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Diversity of Migratory Birds on the River Bank of Krishna at Banchapa Ban (Burli) Palus Tehsil (M.S) India

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Abstract

Banchapa Ban is small area representing the forest ecosystem situated near the rivers bank of Krishna. Its reputation as a "birder's paradise" derives primarily from the variety of migrating birds that visit, particularly in the winter. The observations used for this investigation were recorded between January 2022 and December 2024. Now a day's ornithologists are attracted to this site for observing birds. A total of 11 migratory bird species belonging 4 orders and 9 families are recorded. The distribution of seeds by migratory birds contributes to the conservation of biodiversity. There is an increase in the number of migratory birds every year, as banchapa ban has a healthy area which provides ample amount of food and breeding grounds to the birds.

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Introduction

There are currently over 9000 species of birds in the world. Birds are warm-blooded, oviparous animals. Over 1300 bird species or 13% of all bird species worldwide are found on the Indian subcontinent (Grimmett *et al.*, 1999). According to Abdulali (1981), Maharashtra is home to about 540 species. When conditions at breeding locations deteriorate, migratory birds will travel thousands of kilometers in search of the ideal biological conditions and habitat for foraging, mating and rearing their young. Both in the summer and the winter, the Indian subcontinent is inhabited to a variety of migratory birds. Birds classified as a regional or resident migrants are those that migrate over short distances between states or regions. The diversity of migratory birds in a given location is also a good indicator of the condition of that habitat. According to Balkhande *et al.* (2013), they are crucial in regulating the populations of many insects and pests. Birds have the ability to recognize elements of any given landscape state that other animal species that are frequently employed as markers lack the capacity to.

Man has recognized them for millennia and they are beneficial in helping to offer abundant food for humanity (Chitampally, 1993). As omnipresent creatures, birds can be seen regularly in both terrestrial and aquatic environments. Maharashtra is separated into five regions: Konkan, or coastal Maharashtra, is a slender coastal belt that stretches 720 km from north to south and is roughly 50 km broad.

The Sayhadri or Western Ghats range lies to the east of the strip and the Arabian Sea extends to the west. Rainfall in the area reaches up to 3,000 mm per year. It is the western uplands of Maharashtra, which are situated between 500 and 600 meters over sea level on average. The eastern offshoots of the main Ghats range are formed by low hill ranges and river basins. The plateau slopes east/southeast progressively. The districts of Dhule, Nandurbar, and Jalgaon are included in the Desh. To the south, it stretches to Kolhapur via Nashik, Ahmednagar, Pune, Solapur, Satara, and Sangli. The rain-shadow impact causes the annual rainfall to be lesser, averaging 500-1,000 mm.

Certain species, like the Pink Headed Duck *Rhodonessa caryophyllacea*, Jerdon's Courser *Cursorius bitorquatus*, and Forest Spotted Owlet *Athene blewitti*, have been reported to be extinct. The Jerdon's Courser was found again in the neighboring state of Andhra Pradesh in 1986, while the Forest Spotted Owlet was found again in the Satpuda forests in 1999. The state's most frequent bird is the omnipresent Jungle Crow (*Corvus macrorhynchos*), which may be found everywhere from the most isolated forest patches in the Gadchiroli region to the center of Mumbai. The House Crow, House Sparrow, Blue Rock Pigeon, Common Myna, Common (Black) Kite, Red-vented, and Red-whiskered Bulbuls are among the other common and plentiful birds. According to the state government's and some NGO's conservation efforts, the Great Indian Bustard, *Ardeotis nigriceps* which was once prevalent on the drier Deccan tableland was almost brought back to life. Grey Jungle Fowl (*Gallus sonneratii*), a jungle bird is rapidly disappearing from the wild while common peafowl (*Paracristatus*) is a more fortunate bird, since it has been protected in certain areas due to religious beliefs. The state's primary bird watching locations may be broadly categorized as forests, grassland and scrub country, freshwater bodies, coastal areas, farmed territory and urban areas. Although actual forest cover only makes up around half of the state's overall territory, about 22% of it is covered in forests. The predominant plant type in the state is tropical deciduous forest. It is present in every division across the state. Small areas of the Western Ghats are home to semi-evergreen and evergreen species. For instance, Bhimashankar, Chandoli, Mahabaleshwar and Matheran. Across the plateau region, a tropical thorn forest is predominating. Numerous waterways in the coastal belt are backed by modest mangrove tracts. The state in the nation with the most reservoirs is Maharashtra. Alone, the twin districts of Gondia and Bhandara contain roughly 13000 tanks. Large and medium-sized dams abound in the Western Ghats region. All the villages in Konkan have ponds. Wintertime migrations of birds fill all these bodies of water. Wetland birds may be found in several renowned birding locations, including Nandur-Madhemeshwar (Nashik), Jaikwadi (Aurangabad), Ujani (Pune Solapur), Mayani (Satara), and Nawegaon (Bhandara). A peculiar bird fauna, primarily gramivorous and insectivorous, exists in the country that is farmed. Maharashtra harbors a large diversity of birds despite being the most urbanized state. There are almost 300

