Fish Biodiversity of Kishore Sagar Lake, Kota [Rajasthan], India

Author: Ekta Sharma and Dr. Monika Mishra

Ph.D. student in Life Science (Zoology) Sam Global University, Bhopal (M.P) India

Abstract: Kishore Sagar Lake is situated in the center of Kota city.The catchment of Kishore Sagar is semi-hilly androcky and the length of the dam is 1500 m while the height of dam is 5.6 m. The fish fauna of this lake isrich and diverse. Various types of fishes, carps, catfish and other aquatic animals resides in this lake.Present studies deal with fish fauna of the lake. The biological samples were collected as per standard method during rainy season, which involve collection of fishes. Three types of nets were used to collectthe samples. 13 species belonging to 7 families, and 5 orders of fishes were found in Kishore Sagar Lakeduring investigation.

Keywords: Kishore Sagar Lake, diversity, biological sampling, gill net, cast net and hand net.

Introduction:

Fishes are interest to humans for many reasons, the most important being their relationship with independence on the environment.Fishes have a great significance in the life of mankind, being an important natural source of protein. Fishes are used as food throughout the world. Fishes also helps in disease control.There are about 36000 species, which represents the 40% of the total vertebrates.58%ofextant fishes are salt water, while 41% are fresh water fishes and remaining 1% is anadromous.

Kota is an educational city of Rajasthan and is situated in the southern part of the state, along the east bank of the Chambal River. It is 271 meters high in average.This water body can be an important sourceof drinking water and other multipurpose uses for the nearby areas besides adding as beauty to Kota city.The fish fauna of the Kishore Sagar Lake is rich and diverse. Various types of carps, catfish, mullets, Mrigal, Kalbos, Lachi, Murrel, Singhi, Kudsha, Batha, Putti, Patol, Katrana, ohu Pabda etc. resides in the lake water.Near about 54 species of fishes were reported from the Kishore Sagar Lake.

Study area:

Kishore Sagar Lake is situated in the center of Kota city. It is also known as Bara Talab. This artificial lakewas constructed in 1346 by Prince Dher Deh of Bundi. The catchment of Kishore Sagar is semi-hilly and rocky and the length of the dam is 1500 m while the height of dam is 5.6 m.

During rainy season biological samples were collected from three sampling station:

1) Near KST Boating Ramp:
2) Near Bhagwan Mahaveer Children's Park
3) Near Shree Tejaji Maharaj Temple

Result and Discussion:

During the study period different fish varieties have been observed in the Kishore Sagar Lake,Kota (Rajasthan).The results showed that the area was rich in fish diversity. Fishes belonging to 13 species of 7 families and 5 orders were collected during the course of the study period. Many collected fishes having economic importance. In the present study on fish diversity 13 species of 7 families and 5 orderswere recorded from the Kishore Sagar Lake, Kota. Number of catches carried out during June 2022 to September2022. The members of Order Cypriniformes were represented by 6 species i.e (Labeo rohita,Cirrhinus mrigala,Labeo calbasu, Labeo bata Carassius auratus, Puntis).The order Siluriformes was represented by 4 species(Clupisoma garua, Wallago attu,Heteropneustes fossilis, Ompok bimaculatus,)order Perciformes was represented by single species(Channa striata),Order Scombriformes was represented by single species(Trichosanthes dioica), Order Atheriniformes was alsorepresented by single species(Rheocles alaotrensis)

Table 1: The fish species presently encountered from Kishore Sagar Lake,Kota(Rajasthan)

S.NO	ORDER	FAMILY	SCIENTIFIC NAME	COMMON NAME
1	Cypriniformes	Cyprinidae	Labeo rohita	Rohu
2	Cypriniformes	Cyprinidae	Cirrhinus mrigala	Mrigal
3	Cypriniformes	Cyprinidae	Labeo calbasu	Kalbos
4	Siluriformes	Ailiidae	Clupisoma garua	Cat fish
5	Siluriformes	Siluridae	Wallago attu	Lachi
6	Perciformes	Channidae	Channa striata	Murrel
7	Siluriformes	Heteropneustidae	Heteropneustes fossilis	Singhi
8	Cypriniformes	Cyprinidae	Carassius auratus	Kudsha
9	Cypriniformes	Cyprinidae	Labeo bata	Bata
10	Cypriniformes	Cyprinidae	Puntis	Putti
11	Scombriformes	Scombridae	Trichosanthes dioica	Patola
12	Atheriniformes	Bedotiidae	Rheocles alaotrensis	Katrana
13	Siluriformes	Siluridae	Ompok bimaculatus	Pabda

Conclusion:

The fish fauna of the Kishore Sagar Lake is rich and diverse. Present studies indicatethat proper scientific management and implementation of laws for illegal fishing is needed to save this ecosystem. The present work on fish diversity of the Kishore Sagar Lake, Kota endowed with the wide variety of fish species. A significant number of these fishes are used forfood and other purposes. A study on these fishes in Kishore Sagar Lake along with their habitatwould be required for looking at demand in the local market. Indigenous methods of rearing should be developed along with breeding possibility.

References:

1. Anil Kumar, Naresh Chandra Aery and Laxmi Lal Sharma, (2016). Limnology, Diatom Diversity and Conservation of Kishore Sagar Lake, Kota, Rajasthan, India
2. Angsuman Chanda (2021) Field identification manual for indigenous fresh water fish of undivided Paschim Medinipur District International Research Journal of Basic and applied Science, Volume3ISSN:2455-6718:: WBENG/2016/76189,website:www.rrklwc.ac.in
3. Atkore, V.M., Shiva Kumar, K. and Jhon Singh, A. J. T. (2011): Patterns of diversity and conservation status of freshwater fishes in the tributaries of River Ramganga in the Shiwaliks of the Western Himalaya. CURRENT SCIENCE;100(5):731-736
4. Jyoti Sharma (2021) Limnological studies of river Chandloi (Kota, Rajasthan) with specialreference to ichthyofaunal diversity. pp 34-62
5. Kamlesh Meena (2019) Ecological studies of a village pond of Similiya, District Kota, Rajasthan.
6. Ojha Swati and Sharma K.C.1994: Algal diversity in Gandhi Sagar Lake of Bhilwara. Geobios new reports 13:143-146
7. Sharma, K.N. and Mankodi, P. C. (2011): Study on plankton diversity of Narmada River, Gujrat, Journal of Current Science;16(1):111-116.Das, S.M. (1989) Handbook of Limnology and Water Pollution. South Asian Publishers. 174 p.
8. Swarnlata N Rao and Rao A. Nursing 1997: Limnological Studies of a semipermanent pond. J. Phytol Res.10(2-1):15-23.