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Ichthyofaunal And Geographical Study Of River Kewai – A Tributary Of River SON

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Abstract: ***The present investigation is based on Ichthyofaunal diversity and geographical study of river kewai. If we want to know the ichthyofaunal diversity of any main river it is too necessary to investigate the ichthyofaunal diversity of it's tributaries. To intend of this fact The present investigation has done.***

The river kewai is a tributary of river son. it is originated from the village Bairagi pahad near by of sub tahsil kelhari(Latitude 23.411893 ,Longitude 82.046162 Altitude 588 meters.) district korea (Chhattisgarh) India. kewai flows north to south & join the river son in village Bachha (Paroud) near by of mauhari district anuppur (Madhya Pradesh)India. For the present investigation 10 different stations of the river in different zone namely :Rokra,Hashwahi,Majhauly,Chhatai,Gulidand,Sitamadi,Pathraudi,Kewai bariar,Dar sagar and Bhalumada were selected for the sampling the fishes . The period of investigation were 1 year from October 2011 to September 2012. Over all 29 species belonging to 5 orders and 10 families were recorded in the sampling stations of the river . Cyprinidae was the most dominating family (75.3%) with 13 species. puntius sophore (33.5%) puntius chola (12.40%) and Nimacheilus aureus Day (6%) were the most abundant among the collected species during the study period at all the 10 station .

In geographical study it is found that the total length of river kewai about 70 k.m.

The maximum depth of the river is calculated 4 meter in Rokra, 5 meter in Sitamadi and Darsagar.

I. INTRODUCTION

Inland waters have very important role in human civilization. It has been estimated that the total area of fresh water of the world is 2.5million sq.km. which makes about 0.5 % of the total earth's surface. Maximum civilization has been developed beside rivers. Rivers play an important role in the development programmes of the country. They can serve as sourses of drinking water, water for industries, for agriculture, power development, and fishries. From the ancient time fishes play an important role in human life as a food.

Ichthyofaunal diversity is the term used describe the existence of a wide variety of species of fishes in particular area. Ichthyofaunal diversity is directly related to human life because we get maximum quantity of protein and different type of medicine such as Salmon liver oil from fishes.

This research aimed to describe the species composition, abundance, degree of dominance and species richness in the ichthyofauna of this river throughout a one year period.

Ichthyofaunal diversity of a main river is always depend on its tributaries .Tributaries play an interesting role in ichthyofaunal diversity of its main river.The river Kewai is one of them. The river Kewai is a tributary of river Son. Kewai is originated from the Bairagi pahad near by of sub tahsil Kelhari (Latitude 23.411893, Longitude 82.046162 Altitude 588 meters.) district Korea Chhattisgarh India. Kewai is about 70 km. long it flows North to South and join the river Son in village Bachha (Paraud) nearby of mauhari district Anuppur Madhya Pradesh India.

Several ways of measuring the species diversity of biological communities have been described (Mac- Aurther 1965, chao& shen 2003, Magurran 2005) and this diversity is considered by ecologists to be an indicator of community well being (Magurran 1988).

India has considerable ichthyofaunal diversity. Day (1875) described 1418 species of fish under 34 genera, and a century later jayaram (1981) Listed 742 fresh water species under 233 genera, 64 families and16 older from the India

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region. For the present investigation 10 stations were selected in different zone of the river.

II. MATERIAL AND METHOD

For the present study 10 different stations in different zone of river kewai namely- Rokra, Haswahi, Majhauli, Chhatai, Gulidand, Sitamadi, Pathraudi, Kewai Bariar, Darsagar & Bhalumada, were selected for sampling the fishes. The period of investigation was 1 year from October 2011 to September 2012.

Fish species were collected with the help of local fisherman at all the 10 stations in every month. Fish species were collected using different types of net such as cast nets, Seime nets and gill nets .The specimen were preserved in 5% formalin. Ecological features of the fish habitat and color of fish species were recorded throughout Collection .the fish were kept upside down to avoid any damage to caudal fin in the container. For species identification, counts of lateral line scales and fin ray as well as measurement of body were made with help of literature cited Day (1878), jayaram (1981).

Depth of the river was measured by the hook gage method in all the 10 stations .Map of the river has been made by the traveling of villages which is situated at the bank of river, and with the help of satellite map.

The catch composition of individual fish was determind using following formula:

$$\text{Catch composition by number (\%)} = \frac{\text{Total catch of an individual species} * 100}{\text{Total catch of all species}}$$

III. RESULT AND DISCUSSION

The different species of fishes which is found during the study period in the river Kewai, is tabulated in table given blow. It shows 29 species of fishes belonging to 5 orders and included 10 families were collected in river Kewai. Cyprinidae was the most dominant family (75.3%, average percentage of different species) with 10 species. Puntius sophore (33.5%) and Puntius chola (12.4%) were the most abundant among the collected species during study period at all the 10 stations. Heteropneustes fossilis, Channa gachua and Nemacheilus aureus Day are founded in good number in maximum station during the study period. Some major carps namely-Labeo rohita, Labeo calbasu, Catla-catla, Cirrhinus mrigala and Mytus bleekeri were observed in least number or present in some quantity in rainy season. They have been extinct in maximum stations, because the water of these stations has been more polluted. The reason of the pollution is that the farmers use the chemical fertilizer in their fields for highly production of crop. For the irrigation of their field, farmers use the water of this river, without any permission from proper agency and also construct some small stop-Dam, this activity might cause the pollution of river.

