International Journal of Fauna and Biological Studies
Available online at www.faunajournal.com

E-ISSN 2347-2677
P-ISSN 2394-0522
https://www.faunajournal.com
IJFBS 2024; 11(6): 103-105
Received: 12-10-2024
Accepted: 15-11-2024

Shende KC
P.G., Department of Zoology, Deogiri College, Chatrapati Sambhajinagar, Maharashtra, India

Bajad PN
Department of Zoology, Shri Muktanand College, Gangapur, Maharashtra, India

Corresponding Author:
Shende KC
P.G., Department of Zoology, Deogiri College, Chatrapati Sambhajinagar, Maharashtra, India

Seasonal avian diversity of Anatidae family at Sukhana dam, Garkheda, Aurangabad, Maharashtra, India

Shende KC and Bajad PN

DOI: https://doi.org/10.22271/23940522.2024.v11.i6b.1064

Abstract
Present study was carried out on the seasonal avian diversity of Anatidae family at Sukhana Dam near Garkheda village in Aurangabad District of Maharashtra in India. The study carried out from period of January, 2023 to December, 2023. The 'Sukhana Dam' enriched with avian diversity having a variety of flora and fauna. Its surrounding provides ground for feeding, breeding and nesting for avian fauna. The field survey was done to study and assess avian fauna by conducting daily observations and readings. During field survey, 14 species of birds were recorded in almost all seasons at different habitats available in this Dam area. This study gives complete overview of the seasonal diversity, conservation status, abundance, and migratory patterns of the Anatidae family at Sukhana Dam, serving as a valuable resource for ecological research and conservation efforts.

Keywords: Avian diversity, Anatidae Family, Seasonal variation, Abundance, IUCN status

Introduction
Birds are vital & integral part of biodiversity & reflects in its own environmental ecological aesthetic values. Mostly food abundance & the seasonal changes largely impacts quantum of avian diversity in terrestrial environments. The Indian subcontinent is very rich in biodiversity. In India 1,353 species (13%) of birds are found. Out of total 10000 bird's species that are found in world (Ali and Ripley 1987) [3] considered 176 species endemic to the Indian subcontinent. Out of 1,353 species of the Indian subcontinent more than 577 species have been reported from Maharashtra state. In Aurangabad, Yardi *et al.* (2004, 2000) [19, 20] recorded 64 species, Rasal *et al.* (2015) [8] recorded 61 species. In Vidarbha, Puri *et al.*, (2016) [15] reported 86 birds' species. In Gondia district, Bhandarkar *et al.*, (2014) [5] recorded 52 bird's species.
Birds are an important and essential part of the world ecosystems and so it is difficult to imagine the world without them. As these are the indicators of the status of an ecosystem. If the number of birds and diversity of birds in an area changes drastically, we can safely conclude the habitat has changed drastically. As truly explained by Dr. Salim Ali "birds can survive without humans on this planet, but humans may not survive without the existence of birds!" It is true that we need birds far more than they need us. Birds play a crucial role in keeping balance of nature and also help in pollination of flowers and dispersal of seeds. Richness, abundance and community composition of birds are often used by ecologists to understand the diversity of species in natural occurrence. (Subramanian 2004) [17] Sukhana Dam is an earth fill dam on Sukhana River, which is 25 km. distance from Aurangabad near to village Chitte-Pimpalgon in the state of Maharashtra in India. The height of the dam is 16.92 m (55.5ft.) while the length is 446m. The volume content is 68000 m^3 and gross storage capacity is 21,340000 m^3. Its surface area is 6782 km 2. The Sukhana dam is a superb wetland with shallow waters, for many feathery bipeds. Different species of algae and fishes are observed in this region. During winter, migratory birds are observed at this water body. Adequate quantity of algae and aquatic plants food sources of birds. Shejul and Sawant (2018) [16] recorded the diversity of cosmarium from Sukhana Dam.

Material and Methods
Monthly Survey & Identification of Birds-Done in morning between 6 a.m. to 9 a.m. Birds were observed by using Binoculars (COMET Make), & captured photographs with Digital Camera (Nikon 5300-300 mm lens). The study was based on only photography.

