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Study of the fish diversity of Heirok-Wangjing River

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Abstract
The present study reveals the presence of 37 fish species belonging 5 order, 14 family and 28 genera. Highest number of species belong to order cypriniformes (22 species) followed by order Perciformes (8 species), order siluriformes (4 species) order synbranchiformes (2 species) and cypriniformes (1 species). Population of fish species is more less in plain regions particularly, *Barilius bendelisis* (Ngawa) *Neolissochilus hexagonolepis* (Ngara), *Acanthophthalmus pangia* (Nganap) *Labeo angra* (Ngaton), *Acanthobitis botia* (Ngatup) *Macrognathus aculeatus* (Ngaril), *Mystus bleekeri* (Ngasep) etc. Main reason may be attributed to the uncontrolled fishing by using electronic device and construction of mini-dams across the river. The factors which influence the distribution and diversity of fishes in the study area have been discussed.

Keywords: Heirok-Wangjing River, Electronic device, permissible level, bleaching powder

1. Introduction

Manipur is a small land-lock state in the north-eastern corner of India. The state is a part of India having rich freshwater resources. Aquatic diversity in this region is attributed to tectonic setting-meeting of continental plate with distinct fauna and different drainage system, different types of water bodies. The state lies in the border of Indo-Myanmar, one of the hottest biodiversity hot spot of the world.

The present study area selected is Heirok-Wangjing River in Thoubal district, Manipur, North East India. The river comprises of many big and small hill stream feeders in the form of deep gorges with meandering streams in the hilly regions having swift flow arising from Thounangband hill toward the south west direction and ends at Ikop-Pat and Kharungpat at Tentha. Water quality of the river is not healthy, water bodies are heavily contaminated in the valley than the hilly regions. Human activities are visibly disturbing the environment beyond the permissible level. Mostly truck crosses the river and dredging activities, fishing with electronic devices are seen. At the hilly regions tribal people use bleaching powder for fishing. Some animal carcasses are also seen during investigation period. The bank and bed of the river is covered with sand and pebble and few vegetation. The degree of pollution can be estimated either from physical and chemical properties or from biological characteristics of water.

The present paper includes ichthyological estimates, their taxonomic composition of Heirok-Wangjing River. This river is one of the most important one populated by one fourth population of the district. The factors which influence the distribution and diversity of fishes in the study area have been discussed. Many works have done on the fish diversity in wetland area and fresh water in most cases represent as the breeding and feeding ground for a number of fishes. Whereas data on fish diversity in fresh water in scanty. Study on the fish diversity in fresh water is essential for stabilization of ecosystem over all protection of environmental quality for understanding of the species on the earth. Thus, the present study was undertaken.

2. Materials and Methods

The present study on diversity of fishes in Heirok-Wangjing river stretching of 25km was selected and five sampling stations namely, 1. Konaitong lok, 2. Turelmacha, 3. Heirok, 4. Wangjing, 5. Tentha were established, sampling and data collection were done at different sampling stations of the river. Fish sample collection for the present work was done by using different types of nets and gears. Fishes collected were preserved in 9-10% formalin and analysed after standard books Jhingran VG. (1991) [14]. Berg (1995), Shrestha (1981), Viswanath (2002) etc. and journals, Trence in Bioscience (2013) [11] journal of fisheries assessment of Ganga, Jamuna River CPCB (2011). Various data and information were collected by physical verification and interview with the local fishermen of the study area.

