

A Preliminary Study on Distribution of Avian Fauna of Muzaffarabad–Azad Jammu and Kashmir, Pakistan

MUHAMMAD NAEEM AWAN, MUHAMMAD SIDDIQUE AWAN, KHAWAJA BASHARAT AHMED, ALEEM AHMED KHAN† AND NAEEM IFTIKHAR DAR‡

Department of Zoology, University of Azad Jammu & Kashmir, Muzaffarabad–Azad Jammu and Kashmir, Pakistan

†Institute of Pure and Applied Biology, Baha-ud-din Zakaria University, Multan

‡Department of Wildlife, Muzaffarabad–Azad Jammu and Kashmir, Pakistan

ABSTRACT

Survey of avian fauna along both sides of river Neelum and Jhelum in Muzaffarabad city was conducted from June 2000 to February 2001. A total of 59 species belonging to nine orders and 31 families were recorded. Out of these: 24 were resident, 14 were winter visitor, 11 were summer visitor and 10 were rare. The distribution and abundance varied with season and maximum number of species was found during the monsoon season when most of the birds migrate for breeding. Among bird species, adapted to diverse habitat in the city, Black Drongos, House Sparrows, Common Mynas, Red vented Bulbuls, White cheeked Bulbul and House Swifts were prominent. Human related impacts such as grazing by livestock, removal of shrub cover, disturbance of habitat etc. were also studied.

Key Words: Avian fauna; Distribution; Muzaffarabad; Azad Kashmir; Pakistan

INTRODUCTION

Azad Jammu and Kashmir is situated at foothills of Himaliyas. It lies approximately between 32 to 36 latitude and 73 to 75 longitude (Anonymous, 2000). Azad Kashmir has various types of forest ranging from tropical thorn forest to cold desert forest. Due to diverse ecological zone, the climate varies in different parts of the territory. Different Biotopes provide good abode for wildlife species in this area. Fauna of Azad Kashmir consists of both Palearctic and Oriental elements (Roberts, 1991). Eighty sq. km. of project area is located in district Muzaffarabad, the capital of Azad Jammu and Kashmir. The study area lies in the humid region within the range of Monsoon. Heavy rainfall is the characteristics of the area. Summer is hot and winter is very cold. Maximum temperature is 45 and minimum is below 0. Snow falls on mountains and some times in city also. The study area has diversified habitat in the form of rivers, green fields and thickly vegetated areas. The important plant species of the city are *Delbergia sisoo*, *Gravia villosa*, *Accasia modesta*, *Ficus palmate*, *Pinus roxburghi*, *Adhatoda zeylonica* (Abbassi, 1998). In some parts of city, people have their own agricultural land where crops, like wheat, rice, maize etc. are cultivated.

Due to these agricultural fields and vegetation along the rivers, the area is rich in avian fauna. Unfortunately, the people do not have knowledge about the importance of wildlife in ecosystem and shoot them, including some rare bird species, with air guns or sling shot (locally known as galail). So far no work has been carried out on avian fauna of the city. Keeping all these activities in view, the present study was conducted which was aimed at following

objectives: a) To study the distribution and status of Avian fauna of Muzaffarabad city and its relation to other fauna, flora and agricultural crops present in the area, b) To find out the major threats to the Avian fauna of the city.

MATERIALS AND METHODS

The survey was conducted from June 2000 to February 2001. The data were collected by using direct as well as indirect methods in order to study the presence, population status, local threats, distribution, and importance of agricultural lands in distribution and diversity of avian fauna. For direct data collection, visits were made once or twice a month early in the morning till sunset. The bird fauna was observed using Binocular (12X 50X) and identified using keys given by Woodcock (1980), Ali and Ripley (1983) and Roberts (1991). At the end of each species account, the status was summarized as: *Common* = Means that it can be seen by the careful observer, visiting the specific habitat or area, during the appropriate season particular to that species; *Frequent* = Means that the particular species can be observed invariably once out of three visits to that specific habitat or region; *Abundant* = Reveals the greater number of particular species in its specific habitat on observations made invariably; *Rare* = Indicates that the observed species is less in number, even in the specific favourable habitat.

