

Original Research Article

Diversity of birds in local ecosystem Lakhani, Dist. Bhandara (Maharashtra), India

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ABSTRACT

Birds are sensitive indicators of biological richness and environmental trends and fulfill many key ecological functions; they contribute to our understanding of natural processes; they are an important economic resource; and they have inspired and delighted people of many cultures for centuries, which makes them excellent ambassadors for the promotion of conservation awareness and international collaboration. Birds are found throughout the world, at approximately all altitudes and nearly every climate. They are a natural way to control pests in gardens, on farms and in aquatic ecosystems. Many species of birds respond to small changes in habitat structure and composition, therefore they serve as good indicators of changes in the environment. The avifauna was reported from different isolated habitats by various authors, but in the present actual situation of avifauna in lakhani town surrounding was thoroughly sighted during one-year period study (2019 – 20) in different seasons and listed during field survey the about 51 species of birds were recorded in all seasons due to different habitats present at lakhani local ecosystem, out of watershed catchments, from flowering tree shelters, and from marshy areas. Out of these, some are common birds which are observed perennially while some birds are seasonal. These are more frequently observed in winter. Grey hornbill, Tree pie are seen in starting of Rainy season.

KEYWORDS

Residential | Avifauna | Lakhani

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Introduction

Birds are found throughout the world, at approximately all altitudes and nearly every climate. Many species of birds respond to small changes in habitat structure and composition, therefore they serve as good indicators of changes in the environment. The presence of aquatic birds anywhere speaks volumes of the environment as to whether all is well or there is something amiss. It also shows the biological importance or going technical, the biodiversity significance of an area. Wetlands are commonly associated with lakes or can occur as isolated features of the landscape. Ecosystem services are the benefits that people, society and the economy receive from nature, some of these services are water availability and purification, flood and storm control, carbon storage and climate regulation, food and materials provision, scientific knowledge, recreation and tourism (Prasad *et al.*, 2002, Tak *et al.*, 2010).

The abundance of avifauna indicates the healthy status of lakes owing the availability of water, safe habitat and food sources for both adults and nestlings, and essential nesting/roosting sites in and around the lakes are important for the occurrence and abundance of aquatic bird populations (Joshi, 2012). Diversity of the avifauna is one of the most important ecological indicators to evaluate the quality of habitats. Now days, avifaunal diversity has been decreasing due to the destruction of natural habitats and human disturbances (Bhadja and Vaghela, 2013). Every water body provides an ideal location as a stopover site to the ducks and waders while its surrounding area to the arboreal migrants like waders. The decline in avian species due to the loss of habitat by

reclamation of land for construction purposes and also due to reduction of nesting sites (Lad and Patil, 2015).

The earlier studies on birds were undertaken by investigators like Majumdar (1984) who studied birds from Bastar district, Newton *et al.*, (1986) and Ghosal (1995) listed birds of Kanha tiger reserve, Osmatston (1922) studied birds from Pachmarhi, Yardi *et al.*, (2004) reported birds from Salim Ali Lake, Aurangabad, Wadatkar and Kasambe (2002) studied birds of Pohara-Malkhed forest reserve, while Kulkarni *et al.*, (2005) studied birds in and around Nanded, Dutta (2011) studied avian diversity in two wetlands of Jalpaiguri District, West Bengal. Although the climatic and geophysical conditions of both the wetlands were almost similar, a total of 80 bird species were recorded from one wetland and the other supported only 42 species. Wanjari (2012) studied birds from Nagpur city. Harney and Bhute (2014) studied avian diversity in and around Chalbardi lake in Chandrapur City of Maharashtra. The various lake and wetlands in any city serve as a balancing reservoir for sustain native flora and fauna, now a days due to civilization the birds are going to destroyed, which directly affect on their reproduction and nesting (Patil and Tijare, 2012). Birds are essential animal group of an ecosystem and maintain a tropic level. Therefore, detail study on avifauna and their ecology is important to protect them. Earlier researches have studied avifauna in India, Rose (1910), King (1911), Waite (1920), Chintampalli and Bhatkhande (1993), Anil Mahabal (2006), Thakor *et al.*, (2010) and Parwate *et al.*, (2012).

