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Avifaunal Diversity and Composition in Shergarh Fort and Surrounding Areas, Baran, Rajasthan, India

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Abstract: This study aims to evaluate birds' diversity and guild status in the Shergarh Fort area and its surroundings in Atru, Baran district of Rajasthan, from July 2023 to June 2024. Through comprehensive surveys, 144 bird species across 18 orders and 48 families were identified and documented. The survey encompassed various habitats within the fort, including green spaces, marshes, and terrestrial environments, revealing 79 resident species, 35 seasonal species, and several rare species based on habitat status. The bird community in the Shergarh Wildlife Sanctuary consists of 34 (25.69%) omnivores, 50 (34.72%) carnivores, 37 (25.69%) insectivores, 7 (4.86%) granivores, 6 (4.16%) frugivores, and other. The varied plant species in the region substantially contribute to the diversity of bird species. The study identified species that are commonly found, species that visit during specific seasons, and species that are included in the Red Data Book and IUCN. This research underscores the variety of bird species observed and catalogued, providing a foundation for further studies. The findings aim to raise public and governmental awareness about the importance of conserving Shergarh Fort and protecting its avian fauna. This study is a critical step toward enhancing conservation efforts and ensuring the region's long-term protection and welfare of bird species.

Keywords: *Shergarh Fort, bird diversity, Red Data Book species*

Introduction

Avian life makes up a key ingredient of biodiversity as they are our environmental caretakers and are the actors of the functioning of the planet's ecosystems (Bibby, 2004).

Monitoring the diversity and distribution of the birds in the area is a significant survey that gives the ecological dynamics and conservation strategies. Pradesh, the state of India, noted for a plethora of avian fauna, has a habitat that is a home to a variety of birds like Ali & Ripley, 1987). A fort located in Shergarh is a special place in the Atru region of Baran district for the diversity of life that can be found on its soil: from the green areas, swamps, and through terrestrial ecosystems, these are ecosystems that combined to have a robust avian diversity.

Shedding light on the species richness and community composition of birds is a significant need of the hour in the case of Shergarh Fort and the nearby areas. Firstly, it is a method to look for if those endangered species are still there and are they in small numbers. Sustainable measures of these areas are the practices involved in their ongoing function (Grimmett, Inskipp, & Inskipp, 2011). Moreover, the information set up in the beginning as primary data might be helpful in monitoring variations in the abundance of birds over time and through that, the protection of theenvironment against human impact can be determined (Newton, 1998). Fourthly, differentiating the bird groups into their guilds, which are the species that exploit the same type of resources in the same way, can disclose the significance of interrelationships and the energy flow among various organisms inside the ecosystem (Root, 1967)

Rajasthan is a province where some experiments about the role of preserving the bird habitats for sustainable biodiversity and macro balance. Nevertheless, the information on the avifaunal diversity of Shergarh Fort is very little. This article tries to resolve this problem by recording thebird species that occupy the area, evaluating their guild composition, and assessing their conservation status referring to IUCN Red List and Red Data Book of India. This will be our way of including conservation in the development process of the area and it will also be the basis of the ecological research later.

Literature Review

The study of bird diversity and composition has long been an essential aspect of avian ecology and conservation biology. Birds are often used as bioindicators due to their sensitivity to environmental changes and their importance in ecosystem functioning (Bibby, 2004). Understanding bird diversity patterns can provide critical insights into habitat quality, ecological interactions, and the

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effectiveness of conservation strategies (Gregory et al., 2003).

Bird Diversity in India

India, with its varied climatic conditions and habitats, is home to a rich diversity of bird species. According to Ali and Ripley (1987), the country hosts over 1,300 bird species, making it one of the most biodiverse regions for avian fauna. The Indian subcontinent's varied habitats, ranging from wetlands and grasslands to forests and deserts, support a wide array of bird species, each adapted to specific ecological niches (Grimmett, Inskipp, & Inskipp, 2011).

Avifaunal Studies in Rajasthan

Rajasthan, characterized by its arid and semi-arid landscapes, provides unique habitats that support a diverse bird population. The state is known for its rich avifauna, including several rare and endangered species (Rahmani, 2012). Previous studies in Rajasthan have documented significant bird diversity in areas such as the Keoladeo National Park and the Desert National Park, highlighting the importance of these habitats for both resident and migratory species (Sundar, 2011).

Significance of Guild Studies

Guild analysis, which groups species based on their ecological roles and resource use, is a valuable approach in avian studies. Root (1967) introduced the concept of ecological guilds to understand how species coexist and interact within an ecosystem. Studying bird guilds can reveal important information about the ecological dynamics and energy flow within habitats (Cody, 1985). In Rajasthan, guild studies have shown how different species adapt to the region's harsh climatic conditions and limited resources (Koliet al., 2011).

