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Diversity of avian fauna in the Azmat abad, Thanna Mandi, Rajouri J & K

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Abstract

Birds play an important role in the ecosystem as long-distance pollinators, scavengers as well as bio control agents of various crop pests and thus to be considered as bio-indicators. Different birds have different habitats, some are aerial, some are terrestrial, some are aquatic, some lives near the bank of the reservoir. In this survey, the bird diversity has been recorded for the first time as a preliminary checklist purpose of Azmat Abad Village of Thanna Mandi of District Rajouri of J&K. The Field survey was done from March to December 2021. Total 50 species of terrestrial Birds have been recorded. The preliminary checklist is provided for the undertaking of future research and conservation as well as management on the bird's diversity of Azmat Abad village.

Keywords: First record, checklist, diversity, azmatabad, status, birds

Introduction

Birds are 'warm-blooded' vertebrates, with fore-limbs modified to wings, and skins covered with feathers. Vertebrates are characterised by having a spinal column and a skull. 'Warm blooded' or *homiothermic* (constant temperature) means that their body temperature is kept more or less constant and above that of their surroundings. Typically, the forelimbs as wings give birds the power of flight although there are some flightless birds. In some cases (e.g. penguins and puffins) the wings are used for swimming under water.

For conservation measures to be implemented, it becomes necessary to know the species diversity, type of the habitat, they live in and the local abundance status of the animals of the concerned area. Birds form an important component of any natural ecosystem; they play a useful role in the control of insect pests of agricultural crops, as predators of rodents, as scavengers and as pollinating agents. This chapter puts together a complete checklist of the birds found within the geographical limits of Azmat abad village, Thane mandi, Rajouri, J&k. State. Geographically, the area represents heterogeneous landscape with a varied altitudinal range, characterized by enormous diversity in habitats and climatic regimes. Overall 08 orders of avian taxa represented by 15 families have been reported from the area; these includes 50 species classified(Table 1) This paper also tabularizes the distribution (presence or absence) of all the bird species in the regions and presents Azmat abad village, Thane mandi heir status (Resident/Passage Migrant/Summer Visitor/Winter Visitor) in these regions. As far as of avian diversity of India is concerned, many workers have made useful contributions in this regard, these include, Ali (1941), Ali & Ripley (1968-74.)^[9], Grimmett *et al.* (1998), Alfred *et al.* (2001), Grewal *et al.* (2002) and Pfister (2004). State level faunistic surveys have been carried by Choudhary (2002), Sharma (2003), Ahmed (2004), Wani and Sahi (2005), Kait and Sahi (2006), Kumar and Sahi (2005-06), Kumar (2006), Kotwal and Sahi (2007) and Kait (2011). The area under present investigation remained virgin as for as diversity of avifauna is concerned.

All birds reproduce by laying eggs which are fertilised internally before laying. The skull and lower jaw are extended forward into mandibles which make a beak. The bird's legs and toes are covered with overlapping scales. Birds possess a third, transparent eyelid, the *nictitating membrane*, which can move across the eye. The birds rich Union territory of Jammu and Kashmir (Rahmani *et al.*, 2013) with 28 important bird areas (Islam and Rahmani, 2012) is home to 12 globally threatened bird species and six near-threatened species (Rahmani *et al.*, 2013). Many researchers, young birders and enthusiasts have contributed to the avian baseline for the Union territory which includes the work of Ahmed and Sahi (2005)^[13];

Aggarwal *et al.* (2008); Choudhary (2010) [16]; Bhat and Bhat (2012); Hussain and Kait (2013); Singh *et al.* (2014); Syed (2014); Fazili *et al.* (2017); Kichloo *et al.* (2018); Sharma *et al.* (2018); Sohil *et al.* (2019).

