

# AVIAN FAUNA OF SUMMER HILL, SHIMLA – HIMACHAL PRADESH

A. N. KULKARNI\* AND P. GOSWAMI<sup>2</sup>

P.G. Department of Zoology and Fishery Sciences, Science College, Nanded - 431 605, M.S.

<sup>2</sup>Department of Microbiology, Maharshi Dayanand Saraswati University, Ajmer – 305 004, Rajasthan

E-mail: ankulkarni12@rediffmail.com

## KEY WORDS

Avian fauna  
Summer hill, Shimla

Received on :  
24.09.2011

Accepted on :  
27.12.2011

\*Corresponding  
author

## ABSTRACT

The capital of Himachal Pradesh, Shimla is located in the mid hills of Western Himalaya and was developed from a village as a summer capital of British India surrounded by thick forest of pine, oak, rhododendron and tall cedar trees. Shimla is famous for biodiversity of birds. For the study of avian fauna summer hill station was selected. The study was conducted from 6-9<sup>th</sup> May 2008. During the study 31 species of birds belonging to 21 families were recorded. Dominant birds of this region are House Sparrow, Rock Pigeon, Myna, Dipper and Himalayan Bulbuls.

## INTRODUCTION

Birds are the most important, beautiful, graceful, warm blooded, flying vertebrates. They are of immense importance to mankind. It has been said that birds can exist without man, but man would be in difficult situation without them. Birds are of great economic importance to man. They play an important role in controlling population of different pests. They are scavengers and pollinating agents and also help in the dispersal of seeds. They provide rich food for mankind.

Birds are known since ages to man. Charak, Sushrut, Wagbhat, Chakrapani and Dalhanacharya had described birds in Ayurveda (Chitampalli and Bhatkhande, 1993). Ali (1936) laid the foundation of economic ornithology. Ali and Ripley (1983a and b) have studied the birds of Kerela. Ramakrishnan (1983) studied the ecology of birds in Malabar forest. Daniels *et al.*, (1989) reported birds and their aspects from Northern Western Ghats. Wadatkar and Kasambe (2002) reported 171 bird species from Pohara-Malkhed reserve forest, Amravati, Maharashtra. Survey work of Yardi *et al.*, (2004) conducted at Salim Ali lake, Aurangabad, revealed the presence of 64 species of birds. Kulkarni *et al.* (2005) reported 151 species of birds belonging to 16 orders and 44 families at Nanded region, Maharashtra. Kulkarni and Kanwate (2006) reported 18 species of piscivorous birds of Dongarkheda irrigation tank in Hingoli district. Kulkarni and Kanwate (2007) reported 102 species of birds from Kinwat forest belonging to 14 orders and 37 families. This project was undertaken with the intention to study the avian fauna of Summer Hill region, Shimla.

## MATERIALS AND METHODS

### Study area

Shimla is situated in the mid hills of Himalaya and located between 31.06 NL and 77.13 EL. The forest of this area is

thick and green comprising of trees like Deodar, Pines and *Rhododendron campanulatum*. The rainfall in this area is fairly even throughout the year and the average rainfall is around 14.53 inches. Temperature ranges from 3.95°C in summers to 32.25°C in winters. Out of the 17 pheasant species of India 7 species are present in Himachal Pradesh, which includes state bird Jujurana (*Tragopan melanocephalus*).

After visiting different places near Himachal Pradesh University like Potter Hills (Fig. 1a. and 1b.), University Campus area and Summer Hill railway station (Fig. 2a. and 2b.), a portion of 1 Km ranging from Summer Hill Railway Station to Shourya Academy was selected as Study Area for watching birds. This area was selected because of less human disturbance, thick forest, good varieties of birds and sufficient place for observation.

