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Research Article

ANSERIFORMES BIRDS OF RATLAM, MADHYA PRADESH

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ABSTRACT
The avian diversity belonging to order Anseriformes of Ratlam was studied from July, 2015 to June, 2019. Ratlam is located at 23°19′0″N and 75°04′0″E is a city in the northwestern part of the Malwa region in Madhya Pradesh. Results revealed a total of 18 species of birds comprising of 8 genera. These are winter visitors and belong to wetland habitat. Out of these species Northern shoveler and Little grebe is common, eight species were occasional and the remaining species were uncommon.

Keywords*: Birds, Anatidae, Ratlam, Madhya Pradesh*

INTRODUCTION
Birds are excellent models for understanding the key issues in ecology, animal behavior, evolution and conservation (Urfi, 2011). Diversity of birds is one of the most important ecological indicators to evaluate the quality of habitats. The diversity of birds however is decreasing day by day due to destruction of habitat and human intervention (Bhadja and Vaghela, 2013). Their abundance indicates healthy status of environment and food sources (Joshi, 2012).
Little previous work has been carried out on the avifauna of the Ratlam. However some reports from other parts of Madhya Pradesh are reviewed (Pasha and Sankar 1996, Pasha 1998).
Birds are numerically most successful class of tetrapods with approximately ten thousand living species. Many bird species migrate to take advantage of seasonal temperatures, therefore enjoy both availability of food sources and pleasant breeding habitat. The water birds undertake annual long distance migrations, usually triggered by the length of daylight and weather conditions. These birds spent their breeding season in the temperate or polar regions and a non-breeding season in the tropical regions or opposite hemisphere. Before migration, birds considerably increase body fats and reserves.
The Ratlam city has humid subtropical climate zone. Three distinct seasons are observed: summer, monsoon and winter. Ratlam gets moderate rainfall of 35 to 38 inches (890 to 970 mm) from July through September, due to the southwest monsoon. The family Anatidae of order Anseriformes mainly has waterbirds that includes ducks, geese, and swans. The family exhibits cosmopolitan distribution, The birds are adapted for swimming, floating on the water surface, or diving in shallow water. The family contains about 146 species belonging to 43 genera. India being a mega diversity centre harbors 1334 species of birds which contributes to more than 13 percent of the world avian species; this list comprises 43 Anatidae birds (Praveen *et al.*, 2016). The birds are herbivorous, and monogamous. A number of species undergo annual migrations. A few species also are domesticated for agriculture. Few species have become extinct since 1600, and many are threatened with extinction. Various stress factors were observed in and around the study site which are responsible for habitat degradation, habitat fragmentation and habitat destruction. Due to their aquatic nature, most species are web-footed. In all 18 species of birds belonging to 8 genera are reported here.
The study was designed to evaluate diversity and distribution of Anatidae birds of Ratlam. Observations were carried out, using distance count method.

MATERIALS AND METHODS
The area under the present study was mainly Wetland. The present list is the outcome of bird observations mostly carried out between july, 2016 to july, 2019. The birds were identified following Ali 1941. The area was regularly surveyed for birds in all the major habitats. Birds seen were identified and recorded

along with habitat type and status (resident or winter visitor). On the basis of the frequency of sighting, the bird species were assigned categories of abundance (rare, uncommon, occasional and common). The study was designed to evaluate bird's diversity and distribution of Ratlam. Observations were carried out, using distance count method.

Table 1: List of Bird Species Spotted

S. No.	**Common Name and Scientific Name**	**IUCN status**	**Residential status**
1	Lesser Whistling-Duck *Dendrocygna javanica*	LC	WM
2	Large Whistling-Duck *Dendrocygna bicolor*	LC	WM
3	Greylag Goose *Anser anser*	LC	WM
4	Bar-headed Goose *Anser indicus*	LC	WM
5	BrahminyShelduck *Tadorna ferruginea*	LC	WM
6	Comb Duck *Sarkidiornis melanotos*	LC	R
7	Gadwall *Anas strepera*	LC	WM
8	Eurasian Wigeon *Anas penelope*	LC	WM
9	Spot-billed Duck *Anas poecilorhyncha*	LC	R
10	Northern Shoveller *Anas clypeata*	LC	WM
11	Northern Pintail *Anas acuta*	LC	WM
12	Garganey *Anas querquedula*	LC	WM
13	Common Teal *Anas crecca*	LC	WM
14	Marbled Teal *Marmaronetta angustirostris*	LC	WM
15	Common Pochard *Aythya ferina*	VU	WM
16	Ferruginous Pochard *Aythya nyroca*	NT	WM
17	Tufted Pochard *Aythya fuligula*	LC	WM
18	Little Grebe *Tachybaptus rufficollis*	LC	R

RESULTS AND DISCUSSION

In spite of its small size the site supports a good number of birds. During the study period, a total 18 species of birds belonging to 8 genera of family Anatidae belonging to order Anseriformes were observed. A checklist of the birds along with their IUCN conservation status and residential status is given in Table 1. As far as residential status is concerned,out of the 18 species of birds, almost all were Winter Migrant (WM). According to IUCN Red List version 3.1 15 species were Least Concern (LC), species *Aythya nyroca* was Near Threatened (NT) and species *Aythya ferina* was Vulnerable (VU).

Although the site support a large variety of birds, various stress factors were observed in and around the study site which are responsible for habitat degradation. These include many developmental projects and disturbance due to humans (anthropogenic pressure), presence of water exotic species such as water hyacinth which is spreading at a rapid rate in the wetlands, lack of permanent and clean water source, etc. All these factors are affecting the avian diversity of this site. For long term management of this site, proper action plan and regulation strategies are needed.

Plate I: 1.Brahminy Shelduck *Tadorna ferruginea;2.* Northern Shoveller *Anas clypeata;3.* Comb Duck *Sarkidiornis melanotos;4.* Marbled Teal *Marmaronetta angustirostris;5.* Lesser Whistling-Duck *Dendrocygna javanica;6.* Mallard Common Pochard *Aythya farina;7.* Gadwall *Anas strepera;8.* Spot-billed Duck *Anas poecilorhyncha*

Plate II: 10. Bar-headed Goose *Anser indicus; 11.* Large Whistling-Duck *Dendrocygna bicolour; 12.* Garganey *Anas querquedula; 13.* Common Teal *Anas crecca; 14.* Little Grebe *Tachybaptus rufficollis*

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