



## Status and diversity of avian fauna in and around Bordi region, west coast of India

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### Abstract

*This is the first report on avian diversity in and around Bordi region. Bordi is a coastal village situated in Palghar District of Maharashtra, which lies along state's border with Gujarat. Bordi is about 130 km from busting city of Mumbai and 40 km away from Vapi which is famous for pharmaceutical and chemical companies and factories. Bordi is located between 20° 09' 00" N latitude and 72° 43' 00" E longitude with average elevation is about 12m. Total 6 sites were selected for study of Avian fauna including, Bordi, Jambugaon, Aswali, Gholwad, Zai and Borigaon. The study period was from June 2013 to December 2016. Record images were taken using a Canon SX50HS camera and observations were also made through Olympus 10x50 DPS R binocular. During the study period, a total of 48 Avian species belonging to 14 orders and 28 Families with Order Passeriformes having maximum species of 15 were recorded and 6 species under both Pelecaniformes and Charadriiformes and Family Ardeidae with 5 species under it followed by Muscicapidae with 4 species under it. Some uncommon sightings were observed like a pair of Woolly Necked Stork and very elusive and shy Slaty Breasted Rail.*

**Keywords:** Avifauna, Bordi, West Coast, Maharashtra, Woolly Necked Stork.

### Introduction

India has a very wide variety of Bird species due to many different types of habitats. Apart from all the natural habitats like forests, grasslands, mangroves etc, even manmade environments like agricultural and plantation areas serve as an ideal habitat for birds. The area of Bordi has a diverse range of habitats in a relatively small area from Chikoo and Mango Orchards, mangroves, sea beach and Deciduous and Evergreen forested hilly regions. The Aswali hill range have a healthy wildlife that includes mammals like Leopard, Jungle Cat, Striped Hyena, wild boar and Flying Fox. These hills are home to arboreal birds and forest dwelling raptors. Bordi area has not been before studied well for its Avian fauna and hence needs attention for conservation of these creatures. Many bird species have known to inhabit urban Mumbai metropolis<sup>1</sup> and it's surrounding areas including Mahul creek<sup>2</sup>, Uran creek<sup>3</sup>, Vasai creek<sup>4</sup> and Thane Creek<sup>5-6</sup>. Birds play an important role in ecosystem as pollinators, scavengers and biomonitors controlling insects, pests and excellent ecology indicators. The ponds and river beds have a good density of water birds and water fowls like Herons and Grey Headed Swamphen.

These birds although are not observed during dry season. Along mangroves and marshland, waders are observed throughout the year with winter migrants flocking in from September.

The sea beach belt of Bordi is very rich with wading birds especially during winter season. Many birds like Gulls, Sand Plovers and Reef Egrets are observed feeding on shallow

waters. Orchards play a major role for arboreal birds. Avian species feeding on fruit and nectar make these orchards their regular feeding ground. As this belt has majority of organic farms, it is an added benefits to the birds. In return, birds help in controlling pests and help in pollination. This mutual relationship is worth taking a note of. Many studies have been conducted from Palghar<sup>7</sup>, Mahim Bay<sup>8</sup>, Bhayander Creek<sup>9</sup>, but this present study is the 1<sup>st</sup> preliminary report of avian fauna in and around Bordi region, west coast of India.

**Area of study:** Bordi is a coastal village situated in Palghar District of Maharashtra, which lies along state's border with Gujarat. Bordi is about 130 km from busting city of Mumbai and 174 km away from Vapi which is famous for pharmaceutical and chemical companies and factories. The total area under study including, Bordi, Jambugaon, Aswali, Gholwad, Zai and Borigaon. Bordi is situated between 20° 09' 00" Latitude North and 72° 43' 00" Longitude East and , average elevation is about 12m .

Average temperature is about 32° with humidity about 65% and tropical climatic condition with rainfall recorded 35cm. As per 2011 census, Bordi has a population of 7682 with an effective literacy rate of 87.71%. This belt is famous for it's chikoo plantation and contributes up to 35% of Maharashtra's Chikoo production. This area is well known for it's tribal art known as "Warli Painting" and "Tarpa Dance". Bordi region is famous fish landing centre, variety of fishes captured by local fishermen. Therefore variety of migratory birds visited to Bordi region in winter season.

