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Current Status of fresh water Avifaunal Diversity of Tehsil Kekri and nearby area of Ajmer District, Rajasthan India

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Abstract: The present study was carried out to identify the status of avifauna at water reservoir in Kekri, a small city of Ajmer district of Rajasthan state. Observation suggested that total 53 species of birds belong to 16 families were found in the study area. Out of 53 species 25 were resident, 27 winter visitor, and only 01 species were found passage migrant.
Keywords: Kekri, avifauna, water birds, biodiversity threats.

I. INTRODUCTION

Biodiversity at present is better understood for birds in many respects than any other major group of organisms because they probably inspire more extreme interest in humans, are often spectacular, relatively easily observed and not too cryptic to identify. Diversity of avifauna is one of the most important ecological indicators to evaluate the quality of habitats (Bhadja and Vaghela, 2013). Wetlands are transitional zones between permanently aquatic and dry terrestrial eco-systems. Birds serve as one of the best environmental indicators. Their presence anywhere speaks volumes of the environment as to whether all is well or there is something amiss. The presence of birds also shows the biological importance or going technical, the biodiversity significance of an area (Harney and Bhute, 2014). During the last few decades considerable studies on avifauna diversity from different freshwater bodies of India have been carried out by researchers like, Kannon (1980), Davidar (1985), Mujumdar (1985), Newton et al. (1986), Jhingram (1988), Ghosal (1995), Rathore and Sharma (1999), Yardi et al. (2004), Kulkarni et al. (2005), and Kumar (2006), Donar et al. (2012). However very little information is available about status of aquatic avifaunal status of Kekri (Ajmer), Rajasthan. Therefore, the present study provides a comprehensive check-list of birds to identify the status of aquatic avi-faunal diversity of Kekri located in the Ajmer District of Rajasthan State.

II. MATERIALS AND METHODS

Study location: The present study of aquatic avifauna was studied in Kekri and nearby places (Kohda and Chand Thali), parts of District Ajmer of Rajasthan state. It is situated 80 Km far from Ajmer and 130 Km from Jaipur Capital of Rajasthan. Its coordinates are $25^0$58’29.40” North and $75^0$09’10.71” East. Elevation is 1188 ft. The average maximum temperature is 41^0C during the month of May, where average minimum temperature is 9^0C during the month of January.

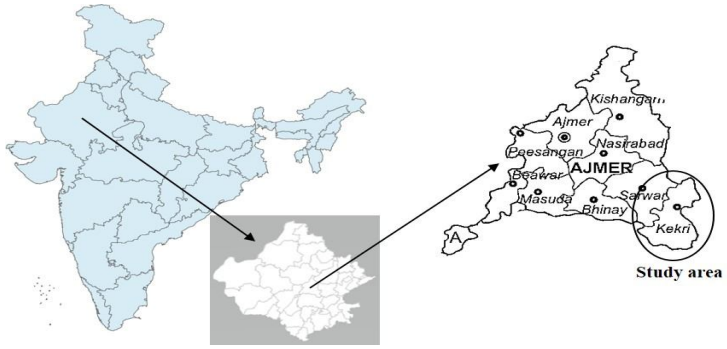


Fig. 1. Map showing the study area, Kekri, Ajmer district, Rajasthan.

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III. METHODOLOGY

To achieve the proposed objectives, different water bodies of Kekri were visited fortnightly in the morning (06:00 to 10:00 hrs) and later in the evening (15:00 to 18:00 hrs), using line transect method (Gaston, 1975; Sales and Berkmuller, 1988) and point count method (Altman, 1974). Birds were observed within the transect of 300m. Instruments digital camera and binocular were used during the study for observing birds. Birds were photographed under Camera Quadrate Method (Meena and Kachhawa, 2015) and were subsequently identified using "A pocket guide of the birds of the Indian subcontinent" by Grimett et al. (1999) and Manakkadan and Pittie (2001). The threats and conservation issues were also identified by field visits and observation of wetlands