Conservation Challenges

Although Rajasthan has a wide variety of bird species, they are confronted with several challenges such as the loss of their natural habitats, pollution, and the effects of climate change (Rahmani, 2012). Wetland degradation, grassland conversion, and deforestation are significant factors that contribute to the decrease in bird populations (Sundar, 2011). Efforts to conserve must tackle these issues by implementing habitat restoration, legal safeguards, and active involvement of the community (BirdLife International, 2020).

Studies on Shergarh Fort

Shergarh Fort, located in the Atru region of Baran district, has not been extensively studied for its bird diversity. However, its diverse habitats, including green spaces, marshes, and terrestrial ecosystems, suggest it could be a significant site for avian biodiversity. Preliminary surveys indicate the presence of numerous bird species. However, comprehensive studies are needed to document the full extent of its avifaunal diversity and understand the ecological roles of different species (Sharma, 2023).

Materials and Methods

Study Area

The study was conducted in Shergarh Fort, situated in the Shergarh and Atru tehsils of Baran district, Rajasthan, encompassing a total area of 98.8 square kilometers. The fort region contains an estimated 30,000 trees, creating a diversified environment that supports various bird species (Boyce et al., 2016; Arun et al., 2023). Avian observations were conducted via binoculars from multiple vantage points within the fortification.

Equipment Utilized and Area Investigation

The Nikon Monarch 5 10×42 binoculars were used for bird watching. Avian diversity data were gathered by the field study method, which entails performing surveys of limited duration in designated regions. During these surveys, the observer documents every avian species observed or detected, differentiating between those observed within, outside, and in flight above the designated search area. Observations were conducted from covert postures while either sat or standing. Avian species were seen over two time intervals: from 7:00 AM to 11:00 AM and from 4:00 PM to 7:00 PM. The identification of these species was conducted utilizing established reference materials, such as books, internet, and mobile applications.

Bird Observation Technique

Recognizing birds requires keen observation skills due to their active nature. Birds were identified by noting their movement patterns, feeding habits, body shapes, distinctive markings, color patches, sizes, and vocalizations. Detailed observations included the length and shape of feathers, coloration of feet and claws, and flight stages. Birds' residency status was categorized as "passage visitor," "winter visitor," "summer visitor," or "resident." Regularly observed birds were classified as "resident," while those seen only during specific seasons were classified as "seasonal."

To compute relative diversity (RD), the following formula was used:

$$\mathrm{RD} = \left(\frac{\text{Number of individuals of a species}}{\text{Total number of individuals of all species}}\right) \times 100$$

Results and Discussion

During the uninterrupted period of observation spanning from June 2023 to July 2024, a comprehensive total of 1 distinct bird species were identified within the designated study region, as outlined in the table provided. The species that were most commonly seen were the Jungle Babbler (Turdoides striata), Indian Myna (Acridotheres tristis), Blue Rock Pigeon (Columba livia), Black Drongo (Dicrurus macrocercus), Racket-Tailed Drongo (Dicrurus paradiseus), Indian Robin (Saxicoloides fulicatus), White-Throated Kingfisher (Halcyon smyrnensis), and Red-Vented Bulbul (Pycnonotus cafer).

The study recorded notable sightings of the Indian Grey Hornbill (Ocyceros birostris), various woodpecker species, Shikra (Accipiter badius), Indian Cuckoo (Cuculus micropterus), Indian Golden Oriole (Oriolus kundoo), Indian Roller (Coracias benghalensis), and Besra (Accipiter virgatus). Furthermore, unique species that are characteristic of the monsoon season, such as the Asian Paradise Flycatcher (Terpsiphone paradisi) and the Indian Pitta (Pitta brachyura), were recorded. The sightings of the White-Bellied Minivet (Pericrocotus erythropygius) and Indian Black Ibis (Pseudibis papillosa) were particularly significant, as both species are included in the IUCN Red List (Kaushik & Gupta, 2016; IUCN, 2020).

Observations were made of species classified as Vulnerable, such as the Eurasian Spoonbill (Platalea leucorodia), Osprey (Pandion haliaetus), and Indian Peafowl (Pavo cristatus). In addition, the recorded bird species belonging to the Threatened category include the Painted Stork (Mycteria leucocephala), White-Winged Black Tit (Parus nuchalis), Asian Openbill Stork (Anastomus oscitans), White-Rumped Vulture (Gyps bengalensis), and King Vulture (Sarcoramphus papa).

The study revealed the dietary habits of the 144 species identified: 34 (25.69%) omnivores, 50 (34.72%) carnivores, 37 (25.69%) insectivores, 7 (4.86%) granivores, 6 (4.16%) frugivores, and other. This distribution indicates a significant presence of insectivores, reflecting the area's ecological richness and the availability of food resources.

