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Research paper

A Preliminary Study to Assess the Avifaunal Diversity of Basohli Tehsil, District Kathua, J&K

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ABSTRACT

Birds act as important key component of the earth's biodiversity. The main objective of the study was to assess the diversity of birds from three study sites of Basohli region of Kathua district selected for study for four months in 2023 (April-July). Data to assess the diversity were collected using two methods, line and point count techniques in the early morning (6:00-9:00 a.m.) and late afternoon (4:00-6:00 p.m.) in each of these sites for three consecutive days. During this study, a total of 20 species of birds were collected from the different locations belonging to 16 families viz. Pycnonotidae, Estrildidae, Sturnidae, Passeridae, Dicuridae, Corvidae, Hirundinidae, Leothrichidae, Lannidae, Icteridae, Paridae, Sittidae, Columbidae, Picidae, Megalaimidae, Psittaculidae and 5 orders viz. Passeriformes, Columbiformes, Piciformes, Psittaciformes, Pelcaniformes and it revealed the dominance of order Passeriformes with 15 species belonging to this order. However, the study area particularly comprised of human involvements and activities. More surveys and studies are required further to make a complete list of available bird species in these study sites for their conservation.

1. Introduction

Birds are one of the most well-known species on the earth (Olechnowski, 2009). To understand the diversity, they play a vital ecological tool, which act as an imperative indicator to appraise different habitats both qualitatively and quantitatively (Helm, 2006). They also act as good bio-indicators that play a good aspect in accessing the health of any ecosystem, as they are extremely sensitive to any kind of unfavourable environmental changes on the earth (Parmar et al., 2016; Kumar et al., 2018). For these reasons in very wide aspects, they are the key elements of any ecosystem (Puri and Virani, 2016). But nowdays, due to destruction of habitats, construction purposes and involvements of human lead to decline in the diversity of birds throughout the earth (Bhadja and Vaghela, 2013; Lad and Patil, 2015).

Human interferences led to overexploitation of natural ecosystems of birds. When these activities increasing and cross their tolerance limits, causes so many kinds of environmental changes that further led to habitat change of birds that pose another threat for long term changes in the bird distribution and diversity (Sharma and Saini, 2012). There were so

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many young birders and researchers have made their contributions in order to study avian diversity of many regions of Jammu and Kashmir (UT) including the works of Aggarwal et al. (2008); Bhat and Bhat (2012); Hussain and Kait (2013); Syed (2014); Kichloo et al. (2018) and Sohil et al. (2019).Very substantial studies on the avifaunal diversity from Basohli (Kathua, J&K, India) have been carried out by some researchers. It has been recorded that the region of Basohli is lagging behind the studies of birds with respect to their diversity. Therefore, the detailed study on the diversity of birds of Basohli region is essential which should be to conserve the biodiversity and environment. Thus, the present study reveals to compile a preliminary document of avifaunal diversity from Basohli region to create the understanding for their conservation.

2. Material and Methods

The Kathua District is one of the 20 administrative districts of Union Territory (Jammu and Kashmir). The district is surrounded by Jammu to the northwest, the Himachal Pradesh to the East, Pakistan to the West, Doda and Udhampur to the North and Punjab to the South. The geographical area of the district is 2,502 sq. km. In this district, Tehsil Basohli (Fig. 1) is a town that is located at 32.50°N 75.82°E on the right bank of River Ravi at an elevation of 1876 ft. It is situated in the irregular lofty hills of Shivaliks. Due to vast variations in physiography, we have selected three study areas of Basohli for our study and these were near GDC Basohli, Hutt Mashka and Purthu-The mini Goa (Fig. 2).

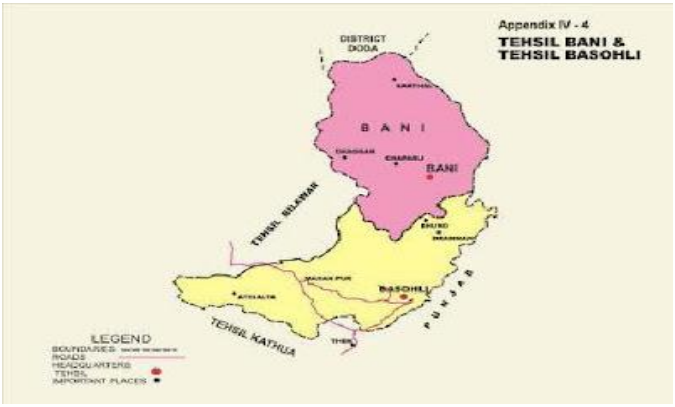
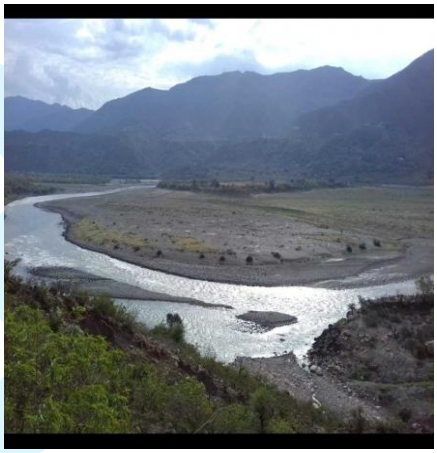