IV. OBSERVATION AND RESULT:

Results of the filed observation suggested that total 53 species of birds belong to 16 families were present in the study area. Out of total 53 bird species; 45 species were found least concern, 05 species Aythya nyroca (Güldenstädt, 1770), Mycteria leucocephala (Pennant, 1769), Limosa limosa (Linnaeus, 1758), Sterna aurantia (Gray, JE, 1831) and Threskiornis melanocephalus (Latham, 1790) near threatened, 02 Aythya ferina, (Linnaeus, 1758) and Pelecanus crispus (Bruch, 1832) vulnerable. Mesophoyx intermedia (Wagler,1827) is mentioned in red data list but not assessed. According to IUCN red list criteria version 3.1, 25 bird species resident, 27 winter visitor, 01 species Phoenicopterus roseus, (Linnaeus, 1758) passage migrant. Population trend of 28 species decreasing, 07 species increasing, 17 species stable and 01 unknowns. Detail observations have been mentioned in table as Cheklist of Water birds

V. DISCUSSION

From the above results it could be made out the availability of water, safe habitat and food sources for both common and migratory birds around the water bodies are important for the occurrence and abundance of aquatic bird populations. However, major threats found in study area were. Area under investigation is highly influenced by soil mining, water mining, deforestation, urbanization and Anthropogenic activities along with agricultural practices, grazing, collection of forestry items (wood and plant products). These activities having high level of negative effect on ecologically important species those inhabiting area under investigation. Thus we recommend forest department or other officials to restrict these activities at a level of local inhabitant

REFERENCES

[1] Altman, J. Observational study of Behaviour and Sampling Methods. Behaviour, 49: 227-267(1974).
[2] Bhadja Poonam and Vaghela Ashok Kumar. Study on Avifaunal Diversity from Two Freshwater Reservoirs of Rajkot, Gujarat, India. International Journal of Research in Zoology 2013; 3(2): 16-20.
[3] Davidar P. Ecological interactions between the mistletoes and their avian pollinators in south India. J Bom Nat Hist Soc. 1985; 82: 45-60.
[4] Donar AS, Reddy KR, Deshpande DP. Avifaunal diversity of Nipani Reservoir, Belgaum District, Karnataka. Ecoscan. 2012; 1: 27-33.
[5] Gaston, A. J. "Methods for estimating bird populations". J. Bomb. Nat. Hist. Soc., 72 (1975): 271-273.
[6] Ghosal DN. 1995. Avifauna of conservation areas. No. 7, Fauna of Kanha Tiger Reserve. Zoological survey of India (ZSI), pp. 63-91.
[7] Grimmett, R., Inskipp, C. and Inskipp, T. (1998) Birds of the Indian subcontinent. London: A. & C. Black/Christopher Helm
[8] Harney, N.V. and K.B. Bhute. Diversity of avifauna in and around Chalbardi (Rai) lake near Bhadrawati, district Chandrapur (M.S.), India. Journal of Global Biosciences. 3(2), 2014, pp. 399-405
[9] Jhingran VG. 1988. Fish and fisheries of India. Hindustan Publishing cooperation. New Delhi, pp. 664. Kannan P. Nector feeding adaptation of flower birds. J Bom Nat Hist Soc. 1980; 75(Suppl): 1036-1050.
[10] Kulkarni AN, Kanwate VS, Deshpande VD. Birds in and around Nanded city, Maharashtra. Zoo Print. 2005. 20(11): 2076-2078.
[11] Kumar A.B. A checklist of avifauna of the Bharathapuzha river basin, Kerala. Zoo Print. 2006; 21(8): 2350-2355.
[12] Manakkadan, R. and Pittie A. "Standardized Common and Scientific Names of the Birds of the Indian Subcontinent". Buceros 6 (1) 2001: 1-37.
[13] Meena, D., Kachhawa, J.B.S. (2015). Camera Quadrate Method: A technique to assess Avifaunal and Herpetofaunal diversity. Indian Journal of Scientific Research and technology 2015 3(2):17-19.
[14] Mujumdar N. On a collection of birds from Bastar district. M.P. Record Zoological survey of India. Occasional Paper. 1984; 59: 54.
[15] Newton PN, Brudin S, Guy J. The birds of Kanha Tiger Reserve Madhya Pradesh, India. J Bom Nat Hist Soc. 1986; 83(3): 977-998.
[16] Rathore V, Sharma RK. Avifauna of a lake in district Etawah, Uttar Pradesh, India. Zoo Print. 1999; 15(6): 275- 278.
[17] Sale, JB. and Berkmuller, K. (1988). Manual of wildlife techniques for India. Field document No.11. FAO, United Nations, Dhera Dun, India. p. 243.
[18] Yardi D, Patil SS, Auti RG. 2004. Diversity of Avian Fauna from Salim Ali Lake of Aurangabad. 21st Meet of Birds Lovers of Maharashtra, Nanded, 3-4 April 2004.