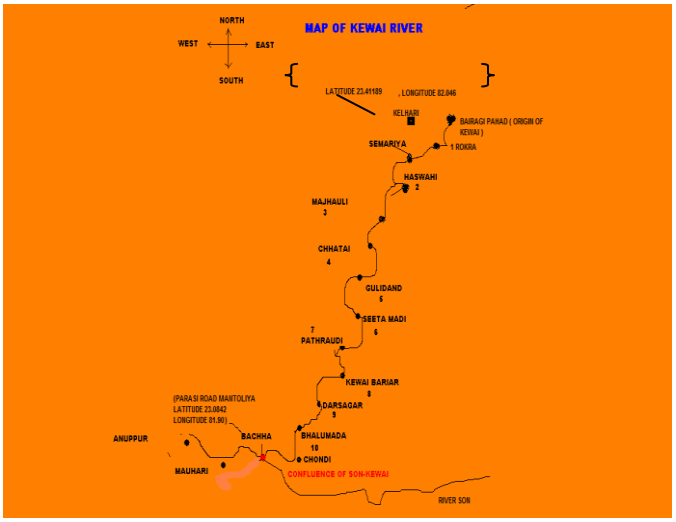

Figure 1

Order	Family	Genera	% of species
(1) Cypriniformes	(1) Cyprinidae	(1) Cirrhinus mrigala	0.2
		(2)Catla -catla	0.1
		(3)Labeo rohita	0.1
		(4)Aspidopariya jaya	0.3
		(5)Labeo calbasu	0.1
		(6)Chela laubuca	2
		(7)Puntius chola	12.4
		(8)Puntius sarana	2
		(9)Puntius conchonius	1
		(10)Puntius sophore	33.5
		(11)Rasbora daniconius	0.5
		(12)Oxygaster bacaila	1
	(2)Bagridae	(13)Mystus aor	1
		(14)M.seenghala	1.5
		(15)M.tengara	1.9
		(16)M.bleekeri	0.1
	(3)Siluridae	(17)Ompok bimaculatus	0.5
		(18)Wallago attu	3
	(4)Cobitidae	(19)Somileptes gongota	4
		(20)Nemacheilus aureus Day	6
	(5)Heteropneustidae	(21)Heteropneustes fossilis	5
	(6)Clariidae	(22)Clarias batrachus	1
(2)Beloniformes	(7)Belonidae	(23)Xenentodon cancila	0.5
(3)Ophiocephaliformes	(8)Ophiocephalidae	(24)Channa gachua	9
		(25)C.marulius	1
		(26)C.punctatus	8
(4)Perciformes	(9)Gobiidae	(27)Glossogobius	1.3

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		giuris	
(5)Mastacembelefor mes	(10)Mastacem belidae	(28)Mastacembel us armatus	3
		(29)M.pancalus	3
			Total Percentage 100

Table 1: List of fishes recorded in river kewai during oct. 2011 to sept.2012

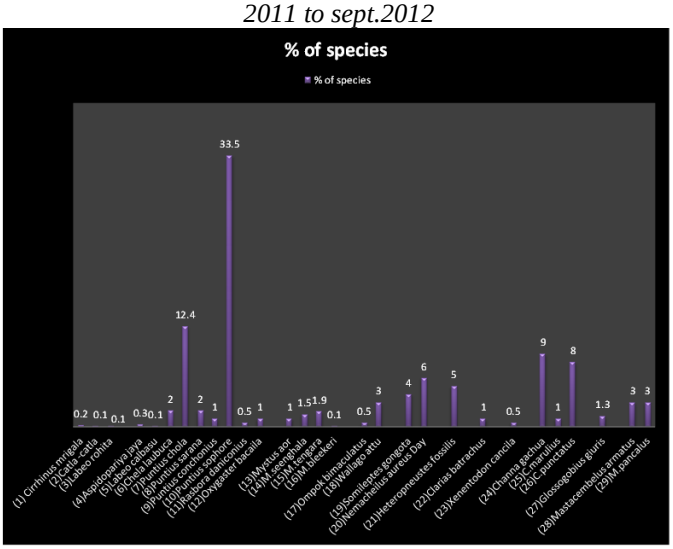

Figure 2

Man and his interaction with the natural environment has resulted in numerous changes in lithosphere, hydrosphere and biosphere. There is general awareness throughout the world about degretion of human environment and related health hazards. The demand for fresh water is ever increasing and exceeding its availability to population explosion, industrial revolution etc. Besides drinking water is also used for fish aquaculture, irrigation and power generation unfortunately inspite of multifarious uses. Water bodies are being used as receptacles for sewage and industrial waste. Water the "elixir of life" is becoming more and more unfit to mankind due to unwise use, neglect and mismanagement, proper management and enforcement of environment laws alone can save as from awful situation.

In river bank villages, domestic sewage is directly discharged into the river without any treatment to render it harmless untreated sewage and laundry detergents coming from the household when added to the river increase the amount of sulphates, nitrates and chlorides considerably. The use of pesticides to control agricultureral pests is now increasing everyday. Several kinds of insecticides like – DDT, BHC, are used in large quantity these chemicals are poisonous and are washed in to the rivers and endangering fish life. Chemical fertilizers also used in agricultureral fields like – Urea and superphosphates are washed down in to river, prove to be harmful to all sorts of organisms.

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