

Diversity of Avifauna in Malkapur–Perid Tehsil: Shahuwadi (M.S.), India

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Abstract: *Birds are widely regarded as sensitive ecological indicators that reflect environmental conditions, habitat quality, and biodiversity patterns (Gregory et al., 2003). The present study examines the diversity, distribution, and conservation status of avifauna in the Malkapur–Perid region of Shahuwadi tehsil, Kolhapur district, Maharashtra, India. Situated in the northern Western Ghats, a globally recognized biodiversity hotspot, the region supports a mosaic of habitats including semi-evergreen forests, agricultural landscapes, and riverine ecosystems (Myers et al., 2000).*

Field surveys were conducted using standard ornithological methods such as point counts, transect walks, and opportunistic observations across different seasons to capture temporal variation in bird diversity (Bibby et al., 2000). A total of 103 species belonging to 19 orders and 51 families were recorded. The order Passeriformes dominated the assemblage, contributing nearly 43% of the total species. Most species were categorized under “Least Concern” according to the IUCN Red List, while a few species showed conservation concern (IUCN, 2024).

Habitat heterogeneity was found to play a crucial role in sustaining avifaunal diversity, with forest habitats supporting endemic species and agricultural areas attracting generalist birds (Raman, 2006). The study highlights the ecological significance of the region and emphasizes the need for conservation measures.

Keywords: Avifauna, Western Ghats, Biodiversity, Malkapur, Shahuwadi, Bird Diversity, Conservation

I. INTRODUCTION

Birds occupy a vital position in ecological systems due to their mobility, adaptability, and sensitivity to environmental changes (Gregory et al., 2003). They perform important ecological functions such as seed dispersal, pollination, and pest control, thereby contributing significantly to ecosystem stability (Bensizerara et al., 2013). Because of these roles, birds are widely recognized as reliable bioindicators for assessing environmental health.

Avifaunal diversity is influenced by multiple ecological factors including habitat complexity, climate, and anthropogenic pressures (Raman, 2006). In India, the Western Ghats represent one of the most important biodiversity hotspots, characterized by high levels of species richness and endemism (Myers et al., 2000). The region has also been recognized as a UNESCO World Heritage Site due to its ecological importance.

The Malkapur–Perid region, located in Shahuwadi tehsil, forms part of this biodiversity-rich landscape. Previous studies conducted in nearby areas such as the Tillari Conservation Reserve have documented more than 100 bird species, highlighting the richness of avifauna in this region (Bagal et al., 2025). However, detailed documentation of avifaunal diversity in Malkapur–Perid remains limited.



Bird diversity in such landscapes is strongly influenced by vegetation structure, food availability, and seasonal changes (Daniels et al., 1990). Forest habitats generally support specialized and endemic species, whereas agricultural and human-modified habitats favor generalist species. Increasing anthropogenic pressures such as habitat fragmentation, deforestation, and infrastructure development pose serious threats to avifaunal diversity (Sekercioglu et al., 2004). Therefore, the present study aims to document bird diversity, analyze species composition, and assess conservation status in the Malkapur–Perid region.