Spot identification with the help of standard methods of Salim Ali, 'The book of Indian Birds' (2002). [2] Regularly, I visited at Sukhana Dam in three main parts and time zones of a day like early morning, afternoon & evening. Birds were observed, sighted by using binoculars and spot identification was done by using field guides (Grimmette, *et al*., 1999; Tiwari, 2005; S. Ali and Fatehali, 2003) [9, 18, 4] and identified the bird species as per the checklist of Abdulali, (1981) [1]; Kulkarni *et al*., (2006) [11]. On the periphery of Sukhana Dam, located birds were captured real time geotag photography. In the present study, most of the birds are observed between the time 4 p.m. to 5 p.m. Evening near the periphery of dam. The bird, Green Bee Eater observed frequently roaming across the dam area.

Coordinates: 19.8055078^{0}N 75.5157897^{0}E

Source: https://earth.google.com/web

Fig 1: Location of study site: Sukhana Dam, Aurangabad, and Maharashtra, India

Data Collection & Data Analysis

Avifaunal survey conducted in the monsoon, winter and summer seasons at three sessions at different timings immediate after sunshine and prior to sunset. The recorded data are presented in Table.

Results and Discussion

Sukhana Dam is an earth fill dam in the village of Garkheda, near Aurangabad in Maharashtra, India. It is located on the Sukhana River and the dam was built primarily for irrigation. The dam is home to a variety of flora and fauna, including different species of fish and algae. It is also a popular winter destination for migratory birds. After regular visit to Sukhana Dam for avifaunal diversity, total 14 bird species of Anatidae family were observed as per IUCN (The International Union for conservation of nature), local /migratory status, and abundance status. The checklist of birds from Anatidae family presented in Table.

Table 1: Checklist of birds of anatidae family at Sukhana Dam, Aurangabad, and Maharashtra, India

Sr. No.	Common Name	Scientific Name	IUCN Status	Abundance	Season	Status
1	Lesser Whistling Duck	Dendrocygna Javanica	Least Concern	Common	W,S,M	Local
2	Ruddy Shelduck	Tadorna Ferruginea	Least Concern	Common	W	Migratory
3	Northern Shovler	Spatula Clypeata	Least Concern	Common	W	Migratory
4	Northern Pintail	Anas Acuta	Least Concern	Common	W	Migratory
5	Garganey	Spatula Querquedula	Least Concern	Common	W	Migratory
6	Gadwall	Marecea Strepera	Least Concern	Common	W	Migratory
7	Eurasian Wigeon	Mareca Penelope	Least Concern	Common	W	Migratory
8	Common Teal	Anas Crecca	Least Concern	Common	W	Migratory
9	Ferruginous Duck	Aythya nyroca	Near Threatened	Occasional	W	Migratory
10	Common Pochard	Ayathya Ferina	Velnerable	Rare	W	Migratory
11	Tufted Duck	Aythya Fuligula	Least Concern	Common	W	Migratory
12	Indian Spot bill duck	Anas Poecilorhynca	Least Concern	Common	W,S,M	Local
13	Mallard	Platyrhynchos	Least Concern	Common	W	Migratory
14	Cotton Pygmy Goose	Nettapus Coromandellianus	Least Concern	Common	W,S,M	Local

From January, 2023 to December, 2023

During this study period from January, 2023 to December, 2023 we recorded total 14 species of Anatidae family. They are mostly winter visitors. Generally, they arrive from overseas regions like Europe, Siberia, and Central part of Asia to protect themselves from very harsh cold conditions. The breeding season normally extends from June to September. Sukhana Dam's ecosystem suits for breeding during the monsoon and post monsoon. Some species uses this Dam as stopover point during their long migratory journey and can be observed even during spring and Autum Migrations.

Patil *et al.*, (2019) [13] recorded 241 species belonging to 152 genera, 46 families and 17 orders (Podicipediformes, Pelecaniformes, Ciconiiformes, Anseriformes, Falconiformes, Galliformes, Gruiformes, Charadriiformes, Columbiformes, Psittaciformes, Cuculiformes, Strigiformes, Caprimulgiformes, Apodiformes, Coraciiformes, Piciformes and Passeriformes) from January 2014 to December 2017. Chinchkhede and Kedar, (2013, 2020) [6, 7] reported the 167 species of birds belonging to 45 families of habitat of Navegaon National Park, Maharashtra from January 2010 to December 2013. Puri (2015) [14] recorded 27 species from Zaliya lake in Gondia district, Bhandarkar S.V and Paliwal (2014) [5] recorded 52 species including world's largest flying bird Sarus Crane. Kasambe and Wadatkar (2007) [10] recorded 78 species from Pohara-Malkhed forest reserviour of Amravati district. Kurhade (2010) [12] recorded 208 species in Jaikwadi reserviours.

