

Checklist of birds in and around of Shyamnagar, 24 parganas (North), West Bengal, India

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Abstract

The present work was carried out in and around Shyamnagar Municipal area, 24 Parganas (North), West Bengal during January and December, 2017. A total of 114 species of birds belonging to 16 order and 41 families were recorded from this area. Out of which 61 species are found to be resident, followed by local migratory (35) and the remaining 18 species are winter visitors. Eight categories of feeding nature are recoded from this study area. List of bird species with systematic position, abundance, IUCN conservation, feeding nature and migratory status has been described in this paper.

Key words: -Avifauna, Migratory birds, Food habit, Shyamnagar

1. Introduction

Bird watching is one of the most favourable pursuits for everybody irrespective of age and profession. Now-a-days, niche of bird is declining due to rapid-fire expansion of urbanisation, construction of Express Highway, and other anthropogenic conditioning (Prasad *et al.* 2014). According to Storch *et al.* 2003, anthropogenic conditioning like husbandry, urbanization, and wood collection have contributed to deforestation and the contemporaneous niche declination of the bird communities that affect the variety and variability of bird population. catcalls are essential for continuing ecological circles, particularly in the food chain ranging from consumers to eclipse bloodsuckers. thus, their diversity plays a vital part as environmental pointers in assessing the quality of territories and the state of our natural world (Tietze, 2018). In India, the primary focus of avifaunal diversity studies has centered

on endangered bird species, wetland birds, and those inhabiting various national parks, sanctuaries, and other designated Important Bird Areas (Urfi, 2005).

Avifaunal diversity of a given area or region, acts as significant index for the evaluation of niche quality of that particular area or region. also, avifaunal attestation helps us to understand the distribution of particular species in a particular area and time (Peterson *et al.* 2000, Colin *et al.* 2000). Despite their crucial roles in ecosystems, including pollination, seed dispersal, and biological pest control, birds also serve as vital predators, scavengers, and ecosystem engineers. In this study area, an effort has been made to document various bird species, as no prior studies on this subject are available in the existing literature.

2. Materials and methods

Shyamnagar is situated at Bhatpara Municipality in North 24 Parganas district. It lies between 22.8315⁰N- 88.3977⁰E. Shyamnagar is a suburban industrial town area. The study area of Shyamnagar is encompasses by Kalyani Express Way in east, river Hooghly in west, Gandhinagar- Neharu Market in north and Feeder Road in south (Fig 1 and Plate 1).

The observation of different avifauna is mainly confined with Basudevpur Road (Mondalpara), Bharat Chandra Roy Path (Ganguly Para), Feeder Road, Ghoshpara Road, Kalibari adjacent to Hooghlyriver, Banerjee para, Pirtala, Central Road etc., in urban area. Still there is one big marshy land known as 'bortir bill' which is 5 KM away from the main town ship area. The Bortir Bill is covers a vast area which is about of 4094sq. km situated between Barrackpore-I and II blocks in the West and South and Amdanga Block in the North 24 parganas. The original habitat of that area is now has drastically changed due to encroachment of aquatic body and replaced by agricultural and fishing activities Now adjacent part of Bortir bill which is a land of cultivation where many people are farmers by profession. In rainy season floods have more common in recent years, this wetland is very rich with fauna and flora and the area is covered with natural grass lands.

The observation on avifauna in and around Shyamnagar covered both urban, rural, river and marshy wet lands. The study area is unique, distinct, and diversified habit and habitat. Some photographs in regard to habit and habitat of study area were taken with the help of Canon 1300D in the field.