For conservation measures to be implemented, it turns into necessary to realize the species range, form of the habitat, they stay in and the local abundance repute of the animals of the involved area. Birds shape an essential element of any natural environment; they play a beneficial role in the manage of insect pests of agricultural plants, as predators of rodents, as scavengers and as pollinating retailers. As a ways as of avian range of India is involved, many employees have made beneficial contributions in this regard, those consist of, Ali (1941), Ali & Ripley (1968-seventy four,) [9], Grimmett *et al.* (1998), Alfred *et al.* (2001), Grewal *et al.* (2002) and Pfister (2004). Kingdom stage faunistic surveys were carried by way of Choudhary (2002), Sharma (2003), Ahmed (2004), Wani and Sahi (2005), Kait and Sahi (2006), Kumar and Sahi (2005-06), Kumar (2006), Kotwal and Sahi (2007) and Kait (2011). The region beneath gift investigation remained virgin as for as range of avifauna is worried.

Material and methods

Study area

Azmat abad village of thaana mandi district Rajouri, Jammu and Kashmir, India is **situated** at a distance of 26 km from district headquarters and is stretched between 33°56,501 lat- and 74°56'12" longitudes. The altitude of the study area ranges from 1968 m. Azmat Abad village is also connected to Mughal road. The upper reaches of the study area receive heavy snowfall from Dec-April and winter is severe there, whereas the lower reaches have a pleasant season throughout the year. The basic floristic composition of the study area varies from that of a sub-tropical to sub-temperate forest with 4 distinct seasons a year, spring (March -May), summer (June-August), autumn (September - November) and winter (December-February). The study area is dominated by coniferous forests, although broad leaved, mixed forest and alpine pastures are also found in some higher reaches like D.KG, rattan peer, sukhsar etc

The sub-tropical forest is inhabited through exceptional tree species like *Olea cuspidate* (Khor), *Punica granatum* (Dhurni), *Pinus roxburghii* chir (pine) and temperate forest is occupied via *Quercus* species and *Eleagnus* species. Temperature of summer season tiers among 30 to 35 °C and of wintry weather among 2 °C to -4.8 °C. In wintry weather its mountain top felt periodic snow fall in which as low mendacity vicinity can also (for one or two days) or may not felt the snowfall. Water assets of this area are springs most effective which might also feed the Azmat abad move for at least 10 months and maximum of them dried up for one or months before monsoon. Crops of this region encompass wheat in iciness, and maize and paddy in summer. This area

has very bad horticulture affect with most effective few trees of apple, walnut, akhrot, plumps

Depending upon their presence within the limits of the State, the individual species have been grouped into the following four categories: Resident (R): Recorded throughout the year, mostly breeding; Passage Migrant (P): Recorded for a brief period of the year only; Summer Visitor (S): Recorded during summer, mostly breeding; and Winter Visitor (W): Recorded during winter. Species for which the records are either only sparse/isolated or are very old with no recent confirmations have also been enlisted and are suffixed by an asterisk (*). The individual species have been assigned conservation status as per the Red List of the International Union for Conservation of Nature (IUCN), which includes the following categories: CR= Critically Endangered; EN= Endangered; VU= Vulnerable; NT= Near Threatened; LC= Least Concern.

Methodology

In order to record the avian diversity, periodic surveys were undertaken in the study area by adopting systematic field procedures and techniques for survey. The nomenclature followed in the present work is in accordance with those given in the "Handbook of Birds of India and Pakistan" by Ali and Ripley (1968- 74) [9]. The more popular English names in use within India have also been provided. For identification and field diagnosis of birds, colourful plates of Ali and Ripley (1968-74) [9], Ali (1996), Grimmett *et al.* (1998) and Grewal *et al.* (2002) have been used. Colours are usually the best indicators of identity of a species at a close range or through binoculars. Classification of birds is in accordance with Grewal *et al.* (2002). For inventorization and density determination of Aves, Line Transect Method and Point Transect Method (Verner, 1985) were used. The points transect method was more helpful in thick forest area. Surveys were conducted from 6:30 am to 9:30 am in morning and 4:30 pm to 6:30 pm in evening during summers and 7:30 am to 10:30 am in morning and 3:30 pm to 5:30 pm in evening during winters. In addition to these fixed timings of surveys, some irregular visits were also planned and made during other hours of the day. Local Abundance status after Srinivasulu and Nagulu (2002) of the recorded bird was established upon the following criteria: Common-recorded 9-10 times out of 10 visits, uncommon - recorded 6 -8 times out of 10 visits, occasional- recorded 3 - 5 times out of 10 visits, rare- recorded 0 -2 times out of 10 visits. Observations were carried out with the help of Binoculars (12x50 Super Zenith) whenever found necessary. Photographs were taken with Canon (EOS) fitted with 300mm zoom lens and Sony DV Camera with 40X Zoom and Calls of the birds were recorded by tape recorders and mobile.

