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A preliminary survey of the aquatic and terrestrial bird fauna of Ghunghutta dam area, Ambikapur, Chhattisgarh, India

Amit Singh Banafar

banafarzooology@gmail.com

Govt. College Silphili, Surajpur, Chhattisgarh

Dr. Ramesh Kumar Tamboli

rkt.zoology@gmail.com

K. Govt. Arts and Science College, Raigarh, Chhattisgarh

ABSTRACT

The survey of Avian fauna around Ghunghutta dam Ambikapur was conducted from Jun 2018 to November 2019. Three different habitats were selected for bird watching. Direct counting method and visual counting method used for data collection. During this survey 61 birds were species listed, 38 were terrestrial and 23 were aquatic. It was observed the family Passeriformes was dominant with 28 species and Pelecaniformes was the second dominant group with 07 species. Black-hooded Oriolus (riolusxanthornus), Tricoloured munia, (Lonchuramalacca), Wolly necked stork (Ciconia episcopus), Glossy ibis (Plegadisfalcinellus), Red-naped ibis (Pseudibispapillosa), Red-wattled lapwing (Vanellus indicus), and Common kingfisher (Acedoattithis) were rare in the study area.

Keywords : Bird fauna, Ghunghutta Dam

1. INTRODUCTION

Birds are highly diverse and conspicuous biota of the ecosystem. The birds show some specific behaviour such as flying ability, nesting, perching, sound production and migration, appealing and attracting the Ornithologist. Birds occupied almost all habitats so their role is very important as a biotic factor and bio-indicator in ecosystem.

Biodiversity of India is like a natural lab. It has about 1300 species of birds which is above 13 % of total bird species. Our country stands at 7th position with 88 threatened bird species over the world. Specific climatic zone represents specific bird diversity. The avian fauna of M. P. and Chhattisgarh was earliest studied by D; Abreu 1931, reported 430 species of birds from Central India and its adjacent. Other contribution in this field are Ali; (1939-1940) reported 278 bird species from central India. Heweston (1939) published a paper in 1956 birds life of M. P., in this paper 308 species of birds were described. In late 20th century Majumdar (1984) published a book 'Birds from Bastar, Saha (1995) reported 92 species of birds from Indravati Tiger Reserve of M. P., Chandra and Singh (2004) listed 197 species of birds from Chhattisgarh. Chakraborty (2008) studied three specific zone of Chhattisgarh these are Kangervally National park Jagadalpur, GuruGhasidas National park Koriya, and Sanjay Ghandhi National park M. P. Recently Pande (2012) reported 404 species through a pictorial guide book "The Birds of Chhattisgarh".

2. OBJECTIVE

The objective of the present study is to explore the avian fauna of wetland and terrestrial habitat. To identify and documentation of the migratory birds and their feeding habits, seasonal variation of avian diversity.

3. STUDY AREA

Ghunghutta dam is a medium irrigation project constructed across river Ghunghutta, a tributary of Rihand, sub basin of river Sone in Ganga basin. The dam is located near village Libara, away from 14 km of Ambikapur headquarter, Surguja district, Chhattisgarh. Dam is 242.20 meter long and 31.50 meter height. The gross command of the project for irrigation is 10250 hectare and CCA(Cultivable Command Area) is 9237hectare. Dam area is a good site for bird watching because it consists of three habitat for birds as the dam which is fresh water habitat, the second the Wetland habitat, and third crop area around the dam, which continues with Mainpat hills of Surguja. Maipat is also known as Shimla of Chhattisgarh.

4. METHODOLOGY

The study was carried out from June 2018 to November 2019. Three different ecological area were selected and surveyed around Ghunghutta dam Ambikapur. In this study there are two bird counting methods were used. A visual encounter survey and direct counting method were used for field data. The direct counting method is used for aquatic birds, in this method some vantage points were selected for counting of birds. Direct counting method was used in terrestrial area for field observation. The observation timing

was 6 AM to 9 AM in summer and rainy season, 7.30 AM to 11.30 AM in winter season and evening 4.00 to 5.30 in every season. Apparatus used for field study are Binocular (Olympus 10×40), Canon DS126621 camera with 35-300 mm zoom lens, and GPS device. Birds were photographed and classified as Common, Uncommon, the most common and rare. Further migratory birds were classified as local migrant and distance migrant .Photographed birds were identified with their morphometric characters with the help of standard books as ‘The Books of Indian Birds’ by Salim Ali and ‘Birds of the Indian Subcontinent’ by Richard Grimmett.

