



# AVIAN DIVERSITY AND DISTRIBUTION ALONG THE RIPARIAN BUFFER OF HIRANYAKESHI RIVER AT RAMTIRTH, AJARA, MAHARASHTRA

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## Abstract:

The Hiranyakeshi River at Ramtirth, Ajara (Kolhapur) is part of the ecologically sensitive Western Ghats (Sahyadri), a global biodiversity hotspot. This study aimed to document the avian diversity and taxonomic distribution at the Ramtirth site in Ajara, District Kolhapur, to establish a baseline for the conservation of this riparian stretch. A total of 76 bird species belonging to 15 Orders and 42 Families were recorded. The Order Passeriformes was the most dominant, represented by 24 families, followed by Accipitriformes and Coraciiformes. Notable observations included specialized riparian indicators such as the *Ceryle rudis* (Pied Kingfisher) and *Alcedo atthis* (Common Kingfisher), as well as Western Ghats associated species like *Ocyrceros birostris* (Indian Grey Hornbill) and *Spilornis cheela* (Crested Serpent Eagle). The presence of diverse feeding guilds including piscivores, insectivores, and raptors suggests a high ecological health index for the riverine ecosystem.

**Keywords:** Avifauna, Hiranyakeshi River, Ramtirth, Riparian Ecosystem, Western Ghats.

## Introduction

Ramtirth is located 2 km from Ajara town and about 84 km from Kolhapur city. It lies near the border of the Konkan region. It is an important geographical and spiritual site located in the Ajara Taluka of Kolhapur District, Maharashtra. Ramtirth is situated on the banks of the Hiranyakeshi River, it is primarily known for its persistent waterfall and its location within the lush Sahyadri mountain range. Approximately 16.12°N and 74.20° E. It sits at an average altitude of about 660 meters (2,170 ft) above sea level.

The Ramtirth waterfall is a natural fall formed by the Hiranyakeshi River. Unlike many seasonal falls in Maharashtra, this waterfall never dries up, however its volume increases significantly during the monsoon. The

Hiranyakeshi River is the lifeblood of this region. It originates in the Amboli and flows through Ajara, providing the necessary irrigation for the famous local rice Ghansal". The area is characterized by dense green forests, rocky riverbeds, and hilly land typical of the Western Ghats. The surrounding landscape features "stepped terrace" farming. Ecosystems are critical biodiversity corridors that support distinct avian communities. The Hiranyakeshi River, a vital perennial water source in the Western Ghats of Maharashtra, provides a exclusive ecotone for diverse bird species.

This study aimed to document the avian diversity and taxonomic distribution at the Ramtirth temple site in Ajara, District Kolhapur, to establish a baseline for the conservation of this riparian stretch.

### Materials and Methods

Survey was conducted to document the avifauna along a 5 km stretch of Hiranyakeshi river from Ramtirth to Ajara city by applying line transact method. Direct observations were also made to record the birds in grassland, agricultural fields, near human habitation, on the roads of the Ajara village and its vicinity. Survey was made on foot and on two wheelers during the peak activity of birds between 6 am to 10 am at morning and 4 pm to 7 pm at evening. Regular field visits were made once a fortnight to record the birds. Survey was made for 12 month period from January 2024 to December 2024. The birds were directly sighted by using 10 x 50 X Olympus binoculars and identified on the field using field guides by Kazmierczak (1), Ali (2), Grimmett R. & Inskipp T. (3) and Grimmett *et al.* (4). The Common and scientific names of birds are followed after Grimmett *et al.* (4).

### Observations and Discussion

A total of 76 bird species belonging to 16 Orders and 43 Families were recorded. The Order Passeriformes was the most dominant, represented by 24 families, followed by Accipitriformes and Coraciiformes. Notable observations included specialized riparian indicators such as the *Ceryle rudis* (Pied Kingfisher) and *Alcedo atthis* (Common Kingfisher), as well as Western Ghats associated species like *Ocyrceros birostris* (Indian Grey Hornbill) and *Spilornis cheela* (Crested Serpent Eagle). The presence of diverse feeding guilds including piscivores, insectivores, and raptors suggests a high ecological health index for the riverine ecosystem.

**Table 1: Land fowl, Waterbirds and Raptors**

Order	Family	Common Name	Scientific Name
Galliformes	Phasianidae	Grey Junglefowl	<i>Gallus sonneratii</i>
		Indian Peafowl	<i>Pavo cristatus</i>
Pelecaniformes	Ardeidae	Indian Pond-Heron	<i>Ardeola grayii</i>
		Cattle Egret	<i>Bubulcus ibis</i>
Suliformes	Phalacrocoracidae	Little Cormorant	<i>Microcarbo niger</i>
Accipitriformes	Accipitridae	Brahminy Kite	<i>Haliastur indus</i>
		Black Kite	<i>Milvus migrans</i>
		Black-shouldered Kite	<i>Elanus caeruleus</i>
		Crested Serpent Eagle	<i>Spilornis cheela</i>
		Shikra	<i>Accipiter badius</i>
Gruiformes	Rallidae	White-breasted Waterhen	<i>Amaurornis phoenicurus</i>
Charadriiformes	Charadriidae	Red-wattled Lapwing	<i>Vanellus indicus</i>