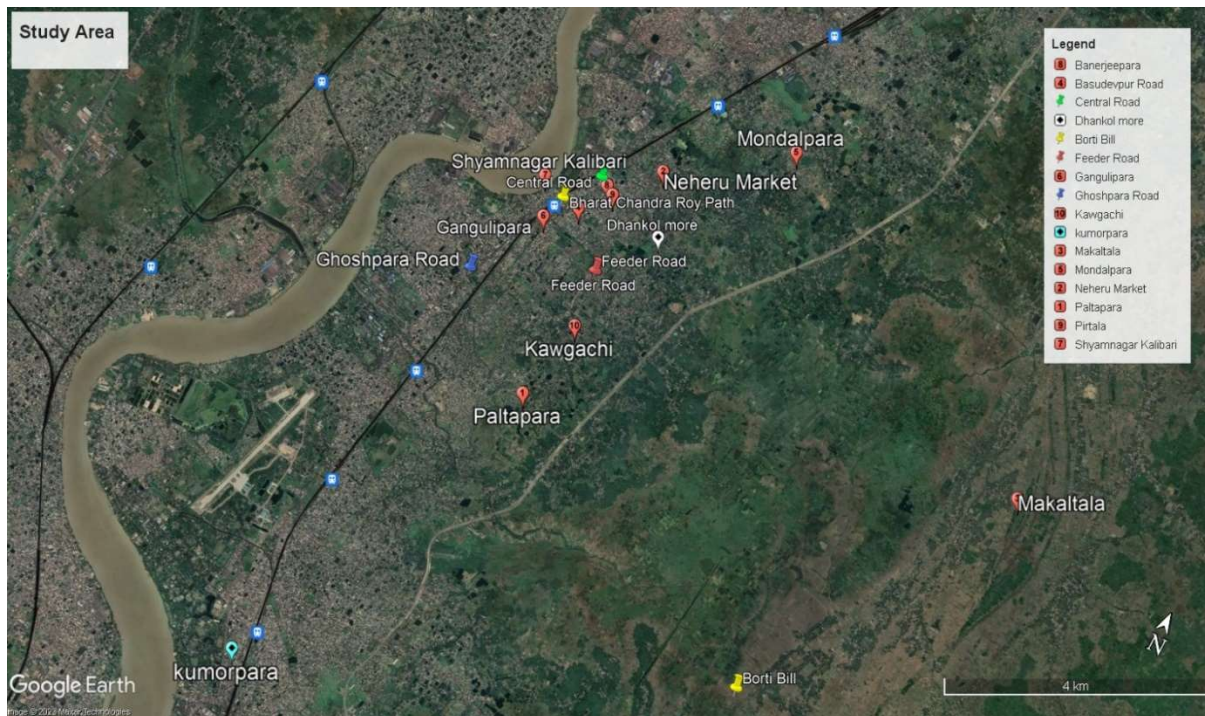


Fig. 1. Study Area of Shyamnagar with different Sites

Observation of birds is conducted during January, 2017 to December 2017. Survey of avifauna is mainly made in different locations of viz., urban, rural and marshy lands. Individual bird species are documented through direct sightings, employing field binoculars (Olympus, 7 x35 DPSL), and references like the field guide to the birds of the Indian sub-continent (Grimmett *et al*, 1999) and the book of Indian birds (Ali, 2002) for identification. Routine visits are conducted every week, starting from 6:00 am to 11:00 am and from 2:00 pm to 6:00 pm, throughout the year to record various bird species in the area. The feeding and foraging behaviors of these birds are detailed based on the guidelines of Ali and Ripley (1987). Identification through photographs is cross-verified by a reputable Ornithologist as needed.

3. Results and discussion

The importance of biodiversity conservation in urban areas has grown not just due to the rising human population in these regions. The current investigation aimed to evaluate the diversity and density of birds in a rapidly urbanizing locale, such as Shyamnagar. The process of urban development brings about alterations in habitat structure and the availability of resources. Bird communities are notably responsive to such changes, as documented by Sengupta *et al.* in 2013. 114 avifaunal species in the study area are encountered over one year period. They are categorized as Residential, Migratory, IUCN conservation status, Feeding

Nature (based on direct observation) in the study area during the period of observation. Some picture of birds taken during the study are included in plate 2. Table – 1 provide us the information of common names, scientific names in order, families, abundance, IUCN status, migration status and feeding nature. Here are listed 114 species of birds over 91 genera, 41 families, and 16 orders. According to the IUCN Red Data Book, 111 birds are Least Concern (LC) species, two species are Near Threatened (NT) (Eurasian Curlew and Black Tailed Godwit) and one species River Tern is Vulnerable (VU) (picture shown in Plate 3) [Shown in asterisk in table].