Fig. 1 Map of Tehsil Basohli

Bird's diversity of Basohli was studied from April to July (2023) at three specific areas. For recording their diversity, periodic surveys were carried out in these selected areas by walking on fixed routes during morning (6:00-9:00 a.m.) and late afternoon (4:00-6:00 p.m.) (Kumar and Gupta, 2010). For study purpose, two methods such as Line Transect and Point Transect were followed and observations were collected by means of Nikon DSLR camera. The collected birds were identified by following standard literature 'The Book of Indian Birds' (Ali and Ripley, 1983; Grimmet et al., 2019).

a. Near GDC Basohli



b. Near Hutt Mashka

c. Purthu: The Mini Goa

Fig. 2 Study areas of Basohli

3. Results and Discussion

The present study revealed the presence of 20 bird species belonging to 16 families with detailed checklist is given in Table 1 and 2. The study revealed that order Passeriformes was found to be most

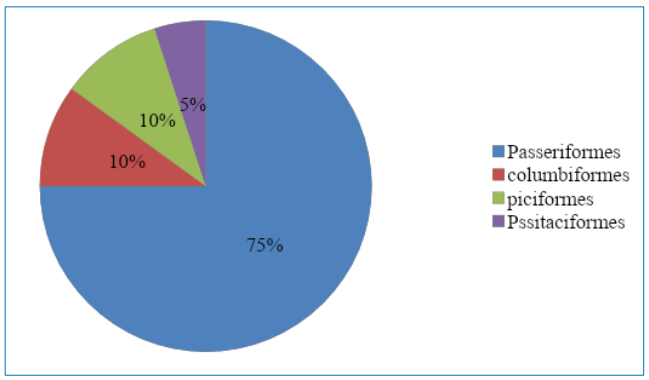
dominant, contributing 75% to species diversity followed by order Columbiformes and Pisciformes contributed 10% each to the diversity and order Psittaciformes contributed the least with 5% to diversity in the selected study areas. The present data undoubtedly indicate that the birds are fond of these study areas. These areas sustain the vast diversity of birds that is an exclusive element in maintaining the properties of natural ecosystem. The areas are important birding sites which may be promoted by conducting regular avifaunal census and organizing appropriate workshops for the student and researchers fraternity. In these areas, also so many anthropogenic activities like overgrazing, poaching, tree cutting must be checked and regulated suitably so as to protect the avifauna of these areas. For this appropriate conservation strategies should be developed for proper managing the unfavourable impacts on biodiversity. This present study provides only preliminary baseline information for future studies in this area and also this study will help to make decisions for management and conservation of avifaunal diversity in this region.

Table 1 Showing different species found at different study stations during the present study

S.No.	Bird species	Scientific name	Study Area 1 (Near GDC Basohli)	Study Area 2 (Near Hutt Mashka)	Study Area 3 (Purthu-The Mini Goa)
1.	Red vented bulbul	*Pycnonotus cafer*	-	-	+
2.	Common myna	*Acridotheres tristis*	+	+	+
3.	Blue throated barbet	*Psilopogon asiaticus*	-	-	+
4.	Rose ringed parakeet	*Psittacula krameri*	-	-	+
5.	House sparrow	*Paster domesticus*	+	-	+
6.	Black drongo	*Dicruus macrorhynchus*	-	-	+
7.	Jungle crow	*Corvus macrorhynchus*	-	-	+
8.	Pigeon	*Columbia livia*	+	-	+
9.	Barn swallow	*Hirundo rustica*	-	-	+
10.	Jungle Babbler	*Argya striata*	+	-	-
11.	Wood pecker	*Picus virdis*	+	-	+
12.	Long tailed shrike	*Lanius schach*	+	-	-
13.	Oriental magpie robin	*Copsychus salaries*	-	-	+
14.	Great tailed grackle	*Ouiscalus mexicanus*	+	-	-
15.	Laughing dove	*Spilopelia senegalensis*	+	-	+
16.	Brown eared bulbul	*Hypoipetes amaurotis*	-	-	+
17.	Eurasian tree sparrow	*Passer montanus*	+	-	-
18.	Cinereous tit	*Paris cinereus*	-	-	+
19.	Eurasian nuthatch	*Sitta europaea*	+	-	-
20.	Spotted munia	*Lonchura punctulata*	-	-	+

