

Status and Diversity of Ornithofauna in Joggers Park, Lucknow, Uttar Pradesh, India

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Abstract

The present study was done to account for the status and diversity of ornithofauna of Joggers Park, Lucknow, U.P., India. The field explorations were carried out from September 2021 to August 2022. During the period of study, a total of 62 species of ornithofauna were identified which belonged to 13 orders and 32 families. The order Passeriformes had a maximum number of bird count (34 species) belonging to 16 families. The least number of bird species was recorded in orders Strigiformes, Charadriiformes, Apodiformes, and Galliformes each containing 1 species. All the 62 avian species reported in Joggers Park come under the least concerned category of IUCN. Out of the total species, 49 species were resident and 13 Residents were Migratory (RM).

Keywords: Diversity, Ornithofauna, Resident Migratory Birds, Status

1. Introduction

Birds are one of the most tantalizing vertebrates. They are warm-blooded, feathered biped vertebrates belonging to the class Aves¹. Globally, 9000 avian species have been reported of which 13% avian species are found in the Indian subcontinent in various habitations².

Birds are ideal bioindicators as they help in pest control, pollination, and cleaning the environment, and also serve as scavengers³⁻⁵. Avifaunal diversity scrupulously indicates the current condition of the environment⁶.

But currently, ornithofaunal diversity is prone to anthropogenic threats. Habitat loss is one of the most important threats caused by humans⁷. Pollution, clearing down trees, and changes in climate are the main reasons to restrict the foraging, feeding, and roosting sites of birds⁸. Thus, birds are compelled to shift their habitats from one area to another. Therefore, detailed studies are needed to protect the avian population from their critical positions.

The documentation of avifauna provides a baseline for non-specimen records, records are supported by photographs, which are captured at the time of field observation⁹.

The Jogger's Park is one of the larger parks that lie in the heart of Lucknow city as a green oasis in the concrete jungle with a rich diversity of flowering plants¹⁰ featuring a beautiful and soothing place for relaxation and recreational activities

as well as a good habitat for birds and other animal groups. The present work aims at enlisting birds and, finding out their diversity and status.

2. Materials and Methods

2.1 Study Area

The study area is in the district of Lucknow, which is the capital of Uttar Pradesh, Lucknow has a total of only 5.66 percent of forest cover, which is much less than the state average of around 7 percent. It covers an area of about 2 km². The Jogger's Park harbours a variety of flora and fauna and a few man-made small water bodies. The diversity of flora includes a large number of trees, shrubs, annuals, pot herbs, and climbers frequently grown as ornamentals in parks¹¹. The common among them are *Ficus benghalensis*, *Azadirachta indica*, *Phyllostachys aurea*, *Agave species*, *Mangifera indica*, *Psidium guajava*, *Rosa indica*, *Ficus religiosa*, *Bauhinia racemosa* etc.

2.2 Methodology

The surveys were conducted in Joggers Park, Lucknow, Uttar Pradesh from September 2021 to August 2022. The present study was done following the line transect method. The observations were done from 6 AM to 9 AM and 3 PM to 6 PM. No study was carried out at night. Binoculars

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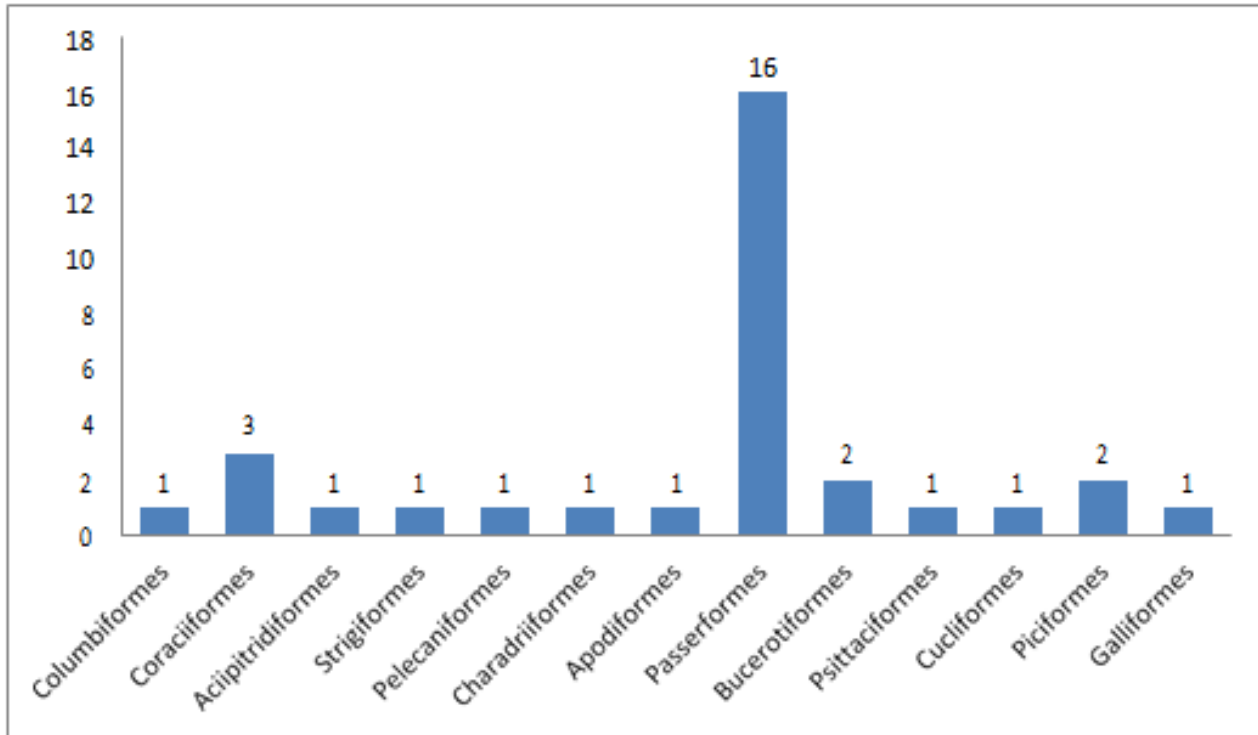