Maximum species of birds were recorded under order Passeriformes (50 species i.e., 43.86%). Similarly maximum species recoded during the survey belongs to Muscicapidae (13 species., 11.43%) followed by Ardeidae, Sturnidae and Ploceidae (6 species, 5.30% each family), Columbidae and Cuculidae (5 species, 4.39% each family).

A total 53.51 % (61 species) are resident, followed by 30.70% (35 species) resident - cum - local migrants, and 15.79% (18species) are winters visitors (WV).

During survey, the information available, there are eight categories of feeding nature among the identified species, out of which Insectivorous (38 species,33.35%), Carnivorous (27 species, 23.68%), Omnivorous (20 species, 17.54%), Granivorous (9 species, 7.89%), Frugivorous (7 species, 6.14%), Insectivorous-cum-frugivorous (7 species, 6.14%), Granivorous – cum - Insectivorous (4 species, 3.51%), Nectivorous (species 1.75%).

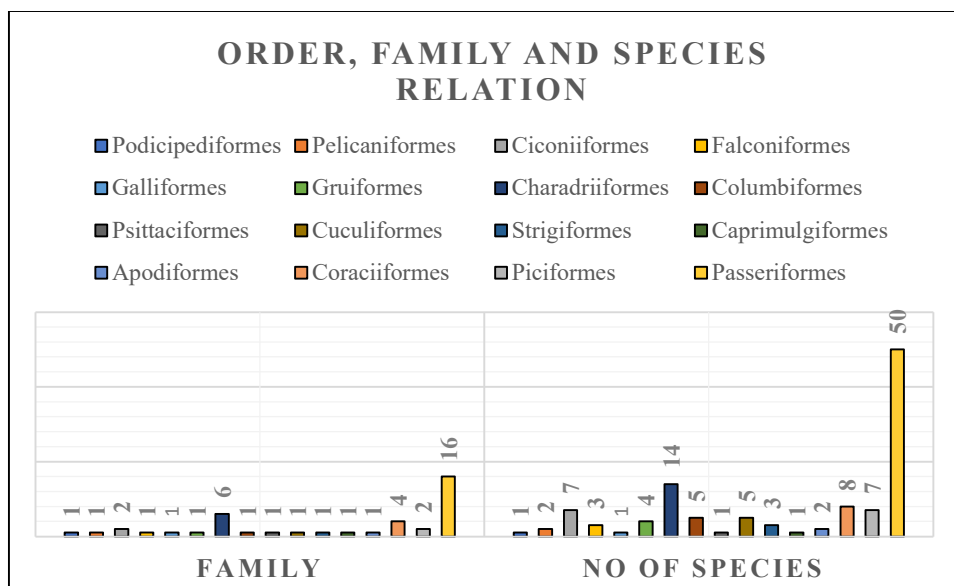


Fig. 2. Column chart shows Order, Family and Species relation

Figure 2 explain maximum number of species (50) and maximum number of family (16) belongs to order Passeriformes, followed by 14 number of species and 6 family belongs to

order Charadriiformes, 8 number of species and 4 family belongs to order Coraciiformes, 7 number of species and 2 family belongs to order Ciconiiformes and Piciformes respectively, 5 number of species and 1 family belongs to order Columbiformes and Cuculiformes. Least number of species (1) and least number of family (1) belongs to order Podicipediformes, Galliformes, Psittaciformes, Caprimulgiformes respectively.