Table 1: Checklist of bird's azmat abad village thanna mandi armoury J & K

Scientific name	Common Name	Status	IUNC status
Order: Accipitriformes			
Family: Accipitridae			
<i>Accipiter badius dussumieri</i>	Shikra	C	LC
<i>Aquila nipalensis</i>	Steppe Eagle	R	LC
<i>Butastur teesa</i>	White-eyed Buzzard	R	NT
<i>Buteo rufinus rufinus</i>	Long-legged Buzzard	R	LC
<i>Circus aeruginosus</i>	Western Marsh Harrier	R	LC

<i>Circus cyaneus</i>	Hen Harrier	C	LC
<i>Clanga hastata</i>	Indian Spotted Eagle	R	LC
<i>Elanus caeruleus vociferus</i>	Black-winged Kite	C	NT
<i>Gyps himalayensis</i>	Himalayan Vulture	R	LS
<i>Milvus migrans lineatus</i>	Black-eared Kite	C	LS
Order: Columbiformes			
Family: Columbidae			
<i>Columba livia intermedia</i>	Rock Pigeon	C	LS
<i>Streptopelia chinensis chinensis</i>	Spotted Dove	C	LS
<i>Streptopelia decaocto decaocto</i>	Eurasian Collared Dove	UC	LS
<i>Streptopelia tranquebarica</i>	Red Collared Dove	VA	LS
Order: Cuculif-ORMES			
Family: Cuculidae			
<i>Eudynamys scolopaceus</i>	Asian Koel	Common	LS
<i>Clamator jacobinus pica</i>	Pied Cuckoo	Common	LS
<i>Cuculus Canorus bakeri</i>	Common Cuckoo	UN	LS
Order: Coraciiformes			
Family: Alcedinidae			
<i>Alcedo atthis</i>	Common Kingfisher	C	LS
<i>Ceryle rudis</i>	Pied Kingfisher	UN	LS
<i>Halcyon smyrnensis</i>	White-throated Kingfisher	UN	NT
Family: Meropidae			
<i>Merops orientalis</i>	Green Bee-eater	R	NT
<i>Merops philippinus</i>	Blue-tailed Bee-eater	R	NT
Order: Charadriiformes			
Family: Scolopacidae			
<i>Tringa glareola</i>	Wood Sandpiper	C	LC
<i>Tringa tetanus eurhina</i>	Common Redshank	UN	NT
<i>Actitis hypoleucos</i>	Common Sandpiper	R	EN
<i>Tringa erythropus</i>	Spotted Redshank	C	LC
Order: Passeriformes			
Family: Emberizidae			
<i>Emberiza lathami</i>	Crested Bunting	C	VU
<i>Emberiza stewarti</i>	White-capped Bunting	R	EN
<i>Emberiza cia</i>	Rock Bunting	VA	NT
<i>Emberiza cioides</i>	Medow Bunting	R	VU
Family: Passeridae			
<i>Gymnoris xanthocollis</i>	Yellow-throated Sparrow	VC	LC
<i>Passer domesticus parkini</i>	House Sparrow	VC	LC
<i>Passer cinnamomeus</i>	Russet Sparrow	R	LC
Family: Sturnidae			
<i>Acridotheres tristis</i>	Common Myna	C	LS
<i>Acridotheres ginginianus</i>	Bank Myna	VC	NT
<i>Gracupica contra</i>	Asian Pied Starling	R	VU
<i>Sturnia malabarica</i>	Chestnut-tailed Starling	R	LS
<i>Sturnia pagodarum</i>	Brahminy Starling	C	LS
<i>Sturnus vulgaris</i>	Common Starling	UN	LS
Family: Cisticolidae			
<i>Prinia socialis</i>	Plain Perinea	UN	LS
<i>Prinia inornata</i>	Ashy Perinea	UN	VU
<i>Prinia hodgsonii rufula</i>	Grey-breasted Perinea	R	VU
<i>Prinia crinigera</i>	Striated Perinea	R	LS
<i>Prinia buchanani</i>	Rufous-fronted Perinea	UN	LS
<i>Cisticola juncidis</i>	Zitting Cisticola	R	LS
Family: Corvidae			
<i>Urocissa flavirostris</i>	Yellow-billed blue Magpie	C	LS
Order: Piciformes			
Family: Picidae			
<i>Piccus canus</i>	Grey-headed Woodpecker	R	LS
Family: Megalaimidae			
<i>Megalaima virens</i>	Great Barbet	R	VU
Order: Galliformes			
Family: Phasianidae			
<i>Lophura leucomelanos</i>	Kalij pheasant	R	LC
Order: Falconiformes			
Family: Falconidae			
<i>Falco tinnunculus</i>	Common kestrel	R	LS
Order: Piciformes			

