



STUDY OF AVIFAUNA FROM THE WETLAND AREA OF VASAI, MAHARASHTRA

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ABSTRACT

In this paper an attempt is made by the authors to quantify the results of their survey of the avifauna from Vasai wetland sites. Vasai is fast growing industrial city located about 60 kilometers north of Mumbai. This area is surveyed for avifauna in the last 1 year through the nature trails. The authors have recorded 43 species of birds belonging to 10 Orders and 27 Families. The Order Passeriformes and Ciconiiformes were found dominant having 37% and 18% families and 35% and 33% bird species respectively. In the families the family Ardeidae was found dominant with eight species. In this paper an attempt is being made to enumerate the beautiful avifauna and to make authorities aware especially town planners about the richness of wetland area of Vasai and to plan scientifically the management of this fast growing industrial city.

KEYWORDS

Avifauna, wetland , planning, Industrial city.

INTRODUCTION

Wetland birds play a significant role in wetland ecosystem. Wetland birds are an important component of wildlife and their occurrence and distribution are an important phenomenon to understand the overall picture of wetland habitat. Birds are one of the best indicators of environmental changes. The population of birds in any kind of ecosystem shows the environmental quality of the area, pollution level, security and availability of food and habitat. According to Rathore and Sharma (2000), birds present in or near lake are affected by several factors such as pollution, disturbance by human activities and lack of maintenance of water bodies. Most of the birds have specific habitat requirements from season to season, a loss of which may lead to their extinction (Chauhan et al., 2008). Of 1340 bird species found in India (Ali and Ripley, 1987; Manakandan and Pittie, 2001), around 310 species are known to be dependent on wetlands (Kumar et al., 2005). Fulfilling the habitat requirements of water birds is one of the most important functions performed by wetlands. Loss of anthropogenic habitat more closely related to habitat loss than to any other aspect of human activity such as use of agricultural pesticides, poaching and hunting, or human population density. All over the world there is increasing interest in the conservation of water birds and their wetland habitats. These habitats are under pressure due to certain environmental changes and human activities (Turner et al. 2000; Froneman et al. 2001). India is estimated to have about 58.2 million hectares of wetlands (Prasad et al. 2002). Many of these wetlands are distributed around the Indo-Gangetic plains. Numerous direct and indirect pressures arising from different types of economic development and associated activities are having adverse impacts on these wetlands

habitat. Apart from the natural wetlands of India, which support 20% of the known biodiversity (Deepa and Ramachandra 1999), there are many man-made wetlands, such as dams and ponds, in the country that also support floral and faunal diversity. The importance of artificial wetlands has been studied by many authors, and they have suggested that these wetlands can provide suitable habitats for water birds (Tourenq et al. 2001, McKinstry and Anderson 2002, Paracuellos and Telleria 2004, Santoul et al. 2004, Okes et al. 2008, Rendon et al. 2008).

The present study is carried out not only to enumerate birds of this fast growing industrial city, but also to make the government authorities aware and specially the town planners to look into the rich heritage of this historical place having multicultural society start planning for the better conservation and management of this heritage place for the future of our society.

MATERIAL AND METHODS

Study Area

This study was conducted in Vasai, a Taluka place, under the newly carved Palghar District of Maharashtra state. Vasai is situated between Geographic coordinates of Latitude: 19° 21' 59.8896" N Longitude: 72° 48' 57.9636" E.. Elevation above sea level. Vasai lies on the Western Line of the Mumbai Suburban Railway on the busy Mumbai- Ahmadabad rail corridor. Vasai is surrounded in the east by newly developed Evershine city near Gokhivire and Juchandra. It is having few wetland areas including salt pans which are giving shelter/ food for the birds.(Fig. 1.) Vasai taluka is very fast growing industrial city. Agriculture and fishing in this area are mainly dependent on monsoon rain.



Fig 1. a and b. wetland area of Vasai.

Methods

The entire observations were conducted by rigorous field surveys all around the wetlands. Observations were recorded by using Nikon Action 10x50 binocular and relevant photographs were taken by Canon 700 D.

Birds were identified with the help of noting, standard methods given by Ali & Ripley (1969, 1995), Ali (1996) and Ali (2002).

