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Avifaunal Diversity along River Tawi in Jammu Region of J&K, India

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

An avifaunal study was carried out from June 2023 to May 2024, in the River Tawi, Jammu. The study explores the variety of bird species found in this region. A total of 75 different bird species were recorded reflecting a fair degree of avian diversity. As birds play an important role in maintaining health of the ecosystem, it is necessary to continuously monitor the diversity of avifauna in order to assess the ecological status of birds and their habitats. This paper aims to provide insights into the ecological importance of the River Tawi for birdlife and highlight conservation needs.

Keywords: Avifaunal diversity; River Tawi; bird species; Jammu; ecological importance; conservation.

1. INTRODUCTION

"Avifauna being one of the most important biotic component of ecosystem" [1] plays an important role in maintaining ecological balance. "It also acts as an important bio-indicator" [2,3] and helps in assessing quality of the habitat. Over 10,000 different species of birds have been

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recorded by BirdLife worldwide. “Climatic changes and anthropogenic activities have been regarded as the main cause for decline of avifauna” [4].

Many geographical conditions are known to influence bird occurrence patterns [5]. “Water bodies such as wetlands, ponds, lakes, etc are important conservation site due to rich biodiversity and are among the most productive ecosystems worldwide[6-8]“.

During the last few decades considerable studies on avifaunal diversity from different water bodies of India have been carried out by researchers. Sohil and Sharma [9] recorded 207 bird species belonging to 63 families in and around Jammu region.

The River Tawi, flowing through the Jammu region of Jammu and Kashmir, India, is a vital water body supporting diverse ecosystems. The river's ecological value extends to its role as a habitat for various avian species. This study aims to document the avifaunal diversity of the River Tawi, assessing species composition, distribution, and seasonal patterns. Understanding these factors is crucial for formulating conservation strategies and ensuring the sustainability of avian populations. With this background, the present study was carried out to explore the avifaunal diversity of River Tawi, Jammu.

2. METHODOLOGY

2.1 Study Area

The River Tawi originates from the northern slopes of the Shivalik Hills and traverses the Jammu district before merging with the Chenab River. The study area included Nagrota to Jammu area of the river. The river's banks are characterized by diverse habitats, including riparian forests, wetlands, agricultural lands, and urban areas.

2.2 Data Collection

Field surveys were conducted from June 2023 to May 2024 to record the sightings. Observations were made using binoculars and spotting scopes, and bird calls were also recorded for identification. Surveys were carried out along different stretches of the river at regular intervals using line transect and point count surveys. Bird species were identified using field guides [10] and recorded in a database.

