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Study of Avifaunal diversity in and around Mandwa Lake Near Dharni (Melghat) Tahsil, District Amravati (M.S), India

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ABSTRACT

Birds are of great economic importance of the man and they play an important role in controlling population of different pests. Birds are scavengers and pollinating agents and also help's in dispersal of seeds and also birds are provided rich food for mankind and are known to man since ages. Salim Ali, laid the foundation of economic ornithology. Birds are very significant component of biodiversity and are the most important indicators the balanced and living ecosystem. Population of birds in a particular ecosystem is depending on the composition of the ecosystem, environmental condition and seasonal variation. The present investigation was carried out to the avifaunal and around the Mandwa Lake near Dharni (Melghat) Tahsil was studied from Jan 2019 to Dec 2019 during total 71 species of birds were recorded from 15 different orders and 33 families among which 53 were resident, 9 were resident migrant and 9 were winter visitor.

Key words: Mandwa lake, Avifaunal diversity.

INTRODUCTION

Diversity of avifauna is very important ecological indicator to evaluate the quality of habitats. Birds are a diverse group and their bright colour, distinct songs calls and show displays add enjoyment to the lives and birds are very visible, quite common and offer easy opportunities to observe their diverse plumage and behaviours. Because, birds are popular to many who pursue wildlife watching and monitoring activities. Some birds are easily migrate, transport a variety of things through the environment. For example, birds serve to spread seeds of various plants, there by helping in plant dispersal.

The Mandwa Lake is principal fresh water body located in Mandwa village of Dharni tahsil in Amravati district of Maharashtra state. Dharni is a tahsil place and it is 148 km north west side of Amravati and 80 km east side from Burhanpur Madhyapradesh It is situated at about 500 m above the mean sea level.

Mandwa lake is 4 km south east side from Dharni Tahsil at about 500 m above mean sea level and is at 76°55'49''E longitude and 21°31'28'' N latitude. Mandwa lake receives the water from the surrounding catchment areas during the monsoon period. The area of Mandwa lake is spread over 500 acres. The depth of water is 38 feet during the monsoon and 15 feet during the summer season. The water of this lake is primary used for washing, bathing, fishing activities, agriculture and other domestic purpose but now it is at a transitional state with respect to degradation.

The lake harbor a large number of aquatic weeds in the submerged as well as floating state on which the large number of organisms survive in lake. Due to much food availability throughout in year in the form of aquatic insects, crustaceans molluscus, fishes ect. The lake always attracts a large number of birds such as migratory and non migratory birds throughout year, therefore the present study the avifaunal diversity in around and located Mandwa lake near Dharni (Melghat) tahsil, district Amravati.

MATERIAL AND METHOD

Avian fauna including resident and migratory birds were recorded during the period of present study. The observation were usual undertaken early in the morning between 6 a.m. to 8 a.m. and in the evening between 5 p.m. to 7 p.m. birds were observe with the help of Binocular and photographs using Nikon Camera model No. D – 70. Identification of avain fauna was done according to the keys given by woodcock (1980), Salim Ali (1987).

RESULT AND DISCUSSION

In the present study 71 species of birds were recorded from 15 different orders and 33 families among which order Passeriformes was dominant followed by contributing 20 species (eighteen residential species and 2 winter visitor species) followed by order Ciconiformes with 9 species (five are residential migratory, two are residential and two are winter visitor), order Ansiriformes represented by 6 species (five species are winter visitor and one is residential), order Coraciformes also represents by 6 species (four species are residentially and two are residential migratory),order Piciformes respresented by 6 species (six species are residentially), order Charadiformes represented by 5 species (four species are residential and one is residential migratory), order Psittaciformes are presented by 5 residential species, order Strigiformes and Galliformes represented by 3 residential species, order Gruiformes represented by 2 species (one is residential other one is residentially migratory) Columbiormes, Falconiformes, and Peleconiformes represented by two residential species, order Apodiformes, and order Podicipediformes are represented by one residential species.