Family: Picidae			
<i>Dendrocoptes</i>	Middle-spotted woodpecker	R	LS

Results and discussion

A total of 50 species of birds was recorded first time in Azmat Abad village. The field observation and data collected in Azmat abad village in first phase area shows that the area is supporting good bird diversity. The distributon of birds in a particular area depends on various factors, which include quantity and quality of food available, perching, roosting and nesting sites. Our observations during the current surveys clearly suggest that factors such as elevation, topography, climate and habitat heterogeneity have a marked influence on the distributon pattern of avian fauna in the study area. A large number of species have been recorded during the summer and much less in winters. Those at higher elevations move below the snow line during winters while a few passage migrants stopover for few days en route to their destinations. This has led to the dynamic nature of the avian community in the region. Similar observations were made by Acharya *et al.* (2011). In the western Himalaya, mid and high elevation habitats experience high species turnover between winter and summer (Somvielle *et al.* 2013). A few species of long distance latitudinal migrants take advantage of food rich mild summers at high elevations for breeding and spend winters at warmer latitudes (McCain 2009). Seasonal fluctuations of birds occur due to changes in weather conditions or fluctuations in food productivity and habitat quality (Loiselle & Blake 1991; Norris & Marra 2007) as also observed during the current surveys.

Distribution and Status

Resident (R)

Species recorded throughout the year. Most of these breed in the area. Populations fluctuate and may get augmented temporarily with migrating individuals from outside. Mainly include pheasants and partridges many birds of prey (Accipitridae), parakeets (Psittacidae), woodpeckers (Picidae), and a good number of passerine species like crows and magpies (Corvidae), tits (Paridae), bulbuls (Pycnonotidae), prinias and tailorbirds (Cisticolidae), babblers Timalidae, and some redstarts

Passage Migrant (P)

Species recorded for a brief period of the year only. These species are on passage to or from their wintering destinations elsewhere and use the area briefly as a transit in autumn (September to November) and/or in spring (February to April). Mainly includes ducks and geese (Anatidae), some harriers and buzzards (Accipitridae), many waders (Scolopacidae), and a few leaf warblers

Summer Visitor (S)

Species recorded during summer months (March/April to October/November). Such species mostly breed in the area or include those who overstay their visit (over-summering). Mainly includes cuckoos (Cuculidae), swifts (Apodidae), swallows and martins, and many leaf warblers

Winter Visitor (W)

Species recorded during winter months (September/October to February / March). Mostly include the waterfowl (Anatidae), falcons (Falconidae), some waders (Scolopacidae), and a few bunting species (Emberizidae)

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