

DIVERSITY OF BIRDS AROUND THE KHANDIYA RESERVOIR, JHALAWAR, RAJASTHAN

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ABSTRACT:

Birds are distributed all over the world occupying various habitats. Birds are one of the indicators for environmental changes and play an important role in the control of insects or pests. As birds are important bio- indicators of nature, monitoring bird population is very important. These warm-blooded vertebrates have adapted to a wide range of environmental conditions and they also occupy diverse habitats. The present study has been conducted to record the Diversity of birds around the Khandiya Reservoir in the Jhalawar district of Rajasthan. Though many varieties of birds are seen in and around the Reservoir, no study has ever been conducted so far on the bird diversity of the area. After a study diversity of birds in this area about four months (i.e., January, February, March & April of year 2021) a total of 53 species, 49 genera, 33 families and 13 orders are recorded. It is observed that the avian diversity was higher in winter season and lower in summer season comparatively.

Key words: Birds, Diversity, Species, Genera, Khandiya Reservoir.

MATERIALS AND METHODS

Study area:

The area where the present study has been conducted is the Khandiya reservoir (24°34'32.2"N 76°10'16.9"E). Which is located in the Jhalawar district of the state of Rajasthan. The reservoir is mainly used for irrigation and pisciculture. Khandiya reservoir is a place of walking and draws many people every day due to its beautiful surroundings which is covered with lush green vegetation. January is the coldest month with mean daily average temperature of 22°C which reaches to a maximum of up to 40°C in April. The flora of the study area is predominated by plants like Tamarind (*Tamarindus indica*), Kusum (*Schleichera oleosa*), Sal (*Shorea robusta*), water lily (*Nymphaeaceae*), Lotus (*Nelumbo nucifera*), Safeda (*Eucalyptus*

globulus), aak (*Calotropis provera*), Amla (*Phyllanthus emblica*), Jamun (*Syzygium cumini*) and Bamboo (*Bambusa vulgaris*) etc. The present study is an attempt to record the various species of birds found in this area and to understand the ecological significance of this place

Methodology:

Avifaunal diversity in and around the Khandiya reservoir was recorded from January 2021 to April 2021. sampling was carried out for four months to record seasonal variation in avifaunal diversity and vegetation. Regular field trips were made throughout this period to the study area. Visits were carried every day during all the month of the study period to record the bird diversity. The birds were observed at most active periods of the day, i.e., early morning from 06:00 am to 09:00 am and in the evening from 03:30 pm to 06:30 pm. However, the observation was made throughout the day also. Nocturnal species were also recorded during the night time. The bird's checklist was prepared using standardized common and scientific names by Manikandan and pittie (2001).

DATA COLLECTION AND ANALYSIS:

Entire Khandiya reservoir, Jhalawar area was surveyed comprehensively to understand the presence of the birds during January 2021 to April 2021. Field surveys were carried out every day in the morning and evening hours when birds most active. Birds were searched extensively in habitat like wetlands, human dominated area and agriculture area. The data recorded in each survey analysed for relative abundance on the basis of the frequency of sightings, as per MacKinnon and Philips (1993). feeding guilds of birds were recorded as per ali and replay (2007) (Table-1). A significant number of insectivorous bird species, present in the study area, are important agents of bio-control of insect pests in agriculture, horticulture and forest (Thakur et al 2010) (Table -1).

RESULT AND DISCUSSION:

A total of 833 birds belonging to 53 species, 49 genera, 33 families and 13 orders were recorded during the study period of the total birds 48 (90.6%) were Resident (R) and 5 (9.4%) species were migratory (M) (fig:2). 1 species was Endangered, 50 species were least concerned and 2 species were Near threatened (Fig:3). The bird species were also categorised as Common (C) 17, Uncommon (UC) 16 Very common (VC) 12 and rare (R) 8. (Fig:4). the feeding guilds of bird species showed that Insectivores 12 (22.6%) were dominating the bird community followed by

Omnivore 20(37.7%), Carnivore 16(30.2%), Frugivore 1(1.9%), Granivore 3(5.7%) and Nectarivore 1(1.9%) respectively (Fig:5).