Materials and Methods

The Birds are observed at Oxygen Park Lake, Campus of Samarth Mahavidyalaya, Ponds, Natural water bodies, adjacent and wetland area of the Lakhani. Recording of the aquatic birds has been carried out in different seasons for a period from 2019 to 2020 by selecting Different sites. Weekly visits to the sites were made for one years and an average of 4 weeks accounted for a month. Data on present bird species was collected by direct observation with the aid of binoculars (Olympus 8X40 and 10X50) by visiting in morning and evening time when birds are most active. Some visits were also made in afternoon to check the activities of aquatic birds in after noon and identification was done using standard literature of Bikram and Grewal (1995), Ali (1996, 2002), Ali and Ripley (1995), Grimmett *et al.*, (2004) and Woodcock (1986).

Observations

During the study 51 species of the birds recorded is shown Table 1. Out of 20 species are residence common out of some they are Pond Heron, Little Egret, Red Vented Bulbul, Indian Ring Dove, Rose ringed Parakeet, Crow Pheasant, Asian koel, Cattle Egret, Brahminy Sterling, Magpie Robin, Indian Robin, Purple Rumped Sunbird, Tailor Bird, White breasted Kingfisher, Pariah Kite, Red wattled Lapwing, Blue Rock Pigeon, Jungle Babbler, Common Myna, House Swift, House Sparrow, House Crow etc. 16 species are Residential uncommon like Black Ibis, Little Blue Kingfisher, Indian Peafowl, Spotted Dove, Pied Bush chat, Purple Sunbird, Indian Tree Pie, Spotted Owlet, Small Minivet, Shikra, Baya weaver Bird,

Yellow wattled Lapwing, White breasted Kingfisher, Spotted Munia, Common Iora etc. 03 species are Residential migrant common they are Green Bee-eater, Common Swallow, Spot billed Duck. 07 species are residential migrant uncommon they are Indian Grey Hornbill, Rufousbacked Shrike, Black Drongo, Red-rumped swallow, Wire Tailed Swallow, Large pied Wagtail, European Hoopoe. 03 species *Motacilla flava*, Common Sandpiper, Black winged Silt are winter migrant and Lesser Pied Kingfisher, Red Munia are residential rare species

Results and Discussion

The scientific and local names were ascertained based on the key of Manakadan and Occurrence status of each species is categorized as (RC) Residential Common, (RU) Residential Uncommon, (RMC) Residential migrant common, (RMU) Residential migrant uncommon, (Rr) Residential rare and (WM) Winter Migrant. Similar findings were recorded by Ali (1939) published a list of 278 species of birds from central India, Newton *et al.*, (1986) have listed the birds of Kanha Tiger Reserve (M.P.), Ghosal (1995) have listed the birds of Kanha Tiger Reserve (M.P.), Wadatkari and Kasambe (2002) reported 171 species of birds at Pohara-Malkhed forest reservoir of Amravati District (M.S.). Yardi *et al.*, (2004) reported 64 species of birds in Salim Ali lake, Aurangabad (M.S.), Kedar and Patil (2005) recorded 60 birds species from Rishi lake Karanja (Lad) of Washim District (M.S.). Pawar *et al.*, (2005) reported 74 species of birds in and around Yedshi lake, Mangrulpir, Washim District (M.S.).