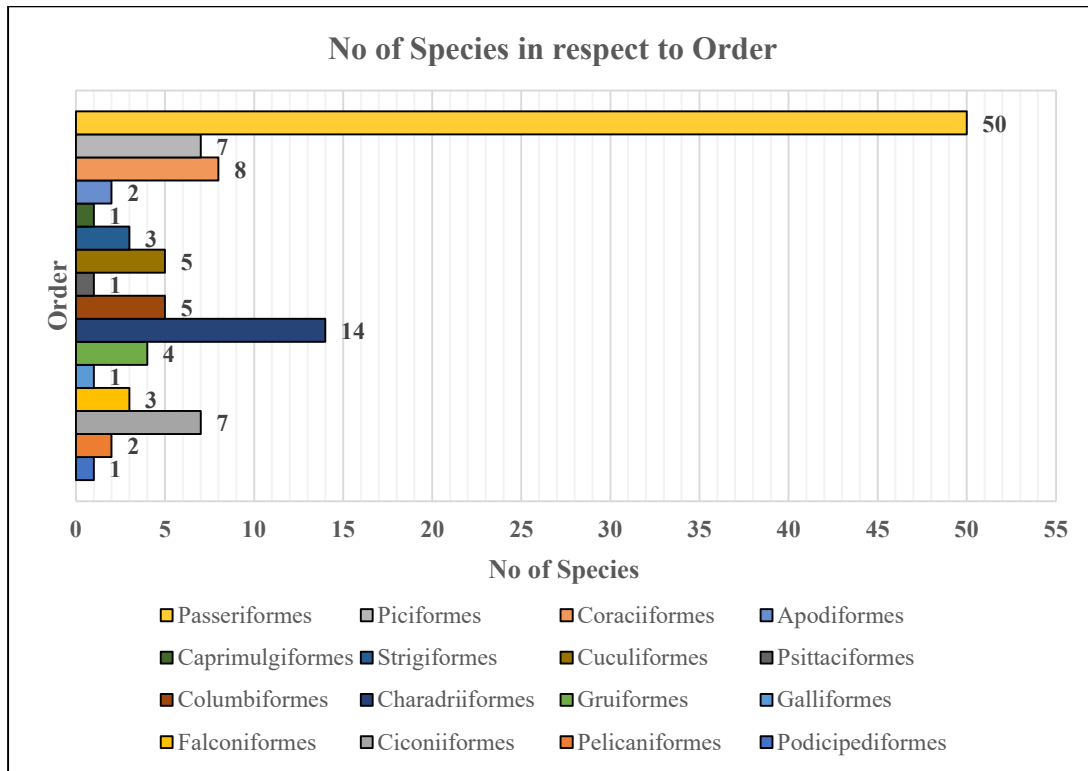


Fig. 3. Bar chart shows number of Species in respect to Order

From this bar chart (Figure 3) we can clearly understand that the greatest number of species (50) belongs to order Passeriformes followed by Charadriiformes (14), Coraciiformes (8), Ciconiiformes (7), Piciformes (7), Columbiformes (5), Cuculiformes (5), Gruiformes (4), Falconiformes (3), Strigiformes (3), Pelicaniformes (2), Apodiformes (2). Whereas least number of species (1) belongs to order Podicipediformes, Galliformes, Psittaciformes, Caprimulgiformes.

Abbreviation. IUCN Status: LC - Least concern, NT – Near Threatened, VU - Vulnerable. **Migratory Status:** R - Resident, R/LM – Resident cum local Migratory, WV – Winter visitors. **Abundance:** H- High, M – Moderate, L – Low, VL - Very Low. **Feeding Nature:** I - Insectivores, O - Omnivores, F - Frugivores, G - Granivores, F/I – Frugivores cum Insectivores, G/I – Granivores cum Insectivores, N - Nectivores.

Table 1: List of birds with their systematics positions observed during the period from January, 2017 to December, 2017.

