

## Aquatic birds Diversity at Yashwant Nagar Talaab, Mhow (M.P.)

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### Abstract

Present study describes the seasonal variation of aquatic birds. Total 19 species of water birds were reported from this water body including 7 species of winter visitor and 7 species of local migratory. Species wise monthly count also discussed in this paper.

**Keywords:** *Water fowl, monthly count, migratory birds, winter visitors.*

### Introduction

Aquatic birds play an important role in wetland ecosystem because they act as a consumer in trophic levels of such system. They are also considered as an indicator of the changes occurring in the aquatic environment. Various workers such as (Bezzel, 1974; Karlson *et al*, 1976; Nilsson and Nilsson, 1976; Erikson, 1984; Koskimies, 1987 and Shukla *et al*, 2004) also expressed similar view and stated that all most all types of aquatic organisms can serve as an indicator. Literature available stated that very few scientists worked on the diversity of aquatic birds in M.P. (Prakash and Saxena, 2005; Malhotra *et al* 2005 and Mishra, 2006). Looking to the importance of aquatic birds in the management of local small water bodies, hence the present study was undertaken to study the aquatic avian diversity at Yashwant Nagar Talaab, Mhow.

### Materials and Method

Yashwant Nagar Talab, Mhow (M.P.) is a perennial water body, situated on the A.B. road and 23 km away from Mhow, Indore. This talaab was constructed in 1934 by Holkar State on river Karam. It is used by local people to irrigate agricultural land and for bathing and washing purposes.

The water birds were identified with the help of binoculars, consulting Wood Cooks (1983) and Ali and Ripley (1983). The counting was carried out during morning hours strictly throughout the year.

### Results and Discussion

Results obtained in the present investigation are summarized in Table 1- 4. Total 19 species of waterfowl were observed. They were belonging to 7 orders and 9 families. Out of 19 species, 7 species were migratory, 7 species were local migratory and 5 species were resident (table-1). Prakash (1999) described 12 species of aquatic birds from Bahadur sagar (Jhabua,) M.P. However, Malhotra *et al*. (2005) reported 32 species of waterfowl from Sirpur tank (Indore. M.P.) belonging to 10 families and 7 orders. Out side from M.P. Pandey (1993) reported 54 species of water birds from Pongdom reservoir (Himachal Pradesh). Joyti *et al*. (2001) studied Gharana wetland reservoir (Jammu) and reported 24 species of waterfowls. Barman *et al*. (1995) described 62 species of water birds from Deepar Beal wildlife sanctuary (Assam). Kumar and Bohra (2002)

recorded 103 species of birds belonging to 43 families and 13 orders from Udhuwa Lake (Jharkand).

Waterfowl observed in the present investigation were kept in 9 grouped viz Grebes, Cormorants and Darters, Herons and Egrets, Storks, Geese and Ducks, Cranes, Coot, Waders and Tern. Similar grouping was observed by Prakash and Saxena (2005) from krishnapura talaab, Indore. On the basis of count and percent contribution (Table 2) the most dominated group in the present investigation was of Geese and Ducks 7 months followed by Waders dominated in three months, while Herons and Egrets dominated in two months. In most of the month's species wise also Geese and Ducks dominated this water body, followed by Herons and Egrets (2nd rank). On third place Cormorants was placed. Rest came under the 4th place as they were supported by only one species. In most of the months Tern was lowest except in November where Cranes took this position. The order of sequence of dominance of various groups in descending orders can be represents as under:-

**Geese and Ducks > Coot > Waders > Cormorant and Darter > Grebe > Herons and Egrets > Crane > Tern.**

Species wise study of water fowl at Yashwant Nagar Talaab showed that species number were highest from November to March (19) followed by October (18), and April to June (14). From the species point of view rainy months were very poor as they included only 9 species (table 2 & 3). Similar trends were followed by total monthly count. The presence of maximum number of species during winter was may be due to the inclusion of some migratory species. In rainy season when present water body was full of water and forcibly overflow (which washed all the vegetation etc.) the count and species number reduces in these months because of absence of their food materials and flood condition. The month wise order of dominance of various species in descending order can be presented as:-

**April:** Waders > Coot > Geese and Ducks > Grebe > Herons and Egrets > Cormorant and Darter > Tern > Storks > Crane.

**May :** Waders > Geese and Ducks > Coot > Herons and Egrets > Grebe > Cormorant and Darter > Storks > Tern. > Crane.

**June :** Waders > Geese and Ducks > Herons and Egrets > Coot > Cormorant and Darter > Grebe > Tern > Storks > Crane.

**July :** Geese and Ducks > Cormorant and Darter > Grebe > Herons and Egrets > Waders > Tern.

**August :** Herons and Egrets > Cormorant and Darter > Grebe > Geese and Ducks = Waders > Tern.

**September :** > Herons and Egrets > Geese and Ducks = Waders > Coot > Grebe > Cormorant and Darter > Storks > Tern. > Crane.