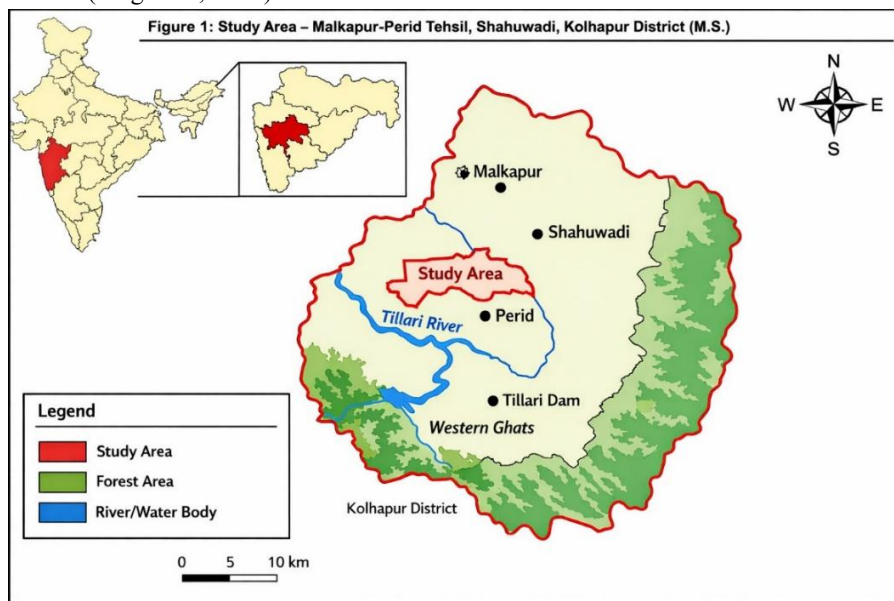
II. MATERIALS AND METHODS

The study was conducted in the Malkapur–Perid region of Shahuwadi tehsil, Kolhapur district, Maharashtra, located within the northern Western Ghats. The region experiences a tropical monsoon climate with high rainfall and diverse vegetation types, which are known to support rich bird diversity (Raman, 2006).

Bird surveys were carried out using standard ornithological methods such as point counts and line transects, which are widely accepted techniques for estimating bird diversity (Bibby et al., 2000). Observations were conducted during early morning and evening hours, corresponding to peak bird activity periods. Opportunistic sightings were also recorded to supplement structured data collection.

Species identification was carried out using standard field guides such as Ali (1949), Ali and Ripley (1995), and Grimmett et al. (2011), which are widely used references in Indian ornithology. Conservation status of species was verified using the IUCN Red List database (IUCN, 2024).

Data were analyzed in terms of species richness, taxonomic composition, and habitat association following standard ecological approaches (Magurran, 2004).



Survey Methods

The study employed a combination of standard ornithological survey techniques: Point Count Method: Observers recorded birds from fixed locations for a specific duration (10–15 minutes), noting all species seen or heard. Transect Walks: Line transects were conducted across different habitats to record species diversity and abundance. Opportunistic Sightings: Additional species were recorded during incidental observations outside structured surveys.



Time of Observation: Surveys were conducted during peak activity periods: Morning: 6:00 AM – 10:00 AM and Evening: 4:30 PM – 6:30 PM.

Equipment Used

Binoculars (8×40 magnification), Nikon Digital D 7500 with Nikor 200-500 lens camera for photographic documentation, Field notebooks and GPS devices. Species identification was carried out using standard field guides such as Ali (1949); Ali & Ripley (1995); Grimmett *et al.* (2011)

Data Analysis

Data collected were analyzed based on: Species richness, Taxonomic classification (order, family), Habitat association, Conservation status (IUCN categories)

III. RESULTS

A total of 103 bird species belonging to 19 orders and 51 families were recorded during the study period. Similar levels of diversity have been reported from other regions of the Western Ghats, indicating high avifaunal richness in such landscapes (Bagal *et al.*, 2025).

The order Passeriformes was found to be the most dominant group, contributing nearly 43% of the total species. This dominance of passerines is consistent with global and regional patterns, as this order represents the largest group of birds worldwide (Gill *et al.*, 2020).

Most species recorded were categorized as “Least Concern,” while a few species belonged to “Near Threatened” and “Vulnerable” categories according to the IUCN Red List (IUCN, 2024). The presence of such species highlights the conservation importance of the region.