RESULT AND DISCUSSION

In the present study a total of 43 birds belong to 10 orders and 27 families were recorded in 1 year of nature trails from wetland area of Vasai and surrounding areas (table 1). Vasai wetland area exhibits qualitative variation in avifauna.

Table 1. Avifauna of Wetland area of Vasai.

| Order | Family | Scientific name | Common Name |
|-----------------|-------------------|------------------------------|----------------------|
| CICONIIFORMES | ARDEIDAE | Nycticorax | Night Herone |
| | | Ardea Purpurea | Purple herone |
| | | Ardea Cinerea | Grey Herone |
| | | Egretta garetta | Little Egrets |
| | | Mesophoyx intermedia | Median Egrets |
| | | Casmerodius albus | Large Egrets |
| | | Bubulcus ibis | Cattle egrets |
| | | Ardeola grayii | Pond herons |
| | CICONIIDAE | Mycleria leucocephala | Painted Strock |
| | | Anastoneus oscitans | O.B.S. |
| | | Ciconia episcopus | White necked strock |
| | | Threskiornis aethiopia | White Ibis |
| | | Phoenicopterus melanocepalus | Flamingo |
| | | Phoenicopterus roscus | |
| | | Phalacrocorax niger | Little Cormorant |
| | PHALACROCORACIDAE | | |
| ANSERIFORMES | ANATIDAE | Anas Poecilorhyncha | Spotbill duck |
| | | | |
| FALCONIFORMES | ACCIPITRIDAE | Milvus migrans | Pariah Kite |
| | FALEONIDAE | Haliasturindicus | Bhramy Kite |
| GALLIFORMES | PHASIANIDAE | Gallicrex cinera | Common Moorhen |
| | | | |
| GRUIFORMES | RALLIDAE | Prophyrioporphyrio | Purple Moorhen |
| | | | |
| CHARADRIIFORMES | JACANIDAE | Hydrophasianus chinurgus | Pheasanttail jacana |
| | HAEMATOPODIDAE | Limicolafalcindlus | Broad bill Sandpiper |
| | CHARADRIIDAE | Charadrius leschenaultii | Large Sandpiper |
| | ROSTRATULIDAE | Himantopus | Black Winneg Slits |
| | | | |
| COLUMBIFORMES | COLUMBIDAE | Columba Livia | Blue rock pigeon |
| APODIFORMES | APODIDAE | Cypsiurus parvus | Palm Swift |

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|---------------|---------------|----------------------|--------------------------|
| CORACIIFORMES | ALCEDINIDAE | Halcyon | Whitebreasted kingfisher |
| | | Smyrnesis | Small blue kingfisher |
| | UPUPIDAE | Alcedo atthis | Common Hoopoe |
| PASSERIFORMES | HIRUNDINIDAE | Hirundodaurica | Redrumped swallow |
| | | Dicrurus adsimilis | Black Drongo |
| | DICRURIDAE | albirictus | |
| | | Sturnus Contra | Pied Myna |
| | ARTAMIIDAE | | Common myna |
| | STURNIDAE | Acridotheres tristis | House crow |
| | CORVIDAE | Corvus splendens | Jungle crow |
| | | Corvus macrorhynchos | |
| | MUSCICAPIDAE | Turdoides caudatus | Babbler |
| | | Orthotomus sutorius | Common babbler |
| | | | Tailer bird |
| | | | |
| | MOTACILLIDAE | Anthus Hodgsoni | Pipit |
| | NECTARINIIDAE | Nectarinia minima | Small sun bird |
| | | Estrilda | |
| | PLOCEIDAE | Amandava | Red Munia |
| | | Passer domesticus | House sparrow |
| | | Lonchura punctulata | Spotted Munia |
| | | Lanius schach | Rufousbacked shrike |
| LANIIDAE | | | |
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The orders Passeriformes and Ciconiiformes, were found dominant having 37% and 18% families respectively followed by order Charadriiformes 11%, Falconiformes 7%, Coraciiformes 7%, Anseriformes 4%, Galliformes 4%, Gruiformes 4%, Columbiformes 4% and Apodiformes 4%. (Fig.2.)

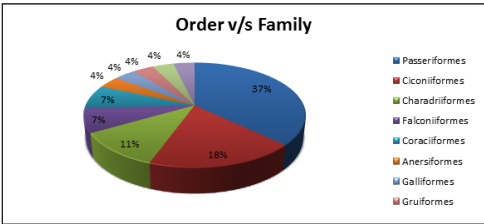


Fig.2. Order wise distribution of families of wetland of Vasai.

