Bulletin of Pure and Applied Sciences
Zoology (Animal Science), Vol.43B, No.2S,
July-December 2024: P. 1579-1584

Print version ISSN 0970-0765
Online version ISSN 2320-3188

Original Research Article
Content Available online at: www.bpasjournals.com

STUDIES ON AVIFAUNAL DIVERSITY OF ARMORI TEHSIL THREE LAKES FROM DISTRICT GADCHIROLI (M.S.) INDIA.

Ghaturkar S. R[1] and Harney N.V[2]
Dept. of zoology, Nilkanthrao Shinde Science and arts college Bhadrawati

Abstract

The current investigation was conceded in the year of March 2022 -February 2023. It deals with the avifaunal diversity in Ramsagar, Ashta and Arsoda lakes in Armori tehsil. It deals with the study of avifaunal diversity in lakes of Armori tehsil. Bird's observation were carried out at regular intervals of the three lakes of three main seasons at regular interval of the study period. The present study based on the identification of residential Bird. Observations done with the help of Olympus binocular 8X40 DPS. Photographs were taken by with appropriate zoom lens of digital camera Nikon. Photos were clicked by visiting twice a day .four visits per month during morning 7:30 -10:30am and at evening 4:00 – 6:00pm. During the study a total number of 43 birds species lake 10 different orders 25 different families among which order Passeriformes were dominant by contributing 13 followed by order Ciconiformes with 08 species orders Anasiformes and Corcariformes represented by 05 species each order Charadriformes represented by 03 species, order Galliformes represented by 03 species and order Pelacaniformes and Psittaciformes represented by 02 species each and order Columbiformes and Falconiformes represented by 01 species each. The number of birds species may however vary accordingly based on parameters such as availability of food, water, and expansion of human populations; seasonal impacts etc.

Keywords: *Avifaunal diversity, Olympus binocular 8X40 DPS, Ecosystem*

Introduction:

Birds have ecological value as important elements of natural systems. Birds provide insect and rodent control, plant pollination and seed dispersal which results in tangible benefits to people. Birds play a critical role in reducing and maintaining populations of insects in natural system birds are important to continue to ecological circles sequentially, especially in food chain. Many bird species rely on the lakes as their primary source of food, this illustrates the need of protecting every area within them (Bansod et al., 2024). Birds play many important roles to maintain health of ecosystem through their actions as pollinators, seed dispersal, predators, scavenger and as a prey for others species (Mathialagan Mariyappan et al., 2023). Water birds includes, waders like ducks, goose, shanks, herons, egrets, plovers, sandpipers and waterfowls like water hens, water cocks, cormorants, etc which are water body associated birds (Boere et al., 2006; Ramsar convention 2016). Many conservations studies highlighted an importance of agro-forest ecosystem in reducing the impact of natural habitat loss and its major role in the conservation of water birds (Boere et al., 2003; Kumar and Sahu 2020).

Study Area – Ramsagar lake, Ashta lake and Arsoda lake

Ramsagar lake

The Ramsagar lake is principle fresh water body situated in center of Armori the heart of Armori of Gadchiroli district of Maharashtra state. It is situated to the East side. It is situated at about 721 meter above the mean sea level and is at 20˚27' 50.89" N latitude and 79˚ 59' 0.025"E longitude. The area of this lake is spread over 15.123 acres. The depth of water is 20 feet during the monsoon and 7 feet during the summer season. The water of this lake is primary used for washing, bathing, agriculture, fishing activities and other domestic

purposes but now it is at a transitional state with respect to degradation. The anthropogenic activities have resulted in waste discharge in the nearby water bodies, particularly the lakes under study.

Ashta lake

The Ashta lake is main fresh water body of Ashta villege of Armori tehsil and it is situated on the East side and away from 8 km. from Armori and at about 718 meter above mean sea level and is at 20˚ 28' 53.15" N latitude and 79˚ 59' 44.59" E longitude. It receives the water from the surrounding catchment areas during the monsoon period. The area of this lake is spread over 23.47 acres. The depth of water is 25 feet during the monsoon and 8 feet during the summer season. The water of this lake is primary used for washing, bathing, agriculture and fishing activities.