different bird species on the Pune city bird checklist. Avian diversity is also very high in Mumbai, Nagpur, Nashik, and Aurangabad. Along the coast sandy beaches are full of waders in the winter months. Bardi, Kelwe-mahim (Thane), Kihim (Raigad), Guhagar, Velneshwar (Ratnagiri), Malvan-Tarkarli (Sindhudurga) are some good shore birding spots. Besides the major spots mentioned above in Maharashtra, Banchappa Ban also has a lots of migratory birds visiting every year.

Ornithologists visit this location these days to observe migratory birds. The semi-dense forest, river, natural water bodies, sugarcane fields and a broad spectrum of climate variables that envelop Banchappa Ban (Burli) offer a diverse range of habitat, an abundance of food variety and a suitable resting place that is available all year around for migratory and residing birds. The current scientific survey was conducted to investigate migrating birds in Palus tehsil of Sangli district in Maharashtra (India) because there is no information accessible regarding migratory birds in Palus tehsil.

Material and Methods

The present study is based on observation made from January 2020 to December 2022. Burli is situated between 17.0487222 Latitude and 74.4463979 Longitude. The study includes identification of different bird's viz., Aquatic, Terrestrial and Water dependent avian species. Birds were observed all around Banchappa ban (12 hector) and of 2 km agrarian area around it and one water body in Krishna River itself. Birds were observed twice a day at morning time and evening time for two-four hours, daily observation. Birds were sighted by using Olympus binoculars of 8X x 40 6.5°. 8X magnification and were photographed by using Nikon model no. D-7500 and Sony cyber shot model no. W570. Spot identification was done by using field guides (Grimette *et al.*, 1999, Tiwari, 2005; Ali *et al.*, 2003) and after confirmation of identity those species are reported in this project. As per the guidelines given in the checklist of birds, given by (Abdulali, 1981; Gaikwad *et al.*, 1997; Kulkarni *et al.*, 2005) then checklist is prepared.

Results and Discussion

Total 11 birds of 9 families have been recorded during the study. There is an increase in the number of migratory birds.

Table 1: Check List of birds

S No.	Order	Family	Scientific Name	Common Name	IUCN Status
1	Passeriformes	Oriolus	Oriolusxanthaenus	Indian Golden Oriole	LC
2	Passeriformes	Sturnidae	Postorroseus	Rosy Starling	LC
3	Passeriformes	Sturnidae	Storniamalabarica	Chestnut Tail Starling	Red List
4	Passeriformes	Cisticolidae	Cisticalajuncidis	Zittingcisticola	LC
5	Passeriformes	Estrildidae	Euodicemalobarica	Indian Silverbillmunia	LC
6	Passeriformes	Motacillidae	Motacilia alba	White Wagtail	LC
7	Passeriformes	Motacillidae	Motaciliaflava	Yellow Wagtail	LC
8	Charadriiformes	Charadriidae	Charadriusdubius	Little Ringed Plover	LC
9	Charadriiformes	Scolopacidae	Numeniusarquata	Eurasion Curlew	NT
10	Pelecaniformes	Threskiornithidae	Pseudibispapillosa	Rednapedibis	LC
11	Anseriformes	Anatidae	Tadonaferrugina	Ruddy Shelduck	LC

Field Identification Key

1. Indian Golden Oriole

With the exception of their inner tail feathers and black wings, males are entirely bright yellow. Take note of the

yellow patch on the wings, the yellow outer tail feathers, the fleshy pink bill and the black stripe through the eye that resembles a mask. The female has filthy brown/green wings and a fully yellow tail. Her overall color is a dingy greenish-

yellow. The iris of both males and females is crimson. Most frequently observed eating alone or in pairs under the canopies of trees.