Among the families recorded species of birds 8 species belongs to Anatidae, 6 species belongs to Picidae, 4 species belongs to Ardeidae, 3 species belongs to Ciconidae, Alcedinidae, Strunidae, Motacillidae, Psittacidae, Strigidae, 2 species belongs to Recurvirostridae, Threskiornithidae, Cloumbidae, Phalcrocoracidae, Cuculidae, Necatarinidae, Muscicapidae, Laniidae, Corvidae, Gruidae, Phasinidae and 1 species belong to Apodae, Charadridae, Scolopacidae, Jacanidae, Coraciidae, Meropidae, Upupidae, Policipedidae, Passeridae, Pycnonotidae, Dicrudidae, Hirudinidae and Rallidae fimilies out of total 53 were residential , 9 were residential migratory and 9 were winter visitor.

Birds are depending on scientific classification over 9000 birds species and more than 1250 in India, with almost 150 having become extinct after the arrival of Humans. Ali, (1939) has published a list of 278 species of birds from central India. Newton, *et.al.,*(1986) reported the listed birds of Kanha Tiger Reserve (M.P.), Ghosal, (1995) they noted the birds of Kanha Tiger Reserve (M.P.). Wadatkar and Kasambe, (2002) observed 171 species of birds at Pohara Malkhed forest reservoir of Amravati district (M.S.). Kedar and Patil, (2005) founded 60 bird species from Rishi lake, Karanja Lad, (M.S.). Kulkarni, *et.al.,* (2006) observed and recorded 93 species of birds from Shikhachi wadi reservoir of Nanded District (M.S.). Kulkarni and Kanwate, (2006) also noted 18 species of birds 10 as resident, 2 migratory and 6 as residential migratory from Dongarkheda irrigation tank of District Hingoli (M.S.).

Kurhade, (2010) founded 208 species of birds in Jaikwadi reservoirs near Ahmadnagar (M.S.). Narwade and Fartade, (2011) observed and recorded 165 species of birds of Osmanabad district (M.S.).

Table 1: Distribution of birds forms of Mandwa lake during Jan 2019 Dec 2019

Sr. No.	Order/Family	Scientific Name	Common Name	Habit
1.	Ansiriformes Anatidae	*Anas poecilorhyncha*	Spot Bill Duck	WV
2.	Ansiriformes Anatidae	*Tadorma ferruginea*	Brahminy Shelduck	WV
3.	Ansiriformes Anatidae	*Anas acuta*	Northern Pintail	WV
4.	Ansiriformes Anatidae	*Anas clypeata*	Northern Shoveller	WV
5.	Ansiriformes Anatidae	*Anas platyrhynchos*	Domestic Duck	WV
6.	Ansiriformes Anatidae	*Nettapus coromandelianus*	Cotton Teal	R
7.	Apodiformes Apodae	*Apus affinis*	House swift	R
8.	Charadriformes Charadridae	*Vanellus indicus*	Red wattled Lapwing	R
9.	Charadriformes Recurvirostridae	*Himantopus himantopus*	Black Winged Stilt	R
10.	Charadriformes Scolopacidae	*Actitis hypoleucos*	Common Sandpiper	RM
11.	Charadriformes Jacanidae	*Metopidius indicus*	Bronze-Winged Jacana	R
12.	Charadriformes Recurvirostridae	*Vanellus duvaucelli*	River Lapwing	R
13.	Ciconiformes Ardeidae	*Bubulcus ibis*	Cattle Egret	RM
14.	Ciconiformes Ardeidae	*Mesophosyx intermedia*	Median Egret	RM
15.	Ciconiformes Ciconidae	*Ephippiorhyrichos asiaticus*	Black Nacked Stork	WV
16.	Ciconiformes Ardeidae	*Casmerodius albus*	Large Egret	RM
17.	Ciconiformes Ciconidae	*Anastomus osciatans*	Asian Open Bill Stork	R
18.	Ciconiformes Ciconidae	*Mycteria leucocephala*	Painted Stork	WV
19.	Ciconiformes Threskiornithidae	*Pseudibis papillosa*	Black Ibis	RM
20.	Ciconiformes Threskiornithidae	*Pseudibis papillosa*	Black headed Ibis	RM
21.	Ciconiformes Ardeidae	*Aredeola grayii*	Indian Pond Heron	R
22.	Columbiformes Columbidae	*Stigmatopelia senegalensis*	Little Brown Dove	R
23.	Columbiformes Columbidae	*Streptopelia chinensis*	Spotted Dove	R
24.	Coraciformes Alcedinidae	*Halycon smyrnensis*	White Breasted Kingfisher	R
25.	Coraciformes Alcedinidae	*Alcedo atthis*	Small Blue Kingfisher	RM
26.	Coraciformes Coraciidae	*Coracias benghalensis*	Indian Roller	RM
27.	Coraciformes Meropidae	*Merops orientalis*	Small Green Bee Eater	R
28.	Coraciformes Upupidae	*Upupa epops*	Common Hoopoe	R
29.	Coraciformes Alcedinidae	*Ceryle rudis*	Lasser pied Kingfisher	R
30.	Falconiformes Anatidae	*Milvus migrans*	Black Kite	R
31.	Falconiformes Anatidae	*Elanus caeruleus*	Black Winged Kite	R
32.	Galliformes Phasinidae	*Fracolinus pondicerianus*	Grey Francolin	R
33.	Galliformes Phasinidae	*Pavo Cristatus*	Indian Peafowl	R
34.	Gruiformes Rallidae	*Amaurornis phoenicurus*	White - Breasted Water Hen	R
35.	Galliformes Gruidae	*Porphyrio porphyrio*	Purple Swamphcae	R
36.	Gruiformes Gruidae	*Fulica atrica*	Common Coot	RM