Apart from this the breeding and nesting status of birds along with the successful fledging rate is unknown. the attitude of the local human population towards the faunal diversity and their interaction with nature need to be better understood by further investigation.

Table 1:- Checklist of birds in and around Khandiya Reservoir.

SL NO	ORDER	FAMILY	COMMON NAME	SC. NAME	IUCN CATEGORY	STATUS	ABUNDANCE	FEDDING GUILD
1.	Accipitriformes	Accipitridae	Egyptian vulture	Neophron percnopterus (Linnaeus, 1758)	EN	R	UC	C
2.	Accipitriformes	Accipitridae	Shikra	Accipiter badius (Gmelin, 1788)	LC	R	CO	C
3.	Accipitriformes	Accipitridae	Short-toed snake eagle	Circaetus gallicus (Gmelin, 1788)	LC	R	RA	C
4.	Anseriformes	Anatidae	Bar-headed Goose	Anser indicus (Latham, 1790)	LC	WV	RA	O
5.	Anseriformes	Anatidae	Lesser Whistling Duck	Dendrocygna javanica (Horsfield, 1821)	LC	R	UC	O
6.	Bucerotiformes	Bucerotidae	Indian Grey Hornbill	Ocyrceros birostris (Scopoli, 1786)	LC	R	CO	O
7.	Caprimulgiformes	Caprimulgidae	Indian Nightjar	Caprimulgus asiaticus (Latham, 1790)	LC	R	RA	I
8.	Caprimulgiformes	Caprimulgidae	Savanna Nightjar	Caprimulgus affinis (Horsfield, 1821)	LC	R	UC	I
9.	Charadriiformes	Recurvirostridae	Black-winged Stilt	Himantopus himantopus (Linnaeus, 1758)	LC	R	CO	O

10.	Charadriiformes	Jacaniidae	Bronze-winged Jacana	<i>Metopidius indicus</i> (Latham, 1790)	LC	R	RA	O
11.	Charadriiformes	Jacaniidae	Pheasant-tailed Jacana	<i>Hydrophasianus chirurgus</i> (Scopoli, 1786)	LC	R	UC	O
12.	Charadriiformes	Scolopacidae	Common Sandpiper	<i>Actitis hypoleucos</i> (Linnaeus, 1758)	LC	W V	UC	O
13.	Charadriiformes	Charadriidae	Little ringed Plover	<i>Charadrius dubius</i> (Scopoli, 1786)	LC	R	CO	I
14.	Charadriiformes	Charadriidae	Red-wattled Lapwing	<i>Vanellus indicus</i> (Boddaert, 1783)	LC	R	VC	O
15.	Charadriiformes	Sternidae	River Tern	<i>Sterna aurantia</i> (J.E. Gray, 1831)	NT	R	UC	O
16.	Columbiformes	Columbidae	Laughing Dove	<i>Spilopelia senegalensis</i> (Linnaeus, 1766)	LC	R	VC	G
17.	Coraciiformes	Alcedinidae	Common Kingfisher	<i>Alcedo atthis</i> (Linnaeus, 1758)	LC	R	UC	C
18.	Coraciiformes	Cerylidae	Lesser-pied kingfisher	<i>Ceryle rudis</i> (Linnaeus,1758)	LC	R	UC	O
19.	Coraciiformes	Coraciidae	Indian roller	<i>Coracias benghalensis</i>	LC	R	UC	O
20.	Coraciiformes	Halcyonidae	Stork-billed Kingfisher	<i>Pelargopsis capensis</i> (Linnaeus,1766)	LC	R	RA	C
21.	Coraciiformes	Halcyonidae	White-breasted Kingfisher	<i>Halcyon smyrnensis</i> (Linnaeus,1758)	LC	R	CO	C