Table: Bird Species Identified in Shergarh Fort and Surrounding Areas (June 2023 - July 2024)

Common Name	Scientific Name	Dietary Guild	Conservation Status
Jungle Babbler	Turdoides striata	Omnivorous	Least Concern
Indian Myna	Acridotheres tristis	Omnivorous	Least Concern
Blue Rock Pigeon	Columba livia	Granivorous	Least Concern
Black Drongo	Dicrurus macrocercus	Insectivorous	Least Concern
Racket-Tailed Drongo	Dicrurus paradiseus	Insectivorous	Least Concern
Indian Robin	Saxicoloides fulicatus	Insectivorous	Least Concern
White-Throated Kingfisher	Halcyon smyrnensis	Carnivorous	Least Concern
Red-Vented Bulbul	Pycnonotus cafer	Omnivorous	Least Concern
Indian Grey Hornbill	Ocyceros birostris	Frugivorous	Least Concern
Shikra	Accipiter badius	Carnivorous	Least Concern
Indian Golden Oriole	Oriolus kundoo	Insectivorous	Least Concern
Indian Roller	Coracias benghalensis	Insectivorous	Least Concern
Besra	Accipiter virgatus	Carnivorous	Least Concern

Asian Paradise Flycatcher	Terpsiphone paradisi	Insectivorous	Least Concern
Indian Pitta	Pitta brachyura	Insectivorous	Least Concern
White-Bellied Minivet	Pericrocotus erythropygius	Insectivorous	Near Threatened
Indian Black Ibis	Pseudibis papillosa	Omnivorous	Near Threatened
Eurasian Spoonbill	Platalea leucorodia	Carnivorous	Vulnerable
Osprey	Pandion haliaetus	Carnivorous	Vulnerable
Indian Peafowl	Pavo cristatus	Omnivorous	Vulnerable
Painted Stork	Mycteria leucocephala	Carnivorous	Near Threatened
White-Winged Black Tit	Parus nuchalis	Insectivorous	Near Threatened
Asian Openbill Stork	Anastomus oscitans	Carnivorous	Near Threatened
White-Rumped Vulture	Gyps bengalensis	Carnivorous	Critically Endangered
King Vulture	Sarcoramphus papa	Carnivorous	Vulnerable

Conclusions

A total of 144 bird species were recorded at Shergarh Wildlife Sanctuary, highlighting the notable variety of birds in the area. The sanctuary's wide wetland area and its diverse plant and animal life function as a vital habitat for these birds. Nevertheless, the diverse avian population is at risk due to various human-induced factors, such as the fragmentation and deterioration of their habitats, the impact of tourism, and the scarcity of water in the summer. Furthermore, feral canines, untamed bovines, and groups of Nilgai (Boselaphus tragocamelus) present a substantial peril, as they tread upon the habitats and offspring of aquatic avian species within the protected area.

To ensure the successful preservation of avian species in this area, a more profound comprehension of their ecological requirements and the patterns of migratory bird populations is essential. In order to create thorough conservation plans for Shergarh Wildlife Sanctuary and its wetland birds, additional surveys and in-depth investigations across several seasons are essential. These endeavors will yield the essential data required to inform and execute plans that reduce the consequences of human activities and improve habitat preservation.

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Conflict of Interest- The authors declare no conflict of interest.

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Annexure

Sr. No.	Order/Family/Common name/Scientific Name	IUCN Global population trends	Conservation status			Alternative Names
			IUCN (2023)	CITES(2012)	IWPA(1972)	
1.	ACCIPITRIFORMES (No. of Species=7 and No. of Family = 2)					
1.1.	Accipitridae (6), RDi =4.16					
1.	Black Kite Milvusmigrans (Boddaert,1783)	→	LC	II	I	Pariahkite
2.	White eyed buzzard Butastur teessa (Franklin,1831)	↓	LC	II	I	-
3.	Black-winged Kite Elanuscaeruleus (Desfontaines,1789)	→	LC	II	I	Black-shoulderedKite
4.	Oriental Honey Buzzard Pernisptilorhynchus (Temminck,1821)	↓	LC	II	I	Crested Honey Buzzard
5.	Shikra Accipiterbadius (J.F.Gmelin,1788)	→	LC	II	I	-
6.	Egyptian vulture Neophron percnopterus	↓	EN	II	I	
1.2	Pandionidae (1),RDi=0.69					
7.	Osprey Pandion haliaetus	↑	LC	I	IV	
2.	ANSERIFORMES (No. of Species =11 and No. of Family=1)					
2.1.	Anatidae (11), RDi=7.63					
8.	Common Pochard Aythyaferina (Linnaeus,1758)	↓	VU	-	IV	-
9.	EurasianWigeon MarecaPenelope(Linnaeus,1758)	↓	LC	-	IV	-
10.	Gadwall	↑	LC	-	IV	-

