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A Checklist of Freshwater Fishes of the Lower Manair Reservoir in Karimnagar District, AP, India

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Abstract

A checklist of freshwater fishes in the Lower Manair reservoir was studied from September-2009 to August-2011. Samples were collected monthly with help of local fishermen by using fishing nets. A total of 44 species of fishes belonging to 8 orders such as Cypriniformes (18 species) Siluriformes (11species), Perciformes (6 species), Channiformes (4 species) Beloniformes(2 species), Angulliformes (one species) Osteoglossiformes (one species) and Mogiliformes(one species). Of these, 17 species were abundant, seven species were common, 13 species were moderate and seven species were rare.

Keywords: Lower manair reservoir, checklist, fishes, Abundant, Common, Moderate and Rare.

Introduction

The number of reservoirs is increasing all over the world. There are 19,370 reservoirs are present in Indian soil with a surface area of 3.15 million hectors[1]. Reservoir is created primarily for irrigation and power generation, but in India they are almost invariably utilized for fisheries. Fishes form a rich source of food[2]. They provide many products and bye products. Fishing is a major source of livelihood of many fishermen in the area. About 450 families of freshwater fishes have been recorded in the world.

Kar.D[3] estimated about 2500 species of fishes which 930 freshwater[4] and 1,570 marine in India. Jayaram[5] listed 742 freshwater fish species of India region. Talwar and Jhingran[6] estimated 2546 fish species of India and adjacent countries. Devi and Indra[7] reported the checklist of 667 fresh water fish species of India. The fish fauna of Andhra Pradesh has been reported by several workers [8-15]. Present investigations were under taken to study the checklist of freshwater fishes of the Lower Manair reservoir in Karimnagar district and their status was evaluated.

Materials and Methods

Study area*:* To evaluate the checklist of freshwater fishes of the Lower Manair reservoir in Karimnagar District, and Andhra Pradesh, India: figure-1. It lies between North latitude 18º.38' and East longitude 79º.12'. The total area of the reservoir is about 8,103 hectare and maximum depth is 21.9m. The climatic condition of the study area was hot summer and cool winter. In the present study period temperature range a minimum 29ºC and a maximum of 38ºC. The region gets much rainfall from south west monsoon. The place gets most of its rainfall from June to September during the monsoon. In October and November also increased rainfall from the north east monsoon. The average rainfall of this study area is 100.9 mm. The Reservoir water is used for drinking, agriculture and supports fish culture.

Collection of fish sample: The collections were made once in a week from 10 points of the Lower Manair reservoir from September 2009 to August-2011. The fish samples were collected with the help of local fishermen. The collected fishes were photographed labeled and preserved in 10% Formalin solution and brought to the laboratory. The fishes were identified with help of standard reference material[16,6].

Results and Discussion

The inventory of fish fauna collected from the Lower Manair reservoir and their population status and general status are presented in table-1. A total of 44 species from 8 orders, 16 families and 26 genera were recorded during the present study. Cypriniformes was the dominant order in termers of species abundance (18 species) followed by Siluriformes (11 species), Perciformes (6 species), Channiformes (4 species), Beloiniformes (2 species), and Angulliformes, Osteoglossiformes and Mogiliformes were represented by one species each. Of these, 17 species were abundant, seven species were common, 13 species were moderate and seven species were rare.

The order-wise percentage of fishes orders are presented in figure-2**,** *Cypriniformes 64%, Siluriformes 22%, Perciformes 9%, Channiformes 1%, Beloiniformes 1%,* Angulliformes 1%, Osteoglossiformes 1% and Mogiliformes 1%. Seasonal dynamics of the fish population showed that high value of fish diversity during rainy season and lowest values in summer and winter seasons[17].

Lower Manair reservoir is concerned poor attention has been paid towards systematic investigation on diversity of fish fauna.

