

**CHECKLIST OF MIGRATORY BIRDS ON THE RIVER BANK
OF KRISHNA AT BANCHAPPA BAN (BURLI),
PALUS TEHSIL (M.S), INDIA.**

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DATE: 27th May, 2023

This is to certify that *Miss. Aishwarya Shrikant Chavan & Miss. Pranoti Babaso Pawar* of *B.Sc Part - III* has Satisfactorily Completed the Project entitled "**CHECKLIST OF MIGRATORY BIRDS ON THE RIVER BANK OF KRISHNA AT BANCHAPPA BAN (BURLI), PALUS TEHSIL (M.S), INDIA.**" during the academic year 2022-2023 has funded under the Lead College Scheme, by the Shivaji University, Kolhapur.

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INDEX

Sr. No.	Title	Page No.
1	Introduction	3
2	Materials And Methods	6
3	Field Identification Key	7
4	Result	10
5	Discussion	14
6	References	15
7	Acknowledgement	16

INTRODUCTION:

Birds are egg laying, warm blooded vertebrates with more than 9000 living species across the world. The Indian subcontinent contains about 1300 species all over around 13% of the world birds (Grimmett *et al*, 1999) and Maharashtra contains more than 540 species (Abdulali, 1981).

Avian migration is natural miracle. Migratory birds fly thousands of kilometer to find the best ecological condition and habitat for feeding, breeding and raising their young one when condition of breeding sites become unfavourable. Indian subcontinent plays an important role as a host to a number of migratory birds in summer as well as winter. Birds that migrate not so long distance but different states or area are called local migratory or resident migratory birds. The number of migratory birds visiting any area also indicates the health of that particular environment. They play an important role in controlling population of different insects and pests (Balkhande *et al*, 2013). Birds potentially detect aspects of any landscape condition that are not detected by the other animal groups commonly used as indicators. They are helpful and help to provide rich food for mankind and are known to man since ages (Chitampally, 1993).

Maharashtra can be divided into five areas Konkan (Coastal Maharashtra) is a narrow coastal belt covering about 720km from north to south and about 50km wide. The strip is sandwiched between the Arabian Sea in the west and the Sayhadri or Western Ghats range to the east. The area receives up to 3,000 mm of rainfall annually. It is the western uplands of Maharashtra with an average height of 500m to 600 m above sea level, interspaced with river valleys and low hill ranges forming eastern offshoots of the main Ghats range. The plateau gradually slopes east/south-eastward. The Desh includes districts of Dhule, Nandurbar and Jalgaon to the north through Nashik, Ahmednagar, Pune, Solapur, Satara, Sangli to Kolhapur to the south. Because of rain-shadow effect, the rainfall is lower and averages between 500 to 1,000mm a year. The Western Ghats or Sahyandri is actually the western edge of Deccan plateau, ending abruptly with an escarpment down to the Konkan lowland. The average height of the range is around 900m with some peaks and high altitude plateaus reaching 1400m.

The Avifauna of Maharashtra state has a very rich avifauna with more than 500 species recorded from the state so far. If the subspecies are taken into account, then the list is more than 540. Prakash Gole classified them as follows: Resident species 255; Local or International migrants 245; Stragglers or irregular visitors 40; Species known to be breeding 168; Species that breed in specific areas only 56; Species about which very little is known 87; Species about which knowledge is fairly good (e.g. Sparrows, Crows etc.) 25. Most of the Vagrants and Stragglers are marine species that are storm driven to the coast during the monsoon months.

Most of the migrants are winter visitors; aquatic birds like ducks, geese, gulls, terns, cranes, flamingos, sandpipers etc. A number of harriers, cuckoos, swallows, warblers, chats, pipits and wagtails also arrive here in the cold season. Few species like Rain Quail, Pied-crested Cuckoo and Indian Pitta visit us at the beginning of the rainy season. Most of our bulbuls, babblers, sunbirds, munias, larks, woodpeckers, barbets, hornbills and owls are resident birds. Some birds are rare in the state being sighted only a few times (Ashy Minivet, Imperial Eagle, Scaup Duck, Pelican sp. etc.) There are birds that were thought to be extinct such as Forest Spotted Owlet *Athene blewitti*, Jerdon's Courser *Cursorius bitorquatus* and Pink headed Duck *Rhodonessa caryophyllacea*. Jerdon's Courser was rediscovered in the adjoining Andhra Pradesh (1986) and Forest Spotted Owlet was re-discovered in the Satpuda forests (1999).