**October :** Geese and Ducks > Coot > Waders > Herons and Egrets > Grebe > Cormorant and Darter > Tern. > Crane.

**November :** Geese and Ducks > Coot > Waders > Herons and Egrets > Grebe > Cormorant and Darter > Tern > Storks > Crane.

**December :** Geese and Ducks > Coot > Waders > Grebe > Herons and Egrets > Cormorant and Darter > Storks > Tern > Crane.

**January :** Waders> Geese and Ducks> Coot > Waders > Grebe> Herons and Egrets> Cormorant and Darter > Storks> Tern.> Crane.

**February :** Geese and Ducks> Coot > Waders > Grebe> Herons and Egrets> Cormorant and Darter > Tern > Storks> Crane.

**March :** Geese and Ducks> Waders > Coot > Grebe> Herons and Egrets> Cormorant and Darter > Tern > Storks> Crane.

Thus present study suggest that this water body can be a good house of aquatic birds specially in winter and summer, if properly managed and keep free from hunting and anthropogenic activities. The interesting point of this water body is the presence of three sided cover of good vegetation which provides good resting and nesting place for various birds.

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Table-1. Water birds along with classification and status in Yashwant Nagar Talaab, Mhow.(2005-06)

S. NO.	GROUPS	Common name	Order	family	Status
I	GREEBS				
1.	<i>Podiceps ruficollis</i>	Little grebe	Podicipediformes	Podicipedidae	RLM
II	CORMORANTS & DARTERS				
2.	<i>Phalacrocorax nigar</i>	LittleCormorant	Phalacrocoraciformes	Phalacrocoracidae	RLM
3.	<i>Anhingra rufa</i>	Dartes	Phalacrocoraciformes	Phalacrocoracidae	RLM
III	HERONS AND EGRETS				
4.	<i>Ardeola grayii</i>	Pond Heron	Ciconiformes	Ardeidae	R
5.	<i>Bubulcus ibis</i>	Cattle Egret	Ciconiformes	Ardeidae	R
6.	<i>Egretta garzetta</i>	Little Egret	Ciconiformes	Ardeidae	R
IV.	STORKS				
7.	<i>Ibis leucocephala</i>	Painted Stork	Ciconiformes	Ciconiidae	RLM
V.	GEESE AND DUCKS				
8.	<i>Dendrocygana javanica</i>	Lesser whistling teal	Anatiformes	Anatidae	RLM
9.	<i>Anas acuta</i>	Pintail	Anatiformes	Anatidae	WV
10.	<i>Anas platyrhynchos</i>	Mallard	Anatiformes	Anatidae	WV
11.	<i>Anas clypeata</i>	Shoveller	Anatiformes	Anatidae	WV
12.	<i>Aythya ferina</i>	Pochard	Anatiformes	Anatidae	WV
13.	<i>Aythya fuligula</i>	Tufted duck	Anatiformes	Anatidae	WV
VI.	CRANES				
14.	<i>Grus antigone</i>	Sarus Crane	Gruiformes	Gruidae	RLM
VII.	COOT				
15.	<i>Fulica atra</i>	Coot	Gruiformes	Rallidae	WV
VIII.	WADERS				
16.	<i>Himantopus himantopus</i>	Blackwinged Stilt	Charadriiformes	Chariidae	RLM
17.	<i>Tringa hyoleucos</i>	Common Sandpiper	Charadriiformes	Chariidae	WV
18.	<i>Vanellus indicus</i>	Redwattled Lapwing	Charadriiformes	Chariidae	R
IX.	TERNS				
19.	<i>Sterna auranita</i>	Indianriver Tern	Charadriiformes	Laridae	R
		19	06	09	

Table-2: Species wise monthly count (2005-06) of water birds present at Yashwant Nagar talaab, Mhow