22.	Coraciiformes	Meropidae	Green bee-eater	Merops orientalis (Latham,1801)	LC	R	CO	I
23.	Cuculiformes	Cuculidae	Asian koel	Eudynamis scolopacea(Linnaeus, 1758)	LC	R	CO	O
24.	Falconiformes	Falconidae	Laggard Falcon	Falcon jugger (J.E. Grey,1834)	NT	R	UC	C
25.	Galliformes	Phasianidae	Indian peafowl	Pavo cristatus (Linnaeus,1758)	LC	R	UC	O
26.	Gruiformes	Rallidae	Common Moorhen	Gallinula chloropus(Linnaeus,1758)	LC	R	UC	O
27.	Gruiformes	Rallidae	Eurasian coot	Fulica atra(Linnaeus,1758)	LC	R	CO	O
28.	Gruiformes	Rallidae	Grey-headed Swamphen	Porphyrio poliocephalus	LC	R	CO	O
29.	Gruiformes	Rallidae	White-breasted Waterhen	Amaurornis phoenicurus(pennant,1769)	LC	R	CO	O
30.	Passeriformes	Cisticolidae	Ashy prinia	prinia socialis (sykes,1832)	LC	R	CO	I
31.	Passeriformes	Cisticolidae	Common tailorbird	Orthotomus sutorius(pennant,1769)	LC	R	CO	I
32.	Passeriformes	Corvidae	House crow	Corvus splendens (Vieillot,1817)	LC	R	VC	O
33.	Passeriformes	Dicruridae	Black Drongo	Dicrurus macro cercus (vieillot,1817)	LC	R	VC	I
34.	Passeriformes	Estrildidae	Indian Silverbird	Lonchura malabarica(Linnaeus,1758)	LC	R	CO	O
35.	Passeriformes	Leiothrichidae	Common babbler	Turdoides caudata(Dumont,1823)	LC	R	UC	O

36.	Passeriformes	Leiothrichidae	Large grey Babbler	Turdoides malcolm(Sykes,1832)	LC	R	CO	O
37.	Passeriformes	Motacillidae	Paddyfield pipit	Anthus rufulus(Vieillot,1818)	LC	R	VC	I
38.	Passeriformes	Motacillidae	White wagtail	Motacilla alba(Linnaeus,1758)	LC	W V	UC	I
39.	Passeriformes	Motacillidae	White-browed wagtail	Motacilla maderaspatensis(Gmelin.1789)	LC	R	CO	I
40.	Passeriformes	Muscicapidae	Indian robin	Saxicoloides fulicatus(Linnaeus,1766)	LC	R	CO	I
41.	Passeriformes	Nectariniidae	Purple sunbird	Cinnyris asiaticus(Latham,1790)	LC	R	VC	N
42.	Passeriformes	Passeridae	Baya weaver	Ploceus philippinus(Linnaeus,1766)	LC	R	CO	O
43.	Passeriformes	Passeridae	House sparrow	Passer domesticus(Linnaeus,1758)	LC	R	VC	G
44.	Passeriformes	Pycnonotidae	Red-vented bulbul	Pycnonotus cafer(Linnaeus,1766)	LC	R	VC	F
45.	Passeriformes	Sturnidae	Indian myna	Acridotheres tristis(Linnaeus,1766)	LC	R	VC	G
46.	Passeriformes	Sylviidae	Lesser whitethroat	Sylvia curruca (Linnaeus,1758)	LC	W V	UC	I
47.	Pelecaniformes	Ardeidae	Cattle Egret	Bubulcus ibis(Linnaeus,1758)	LC	R	VC	C
48.	Pelecaniformes	Ardeidae	Grey Heron	Ardea cinerea (Linnaeus,1758)	LC	W V	UC	C
49.	Pelecaniformes	Ardeidae	Indian pond Heron	Ardeola grayii(Sykes,1832)	LC	R	VC	C