Arsoda lake

The Arsoda lake is fresh water body situated in Arsoda village which is 4 km. away from Armori of Gadchiroli district of Maharashtra state. It is situated to the West side. It is situated at about 706 meter above the mean sea level and is at 20˚28' 38.32" N latitude and 79˚ 57' 46.47"E longitude. The area of this lake is spread over 19.148 acres. The depth of water is 10 feet during the monsoon and 4 feet during the summer season. The water of this lake is primary used for washing, bathing, agriculture, fishing activities and other domestic purposes but now it is at a transitional state with respect to degradation.

A) RamsagarLake **B) Ashta lake** **C) Arsoda lake**

Material and Methods

The present work carried out from (March 2022 - February 2022). The survey carried out by using a field binoculars Olympus (8 x 40) magnification and photographed by Nikon D700 using lenses 70-300 mm. The survey from this area was undertaken during morning 7:30 -10:30am and evening 4:00-6:00pm visiting each sides (North , East, West and South) by visiting twice a day .four visits per month. Identification of species was done with the help of standard field guide book of Ali and Ripley (1995), Wadatkar (2001), Grimmett (2011) and Manakadan et al., (2011).

Results and Discussion

In the present study **43** species of birds were recorded from Ashta lake, **41** species of birds were recorded from Arsoda lake and **40** species of birds were recorded from Ramsagar lake (table no. 1). Birds were recorded from Ashta lake 10 different orders 25 different families among which order Passeriformes were dominant by contributing 13 followed by order Ciconiformes with 08 species orders Anasiformes and Corcariformes represented by 05 species each order Charadriformes represented by 03 species, order Galliformes represented by 03 species and Order Pelacaniformes and Psittaciformes represented by 02 species each and order Columbiformes and Falconiformes represented by 01 species each. Birds were recorded from Arsoda lake 10 different orders 25 different families among which order Passeriformes were

dominant by contributing 13 followed by order Ciconiformes with 08 species orders Anasiformes and Corcariformes represented by 05 species each order Charadriformes represented by 03 species, order Galliformes represented by 03 species and order Pelacaniformes, Psittaciformes and Columbiformes represented by 01 species each. Birds were recorded from Ramsagar lake 10 different orders 25 different families among which order Passeriformes were dominant by contributing 13 followed by order Ciconiformes with 08 species orders Anasiformes 03 species and Corcariformes represented by 05 species each order Charadriformes represented by 03 species, order Galliformes represented by 03 species and order Pelacaniformes 02 species and Psittaciformes represented by 01 species each and order Columbiformes and Falconiformes represented by 01 species each (figure no. 1 to 3 and Plate no 1). Findings are corroborated with Harney et al., (2012); Lunge at al., (2023) and Bansod et al., (2024).

Conclusion

This is preliminary survey of avifaunal diversity of these lakes which shows diversity of birds due to more variety of plants which gives more choice for food, preference of the bird's species as well as nesting and breeding place. Occurrences of winter visitor's birds shows favorable environment for avifauna.

References:-

Ali S (2002). The Book of Indian Birds. 13th Ed. Mumbai: Bombay Natural History Society.

Ali, S. and Ripley, S. D. (1995). A Pictorial guide to the birds of the Indian sub-continent. Bombay Natural Historical society, Munibai.

Bansod Deepak S. Ganvir Prachi M., and Ingale Prashant P. (2024). Avifauna diversity of two natural lakes in District Gadchiroli, (Ms) India. Indian J. Applied & Pure Bio. Vol. 39(3), 1828-1833.

Boere, G.C., (2003). Global activities on the conservation, management and sustainable use of migratory waterbirds: an integrated flyway/ecosystem approach. Wader Study Group Bulletin 100, 96e101.

Boere, G.C., Galbraith, C.A., Stroud, D.A. (Eds.), (2006). Waterbirds around the World. The Stationary Office, Edinburgh, UK, p. 960. http://jncc.defra.gov.uk/default. aspx? page¼3891.