Figure 1. Number of families under different orders.

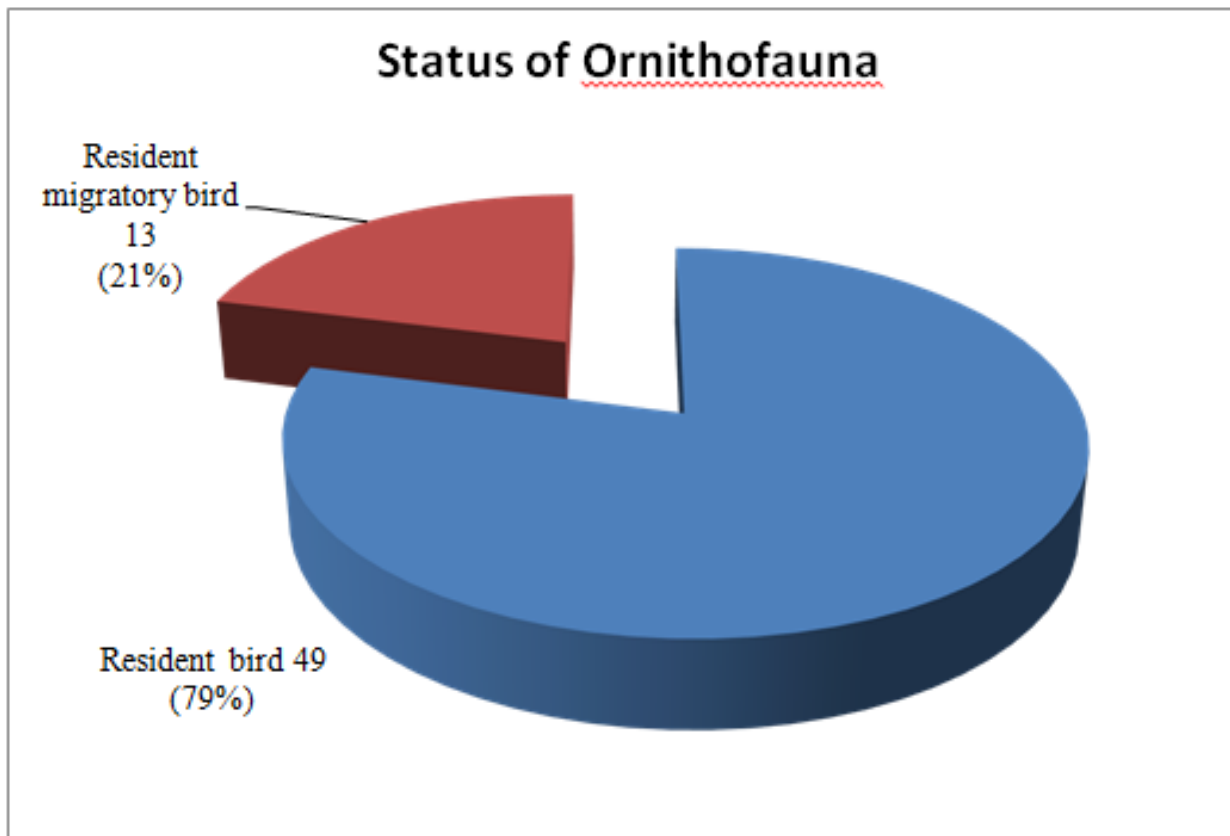


Figure 2. Category status of Ornithofauna in study area.