## Materials and methods

The present study has been carried out between June 2013 to December 2016, total six villages were selected for the study of avifauna in and around Bordi region including winter visitors, resident and local migratory birds.

All the observations were recorded without disturbing the birds or any other natural elements. Record images were taken using a Canon SX50HS camera and observations were also made through Olympus 10x50 DPS R binocular. Observing and identifying bird calls also helped in recording the sightings.

No playbacks have been used to attract birds. Most bird species were identified using pocket guide "*Birds of Mumbai*"<sup>10</sup>, India Book House<sup>11-13</sup> and by following monographs, national and international publications and bird identification guide. The help of local people were taken for identification of local migratory birds.

## Results and discussion

A total of 48 species were recorded (Table-1) with 14 Order and 48 Families. Order Passeriformes having maximum number of 14 species including, Golden Oriole, Magpie Robin, Pied Bushchat and Common Myna etc in this order followed by 6 species under Pelecaniformes including Cattle Egret, Pond Heron and Glossy Ibis and Charadriiformes including Eurasian Curlew and Lesser Sand Plover. This shows that maximum species observed here are passerines or arboreal birds followed by waders and water birds. Out of the 48 species, 9 were Winter Visitors while other 39 species are either fully Resident or Local Migrants. Most Winter Visitors arrive by September and stay upto April. Except Siberian Stonechat and Golden Oriole, all other Winter Visitors are Waders. Some uncommon sightings were observed like a pair of Woolly Necked Stork and very elusive and shy Slaty Breasted Rail. Trees like Moringa and Sapota have been observed to attract a lot of fruit and nectar feeding birds like Sunbirds, Flowerpecker and Bulbuls. Some birds including Ashy Prinia, Great Egret, Pied Bushchat were also observed from mangrove area of Bordi coast.

**Table-1:** Status and diversity of avian fauna observed in and around Bordi region.

Sr No.	Bird name	Scientific name	Order	Family	Status	Population
1	Asian Koel	Eudynamys scolopaceus	Cuculiformes	cuculidae	R/C	common
2	Black Kite	Milvus migrans	Accipitriformes	Accipitridae	R/C	common
3	Cattle Egret	Bubulcus ibis	Pelecaniformes	Ardidae	R/C	common
4	Coppersmith Barbet	Psilopogon haemacephala	Piciformes	Megalaimidae	R/C	common
5	Eurasian Curlew	Numenius arquata	Charadriiformes	Scolopacidae	WV/O	occasionally
6	Golden Oriole	Oriolus oriolus	Passeriformes	Oriolidae	WV/C	common
7	Greater Coucal	Centropus sinensis	Cuculiformes	Cuculidae	R/C	common
8	Green Bee Eater	Merops orientalis	Coraciiformes	Meropidae	R/C	common
9	Lesser Sand Plover	Charadrius mongolus	Charadriiformes	Charadriidae	WV/C	common
10	Grey Headed Swampphen	Porphyrio poliocephalus	Gruiformes	Rallidae	R/O	occasionally
11	Long Tailed Shrike	Lanius schach	Passeriformes	Laniidae	R/C	common
12	Magpie Robin	Copsychus saularis	Passeriformes	Muscicapidae	R/C	common
13	Asian Open Bill	Anastomus oscitanus	Ciconiiformes	Ciconiidae	R/C	common
14	Pond Heron	Ardeola grayii	Pelecaniformes	Ardeidae	R/C	common
15	Purple Rumped Sunbird	Leptocoma zeylonica	Passeriformes	Nectarinidae	R/C	common
16	Spotted Dove	Spilopelia chinensis	Columbiformes	Columbidae	R/C	common
17	Siberian Stone Chat	Saricola maurus	Passeriformes	Muscicapidae	WV/C	common
18	Western Reef Egret	Egretta gularis	Pelecaniformes	Ardeidae	R/C	occasionally