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Checklist of Water birds

S. No.	Scientific Name	Common Name	IUCN Status	Migratory Status	Population Trend	Kekri	Chand Thali	Kohda
	Anatidae							
1	Anser indicus (Latham, 1790)	Bar-headed goose	LC	₩	▼	-	+	+
2	Anas acuta (Linnaeus, 1758)	Northern Pintail	LC	₩	▼	+	+	+
3	Anas clypeata (Linnaeus, 1758)	Northern shoveler	LC	₩	▼	+	+	+
4	Anas crecca (Linnaeus, 1758)	Eurasian teal/ Common Teal	LC	₩	▼	-	+	+
5	Anas penelope (Linnaeus, 1758)	Eurasian wigeon	LC	₩	▼	-	+	+
6	Anas poecilorhyncha (Forster, 1781)	Indian Spot-billed duck	LC	**R**	▼	+	+	+
7	Anas querquedula (Linnaeus, 1758)	Garganey	LC	₩	▼	-	+	+
8	Anas strepera (Linnaeus, 1758)	Gadwall	LC	₩	▼	-	-	+
9	Aythya ferina (Linnaeus, 1758)	Common Pochard	V	₩	▼	-	-	+
10	Aythya fuligula (Linnaeus, 1758)	Tufted duck	LC	₩	↔	-		+
11	Aythya nyroca (Güldenstädt, 1770)	Ferruginous pochard/ Ferruginous Duck	NT	₩	▼	+	+	+
12	Sarkidiornis melanotos (Pennant, 1769)	Comb duck/ knob-billed duck	LC	**R**	▼	+	+	+
13	Tadorna ferruginea (Pallas, 1764)	Ruddy shelduck	LC	₩	↔	+	+	+
	Ardeidae							
14	Ardea alba (Linnaeus, 1758)	Great Egret/ Great white Egret	LC	**R**	↔	+	+	+

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15	Ardea cinerea (Linnaeus, 1758)	Grey heron	LC	**R**	↔	+	+	+
16	Ardea purpurea (Linnaeus, 1766)	Purple heron	LC	**R**	▼	-	-	+
17	Ardeola grayii (Sykes, 1832)	Indian Pond Heron	LC	**R**	▲	+	+	+
18	Bubulcus ibis (Linnaeus, 1758)	Cattle Egret	LC	**R**	▲	+	+	+
19	Egretta garzetta (Linnaeus, 1766)	Little Egret	LC	**R**	▲	+	+	+
20	Mesophoyx intermedia (Wagler,1827)	Intermediate Egret	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	**R**	?	+	+	+
21	Nycticorax nycticorax (Linnaeus, 1758)	Black-crowned night heron	LC	**R**	▼	+	+	+
	Cerylidae							
22	Ceryle rudis (Linnaeus 1758)	Pied Kingfisher	LC	₩	▼	+	+	+
	Charadriidae							
23	Charadrius dubius (Scopoli, 1786)	Little ringed plover	LC	**R**	↔	+	+	+
24	Vanellus indicus (Boddaert, 1783)	Red-wattled lapwing	LC	**R**	▲	+	+	+
25	Vanellus malabaricus (Boddaert, 1783)	Yellow-wattled lapwing	LC	**R**	↔	-	+	+
	Ciconiidae							
26	Anastomus oscitans (Boddaert, 1783)	Asian Open bill	LC	₩	↔	-	+	+
27	Mycteria leucocephala (Pennant, 1769)	Painted stork	NT	₩	▼	-	-	+
	Jacanidae							