50.	Pelecaniformes	Ardeidae	Large Egret	<i>Ardea alba</i> (Linnaeus,1758)	LC	R	UC	C
51.	Pelecaniformes	Ardeidae	Little Egret	<i>Egretta garzetta</i> (Linnaeus,1766)	LC	R	VC	C
52.	Pelecaniformes	Ardeidae	Purple Heron	<i>Ardea purpurea</i> (Linnaeus,1766)	LC	R	CO	C
53.	Suliformes	Phalacrocoracidae	Little cormorant	<i>Microcarbo niger</i> (Vieillot,1817)	LC	R	UC	O



Fig 1: Study area

Points scored

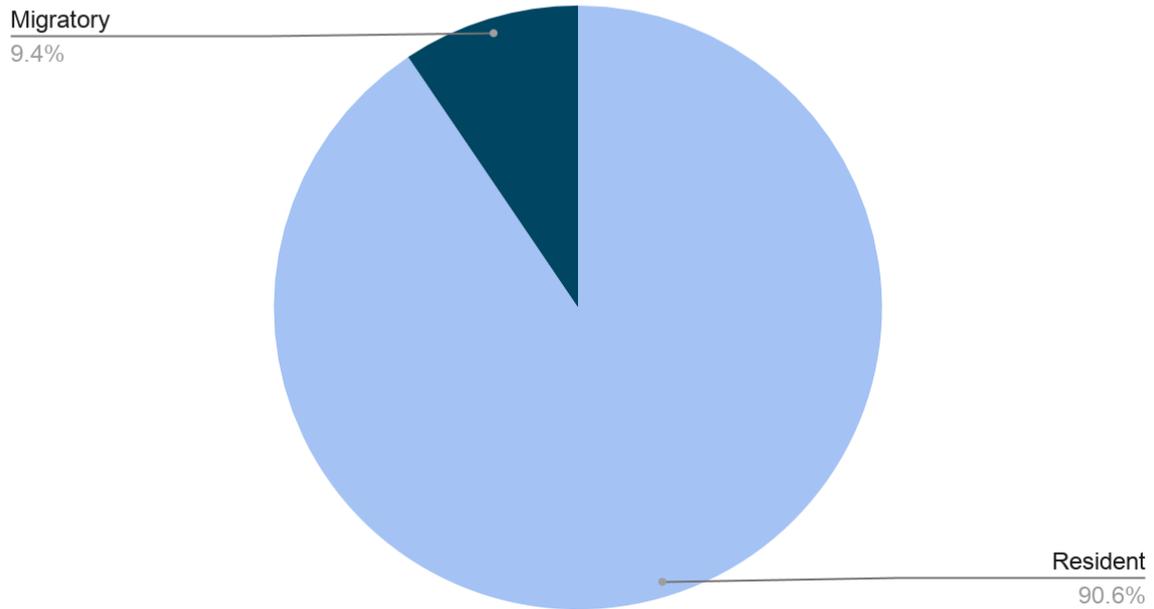


Fig 2: Avifaunal distribution (in percent) based on abundance

Points scored

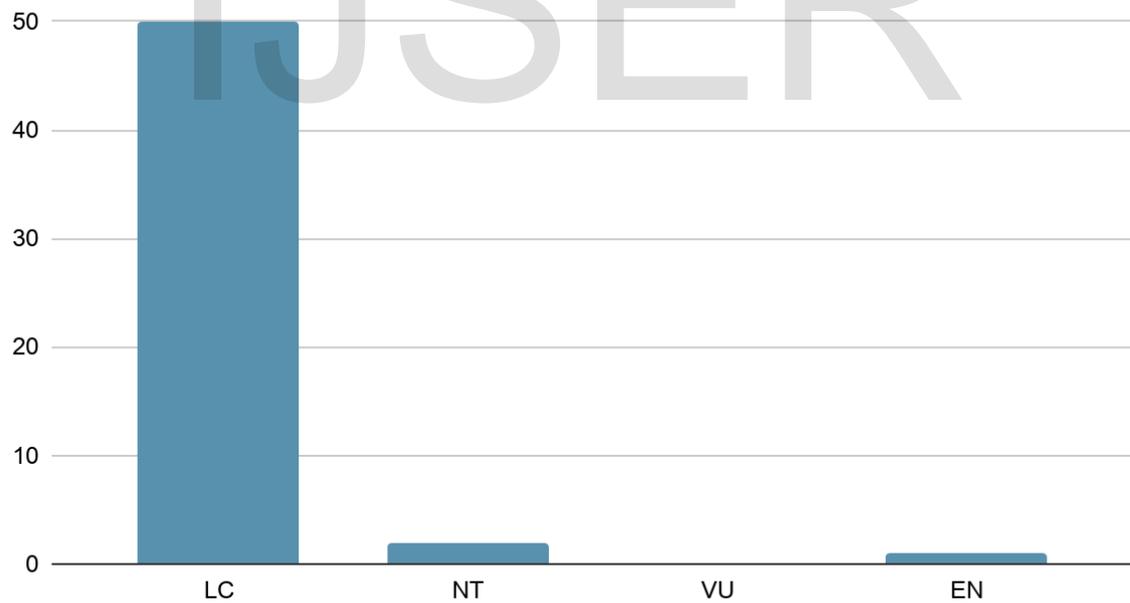


Fig 3: Avifaunal distribution based on IUCN category

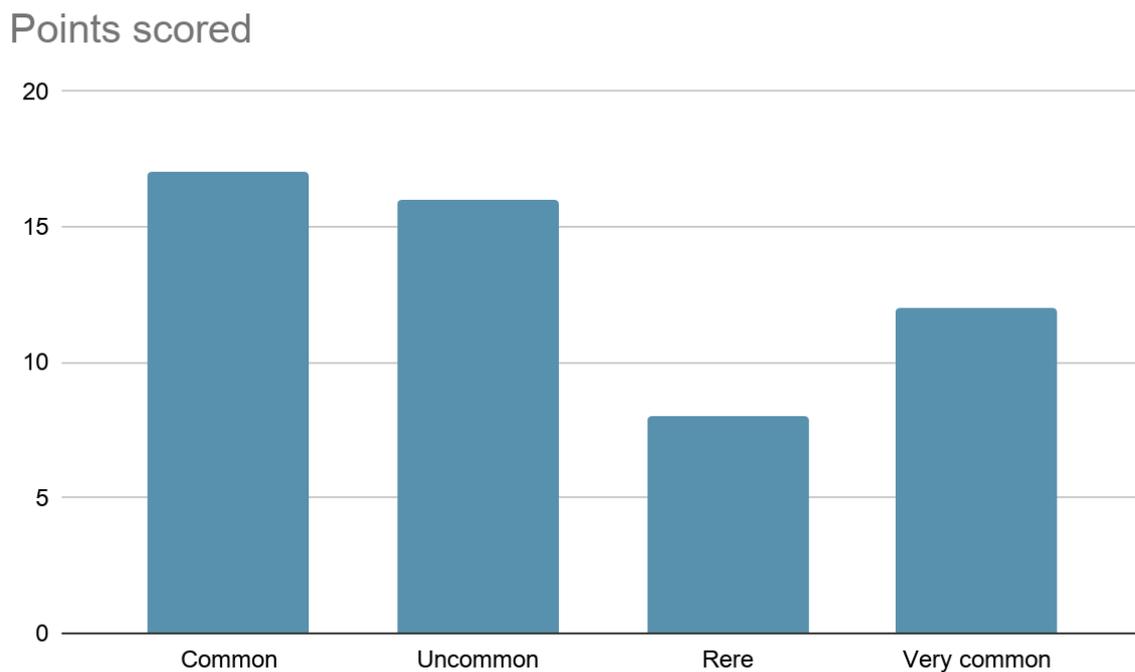


Fig 4: Avifaunal distribution based on status

