

RESEARCH ARTICLE

THE STUDY OF FISH DIVERSITY OF WYRA RESERVOIR KHAMMAM DISTRICT, TELANGANA, INDIA

^{1,2*}Johnmohammad, M., ³Krishna, P. V. and ⁴Mohd. Azharuddin

¹Department of Environmental studies, Acharya Nagarjuna University, Nagarjunanagar, Guntur- 522 510, Andhra Pradesh, India

²Department of Humanities and science, Bomma Engineering College, Khammam-507318, Telangana, India

³Department of Zoology and Aquaculture, Acharya Nagarjuna University, Nagarjunanagar, Guntur- 522 510, Andhra Pradesh, India

⁴Department of pharmacy, Bomma institute of pharmacy, Khammam-507318, Telangana, India

Accepted 25th January, 2015; Published Online 28th February, 2015

ABSTRACT

The fish fauna of Wyra reservoir collected for the present study. The results of present study confirmed the occurrence of 26 species of fishes belonging to 21 genera, 11 families and 7 orders. The order Cypriniformes was dominant with 8 species followed by order Perciformes were represented with 5 species and Siluriformes with 4 species, Channiformes with 3 species, Beloniformes with 2 species, synbranchiformes (2 species) and Osteoglossiformes, Mogiliformes was represented with one species each. Thus the reservoir was good potential for fish fauna.

Key Words: Fish Fauna, Wyra Reservoir, Fresh Water and Genera

INTRODUCTION

Aquaculture has acquired a special significance not only because of its contribution to food resources but also from the point of view of its contribution to quality diet. Fish is an aquatic animal respire with gills and swims with the help of fins, and constitute a well defined and highly successful taxonomic group of vertebrates there are total of about 24,600 existing species of fishes (Groombridge, 1992) out of which 41.2% inhabit the fresh water and remaining are in marine water. Water can also be cultivated to produce rich protein food. As described by Lone (1988) aquaculture is an underwater agriculture. "The fish as food for mankind" as the fish is an important component in the diet. The per capita food consumption of fish alone being 3.5 kg. An old proverb recognize the food and nutritional value of fish "give a man a fish, he will live for a day, teach him to culture fish and he will have food for life" fish contains the cheapest animal protein and vitamin A and D.

The Phosphorus and other elements present in it give good taste and are easily digestible hence; it is generally described as "poor man's food" in holy book Quran the reference of fish is seen at six places. Fishes of the inland water bodies of the Indian subcontinent have been a subject of study since last century, Hamilton and Buchanan (1822), Day (1878), Misra (1962), Jayaram (1981), Talwar and Jhingran (1991); Rao *et al.* (1999). Thus there is a need of knowing fish fauna of freshwater habitat which will help in planning scientific methods for their effective Exploitation for fish production.

The basic objective of the present study is made to Document the fish fauna of Wyra reservoir in Khammam district, as there is no earlier study on the fish fauna of this reservoir; this is being the first attempt. The main scope of this lake is Irrigation, drinking water, recreation and fishing purpose.

MATERIALS AND METHODS

Study area

To evaluate the check list of fresh water fishes of the Wyra reservoir in Khammam district, Telangana, India, which lies between North latitude 17° 11 and East longitude 80° 22 covering the total catchment area of 19.14 sq.km. The climatic conditions of the study area include hot summer, cool winter and rainy season. This particular region gets most of its rainfall from south west monsoon. During the study period highest rainfall was observed in the month of June. The average rainfall of this study area is 793.06mm. The reservoir water is used for drinking, agriculture, boating (recreation) and supports fish culture.

Collection of fish sample

The fishes were collected from the Wyra reservoir from different stations during the year January 2010 to December 2011 with the help of fishermen and examined for color pattern, preserved in 10% Formaldehyde and were identified by following the key given by , Lagler (1956), Datta Munshi and Srivastava (1968),

*Corresponding author: Johnmohammad, M.

Department of Environmental studies, Acharya Nagarjuna University, Nagarjunanagar, Guntur- 522 510, Andhra Pradesh, India

RESULTS AND DISCUSSION

The Inventory of fish fauna collected from the Wyra reservoir, their population status, IUCN status, Camp status are presented in Table 1 A total of 26 species of fishes belonging to 21 genera, 11 families and 7 orders. The order Cypriniformes was dominant with (8 species) followed by order Perciformes were represented with (5 species) and Siluriformes with (4 species), Channiformes with (3 species), Beloniforme with (2 species), and synbranchiformes (2 species), Osteoglossiformes, Mogiliformes was represented by one species each.

The order wise percentage of fishes orders are presented in Figure 1. *Cypriniformes* 31%, *Perciformes* 19%, *Siluriformes* 15%, *Channiformes* 11%, *Beloniformes* 8%, *synbranchiformes* 8%, *Osteoglossiformes* 4% and *Mogiliformes* 4%. Seasonal dynamics of the fish population showed highest value of diversity during rainy season and lowest values during summer and winter seasons. Poor attention has been paid towards Wyra reservoir regarding systematic investigation on diversity of fish fauna. So it is felt that there is a need to generate information on diversity of Fish fauna of this reservoir.