Sl No.	Common Name	Scientific Name	Abundance	IUCN Status	Migration Status	Feeding Nature
Order: Podicipediformes						
Family: Podicipitidae						
1	Little Grebe	<i>Tachybaptus ruficollis</i> (Pallas, 1764)	M	LC	R	C
Order: Pelicaniformes						
Family: Phalacrocoracidae						
2	Indian Shag	<i>Phalacrocorax fuscicollis</i> Stephens, 1826	H	LC	R	C
3	Little Cormorant	<i>Microcarbo niger</i> (Vieillot, 1817)	M	LC	R	C
Order: Ciconiiformes						
Family: Ardeidae						
4	Indian Pond Heron	<i>Ardeola grayii</i> (Sykes, 1832)	H	LC	R	C
5	Cattle Egret	<i>Bubulcus ibis</i> Bonaparte, 1855	H	LC	R	C
6	Median Egret	<i>Ardea intermedia</i> Wagler, 1827	H	LC	R	C
7	Little Egret	<i>Egretta garzetta</i> (Linnaeus, 1766)	M	LC	R	C
8	Black Crowned Night heron	<i>Nycticorax nycticorax</i> (Linnaeus, 1758)	L	LC	R (LM)	C
9	Yellow Bittern	<i>Ixobrychus sinensis</i> (Gmelin, 1789)	L	LC	R	C
Family: Ciconiidae						
10	Asian Openbill Stork	<i>Anastomus oscitans</i> (Boddaert, 1783)	M	LC	R (LM)	C
Order: Falconiformes						
Family: Accipitridae						
11	Black Kite	<i>Milvus migrans</i> (Boddaert, 1783)	H	LC	R	C
12	Brahminy Kite	<i>Haliastur indus</i> (Boddaert, 1783)	VL	LC	R (LM)	C
13	Shikra	<i>Accipiter badius</i> Gmelin, 1788	L	LC	R	C
Order: Galliformes						
Family: Phasianidae						

14	Common Quail	<i>Coturnix coturnix</i> (Linnaeus, 1758)	VL	LC	R (LM)	G
Order: Gruiformes						
Family: Rallidae						
15	White Breasted Waterhen	<i>Amaurornis phoenicurus</i> Pennant, 1769	H	LC	R	O
16	Little Crake	<i>Zapornia parva</i> (Scopoli, 1769)	VL	LC	WV	I
17	Blue Breasted Rail	<i>Lewinia striata</i> (Linnaeus, 1766)	VL	LC	R(LM)	O
18	Common Moorhen	<i>Gallinula chloropus</i> (Linnaeus, 1758)	M	LC	R	O
Order: Charadriiformes						
Family: Jacanidae						
19	Bronze Winged Jacana	<i>Metopidius indicus</i> (Latham, 1790)	H	LC	R	I
20	Pheasant Tailed Jacana	<i>Hydrophasianus chirurgus</i> (Scopoli, 1786)	L	LC	R	I
Family: Charadriidae						
21*	Eurasian Curlew	<i>Numenius arquata</i> (Linnaeus, 1758)	VL	NT	WV	O
22*	Black Tailed Godwit	<i>Limosa limosa</i> (Linnaeus, 1758)	VL	NT	WV	O
23	Red Wattled Lapwing	<i>Vanellus indicus</i> (Boddaert, 1783)	M	LC	R	O
Family: Rostratulidae						
24	Common Snipe	<i>Gallinago gallinago</i> (Linnaeus, 1758)	VL	LC	WV	O
25	Pintail Snipe	<i>Gallinago stenura</i> (Bonaparte, 1831)	VL	LC	WV	O
26	Greater Painted Snipe	<i>Rostratula benghalensis</i> (Linnaeus, 1758)	VL	LC	R(LM)	O
27	Common Sandpiper	<i>Actitis hypoleucos</i> (Linnaeus, 1758)	M	LC	R(LM)	O
Family: Recurvirostridae						
28	Black Winged Stilt	<i>Himantopus himantopus</i> (Linnaeus, 1758)	M	LC	R(LM)	O
Family: Glareolidae						
29	Collared Pratincole	<i>Glareola pratincola</i> (Linnaeus, 1766)	L	LC	R(LM)	C
30	Small Pratincole	<i>Glareola lactea</i> (Temminck, 1820)	L	LC	R(LM)	C
Family: Laridae						
31	Indian Whiskered Tern	<i>Chlidonias hybridus</i> (Pallas, 1811)	M	LC	R(LM)	O
32*	River Tern	<i>Sterna aurantia</i> (J.E..Gray, 1831)	VL	VU	R(LM)	O
Order: Columbiformes						
Family: Columbidae						
33	Blue Rock Pigeon	<i>Columba livia</i> Gmelin, 1789	H	LC	R	G
34	Spotted Dove	<i>Spilopelia chinensis</i> (Scopoli, 1768)	H	LC	R	G
35	Yellow Legged Green Pigeon	<i>Treron Phoenicoptera</i> (Latham, 1790)	M	LC	R(LM)	F
36	Eurasian Collared	<i>Streptopelia decaocto</i> (Frisvaldszky,	M	LC	R	G