Davidar, P. (1985). Ecological interactions between the mistletoes and their avian Pollinators in south India, J. Bom .Nat. Hist. Soc. Vol. (82): 45-80.

Grimmett R, C Inskipp and T Inskipp (2011). Birds of the Indian Subcontinent. 2nd Ed. London WCIB 3DP: Christopher Helm.

Harney, N. V., A. A. Dhamani and R. Andrew (2012). Avifaunal diversity in and around Kanhala lake Bhadrawati, Dist-Chandrapur (MS), India Bionano Frontier Vol. 5 (2-1): 30-33.

Kumar, P. and Sahu, S. (2020). Composition, diversity, and foraging guilds of avifauna in agricultural land scapes In Panipat, Haryana, India. Journal of Threatened Taxa 12, 15140-15153.

Lunge Ashwin, Gajanan Wagh, Amol Rawankar and Pratik Chaudhari (2023). Bioscience Biotechnology Research Communications. 16 (3).

Manakadan R, JC Daniel and N Bhopale (2011). Birds of the Indian Subcontinent: A Field Guide. Mumbai: Bombay Natural History Society.

Mathialagan Mariyappan, Meena Rajendran, Sarathkumar Velu, et al., (2023). Ecological Role and Ecosystem Services of Birds: A Review. . International Journal of Environment and Climate Change, Volume 13, (6): 76-87; DOI: www.doi.org/10.9734/ijecc/2023/v13i61800.

Ramsar Convention Secretariat (2016). The Fourth Ramsar Strategic Plan 2016–2024. Ramsar handbooks for the wise use of wetlands, 5th edition, vol. 2. Ramsar Convention Secretariat, Gland, Switzerland.

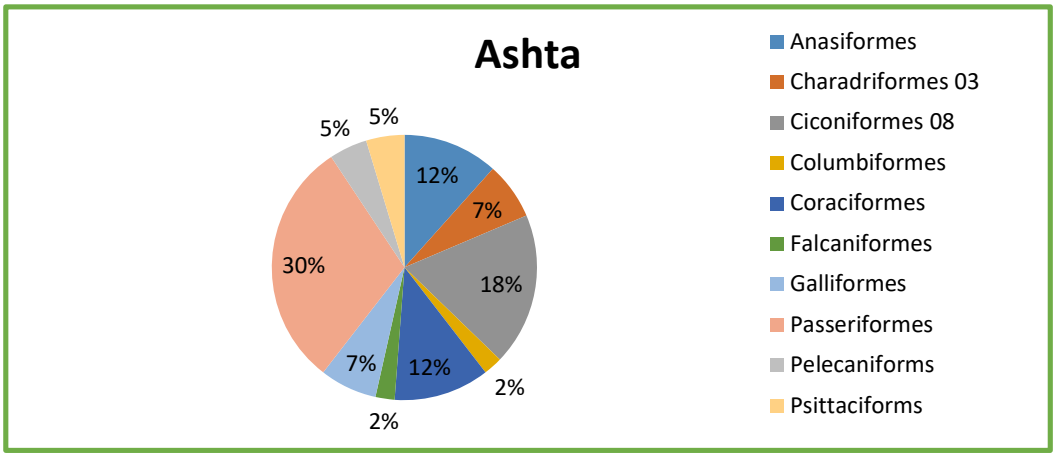
Wadatkar JS. (2001). Zoos' Print Journal. 16(5): 497-499.**Table no. 1:** Checklist of Avifauna in lakes of Ramsagar, Ashta and Arsoda in Armori Tehsil Gadchiroli

