



Study Of Biodiversity And Ecology Of Order Anseriformes In Wetlands Of Kota District

Gajanan Charpe, Associate Professor Zoology, Government College Kota, Rajasthan

Abstract

The biodiversity study of birds belonging to the Order Anseriformes was conducted from November 2021 to May 2023 at wetlands and water bodies of Kota city (25° 0 N - 76°10 E, elevation 271 m/889 ft) in Rajasthan, India. In the major wetlands on outskirts of Kota city and adjoining water bodies 19 species of family Anatidae were observed. Their feeding behaviour was also recorded. No member from family Anhimidae and family Anseranatidae of this Order was recorded during the study period.

Keywords : Natural wetland, Migratory stop-over, Feeding preference

Introduction

Wetlands are water logged areas which remain water concentrated for various time periods from months to years. Diversity of wetland birds and wetland dependent birds reflects health of particular wetland ecosystem and underline presence of sufficient food and nesting sites for reproductive success. According to the UN Millennium Ecosystem Assessment, wetlands are more affected by environmental degradation than any other ecosystem on Earth. (Davidson, N.C.; D'Cruz, R. & Finlayson, C.M. (2005).

In and around Kota district there are prominent water bodies including natural and manmade. Natural wetland is Ummedganj while Abhedha Mahal, Alaniya dam and Kishore Sagar Lake are manmade wetland and lake respectively. These are fed by natural precipitation and connected by right and left channel from Chambal River. These wetlands and lakes are paradise for aquatic birds and also a stopover place for many migratory birds. Ummedganj wetland and Abhedha Mahal wetland is less affected by anthropogenic activities as these places are on outskirts of Kota city but Kishore Sagar Lake is located in the heart of city and exposed to human activities such as tourism and religious events.

Order Anseriformes is a large group of birds comprising about 180 species in three families. These three families are Anatidae (ducks, geese and swans), Anhimidae (screamers) and Anseranatidae (the magpie geese). Anseriformes birds are major attractions of wetlands and aquatic ecosystems.