S.No.	SPECIES GROUPS	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN
I.	GREES												
1.	<i>Podiceps ruficollis</i>	84	80	82	78	80	76	30	16	50	50	75	78
II	CORMORANTS & DARTERS												
2.	<i>P.nigar</i>	40	46	60	56	80	82	30	20	30	30	36	38
3.	<i>Anhinga rufa</i>	10	15	15	18	15	10	10	10	14	16	10	10
III	HERONS AND EGRETS												
4.	<i>Ardeola grayii</i>	12	15	15	18	15	10	12	15	16	18	16	16
5.	<i>Bubulcus ibis</i>	30	32	40	40	36	34	30	10	16	20	22	22
6.	<i>Egretta garzetta</i>	28	28	26	62	62	26	24	20	20	26	28	30
IV	STORKS												
7.	<i>Ibis leucocephalus</i>	6	10	10	12	10	0	0	0	0	3	10	10
V	GESE AND DUCKS												
8.	<i>Dendrocygna jvama</i>	230	220	205	200	186	100	10	10	20	200	222	220
9.	<i>Anas acuta</i>	180	80	0	0	0	0	0	0	100	160	180	180
10.	<i>Anas platyrhynchos</i>	30	20	0	0	0	0	0	0	5	10	30	30
11.	<i>Anas clypeata</i>	240	200	0	0	0	0	0	0	216	222	240	236
12.	<i>Aythya ferina</i>	100	70	0	0	0	0	0	0	20	90	100	100
13.	<i>Aythya fuligula</i>	16	14	0	0	0	0	0	0	14	20	20	20
VI	CRANES												
14.	<i>Grus antigone</i>	2	2	2	4	4	0	0	0	2	2	2	2
VII	COOT												
15.	<i>Fulica atra</i>	400	200	200	150	100	0	0	0	200	410	400	400

**Table-3: Species wise monthly percentage (2005-2006) of water birds present in Yashwant Nagar talab, Mhow**

GROUPS	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN
<b>GREEBS</b>												
<i>Podiceps ruficollis</i>	4.99	6.05	8.78	8.42	9.14	21.46	18.29	13.67	5.63	3.32	4.60	4.85
<b>CORMORANTS AND DARTERS</b>												
<i>P. nigar</i>	2.37	3.48	6.43	6.04	9.14	23.16	18.29	17.09	2.25	1.99	2.20	2.36
<i>Anhinga rufa</i>	0.59	1.13	1.60	1.94	1.71	2.82	6.09	8.54	1.57	1.06	0.61	0.62
<b>HERONS AND EGRETS</b>												
<i>Ardeola grayii</i>	0.71	1.13	1.60	1.94	1.71	2.82	7.31	12.54	1.80	1.19	0.98	0.99
<i>Bubulcus ibis</i>	1.78	2.42	4.28	4.31	4.11	9.60	18.29	8.54	1.80	1.32	1.35	1.36
<i>Egretta garzetta</i>	1.66	2.11	2.78	6.69	7.08	7.34	14.63	17.09	2.25	1.72	1.71	1.86
<b>STORKS</b>												
<i>Ibis leucocephalus</i>	0.35	0.75	1.07	1.29	1.14	0	0	0	0	0.39	0.64	0.62
<b>GEESE AND DUCKS</b>												
<i>Dendrocygna javana</i>	13.67	15.14	21.97	21.59	20.57	28.24	7.31	8.54	2.25	13.28	13.62	13.68
<i>Anas acuta</i>	10.70	6.05	0	0	0	0	0	0	11.27	10.63	11.04	11.19
<i>Anas. Platyrhyncha</i>	1.78	1.51	0	0	0	0	0	0	0.56	0.66	1.84	1.86
<i>Anas clypeata</i>	14.26	15.14	0	0	0	0	0	0	24.35	14.75	14.73	14.67
<i>Aythya ferina</i>	5.94	5.29	0	0	0	0	0	0	2.25	5.98	6.13	6.21
<i>Aythya. Fuligula</i>	0.94	1.05	0	0	0	0	0	0	1.57	1.32	1.22	1.24
<b>CRANES</b>												
<i>Grus antigone</i>	0.11	0.15	0.21	0.43	0.45	0	0	0	0.22	0.13	0.12	.12
<b>COOT</b>												
<i>Fulica atra</i>	23.78	15.14	21.43	10.79	11.42	0	0	0	22.54	27.24	24.55	24.87

**Table- 4 Group wise monthly counts (2005-06) of water birds of Yashwant nagar Talaab, Mhow**

GROUPS	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN
<b>GREEBS</b>	84	80	82	78	80	76	30	16	50	50	75	78
<b>CORMORANTS &amp; DARTERS</b>	50	61	75	74	95	92	40	30	34	46	46	48
<b>HERONS AND EGRETS</b>	70	75	81	120	113	70	66	45	52	64	66	76
<b>STORKS</b>	6	10	10	12	10	0	0	0	0	3	10	10
<b>GEESE AND DUCKS</b>	796	604	205	200	186	100	10	10	375	702	792	786
<b>CRANES</b>	2	2	2	4	4	0	0	0	2	2	2	2
<b>COOT</b>	400	200	200	150	100	0	0	0	200	410	400	400
<b>WADERS</b>	260	275	266	276	275	10	10	10	168	225	232	202
<b>TERNs</b>	14	14	12	12	12	6	8	6	6	6	6	6
<b>GRAND TOTAL</b>	1682	1321	933	926	875	354	164	117	887	1508	1629	1608