

Avifaunal diversity and status of Shivamogga municipal city, Karnataka, India

E.N. Jeevan*, K.L. Naik, D.B. Sumanthrapa, H.M. Ashashree and H.A. Sayeswara

Department of Zoology, Sahyadri Science College (Autonomous), Kuvempu University, Shivamogga-577203, Karnataka, India

* Corresponding author: E.N. Jeevan; email: jeevanu67@gmail.com

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ABSTRACT

This paper deals with the diversity and status of birds of Shivamogga municipal town, Karnataka. Birds are great economic importance to man. Avifauna are important for the ecosystem as they play various roles as scavengers, pollinators, predators of insect pest, bioindicators of different kind of environment like urbanization and industrialization. They are very sensitive indicators of pollution problems and function as early warning system. During the study 41 species of birds belonging to 29 families and 16 orders were recorded. More species were sighted in order Passeriformes, followed by Palecaniiformes, Charadriiformes, Accipitiformes, Coraciiformes, Ciconiiformes, Columbiformes, Galliformes, Gruiformes, Cinconiiformes, Cuculiformes, Phoenicopteriformes, Psittaciformes and Strigiformes.

Keywords: Avifauna, Shivamogga, Karnataka

INTRODUCTION

Avifauna plays an important link of food chain in ecological unit of nature. Hence, it is very important to know their diversity, migratory status, population size, distribution pattern and conservation status. Birds are widely recognized as bio-indicators of the quality of the ecosystem [1]. The bird's diversity and abundance can reflect ecological trends in other biodiversity [2]. Indian subcontinent supports 1300 plus bird species belonging to 16 orders. Out of these, 900 plus species are resident [3] and rest are migratory. Karnataka state represents 500 plus bird species with 48 listed in threatened category. To mention few, Mysore avifauna was documented by [4]. Avifauna of Biligiri Rangaswamy temple was updated by [5] and [6]. Nazneen et al. [7] documented avifauna of Kuvempu University camps, Shivamogga. Recently Donar et al. [8] reported 49 bird species from Nippani reservoir in Belgaum district. Since there is no published report on avifauna diversity in Shivamogga municipal city, preliminary observations were made in five different spots of the study city.

MATERIALS AND METHODS

Study area

Avifauna of Shivamogga municipal city was studied for a period of 12 months from May to April 2011.

Shivamogga municipal city (13°55' 18" N, 75°34' 12" E) is heartland of Karnataka state, located on the banks of river Tunga. Shivamogga is a part of region vernacularly known as Malnaad (Land of hills) in Karnataka. Most of the hills are part of Western Ghats, a region famous for plentiful rainfall and lush greenery. According to the Shivamogga Municipal City Corporation, the city has a total area of about 50 km² (19.31m² miles). Climate of Shivamogga is tropically wet and dry (As per Koppen Climate Classification). This means that the winter and the early part of summer are typically dry periods. Majority of the rainfall occurs between June and early October.

Methodology

For the study, five different stations were selected in and around Shivamogga municipal city.

1. **Sacrebylu:** This is located 14 km away from the Shivamogga city.
2. **Lion Safari:** This is located 10 km away from the Shivamogga city.
3. **Gondichatnalli paddy field:** This is located 6 km away from the Shivamogga city.
4. **Gondichatnalli pond:** This is located 6 km away from the Shivamogga city.
5. **Shivamogga city:** This includes all the areas in Shivamogga city.

Regular monthly observation was made from May to April 2011. Birds were sighted using Binocular of 8X40 magnifications. These observations were made in the

morning or in the evening. The identification of birds was based on the standard data as prescribed by [9 and 10].