The commonest bird in the state is the ubiquitous Jungle Crow *Corvus macrorhynchos*, which is found in remotest forest patches in Gadchiroli district to the heart of the Mumbai city. Other commoner and abundant birds are the House Crow, House Sparrow, Blue Rock Pigeon, Common Myna, Common (Black) Kite, Red-vented and Red-whiskered Bulbuls. The Great Indian Bustard *Choriotis nigriceps*; once so common on the drier Deccan tableland was reduced to extinction but was later recovered a bit, thanks to the conservation efforts of the state government and some NGO's. Grey Jungle Fowl *Gallus sonneratii* a forest bird is fast losing its ground, but common peafowl *Para cristatus* is a more fortunate bird because of the protection it has received in some places, thanks to religious sentiments.

The main birding habitats in the state can be broadly classified into forests, scrub & grass country, fresh water bodies, seashore, cultivated country and urban areas. About 22% of the total state area is under forest though true forest cover is hardly half of this area. Tropical Deciduous forest is the dominant vegetation type in the state. It is found all over the state in all divisions. Small pockets in the Western Ghats supports Evergreen and Semi Evergreen type. E.g. Bhimashankar, Matheran, Mahabaleshwar, Chandoli etc. Tropical thorn forest is the dominant type throughout the plateau area. Great Indian Bustard sanctuary is located within this belt.

Narrow mangrove patches bank many creeks in the coastal belt. Maharashtra is the state with maximum number of reservoirs in the country. The twin districts of Bhandara and Gondia alone have about 13000 tanks. The Western Ghats are full of large and medium dams. In Konkan every village has a pond. All these bodies of water are full of migratory birds in the winter months. Nandur-Madhemeshwar (Nashik); Jaikwadi (Aurangabad); Ujani (Pune-Solapur); Mayani (Satara); Nawegaon (Bhandara) are some of the popular birding spots for wetland birds. Cultivated country has its own unique bird fauna which is mostly gramivorous

and insectivorous. In spite of being most urbanized state, cities in Maharashtra support high bird diversity. Pune city bird checklist has more than 300 bird species. Mumbai, Nagpur, Nashik, Aurangabad also support equally high bird diversity. Along the coast sandy beaches are full of waders in the winter months. Bordi, 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. Now a day's ornithologists are attracted to this site for observing migratory birds. Banchappa Ban (Burla) is surrounded by semi-dense forest, river, natural water bodies and sugarcane fields along with wide range climatic condition that provide diverse range of habitat, abundant variety of food, suitable resting place available throughout year for migratory as well as residential bird. No information is available about migratory birds in Palus tehsil, therefore the present scientific survey has been carried out to study migratory birds in Palus tehsil of Sangli district in Maharashtra (India).

MATERIALS AND METHODS:

The present study is based on observation made from February 2021 to January 2023. Burli is situated between 17.0487222 Latitude and 74.4463979 Longitude. 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 (Grimmette *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.