Table 1: Continued…

Sr. No.	Order/Family	Scientific Name	Common Name	Habit
37.	Passeriformes Necatarinidae	*Cinnyris asiaticus*	Purple Sunbird	R
38.	Passeriformes Muscicapidae	*Turdoides striat*	Jungal Babbler	R
39.	Passeriformes Passeridae	*Hydrophasianus chirurgus*	Pheasant Tailed Jacana	R
40.	Passeriformes Mucicapidae	*Saxicolodies fulicatus*	Indian Robin	R
41.	Passeriformes Laindae	*Lanius schach*	Rufousbacked Shrike	R
42.	Paseriformes Sturnidae	*Acridotheres tristis*	Common Myna	R
43.	Passeriformes Pycnonotidae	*Pycnonotus cafer*	Red Vented Bulbul	R
44.	Passeriformes Dicrudidate	*Dicrurus macrocercus*	Balck Drongo	R
45.	Passeriformes Sturnidae	*Sturnia pagodarum*	Brahminy Starling	R
46.	Passeriformes Hirudinidae	*Hirundo rustica*	Common Swallow	R
47.	Passeriformes Necatarinidae	*Nectarinia zeylonica*	Purple Rumped Sunbird	R
48.	Passeriformes Laniidae	*Lanius vittatus*	Bay Backed Shrike	R
49.	Passeriformes Corvidae	*Corvus macrorhynchos*	Jungal Crow	R
50.	Passeriformes Motacillinae	*Motacilla alba*	White Wagtail	WV
51.	Passeriformes Motacillinae	*Motacilla cinerea*	Grey Wagtail	WV
52.	Passeriformes Motacillidae	*Motacill maderaspatensis*	White Browed Wagtail	R
53.	Passeriformes Sturnidae	*Sturnus contra*	Pied Myna	R
54.	Passeriformes Corvidae	*Corvus splendens*	House Crow	R
55.	Pelecaniformes Phalcrocoracidae	*Phalacrocorax niger*	Little Cormorant	R
56.	Pelecaniformes Phalcrocoracidae	*Phalacrocorax fusicollis*	Indian Cormorant	R
57.	Psittaciformes Psittacidae	*Psittacula krameri*	Rose Ringed Parakeet	R
58.	Piciformes picidae	*Dendrocopos nanus*	Brown Capped Pygmy Woodpecker	R
59.	Piciformes picidae	*Dendrocopos mahrattensis*	Yellow Fronted pied Woodpedar	R
60.	Piciformes picidae	*Chrysocolaptes festivus*	Black shoulder Woodpecker	R
61.	Piciformes picidae	*Dinopius javanense*	Common Golden Backed Woodpecker	R
62.	Piciformes picidae	*Dinopium benghalense*	Golden Backed Woodpecker	R
63.	Piciformes picidae	*Dryocopus javensis*	Great Blacked Woodpecker	R
64.	Psittaciformes Psittacidae	*Psittacula eupatria*	Alexandrine Parakeet	R
65.	Psittaciformes Psittacidae	*Psittacula cyanocephala*	Plum Headed Parakeet	R
66.	Psittaciformes Cuculidae	*Eudynamys scolopaceus*	Asian Koel	R
67.	Psittaciformes Cuculidae	*Centropus sinensis*	Greater Concul	R
68.	Podicipediformes Podicipedidae	*Tachybaptus ruficollius*	Little grebe	R
69.	Strigiformes Strigidae	*Tyto alba*	Barn owl	R
70.	Strigiformes Strigidae	*Strix ocellata*	Motted wood owl	R
71.	Strigiformes Strigidae	*Athene brama*	Spotted owl	R

