

Avifunal Diversity in Baru Sahib and Adjoining Area of Sirmaur, Himachal Pradesh, India

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(Received 7 August, 2023; Accepted 6 October, 2023)

ABSTRACT

The study of bird diversity was carried out in Sirmaur district of Himachal Pradesh. For bird survey Point count method was used. The bird survey was conducted morning (7am-10am) and evening time (3pm-5pm) from January 2021 to February 2022. The study revealed 89 species of birds belonging to 37 families and 10 orders present in the study area. The maximum number of bird species were present in the order Passeriformes (63) and family Muscicapidae (13). Out of 89 species, 69 species were resident, 9 winter visitors (WV) and 11 summer visitors (SV). Most of the birds come under least concern (LC) category except Himalayan Griffon (*Gyps himalayensis*) which comes near threatened category (NT). This study provides a base line data of bird diversity in Baru Sahib and adjoining areas of district Sirmaur.

Key words: Bird, Diversity, Himachal Pradesh, Point count, Threatened

Introduction

Birds are the most fascinating, colorful and valuable group in the whole animal kingdom. Birds are suitable indicators species and these can be used to identify the various environmental changes and problems (Taper *et al.*, 1995). The diversity, distribution and abundance of birds varies according to one location to another location. These occupying a wide range of natural, semi-natural, rural, urban and semi-urban habitat (Manakadan and Pittie, 2001). The Himalayan ecosystem is known for its rich biodiversity and it supports the Indian Subcontinent with wide varieties of natural resources. This majestic folded mountain is home for variety of native and exotic avian diversity. The altitudinal variation, climatic condition and topography plays crucial role in diversity of birds.

Avian diversity of Himachal Pradesh was studied

by various researchers (Besten, 2004; Gaston *et al.*, 1993; Kumar and Paliwal, 2015; Mahabal, 1996; Sharma and Mahabal, 1997). There are very scanty data available regarding population biology, habitat and breeding ecology of birds in Himalayan ecosystem. The unplanned developmental activities, deforestation, recurrence of forest fires during breeding season in North Western Himalayan belt are the major threats for birds. Specifically, Habitat destruction and anthropogenic pressure have an adverse effect on population and distribution of bird (Negi and Lakhera, 2017) in Himalayan ecosystem. These factors have been affecting the population of birds and breeding habitat of species within their distribution range (Thakur and Negi, 2015). For conservation of birds, the knowledge of their distribution, relative abundance, diversity and possible threats are highly necessary. In respect of avifauna of

Sirmaur district of Himachal Pradesh, as so far there are very scanty information present. Therefore, the present study was undertaken with the motive of exploring the different study sites of Baru Sahib and adjoining areas of Sirmaur district to record the bird diversity. So, the present study aims to provide base line data of bird diversity in Baru Sahib and adjoining areas of district Sirmaur.

Materials and Method

Study area: Sirmaur district (North latitude 31°01'00" to 30°22'00" and East longitude 77°01'00" to 77°50'00"), is the mountainous and rural area, which is situated in the southern most of the Himachal Pradesh. For this study three study sites selected: 1) Baru sahib, 2) Pacchad, 3) Kheri

Bird survey: Birds were observed visually and for counting we used the point count method (Bibby *et al.*, 2000). The bird survey was conducted morning (7am-10am) and evening time (3pm-5pm). The study was conducted during January 2021 to January 2022. For field identifications, various field guides (Ali and Ripley, 1983; Grimmett *et al.*, 1999) were used. The nomenclature was followed by Manakadan and Pittie, (2001). For further identification, the photographs were shot by the Canon SRL SX 540.