Table 1. Birds of different areas of Shivamogga municipal city

S.No.	Common name	Scientific name	Order	Family	Conservation Status	Resident Status	Status
01	Grey hornbill	<i>Ocyrceros birostris</i>	Coraciiformes	Bucerotidae	LC	R	C
02	Greater coucal	<i>Centropus sinensis</i>	Cuculiformes	Cuculidae	LC	R	C
03	Malabar pied hornbill	<i>Anthracoceros coronatus</i>	Coraciiformes	Bucerotidae	NT	R	R
04	Serpent eagle	<i>Spilornis cheela</i>	Accipitriformes	Accipitridae	LC	R & LM	C
05	Jungle fowl	<i>Gallus sonneratti</i>	Galliformes	Phasianidae	LC	R	C
06	Booted Eagle	<i>Aquila pennata</i>	Accipitriformes	Accipitridae	LC	M	C
07	Gold fronted chloropsis	<i>Chloropsis aurifrons</i>	Passiformes	Chloropseidae	LC	LM	C
08	India roller	<i>Coracias benghalensis</i>	Coraciiformes	Coraciidae	LC	R & LM	C
09	Lotens sunbird	<i>Nectarinia lotenia</i>	Passiformes	Nectariniidae	LC	R	C
10	Little brown dove	<i>Spilopelia senegalensis</i>	Columbiformes	Columbidae	LC	R	C
11	Painted stroke	<i>Mycteria leucocephala</i>	Ciconiiformes	Ciconiidae	LC	R & LM	R
12	Pea fowl	<i>Pavo cristatus</i>	Galliformes	Phasianidae	LC	R	C
13	Rufous backed shrike	<i>Lanius schach</i>	Passeriformes	Laniidae	LC	R	C
14	Small sun bird	<i>Nectarinia minima</i>	Passeriformes	Nectariniidae	LC	R	C
15	Black drongo	<i>Dicrurus macrocercus</i>	Passeriformes	Dicruridae	LC	R	R
16	Cattle egret	<i>Bubulcus ibis</i>	Pelecaniformes	Ardeidae	LC	R & M	VC
17	Median egret	<i>Mesophox intermedia</i>	Pelecaniformes	Ardeidae	LC	R & M	VC
18	Openbill stork	<i>Anastomus osciatus</i>	Ciconiiformes	Ciconiidae	LC	R & LM	R
19	Yellow wattled lapwing	<i>Vanellus malabaricu</i>	Charadriiformes	Charadriidae	LC	R & LM	R
20	Oriental white ibis	<i>Threskiornis melanocephalus</i>	Pelecaniformes	Threskiornithidae	LC	R & LM	C
21	Eurasian spoonbill	<i>Platalea leucorodia</i>	Pelecaniformes	Threskiornithidae	LC	R	R
22	Large egret	<i>Casmerodius albus</i>	Pelecaniformes	Ardeidae	LC	R	VC
23	River turn	<i>Nycticorax nycticorax</i>	Charadriiformes	Sternidae	NT	R	R
24	White breasted waterhen	<i>Amaurornis phoenicurus</i>	Gruiformes	Rallidae	LC	R	R
25	Purple moorhen	<i>Porphyrio porphyrio</i>	Gruiformes	Rallidae	LC	R & M	R
26	Red wattled lapwing	<i>Vanellus indicus</i>	Charadriiformes	Charadriidae	LC	R	R
27	Greater flamingo	<i>Phoenicopterus roseus</i>	Pyoenicopteriformes	Phoenicopteridae	LC	R & LM	C
28	Little bittern	<i>Ixobrychus minutus</i>	Pelecaniformes	Ardeidae	LC	R & M	R
29	Little cormorant	<i>Microcarbo niger</i>	Pelecaniformes	Phalacrocoracidae	LC	R	VC
30	Black crowned heron	<i>Nycticorax nycticorax</i>	Ciconiiformes	Ardeidae	LC	R & LM	R
31	Great grey shrike	<i>Lanius excubitor</i>	Passeriformes	Laniidae	LC	M	R
32	Barn owl	<i>Tyto alba</i>	Strigiformes	Tytonidae	LC	M	R
33	Bul bul	<i>Pycnonotus jocosus</i>	Passeriformes	Pycnonotidae	LC	R	C
34	Common crow	<i>Corvus splendens</i>	Passeriformes	Corvidae	LC	R	VC
35	Parrot	<i>Psittacula krameri</i>	Psittaciformes	Psittacidae	LC	LM	C
36	Rufous fronted prinia	<i>Prinia buchanani</i>	Passeriformes	Cisticolidae	LC	M	R
37	House sparrow	<i>Passer domesticus</i>	Passeriformes	Passeridae	LC	R	R
38	Spotted babbler	<i>Pellorneum ruficeps</i>	Passeriformes	Timaliidae	LC	R	R
39	Jungle myna	<i>Acridotheres fuscus</i>	Passeriformes	Sturnidae	LC	R	VC
40	Oriental mag pie robin	<i>Copsychus</i>	Passeriformes	Muscicapidae	LC	M	R
41	Piegon	<i>Columba livia</i>	Columbiformes	Aquilapennata	LC	R	VC

LC-Least concern, NT-Near Threatened, R-Residential, LM-Local Migrant, M-Migrant, R-Rare, C-Common, VC-Very common

RESULTS AND DISCUSSION

During the present investigation 41 species of birds belonging to 29 families and 16 orders of class Avia were recorded (Table 1, Figures 1 & 2). Residential status, conservation status and common status of birds were depicted in Figures 3 to 5. More species were sighted in order Passiformes (13species), while Coraciiformes and Charadriiformes were represented by three species each. Cociformes, Columbiformes, Galliformes, Gruiformes, Ciconiiformes, Accipitriformes were represented by two species each. Cuculiformes, Phoenicopteriformes, Psittaciformes and Strigiformes were represented by a single species.