	Dove	1838)				
37	Red Turtle Dove	<i>Streptopelia tranquebarica</i> (Hermann, 1804)	L	LC	R(LM)	G
Order: Psittaciformes						
Family: Psittacidae						
38	Rose Ringed Parakeet	<i>Psittacula krameri</i> (Scopoli, 1769)	H	LC	R	F
Order: Cuculiformes						
Family: Cuculidae						
39	Asian Koel	<i>Eudynamys scolopacea</i> (Linnaeus, 1758)	H	LC	R(LM)	F
40	Lesser Coucal	<i>Centropus bengalensis</i> (Gmelin, 1788)	H	LC	R	I
41	Greater Coucal	<i>Centropus sinensis</i> (Stephens, 1815)	H	LC	R	I
42	Common Hawk Cuckoo	<i>Hierococcyx varius</i> (Vahl, 1797)	M	LC	R(LM)	F/I
43	Pied Crested Cuckoo	<i>Clamator jacobinus</i> (Boddaert, 1783)	L	LC	R(LM)	F/I
Order: Strigiformes						
Family: Strigidae						
44	Barn Owl	<i>Tyto alba</i> (Scopoli, 1769)	H	LC	R	C
45	Spotted Owlet	<i>Athene brama</i> (Temminck, 1821)	H	LC	R	C
46	Collared Scops Owl	<i>Otus lettia</i> Hodgson, 1836	H	LC	R	C
Order: Caprimulgiformes						
Family: Caprimulgidae						
47	Common Indian Nightjar	<i>Caprimulgus asiaticus</i> Latham, 1790	M	LC	R	I
Order: Apodiformes						
Family: Apodidae						
48	House Swift	<i>Apus affinis</i> (J.E. Gray, 1829)	H	LC	R	I
49	Asian Palm Swift	<i>Cypsiurus balasiensis</i> (J.E. Gray, 1829)	H	LC	R	I
Order: Coraciiformes						
Family: Alcedinidae						
50	Lesser Pied Kingfisher	<i>Ceryle rudis</i> (Linnaeus, 1758)	M	LC	R	C
51	Small Blue Kingfisher	<i>Alcedo atthis</i> (Linnaeus, 1758)	M	LC	R	C
52	Stork Billed Kingfisher	<i>Pelargopsis capensis</i> (Linnaeus, 1766)	M	LC	R	C
53	White Breasted Kingfisher	<i>Halcyon smyrnensis</i> (Linnaeus, 1758)	M	LC	R	C
Family: Meropidae						
54	Chestnut Headed Bee Eater	<i>Merops leschenaulti</i> Vieillot, 1817	L	LC	R(LM)	I
55	Small Bee Eater	<i>Merops orientalis</i> Latham, 1801	M	LC	R(LM)	I
Family: Coraciidae						