Results

Total 89 species of birds belonging to 10 orders and 37 families (Table 1) were present in the study area. Order Passeriformes was dominated with 63 species, followed by Piciformes (8) (Figure 1). The minimum number of species is present in order Bucerotiformes (1), Cuculiformes (1) and Strigiformes (1). The maximum number of bird species in found in family Muscicapidae (13), followed by Corvidae (8), Picidae (6), and Columbidae (5) (Figure 2). According to International Union for Conservation of Nature and Natural Resources (IUCN), all species comes under least concern (LT) category except Himalayan Griffon (*Gyps himalayensis*), which comes under near threatened (NT) category. Out of 89 species, 69 species were resident, 9 winter visitors (WV) and 11 summer visitors (SV) (Figure 3). The main summer visitor birds include Long-tailed Minivet (*Pericrocotus ethologus*), Red-rumped Swallow (*Cecropis daurica*), Barn Swallow (*Hirundo rustica*), Indian Paradise-Flycatcher

(*Terpsiphone paradisi*), White Wagtail (*Motacilla alba*), Verditer Flycatcher (*Eumyias thalassinus*) etc. Common winter visitor birds are Pink-browed Rosefinch (*Carpodactus rodochrous*), Common Rosefinch (*Carpodacus erythrinus*), Common Stonechat (*Saxicola maurus*), Rufous-breasted Accentor (*Prunella strophhiata*) etc.

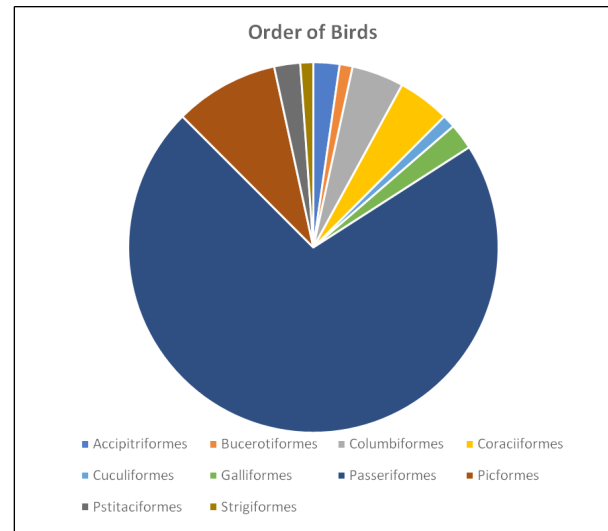


Fig. 1. Different order of birds present in Sirmaur, Himachal Pradesh

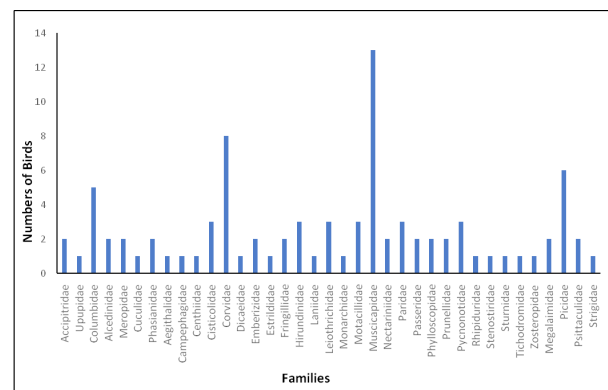


Fig. 2. Different families of birds and this numbers present in Sirmaur, Himachal Pradesh

Discussion

The present study provides base line data of bird diversity in selected area of Sirmaur district. This area is rich in avifaunal diversity which includes 89 species of birds belonging to 10 orders and 37 families. Order Passeriformes was dominated with 63 species. In this area, the Muscicapidae (13) family