The family Ardeidae was found dominant with eight species indicating the wetland habitat moderately support birds life followed by Muscicapidae(3), Ciconiidae (3), Ploceidae (3), Charadriidae(2), Alcedinidae(2), Corvidae(2), Threskiornithidae(1), Phoenicopteridae(1), Phalacrocoracidae(1), Anatidae(1), Accipitridae(1), Faleoniidae(1), Phasianidae(1), Rallidae(1), Jacanidae(1), Rostratulidae(1), Columbidae(1), Apodidae(1), Upupidae(1), Hirundinidae(1), Dicruridae(1), Artamiidae(1), Sturnidae(1), Nacteriniidae(1), Motacillida (1), Laniidae(1) .(Fig.3.)

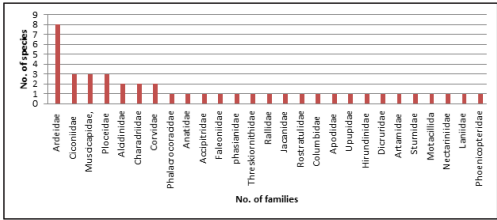


Fig.3. Family wise distribution of Species of wetland of Vasai.

On the basis of orders Passeriformes 35% and Ciconiiformes 33% order were maximum recorded which followed by orders, Charadriiformes 9%, Coraciiformes 7%, Falconiformes 5% , Anseriformes 3%, Galliformes 2%, Gruiformes 2%, Columbiformes 2%, and Apodiformes 2%. (Fig.4.)

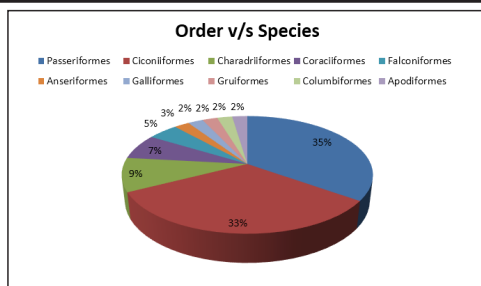


Fig.4. Order wise distribution of Species of wetland of Vasai.

Similar type of study was carried out by Singh *et al.* (2016) studied the avifauna of Devkhop lake of Palghar and enumerated 20 families. Singh *et al.* (2016), where they observed beneficial aspect of garbage dump of Palghar in terms of avifauna and recorded 33 species of birds belonging to 21 families. Singh (2016) studied the avifauna of Waghoba forest of Palghar and recorded 77 species belonging to 31 families. Singh (2016- in press) studied the avifauna of suburb of Mumbai, Palghar and recorded 676 species belong to 33 Families. Perennou (1990) also considered that water bodies of the Madhav National Park as one of the most important wetlands in India for sustaining the population of migratory birds. Chandra and Nema (2006) studied the avian fauna of Madhav National Park and prepared a checklist of birds, which includes 239 species of birds pertaining to 160 genera under 58 families. Kumar and Gupta (2009) reported a total of 54 species of wetland birds belonging to 36 genera and 15 families distributed in 5 orders. Acharya *et al.*, (2010) reported 100 species of birds belonging to 22 families from Shingba Sanctuary, Sikkim. Raj *et al.*, (2010) recorded total 101 species of resident and migratory birds and give a consolidated checklist of birds in the Pallikaralai wetlands, Chennai. Shukla and Lone (2010) recorded 63 species of water birds, belonging to 17 families from Sur Sarovar Lake, Agra U.P., and India. Vikas kumar (2015), recorded 99 birds species in Vansda National Park, Gujarat. Terdalkar *et al.* (2005) listed 45 species of birds belonging to 18 families around Bhatye estuary, Ratnagiri.

The aim of this present study to quantify the avifauna of wetland of this fast growing industrial city and to make aware the government specially town planners, NGO's, urban researchers which in turn will start planning for the better conservation and management of this beautiful area for the future of our society.

CONCLUSION

Around 43 species of birds belonging to 10 orders and 27 families were recorded in the study area which has its own importance. The proper management of these wetland sites in this fast growing industrial city will boost not only the scenic beauty but also the revenue through the eco-tourism and in turn the living standard of the people.

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