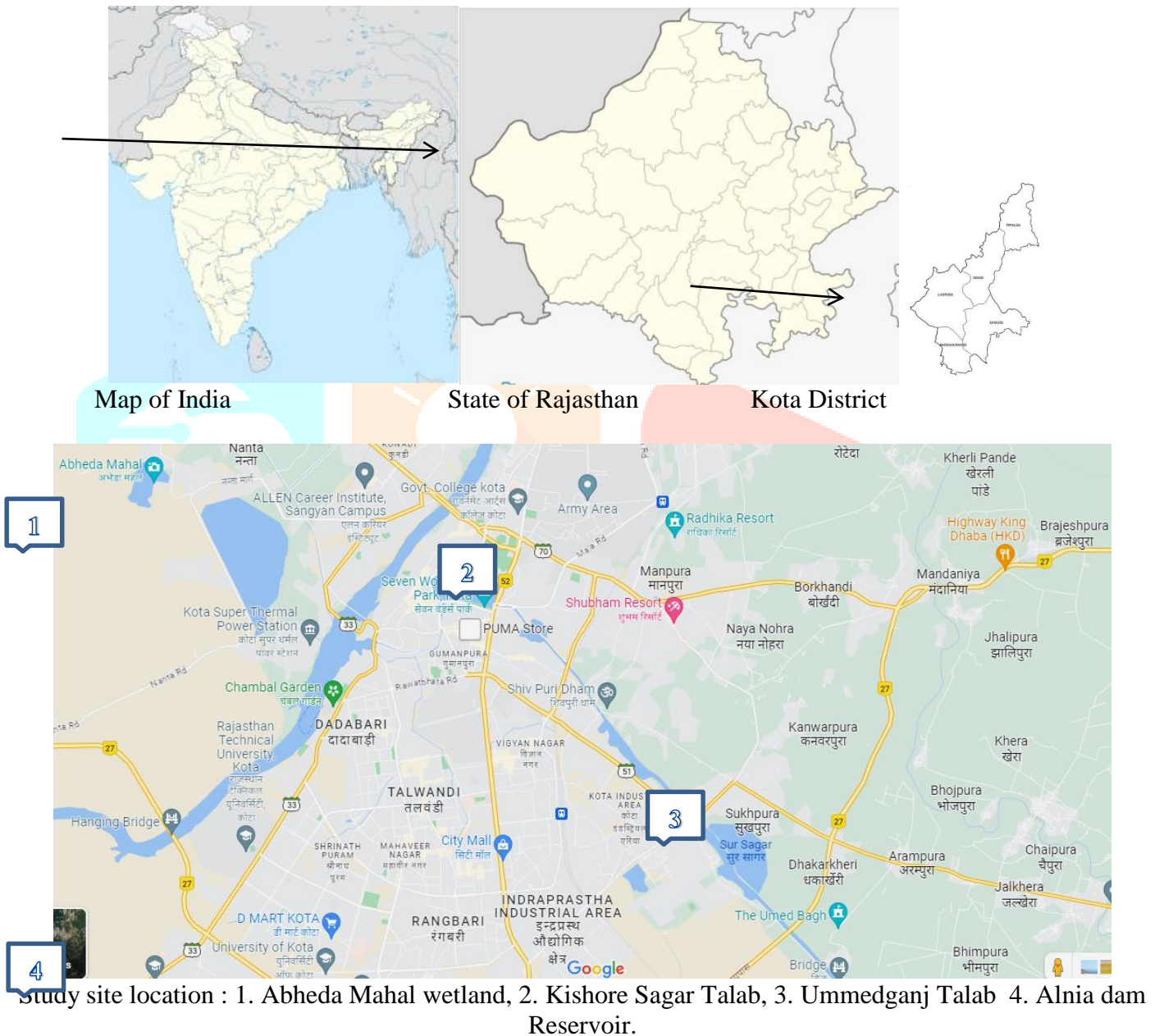
Study Area

To study the biodiversity of avifauna of Order Anseriformes in Kota district four major areas were selected Ummedganj talab wetland, Abhedha Mahal talab wetland, Alniya Dam area and Kishor Sagar Lake. Ummedganj talab is about 8 Km from city and natural pond fed by rain water. Alania dam is a manmade reservoir made at dam construction site which support irrigation to a major part of agriculture area surrounding dam. Abhedha Mahal talab and Kishore sagar talab are made by earlier pre independence princely rulers for recreational purpose. These places harbour a good diversity of wetland birds and wetland dependent birds. A good amount of wetland vegetation and surrounding crop fields provide required food and safe nesting sites for these birds. Due to suitable feeding and breeding grounds many migratory birds are also attracted here.

Material and Method

The study was conducted at the Umedganj talab and adjoining main channel, Kishore Sagar lake, Alniya dam reservoir and Abhedha Mahal wetland. Each of the sites was surveyed weekly in the months of February, March, May, June, August, September, November & December, from November 2021 to July 2023. Survey was conducted either in morning 5:30 AM to 7:00 AM or in the evening 6: PM till sunset.

The observation was carried out by using a field binocular and photo camera. Photographs were used to identify to species with help of standard literature (Ali and Ripley, 1987 and 1995; Grimmet, *et al.*, 1999) and online resources provided by various ornithology peer groups and organizations. Data was recorded on the basis of their visit to wetland and lakes.