Table 1. Systematic list of birds in Sirmaur, Himachal Pradesh

Order	Family	Scientific name	IUCN Status	Migration Status		
Accipitriformes	Accipitridae	<i>Gyps himalayensis</i>	NT	R		
		<i>Milves migrans</i>	LC	R		
Bucerotiformes	Upupidae	<i>Upupa epops</i>	LC	R		
Columbiformes	Columbidae	<i>Columba livia</i>	LC	R		
		<i>Streptopelia orientalis</i>	LC	R		
		<i>Spilopelia senegalensis</i>	LC	R		
		<i>Streptopelia decaocto</i>	LC	R		
		<i>Spilopelia chinensis</i>	LC	R		
		Coraciiformes	Alcedinidae	<i>Halcyon smyrnensis</i>	LC	R
				<i>Alcedo atthis</i>	LC	R
Meropidae	<i>Merops orientalis</i>		LC	R		
	<i>Nyctyornis athertoni</i>		LC	R		
Cuculiformes	Cuculidae	<i>Eudynamis scolopaceus</i>	LC	R		
Galliformes	Phasianidae	<i>Francolinus francolinus</i>	LC	R		
		<i>Lophura leucomelanos</i>	LC	R		
Passeriformes	Aegithalidae	<i>Aegithalos concinnus</i>	LC	R		
	Campephagidae	<i>Pericrocotus ethologus</i>	LC	SV		
	Certhiidae	<i>Certhia himalayana</i>	LC	WV		
	Cisticolidae	<i>Prinia criniger</i>	LC	R		
		<i>Prinia hodgsonii</i>	LC	R		
		<i>Orthotomus sutorius</i>	LC	R		
		Corvidae	<i>Urocissa erythroryncha</i>	LC	R	
			<i>Dendrocitta vagabunda</i>	LC	R	
			<i>Dendrocitta formosae</i>	LC	R	
			<i>Corvus macrorhynchos</i>	LC	R	
			<i>Corvus splendens</i>	LC	R	
			<i>Garrulus lanceolatus</i>	LC	R	
			<i>Dicrurus macrocerus</i>	LC	R	
			<i>Dicrurus leucophaeus</i>	LC	SV	
		Dicaeidae	<i>Dicaeum ignipectus</i>	LC	R	
		Emberizidae	<i>Emberiza cia</i>	LC	WV	
			<i>Emberiza stewarti</i>	LC	WV	
		Estrildidae	<i>Lonchura punctulata</i>	LC	R	
	Fringillidae	<i>Carpodacus erythrinus</i>	LC	WV		
		<i>Carpodacus rodochrous</i>	LC	WV		
	Hirundinidae	<i>Ptyonoprogne concolor</i>	LC	R		
		<i>Cecropis daurica</i>	LC	SV		
		<i>Hirundo rustica</i>	LC	SV		
	Laniidae	<i>Lanius schach</i>	LC	R		
	Leiothrichidae	<i>Trochalopteron variegatum</i>	LC	R		
		<i>Trochalopteron lineatum</i>	LC	R		
		<i>Argya striata</i>	LC	R		
	Monarchidae	<i>Terpsiphone paradisi</i>	LC	SV		
	Motacillidae	<i>Motacilla alba</i>	LC	SV		
		<i>Motacilla maderaspatensis</i>	LC	R		
		<i>Motacilla cinerea</i>	LC	R		
		<i>Monticola cinclorhynchus</i>	LC	R		
		<i>Myophonus caeruleus</i>	LC	R		
Muscicapidae	<i>Eumyias thalassinus</i>	LC	SV			
	<i>Ficedula superciliaris</i>	LC	SV			
	<i>Phoenicurus leucocephalus</i>	LC	R			
	<i>Phoenicurus coeruleocephala</i>	LC	R			
	<i>Copsychus fulicatus</i>	LC	R			

Table 1. Continued ...

Order	Family	Scientific name	IUCN Status	Migration Status
		<i>Copsychus saularis</i>	LC	R
		<i>Enicurus maculatus</i>	LC	R
		<i>Saxicola ferreus</i>	LC	R
		<i>Saxicola caprata</i>	LC	SV
		<i>Saxicola maurus</i>	LC	WV
		<i>Tarsiger rufilatus</i>	LC	WV
	Nectariniidae	<i>Cinnyris asiaticus</i>	LC	SV
		<i>Aethopygia siparaja</i>	LC	R
	Paridae	<i>Parus cinereus</i>	LC	R
		<i>Parus monticolus</i>	LC	R
		<i>Machlolophus xanthogenys</i>	LC	R
	Passeridae	<i>Passer domesticus</i>	LC	R
		<i>Passer cinnamomeus</i>	LC	R
	Phylloscopidae	<i>Phylloscopus xanthoschistos</i>	LC	R
		<i>Phylloscopus humei</i>	LC	WV
	Prunellidae	<i>Prunella strophiata</i>	LC	WV
		<i>Prunella atrogularis</i>	LC	WV
	Pycnonotidae	<i>Pycnonotus leucogenys</i>	LC	R
		<i>Pycnonotus cafer</i>	LC	R
		<i>Hypsipetes leucocephalus</i>	LC	R
	Rhipiduridae	<i>Rhipidura albicollis</i>	LC	R
	Stenostiridae	<i>Culicicapa ceylonensis</i>	LC	R
	Sturnidae	<i>Acridotheres tristis</i>	LC	R
	Tichodromidae	<i>Tichodroma muraria</i>	LC	WV
	Zosteropidae	<i>Zosterops palpebrosus</i>	LC	R
Piciformes	Megalaimidae	<i>Psilopogon virens</i>	LC	R
		<i>Psilopogon asiaticus</i>	LC	R
	Picidae	<i>Dendrocopos macei</i>	LC	R
		<i>Dendrocoptes auriceps</i>	LC	R
		<i>Picus canus</i>	LC	R
		<i>Chrysocolaptes guttacristatus</i>	LC	R
		<i>Picus chlorolophus</i>	LC	R
		<i>Yungipicus canicapillus</i>	LC	R
Pstitaciformes	Psittaculidae	<i>Psittacula himalayana</i>	LC	R
		<i>Psittacula cyanocephala</i>	LC	R
Strigiformes	Strigidae	<i>Glaucidium cuculoides</i>	LC	R