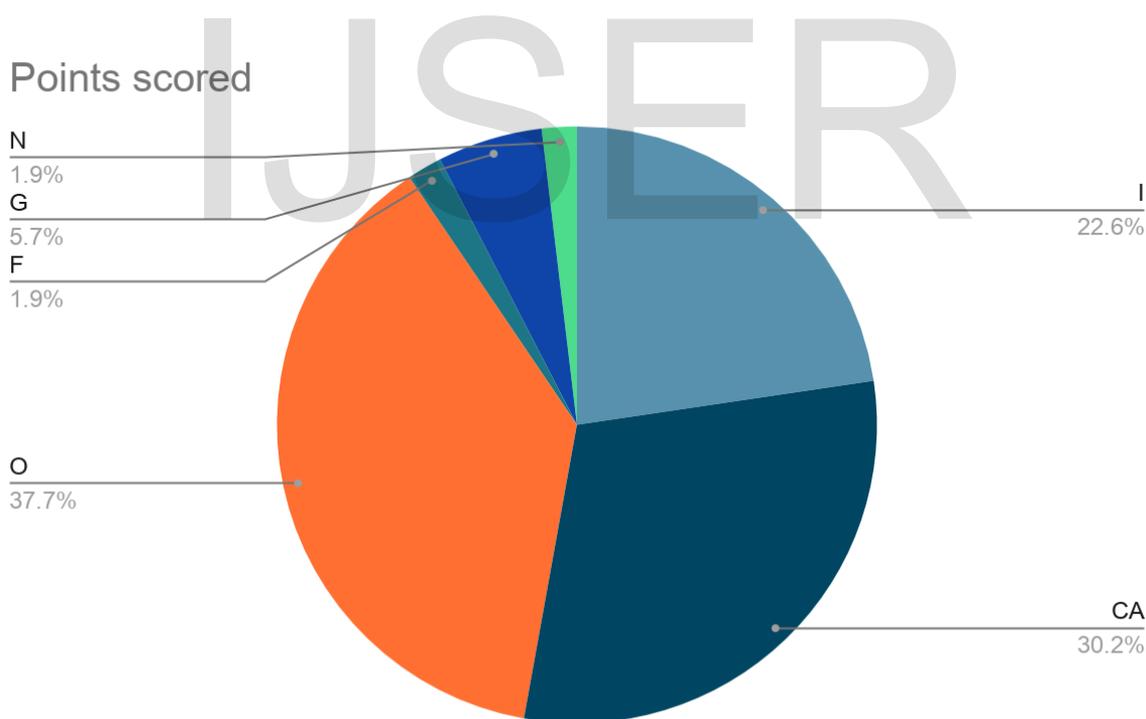


Fig 5: Avifaunal distribution based on feeding guilds

CONCLUSION:

The present study which recorded 53 species of birds reflects a moderately healthy overall biodiversity for the study location. But it must be mentioned that the study locations under present investigation are facing anthropogenic disturbances in the forms of urbanization, mining activities, livelihood dependence. Therefore, there is an urgent need to take conservation measures that would aim in the better animal habitat management programs in that area. To conclude it may be noted that the area was studied for a short time span, a more intensive study would surely result in identifying more birds.

ACKNOWLEDGEMENT

First and foremost, I have to thank my parents for their love and support throughout my life and Thank you, lord, for always being there for me. I convey my sincere gratitude to Dr. Smriti Johari Ma'am (Associate professor, JDB Govt. girl's college, Kota).

I would like to express my special thanks to My friend Ms. Nayanshree Sharma (B. tech Computer science, Govt. Engineering college, Jhalawar). your friendship makes my life a wonderful experience. I have no valuable words to express my thanks, but my heart is still full of the favours received from every person.

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