Sr. No.	Common Name	Scientific Name	Order	Family	IUCN Status
1	Orange Minivet	<i>Pericrocotus flammeus</i>	Passeriformes	Campephagidae	LC
2	Small Minivet	<i>Pericrocotus cinnamomeus</i>	Passeriformes	Campephagidae	LC
3	Asian Open bill	<i>Anastomus oscitans</i>	Ciconiiformes	Ciconiidae	LC
4	Woolly-necked Stork	<i>Ciconia episcopus</i>	Ciconiiformes	Ciconiidae	NT
5	Indian Pond Heron	<i>Ardeola grayii</i>	Pelecaniformes	Ardeidae	LC
6	Cattle Egret	<i>Bubulcus ibis</i>	Pelecaniformes	Ardeidae	LC
7	Little Egret	<i>Egretta garzetta</i>	Pelecaniformes	Ardeidae	LC
8	Little Cormorant	<i>Phalacrocorax niger</i>	Suliformes	Phalacrocoracidae	LC
9	Darter	<i>Anhinga melanogaster</i>	Suliformes	Anhingidae	NT
10	Black-shouldered Kite	<i>Elanus caeruleus</i>	Accipitriformes	Accipitridae	LC
11	Brahminy Kite	<i>Haliastur indus</i>	Accipitriformes	Accipitridae	LC
12	Osprey	<i>Pandion haliaetus</i>	Accipitriformes	Pandionidae	LC
13	White-bellied Sea Eagle	<i>Haliaeetus leucogaster</i>	Accipitriformes	Accipitridae	LC
14	Grey-headed Fish Eagle	<i>Ichthyophaga ichthyaetus</i>	Accipitriformes	Accipitridae	NT



15	Crested Serpent Eagle	<i>Spilornis cheela</i>	Accipitriformes	Accipitridae	LC
16	Shikra	<i>Accipiter badius</i>	Accipitriformes	Accipitridae	LC
17	Red-wattled Lapwing	<i>Vanellus indicus</i>	Charadriiformes	Charadriidae	LC
18	River Tern	<i>Sterna aurantia</i>	Charadriiformes	Laridae	VU
19	Spotted Dove	<i>Stigmatopelia chinensis</i>	Columbiformes	Columbidae	LC
20	Grey-fronted Green Pigeon	<i>Treron affinis</i>	Columbiformes	Columbidae	LC
21	Plum-headed Parakeet	<i>Psittacula cyanocephala</i>	Psittaciiformes	Psittaculidae	LC
22	Malabar Parakeet	<i>Psittacula columboides</i>	Psittaciiformes	Psittaculidae	LC
23	Common Hawk Cuckoo	<i>Hierococcyx varius</i>	Cuculiformes	Cuculidae	LC
24	Asian Koel	<i>Eudynamis scolopaceus</i>	Cuculiformes	Cuculidae	LC
25	Jungle Owlet	<i>Glaucidium radiatum</i>	Strigiformes	Strigidae	LC
26	Brown Fish Owl	<i>Ketupa zeylonensis</i>	Strigiformes	Strigidae	LC
27	Malabar Trogon	<i>Harpactes fasciatus</i>	Trogoniformes	Trogonidae	LC
28	Stork-billed Kingfisher	<i>Pelargopsis capensis</i>	Coraciiformes	Alcedinidae	LC
29	White-throated Kingfisher	<i>Halcyon smyrnensis</i>	Coraciiformes	Alcedinidae	LC
30	Common Kingfisher	<i>Alcedo atthis</i>	Coraciiformes	Alcedinidae	LC
31	Green Bee-eater	<i>Merops orientalis</i>	Coraciiformes	Meropidae	LC
32	Chestnut-headed Bee-eater	<i>Merops leschenaulti</i>	Coraciiformes	Meropidae	LC
33	Malabar Grey Hornbill	<i>Ocyrceros griseus</i>	Bucerotiformes	Bucerotidae	VU
34	Malabar Pied Hornbill	<i>Anthraceroceros coronatus</i>	Bucerotiformes	Bucerotidae	NT
35	Great Hornbill	<i>Buceros bicornis</i>	Bucerotiformes	Bucerotidae	VU
36	White-cheeked Barbet	<i>Psilopogon viridis</i>	Piciformes	Megalaimidae	LC
37	Black-rumped Flameback	<i>Dinopium benghalense</i>	Piciformes	Picidae	LC
38	Common Woodshrike	<i>Tephrodornis pondicerianus</i>	Passeriformes	Vangidae	LC
39	Common Iora	<i>Aegithina tiphia</i>	Passeriformes	Aegithinidae	LC
40	Bay-backed Shrike	<i>Lanius vittatus</i>	Passeriformes	Laniidae	LC
41	Greater Racket-tailed Drongo	<i>Dicrurus paradiseus</i>	Passeriformes	Dicruridae	LC