2. Rosy Starling

Grownups are distinct, a vision in soft pink and shiny black. Juvenile has an orange bill and is brown in color. Breeds in steppe colonies spend the winter in open forested areas. The sound of dry chattering sounds is a regular accompaniment to flocking birds.

3. Chestnut Tail Starling

Starling with a pale head, orange belly and rump and wings with dark tips. Bill has a unique color scheme: blue with yellow highlights and inhabits open forests, the edge of forests, agricultural regions and the periphery of villages. Like other starlings, they are gregarious, boisterous and frequently gather in flocks to whistle and churn loudly. And mostly forages on the ground, but it also frequently sits up on exposed perches like snags and power cables.

4. Zitting Cisticola

Extremely little with a rounded, short tail that has noticeable markings at the tip. Sand-colored underneath, streaky above the body. Male breeding birds have a black head and beak. Distributed in agricultural regions, meadows, marshes, and open grasslands. It's monotonous and repeated song which it sings from a perch or while soaring, is what most easily identifies it. The great range of song types is represented by the quick, dry ticking of Southeast Asian birds and the uniformly spaced, squeaky "tsik, tsik" of African and European species.

5. Indian Silverbill Munia

Tiny, long-tailed sparrow with a short, robust bill and a bulky body. With a creamy rump and a black-pointed tail, it is pale below and gray-brown above. All year round, quite gregarious. Found in dry forests, scrub, and semidesert regions, although it's also common in cities. Although its range is mostly restricted to the Indian subcontinent, wild populations are common and it is a popular cage bird. Makes acute "tsik" and "tseet" sounds.

6. White Wagtail

Bold combinations of black, white and grey make up their plumage, making them distinctive but changeable. Their long, white-sided tail is pumped up and down as they walk and run around. Typically, they are observed in pairs, small groups or as singles. Its loud, rich and recognizable "tsee-tsee" call makes it easy to identify when in flight.

7. Yellow Wagtail

Wagtail that is widely distributed and that prefers muddy, grassy lakeshores, marshlands, and wet meadows. While migration, frequently occurs close to cattle in fields. Similar to other wagtails, it walks on the ground and oscillates its long tail with white tips. Breeding males have completely bright yellow plumage below and a greenish back, however this is quite varied. Area-specific variations exist in male head patterns: the head is greenish-gray in the United Kingdom with a yellow eyebrow; the head is slaty-gray overall in northern Europe; the head is blue-gray with a white eyebrow in central and southwest Europe and spectacular white-headed birds can be found in Mongolia and northwest China. People

from different subspecies may spend the winter together. Male markings ghost in the duller, lighter plumages of females and nonbreeding birds. While each subspecies has its own songs and calls, most of them use buzzy words like "dzeerdzeer" or downslurrd "tzree."

8. Little Ringed Plover

Tiny, finely constructed plover with vivid yellow eye rings. Examine the huge white spot on the forehead of adults and their dull pinkish legs. The plumage resembles that of the larger Ringed Plover, but the white eyebrow spans the forehead without interruption has a thin, hazy white wing stripe when in flight. Breeds on stony substrates near rivers, lakes, and gravel pits; migrants can be found in a wide range of fresh and brackish wetland environments, though they are rarely found in open tidal areas. The comparable Common Ringed Plover call and the clipped "peu" call are very different.

9. Eurasian Curlew

Large shorebird with a scimitar bill that inhabits a variety of open areas. Observe the big size, brown plumage all over and the long, decurved bill (much shorter on the juvenile). White rear patch and largely white underwings are visible when in flight. Onomatopoeic words are often called "coor-lee." Compare with the Far Eastern Curlew, which has a buffy rump and heavily patterned underwings, and the tiny Whimbrel, which has head stripes and a piping whistled cry. In winters mostly in coastal lowlands, notably mudflats and nearby marshes, breeds primarily in grasslands from coastal marshes to upland moors.

10. Red Naped IBIS

A medium-sized ibis that frequently has a bluish-green shine on its dark body. Bright crimson warts cover the neck and head. Usually, a white patch can be seen close to the wing's shoulder. The bill has a lengthy, downward curvature. This species and the Glossy Ibis are similar in appearance; however, the Glossy Ibis is smaller and does not have the red warts or the white shoulder patch. Unlike Glossy Ibis, Red-naped Ibis's legs stop at the tail when they are in flight.