Sr. No.	Orders/Family	Scientific name	Common name	Habit	Ashta lake	Arsoda lake	Ramsagar Lake	IUCN Status
1.	Anasiformes/ Anatidae	*Anas poecilorhynca*	Spot Bill Duck	**WV**	+	+	-	**LC**
2.	Anasiformes/ Anatidae	*Todorna ferruginea*	Bramhiny Shelduck	**WV**	+	+	-	**LC**
3.	Anasiformes/ Anatidae	*Anas clypeata*	Northern pintail	**WV**	+	+	+	**LC**
4.	Anasiformes/ Anatidae	*Sarkidornis melanotos*	Comb Duck	**WV**	+	+	+	**LC**
5.	Anasiformes/ Anatidae	*Nettapus coromandelianus*	Cotton teal	**R**	+	+	+	**LC**
6.	Charadriformes /charadridae	*Vanellus indicus*	Red wattled lapwig	**R**	+	+	+	**LC**
7	Charadriformes /Recurvirostridae	*Himantopus himantopus*	Black winged stilt	**R**	+	+	+	**LC**
8.	Charadriformes /Scolopacidae	*Actitishypo leucos*	Common sandpiper	**RM**	+	+	+	**LC**
9.	Ciconiformes /Ardeidae	*Bubulcus ibis*	Cattle egret	**RM**	+	+	+	**LC**
10.	Ciconiformes /Ardeidae	*Ardea cineria*	Grey heron	**RM**	+	+	+	**LC**
11.	Ciconiformes /Ciconidae	*Ephippiorhyrichos asiaticus*	Black necked stork	**WV**	+	+	+	**LC**
12.	Ciconiformes /Ardeidae	*Casmerodilus albus*	Large Egret	**RM**	+	+	+	**LC**
13.	Ciconiformes /Ciconidae	*Anastomus osciatans*	Asian open bill stork	**R**	+	+	+	**LC**
14.	Ciconiformes /Ciconidae	*Mycteria leucocephala*	Painted stork	**WV**	+	+	+	**LC**
15.	Ciconiformes/Threskiornithidae	*Pseudibis papillosa*	Black ibis	**RM**	+	+	+	**LC**
16.	Ciconiformes /Ardeidae	*Aredeola grayii*	Indian pond heron	**R**	+	+	+	**LC**
17.	Columbiformes	*Strepto*	Spotted	**R**	+	+	+	**LC**

	/Columbidiae	*peliachinensis*	dove					
18.	Coraciformes /Alcedinidae	*Alcedo attkis*	Small blueking fisher	**R M**	+	+	+	**LC**
19.	Coraciformes/Coracidae	*Coracias beghalensis*	Indian roller	**R M**	+	+	+	**LC**
20.	Coraciformes /Alcedinidae	*Halyconus myrnesis*	White breasted kingfisher	**R**	+	+	+	**LC**
21.	Coraciformes /Meropidae	*Merops orientalis*	Small green bee eater	**R**	+	+	+	**LC**
22.	Coraciformes /Upupidae	*Upupa epops*	Common Hoopoe	**R**	+	+	+	**LC**
23.	Falcaniformes /Anatidae	*Milvus migrans*	Black kite	**R**	+	-	+	**LC**
24.	Galliformes /Gruidae	*Amauromis phoenicurus*	White breasted water hen	**R**	+	+	+	**LC**
25.	Galliformes /Gruidae	*Porphyrio porphyrio*	Purple swamphe ae	**R**	+	+	+	**LC**
26.	Galliformes /Gruidae	*Fulica atra*	Common coot	**R M**	+	+	+	**LC**
27.	Passeriformes /Necatarinidae	*Cinnyris asiaticus*	Purple sunbird	**R**	+	+	+	**LC**
28.	Passeriformes /Passeridae	*Hydrophasla nus chirurgus*	Pheasant tailed jacana	**R**	+	+	+	**LC**
29.	Passeriformes /Muscicapidae	*Soxicolodies fulicatus*	Indian robin	**R**	+	+	+	**LC**
30.	Passeriformes /Sturnidae	*Acridothere stristis*	Common myna	**R**	+	+	+	**LC**
31.	Passeriformes /Pycnonotidiae	*Pycnomotus cafer*	Red vented bulbul	**R**	+	+	+	**LC**
32.	Passeriformes /Dicrudidae	*Dicrurus macrocercus*	Black drongo	**R**	+	+	+	**LC**
33.	Passeriformes /Sturnidae	*Starnia pagodarum*	Bramhin y starling	**R**	+	+	+	**LC**
34.	Passeriformes /Hirudinidae	*Hirundo rustica*	Common swallow	**R**	+	+	+	**LC**
35.	Passeriformes /Corvidae	*Corvus macrorhyncous*	Jungal crow	**R**	+	+	+	**LC**