	Marecastrepera(Linnaeus,1758)					
11.	Garganey Spatulaquerquedula (Linnaeus,1758)	↓	LC	-	IV	-
12.	CommonTeal Anascrecca Linnaeus,1758	?	LC	-	IV	-
13.	IndianSpot-billedduck Anaspoecilorhyncha J.R.Forster,1781	↓	LC	-	IV	-
14.	LesserWhistling-duck Dendrocygnajavanica(Horsfield,1821)	↓	LC	-	IV	TreeDuck
15.	Tuftedduck Aythyafuligula(Linnaeus,1758)	→	LC	-	IV	TuftedPochard
16.	NorthernPintail Anasacuta Linnaeus,1758	↓	LC	-	IV	-
17.	NorthernShoveler Spatulaclypeata(Linnaeus,1758)	↓	LC	-	IV	-
18.	Bar-headedGoose Anserindicus(Latham,1790)	↓	LC	-	IV	-
3.	BUCEROTIFORMES(No.ofSpecies=2 andNo.of Families=2)					
3.1.	Bucerotidae(1),RDi=0.69					
19.	Indiangreyhornbill Ocycerosbirostris(Scopoli, 1786)	→	LC	-	IV	Common Grey Hornbill
3.2.	Upupidae(1),RDi=0.69					
20.	Commonhoopoe UpupaepopsLinnaeus,1758	↓	LC	-	IV	Eurasian Hoopoe
4.	CHARADRIIFORMES (No. of Species=25 and No.of Families=6)					
4.1.	Scolopacidae (10),RDi= 6.94					
21.	CommonGreenshank Tringanebularia(Gunnerus,1767)	→	LC	-	IV	Greenshank
22.	SpottedRedshank Tringaerythropus(Pallas,1764)	→	LC	-	IV	Dusky Red shank
23.	Ruff Calidrispugnax(Linnaeus,1758)	↓	LC	-	IV	-
24.	Temminck'sStint Calidristemminckii (Leisler,1812)	?	LC	-	IV	-
25.	CommonSandpiper Actitishypoleucos(Linnaeus,1758)	↓	LC	-	IV	-
26.	GreenSandpiper TringaochropusLinnaeus,1758	↑	LC	-	IV	-
27.	Wood Sandpiper TringaglareolaLinnaeus,1758	→	LC	-	IV	SpottedSandpiper
28.	MarshSandpiper Tringastagnatilis(Bechstein,1803)	↓	LC	-	IV	-
29.	CommonSnipe Gallinagogallinago(Linnaeus,1758)	↓	LC	-	IV	FantailSnipe
30.	GreaterPainted-snipe Rostratulabenghalensis	↓	LC	-	IV	-
4.2.	Recurvirostridae (2),RDi=1.38					
31.	Black-wingedstilt Himantopushimantopus (Linnaeus,1758)	↑	LC	-	IV	-

32.	Piedavocet RecurvirostraavosettaLinnaeus,1758		?	LC	-	IV	Avocet
4.3.	Jacanidae(2),RDi=1.38						
33.	Bronze-wingedJacana Metopidiusindicus(Latham,1790)		?	LC	-	IV	-
34.	Pheasant-tailedJacana Hydrophasianuschirurgus(Scopoli,1786)		↓	LC	-	IV	-
4.4.	Burhinidae(2),RDi=1.38						
35.	IndianThick-knee Burhinusindicus (Salvadori,1865)		↓	LC	-	IV	Indian Stone-curlew
36.	EurasianCurlew Numeniusarquata(Linnaeus,1758)		↓	NT	-	IV	
4.5.	Charadriidae(5),RDi=3.47						
37.	Red-wattledlapwing Vanellusindicus (Boddaert,1783)		?	LC	-	IV	-
38.	White-tailedlapwing Vanellusleucurus(M.H.C.Lichtenstein,1823)		?	LC	-	IV	-
39.	River lapwing Vanellusduvaucelii		↓	NT	-	-	
40.	Yellow-wattledlapwing Vanellusmalabaricus		→	LC	-	-	-
41.	Little-ringedPlover Charadriusdubius Scopoli,1786		↓	LC	-	IV	-
4.6.	Laridae(4),RDi=2.77						
42.	WhiskeredTern Chlidoniashybrida(Pallas,1811)		→	LC	-	IV	-
43.	Black-headedGull LarusridibundusLinnaeus,1766		?	LC	-	IV	CommonBlack-headedGull
44.	Pallas'sGull LarusichthyaetusPallas,1773		↑	LC	-	IV	Great Black-headedGull
45.	River Tern SternaaurantiaGray,1831		↓	VU	-	IV	-
5.	CICONIIFORMES (No. of Species=4 and No. of Family=1)						
5.1.	Ciconiidae (4), RDi= 2.77						
46.	AsianWoollyneck Ciconiaepiscopus (Boddaert,1783)	C	↓	NT	-	IV	Woolly-neckedStork
47.	PaintedStork Mycterialeucocephala(Pennant,1769)	C	↓	NT	I	IV	-
48.	AsianOpenbill Anastomusoscitans(Boddaert,1783)	C	?	LC	-	IV	Open-billedStork
49.	Black-neckedStork Ephippiorhynchusasiaticus (Latham,1790)	C	↓	NT	-	IV	-
6.	COLUMBIFORMES (No. of Species= 6 and No. of Family =1)						
6.1.	Columbidae (6),RDi=4.16						
50.	Eurasiancollareddove Streptopeliadecaocto (Frivaldszky,1838)	G	↑	LC	-	IV	Indian RingDove

