

STUDIES ON FRESH WATER FISHES GOPAD RIVER IN SIDHI DISTRICT

Surendra Kumar Dwivedi and Dr. A. K. Tiwari
Department of Zoology
Govt. S. G. S. P.G. College, Sidhi (M.P.)

ABSTRACT:- Fish farming has been an old occupation in India. It is estimated that about five lac families are engaged in fresh water fish farming in the country. The techniques of fishing have also been modernized as the time past. River with its tributaries is a unique type of ecosystem which generally covers different types of climatic zones, landscapes and biogeographically regions. River is the natural drainage system of the land mass of the earth which move continuously. During the present investigation, rich ichthyofaunal diversity was observed in the Gopad river Sidhi.

KEYWORDS:- Fish, Gopad river and Sidhi.

INTRODUCTION:-

Water is a basic need of all living organisms on the earth. Lakes, Rivers and Reservoirs are most important water resource and used for several purposes. Fish constitute almost half of the total number of vertebrates in the world 21,723 living species of fish out of 39,900 species of vertebrates are so far recorded [Jayaram, (1999)]. In India, there are about 2,500 species of fishes, of which 930 freshwater and 1,570 marine, are estimated [Kar, (2003)]. Fishes have been found to exhibit enormous diversity in their morphology, habitat and their biology. They live in almost all conceivable aquatic habitats. India is one of the mega biodiversity countries in the world and occupy-ing ninth position in terms of freshwater biodiversity [Uchchariya, et al.] A clear manifestation of the most well-known global diversity gradient, namely species diversity increases with latitude [Kottelat, and Whitten, (1996)]. Narmada River has been extensively studied for its fish fauna for the past seven decade by various workers. A few recent works on different aspects of fish diversity were also confined main stream in central part of Narmada (Vyas et al., 2006). Very first record of fish diversity of Narmada was on hill stream of Satpura ranges (Hora & Nair 1941) . Later Tawa and Barna tributaries were dammed to form reservoir and studies were done on these reservoirs. 52 species belonging to 28 Genera, 13 Families and 7

Orders was recorded in main tributaries of central Narmada (Vyas et al., 2009). Recently few studies on fish diversity was carried in Sip and Jamner rivers, 29 species belonging to 17 Genera, 8 Families and 3 Orders was documented in Sip River a tributary of River Narmada (Vyas and Vishwakarma, 2013a), While Jamner River recorded 27 species belonging to 4 order, 9 families and 16 genera (Vyas and Vishwakarma, 2013b). The comparative study of Sip and Jamner River was also carried out which documented 34 species belonging to 17 Genera, 8 Families and 3 Orders (Vyas and Vishwakarma, 2013c). Bose et al., (2013) documented 57 species, belonging to 35 Genera, 13 Families and 6 Orders from Middle Stretch of River Tawa. The Barna Stream Network in Narmada basin reported 33 fish species belonging to 5 orders, 9 families and 21 genera (Vishwakarma, et al., 2014). No record of fish fauna of Dudhi River is available in the present literature. Ichthyology is taken from two Latin words: Ichthys means a fish and logos mean a discourse. It is a branch of science dealing with the study of fishes. Fish is affordable and most easily to digest animal protein. It was obtained from natural sources from time immemorial for consumption by mankind. The biomass of fishes at Unit time and Unit area in a particular water body is known as fish productivity.

MATERIAL AND METHODS:-

Sidhi is the Distt. of old Vindhya Pradesh. Presently it is one of the very important Distt. of Madhya Pradesh. Sidhi is situated on the North-East border of the state. The geographical location is 23⁰15'N - 24⁰15'N latitude and longitude 81⁰45'E- 82⁰45'E. The town is located on a plateau and is situated 65.7 meters above the mean sea level. The Gopad, Gopad, and Mahan rivers surround the town from almost three sites and mark its Northern, Southern and Western boundaries. Hills mark the Eastern boundary. To study the water quality and its seasonal variations, the water samples are collected from the surface at a depth of 22 cm. from four different points, integrated and a representative sample was taken.

Fishes were collected by small mesh sized gill net, cost net (Ghagaria jal), drag net with the help of local persons and fisherman. The collected fishes were preserved in 5% formalin and brought to laboratory for further investigation. Fishes were distinguished with the reference of "The fishes of India" by Day, F.1 1958.