Table 1: Checklist of birds recorded in Ghunghutta Dam area with their feeding habit

S no.	Order	Family	Common Name	Scientific Name	Status	Habit
1	Passeriformes	Oriolidae	Golden Oriole	<i>Oriolus oriolus</i>	U	O
2	Passeriformes	Oriolidae	Black hooded Oriolus	<i>Oriolus anthornus</i>	R	O
3	Passeriformes	Dicruridae	White bellied drongo	<i>Dicrurus caeruleseens</i>	U	I
4	Passeriformes	Dicruridae	Black drongo	<i>Dicrurus macrocerus</i>	C	I
5	Passeriformes	Dicruridae	Bronze drongo	<i>Dicrurus acneus</i>	R	I
6	Passeriformes	Muscicapidae	Indina robin	<i>Copsychusfalicatus</i>	U	I
7	Passeriformes	Zosteropidae	Oriental white eye	<i>Zosterofous palpebrosus</i>	U	I
8	Passeriformes	Nectariniidae	Purple sunbird	<i>Cinnyris asiaticasas</i>	C	I
9	Passeriformes	Strunidae	Brahminy starling	<i>Sturnia padodrum</i>	C	I
10	Passeriformes	Sturnidae	Asian pied starling	<i>Sturuns contra</i>	C	I
11	Passeriformes	Sturnidae	Common maina	<i>Acridotheres tristis</i>	C	O
12	Passeriformes	Motacillidae	Paddy field pipit	<i>Anthus rufulus</i>	C	I
13	Passeriformes	Estrildidae	Tricoloured munia	<i>Lonchur amalacca</i>	U	H
14	Passeriformes	Estrildidae	Scaly breasted munia	<i>Lonchura puntulata</i>	S	O
15	Passeriformes	Pycnonotidae	Red vented bulbul	<i>Pycnonotus punctulata</i>	C	O
16	Passeriformes	Cisticolidae	Ashy prinia	<i>Prinia socialis</i>	U	O
17	Passeriformes	Cisticolidae	Plain prinia	<i>Prinia inornata</i>	C	O
18	Passeriformes	Sylviidae	Yellow eyed babbler	<i>Chrysomma sinense</i>	U	O
19	Passeriformes	Hirundinidae	Wire tailed swallow	<i>Hirundo smithii</i>	C	I
20	Passeriformes	Corvidadae	Indian treepie	<i>Dendrocitta vagabunda</i>	U	O
21	Passeriformes	Motacillidae	Grey wagtail	<i>Motacilla cinerea</i>	S	I
22	Passeriformes	Motacillidae	White browed wagtail	<i>Motacilla Maderaspentesis</i>	U	I
23	Passeriformes	Ploceidae	Baya weaver	<i>Ploceus philippinus</i>	U	H
24	Passeriformes	Muscicapidae	Oriental magpie robin	<i>Cosychus saularis</i>	U	I
25	Passeriformes	Alaudidae	Skylark	<i>Alauda arvensis</i>	U	O
26	Passeriformes	Passeridae	House crow	<i>Carvus splendens</i>	C	O
27	Passeriformes	Passeridae	House sparrow	<i>Passer domesticus</i>	C	O
28	Passeriformes	Compephagidae	Small minivet	<i>Pericrocotus cinnamomeus</i>	U	I
29	Columbiformes	Columbidae	Orange breasted green pigeon	<i>Treron bicinctus</i>	R	H
30	Columbiformes	Columbidae	Spotted dove	<i>Spilopelia chinensis</i>	C	H
31	Columbiformes	Columbidae	Laughing dove	<i>Spilopeli senegalensis</i>	C	H
32	Columbiformes	Columbidae	Rock dove	<i>Columbia livia</i>	C	H
33	Columbiformes	Columbidae	Yellow footed green pigeon	<i>Treron phoenicoptera</i>	U	H
34	Coraciiformes	Coraciidae	Indian roller	<i>Caracias benghalensis</i>	U	I
35	Coraciiformes	Macropedae	Greebbee eater	<i>Macropus orinentalis</i>	S	I
36	Caraciiformes	Alcedinidae	Common kingfisher	<i>Acedo atthis</i>	S	Cv
37	Caraciiformes	Alcedinidae	White throated kingfisher	<i>Halcyon smyrnensis</i>	S	Cv
38	Charadriiformes	Charadriidae	Little ringed plover	<i>Charadrius dubius</i>	U	Cv
39	Charadriiformes	Charadriidae	Bronze winged jacana	<i>Metopidius indicus</i>	U	O
40	Charadriiformes	Charadriidae	Red wattled lapwing	<i>Venellus indicus</i>	R	Cv
41	Charadriiformes	Charadriidae	Solitary sandpiper	<i>Tringa solitaria</i>	U	O
42	Cuculiformes	Cuculidae	Asian koel	<i>Eudynamys scolopaceus</i>	S	O
43	Cuculiformes	Cuculidae	Greater coucal	<i>Centropus sinensis</i>	C	Cv
44	Cuculiformes	Cuculidae	Jacobin cuckoo	<i>Clamator jacobinus</i>	R	I
45	Ciconiiformes	Ciconiidae	Asian openbill	<i>Anastomus oscitans</i>	U	Cv
46	Ciconiiformes	Ciconiidae	Wolly necked strok	<i>Ciconia episcopus</i>	R	Cv