Table 1. Showing Fish Fauna of Wyra Reservoir, Khammam District

Order and Family	Species	Common name	Local name	Population Status	IUCN Status	CAMP Status
Cpriniformes	1.Salmastoma bacaila (Hamilton)	Large razor belly minnow	Chandamama	A	LC	DD
	2.Chela laubuca (Hamilton)	Indian glass barb/Indian hatchet fish	Chal	C	LC	LRic
	3.Parluciosoma daniconis (Hamilton)	Black line rosborra	Chinnaparaka	C	LC	DD
	4.Osteobramavigorsii(Hamilton)	Deccancotio/ Bheemaosteobrama	koona	R	EN	NA
	5.Puntios sphore (Hamilton)	Stigma barb/soft fin barb	Buddaparaka	A	LC	LRnt
	6.Puntios ticto(Hamilton)	Tictobarb	Paraka	A	LC	LRnt
	7. <i>Catlacattla</i> (Hamilton-Buchanan)	Catla	botcha	C	LC	LRnt
	8. <i>Labeorohita</i> (Hamilton-Buchanan	Rohu	Ravvu	C	LC	LRnt
Osteoglossiformes	9. <i>Notopterusnotopterus</i> (Pallas)	Feather back	Vellenka	C	LC	LRnt
Notopteridae	10. <i>Mystusvittatus</i> (Bloch)	Stripped dwarf cat fish	Natta jella	A	LC	VU
Siluriformes	11. <i>Mystuscavasius</i> (Hamilton)	Gangiticmystus/dwar	Kodijella	A	LC	LRnt
Bagridae	12.Aorichthyes seenghala(skyes)	Seperataseenaghala	Gangajella	A	LC	DD
Siluridae	13 <i>Wallagoattu</i> (Schneider)	Boal/freshwatershark	Waaluga	C	NT	LRnt
Beloniformes	14.Xenotodon concila(Hamilton)	Fresh water garfish	Kongamuthichapa	C	LC	LRnt
Belonidae	15.Polyacanthus faciatus(Schneider)	Giant gourami	Jella	C	LC	LRnt
Belonitidae	16.Macrogathuspunculus (Bloch)	Lesser spiny eel	ChinniPapera	A	LC	LRnt
Synbranchiformes	17.Mastacebelus armatus (Lacepede/Hamilton)	spiny eel	Papera	A	LC	VU
Mastacembelidae	18.Chandanama(Hamilton)	Elongate glassperchlet	Siravara	C	LC	NE
Perciformes	19Pseudambassis ranga(Hamilton)	Indian glassy fish	Podugusiravara	M	LC	NE
Ambassidae/Chandidae	20.Etrophus suratensis (Bloch)	Green chromid	Pamplet	C	LC	NE
Cichlidae	21.Etrophusmaculatus (Bloch)	Omagechromid	Pandiparaka	M	LC	NE
Gobidae	22.Glossgobius giurus(Hamilton)	Tankgobi	Uskedonthi	C	LC	DD
Mogiliformes	23.Rhinomugil corsula(Hamilton)	Corsula mullet	Meedhikandalachapa	C	LC	NE
Mugilidae	24. <i>Channapunctatus</i> (Bloch)	Spotted snake head	Motta pilla	C	LC	LRnt
Channi forms	25. <i>Channastritatus</i> (Bloch)	Banded snake head	Bomme	C	LC	LRnt
Channidae	26. <i>Channaorientalis</i> (Bloch)	Walking snake head	Malapankiri	C	NE	VU

A-Abundant (76-100% of the total catch), C- Common (51-75% of the total catch), M-Moderate (26-50% of the total catch), R- Rare (1-25% of the total catch),EN-Endangered, VU-Vulnerable LRnt- Lower risk near threatened, LRic-Lower risk least concern, LC-Least concern, DD-Data Deficient, NE-Not Evaluated and NT-Near Threatened.