### Bird observation

After the confirmation of the study area the bird observation was carried out from 6<sup>th</sup> May 2008 to 9<sup>th</sup> May 2008 so that the maximum numbers of birds will be recorded. For observations the method suggested by Gatson (1973) was used. Nearly two hours were spent in the morning from 6-8 am. Birds were sighted by using a binocular of 8X40 magnification and they were photographed by using Cosina camera (made in Japan) with two zoom lenses (35-70 and 72-270). On the spot identification was done using field guides (Ali and Ripley, 1983;a and b; Ali, 1996; Grimmett *et al.*, 1999; Kazmierczak and Van Parlo, 2000). Common and scientific names were given as per Manakadan and Pittie (2001) and finally a list of sighted birds was prepared. This list does not include night birds. Species dominance of birds was calculated as percentage of sighted birds. Status and occurrence of birds were categorized as per Kazmierczak and Van Parlo (2000) such as, endemic (E), near-endemic (N), resident (R), breeder (B), summer visitor (S), altitudinal migrant (A), migrant within the

**Table 1: Daily observation record of birds with percentage at summer hill**

S.no.	Common name	6/5/08	7/5/08	8/5/08	9/5/08	Total	Percentage
1.	Alexandrine parakeet	2	-	-	-	02	0.66
2.	Barn Swallow	2	2	5	3	15	5.00
3.	Bar-tailed tree creeper	-	-	2	2	04	1.33
4.	Black drongo	-	1	2	2	05	1.66
5.	Black kite	-	-	2	-	02	0.66
6.	Black-lored tit	1	-	-	-	01	0.33
7.	Blue whistling thrush	-	-	-	2	02	0.66
8.	Common lora	2	-	1	2	05	1.66
9.	Common myna	2	3	2	2	09	3.00
10.	Great barbet	2	2	1	2	07	2.33
11.	Great tit	1	-	1	-	02	0.66
12.	Green-backed tit	1	-	-	2	03	1.00
13.	Grey tree pie	1	-	-	-	01	0.33
14.	Himalayan bulbul	15	6	7	5	33	11.00
15.	House sparrow	12	3	2	2	19	6.33
16.	Indian silverbill	-	-	-	2	02	0.66
17.	Large-billed crow	7	6	5	3	21	7.00
18.	Little forktail	5	2	2	4	13	4.48
19.	Oriental turtle dove	-	1	2	3	06	2.00
20.	Pied bushchat	2	-	-	2	04	1.33
21.	Plain prinia	-	-	-	2	02	0.66
22.	Plum-headed parakeet	2	-	2	-	04	1.33
23.	Red adavant	1	-	-	-	01	0.33
24.	Rock pigeon	25	-	18	22	65	21.66
25.	Rufos-bellied wood pecker	2	-	2	-	04	1.33
26.	Rufos-naped tit	2	1	-	-	03	1.00
27.	Scaly-breasted munia	-	-	-	4	04	1.33
28.	Verdictor flycatcher	-	-	2	-	02	0.66
29.	White throated dipper	13	10	12	8	43	14.33
30.	Yellow-billed blue magpie	1	-	-	-	01	0.33
31.	Yellow-crowned woodpecker	2	-	2	-	04	1.33

**Figure 1a: Potter Hills**

subcontinent (M), passage migrant (P), subject to some (local) seasonal movement (\*). Abundance of birds was also classified such as abundant (1), common (2), fairly common (3), uncommon (4), scarce or rare (5) as per Kazmierczak (2000).

## RESULTS

In this study 31 species of birds belonging to 21 families were recorded (Table 1). The percentage of bird population ranged

**Figure 1b: Potter Hills**

from 0.33 to 21.66%. *Rock Pigeon*, *Dipper*, *Himalayan Bulbul*, *Jungle Crow* and *House Sparrow* were found to be the dominant birds, their dominance ranging from 21.66% for *Rock Pigeon* to 6.33% for *House Sparrow* as shown in the Table 1.

As per the status and occurrence residential altitudinal migrant common birds were found more in numbers followed by resident seasonal common and resident altitudinal migrant abundant birds (Table 2 and 3).