51.	Laughingdove Spilopeliasenegalensis(Linnaeus,1766)	G	→	LC	-	IV	Little BrownDove, SenegalDove
52.	RedTurtle-dove Streptopeliatranquebarica (Hermann,1804)	G	↓	LC	-	IV	Red-collareddove
53.	Spotteddove Spilopeliachinensis (Scopoli,1786)	G	↑	LC	-	IV	-
54.	Rockdove ColumbaliviaJ.F.Gmelin,1789	G	↓	LC	-	IV	Blue RockPigeon
55.	Yellow-footedGreen-pigeon Treronphoenicopterus (Latham,1790)	F	↑	LC	-	IV	Yellow-leggedGreenPigeon
7.	CORACIFORMES(No.ofSpecies=6andNo.ofFamilies=3)						
7.1.	Alcedinidae(3),RDi=2.08						
56.	Piedkingfisher Cerylerudis(Linnaeus,1758)	P	?	LC	-	IV	Lesser PiedKingfisher
57.	White-breastedkingfisher Halcyonsmyrnensis(Linnaeus,1758)	C	↑	LC	-	IV	White-throatedKingfisher
58.	Commonkingfisher Alcedoatthis(Linnaeus,1758)	C	?	LC	-	IV	Small BlueKingfisher
7.2	Meropidae(2),RDi=1.38						
59.	GreenBee-eater Meropsorientalis Latham,1801	In	↑	LC	-	IV	Small GreenBee-eater,Little GreenBee-eater
60.	Blue-cheekedBee-eater MeropspersicusPallas,1773	In	→	LC	-	IV	-
7.3.	Coraciidae(1),RDi=0.69						
61.	IndianRoller Coraciasbenghalensis(Linnaeus,1758)	C	↑	LC	-	IV	-
8.	CUCULIFORMES(No.ofSpecies= 4 andNo.ofFamily=1)						
8.1	Cuculidae(4), RDi=2.77						
62.	AsianKoel Eudynamysscolopaceus(Linnaeus,1758)	O	→	LC	-	IV	CommonKoel
63.	CommonHawk-Cuckoo Hierococcyxvarius(Vahl,1797)	In	→	LC	-	IV	Brain feverBird
64.	Greater Coucal Centropussinensis(Stephens,1815)	C	→	LC	-	IV	Crow-pheasant
65.	Jacobin Cuckoo Clamatorjacobinus(Boddaert,1783)	In	→	LC	-	IV	PiedCuckoo
9.	GALLIFORMES(No.ofSpecies=2andNo.ofFamily=1)						
9.1	Phasianidae(2),RDi=1.38						
66.	GreyFrancolin Francolinuspondicerianus(J.F.Gmelin,1789)	O	→	LC	-	IV	GreyPartridge
67.	IndianPeafowl PavocristatusLinnaeus,1758	C	→	LC	-	IV	Peafowl
10	GRUIFORMES(No.ofSpecies=5andNo.ofFamilies=2)						