56	Indian Rollar	<i>Coracias benghalensis</i> (Linnaeus, 1758)	M	LC	R	C
Family: Upupidae						
57	Common Hoopoe	<i>Upupa epops</i> Linnaeus, 1758	L	LC	R(LM)	I
Order: Piciformes						
Family: Capitonidae						
58	Lineated Barbet	<i>Psilopogon lineatus</i> (Vieillot, 1816)	L	LC	R(LM)	F
59	Blue Throated Barbet	<i>Psilopogon asiaticus</i> (Latham, 1790)	M	LC	R(LM)	F
60	Coppersmith Barbet	<i>Psilopogon haemacephalus</i> (Statius Muller, 1776)	H	LC	R(LM)	F
Family: Picidae						
61	Common Golden Backed Woodpecker	<i>Dinopium javanense</i> (Ljungh, 1797)	H	LC	R	I
62	Lesser Golden Backed Woodpecker	<i>Dinopium benghalense</i> (Linnaeus, 1758)	H	LC	R	I
63	Eurasian Wryneck	<i>Jynx torquilla</i> (Linnaeus, 1758)	VL	LC	WV	I
64	Little Scaly Bellied Green Woodpecker	<i>Picus squamatus</i> Vigors, 1831	VL	LC	R(LM)	I
Order: Passeriformes						
Family: Alaudidae						
65	Rufous Tailed Finch Lark	<i>Ammomanes phoenicurus</i> (Franklin, 1831)	L	LC	R(LM)	G/I
66	Common Crested Lark	<i>Galerida cristata</i> (Linnaeus, 1758)	M	LC	R	G/I
67	Bengal Bush Lark	<i>Mirafra assamica</i> Horsfield, 1840	M	LC	R(LM)	G/I
Family: Hirundinidae						
68	Wire Tailed Swallow	<i>Hirundo smithii</i> Leach, 1818	M	LC	R(LM)	I
69	Dusky Crag Martin	<i>Ptyonoprogne concolor</i> (Sykes, 1832)	L	LC	WV	I
70	Common Swallow	<i>Hirundo rustica</i> Linnaeus, 1758	M	LC	WV	I
Family: Danidae						
71	Bay Backed Shrike	<i>Lanius vittatus</i> (Valenciennes, 1826)	M	LC	R	C
72	Brown Shrike	<i>Lanius cristatus</i> Linnaeus, 1778	M	LC	WM	C
Family: Oriolidae						
73	Black Headed Oriole	<i>Oriolus larvatus</i> Lichtenstein, 1823	H	LC	R	F
Family: Dicruridae						
74	Black Drongo	<i>Dicrurus macrocercus</i> (Vieillot, 1817)	H	LC	R	I
75	White Bellied Drongo	<i>Dicrurus caerulescens</i> (Linnaeus, 1758)	L	LC	R	I
Family: Sturnidae						

76	Chestnut Tailed Starling	<i>Sturnus malabaricus</i> (Gmelin, 1789)	H	LC	R(LM)	F/I
77	Brahminy Starling	<i>Sturnus pogodarum</i> (Gmelin, 1789)	L	LC	R(LM)	O
78	Asian Pied Starling	<i>Sturnus contra</i> (Linnaeus, 1758)	H	LC	R	O
79	Common Myna	<i>Acridotheres tristis</i> (Linnaeus, 1766)	H	LC	R	O
80	Bank Myna	<i>Acridotheres ginginianus</i> (Latham, 1790)	M	LC	R(LM)	O
81	Jungle Myna	<i>Acridotheres fuscus</i> (Wagler, 1827)	M	LC	R	O
Family: Corvidae						
82	House Crow	<i>Corvus splendens</i> Vieillot, 1817	H	LC	R	O
83	Jungle Crow	<i>Corvus macrorhynchos</i> Wagler, 1827	M	LC	R	O
84	Indian Treepie	<i>Dendrocitta vagabunda</i> (Latham, 1790)	M	LC	R	O
Family: Campephagidae						
85	Black Headed Cuckoo Shrike	<i>Coracina melanoptera</i> (Ruppell, 1839)	VL	LC	R(LM)	I
86	Large Cuckoo Shrike	<i>Coracina macei</i> (Lesson, 1830)	VL	LC	R(LM)	I
Family: Irenidae						
87	Common Iora	<i>Aegithina tiphia</i> (Linnaeus, 1758)	L	LC	R	I
Family: Pycnonotidae						
88	Red Vented Bulbul	<i>Pycnonotus cafer</i> (Linnaeus, 1766)	H	LC	R	F/I
89	Red Whiskered Bulbul	<i>Pycnonotus jocosus</i> (Linnaeus, 1758)	M	LC	R	F/I
Family: Muscicapidae						
90	Common Babbler	<i>Argya caudata</i> (Dumont, 1823)	H	LC	R	I
91	Jungle Babbler	<i>Argya striata</i> (Dumont, 1823)	H	LC	R	I
92	Asian Paradise Flycatcher	<i>Terpsiphone paradisi</i> (Linnaeus, 1758)	VL	LC	R(LM)	I
93	Verditer Flycatcher	<i>Eumyias thalassina</i> (Swainson, 1838)	VL	LC	WV	I
94	Grey Headed Flycatcher	<i>Culicicapa ceylonensis</i> (Swainson, 1820)	VL	LC	R(LM)	I
95	Plain Prinia	<i>Prinia inoranta</i> (Sykes, 1832)	L	LC	WV	I
96	Common Tailorbird	<i>Orthotomus sutorius</i> (Pennant, 1769)	H	LC	R	I
97	Paddy Field Warbler	<i>Acrocephalus agricola</i> (Jerdon, 1845)	L	LC	WV	I
98	Oriental Magpie Robin	<i>Copsychus saularis</i> (Linnaeus, 1758)	H	LC	R	I
99	Pied Bushchat	<i>Saxicola caprata</i> (Linnaeus, 1766)	L	LC	R(LM)	I
100	Common Stonechat	<i>Saxicola torquata</i> (Linnaeus, 1766)	L	LC	WV	I
101	Orange Headed Thrush	<i>Zoothera citrina</i> (Latham, 1790)	L	LC	WV	F/I
102	Bluethroat	<i>Luscinia svecica</i> (Linnaeus, 1758)	L	LC	WV	I
Family: Motacillidae						