11. Ruddy Shelduck

Bold and unusual duck with a gooselike appearance. With a pale whitish head and neck that contrast with brilliant reddish plumage overall, the male sports a short black neck ring. Stunning in flight are large white spots on the forewings. Occasional sightings of free-flying ducks outside their native area include escaped birds from collections.

Urbanization often results in higher bird biomass but lower bird richness; this is consistent with our findings that rural locations were critical for bird migration, feeding, and breeding. Additionally, it demonstrates that during the study period, bird diversity and richness were much higher in both urban and rural areas.

Compared to previous research on the river community and water reservoirs, the present data records have a higher significant species diversity.

The greatest benefit in terms of habitat provision for local and migratory bird species is found in diverse wetland complexes. While some bird species are not actually aquatic birds, they either reside near bodies of water or are associated with marshlands or waterways. They visit regularly to water bodies for feeding on aquatic organisms.

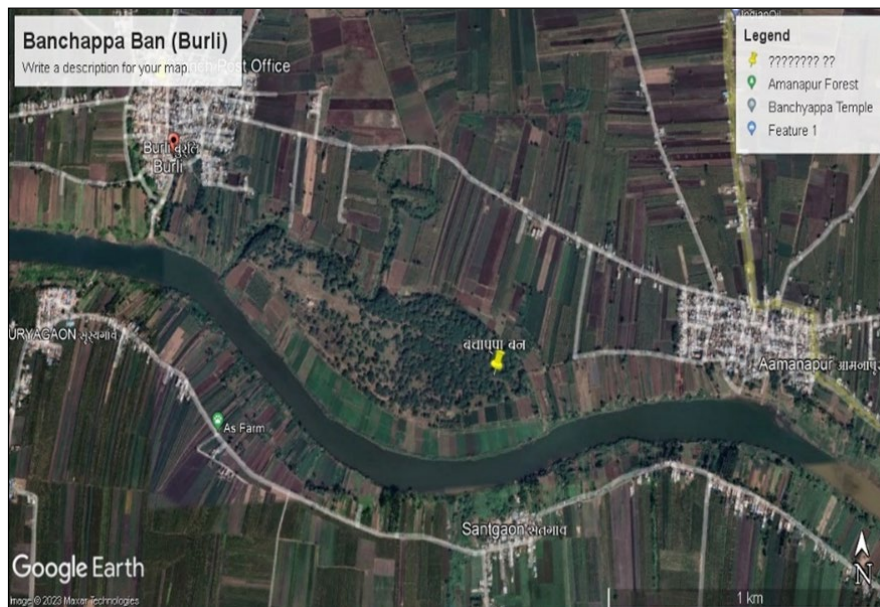


Fig 1: GIS of Banchappa Ban (Burli)

Migratory Birds on the River bank of Krishna at Banchappa Ban (Burli)



Fig A: Oriolus xanthaeus



Fig B: Postor roseus



Fig C: Sturnia malabarica



Fig D: Cisticala juncidis



Fig E: Euodice malabarica



Fig F: Mota ciliaalba

**Fig G:** *Mota ciliaflava***Fig H:** *Charadrius dubius***Fig J:** *Tadona ferrugina***Fig 2:** Banchappa Ban (Burli), Tal: Palus, Dist.: Sangli. (M.S.), India.**Fig 3:** Aerial View of Banchappa Ban (Burli)**Fig 4:** Banchappa Ban (Burli)**Fig 5:** Wetland areas of Banchappa Ban (Burli)

Conclusion

A total of 11 migratory bird species belonging 4 orders and 9 families were recorded during present survey i.e. from August 2022 to January 2023. Family Sturnidae and Motacillidae dominated the list by the representation of 2 species, followed by Oriolus, Cisticolidae, Estrildidae, Charadriidae, Scolopacidae, Threskiornithidae and Anatidae with one species each. Out of 11 migratory bird species, one species was observed as Red Listed one was near threatened and remaining 08 under least concern category. In the present investigation 4 species of bird found to be local migrant (LM), 2 species summer migrant (SM), and remaining 05 species were reported as winter migrant (WM).

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