47	Piciformes	Megalaimidae	Coppersmith barbet	<i>Megalaima haemacephala</i>	S	H
48	Pelecaniformes	Ardeidae	Cattle egret	<i>Bubulcus ibis</i>	C	Cv
49	Pelecaniformes	Ardeidae	Great egret	<i>Ardeola alba</i>	C	Cv
50	Pelecaniformes	Ardeidae	Little egret	<i>Egretta garzetta</i>	C.	Cv
51	Pelecaniformes	Ardeidae	Indian pond heron	<i>Ardeola grayii</i>	C	Cv
52	Pelecaniformes	Ardeidae	Black crowned night heron	<i>Nycticorax nycticorax</i>	U	Cv
53	Pelecaniformes	Thredkiornirithidae	Glossy ibis	<i>Plegadis falcinellus</i>	R	Cv
54	Pelecaniformes	Thredkiornirithidae	Red naped ibis	<i>Pseudibis papillosa</i>	R	Cv
55	Accipitriformess	Accipitridae	Black kite	<i>Milvus migrans</i>	U	O
56	Accipitriformess	Accipitridae	Black winged kite	<i>Elanus caeruleus</i>	U	Cv
57	Accipitriformess	Accipitridae	Shikra	<i>Accipiter badius</i>	U	Cv
58	Suliformes	Phalacrocoracidae	Little cormorant	<i>Microcarbo niger</i>	C	Cv
59	Bucerotiformes	Upupidae	Hoopoe	<i>Upulaeops</i>	S	I
60	Pittaciformes	Psittaculidae	Rose ringed parakeet	<i>Pistacula kramera</i>	U	H
61	Galliformes	Phasianidae	Red jungle fowl	<i>Galiusgallus domesticus</i>	U	O

U - Uncommon R- Rare C- Common S - Seasonal
 O - Omnivorous I – Insectivorous H- Herbivorous Cv- Carnivorous

RDI- Relative diversity of avifaunal diversity was calculated by using the following formula (Koli, 2014)

$$RDi = \frac{\text{No of birds species in the families}}{\text{Total no birds species}} \times 100$$

Table 2: Relative diversity (RDi) of various families of birds at Ghunghutta Dam, Surguja district –

S no	Name of families	No of species	RDi
1	Oriolidae	2	3.27
2	Dicruridae	3	4.91
3	Muscicapidae	1	1.63
4	Zosteropidae	1	1.63
5	Nectariniidae	1	1.63
6	Strunidae	3	4.91
7	Motacillidae	3	4.91
8	Estrildidae	2	3.27
9	Pycnonotidae	1	1.63
10	Pycnonotidae	2	3.27
11	Cisticolidae	2	3.27
12	Sylviidae	1	1.63
13	Hirundinidae	1	1.63
14	Corvidae	1	1.63
15	Ploceidae	1	1.63
16	Alaudidae	1	1.63
17	Passeridae	2	3.27
18	Compephagidae	1	1.63
19	Columbidae	5	8.19
20	Coraciidae	1	1.63
21	Macropedae	2	3.27
22	Alcedinidae	2	3.27
23	Charadriidae	4	6.55
24	Cuculidae	3	4.91
25	Ciconiidae	2	3.27
26	Megalaimidae	1	1.63
27	Ardeidae	5	8.19
28	Accipitridae	3	4.19
29	Phalacrocoracidae	1	1.63
30	Upupidae	1	1.63
31	Psittaculidae	1	1.63
32	Phasianidae	3	4.19



5. RESULT AND DISCUSSION

During the present survey 61 bird species were recorded from Ghunghutta dam study area of Ambikapur representing 32 families and 13 orders. Out of 61 species 38 are terrestrial, 09 are aquatic and 14 are wetland birds. 20 species are common, 25 species are uncommon, 08 species are seasonal and 08 species are rarely encountered in this area. The maximum avian species were observed during the month of October, November and January to March. Family Columbidae and Ardeidae are dominant representing with 5 species each and followed by the family Charadriidae with 4 species. Order Passeriformes is the most dominant with 28 species and order Pelecaniformes had only 7 species. Some species of birds were observed only once or twice during the year, these are Tricoloured munia (*Lonchura Malacca*), Red wattled lapwing (*Venellus indicus*), Jacobin cuckoo (*Clamatorjacobinus*) and Wolly necked strok (*Ciconia episcopus*).

6. CONCLUSION

Ghunghutta dam area is the self managed ecosystem zone having a variety of food on land, water and wetland, attracting the birds throughout the year for feeding and breeding. Awareness and proper planning is required to conserve the natural habitat and the avian diversity.

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