Twenty two resident birds, five migratory birds, two local migratory birds, eight resident and local migratory birds & four resident and migratory birds were recorded. Resident birds include *Ocyrceros birostris*, *Centropus sinensis*, *Anthracoceros coronatus*, *Gallus sonneratti*, *Nectarinia lotenia*, *Spilopelia senegalensis*, *Pavo cristatus*, *Lanius schach*, *Nectarinia minima*, *Dicrurus macrocercus*, *Platalea leucorodia*, *Casmerodius albus*, *Nycticorax nycticorax*, *Amaurornis phoenicurus*, *Vanellus indicus*, *Microcarbo niger*, *Pycnonotus jocosus*, *Corvus splendens*, *Passer domesticus*, *Pellorneum ruficeps*, *Acridotheres fuscus* and *Columba livia*. The resident birds are observed in most of the

months of investigation period but the migratory birds were observed mostly in the winter months. The migratory birds included *Lanius excubitor*, *Tyto alba*, *Prinia buchanani*, *Copysychus* and *Aquila pennata*. The migratory species were winter visitors [11, 12, 13, 14 and 15]. Resident and local migratory birds include *Nycticorticora xaxnyc*, *Spilornis cheela*, *Coracias benghalensis*, *Mycteria leucocephala*, *Anastomus oscitans*, *Vanellus malabaricus* and *Threskiornis melanocephalus*. Resident and migratory birds include *Porphyrio porphyrio*, *Ixobrychus minutes*, *Bubulcus ibis* and *Mesophoyx intermedia*. Local migratory birds include *Chloropsis aurifrons* and *Psittacula krameri*. Of the 41 bird species 39 species are least concerned and only two are nearly threatened species.

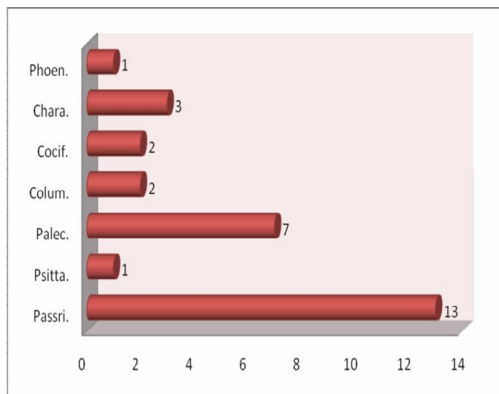


Figure 1. Birds of different orders

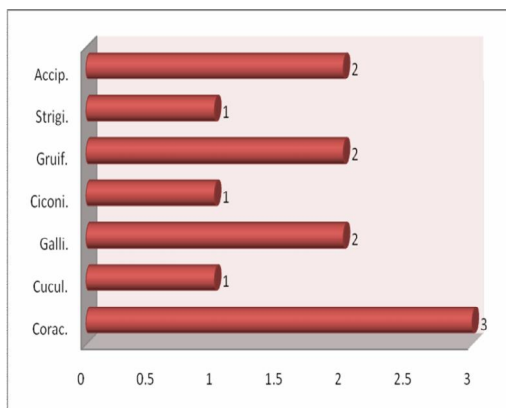


Figure 2. Birds of different orders

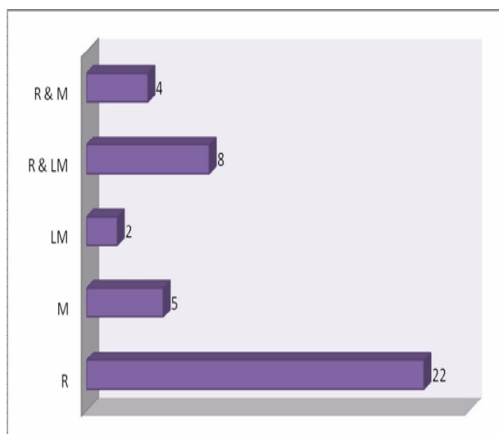


Figure 3. Residential status of Birds of Shivamogga

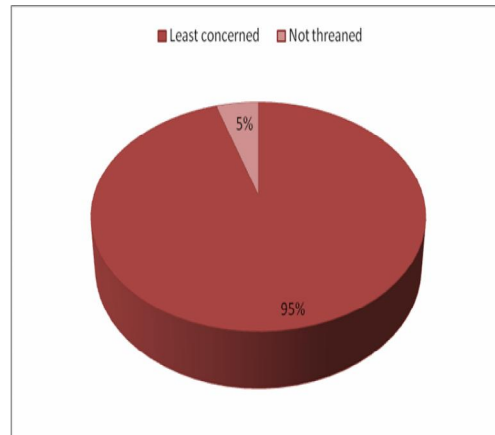


Figure 4. Conservation status of Birds of Shivamogga

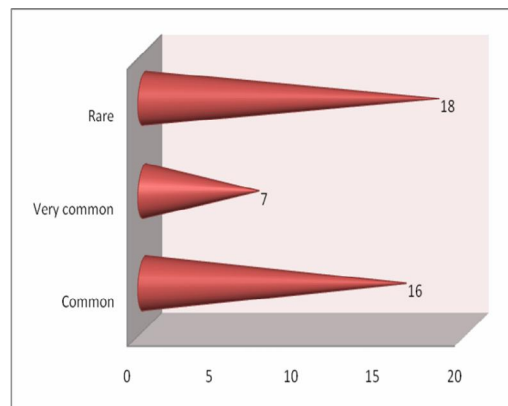


Figure 5. Status of Birds of Shivamogga

CONCLUSION

The study documents the rich avifauna diversity showing the area still provides some potential habitats for the declining population of the threatened birds. Therefore, it is the need to monitor these areas systematically with a focused study on status, distribution and conservation birds of the Shivamogga municipal city. It can be achieved only through public participation. The study could effectively provide the baseline for research which could be used for conservation purpose of birds.

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