

**STATUS AND RELATIVE ABUNDANCE OF AVIAN FAUNA AT GARTHA VALLEY,
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ABSTRACT

The survey was carried out from October 2020 to September 2021 in temperate forest of Gartha valley, Garhwal Himalaya resulted in identification 40 species, 18 families and 6 orders. Family *Accipitridae* and *Turdidae* with 4 species dominants in all birds includes 3 threatened viz. *Gyps himalayensis*, *Lophura laucominalus*, *Frencolinus frencolinus*, 8 endemic species, 29 species were found to have widespread distribution and very common in Gartha valley.

KEYWORDS: *Temperate forest, Relative abundance, Status, Avian fauna, Gartha valley, Garhwal Himalaya.*

INTRODUCTION

Garhwal Himalaya, Uttarakhand is a land of diverse landforms and habitats, and being situated near the dividing line (Kali-Gandaki River in Central Nepal) between the Indo-Chinese and the Palaearctic elements Flemming et. al. (1979); Ali (1981), which is responsible for high species diversity of bird fauna in this region; as 600 species of birds have been described by Fleming et.al. (1979), Ali and Repley (1983), Grimmett et.al. (1999), Kazmierczak (2000). The mountain of Uttarakhand harbours a variety of forest, and 500 species of birds (Ali and Repley, 1983, Grimmett et.al. 1999). In present paper status, occurrence, relative abundance of birds of temperate forest in Gartha valley, Garhwal Himalaya has been discussed.

MATERIALS AND METHODS

Survey was conducted from October 2020 to September 2021 in Gartha valley, Garhwal Himalaya. The transect walk, Trail Walk, Point count and call count methods was followed to record the avian species distribution, status, occurrence and relative abundance. With the aid of field binocular (10×45) and field guide (Grimmett et.al. 1999, Kazmeirzak, 2000), each was identified. Mostly, transect of 0.5 km. length was silently walked and all birds were counted. The birds flying about 20-30 meter above from ground level were also recorded. The data collected was analyzed by using the following formulae.

Relative abundance = No. of individuals of a species / Total no. of individuals of the all species

RESULTS

Records of the bird fauna depend on several factors like type of habitat surveyed, climate, time and season of

survey, nature of particular bird species and experience of the observer. However, we have been able to identify few species rich area; and 40 species of birds representing 06 orders and 18 families were recorded and listed in Table. The monthly occurrence of birds species was also recorded which showed fluctuation some birds seems few months and other remained present throughout study period. Some birds like Red headed vulture, Black partridge, Rose ringed parakeet, Scaly bellied woodpecker, Common Myna, Jungle Myna, Himalayan bulbul, Red vented bulbul, Rusty cheeked scimitar babbler and Plain prinia were recorded all the months but other like Himalayan Griffon, Kalij Pheasant, Great barbet, Streaked laughing thrush, Grey hooded warbler and Ashy throated warbler were recorded only three months during study period.

The average relative abundance showed great variations, the maximum relative abundance was recorded of Red vented bulbul (0.094), Rose ringed Parakeet (0.072), Slaty headed parakeet (0.062), Rusty cheeked scimitar babbler (0.062), Himalayan bulbul (0.056) and White wagtail and Oriental magpie robin with minimum relative abundance (0.002 & 0.005) were recorded respectively.

The Sub-continental and Residential status was assessed after Grimmett et.al. (1999), Kazmeirzak (2000) and Birdlife International (2001). White rumped vulture was found as resident and threatened, Oriental turtle dove as endemic, slaty headed parakeet as altitudinal migrant and Common stonechat as near endemic, other birds were recorded as summer visitor, winter visitor and Passage migrant.

Table: Sub-continental, residential and Relative abundance of Avifauna at Garkha valley, Garhwal Himalaya, Uttarakhand.