Order : Anseriformes						
Family : Anatidae						
S. No.	Scientific Name	Common Name	IUCN status	Residential status	Habitat status	Feeding nature
1.	<i>Sarkidiornis melanotos</i>	Knob billed duck	LC	R	FW/W	O
2.	<i>Nettapus coromandelianus</i>	Cotton pygmy goose	LC	R	FW/W	O
3.	<i>Anas poecilorhyncha</i>	Indian spotted bill duck	LC	R	FW/W	V/O
4.	<i>Spatula querquedula</i>	Garganey	LC	WM	FW/W	O
5.	<i>Dendrocygna javanica</i>	Lesser Whistling-Duck	LC	R	FW/W	V/O
6.	<i>Tadorna ferruginea</i>	Ruddy Shelduck	LC	WM	FW/W	O
7.	<i>Aythya fuligula</i>	Tufted Duck	LC	WM	FW/W	O
8.	<i>Anas acuta</i>	Northern Pintail	LC	WM	FW/W	O
9.	<i>Anser indicus</i>	Bar-headed Goose	LC	WM	FW/W	O
10.	<i>Netta rufina</i>	Red-crested Pochard	LC	WM	FW/W	O
11.	<i>Aythya ferina</i>	Common Pochard	V	WM	FW/W	O
12.	<i>Anas crecca</i>	Eurasian Green-winged Teal	LC	WM	FW/W	O
13.	<i>Spatula clypeata</i>	Northern Shoveler	LC	WM	FW/W	O
14.	<i>Anser anser</i>	Graylag Goose	LC	WM	FW/W	V
15.	<i>Aythya nyroca</i>	Ferruginous Duck	NT	WM	FW/W	O
16.	<i>Mareca strepera</i>	Gadwall	LC	WM	FW/W	O
17.	<i>Anas platyrhynchos</i>	Mallard	LC	WM	FW/W	O
18.	<i>Mareca penelope</i>	Eurasian Wigeon	LC	WM	FW/W	O
19.	<i>Anser albifrons</i>	Greater White-fronted Goose	LC	WM	FW/W	O

IUCN Status – (LC-Least concern, V-Vulnerable), Residential status – (R-Resident, WM – Winter migrant), Habitat status – (FW – Freshwater, W – Wetland), Feeding nature – (O- omnivorous, MV – Mainly vegetarian).

Results and Discussion:

The study conducted above records 19 species of Order Anseriformes, Family Anatidae in fresh water bodies and wetlands of Kota region. Only 4 species - Knob billed duck, Cotton pygmy goose, Indian spotted bill duck, and Lesser Whistling-Duck are resident of the region while rest 15 species recorded are winter migrants. Only one species *Aythya nyroca* (Ferruginous Duck) is nearly threatened according to the IUCN. All species enjoy open wetlands and freshwater areas. Almost all species are omnivorous feeds on different aquatic vegetation and small aquatic animals. No member from family Anhimidae and family Anseranatidae of this Order was recorded during the study period.

REFERENCES

1. **Ali S (1941)**. The book of Indian birds Thirteenth Edition (2002). New Delhi: Oxford University Press.
2. **Basavarajappa, S.** 2004. Avifauna of agro-ecosystems of Maidan area of Karnataka. *Zoos' Print J.* **21(4)**: 2217-2219.
3. **Bhadja P and Vaghela A (2013)**. Study on Avifaunal diversity from two freshwater reservoirs of Rajkot, Gujrat, India. *International Journal of Research in Zoology* 3(2) 16-20
4. **Buckton, S.** 2007. Managing wetlands for sustainable livelihoods at Koshi Tappu. *Danphe.* **16(1)**: 12-13.
5. **Jayson EA**, "Foraging ecology of birds in Kole wetlands of Thrissur, Kerala", KFRI Research Report, 2018.
6. **Karr J. R.** (1976). Seasonality resource availability and community diversity in tropical bird communities, *Am. Nat.*, 105: 423-435.
7. **Kulkarni A. N., Kanwate V. S and Deshpande V. D.** (2005) Birds in and around Nanded city, Maharashtra. *Zoos print Journal*, 20(11):2076-2078.
8. **Pandit, A.K.** (1982): Feeding ecology of breeding in five wetlands of Kashmir,

J.env.Man.33: 143-154pp

9. Sashikumar C., Palot MJ, “Wetlands and Waterfowls of Kerala, India-an overview”,

World Conservation Status of Storks, Ibises and Spoonbills, pp. 147-153, 2002.

10. Yardi D., Patil S. S. and Auti R. G. (2004) Diversity of Avian Fauna from Salim Ali

Lake of Aurangabad. Paper presented in 21st meet of birds lovers of Maharashtra held at Nanded on 3rd, 4th April – 2004.