RESULT & DISCUSSION:-

During the present investigation 19 Species belonging to 4 orders and 5 families were recorded from all sampling stations within the Gopad River. The Cyprinidae family is dominant and sub dominant family is Cobitidae. The members of family Cyprinidae were dominated by 14 species, followed by Cobitidae two species, Notopteridae, Gobiidae, Ophiocephalidae, one species every family. Family Cyprinidae was represented by the *Oxygaster bacaila*, *Rasbora daniconius*, *Garra gotyla*, *Puntius sophore*, *Puntius conchoni*, *Puntius sarana*, *Puntius chola*, *Puntius ticto*, *Puntius titius*, *Amblypharyngodon mola*, *Cirrhinus mrigala*, *Crossocheilus latius*, *Danio devario*, *Labeo bata*, *Labeo boggut*, *Osteobrama cotio*, *Oseobrama vigarsii* and *Aspidoparia morar* was represented Families Cobitidae by *Lepidocephalichthys guntea* and *Nemacheilus botia*, Bagridae by *Mystus seenghala*, and *Mystus bleekeri*, Siluridae by *Wallogo attu* and *Ompok bimaculatus*, Belonidae by *Xenentodon cancila*, Mastacembelidae by *Mastacembelus armatus*, and Gobiidae by *Glossogobius giuris*, Ambassidae by *Chanda ranga* and *Chanda nama*, Ophiocephalidae by *Channa punctatus*, *Channa marulius* and *Channa gachua*. From all the stations, Cyprinidae formed the largest dominant family contributing the 18 species (54.54%); Ophiocephalidae formed the subdominant family contributing three species (09.09%) and rest of the family followed the order of abundance. During the studies 332 fish individuals were collected from six sites.

Stocking densities 3750 fingerlings/hac. and production 2535 kg/hac/year, recorded by Lakshmanan, et al. 1971. Alikunhi, K.H. 1957 Concluded that in amalgamated culture of Indian carps with exotic carps the stocking density of 3000 to 3500 fingerlings having a total weight of 300 to 350 kg/ha is required to give a production of 3000 to 3500 kg/ha/year under daily manure and artificial feeding. Anon 1976 have show net profit of Rs.4500 (Rs.900/hac). Sukumaran, K.K., et al. out of productions as high as 3448 to 5894 kg/ha/6 months the

six species amalgamation at the Karnal Centre (Haryana). Sinha, M.R. obtained the range of production between 3393 and 6053 kg/ha/year at Kalyani Centre (West Bengal). Mahanta, P.S. 1978 observed a high rate of production of order of 4084 kg/ha/year at Gauhati Centre despite of poor soil and water qualities. Chakrabarty R.D., et al. reported a net profit of Rs. 2500 to 4000 /hac/year in a brackish water fish farm in West Bengal. Sarangi N.S.K. et al reported net profit to the sum of Rs. 64, 461 by fish farmers of village Nussasan (Puri district in Orissa). Murthy, H.S. et al reported that majority of fisherman of Mindy district (Karnataka) fall in the annual income group of Rs. 2000 to Rs. 5000. Singh R.K.P. and Prasad K.K. stocking fingerlings 4000-5000/hac. Halwart M. worked the role of aquaculture in rural development. Recent technology by Subasinghe, R. et al. Studied of fish productivity in to fresh water ponds by Chouhan, P. and Kanhere R.R. Worked of Nebula Dam of Sidhi with special reference to fish culture by Dilip.

Kings ways show market for fish in Nigeria and O, Abe observed Nigerian fish farming. Important fishes on Yeswant Sagar worked by Shrivastava, C.B.L. Dwivedi, R.K., et al. worked in Fish production. Impact of pollutants on the fishes of Ganga and Sai River reported by Sudhar and V.B. Singh. Gohil, Mahendrasingh N. and Mankodi Pradeep C. studied diversity of fish fauna from downstream zone. Morphometric analysis of fish population observed by Pathak, Neelam B. et al., J. Chandra Saharan Rao et al. worked of biodiversity and conservation status of river Salad and Commercially important fishes on Yeswant Sagar reservoir recorded by Sharma Archana.

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