S. No.	Common Name	Scientific Name	Sub continental status	Residential status	Average relative abundance
	Falconiformes				
	Accipitridae				
1.	Himalayan Griffon	<i>Gyps himalayensis</i>	A	wiD	0.053
2.	White rumped vulture	<i>G. bengalensis</i>	R,Th	faD	0.052
3.	Red headed vulture	<i>Sarcogyps calvus</i>	R	faD	0.041
4.	Black kite	<i>Milvus migrans</i>	RM	faD	0.038
	Galliformes				
	Phasianidae				
5	Kalij Pheasant	<i>Lophura leucomelanos hamiltoni</i>	A	wiD	0.041
6	Black Partridge	<i>Francolinus francolinus</i>	R	reD	0.005
	Columbiformes				
	Columbidae				
7	Oriental turtle dove	<i>S. orientalis</i>	RMW	wiD	0.022
8	Spotted dove	<i>S. chinensis</i>	R`A	wiD	0.013
	Psittaciformes				
	Psittacidae				
9	Rose ringed parakeet	<i>P. krameri</i>	R	wiD	0.072
10	Slaty headed parakeet	<i>P. himalayana</i>	RA	faD	0.062
	Upupidae				
11	Common hoopoe	<i>Upupa epops</i>	RBW	faD	0.002
	Piciformes				
	Capitonidae				
12	Great barbet	<i>Megalaima virens</i>	A	wiD	0.022
13	Scaly bellied woodpecker	<i>P.squamatus</i>	R	wiD	0.013
14	Yellow crowned woodpecker	<i>Dendrocopos mahrattensis</i>	N	wiD	0.010
	Passeriformes				
	Hirundinidae				
15	Red - rumped swallow	<i>Hirundo daurica</i>	RAMW	reD	0.009
	Dicruridae				
16	Black drongo	<i>Dicrurus macrocercus</i>	R`A	wiD	0.017
	Sturnidae				
17	Common myna	<i>Acredotheris tristis</i>	R	wiD	0.034
18	Jungle myna	<i>A. fuscus</i>	R`	reD	0.045
	Corvidae				
19	Black headed jay	<i>Garrulus lanceolatus</i>	RA	wiD	0.038
20	Red billed blue magpie	<i>Urocissa erythrorhyncha</i>	RA	wiD	0.032
21	Large billed crow	<i>Corvus macrorhynchos</i>	RA	wiD	0.048
	Compephagidae				
22	Scarlet minivet	<i>Pericrocotus flammeus</i>	RA	wiD	0.009
	Pycnonotidae				
23	Himalayan bulbul	<i>Pycnonotus leucogenys</i>	R`	wiD	0.056
25	Red vented bulbul	<i>P.cafer</i>	R	wiD	0.094
	Timaliidae				
27	Rusty cheeked scimitar babbler	<i>Pomatorhinus erythrogenys</i>	R	wiD	0.062
28	Streaked laughing thrush	<i>Garrulax lineatus</i>	A	wiD	0.049
	Certhidae				
29	Eurasian tree creeper	<i>Certhia familiaris</i>	RA	wiD	0.013
	Paridae				
	Turdidae				
30	Blue whistling thrush	<i>Myiophonus caeruleus</i>	AM	wiD	0.027
31	Common stone chat	<i>Saxicola torquata</i>	WAM	wiD	0.014

32	Oriental magpie robin	<i>Copsychus saularis</i>	RM	reD	0.005
33	Plain prinia	<i>Prinia inornata</i>	R'	reD	0.009
	Motacillidae				
34	White wagtail	<i>M. alba</i>	AMW	reD	0.002
35	Yellow wagtail	<i>M. flava</i>	BWP	faD	0.005
	Muscicapidae				
36	Verditer flycatcher	<i>Eumyias thalassina</i>	MA	wiD	0.010
37	Slaty blue flycatcher	<i>Ficedula tricolor</i>	AR	reD	0.016
	Sylviidae				
38	Grey hooded warbler	<i>Seicercus xanthoschistos</i>	A	wiD	0.057
39	Ashy throated warbler	<i>Phylloscopus maculipennis</i>	A	wiD	0.025
40	Great tit	<i>p. major</i>	RA	wiD	0.027

The nomenclature adopted here is after Grimmett *et al.* 1999 and sub-continental status after Kazmierczak (2000) and Bird life international (2001). The residential status of birds in the study area was assessed on an arbitrary frequency scale: Restricted distribution (reD) = sighted in less than in four months, fair distribution (faD) = sighted in 4-8 months, and wide distribution (wiD) = sighted in more than 8 months. The current status was assessed on the basis of average relative abundance: uncommon (uC) = having a relative abundance less than 0.018, common (C) = having a relative abundance of 0.018 and above but less than 0.036 and very common (vC) = having a relative abundance of 0.036 and above. E- endemic to the Indian sub-continent, N-near endemic, R-resident, B- breeder, A- altitudinal migrant, M-migrates within sub-continent (breeds in the Himalaya and winters in southern India and/Sri Lanka), P-passage migrant, W-winter visitor, Th- threatened with extinction, *-localised are patchily distributed (For example B*=breeds locally) and '-subject to some (local) seasonal movement.

DISCUSSION

Bird's population and patterns of species richness and abundance have been linked with habitat structure (James, 1971). Mostly birds depend for their food in the habitat. The rich floral diversity emphasis on the richest bird diversity but it is always not true. The strength depends upon the food availability and better protected habitat and some other factors effects the density of bird species. The majority of birds breeding in temperate forest are migratory species; they feed largely on insect from leaved foliage. During winter months low occurrence appears due to shift of birds to low altitude with the onset of spring-summer, growth of vegetation and insect population, birds populations and patterns of relative abundance have been linked with habitat structure (Javed and Kaul, 2002). Mostly birds depend for their food in the habitat. The strength depends upon the food availability and better protected habitat and some other factors effects the density of bird's species.

CONCLUSION

The survey shows that temperate forest have the good number of avian fauna, this type of studies produce some premonitory information about birds of particular forest

type which will help to make strategies for their protection and conservation.

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