittaciformes	Psittaculidae
13.	House Crow	Corvus splendens	Passeriformes	Corvidae

Table1: List of Birds Observed at Village Choharian wali Pond, Distt. Fazilka (Punjab)

Sr.no.	Name of bird	Status	Feeding habit
1.	Black winged stilt	Migratory	Insectivorous
2.	Pied stilt	Migratory	Piscivorous
3.	Common moorhen	Resident/Local Migratory	Insectivorous
4.	Common coot	Resident/ Local Migratory	Piscivorous
5.	Great egret	Migratory	Piscivorous
6.	Painted stork	Local Migratory	Piscivorous
7.	Red-wattled lapwing	Resident/ Local Migratory	Insectivorous
8.	House sparrow	Resident	Omnivorous
9.	Common myna	Resident	Omnivorous

10.	Northern shoveler	Migratory	Omnivorous
11.	Domestic goose	Resident	Herbivorous
12.	Rose Ringed Parrot	Resident	Omnivorous
13	House Crow	Resident	Omnivorous

Table 2: Migratory/ Non- Migratory Status and Feeding Habits of birds observed at village Choharian wali pond, District Fazilka (Punjab).

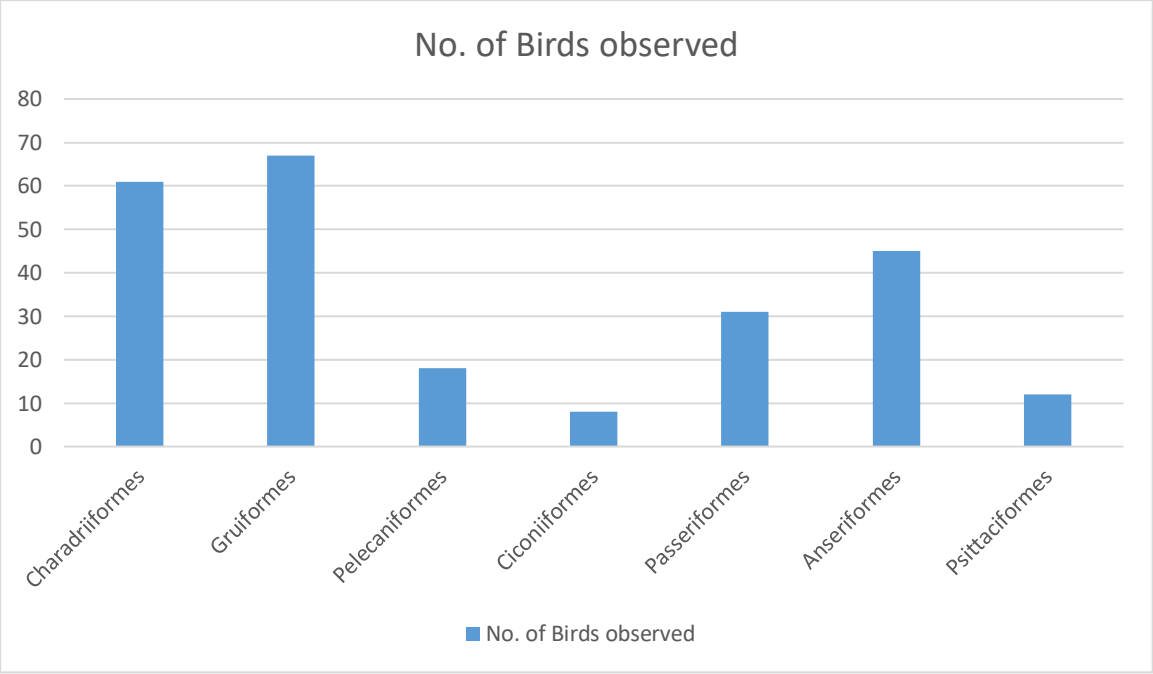

Figure 3: Graph indicating number of birds of different orders observed at village Choharian Wali pond, Fazilka (Punjab)

Sr. no.	Name of bird	Scientific name	IUCN Status	Total number of birds observed
1.	Black winged stilt	Himantopus himantopus	LC	41
2.	Pied stilt	Himantopus Leucocephalus	LC	20
3.	Common moorhen	Gallinula chloropus	LC	45
4.	Common coot	Fulica atra	LC	22
5.	Great egret	Ardea alba	LC	18
6.	Painted stork	Mycteria Leucocephala	NT	08
7.	Red-wattled lapwing	Vanellus indicus	LC	28
8.	House sparrow	Passer domesticus	EN	15
9.	Common myna	Acridotheres tristis	LC	08
10.	Northern shoveler	Spatula clypeata	LC	24
11.	Domestic goose	Anser anser domesticus	LC	21
12.	Rose Ringed Parrot	Psittacul krameri	LC	12
13.	House Crow	Corvus splendens	LC	08

Table 3: Table depicting total number of different bird species observed at Village Choharian Wali pond, Distt. Fazilka (Punjab).

Bibliography

1. A. Kumar, J.P. Sati, P.C. Tak, and J.R.B. Alfred (2005). Handbook of Indian wetland birds and their conservation. Director Zoological Survey India, pp. 167- 170.
2. Ali Salim, S. Dillon (1968-74). Handbook of the Birds of India and Pakistan. Oxford University Bombay.
3. Ali Salim & Ripley, S Dhillon (1987). Compact handbook of the India and Pakistan. Bombay Natural History Society.
4. Ali Salim (1954). The Birds of Gujrat. Bombay Natural His. Soc. Vol.52
5. Andy J. Green and Johan Elmberg (2014) Ecosystem services provided by water birds. Biological Reviews 89:105-122.
6. Broyer, J. & C. Calenge (2010). Influence of fish-farming management on duck breeding in French fish pond systems. Hydrobiologia 637: 173–185.
7. D Mohan and A Gaur (2007) Avian Diversity Around Jajiwal pond- A Natural Wetland.
8. Elton, C. S. and Miller, R.S., Interspecific Competition. (1954), J. Ecol., 42: 460
9. ENVIS Centre, Punjab State Council for Science & Technology, Chandigarh. (2012). Biodiversity Rich Areas (Vol. 10, No. 2).
10. Kler TK, (2015) Avian fauna in agricultural habitats of Punjab state. Agricultural Research Journal; 52(3):83-90.
11. Manakadan, R. and A. Pittie (2001). Standardised common and scientific names of the birds of the Indian subcontinent. Buceros. 6(1): 1-37.
12. P. Kumar and S.K. Gupta (2009). Diversity and Abundance of Wetland Birds around Kurukshetra, India Our Nature; 7: 187-192
13. Shivangi S, Tejdeep K, Kler and Mohammed J, (2019). Emerging threat of urbanization to ponds and avian fauna in Punjab, India. Journal of Entomology and Zoology Studies ;7(4): 1310-1315
14. Sukhbirpal Kaur, Tejdeep Kaur Kler and Mohammed Javed (2017).Abundance and diversity of water bird assemblages in relation to village ponds in Punjab. Journal of Entomology and Zoology Studies 2018; 6(1): 1375-1380.
15. Wiltschko (2003). Mechanism of orientation and navigation in migratory birds. Avian migration: 433- 456.