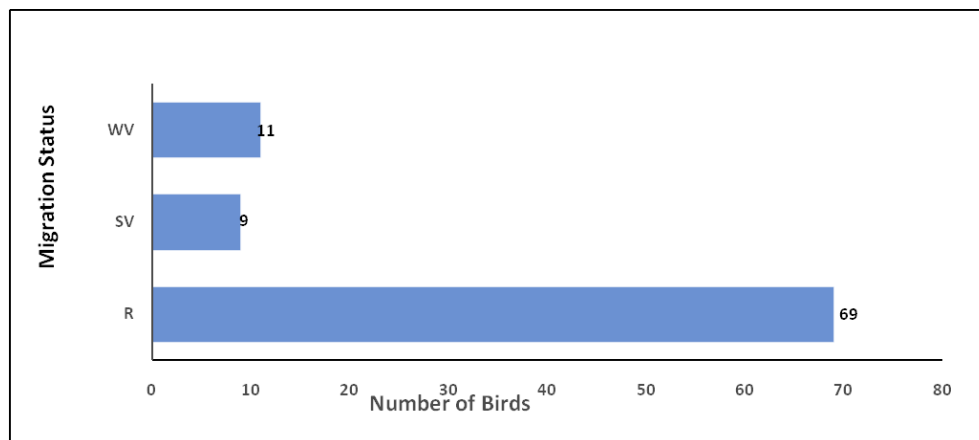


Fig. 3. Residential and migration status of birds. (R=Resident, SV=Summer visitor, WV=Winter Visitor)

dominant, followed by Corvidae (8). According to Paliwal *et al.*, (2019) family Muscicapidae is dominant in Bandli Wildlife Sanctuary, Mandi, Himachal Pradesh. Singh, (2015) recorded order Passeriformes and family Muscicapidae dominant in Solan district of Himachal. Mohapatra *et al.*, 2019, study also revealed that Passeriformes order was dominant (66.03%) and represent total 103 species in Solan district. Himalayan Griffon (*Gyps himalayensis*) which comes near threatened category (NT) present in this area. During the study, out of 89 species, 69 birds were resident, 11 winter visitor, 9 summer visitor. The winter migratory birds, i.e. Pink-browed Rosefinch (*Carpodacus rodochrous*), Common Rosefinch (*Carpodacus erythrinus*), Common Stonechat (*Saxicola maurus*) etc are also mentioned by Mohapatra *et al.*, 2019 in Solan district. Thakur *et al.*, 2010, showed same pattern of residential status of birds in Arki hills of Solan. The present study supported the earlier works of (Mahabal and Sharma 1992; Thakur *et al.*, 2010; Singh and Banyal, 2013). They also categories birds in resident, summer visitors, and winter visitors from different regions of Himalayas. Avifunal diversity records are so limited in Sirmaur district of Himachal. The Baru Sahib and adjoining area of Sirmaur district are rich in bird diversity. This study is first attempt to provide the bird base line data in this area of Sirmaur. This area is less affected with anthropogenic pressure and need more to explore in future.

Acknowledgement

Priyanka Negi expresses deep sense of gratitude to Professor H.S. Dhaliwal, former Vice-Chancellor of Eternal University, for his complete support and supervision of this study.

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