For indirect data collection: hunters, wildlife staff, local residents, farmers and other knowledgeable persons were interviewed about the present and past status of the birds, threats, and effect of human population and

urbanization on bird's diversity. The information collected from different sources were pooled, compiled and compared to get maximum reliable picture.

RESULTS AND DISCUSSION

During the survey, a total of 59 species were recorded. Out of which 24 were resident, 14 were winter visitor, 11 were summer visitor and 10 were rare (Table

I). Thirty four plant species were also recorded to explore the habitat type.

Among resident species, rose ringed parakeet, house crow, house sparrow, mynas, bulbuls were common; whereas, kingfisher, koel, rollers and tree pie were scarce in number and have small scattered families. King fishers, rollers and Indian tree pie were recorded as resident during the survey (Table I) but were scarce in number. According to Roberts (1992), white wagtails, yellow wagtails and yellow headed wagtails were winter visitor, and during the

Table I. Bird species belonging to different orders and families and their status in Muzaffarabad city during the year 2000-01

Order	Family	Scientific name	English name	Local name	Status	
Accipitriformes	Accipitridae	<i>Gyps bengalensis</i>	White backed vulture	Hillganja	Rare	
		<i>Circus macrourus</i>	Pallied harrier	Hel	Rare	
Psittaciformes	Psittacidae	<i>Psittacula krameri</i>	Rose ringed parakeet	Tota	Common	
Columbiformes	Columbidae	<i>Columbia livia</i>	Blue rock pigeon	Jungli kabooter	Rare	
		<i>Streptopelia chinensis</i>	Spotted dove	Koggi	Common	
		<i>Streptopelia decocto</i>	Collared dove	Koggi	Common (S.V)	
		<i>Streptopelia tranquebrica</i>	Red turtle dove	Koggi	Common (S.V)	
		<i>Actitis hypoleucos</i>	Common sand piper	-	Common (W.V)	
Charadriiformes	Scolopaciidae	<i>Himantopus himantopus</i>	Black winged stilt	Bagla	Common	
Coraciiformes	Coraciidae	<i>Coracias bengalensis</i>	Indian roller	Nilakant	Rare	
		<i>Coracias garrulus</i>	Kashmir roller	Nilakant	Common	
	Alcedinidae	<i>Alcedo athis</i>	Common kingfisher	Dada maroo	Common	
		<i>Halcyon smyrnensis</i>	White breasted kingfisher	Dada maroo	Rare	
		<i>Ceryle lugubris</i>	Pied kingfisher	Safed dada maroo	Rare	
		<i>Upupa epops</i>	Hoopoe	Hudhud	Common	
Cuculiformes	Upupidae	<i>Eudynamis scolopacea</i>	Koel	Kali koel	Common	
Strigiformes	Strigidae	<i>Strix leptogramica</i>	Himalyan brown owl	Uloo	common	
Apodiformes	Apodidae	<i>Apus affinis</i>	House swift	-	Common	
Passeriformes	Hirundinidae	<i>Hirundo rustica</i>	Common swallow	Ababeel	Common	
		Motacilidae	<i>Motacila flava</i>	Yellow wagtail	Chidi mabola	Rare
<i>Motacila citreola</i>	Yellow headed wagtail		Chidi mabola	Common (W.V)		
<i>Motacila alba</i>	White wagtail		Chidi mabola	Common (W.V)		
<i>Motacila maderspatensis</i>	Large pied wagtail		-	Common		
Pycnonotidae	<i>Pycnonotus cafer</i>		Red vented bulbul	Bulbul	Common	
	<i>Pycnonotus leucogenys</i>		White checked bulbul	Bulbul	Common	
Turdidae	<i>Copsychus saularis</i>		Magpie robin	-	Common (S.V)	
	<i>Monticola tarius</i>		Blue rock thrush	Dora	Common	
	<i>Rhyacornis fuligenosis</i>		Plumbeous redstart	-	Common	
	<i>Myiophonus caeruleus</i>		Whistling thrush	-	Common	