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28	Hydrophasianus chirurgus (Scopoli, 1786)	Pheasant-tailed jacana	LC	**R**	▼	-	+	+
	Pelecanidae							
29	Pelecanus onocrotalus (Linnaeus, 1758)	Great white pelican/ Rosy pelican	LC	₩	↔	-	-	+
30	Pelecanus crispus (Bruch,1832)	Dalmatian pelican	V	₩	▼	-	-	+
	Phalacrororacidae							
31	Phalacrocorax carbo (Linnaeus, 1758)	Great Cormorant	LC	**R**	▲	+	+	+
32	Phalacrocorax fuscicollis (Stephens, 1826)	Indian Cormorant	LC	**R**	↔	+	+	+
33	Phalacrocorax niger (Vieillot, 1817)	Little Cormorant	LC	**R**	↔	+	+	+
	Phoenicopteridae							
34	Phoenicopterus roseus (Linnaeus, 1758)	Greater Flamingo	LC	₱	▼	-	+	+
	Podicipedidae							
35	Tachybaptus ruficollis (Pallas, 1764)	Little grebe	LC	**R**	▼	-	+	+
	Rallidae							
36	Amaurornis phoenicurus (Pennant, 1769)	White-breasted waterhen	LC	**R**	↔	-	+	+
37	Fulica atra (Linnaeus, 1758)	Common Coot / Eurasian coot	LC	**R**	▼	+	+	+
38	Gallinula chloropus (Linnaeus, 1758)	Common moorhen	LC	**R**	↔	+	+	+
39	Porphyrio Porphyrio	Purple swamp hen	LC	**R**	▲	+	+	+

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	(Linnaeus, 1758)							
	Recurvirostridae							
40	Himantopus himantopus (Linnaeus, 1758)	Black-winged Stilt	LC	**R**	▲	+	+	+
41	Recurvirostra avosetta (Linnaeus, 1758)	Pied avocet	LC	₩	↔	-	+	+
	Rostratulidae							
42	Rostratula benghalensis (Linnaeus, 1758)	Greater Painted-snipe	LC	₩	▼	-	+	+
	Scolopacidae							
43	Actitis hypoleucos (Linnaeus, 1758)	Common sandpiper	LC	₩	▼	+	+	+
44	Calidris minuta (Leisler,1812)	Little Stint	LC	₩	▼	+	+	+
45	Limosa limosa (Linnaeus, 1758)	Black-tailed godwit	NT	₩	▼	-	+	+
46	Philomachus pugnax (Linnaeus, 1758)	Ruff	LC	₩	▼	-	+	+
47	Tringa nebularia (Gunnerus, 1767)	Common greenshank	LC	₩	↔	-	-	+
48	Tringa ochropus (Linnaeus, 1758)	Green sandpiper	LC	₩	↔	-	+	-
49	Tringa tetanus (Linnaeus, 1758)	Common redshank	LC	₩	↔	-	+	-
	Sternidae							
50	Sterna aurantia (Gray, JE, 1831)	Indian River tern/ River tern	NT	**R**	▼	-	+	-
	Threskiornithidae							
51	Platalea leucorodia (Linnaeus, 1758)	Eurasian spoonbill/ Common spoonbill	LC	₩	↔	-	+	+

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52	Pseudibis papillosa (Temminck, 1824)	Red-naped Ibis/ Black Ibis	LC	~~₩~~	▼	+	+	+
53	Threskiornis melanocephalus (Latham, 1790)	Black-headed ibis/ Oriental white ibis	NT	**R**	▼	+	+	+