42	Black Drongo	<i>Dicrurus macrocercus</i>	Passeriformes	Dicruridae	LC
43	White-bellied Drongo	<i>Dicrurus caerulescens</i>	Passeriformes	Dicruridae	LC
44	Black-hooded Oriole	<i>Oriolus xanthornus</i>	Passeriformes	Oriolidae	LC
45	Indian Golden Oriole	<i>Oriolus kundoo</i>	Passeriformes	Oriolidae	LC
46	Asian Paradise Flycatcher	<i>Terpsiphone paradisi</i>	Passeriformes	Monarchidae	LC
47	Black-naped Monarch	<i>Hypothymis azurea</i>	Passeriformes	Monarchidae	LC
48	Rufous Treepie	<i>Dendrocitta vagabunda</i>	Passeriformes	Corvidae	LC
49	House Crow	<i>Corvus splendens</i>	Passeriformes	Corvidae	LC
50	Red-rumped Swallow	<i>Cecropis daurica</i>	Passeriformes	Hirundinidae	LC
51	Verditer Flycatcher	<i>Eumyias thalassinus</i>	Passeriformes	Muscicapidae	LC
52	Blue-capped Rock Thrush	<i>Monticola cinclorhynchus</i>	Passeriformes	Muscicapidae	LC
53	Tickell's Blue Flycatcher	<i>Cyornis tickelliae</i>	Passeriformes	Muscicapidae	LC
54	Purple Sunbird	<i>Cinnyris asiaticus</i>	Passeriformes	Nectariniidae	LC
55	Purple-rumped Sunbird	<i>Leptocoma zeylonica</i>	Passeriformes	Nectariniidae	LC
56	House Sparrow	<i>Passer domesticus</i>	Passeriformes	Passeridae	LC
57	Forest Wagtail	<i>Dendronanthus indicus</i>	Passeriformes	Motacillidae	LC
58	White-browed Wagtail	<i>Motacilla maderaspatensis</i>	Passeriformes	Motacillidae	LC
59	Flame-throated Bulbul	<i>Rubigula gularis</i>	Passeriformes	Pycnonotidae	LC
60	Red-vented Bulbul	<i>Pycnonotus cafer</i>	Passeriformes	Pycnonotidae	LC
61	Ashy Prinia	<i>Prinia socialis</i>	Passeriformes	Cisticolidae	LC
62	Jungle Babbler	<i>Argya striata</i>	Passeriformes	Leiothrichidae	LC
63	Baya Weaver	<i>Ploceus philippinus</i>	Passeriformes	Ploceidae	LC
64	Large Cuckooshrike	<i>Coracina macei</i>	Passeriformes	Campephagidae	LC
65	Oriental Magpie Robin	<i>Copsychus saularis</i>	Passeriformes	Muscicapidae	LC
66	Indian Blackbird	<i>Turdus simillimus</i>	Passeriformes	Turdidae	LC
67	Orange-headed Thrush	<i>Geokichla citrina</i>	Passeriformes	Turdidae	LC
68	Blue Whistling Thrush	<i>Myophonus caeruleus</i>	Passeriformes	Muscicapidae	LC