10.1.	Rallidae (3), RDi= 2.08						
68.	Commonmoorhen Gallinulachloropus(Linnaeus,1758)	O	→	LC	-	IV	EurasianMoorhen
69.	Purpleswamphen Porphyrioporphyria(Linnaeus,1758)	O	?	LC	-	IV	PurpleMoorhen
70.	White-breastedwaterhen Amaurornisphoenicurus(Pennant,1769)	O	?	LC	-	IV	-
10.2	Gruidae(1),RDi=0.69						
71.	SarusCrane Grusantigone (Linnaeus,1758)	O	↓	VU	II	IV	-
11.	PASSERIFORMES(No.ofSpecies= 46 and No.of Families=19)						
11.1.	Cisticolidae(3),RDi= 2.08						
72.	AshyPrinia PriniasocialisSykes,1832	In	→	LC	-	IV	Ashy WrenWarbler
73.	PlainPrinia Priniainornata Sykes,1832	In	→	LC	-	IV	Plain WrenWarbler
74.	CommonTailorbird Orthotomussutorius(Pennant,1769)	In/N	→	LC	-	IV	-
11.2.	Corvidae(3),RDi= 2.08						
75.	Rufoustreepie Dendrocittavagabunda(Latham,1790)	O	↓	LC	-	IV	IndianTreepie
76.	Housecrow CorvussplendensVieillot,1817	O	→	LC	-	V	-
77.	Large billed crow Corvusmacrorhynchos	O	↑	LC			
11.3.	Dicruridae(1),RDi=0.69						
78.	Blackdrongo DicrurusmacrocercusVieillot,1817	In	?	LC	-	IV	-
11.4.	Estrildidae(2),RDi=1.38						
79.	IndianSilverbill Euodicemalabarica(Linnaeus,1758)	G	→	LC	-	IV	White-throatedMunia
80.	Scaly-breastedMunia Lonchurapunctulata (Linnaeus,1758)	G	→	LC	-	IV	SpottedMunia
11.5.	Hirundinidae(1),RDi= 0.69						
81.	Wire-tailedswallow HirundosmithiiLeach,1818	In	↑	LC	-	IV	-
11.6.	Laniidae(2),RDi=1.38						
82.	Long-tailedshrike Laniusschach Linnaeus,1758	In	?	LC	-	IV	Rufous-backedShrike
83.	Bay-backedshrike LaniusvittatusValenciennes, 1826	In	→	LC	-	IV	-
11.7.	Leiothrichidae(2),RDi=1.38						

84.	Junglebabbler Turdoidesstriata (Dumont,1823)	O	→	LC	-	IV	-
85.	CommonBabbler Argyacaudata(Dumont,1823)	O	→	LC	-	IV	Scrubbabbler
11.8.	Motacillidae(5),RDi=3.47						
86.	WesternYellowwagtail MotacillaflavaLinnaeus,1758	In	↓	LC	-	IV	-
87.	White wagtail MotacillaalbaLinnaeus,1758	In	→	LC	-	IV	Piedwagtail
88.	White-browedwagtail MotacillamaderaspatensisJ.F.Gmelin,1789	In	→	LC	-	IV	Large PiedWagtail
89.	CitrineWagtail Motacillacitreola Pallas,1776	In	↑	LC	-	IV	Yellow-headedWagtail
90.	Grey wagtail Motacillacinerea Tunstall,1771	In	→	LC	-	IV	-
11.9.	Nectariniidae(1),RDi=0.69						
91.	Purplesunbird Cinnyrisasiaticus(Latham,1790)	In/N	→	LC	-	IV	-
11.10.	Oriolidae(1),RDi=0.69						
92.	IndianGoldenoriole Orioluskundoo Sykes,1832	O	?	LC	-	IV	-
11.11	Passeridae(3),RDi= 2.08						
93.	Housesparrow Passerdomesticus(Linnaeus, 1758)	O	↓	LC	-	IV	-
94.	Sind sparrow PasserpyrrhonotusBlyth,1845	O	→	LC	-	IV	Sind JungleSparrow
95.	Commonchiffchaff Phylloscopuscollybita(Vieillot,1817)	In	↑	LC	-	IV	-
11.12	Ploceidae(1),RDi=0.69						
96.	BayaWeaver Ploceusphilippinus(Linnaeus,1766)	O	→	LC	-	IV	IndianBaya
11.13.	Pycnonotidae(2),RDi=1.38						
97.	Red-ventedbulbul Pycnonotuscafer(Linnaeus,1766)	O	↑	LC	-	IV	-
98.	White-earedbulbul Pycnonotusleucotis(Gould,1836)	O	↓	LC	-	IV	-
11.14.	Sturnidae(6),RDi= 4.16						
99.	Commonmyna Acridotherestristis(Linnaeus, 1766)	O	↑	LC	-	IV	IndianMyna

100.	BankMyna Acridotheresginginianus (Latham,1790)	C	↑	LC	-	IV	-
101.	AsianPiedstarling Gracupicacontra(Linnaeus, 1758)	O	↑	LC	-	IV	PiedMyna
102.	Commonstarling SturnusvulgarisLinnaeus,1758	O	↓	LC	-	IV	EuropeanStarling
103.	Rosystarling Pastorroseus(Linnaeus,1758)	O	?	LC	-	IV	RosyPastor
104.	Brahminystarling Sturniapagodarum (J.F.Gmelin,1789)	O	?	LC	-	IV	Black-headed/BrahminyMyna
11.15.	Sylviidae(1),RDi=0.69						
105.	Lesser whitethroat Sylviacurruca(Linnaeus,1758)	O	→	LC	-	IV	-
11.16.	Vangidae(1),RDi=0.69						
106.	Common woodshrike Tephrodornispondicerianus(J.F.Gmelin,1789)	In	→	LC	-	IV	-
11.17.	Zosteropidae(1),RDi=0.69						
107.	Indian white-eye Zosteropspalpebrosus(Temminck,1824)	In/N	↓	LC	-	IV	-
11.18.	Muscicapidae(8),RDi=5.55						
108.	Black Redstart Phoenicurusochruros (S.G.Gmelin,1774)	In	↑	LC	-	IV	-
109.	Bluethroat Cyaneculasvecica (Linnaeus,1758)	In	→	LC	-	IV	-
110.	Red-breastedFlycatcher Ficedulaparva(Bechstein,1792)	In	↑	LC	-	IV	
111.	IndianRobin Saxicoloidesfulicatus(Linnaeus,1766)	In	→	LC	-	IV	Indian BlackRobin
112.	OrientalMagpie-robin Copsychussaularis(Linnaeus,1758)	In	→	LC	-	IV	-
113.	Piedbushchat Saxicolacaprata(Linnaeus,1766)	In	→	LC	-	IV	-
114.	Brownrockchat Oenanthefusca(Blyth,1851)	In	→	LC	-	IV	IndianChat
115.	Siberianstonechat Saxicolamaurus(Pallas,1773)	In	→	LC	-	IV	EasternStonechat
11.19	Alaudidae(2),RDi=1.38						
116	Ashy Crowned Sparrow Lark Eremopterix griseus	O	→	LC	-	IV	