Conclusion

In the presence study of avifaunal diversity of Anatidae family at Sukhana dam due to favorable and decent habitat total 14 Birds species recorded as per IUCN status. There were 86% least concern, 7% near threatened and 7% Vulnerable. Seasonal occurrence wise 79% observed in winter season and 21% birds observed in winter, monsoon & summer seasons. Abundance wise 86% birds observed common, 7% rare and 7% occasional. Total 79% birds observed migratory whereas 21% found local. The ecological importance of this Sukhana Dam lies in this avian diversity including migratory species. It is highly necessary to protect and conserved the habitat for the survival of bird's populations. Such representation of survey data would prove very helpful to analyze population changes in the avian diversity over the years which is one of the prerequisites for any conservation effort in Sukhana Dam area.

Conflict of Interest: The authors have no conflicts of interest.

Acknowledgment

Authors are thankful to the Dr. Babasaheb Ambedkar Research and Training Institute (BARTI), Pune, Govt. of Maharashtra and The Principal, Deogiri College, Chhatrapati Sambhajinagar for his encouragement and providing facilities.

References

1. Abdulali H. Checklist of birds of Maharashtra. Mumbai: Bombay Natural History Society, 1981, p. 1-16.
2. Ali S. The Book of Indian Birds. 13th Ed. Revised by J.C. Daniel, 2002.
3. Ali S, Ripley SD. A pictorial guide to the birds of the Indian sub-continent. Mumbai: National History Society, 1996, p. 1-172.
4. Ali S, Fatehali L. Bhartiya Pakshi. New Delhi: National Book Trust, India, 2003.
5. Bhandarkar SV, Paliwal GT. Biodiversity and conservation status of water birds in Shrungarbandh Lake, district Gondia, Maharashtra, India. Int J Life Sci. 2014;2(3):239-243.
6. Chinchkhede K, Kedar GT. Habitat niche and status of the birds of Navegaon National Park, Maharashtra. Int J Scientific Res. 2013;2(9):430-436.
7. Chinchkhede KH, Kedar GT. Selection of habitat domain by avifauna of Navegaon National Park selected study area, Maharashtra, India. Int J Life Sci. 2020;2:372-82.
8. Rasal GB, Chavan BL. Diversity of birds in local ecosystem Aurangabad, Maharashtra, India. J Econ Sustain Dev. 2015;6(1):2222-1700.
9. Grimmette K, Inskipp C, Inskipp T. Birds of the Indian sub-continent. New Delhi: Oxford University Press, 1999, p. 384.
10. Kasambe R, Wadatkar J. Birds of Pohara-Malkhed reserve forest, Amravati, Maharashtra: An updated annotated checklist. Zoo's Print. 2007;22(7):2768-2770.
11. Kulkarni AN, Bhowte CS, Kanwate VS. Bird census in Nanded region (Maharashtra). Bioinfolet. 2006;3(3):173-178.
12. Kurhade S. Status and diversity of avifauna in Jaikwadi reservoir, Maharashtra. J Aqua Bio. 2010;25(1):32-40.
13. Patil KG, Shende VA, Uke SB. Bird habitats in Gosekhurd region of Godavari basin, across Wainganga river, India. J Biol Stud. 2019;4:146-159.
14. Puri SD. Avifaunal diversity of Malguzari Lake at Zaliya near Amgaon in Gondia district (MS), India. Int J Life Sci. 2015;3(3):219-224.
15. Puri SD, Virani RS. Avifaunal diversity from Khairbandha Lake in Gondia district, Maharashtra State, India. Biosci Discov. 2016;7(2):140-146.
16. Shejul SK, Sawant RJ. Diversity of cosmarium from Sukhana Dam, Aurangabad (M.S.). Life Sci Bull. 2018;15(1):1-5.
17. Subramanian KA, Gore A, Paranjpe SA, Madikunt S, Pramod P, Gadgil M. On causes of endangerment of bird species of India. Perspectives on Biosystematics and Biodiversity. T.E.N.Com. 2004;11:11-40.
18. Tiwari VM. Joy of bird watching. New Delhi: National Book Trust, India, 2005.
19. Yardi D. Checklist of birds of Jayakwadi Bird Sanctuary, Aurangabad (M.S.). Wildlife Circle, Aurangabad, 2000.
20. Yardi D, Patil SS, Auti RG. Diversity of avian fauna from Salim Ali Lake of Aurangabad. Paper presented at the 21st meet of Bird Lovers of Maharashtra, Nanded,, 2004 Apr 3-4.