	<i>Chaimarrornis leucocephalus</i>		River chat	Chit seri	Common (W.V)	
	<i>Enicurus scouleri</i>		Little forktail	-	Rare	
	<i>Saxicola tarquata</i>	Pied bush chat	-	Common		
	<i>Oenanthe oenanthe</i>	Wheatear	Tirki	Common (W.V)		
	Sylviidae	<i>Phylloscopus collybita</i>	Brown chiffchaff	-	Common (W.V)	
		<i>Prinia criniger</i>	Brown hill warbler	Phita	Common (W.V)	
			<i>Orthotomus sutorius</i>	Tailer bird	Phita	Common (S.V)
			<i>Cisticola juncidis</i>	Faintail warbler	-	Common (W.V)
Muscicapidae		<i>Terpsiphone paradisi</i>	Paradise flycatcher	Dood mali	Common (S.V)	
Timallidae		<i>Garrulua liniaius</i>	Streaked laughing thrush	Shoar	Common (W.V)	
Paridae		<i>Parus major</i>	Grey tit	-	Common (W.V)	
Laniidae	<i>Lanius schah</i>	Rufous backed shrik	Lindy	Common (W.V)		
	<i>Lanius excubitor</i>	Indian grey shrik	Suffad lindy	Common (S.V)		
	<i>Lanius vittatus</i>	Bay backed shrik	Choti lindy	Common		
Dicroridae		<i>Dicrurus macrocercus</i>	Black drango	Kalacheet	Common	
Corvidae	<i>Corvus splendens</i>	House crow	Kag	Common		
	<i>Corvus macrorhynchus</i>	Jungle crow	Jungli kag	Common		
	<i>Dendrocitta vagabonda</i>	Indian tree pie	Lumduma	Common (W.V)		
	<i>Urocissa erythrorhyncha</i>	Red billed blue magpie	Safed lumduma	Rare		
Sturnidae	<i>Acridotheres tristis</i>	Common myna	Sharak	Common		
	<i>Sturnus pegodarum</i>	Brahminy myna	Turk sharak	Common		
	<i>Sturnus vulgaris</i>	Common starling	Tiliar	Rare		
Passeridae		<i>Passer domesticus</i>	Hhouse sparrow	Chidrea	Common	
Campiphagidae		<i>Ricocotus flammeus</i>	Scarlet minivet	Guddy	Common (W.V)	
Certhidae		<i>Certhia himalyana</i>	Himalyan tree creeper	Tuktuka	Common	
Zosteropidae		<i>Zosterops pelbebroa</i>	Indian white eye	Peela pitha	Common (S.V)	
Cinclidae		<i>Cinclus pallasi</i>	Brown dipper	-	Common (W.V)	
Dicaeidae		<i>Dicaeum erythrorhynchus</i>	Tickells flower pecker	-	Common (S.V)	
Nectariniidae		<i>Nectarinia asiatica</i>	Purple sunbird	Sona pitha	Common (S.V)	
Oriolidae		<i>Oriolus oriolus</i>	Golden oriole	Peel waro	Common (S.V)	

Key: S.V= Summer Visitor; W.V= Winter Visitor

survey yellow wagtail was recorded for two times in the winter season from two study sites, Chellah and Mackrey. A large pied wagtail was recorded for only one time from Chellah along with white wagtail. House Sparrow, house crow, myna and bulbul were recorded as residential and abundant as also reported previously (Whistler, 1949; Roberts, 1992). According to Roberts (1992) shrikes are common summer visitor; while Whistler (1949) has reported them as common and residential, and our results are in accordance with the whistler's reports (Table I). Himalayan brown owl was recorded as residential but scarce in number (Table I). Ali and Ripley (1981) also reported this species as residential throughout Himalayas, from West Pakistan. Red turtledove is summer visitor and spotted dove is common (Roberts, 1991); present study showed that these are residential but locally migrant. Blue rock pigeon is rare in the study area because the single bird was observed twice during whole study period. Roberts (1992) reported its status as common. This species is found in Himalaya and Kashmir but locally migrant (Whistler, 1949). Vultures and harriers are rare in the city area (Table I) and where there are poultry farms, dump of garbage and feces of cattle.