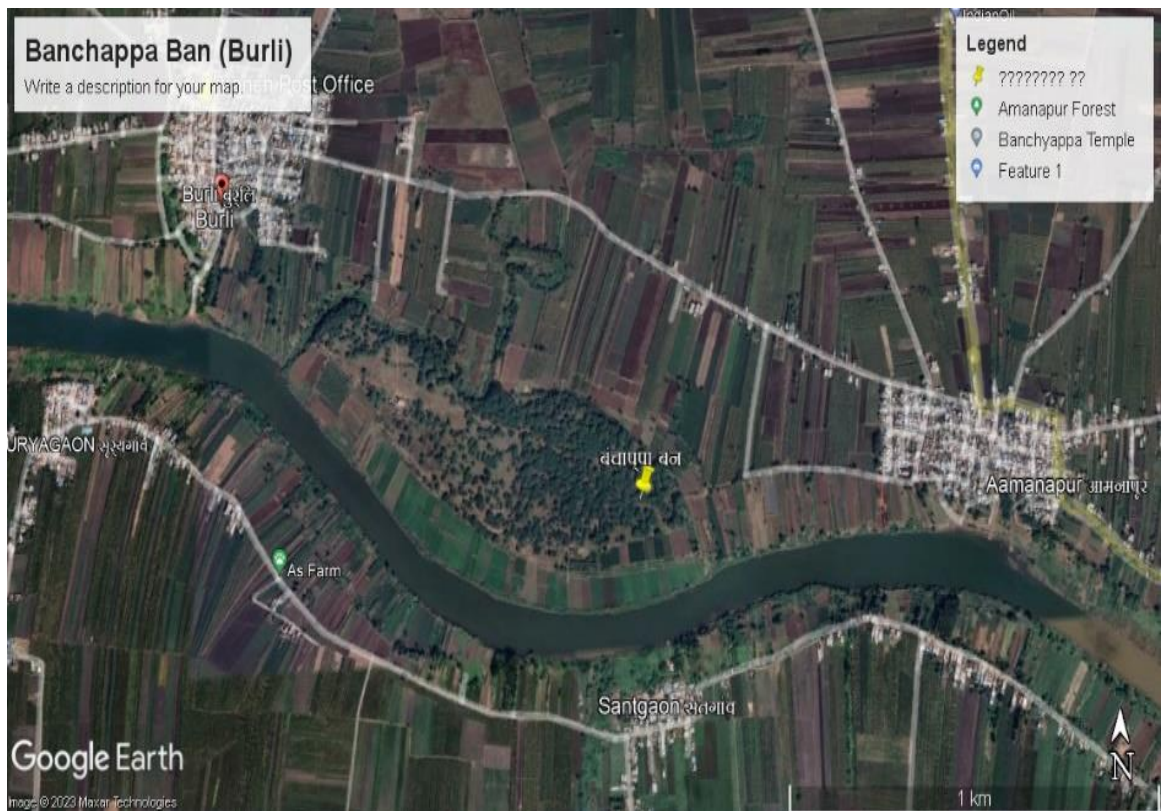


Fig.: 1 GIS of Banchappa Ban (Burli)

FIELD IDENTIFICATION KEY:

1) Indian Golden Oriole:

Males are bright yellow overall save for the black wings and inner tail feathers. Note the yellow patch on the wings, the yellow outer tail feathers, the black stripe through the eye that gives it a masked appearance, and the fleshy pink bill. The female is dull greenish-yellow overall with dirty brown/green wings and a completely yellowish tail. Both males and females have red iris. Most often found feeding in tree canopies either singly or in pairs. They generally give a harsh “krrrrrrrrrrr” call while feeding. In flight, note its characteristic dipping flight style.

2) Rosy Starling:

Adult is unique, a vision in glossy black and pale pink. Juvenile is brown with an orange bill. Breeds in colonies on steppes and winters in open and wooded habitats. Gathers in huge numbers to roost, often mixing with other species at roost sites. Flocking birds keep up a constant cacophony of dry chattering calls.

3) Chestnut Tail Starling:

Pale-headed starling with dark-tipped wings and an orangish belly and rump. Bill is distinctively colorful: blue with a yellow tip. Inhabits open forests and forest edge, as well as agricultural areas and village outskirts. Like other starlings, social and raucous, often flocking together while noisily churring and whistling. Frequently perches up on exposed perches such as snags and utility lines, but also forages extensively on the ground. Native to southern Asia; introduced to Taiwan.

4) Zitting cisticola:

Very small, with a distinctive short, rounded tail with conspicuous spots at the tip. Body sandy-colored below, streaky above. Breeding males have a dark bill and crown. Found in open grasslands, meadows, marshes, and agricultural areas. Most readily detected by its repetitive and monotonous song, given from either a perch or in an undulating song flight. Song varies across wide distribution, ranging from evenly-paced squeaky “tsik, tsik” of African and European birds to the fast dry ticking of Southeast Asian birds.

5) Indian Silverbill munia:

Small, long-tailed finch with a chunky body and short, stout bill. Gray-brown above and pale below with a whitish rump and black-pointed tail. Highly sociable throughout the year. Found in semidesert, scrub, and dry woodland but also proliferates in urban areas. Distribution is centered on the Indian subcontinent, but it is a popular cage bird and feral populations are widespread. Gives sharp “tsik” and “tseet” calls.

6) White Wagtail:

Distinctive but variable: all plumages are some bold combination of black, white, and gray. Shows considerable variation in plumage across the world, but never has a clear, thin and contrasting eye-brow like White-browed or Japanese Wagtail. Occurs in varied open habitats, from wild grassy areas and wetlands to paved car parks and grassy lawns. Usually seen as singles, pairs, or small groups walking and running around, pumping the long, white-sided tail up and down. Identified easily in flight by its loud, thick and distinctive “tsee-tsee” call.

7) Yellow Wagtail:

Widespread wagtail, favoring wet meadows, marshland, grassy and muddy lakeshores. Occurs in fields and often near livestock during migration. Like other wagtails, walks on ground and pumps its long, white-sided tail up and down. Plumage highly variable, but breeding male wholly bright yellow below, with greenish back. Male head pattern varies regionally: in U.K. has greenish head with yellow eyebrow; in northern Europe head slaty gray overall; in central and southwest Europe head blue-gray with white eyebrow; striking white-headed birds in Mongolia and northwestern China. Individuals of several subspecies may winter together. Female and nonbreeding plumages drabber and paler, with ghosting of male patterns. Songs and calls vary between subspecies, but most give some form of buzzy “dzeerdzeer” or downslurred “tzree.”