Sr No.	Bird name	Scientific name	Order	Family	Status	Population
19	White Browed Bulbul	Pycnonotus wteolus	Passeriformes	Pycnonotidae	R/O	occasionally
20	White Spotted Fantail	Rhipidura albogularis	Passeriformes	Rhipidoridae	RC	occasionally
21	Red Whiskered Bulbul	Pycnonotus jocosus	Passeriformes	pycnonotidae	R/C	common
22	Painted Stork	Mycteria leucocephala	Ciconiiformes	Ciconiidae	WV/U	uncommon
23	Woolly Necked Stork	Ciconia episcopus	Ciconiiformes	Ciconiidae	WV/U	uncommon
24	Ashy Prinia	Prinia socialis	Passeriformes	Cisticolidae	R/C	common
25	Glossy Ibis	Plegadis falcinellus	Pelecaniformes	Threkiornithidae	WV/U	uncommon
26	Oriental Honey Buzzard	Perisoreus ptilorhynchus	Accipitriformes	Accipitridae	R/O	occasionally
27	Wire Tailed Swallow	Hirundo smithii	Passeriformes	Hirundinidae	R/C	common
28	Black Crowed Night Heron	Nycticorax nycticorax	Pelecaniformes	Ardeidae	R/O	common
29	Great Egret	Ardea alba	Pelecaniformes	Ardeidae	R/C	common
30	Bronze Winged Jacana	Metopidivus indicus	Charadriiformes	Jacanidae	R/C	occasionally
31	Pied Bushchat	Saxicola caprata	Passeriformes	Muscicapidae	R/C	common
32	Slaty Breasted Rail	Gallirallus striatus	Gruiformes	Rallidae	R/U	uncommon
33	White Throated Kingfisher	Halcyon smyrnensis	Coraciiformes	Alcedinidae	R/C	common
34	Small Blue Kingfisher	Alcedo atthis	Coraciiformes	Alcedinidae	R/C	common
35	Zitting Cisticola	Cisticola jureidis	Parriformes	Cisticolidae	R/O	occasionally
36	Red Wattled Lapwing	Vanellus indicus	Charadriiformes	Charadriiformes	R/C	common
37	Alexandrine Parakeet	Psittacula eupatria	Psittaciformes	Psittaculidae	R/C	common
38	Common Myna	Acridotheres tristis	Passeriformes	Sturnidae	R/C	common
39	Black Drongo	Dicrurus macrocerus	Passiformes	Dicroridae	R/C	common
40	Grey Plover	Plovialis squatarola	Charadriiformes	Charadriidae	WV/O	occasionally
41	Brown Headed Gull	Chroicocephalus Brunnicephalus	Charadriiformes	Laridae	WV/C	common
42	White Breasted Waterhen	Amauromis Phoenicurus	Gruiformes	Rallidae	R/C	occasionally
43	Jungle Babbler	Turdoides striata	Parriformes	Leiothrichi	R/C	common
44	Blue Rock Pigeon	Columba Livia	Columbiformes	Columnidae	R/C	common
45	Large Billed Crow	Corvus macrorhynchos	Passeriformes	Corvidae	R/C	common
46	Red Breasted Flycatcher	Ficedula parva	Passeriformes	Muscicapidae	R/O	occasionally
47	Pale Billed Flowerpecker	Dicaeum Erythrorhynchos	Passeriformes	Dicacidae	R/C	common
48	Little Cormorant	Microcarbo niger	Suliformes	Phalacrocoracidae	R/C	common

\*\*R- Resident, WV- Winter Visitor, C- Common, O- Occasionally & U- Uncommon.

## Conclusion

As there is no information available about avifauna from Bordi region, therefore this is the first preliminary study report from Bordi region which will be beneficial for ecological comparisons and assessment. Birds are an important indicator of biological health of an ecosystem. They are an important part of the food web. Birds aid in natural processes like pollination and control of pests and. Wader and coastal birds indicate the ecological health of marine and limnological bodies. Other than these importance, birds are a delight to watch, observe and hear their beautiful sounds and calls. They add an aesthetic value to an environment. Threats like use of chemical pesticides and fertilizers pose a serious threat to fruit and nectar feeding birds. Occasional hunting by tribals is also a cause of concern. Waders and coastal birds face the problems like pollution and dumping of wastes. Mangroves are under threat due to illegal land encroachment, land filling and waste dumping. Care should be taken to protect and preserve habitats of these birds under natural conditions. Further studies should be conducted to understand the ecological health and diversity of this region and awareness should be created to generate help at local level in conservation activities.

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