(10-22 x 50) were used as a visual aid. Photographic evidence were taken by Nikon D3500 DSLR cameras. The birds were then identified using key reference books Grewal and Ali, and Grimmet *et al*^{12,13}.

3. Result

The present study was designed to enlist bird species of Joggers Park. During the study, a total of 62 species of birds were

recorded which belonged to 13 orders and 32 families (Table 1, Figure 1). The birds belonging to the order Passeriformes outnumbered the rest of the bird orders with a total count of 34 species. Least number of bird species recorded in orders Strigiformes, Charadriiformes, Apodiformes, and Galliformes each containing 1 species. All the 62 avian species reported in joggers park come under the least concerned category of IUCN^{14,15} (Table 1).

Table 1. List of Ornithofauna documented from Joggers Park LC- Least Concern, R- Resident, RM- Resident Migratory

S. No.	Common Name	Zoological Name	Order	Family	IUCN Status	Category
1	Rock pigeon	<i>Columba livia</i>	Columbiformes	Columbidae	LC	R
2	Laughing dove	<i>Spilopelia senegalensis</i>			LC	R
3	Eurasian collared dove	<i>Streptopelia decaocto</i>			LC	R
4	Yellow-footed green pigeon	<i>Treron phoenicopterus</i>			LC	R
5	Small bee-eater	<i>Merops orientalis</i>	Coraciiformes	Meropidae	LC	R
6	Blue-tailed bee-eater	<i>Merops philippinus</i>			LC	RM
7	Indian roller	<i>Coracias benghalensis</i>		Coraciidae	LC	R
8	Small blue kingfisher	<i>Alcedo atthis</i>		Alcedinidae	LC	RM
9	White-breasted kingfisher	<i>Halcyon smyrnensis</i>			LC	R
10	Oriental honey buzzard	<i>Pernis ptilorhynchus</i>	Accipitridiformes	Accipitridae	LC	RM
11	Shikra	<i>Accipiter badius</i>			LC	R
12	Black kite	<i>Milvus migrans</i>			LC	R
13	Jungle owlet	<i>Glaucidium radiatum</i>	Strigiformes	Strigidae	LC	R
14	Cattle egret	<i>Bubulcus ibis</i>	Pelecaniformes	Ardeidae	LC	RM
15	Indian pond heron	<i>Ardeola grayii</i>			LC	R
16	Red wattled lapwing	<i>Vanellus indicus</i>	Charadriiformes	Charadriidae	LC	R
17	House swift	<i>Apus affinis</i>	Apodiformes	Apodidae	LC	RM
18	House sparrow	<i>Passer domesticus</i>	Passeriformes	Passeridae	LC	R
19	Common house martin	<i>Delichon urbicum</i>		Hirundinidae	LC	RM
20	Wire-tailed swallow	<i>Hirundo smithii</i>			LC	R
21	Purple sunbird	<i>Nectarinia asiatica</i>		Nectariniidae	LC	R
22	Red vented bulbul	<i>Pycnonotus cafer</i>		Pycnonotidae	LC	R
23	Red-whiskered bulbul	<i>Pycnonotus jocosus</i>			LC	R
24	Great tit	<i>Parus major</i>		Paridae	LC	R
25	Oriental white eye	<i>Zosterops palpebrosus</i>		Zosteropidae	LC	R
26	Common myna	<i>Acridotheres tristis</i>		Sturnidae	LC	R
27	Brahminy myna	<i>Sturnia pagodarum</i>			LC	R
28	Bank myna	<i>Acridotheres ginginianus</i>			LC	R
29	Asian pied starling	<i>Sturnus contra</i>				LC
30	Jungle crow	<i>Corvus macrorhynchos</i>	Corvidae	LC	R	
31	House crow	<i>Corvus splendens</i>		LC	R	
32	Indian treepie	<i>Dendrocitta vagabunda</i>		LC	R	

Table 1 to be continued...