117	Crested Lark Galeridacristata	O	→	LC	-	IV	
12.	PELECANIFORMES(No.ofSpecies=13 andNo.ofFamilies=2)						
12.1.	Ardeidae(9), RDi= 6.25						
118.	Cattleegret Bubulcusibis(Linnaeus,1758)	C	↑	LC	-	IV	-
119.	GreatWhiteEgret Ardeaalba Linnaeus,1758	C	?	LC	-	IV	LargeEgret
120.	Intermediateegret ArdeaintermediaWagler,1829	C	↓	LC	-	IV	Median Egret,Smaller Egret
121.	Littleegret Egrettagarzetta (Linnaeus,1766)	C	↑	LC	-	IV	-
122.	Black-crownedNight-Heron Nycticoraxnycticorax(Linnaeus,1758)	C	↓	LC	-	IV	-
123.	Indianpond-heron Ardeolagrayii(Sykes,1832)	C	?	LC	-	IV	Paddybird
124.	PurpleHeron Ardeapurpurea Linnaeus,1766	C	↓	LC	-	IV	-
125.	Green-backedheron Butoridesstriata (Linnaeus,1758)	C	↓	LC	-	IV	Little GreenHeron
126.	Greyheron ArdeacinereaLinnaeus,1758	C	?	LC	-	IV	-
12.2.	Threskiornithidae(4),RDi=2.77						
127.	Red-napedIbis Pseudibispapillosa(Temminck,1824)	C	↓	LC	-	IV	Indian BlackIbis
128.	Black-headedIbis Threskiornismelanocephalus (Latham,1790)	C	↓	NT	-	IV	White Ibis,Oriental White Ibis
129.	GlossyIbis Plegadisfalcinellus(Linnaeus,1766)	C	↑	LC	-	IV	-
130.	Eurasianspoonbill PlatalealeucorodiaLinnaeus,1758	C	?	LC	-	I	Spoonbill
13.	PHOENICOPTERIFORMES(No.ofSpecies=1 andNo.ofFamily=1)						
13.1.	Phoenicopteridae(1),RDi=0.69						
131.	GreaterFlamingo Phoenicopterusroseus Pallas,1811	O	↑	LC	-	IV	-
14.	PICIFORMES(No.ofSpecies=5andNo.ofFamilies=2)						

14.1.	Megalaimidae(2),RDi=1.38						
132.	Brown-headedBarbet Psilopogonzeylanicus(J.F.Gmelin,1788)	F	→	LC	-	IV	Large GreenBarbet
133.	CoppersmithBarbet Psilopogonhaemacephalus(StatiusMuller,1776)	F	↑	LC	-	IV	Crimson-breasted Barbet
14.2.	Picidae(3),RDi= 2.08						
134.	Black-rumpedFlameback Dinopiumbenghalense (Linnaeus,1758)	In	→	LC	-	IV	LesserGolden-backedWoodpecker
135.	Eurasianwryneck JynxtorquillaLinnaeus,1758	In	↓	LC	-	IV	Wryneck, NorthernWryneck
136.	Yellow crowened wood pecker Leiopicus mahrattensis	In	?	LC	-	IV	
15.	PODICIPEDIFORMES (No. of Species =1 and No .of Family=1)						
15.1.	Podicipedidae(1),RDi=0.69						
137.	Littlegrebe Tachybaptusruficollis(Pallas,1764)	C	↓	LC	-	IV	Dabchick
16.	PSITTACIFORMES (No. of Species =3 and No .of Family =1)						
16.1.	Psittaculidae (3), RDi = 2.08						
138.	AlexandrineParakeet Psittaculaeupatria(Linnaeus,1766)	F	↓	NT	II	IV	Large IndianParakeet
139.	Rose-ringedParakeet Psittaculakrameri(Scopoli,1769)	F	↑	LC	-	IV	-
140.	Plum headed parakeet Psittaculacyanocephela	F	↓	LC	-	IV	
17.	STRIGIFORMES(No.ofSpecies=1andNo.ofFamily=1)						
17.1.	Strigidae(1),RDi=0.69						
141.	Spottedowlet Athenebrama(Temminck,1821)	C	→	LC	II	IV	-
18.	SULIFORMES (No. of Species = 3 and No. of Family = 1)						
18.1.	Phalacrocoracidae (3), RDi =2.08						
142.	GreatCormorant Phalacrocoraxcarbo (Linnaeus,1758)	C	↑	LC	-	IV	LargeCormorant