**Table 2: Avian fauna with Status and Occurrence of Summer Hill**

S.no.	Common Name	Zoological name	Status and Occurrence
1.	Alexandrine Parakeet	<i>Psittacula eupatria</i>	R* <sub>3</sub>
2.	Barn Swallow	<i>Hirundo rustica</i>	RMW <sub>1</sub>
3.	Bar-tailed Tree Creeper	<i>Certhia bimalayana</i>	AM <sub>2</sub>
4.	Black Drongo	<i>Dicrurus macrocercus</i>	R*A <sub>1</sub>
5.	Black Kite	<i>Milvus migrans</i>	RM <sub>1</sub>
6.	Black-lored Tit	<i>Parus xanthogenys</i>	EA <sub>2</sub>
7.	Blue Whistling Thrush	<i>Myophonus caeruleus</i>	AM <sub>1</sub>
8.	Common Iora	<i>Aegintha tipbia</i>	R* <sub>2</sub>
9.	Common Myna	<i>Acridotheres tristis</i>	R <sub>1</sub>
10.	Great Barbet	<i>Megalaima virens</i>	A <sub>2</sub>
11.	Great Tit	<i>Parus major</i>	RA <sub>1</sub>
12.	Green-backed Tit	<i>Parus monticolus</i>	RA <sub>1</sub>
13.	Grey Tree Pie	<i>Dendrocitta formosae</i>	RA <sub>2</sub>
14.	Himalayan Bulbul	<i>Pycnonotus leucogenys</i>	R*
15.	House Sparrow	<i>Passer domesticus</i>	M <sub>1</sub>
16.	Indian Silverbill	<i>Lonchura malabarica</i>	R* <sub>2</sub>
17.	Large-billed Crow	<i>Corus macrorhynchos</i>	RA <sub>2</sub>
18.	Little Forktail	<i>Enicurus leschenaulti</i>	A <sub>3</sub>
19.	Oriental Turtle Dove	<i>Streptopelia orientalis</i>	RMW <sub>3</sub>
20.	Pied Bushchat	<i>Saxicola caprata</i>	RAM <sub>2</sub>
21.	Plain prinia	<i>Prinia inornata</i>	R* <sub>2</sub>
22.	Plum-headed Parakeet	<i>Psittacula cyanocephala</i>	E* <sub>3</sub>
23.	Red Adavant	<i>Amadava amadava</i>	R <sub>1</sub>
24.	Rock Pigeon	<i>Columba livia</i>	RA <sub>1</sub>
25.	Rufos-bellied Wood Pecker	<i>Dendrocopus hyperythrus</i>	R <sub>3</sub>
26.	Rufos-naped Tit	<i>Parus rufonuchalis</i>	RA <sub>2</sub>
27.	Scaly-breasted Munia	<i>Lonchura punctulata</i>	R
28.	Verditer Flycatcher	<i>Eumyias thalassina</i>	MA <sub>2</sub>
29.	White throated Dipper	<i>Cinclus cinclus</i>	A <sub>3</sub>
30.	Yellow-billed Blue Magpie	<i>Urocissa flavirostris</i>	RA <sub>2</sub>
31.	Yellow-crowned Woodpecker	<i>Dendrocopus mabrattensis</i>	N <sub>2</sub>
Status		Occurrence	
E – Endemic		1-	Abundant/Very Common
N- Near Endemic		2-	Common
R- Resident		3-	Fairly Common
B- Breeder		4-	Uncommon
S- Summer Visitor		5-	Scarce/Rare
A- Altitudinal Migrant			
M- Migrant within the Subcontinent			
P- Passage Migrant			
*- Indicates Seasonal Movement			



**Figure 2a: Summer Hill Railway Station**



**Figure 2b: Summer Hill Railway Station**

**Table 3: Total number of birds occurrence and statuswise in Summer Hill**

S.no.	Occurrence & Status	Total Number Sighted
1.	M <sub>1</sub>	1
2.	RA <sub>2</sub>	5
3.	R* <sub>2</sub>	4
4.	R <sub>1</sub>	1
5.	RA <sub>1</sub>	3
6.	A <sub>2</sub>	1
7.	E* <sub>2</sub>	1
8.	R* <sub>3</sub>	1
9.	A <sub>2</sub>	2
10.	R <sub>2</sub>	2
11.	RAM <sub>2</sub>	1
12.	EA <sub>2</sub>	1
13.	AM <sub>2</sub>	1
14.	N <sub>2</sub>	1
15.	RMW <sub>1</sub>	1
16.	RMW <sub>2</sub>	1
17.	MA <sub>2</sub>	1
18.	RM <sub>1</sub>	1
19.	R*A <sub>1</sub>	1
20.	AM <sub>1</sub>	1
Status	Occurrence	
E – Endemic	1-	Abundant/Very Common
N- Near Endemic	2-	Common
R- Resident	3-	Fairly Common
B- Breeder	4-	Uncommon
S- Summer Visitor	5-	Scarce/Rare
A- Altitudinal Migrant		
M- Migrant within the Subcontinent		
P- Passage Migrant		
*- Indicates Seasonal Movement		

## DISCUSSION

Birds are very significant component of biodiversity. They are the most important indicators of the balanced ecosystem and environment. More than 9,600 species of the birds are known worldwide.