S. No.	Common Name	Zoological Name	Order	Family	IUCN Status	Category	
33	Tailor bird	<i>Orthotomus sutorius</i>		Cisticolidae	LC	R	
34	Ashy prinia	<i>Prinia socialis</i>			LC	R	
35	Plain prinia	<i>Prinia inornata</i>			LC	R	
36	Jungle babbler	<i>Turdoides striatus</i>		Leiothrichid ae	LC	R	
37	Rufous-backed shrike	<i>Lanius schach</i>		Laniidae	LC	R	
38	Oriental magpie robin	<i>Copsychus saularis</i>		Muscicapid ae	LC	R	
39	Indian robin	<i>Copsychus fulicatus</i>			LC	R	
40	Brown rock chat	<i>Oenanthe fusca</i>			LC	R	
41	Bluethroat	<i>Luscinia svecica</i>			LC	RM	
42	Black redstart	<i>Phoenicurus ochrurus</i>			LC	RM	
43	Pied bush chat	<i>Saxicola caprata</i>			LC	R	
44	Eurasian golden oriole	<i>Oriolus oriolus</i>			Oriolidae	LC	RM
45	Black-headed oriole	<i>Oriolus xanthoruns</i>		LC		R	
46	Black drongo	<i>Dicrurus macrocercus</i>		Dicruridae	LC	R	
47	White wagtail	<i>Motacilla alba</i>		Motacillidae	LC	RM	
48	Yellow wagtail	<i>Motacilla flava</i>			LC	RM	
49	Grey wagtail	<i>Motacilla cinera</i>			LC	R	
50	Citrine wagtail	<i>Motacilla citreola</i>			LC	RM	
51	Spotted munia	<i>Lonchura punctulata</i>		Estrildidae	LC	R	
52	Common hoopoe	<i>Upupa epops</i>		Bucerotiforme s	Upupidae	LC	RM
53	Indian grey hornbill	<i>Ocyrocus birostris</i>			Bucerotidae	LC	R
54	Rose-ringed parakeet	<i>Psittacula krameri</i>	Psittaciformes	Psittaculida e	LC	R	
55	Alexandrine parrot	<i>Psittacula eupatria</i>			LC	R	
56	Common Koel	<i>Eudynamys orientalis</i>	Cuculiformes	cuculidae	LC	R	
57	Drongo- cuckoo	<i>Surniculus lugubris</i>			LC	R	
58	Greater coucal	<i>Centropus sinensis</i>			LC	R	
59	Common golden-backed woodpecker	<i>Dinopium javanense</i>	Piciformes	Picidae	LC	R	
60	Coppersmith Barbet	<i>Megalaima haemacephala</i>		Megalaimid ae	LC	R	
61	Brown-headed barbet	<i>Megalaima zeylanica</i>			LC	R	
62	Indian peafowl	<i>Pavo cristatus</i>	Galliformes	Phasianidae	LC	R	



(A)



(B)



(C)



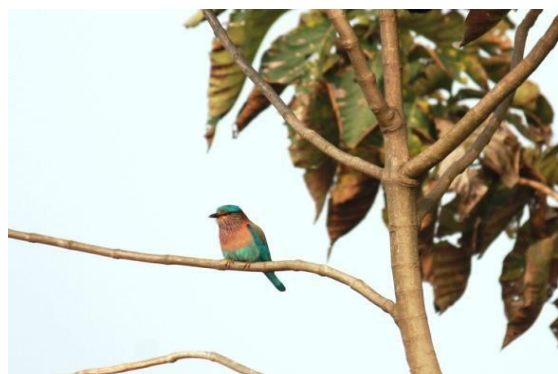
(D)



(E)



(F)



(G)



(H)

Figure 3. Pictures of different species of ornithofauna- (A) Oriental magpie robin (*Copsychus saularis*). (B) Purple sunbird (*Nectarinia*). (C) Jungle babbler (*Turdoides striatus*). (D) Red-whiskered bulbul (*Pycnonotus jocosus*). (E) Rock pigeon (*Columba livia*). (F) Rose ringed parakeet (*Psittacula krameri*). (G) Indian roller (*Coracias benghalensis*). (H) White-breasted kingfisher (*Halcyon smyrnensis*).

4. Discussion

In the present study, a total of 62 species of birds were reported belonging to 13 orders and 32 families. Birds belonging to order Passeriformes had the maximum number (of 34 species) followed by Coraciiformes (5 species), Columbiformes (4 species), Accipitridiformes, Cuculiformes, Piciformes, (3 species), Pelecaniformes, Bucerotiformes, Psittaciformes (2 species), Strigiformes, Charadriiformes, Apodiformes and Galliformes (1 species) (Table 1). The present study indicated that the study area is a good habitat for birds as it harbours diverse flora with many flowering and fruiting plants which provide feeding, roosting, and breeding sites for many avian species.

Out of total 62 avian species, 49 species were resident and 13 species Resident Migratory (RM) (Figure 2). The maximum number of RM species (7) belonged to the order Passeriformes followed by Coraciiformes (2) and Pelecaniformes, Apodiformes, and Bucerotiformes each with one species.

5. Conclusion and Recommendations

In conclusion, our study suggests that the study area is the potential habitat for the avifauna as it encompasses 62 species of birds belonging to 13 orders and 32 families. In order to increase it, we recommend the planting of more plants, maintenance of water bodies in the park, and most importantly creating awareness among the visitors, students, and common masses.

6. Acknowledgments

The authors are highly thankful to the Head of the Zoology Department, University of Lucknow. The authors are also thankful to the local visitors and park employees who have provided secondary information for this study.

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