S. No.	COMMON NAME	SCIENTIFIC NAME	OCCURRENCE
1.	Pond Heron	<i>Ardoela grayii</i>	RC
2.	Little Egret	<i>Egretta gerzetta</i>	RC
3.	Cattle Egret	<i>Bulbulcus ibis coromandus</i>	RC
4.	Common Sandpiper	<i>Tringa hypoleucos</i>	WM
5.	Black winged Silt	<i>Himatopus himantopus</i>	WM
6.	Black Ibis	<i>Pseudibis papillosa</i>	RU
7.	Large pied Wagtail	<i>Motacilla maderaspalensis</i>	RMU
8.	<i>Motacilla flava</i>	<i>Motacilla flava</i>	WM
9.	Spot billed Duck	<i>Anas poecilorhyncha</i>	RMC
10.	Red wattled Lapwing	<i>Vanellus indicus</i>	RC
11.	Yellow wattled Lapwing	<i>Vanellus malabaricus</i>	RU
12.	Little Blue Kingfisher	<i>Alcedo atthis</i>	RU
13.	White breasted Kingfisher	<i>Halcyon smyrnesis</i>	RU
14.	Lesser Pied Kingfisher	<i>Ceryle rudis</i>	Rr
15.	Baya weaver Bird	<i>Ploceus philippinus</i>	RU
16.	Indian Peafowl	<i>Pavo cristatus</i>	RU
17.	Red Vented Bulbul	<i>Pycnonotus cafer</i>	RC
18.	Blue Rock Pigeon	<i>Columba livia</i>	RC
19.	Indian Ring Dove	<i>Streptopelia decaocta</i>	RC
20.	Spotted Dove	<i>Streptopelia chinensis</i>	RU
21.	Rose ringed Parakeet	<i>Psittacula krameri</i>	RC
22.	Crow Pheasant	<i>Centropus sinensis</i>	RC
23.	Asian koel	<i>Eudynamys scolopacea</i>	RC
24.	Jungle Babbler	<i>Turdoides stratus</i>	RC
25.	Indian Grey Hornbill	<i>Ocyrceros birostris</i>	RMU
26.	Green Bee-eater	<i>Merops orientalis</i>	RMC
27.	European Hoopoe	<i>Upupa epops</i>	RMU
28.	Rufousbacked Shrike	<i>Lanius schach</i>	RMU
29.	Black Drongo	<i>Dicrurus adsimilis</i>	RMU
30.	Brahminy Sterling	<i>Sternus pagodarum</i>	RC
31.	Common Myna	<i>Acridotheres tristis</i>	RC
32.	Magpie Robin	<i>Copsychus saularis</i>	RC
33.	Pied Bush chat	<i>Saxicola carprata</i>	RU
34.	Indian Robin	<i>Saxicoloides fulicata</i>	RC
35.	Purple Sunbird	<i>Nectarinia asiatica</i>	RU
36.	Red Munia	<i>Estrilida amandava</i>	Rr
37.	Spotted Munia	<i>Lonchura punctulata</i>	RU
38.	Indian Tree Pie	<i>Dendrocitta vagabunda</i>	RU
39.	Spotted Owlet	<i>Athene brama</i>	RU
40.	Tailor Bird	<i>Orthotomus sutorius</i>	RC
41.	Common Iora	<i>Aegisthina tiphia</i>	RU
42.	House Swift	<i>Apus affinis</i>	RC
43.	Common Swallow	<i>Hirundo nustica</i>	RMC
44.	Wire Tailed Swallow	Swallow <i>Hirundo smithii</i>	RMU
45.	House Swallow	<i>Hirundo tahitica</i>	RC
46.	Red-rumped swallow	<i>Hirundo daurica</i>	RMU
47.	Pariah Kite	<i>Milvus migrans</i>	RC
48.	House Sparrow	<i>Passer domesticus</i>	RC
49.	House Crow	<i>Corvus splendens</i>	RC
50.	Jungle Crow	<i>Corvus macrorhynchos</i>	RU
51.	Small Minivet	<i>Pericrocotus cinnamomeus</i>	RU
52.	Shikra	<i>Accipiter badius</i>	RU