Population of birds in a particular ecosystem is depending on the composition of the ecosystem, prevailing environmental conditions, seasonal variations and human disturbances (Jason and Mathew, 2002). In our study we have identified 32 species of birds in Summer Hills of Shimla. During the study we were unable to notice the presence of pheasants in this area. The birds like House Sparrow, Common Myna, Dippers, Rock Pigeon and Himalayan Bulbul are dominant birds of this region. These birds have acclimatized themselves to the human habitat and have sufficient food, shelter and nestling ground near the human habitat. Other birds have habituated themselves in the forest area. This forest is dominated with a Pine species and hence the number of bird species is less. Night birds were not recorded in this study.

The study does not allow us to predict the total biodiversity of birds in this area. A more detailed study is required to obtain a clearer picture of bird population and species dominance of birds of this region.

## ACKNOWLEDGEMENTS

The authors are thankful to Dr. Yogendra Verma, Director ASC, HPU and Dr. Kiran Rekha, Deputy Director, ASC, HPU Shimla for continuous encouragement and facilities provided to complete this project. Authors are also thankful to higher authorities of their institutes for permitting to attend the OP-87.

## REFERENCES

- Ali, S. 1936. Economic ornithology in India. *Current Science*. **4**: 472-448.
- Ali, S. 1996. The Book of Indian birds. Bombay Natural History Society, Mumbai. pp. 1-354.
- Ali, S. and Ripley, S. W. 1983 a. Handbook of birds of India and Pakistan. Oxford University Press.
- Ali, S. and Ripley, S. W. 1983 b. A pictorial guide to the birds of the Indian sub continent. Bombay Natural History Society.
- Chitampalli, M. and Bhatkhande, B. P. N. 1993. Hans Deo's Mrigpakshi Shastra. M.S. Board of Literature & Culture. Mumbai.
- Daniels, R. J. R. 1989. A conservation strategy for the birds of the Ultra Kanada district. Ph.D thesis submitted to Indian Institute of Science, Bangalore.
- Gatson, A. J. 1973. Method for estimating birds population. *J. Bombay Natural History Society*. **72**: 272-281.
- Grimmett, R., Inskipp, C. and Inskipp, T. 1999. Birds of Indian subcontinent. Oxford University Press, New Delhi.
- Jason, E. A. and Mathew, D. N. 2002. Structure and Composition of two bird communities in southern western ghats. *J. Bombay Natural History Society*. **99(1)**: 8-25.
- Kazmierczak, K and Van Perlo. 2006. A field guide to birds of India. Pica Press U.K.
- Kulkarni, A. N. and Kanwate, V. S. 2006. Piscivorous birds of Dongerkheda Irrigation tank, Dist. Hingoli, Maharashtra. *J. Aqua Biol*. **21**: 86-87.
- Kulkarni, A. N. and Kanwate, V. S. 2007. Biodiversity and seasonal impact on avian fauna of Kinwat forest: Minor Research Project. Submitted to UGC. (Unpublished).
- Kulkarni, A. N., kanwate, V. S. and Deshpande, V. D. 2005. Birds in and around Nanded city. *Zoos' print J*. **20**: 2076-2078.
- Manakadan, R. and Pittie, A. 2001. Standardized common and scientific names of birds of the Indian subcontinent. *Buceros*. **6**:1-37
- Ramakrishnan, P. 1983. Environmental studies on the birds of Malabar forest. Ph.D dissertation. University of Calicut.
- Wadatkar, J. S. and Kasambe, R. 2002. Check list of birds from Amravati University Campus, Amravati. *Zoos' print J*. **16**: 497-499.
- Yardi, D., Patil, S. S. and Auti, R. G. 2004. Diversity of avian fauna from Salim Ali lake at Aurangabad. Paper presented in 21<sup>st</sup> meet of bird lovers of Maharashtra held at Nanded on 3<sup>rd</sup> and 4<sup>th</sup> April 2004.