103	Paddyfield Pipit	<i>Anthus rufulus</i> (Vieillot, 1818)	M	LC	WV	I
104	Yellow Wagtail	<i>Motacilla flava</i> Linnaeus, 1758	L	LC	WV	I
105	White Wagtail	<i>Motacilla alba</i> Linnaeus, 1758	M	LC	WV	I
Family: Dicaeidae						
106	Thick Billed Flowerpecker	<i>Dicaeum agile</i> (Tickell, 1833)	M	LC	R	N
Family: Nectariniidae						
107	Purple Sunbird	<i>Cinnyris asiaticus</i> Latham, 1790	M	LC	R	N
Family: Zosteropidae						
108	Oriental White Eyes	<i>Zosterops palpebrosus</i> (Temminck, 1824)	L	LC	R(LM)	F/I
Family: Ploceidae						
109	House Sparrow	<i>Passer domesticus</i> (Linnaeus, 1758)	H	LC	R	O
110	Baya Weaver	<i>Ploceus philippinus</i> (Linnaeus, 1766)	M	LC	R(LM)	G/I
111	Spotted Munia	<i>Lonchura punctulata</i> (Linnaeus, 1758)	M	LC	R	G
112	White Throated Munia	<i>Euodice malabarica</i> (Linnaeus, 1758)	M	LC	R	G
113	Black Headed Munia	<i>Lonchura atricapilla</i> (Vieillot, 1807)	L	LC	R	G
114	White Rumped Munia	<i>Lonchura striata</i> (Linnaeus, 1766)	L	LC	R	G

4. Conclusion

Avian species diversity and distribution aren't harmonious with the geography (Bibby *et al.* 1992). The pattern of biodiversity changes with environmental factors, climatic conditions, geomorphology and territories (Rodríguez-Estrella 2007; Jankowski *et al.* 2009). Throughout the study, certain bird species were documented for the first time in the suburban perimeters of the study area and its neighboring locales. The comprehensive baseline data on bird diversity in and around the Shyamnagar region serves as a valuable resource for future assessments of avian diversity, particularly in light of the ongoing impact on the area's habitat.

The habitat in question is undergoing a decline due to the rapid expansion of urbanization, increased human habitation, and encroachment on agricultural land, resulting in alterations to the land use pattern. Notably, this area possesses significant potential to attract a diverse avian population. Therefore, it is strongly recommended to implement immediate measures for the preservation of the natural habitats, including wetlands, crucial for the avifauna, with active community participation.

5. Acknowledgement

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6. Conflict of interest

The authors affirm that there is no conflict of interest pertaining to the research and publication of this document.

7. Author's contribution

The First and second author has conducted the field study. Third author has contributed on compilation of field data. Fourth author has contribution in preparing study area map, statistical analysis and statistical diagram and photo plates.

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Borti Bill Marshy Area



Paltapara Grassland



Mondal Para Urban Area



Feeder Road Urban Area



Basudevpur Road Urban Area

Plate 1: Different study sites

Plate 2: Bird observed from different study sites



River Tern



Black-tailed Godwit



Bluethroat



Orange-headed Thrush



Little Scaly Bellied Green Woodpecker



Red Turtle Dove



Verditer Flycatcher