143.	Littlecormorant Microcarboniger(Vieillot,1817)	C	?	LC	-	IV	-
144.	OrientalDarter AnhingamelanogasterPennant,1769	C	↓	NT	-	IV	Snake-bird

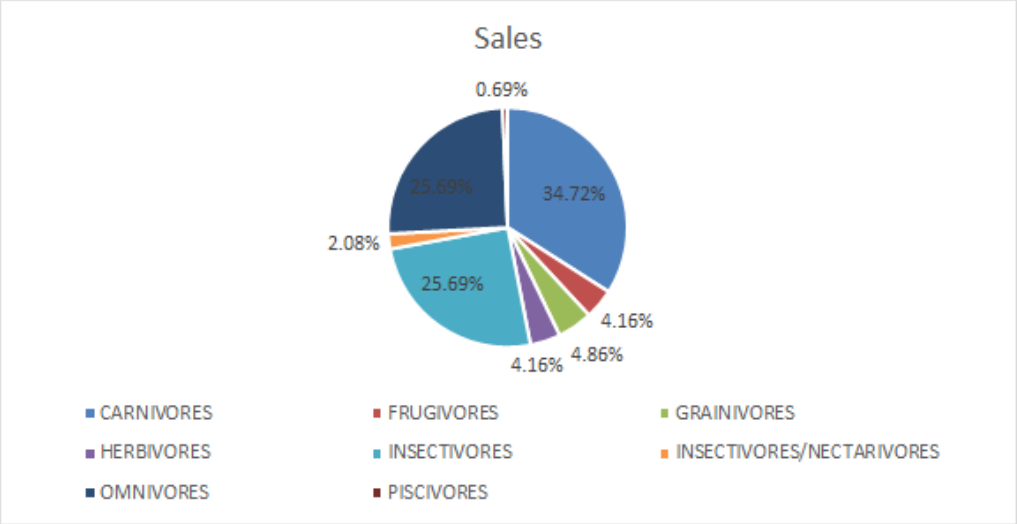

Fig.2. Feedingguild of reported avianspecie sat Shergarh Fort and its Around Area,Shergarh, Baran, Rajasthan, India.

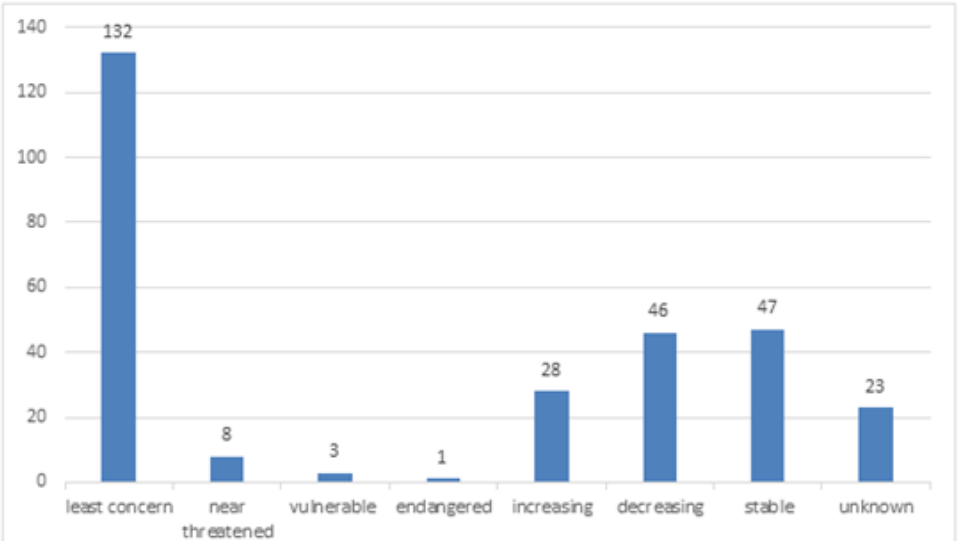

Fig.3.IUCNconservation status and Population trend of recorded specie sat Shergarh Fort and its Around Area, Shergarh, Baran, Rajasthan, India.