Table 1: Checklist of Birds., (RC: Residential Common, RU: Residential Uncommon, RMC: Residential migrant common, RMU: Residential migrant uncommon, Rr: Residential rare, WM: Winter Migrant)

Kulkarni *et al.*, (2005) reported 151 species of birds in and around Nanded city(M.S.), Kulkarni and Kanwate (2006) reported 18 species of birds in Dongarkhed irrigation of Hingoli District. (M.S.), Kulkarni *et al.*, (2006) reported 93 species of birds from Shikhachwadi reservoir of Nanded district(M.S.), Kedar *et al.*, (2008) recorded 74 species of birds in Rishi and Zedshi lake of Washim District (M.S.), Kanwate and Jadhao (2010) recorded 10 species of birds in Bhokartahsil of Nanded district (M.S.), Narwade and Fartade (2011) recorded 165 species of birds of Osmanabad District (M.S.), Rasal and Chavan (2011) reported 61 species of birds in local ecosystem of Aurangabad (M.S.), Harney, *et al.*, (2012)

recorded 37 species of birds from Kanhala pond of Bhadrawati, District Chandrapur (M.S.). Bhandarkar and Paliwal (2014) recorded 52 species from Shrungarbandh lake in Gondia district, Lad and Patil (2015) recorded 131 species from Bhayander and Naigaon wetlands in Thane district, Puri (2015) reported 27 species from Zaliya lake in Gondia district. The birds present in and around the Lakhani local ecosystem are affected by many factors such as Agriculture pollution, distribution by human activities and lack of maintenance, yet the avifauna of Lakhani local ecosystem are diverse. Keeping in view the varied avifauna recorded, steps should be taken to do proper maintenance and beautification of the local ecosystem.

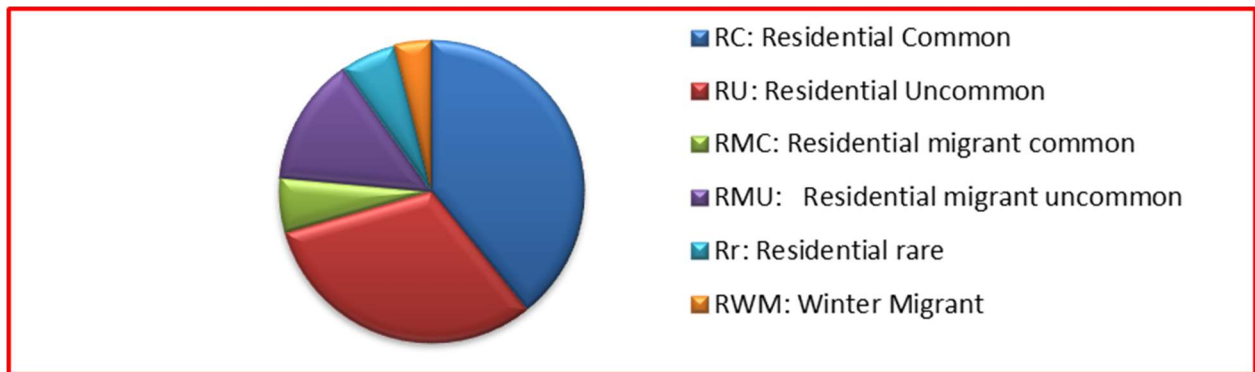


Fig. 1: Status of Wetland Bird from Lakhani Local Ecosystem

Conclusion

The overall check list prepared shows that 51 different kinds of birds have visited the lakhani local ecosystem for feeding and breeding activities during the year, due to abundant food available in the local ecosystem. The water bodies area harbours a large number of fauna which attracts the migratory as well as non-migratory birds which shows that the entire lakhani local ecosystem basin is highly productive and conducive to all kinds of birds as evident from

present studies. The result of the present study indicates 15 species as residential breeders, 9 species as local migrants, 17 species as winter migrants.

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