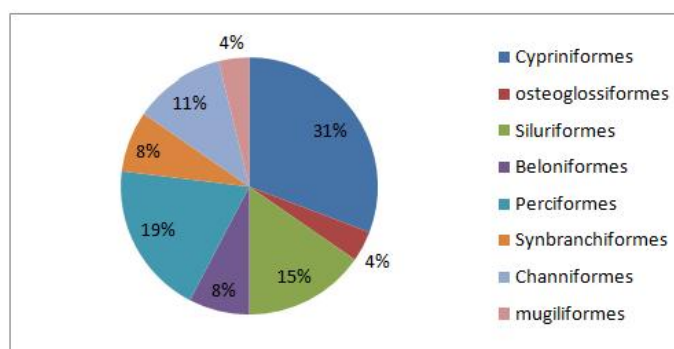


Figure 1. Order- wise percentage composition of fishes in study area

The present investigation was under taken to prepare check list of fishes from Wyra reservoir and it is the first effort in this direction. The survey of fish fauna has been done by number of workers. Sugunan and Yadava (1992) mentioned 40 fish species from Hirakhud reservoir of Orissa which plays a major role in commercial fishery. Sakhare (2001) reported the presence of 23 fish species belonging to 7 orders in Jawalgon reservoir in Solapur district of Maharashtra. Singh (2001) estimated a total of 27 fish species belonging to six families in Pong reservoir of Himachal Pradesh. Gopinath and Jayakrishan (1984) reported 17 species of fishes from Idukki reservoir of Kerala. Pisca *et al.*, (2000) identified a genera fish belonging to four orders and 28 species from Ibrahim bagh reservoir of Hyderabad. Sakhare and Joshi, (2002) noticed 28 fish species. Paik Tapaskumar *et al.*, (2003) showed 75 species of fishes belonging to 50 genera, 23 families and six orders in Subarnarekha River in Singbhum district of Jharkhand India. Salasker and Yeergi, (2004) observed 10 main fish species from Powai lake, Mumbai in Maharashtra. In this present investigation altogether 26 fish species belonging to 21 genera, 11 families and 7 orders have been identified in two years study (January 2010-December 2011) in Wyra reservoir of Khammam district.

Conclusion

The present study shows more diversity of fish fauna in Wyra reservoir so that it is expected that the reservoir can be considered to be in good condition for fish production. As per the condition of diversity of fishes in this reservoir is concerned there is an urgent need to create awareness among local people, fisher man communities and the government organizations on the importance of the Wyra reservoir habitat and its fish fauna and the need to conserve them for future generations.

REFERENCES

- Datta Munshi and Srivastava, M.P., 1968. Natural history of fishes and systematic of fresh water fishes of India. *Narendra Publishing House, Delhi*
- Day, F. 1878. The fishes of India, being a natural history of fishes known to inhabit the seas and fresh waters of India, Barma and Ceylon. Text and Atlas in 4 Parts, London.
- Gopinath, Pand J.N. Jayakrishan, 1984. A Study on the Piscifauna of the Idukki reservoir and catchment area, *Fish Technol.* 131-136.
- Groom bridge, B. 1992. Global diversity; Status of Earth living reservoirs, World Conservation Monitoring centre, Chapam and hall London.
- Hamilton and Buchanan, 1822. An account of fishes found in the river Ganges and its Branches. Edinburgh and London.vii+405 P39.
- Jayaram, K.C. 1981. The fresh water fishes of India, Pakistan, Burma and Srilanka. Hand book of Zoological Survey of India. No.2, xii+475pp.
- Lagler, K.F. 1956. Fresh water Fishery Biology. W.M.C Brown and C. Jowa. Malaviya, R.B. 1961. A list of fishes from Jabalpur 1961. A list of fishes from Jabalpur (M.P). *Nat. Acd.Sci.* India, Allahabad 32:349.
- Lone, K.P. 1988. Inland fisheries and aqua culture in Pakistan a review PARC, directorate of scientific information Pakistan ARC. P. Box 1031.
- Misra, K.S. 1962. An aid to the identification of the common commercial fishes of India and Pakistan. *Res. Indian Mus.*, 57 (1-4): 1-320.
- Paik, Tapaskumar and susntakurnar Chakraborty, 2003. Ichthyofauna of East Singbhum District, Jharkhand, India, *J.Aqua, Biol.*, Vol. 18(2), p55-60.
- Pisca Ravi Shankar, Saraladevi, B and K. Divakara Chary, 2000. The Present status of Ibrahimbagh, aminor reservoir of Hyderabad, *Fishing chimes.* 20(2): 41-43.
- Rao, L.M., K. Ramaneswari and L. Padma Kumari. 1999. Comparative studies on the Primary productivity of three reservoirs of Vishakhapatnam. *Eco. Envi and Con.* 5; 43-45.
- Sakhare, V. B and P.K. Joshi, 2002. Ecology of Palas NI Legaon reservoir in Osmanabad district, Maharashtra. *J. Aqua. Biol.* Vol. 18(2) p17-22.
- Sakhare, V.B. 2001. Ichthyofauna of Jawalgon reservoir , Maharashtra, *Fishing Chimes*, 19 (8): 45-47.
- Salasker, P.B. and Yeergi, S.G. 2004. Primary productivity of Powailake, Mumbai Maharashtra. *J. Aqua. Biol.*, Hyderabad Vol. 19 (1)p. 19-22.
- Singh Gurucharan, 2001. Status of Development of fisheries of Pong reservoir, Himachal Pradesh, *Fishing chimes*, 21(1): 88-90.
- Sugunanand V.V and Yadava, Y.S. 1992. Hirakhud reservoir strategies for fisheries development. Bulletin 66, CIFRI, Barrack pore, India.
- Talwar, P.K. and A.G. Jhingran. 1991. Inland fishes of India and adjacent Countries. Oxford and IBH Publishing Co. Pvt.Ltd. New Delhi. Pp. 1-322.