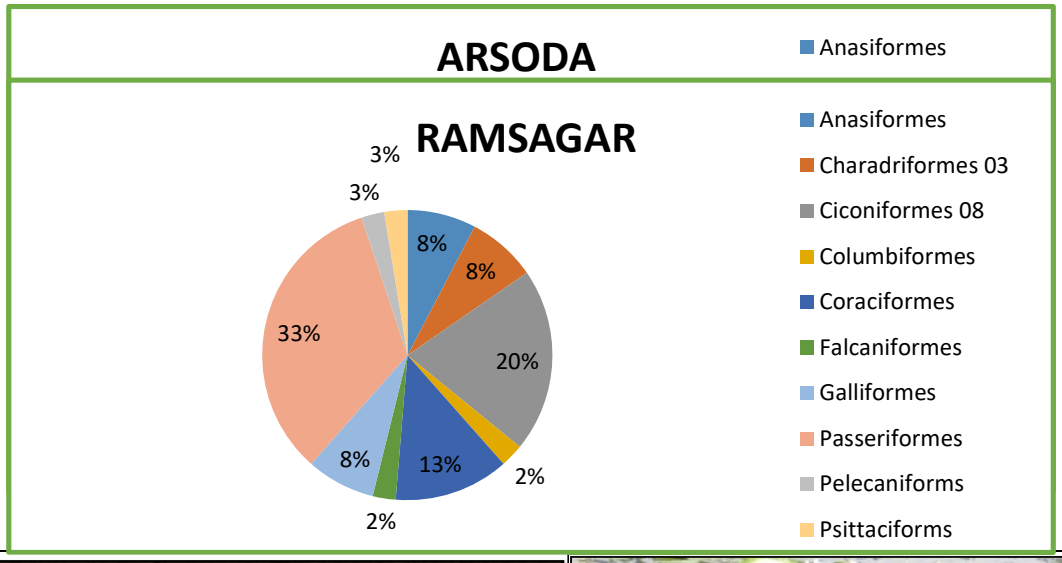
36.	Passeriformes /Motacillidae	*Motacilla alba*	White wagtail	**WV**	+	+	+	**LC**
37.	Passeriformes /Motacillidae	*Motacillacinerea*	Grey wagtail	**WV**	+	+	+	**LC**
38.	Passeriformes /Sturnidae	*Sturmus contra*	Pied myna	**R**	+	+	+	**LC**
39.	Passeriformes /Corvidae	*Corvus splendens*	House crow	**R**	+	+	+	**LC**
40.	Pelecaniformes /Phalecrocoracidae	*Phalacrocoraxniger*	Little cormorant	**R**	+	+	+	**LC**
41.	Pelecaniformes /Phalecrocoracidae	*Phalacro coraxfusicollis*	Indian cormorant	**R**	+	+	+	**LC**
42.	Psittaciformes /Cuculidae	*Eudynamys scolopaceus*	Asian koel	**R**	+	+	+	**LC**
43.	Psittaciformes /Cuculidae	*Centropus sinensis*	Greater coucul	**R**	+	-	-	**LC**
IUCN's List of threatened species (2020): Categorized as Least concerned(LC).R-widespread resident ,WV-Widespread winter visitor and RM-Resident migrant.								

Figure no. 1: Graph Showing Bird diversity Orders/Family % form



Ashta lake.

Figure no. 2: Graph Showing Bird diversity Orders/Family % form Arsoda lake.
Figure no. 3: Graph Showing Bird diversity Orders/Family % form Ramsagar lake
Plate no. 1: Showing Picture of Some Birds from Three lakes.



Great Egret

Chinese Pond Heron

	
Open billed stork	Indian Pond Heron
	
Indian roller	Little cormorant
	
Green bee eater	Black drong