Common sand piper is common winter visitor to Azad Kashmir (Roberts, 1992), Plumbeous redstart and river chats are also common and locally migrant (Roberts, 1992). Present survey reveals that all the three species are common winter visitor (Table I).

Himalayan tree creeper is a Palearctic species and is found from the mountains of Northern Blochistan to Northern mountains and eastwards along the Himalayan ranges to Burma (Mirza, 1998). Whistler (1949) has also reported this species in Kashmir. This species is also common and residential in the study area (Table I).

Golden Oriole is common summer visitor but scarce in number in the study area (Table I). Roberts (1992) reported that it is common summer visitor and nests around the Murree hills, around Abbotabad and Muzaffarabad. Whistling thrush is a common bird in the study area. Roberts (1992) reported its status as common and breeding bird of Murree hills, Neelum valley and Jhelum valley of Azad Jammu and Kashmir.

Muzaffarabad city has different habitats and geographical significance, favourable for avian diversity both residential as well as migrant. River Neelum and Jhelum flow inside the city, an area for diverse migratory and resident avian species.

Besides, naturally vegetated areas, a large area is under cultivation of important crops, like Maize, Rice, wheat etc. These cultivated areas are important source for

the diversity of avian fauna in the study areas. Most of the birds depend upon the food in the form of seeds, grains, weeds or insects. Due to this reason, the areas closer to the agricultural land like Chellah Bandi, Dani Mahi Sahiba, Gojira and Naluchi possess a variety of birds as compared to less vegetated areas like Plate, Khawaja Mohalla and Chatter. The main reason is that the agricultural fields favour pests and other insect life which attracts insectivorous birds, like shrikes, black drongo, thrushes etc.

Due to different requirements of food and space, the interspecific and intraspecific competition is within the bearable limits. If these exceeds from normal set point, then elimination or migration of the effected species can result.

Destruction of the habitats also results in the elimination or migration of species. In past, the areas like Chellah, Lower Plate, Tariq Abad and Gojira had very small number of houses and were very thickly vegetated and harboured a variety of avian elements. The present study showed that now these areas are thickly populated and less vegetated, so bird species, like golden oriole, vultures and rollers have migrated to hilly, vegetated and undisturbed areas around the city.

Destruction of wildlife habitat by urbanization, pollution of water, air and noise are probably some other potential problems for the birds in the future and their effect can be studied after few years. The rubbish heaps, household garbage and sewage are such materials, which have negative effect on human health as well as on the wildlife inhabiting that area. So, in addition to the biological check, man itself is a major ecosystem destroyer.

REFERENCES

- Abbasi, A.R., 1998. *Flora of Muzaffarabad City*. An Unpublished Field Report, Botany Department, Azad Jammu and Kashmir University, Muzaffarabad
- Ali, S. and S.D. Ripley, 1981. *Handbook of the birds of India and Pakistan* Vol. 3. Oxford University Press Dehli
- Ali, S. and S.D. Ripley, 1983. *Handbook of the birds of India and Pakistan* Vol. 4. Oxford University Press Dehli
- Anonymous, 2000. *Tourist Guide Map*. Tourism Department Muzaffarabad
- Mirza, Z.B., 1998. *Illustrated Handbook of Biodiversity of Pakistan*, 1st ed.
- Roberts, T.J., 1991. *The Birds of Pakistan Vol. 1, Non-Passeriformes*. Oxford University Press Oxford
- Roberts, T.J., 1992. *The Birds of Pakistan Vol. 2, Passeriformes*. Oxford University Press Oxford
- Whistler, H., 1949. *A Popular Handbook of Indian Birds*. Oxford University Press Bombay
- Woodcock, M., 1980. *Collins Hand Guide to the Birds of Indian Subcontinent*. London, Collins

(Received 01 January 2004; Accepted 10 March 2004)