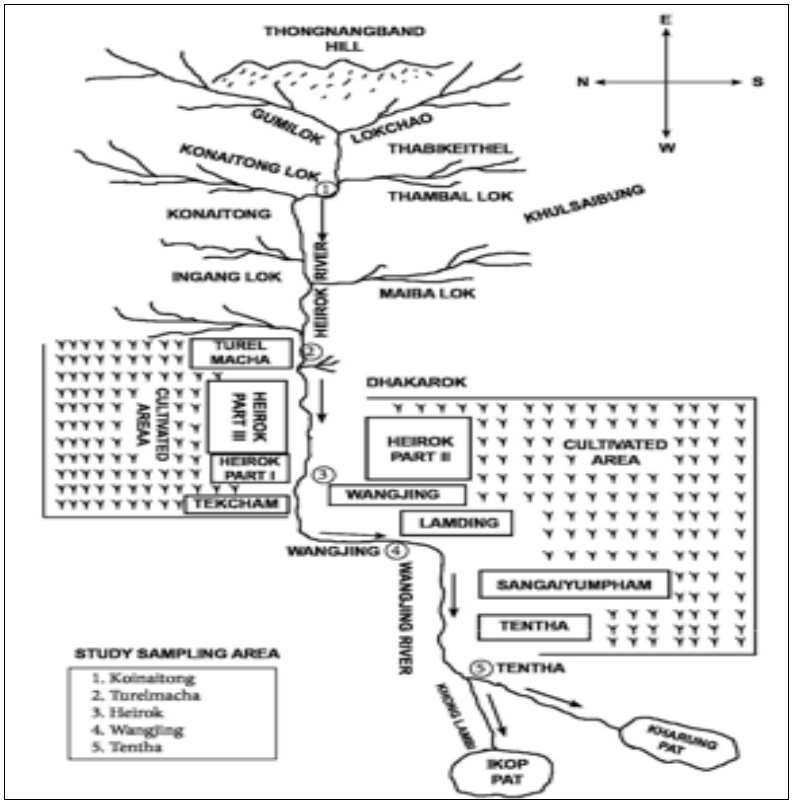

Fig 1: Map of Heirok-Wangjing River

3. Result and Discussion

The present study reveals the occurrence of 37 fish species belonging to 5 order, 14 family 28 genera.

Table 1

S. No.	*Name of the Fish*	Local Name	Order	Family
1.	*Amblypharyngodon mola*	Muka Nga	Cypriniformes	Cyprinidae
2.	*Barilius gatensis*	Muka Nga	Cypriniformes	Cyprinidae
3.	*Barilius bola*	Muka Nga	Cypriniformes	Cyprinidae
4.	*Barilius bendelisis*	Ngawa	Cypriniformes	Cyprinidae
5.	*Esomus altus*	Ngasang	Cypriniformes	Cyprinidae
6.	*Rasbora rasbora*	Nunga	Cypriniformes	Cyprinidae
7.	*Bangarus devdevi*	Khabak	Cypriniformes	Cyprinidae
8.	*Bangarus dero*	Khabak	Cypriniformes	Cyprinidae
9.	*Labeo angra*	Ngaton	Cypriniformes	Cyprinidae
10.	*Labeo calbasu*	Ngathi	Cypriniformes	Cyprinidae
11.	*Osteobrama belangeri*	Pengba	Cypriniformes	Cyprinidae
12.	*Osteobrama cotio*	Ngaseksa	Cypriniformes	Cyprinidae
13.	*Puntius chola*	Phabou nga	Cypriniformes	Cyprinidae
14.	*Systomus sarana*	Nganoi/Ngahou	Cypriniformes	Cyprinidae
15.	*Pethia ticto*	Ngakha	Cypriniformes	Cyprinidae
16.	*Poropuntius burtoni*	Nunga	Cypriniformes	Cyprinidae
17.	*Neolissochilus hexogonolepis*	Ngara	Cypriniformes	Cyprinidae
18.	*Acanthocobitis botia*	Ngatup	Cypriniformes	Balitoridae
19.	*Acanthophthalmus pangia*	Nganap	Cypriniformes	Cobitidae
20.	*Synchrossus berdmorie*	Sarengkhoibi	Cypriniformes	Cobitidae
21.	*Garra lamta*	Ngamu sangum	Cypriniformes	Cobitidae
22.	*Lepidocephalichthys berdmorie*	Ngakichou	Cypriniformes	Cobitidae
23.	*Clarius batrachus*	Ngakra	Siluriformes	Clariidae
24.	*Mystus bleekeri*	Ngashep	Siluriformes	Bagridae
25.	*Mystus cavasius*	Ngashep	Siluriformes	Bagridae
26.	*Ompok bimaculatus*	Ngaten	Siluriformes	Siluridae
27.	*Trichogaster fasciata*	Ngabemma	Perciformes	Osphronemidae
28.	*Trichogaster chuna*	Phetin	Perciformes	Osphronemidae
29.	*Anabas testudineus*	Ukabi/samjet	Perciformes	Anabantidae