69	Yellow-browed Bulbul	<i>Acritillas indica</i>	Passeriformes	Pycnonotidae	LC
70	Oriental Honey Buzzard	<i>Pernis ptilorhynchus</i>	Accipitriformes	Accipitridae	LC
71	Thick-billed Flowerpecker	<i>Dicaeum agile</i>	Passeriformes	Dicaeidae	LC
72	Indian Silverbill	<i>Euodice malabarica</i>	Passeriformes	Estrildidae	LC
73	Blue Rock Thrush	<i>Monticola solitarius</i>	Passeriformes	Muscicapidae	LC
74	Legge's Hawk-Eagle	<i>Nisaetus kelaarti</i>	Accipitriformes	Accipitridae	NT
75	Black Eagle	<i>Ictinaetus malaiensis</i>	Accipitriformes	Accipitridae	LC
76	Jerdon's Leafbird	<i>Chloropsis jerdoni</i>	Passeriformes	Chloropseidae	LC
77	White-eyed Buzzard	<i>Butastur teesa</i>	Accipitriformes	Accipitridae	LC
78	Laughing Dove	<i>Spilopelia senegalensis</i>	Columbiformes	Columbidae	LC
79	Eurasian Collared Dove	<i>Streptopelia decaocto</i>	Columbiformes	Columbidae	LC
80	Emerald Dove	<i>Chalcophaps indica</i>	Columbiformes	Columbidae	LC
81	Indian Grey Hornbill	<i>Ocyrceros birostris</i>	Bucerotiformes	Bucerotidae	LC
82	Indian Roller	<i>Coracias benghalensis</i>	Coraciiformes	Coraciidae	LC
83	Common Hoopoe	<i>Upupa epops</i>	Bucerotiformes	Upupidae	LC
84	Little Swift	<i>Apus affinis</i>	Apodiformes	Apodidae	LC
85	Spotted Owlet	<i>Athene brama</i>	Strigiformes	Strigidae	LC
86	Barn Owl	<i>Tyto alba</i>	Strigiformes	Tytonidae	LC
87	Southern Coucal	<i>Centropus sinensis</i>	Cuculiformes	Cuculidae	LC
88	Great Egret	<i>Ardea alba</i>	Pelecaniformes	Ardeidae	LC
89	Grey Heron	<i>Ardea cinerea</i>	Pelecaniformes	Ardeidae	LC
90	Purple Heron	<i>Ardea purpurea</i>	Pelecaniformes	Ardeidae	LC
91	Black-headed Ibis	<i>Threskiornis melanocephalus</i>	Pelecaniformes	Threskiornithidae	NT
92	Red-naped Ibis	<i>Pseudibis papillosa</i>	Pelecaniformes	Threskiornithidae	LC
93	Grey Junglefowl	<i>Gallus sonneratii</i>	Galliformes	Phasianidae	LC
94	White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	Gruiformes	Rallidae	LC
95	Coppersmith Barbet	<i>Psilopogon haemacephalus</i>	Piciformes	Megalaimidae	LC
96	Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	Passeriformes	Pycnonotidae	LC
97	Indian White-eye	<i>Zosterops palpebrosus</i>	Passeriformes	Zosteropidae	LC
98	Common Myna	<i>Acridotheres tristis</i>	Passeriformes	Sturnidae	LC



99	Brahminy Starling	<i>Sturnia pagodarum</i>	Passeriformes	Sturnidae	LC
100	Scaly-breasted Munia	<i>Lonchura punctulata</i>	Passeriformes	Estrildidae	LC
101	Malabar Lark	<i>Galerida malabarica</i>	Passeriformes	Alaudidae	LC
102	Common Kestrel	<i>Falco tinnunculus</i>	Falconiformes	Falconidae	LC
103	Blue-tailed Bee-eater	<i>Merops philippinus</i>	Coraciiformes	Meropidae	LC

Species Diversity

The study recorded a rich diversity of bird species exceeding 100 species, distributed across multiple taxonomic groups. Similar patterns were reported in nearby Western Ghats regions, where 103 species across 19 orders and 51 families were documented.