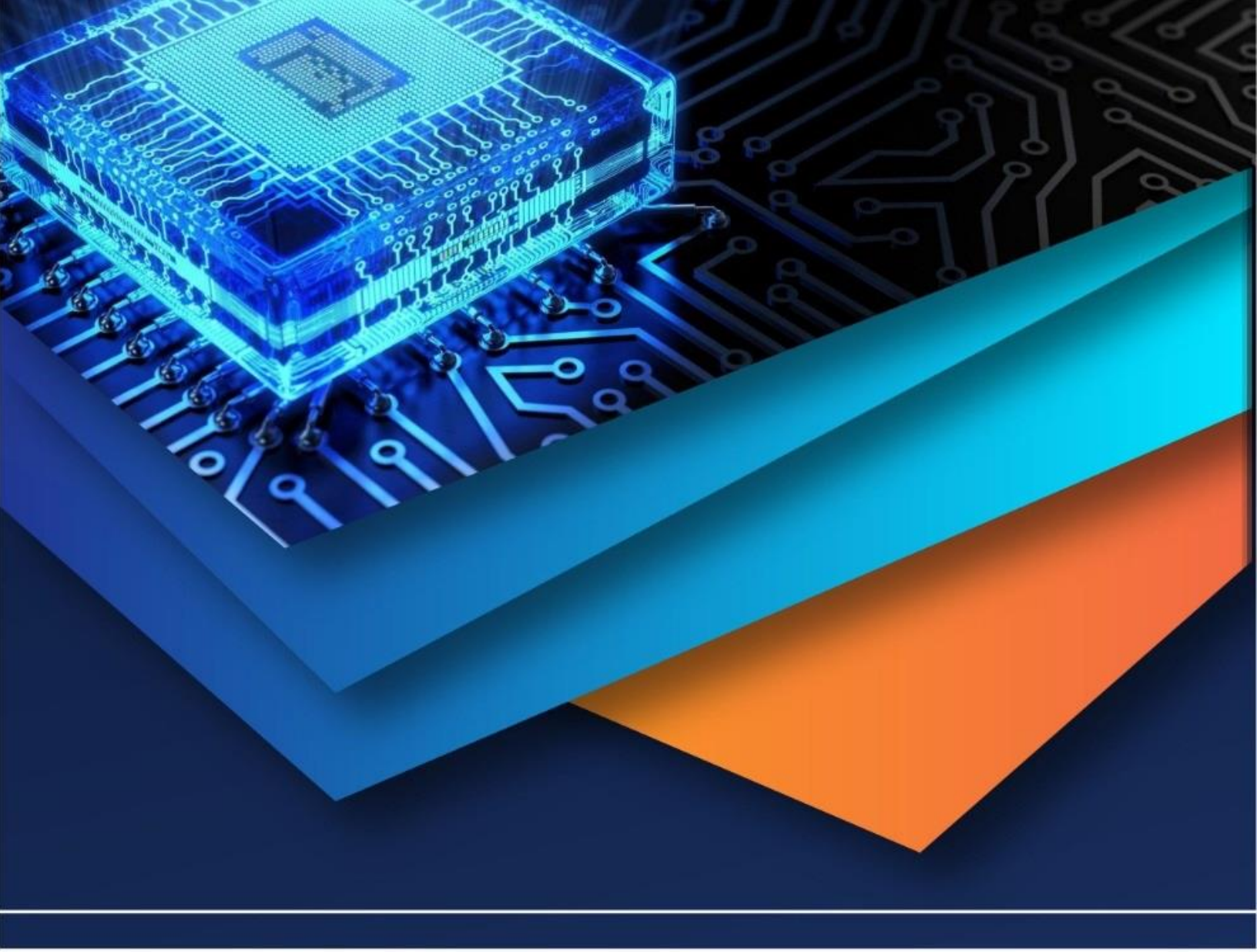
Symbol used:

LC- Least Concern, V- Vulnerable NT- Near Threatened

~~₩~~- Winter Visitor R- Resident ~~₱~~- Passage Visitor

▲- Increasing , ▼- Decreasing ↔- Stable ?- unknown

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