Table 2 Order wise arrangement of birds found during present study

Order : Passeriformes	Red vented bulbul Jungle Babbler Spotted munia Common myna House sparrow Black drongo Jungle crow Barn swallow Long tailed shrike Oriental magpie Robin Great tailed grackle Brown eared bulbul Eurasian tree sparrow Cinerorus tit Eurasian nuthatch	**Order : Columbiformes**	Pigeon Laughing dove
		Order : Piciformes	Wood pecker Blue throated barbet
		Order : Psittaciformes	Rose ringed parakeet



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Conflict of Interest

There is no conflict of interest.

References

1. Ali S (2002). The book of Indian birds. Thirteenth Edition Published by Bombay Natural History Societ, Oxford University Press, Mumbai, India.
2. Bhat BA and Bhat GA (2012). Distribution of avifauna in Yusmarg forest-Jammu and Kashmir, India. International Journal of Current Research, 4(5): 52-56.
3. Hussain S and Kait R (2013). Studies on avian diversity of Tehsil Mendhar, Poonch, J and K, India. Journal of Biosphere, 2(1): 66-71.
4. Syed G (2014). Avifauna and its conservation in Dal Lake. International Journal of Current Research, 6(2): 49114915.
5. Kichloo MA, Sohil A, Kumar P and Sharma N (2018). Avian diversity at new campus of University of Jammu, Jammu and Kashmir. Researcher: A Miltidisciplinary Journal, 13(2): 28-40.
6. Sohil A and Sharma N (2019). A preliminary Survey of Bird Communities around Jammu, (Jammu and Kashmir). Biological Forum - An International Journal, 11(2): 2749.
7. Aggarwal S, Sahi DN and Wani A (2008). Feeding guilds of avifauna of Nandni Wildlife Sanctuary, Jammu (Jammu and Kashmir). The Ecoscan, 2(2): 157-160.
8. Olechnowski BF (2009). An examination of songbird avian diversity, abundance trends, and community composition in two endangered temperate ecosystems: Riparian willow habitat of the Greater Yellowstone Ecosystem and a restored tallgrass prairie ecosystem, Neal Smith National Wildlife. RefugeIowa State University. Lowa State University.
9. Helm B (2006). *Zugunruhe* of migratory and non-migratory birds in a circannual context. Journal of Avian Biology, 37: 533-540.
10. Parmar TK, Rawtani D and Agrawal YK. (2016). Bioindicators: the natural indicator of environmental pollution. Frontiers in life science, 9(2), 110-118.
11. Kumar A, Chaube RP and Kanaujia A (2018). New records of birds from the Shahid Chandra Shekhar Azad bird sanctuary (SCSABS) of Unnao, Uttar Pradesh, India. Journal of Wildlife Research, 06(2): 17-23.
12. Puri SD and Virani RS. (2016). Avifaunal diversity from Khairbandha Lake in Gondia district, Maharashtra State, India. Bioscience Discovery, 7(2), 140-146.
13. Bhadja P and Vaghela A. (2013). Study on avifaunal diversity from two freshwater reservoirs of Rajkot, Gujarat, India. International Journal of Research in Zoology, 3(2), 16-20.
14. Lad D and Patil S. (2015). Status and diversity of avian fauna in the estuarine wetland area of Bhayander and Naigaon, Maharashtra, India. Bioscience Discovery, 6(1), 39-44.
15. Gupta RC, Kaushik TK and Kumar, S. (2010). Evaluation of the extent of wetland birds in district Kaithal, Haryana, India. Journal of Applied and Natural Science, 2(1), 77-84.
16. Ali S and Ripley SD. (1983). Handbook of the Birds of India and Pakistan. Compact Edn. Oxford University Press, Delhi. Pp. 737.
17. Grimmett R, Inskipp C and Inskipp T. (2019). Field Guide to Birds of the Indian Subcontinent: India, Pakistan, Sri Lanka, Nepal, Bhutan, Bangladesh and the Maldives. Bloomsbury Publishing.
18. Sharma K K and Saini M. (2012). Impact of anthropogenic pressure on habitat utilization by the waterbirds in Gharana Wetland (Reserve), Jammu, India. International Research Journal of Biological Sciences, 3(2):1-8.