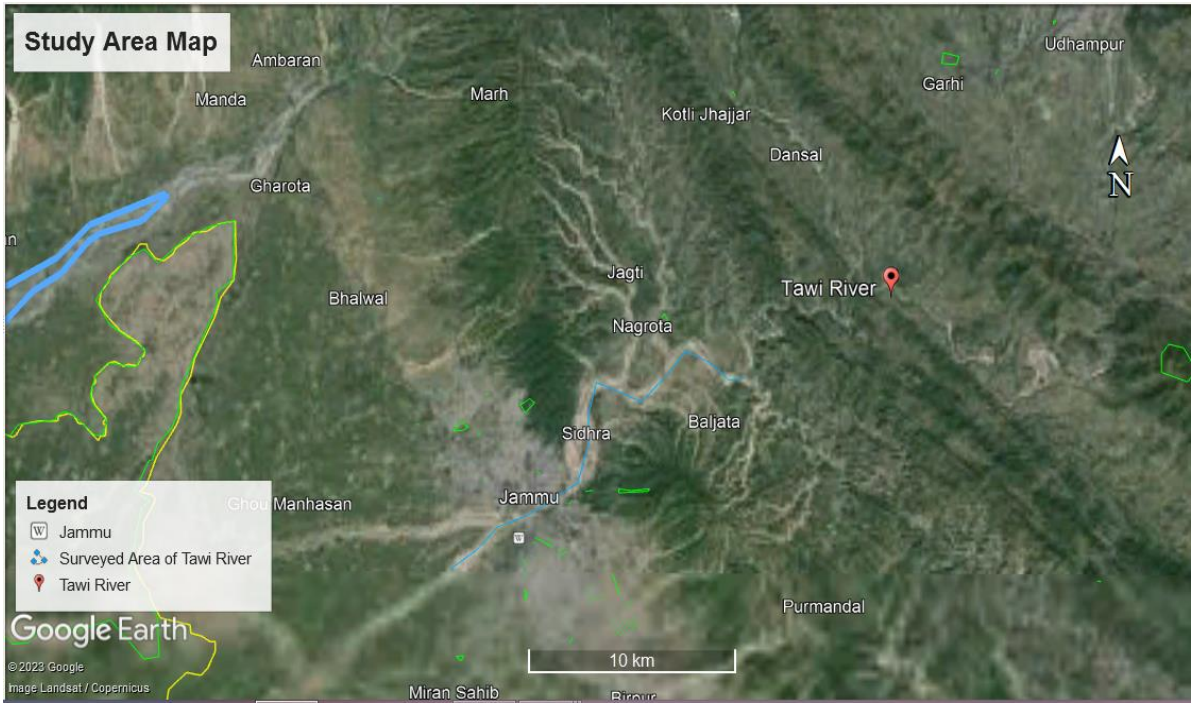

Fig. 1. Study area map

3. RESULTS AND DISCUSSION

This study revealed the presence of 75 bird species during the surveys. These birds were taxonomically placed under 36 different families (Table 1).

Table 1. List of Avifaunal diversity found in the study area

S.No.	Family	Scientific Name	Common Name
1	Accipitridae	*Milvus migrans*	Black Kite
2	Accipitridae	*Accipiter nisus*	Euracian Sparrow Hawk
3	Accipitridae	*Accipiter badius*	Shikra
4	Accipitridae	*Buteo buteo*	Common Buzzard
5	Accipitridae	*Gyps himalayensis*	Himalayan Griffon
6	Alaudidae	*Galerida cristata*	Crested Lark
7	Alcedinidae	*Megaceryleugubris*	Crested Kingfisher
8	Alcedinidae	*Halcyon smyrnensis*	White Throted Kingfisher
9	Apodidae	*Tachymarptis melba*	Alpine Swift
10	Ardeidae	*Ardeolagrayii*	Indian Pond Heron
11	Ardeidae	*Egrettagarzetta*	Little Egret
12	Ardeidae	*Bubulcus ibis*	Cattle Egret
13	Ardeidae	*Ardea cinerea*	Grey Heron
14	Ardeidae	*Ardea purpurea*	Purple Heron
15	Bucerotidae	*Ocycerosbirostris*	Indian Grey Hornbill
16	Certhiidae	*Certhiahimalayana*	Bar Tailed Tree Creeper
17	Charadriidae	*Vanellusmalabaricus*	Yellow Wattled Lapwing
18	Charadriidae	*Vanellus indicus*	Red Wattled Lapwing
19	Charadriidae	*Charadrius dubius*	Little Ringed Plover
20	Cisticolidae	*Priniasocialis*	Ashy Prinia
21	Cisticolidae	*Priniahodgsonii*	Grey BrestedPrinia
22	Cisticolidae	*Priniacrinigera*	Himalayan Prinia
23	Columbidae	*Spilopelia chinensis*	Spotted Dove
24	Coraciidae	*Coracias benghalensis*	Indian Roller
25	Corvidae	*Corvus splendens*	House Crow
26	Corvidae	*Corvus macrorhynchos*	Large Billed Crow
27	Corvidae	*Dendrocittavagabunda*	Rufous Tree Pie
28	Corvidae	*Dendrocittaformosae*	Grey Treepie
29	Corvidae	*Garruluslanceolatus*	Black Headed Jay
30	Cuculidae	*Hierococcyxvarius*	Common Hawk Cuckoo
31	Cuculidae	*Cuculuscanorus*	Common Cuckoo
32	Cuculidae	*Cuculusmicropterus*	Indian Cuckoo
33	Cuculidae	*Taccocualeschenaultii*	Sirkeer Malkoha
34	Cuculidae	*Eudynamysscolopaceus*	Asian Koel
35	Cuculidae	*Centropus sinensis*	Greater Coucal
36	Dicruridae	*Dicrurusmacrocercus*	Black Drongo
37	Dicruridae	*Dicrurus leucophaeus*	Ashy Drongo
38	Estrildidae	*Lonchurapunctulata*	Scally Brested Munnia
39	Estrildidae	*Euodicemalabarica*	Indian Silverbill
40	Falconidae	*Falco tinnunculus*	Asian Kestral
41	Fringillidae	*Chloris spinoides*	Yellow BreastedGreenfinch
42	Fringillidae	*Carpodacuserythrinus*	Common Rose Finch
43	Hirundinidae	*Hirundo rustica*	Barn Swallow
44	Hirundinidae	*Petrochelidonfluvicola*	Streak Throated Swallow
45	Laniidae	*Lanius schach*	Long Tailed Shrike
46	Leiothrichidae	*Leiothrix lutea*	Red Billed Leiothorix
47	Leiothrichidae	*Argyacaudata*	Common Babbler
48	Leiothrichidae	*Trochalopteronlineatum*	Streaked Laughingthrush
48	Leiothrichidae	*Turdoides striata*	Jungle Babbler