**Table 2: Pigeons, Cuckoos, Owls and Swifts**

Order	Family	Common Name	Scientific Name
Columbiformes	Columbidae	Blue Rock Pigeon	<i>Columba livia</i>
		Spotted Dove	<i>Spilopelia chinensis</i>
		Eurasian Collared Dove	<i>Streptopelia decaocto</i>
		Laughing Dove	<i>Spilopelia senegalensis</i>
		Yellow-footed Green Pigeon	<i>Treron phoenicoptera</i>
Psittaciformes	Psittaculidae	Rose-ringed Parakeet	<i>Psittacula krameri</i>
Cuculiformes	Cuculidae	Asian Koel	<i>Eudynamis scolopaceus</i>
		Southern Coucal	<i>Centropus parroti</i>
		Sirkeer Malkoha	<i>Taccocua leschenaultii</i>
Strigiformes	Strigidae	Eurasian Eagle Owl	<i>Bubo bubo</i>
Apodiformes	Apodidae	Indian Swiftlet	<i>Aerodramus unicolor</i>

**Table 3: Kingfishers, Woodpeckers and Allies**

Order	Family	Common Name	Scientific Name
Bucerotiformes	Upupidae	Common Hoopoe	<i>Upupa epops</i>
	Bucerotidae	Indian Grey Hornbill	<i>Ocyrceros birostris</i>
Coraciiformes	Coraciidae	Indian Roller	<i>Coracias benghalensis</i>
	Alcedinidae	Common Kingfisher	<i>Alcedo atthis</i>
		White-breasted Kingfisher	<i>Halcyon smyrnensis</i>
		Pied Kingfisher	<i>Ceryle rudis</i>
	Meropidae	Small Bee-eater	<i>Merops orientalis</i>
Piciformes	Picidae	Yellow-crowned Woodpecker	<i>Leiopicus mahrattensis</i>
		Rufous Woodpecker	<i>Micropternus brachyurus</i>
	Megalaimidae	White-cheeked Barbet	<i>Psilopogon viridis</i>
		Coppersmith Barbet	<i>Psilopogon haemacephalus</i>

**Table 4: Order Passeriformes (Perching Birds)**

Order	Family	Common Name	Scientific Name
Passeriformes	Vangidae	Common Woodshrike	<i>Tephrodornis pondicerianus</i>
	Aegithinidae	Common Iora	<i>Aegithina tiphia</i>
	Campephagidae	Small Minivet	<i>Pericrocotus cinnamomeus</i>
		Black-headed Cuckoo Shrike	<i>Lalage melanoptera</i>
	Laniidae	Bay-backed Shrike	<i>Lanius vittatus</i>
	Dicruridae	Black Drongo	<i>Dicrurus macrocercus</i>
	Rhipiduridae	White-browed Fantail	<i>Rhipidura aureola</i>

	Monarchidae	Asian Paradise Flycatcher	<i>Terpsiphone paradisi</i>
	Corvidae	House Crow	<i>Corvus splendens</i>
		Jungle Crow	<i>Corvus macrorhynchos</i>
		Rufous Treepie	<i>Dendrocitta vagabunda</i>
	Paridae	Great Tit	<i>Parus major</i>
		Indian Yellow Tit	<i>Machlolophus aplonotus</i>
	Pycnonotidae	Red-vented Bulbul	<i>Pycnonotus cafer</i>
		Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>
		Yellow-browed Bulbul	<i>Acritillas indica</i>
	Cisticolidae	Ashy Prinia	<i>Prinia socialis</i>
		Grey-breasted Prinia	<i>Prinia hodgsonii</i>
		Common Tailorbird	<i>Orthotomus sutorius</i>
	Timaliidae	Indian Scimitar Babbler	<i>Pomatorhinus horsfieldii</i>
	Pellorneidae	Puff-throated Babbler	<i>Pellorneum ruficeps</i>
	Leiothrichidae	Jungle Babbler	<i>Turdoides striata</i>
	Sylviidae	Yellow-eyed Babbler	<i>Chrysomma sinense</i>
	Alcippeidae	Brown-cheeked Fulvetta	<i>Alcippe poioicephala</i>
	Zosteropidae	Oriental White-eye	<i>Zosterops palpebrosus</i>
	Sturnidae	Brahminy Starling	<i>Sturnia pagodarum</i>
		Common Myna	<i>Acridotheres tristis</i>
		Jungle Myna	<i>Acridotheres fuscus</i>
	Muscicapidae	Oriental Magpie Robin	<i>Copsychus saularis</i>
		Indian Robin	<i>Copsychus fulicatus</i>
		Pied Bush Chat	<i>Saxicola caprata</i>
		Tickell's Blue Flycatcher	<i>Cyornis tickelliae</i>
	Chloropseidae	Jerdon's Leafbird	<i>Chloropsis jerdoni</i>
	Nectariniidae	Purple-rumped Sunbird	<i>Leptocoma zeylonica</i>
		Purple Sunbird	<i>Cinnyris asiaticus</i>
	Passeridae	House Sparrow	<i>Passer domesticus</i>
		Yellow-throated Sparrow	<i>Gymnoris xanthocollis</i>
	Ploceidae	Baya Weaver	<i>Ploceus philippinus</i>
	Estrildidae	Red Avadavat	<i>Amandava amandava</i>
		Scaly-breasted Munia	<i>Lonchura punctulata</i>
	Motacillidae	White-browed Wagtail	<i>Motacilla maderaspatensis</i>
		Paddyfield Pipit	<i>Anthus rufulus</i>

The observed avifaunal diversity reflects a structurally complex and productive riverine habitat supporting multiple trophic guilds. Dominance of passerines and presence of riparian specialists indicate habitat

heterogeneity and water quality integrity. Similar patterns highlight avifauna as effective bioindicators of ecosystem health (5–9).

### Conclusion

The high species richness (76 species) within a localized area underscores the ecological significance of the Hiranyakeshi riverbank as a vital habitat for both resident and local migratory birds. The findings suggest that the Ramtirth region serves as a crucial biodiversity pocket that requires targeted conservation efforts to mitigate potential anthropogenic pressures and habitat degradation.

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