30.	*Chanda nama*	Ngamhai	Perciformes	Ambasidae
31.	*Glossogobius guiris*	Nailon Ngamu	Perciformes	Gobiidae
32.	*Channa punctatus*	Gojar	Perciformes	Channidae
33.	*Channa striatus*	Ngamu Porom	Perciformes	Channidae
34.	*Channa orientalis*	Meitei Ngamu	Perciformes	Channidae
35.	*Monopterus albus*	Ngaproom	Synbranchiformes	Synbranchidae
36.	*Macrognathus aculeatus*	Ngaril	Synbranchiformes	Mastacembelidae
37.	*Gudusia chapra*	Wana Manbi	Cypriniformes	Clupeidae

Table 2: Total Nos. of fish samples in Heirok-Wangjing River in different sampling stations May to December – 2015

Month	Sampling Stations					Total
	Koinatong lok	Turelmacha	Heirok	Wangjing	Tentha	
	1	2	3	4	5	
May	10	8	2	2	5	27
June	12	13	1	3	2	31
July	20	15	6	2	6	59
August	30	10	2	5	7	54
September	11	20	10	2	8	51
October	15	16	7	6	7	51
November	13	12	2	5	6	38
December	5	7	-	2	1	15
Total	126	101	30	27	42	326
%	38.66	30.98	9.20	8.28	12.88	100

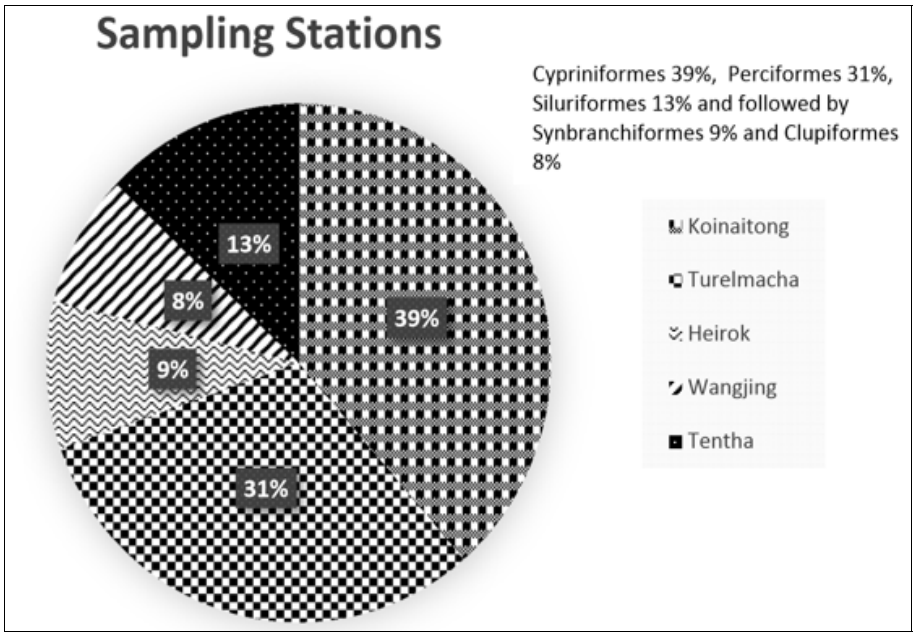

Fig 2: Distribution of fish in different sampling station

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