S.No.	Family	Scientific Name	Common Name
49	Megalaimidae	*Psilopogonhaemacephalus*	Coppersmith Barbat
50	Meropidae	*Meropsorientalis*	Green Bee Eater
51	Monarchidae	*Terpsiphone paradisi*	Indian Paradise Flycatcher
52	Motacillidae	*Motacillamaderaspatensis*	White Browed Wagtail
53	Motacillidae	*Motacillacitreola*	Citrine Wag Tail
54	Motacillidae	*Motacilla cinerea*	Grey Wagtail
55	Muscicapidae	*Rhyacornisfuliginosa*	Plumbeous Water Redstart
56	Muscicapidae	*Myophonuscaeruleus*	Blue WhistlingThrush
57	Muscicapidae	*Chaimarrornis leucocephalus*	White Capped Redstart
58	Muscicapidae	*Saxicola caprata*	Pied Bushchat
59	Muscicapidae	*Oenanthe fusca*	Brown Rock Chat
60	Muscicapidae	*Ficedula tricolor*	Slaty Blue Flycatcher
61	Muscicapidae	*Monticola solitarius*	Blue Rock Thrush
62	Nectariniidae	*Aethopyga siparaja*	Crimson Sun Bird
63	Nectariniidae	*Cinnyris asiaticus*	Purple Sun Bird
64	Passeridae	*Passer domesticus*	House Sparrow
65	Passeridae	*Passercinnamomeus*	Russet Sparrow
66	Psittaculidae	*Psittaculaeupatria*	Alexandrine Parakeet
66	Psittaculidae	*Psittaculakrameri*	Rose Ringed Parakeet
67	Pycnonotidae	*Pycnonotuscafer*	Red Vented Bulbul
68	Rallidae	*Zaporniaakool*	Brown Crake
69	Rallidae	*Amaurornisphoenicurus*	White-Breasted Waterhen
70	Rhipiduridae	*Rhipidura albicollis*	White Throated Fantail
71	Scolopacidae	*Tringaochropus*	Green Sandpiper
72	Sittidae	*Sitta cinnamoventris*	Chestnut Bellied Nuthatch
73	Sturnidae	*Acridotheres ginginianus*	Bank Myna
74	Upupidae	*Upupa epops*	Euracian Hoopoe
75	Zosteropidae	*Zosteropspalpebrosus*	Oriental White Eye

The River Tawi's diverse habitats support a wide range of avian species, reflecting its ecological significance. The presence of these birds highlights the river's role as a critical habitat. Seasonal variations influence species distribution and abundance, indicating the need for targeted conservation efforts throughout the year.

4. CONCLUSION

The study underscores the importance of preserving riparian and wetland habitats along the River Tawi. Habitat degradation, pollution, and human encroachment pose significant threats to avifaunal diversity. Effective management strategies, including habitat restoration and pollution control, are essential for sustaining bird populations. The River Tawi is a crucial ecological zone for avifauna, supporting a rich diversity of bird species. Documenting this diversity provides valuable insights into the river's ecological health and underscores the need for conservation efforts. Protecting and enhancing the river's habitats will ensure the continued survival and prosperity of its avian inhabitants.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of manuscripts.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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