8) Little Ringed Plover:

Delicately built small plover with bright yellow eyerings. Note dull pinkish legs and large white forehead patch (in adults). Plumage much like bulkier Ringed Plover, but white eyebrow continues unbroken across forehead. In flight shows narrow, indistinct whitish wing stripe. Breeds on stony substrates around lakes, gravel pits, and

along rivers; migrants occur in wide variety of fresh and brackish wetland habitats, but rarely out on open tidal areas. Clipped “peu” call quite distinct from call of similar Common Ringed Plover.

9) Eurasian Curlew:

Scimitar-billed large shorebird of varied open habitats. Note large size, overall brown plumage, and long, decurved bill (appreciably shorter on juvenile). In flight shows white back patch, mostly white underwings. Common call an onomatopoeic "coor-lee." Compare to smaller Whimbrel, which has head stripes, a piping whistled call, and Far Eastern Curlew, which has a buffy rump and extensively marked underwings. Breeds mainly in grasslands, from coastal marshes to upland moors; winters mainly in coastal lowlands, especially mudflats and adjacent marshes.

10) Red naped ibis:

A medium-sized ibis with a dark body, often showing a bluish-green sheen. The crown and nape are covered in bright red warts. A white patch is usually visible near the shoulder of the wing. The bill is long and down curved. This species can be confused with the similar-looking Glossy Ibis, but Glossy Ibis is smaller and lacks the red warts and white shoulder patch. In flight, the legs of Red-naped Ibis don't extend beyond the tail, unlike in Glossy Ibis. Unlike most other ibis, Red-naped favors drier habitats, such as rye fields. It is usually found singly or in loose groups.

11) Ruddy Shelduck:

Striking and distinctive gooselike duck. Plumage bright ruddy overall with contrasting pale creamy head and neck; male has narrow black neck ring. Big white forewing patches striking in flight. Breeds in southeastern Europe and Central Asia, winters in South Asia. Often found around saline lakes; also reservoirs and agricultural fields. Escapees from waterfowl collections occasionally seen free-flying outside of native range.

RESULT:

Sr. No	Order	Family	Scientific Name	Common Name	IUCN Status
1	Passeriformes	Oriolus	<i>Oriolus xanthaenus</i>	Indian Golden Oriole	LC
2	Passeriformes	Sturnidae	<i>Postor roseus</i>	Rosy Starling	LC
3	Passeriformes	Sturnidae	<i>Stornia malabarica</i>	Chestnut Tail Starling	Red List
4	Passeriformes	Cisticolidae	<i>Cisticala juncidis</i>	Zitting cisticola	LC
5	Passeriformes	Estrildidae	<i>Euodice malobarica</i>	Indian Silverbill munia	LC
6	Passeriformes	Motacillidae	<i>Motacilia alba</i>	White Wagtail	LC
7	Passeriformes	Motacillidae	<i>Motacilia flava</i>	Yellow Wagtail	LC
8	Charadriiformes	Charadriidae	<i>Charadrius dubius</i>	Little Ringed Plover	LC
9	Charadriiformes	Scolopacidae	<i>Numenius arquata</i>	Eurasion Curlew	NT
10	Pelecaniformes	Threskiornithidae	<i>Pseudibis papillosa</i>	Red naped ibis	LC
11	Anseriformes	Anatidae	<i>Tadona ferrugina</i>	Ruddy Shelduck	LC

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BANCHAPPA BAN (BURLI)**



Fig: 2 *Oriolus xanthaenus*



Fig: 3 *Postor roseus*



Fig: 4 *Stornia malabarica*



Fig: 5 *Cisticala juncidis*



Fig: 6 *Euodice malabarica*



Fig: 7 *Motacilia alba*



Fig: 8 *Motacilia flava*



Fig: 9 *Charadrius dubius*



Fig: 10 *Numenius arquata*



Fig: 11 *Pseudibis papillosa*



Fig: 11 *Tadona ferrugina*

BANCHAPPA BAN (BURLI), Tal: Palus, Dist.: Sangli. (M.S.), India.



Aerial View of Banchappa Ban (Burli)



Banchappa Ban (Burli)



Wetland areas of Banchappa Ban (Burli)

DISCUSSION:

Increased urbanization typically leads to an increase in avian biomass but a reduction in richness and also supports our findings that rural sites were very important for avian species migration, food and reproduction purposes. It also supports that urban and rural sites avian diversity and richness show significantly higher during the study period. Present data records have a higher significant species diversity than were done in the past studies on the river community and water reservoirs.

Diverse wetland complexes are the greatest value in providing habitat for local and migratory bird species. Although few species of birds are not true water birds, but they spend most of their time nearby aquatic bodies or live in association with water ways or marshy areas. They visit regularly to water bodies for feeding on aquatic organisms.

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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