R = Residential (53), WV = Winter Visitor (9), RM = Residential Migratory (9)

Rasal and Chavan, (2011) founded 61 species of birds in local ecosystem of Aurangabad (M.S.). Kukade, *et.al.,*(2011) reported 68 birds species of Chhatri lake of Amravati district (M.S.). Harney, *et.al.,*(2012) observed 37 species of birds from Kanhala pond of Bhadrawati of District Chandrapur (M.S.). Joshi and Shrivastava, (2012) observed 64 species of birds in Tawa reservoir of Hoshangabad District (M.P.). Harney, *et.al.,*(2013) founded 37 species of birds from Kanhala pond with preference to feeding habits of Bhadrawati of District Chandrapur (M.S.) and Natarajan Mariappan, *et.al*., (2013) observed 92 species of birds from different Habitats of Agricultural Ecosystem of Pollachi (Tamilnadu). Harney and Bhute, (2014) reported 65 birds species belonging to 15 different orders and 40 families were recordedfrom the Chalbardi (Rai) lake near Bhadrawati, District Chandrapur (M.S.), India. Manjunath, *et.al.,* (2014) observed the occurrence of 26 species of birds belonging to 8 orders of 13 families in Shri Sharanabasaveshwara lake of Gulbarga District, Karnataka. Patil Alaka, (2015) reported 13 species at Bhambarde Sangli, (M.S.) and Jayanta Mistry, (2015) observed 64 species of birds belonging to 34 families were reported and around Berhampore town, Murshidabad District, West Bengal. Mahajan and Harney, (2016) observed 56 species of birds belonging to 11 different orders and 27 families in Mohabala lake of Bhadrawati, District Chandrapur (M.S.), India.

The birds in and around the Mandwa lake are affected by many factors such as organic pollutant, various human activities and lack of maintenance of lake, but still avifauna of Mandwa lake is diverse. So keeping in view the varied avifauna reported, steps should be taken to do proper maintenance and must not be more polluted in future.

CONCLUSION:

In the present investigation during visits it was noticed that the few birds like Indian Peafowl, Spot Bill Duck and Grey Francolin, rarely seen and really, it will be huntered by man. The traditional norms and the fear of forest which previously prevented people due to exploiting and general Jungle degradation.

The above observations indicate that the lake supports large varieties and all the status of avian diversity. We help to enhance lake, forest birds diversity and protect the habitats.

Conflict of Interest

The author declares that there is no conflict of interest.

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