Dominant Orders

Passeriformes – Most dominant group (~40–45%), Accipitriformes – Raptors and birds of prey, Pelecaniformes – Water-associated birds, Coraciiformes – Kingfishers and bee-eaters

Family Distribution

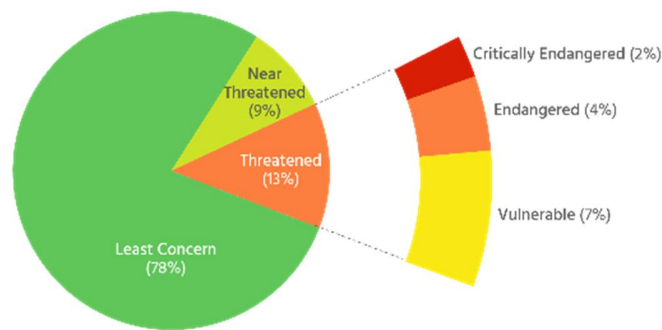
Families with high representation included: Accipitridae (raptors), Ardeidae (herons and egrets), Muscicapidae (flycatchers), Columbidae (pigeons and doves)

Habitat-wise Distribution

Forest habitats: Highest species richness, Presence of endemic species such as hornbills. Agricultural areas, dominated by generalist species, attracted seed-eating and insectivorous birds, Wetlands and water bodies: Supported herons, egrets, kingfishers, Human settlements: House sparrows, mynas, crows

IV. CONSERVATION STATUS

Most species recorded were categorized as: Least Concern (LC) – Majority (~90%), Near Threatened (NT) – Few species, Vulnerable (VU) – Select species such as hornbills. This trend aligns with findings from nearby studies where 91% species were under Least Concern category.



Endemic Species: Several species endemic to the Western Ghats were observed, including: Malabar Grey Hornbill, Malabar Parakeet, Flame-throated Bulbul. These species highlight the ecological importance of the region.

V. DISCUSSION

The present study demonstrates that the Malkapur–Perid region supports a rich and diverse avifaunal community. The high species richness can be attributed to habitat heterogeneity, which provides a variety of ecological niches for different bird species (Raman, 2006).



The dominance of Passeriformes observed in the study is consistent with findings from other regions, where passerines are known to dominate avifaunal communities due to their adaptability and ecological diversity (Gill et al., 2020). Comparison with nearby studies such as Tillari Conservation Reserve shows similar species richness, suggesting that the broader Western Ghats landscape supports comparable biodiversity (Bagal et al., 2025).

However, increasing anthropogenic pressures such as deforestation and land-use changes may negatively impact bird diversity in the region (Sekercioglu et al., 2004). Conservation measures such as habitat protection, sustainable agriculture, and community awareness are essential to preserve avifaunal diversity.

Comparison with Other Studies

The findings are consistent with studies conducted in nearby regions such as Tillari Conservation Reserve, where over 100 species were recorded. This similarity suggests that the broader Western Ghats landscape supports comparable avifaunal diversity.

Conservation Implications

To conserve avifaunal diversity, the following measures are recommended: Protection of forest habitats, Promotion of eco-friendly agricultural practices, Awareness programs for local communities, Long-term biodiversity monitoring

VI. CONCLUSION

The study highlights the ecological importance of the Malkapur–Perid region as a biodiversity-rich area within the Western Ghats. The high diversity of bird species recorded emphasizes the need for conservation efforts to protect habitats and maintain ecological balance (Myers et al., 2000). The findings provide valuable baseline data for future research and conservation planning. The Malkapur–Perid region of Shahuwadi tehsil represents an ecologically significant area within the Western Ghats, supporting a diverse assemblage of bird species. The study highlights the importance of habitat diversity in maintaining avifaunal richness and underscores the need for conservation efforts to protect this biodiversity hotspot. The findings provide baseline data for future ecological research and emphasize the urgent need for sustainable management practices to ensure long-term conservation of avifauna.

VII. ACKNOWLEDGEMENT

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