So it is felt that there is a need to generate information diversity the present investigation was undertaken to prepare a checklist of fishes from Lower Manair reservoir and it is the first effort in this direction. Babu Rao[12] has reported the fish fauna in Himayatsagar Lake in Hyderabad 32 fish species belonging to six orders with 11 families. Uchchariya[18] has reported the fish fauna in Tighra reservoir in Gwalior in Madhya Pradesh 40 fishes. Jadhav[19] reported 58 species of fishes in Koyna River. The Cyprinidae species were found to be the more dominant family than others which is supported by Rao C.A.N. et al[15,] Gohil Mahendrasinh et al[20], Rebert T.R.[21], Nyanti[22] and Leh[23] reported that approximately 66% and 46% of the fish collections in Sarawak were from the Cyprinidae family.

Seasonal dynamics of the fish population showed that high value of fish diversity during rainy season[24], which implied that reservoir receive large volume of less polluted and high oxygenated water which favoring the improvement of fish growth and most of the fishes migrate for breeding. The lowest diversity values of fish in summer and winter seasons[25]. During summer and winter when water flows is greatly reduced in to reservoir appears to be devoid fish.

We were recorded; out of the 44 species 17 species were considered as food fish as well as ornamental, nine as commercially important fish as well as food fish, 17 as commercially important food fish as well as ornamental, one commercially food fish as well as exotic fish. Biwas & Sugunan[26] reported 151 species of fishes in Brahmaputra River and 73 ornamental fish as well as food fish, 21 as commercially important food fish as well as ornamental, seven commercially important exotic food fish.

Conclusion

The diversity of fish fauna is more in Lower Manair reservoir. It is recommended that further the reservoir can be consider being in good condition for fish production. There is hence an urgent need to create awareness among local peoples on the importance of the reservoir habitat and its fish fauna and the need to conserve them for future generations.

Table-1
The checklist of freshwater fishes in Lower Manair reservoir during September-2009 to August-2011

Order and Family	Species	Common name	Local name	Population Status	General status
Cypriniformes					
Cyprinidae	1. *Amblypharyngodon microlepis*(Bleeker)	Indian carplet	Kodipe	A	FF,OR
	2. *Amblypharyngodon mola*(Hamilton)	Mola carplet	Kodipe	A	FF, CI,OR
	3. *Catla Catla*(Hamilton)	Bocha	Botcha	M	FF,CI
	4. *Cirrhinus reba*(Hamilton)	Reba carp	Arju	C	FF,CI
	5. *Cirrhinus mrigala*(Hamilton)	Indian carp	Merige	C	FF,CI
	6. *Cyprinus carpio carpio*(Linnaus)	Mirror carp	Bangaru teega	M	FF,CI, EX
	7. *Labeo calbasu*(Hamilton)	Kakibonda	Kakiboche	R	FF,CI, OR
	8. *Labeo fimbriatus*	Fringe lipped carp	Chintara	R	FF,CI
	9. *Labeo rohita*(Hamilton)	Bocha-gandumeenu	Rahu	C	FF,CI
	10. *Labeo ariza*	Arju/Reba carp	Arju	M	FF,CI
	11. *Osteobrama cotio cotio*(Hamilton)			M	FF,OR
	12. *Puntius chola*(Hamilton)	Swanp barb	Paraka	A	FF,OR
	13. *Puntius sarana*(Hamilton)	Olive barb	Gunda paraka	A	FF,CI
	14. *Puntius sophore*(Hamilton)	Parigi	Chidu paraka	A	FF,OR
	15. *Rasbora daniconius*(Hamilton)	Slender Barb	Katte kodipe	A	FF,OR
	16. *Rasbora elanga*	Bengala barb	Katte kodipe	C	FF,OR
	17. *Salmostoma phulo*(Hamilton)	Finescale razorbelly minnow	Chandamama	A	FF,OR
	18. *Salmostoma bacaila*(Hamioton)		Chandamama	A	FF,OR
Siluriformes					
Bagridae	19. *Mystus bleeker*(Day)	Day's mystus	Jella	A	FF,OR
	20. *Mystus cavasius*(Hamilton)	Mutijhella/Nahara-jella	Guddi jella	A	FF, CI, OR

Order and Family	Species	Common name	Local name	Population Status	General status
	21. *Mystus seenghala*(Sykes)	Sperata seenghala	Ganga jella	C	FF,CI,OR
	22. *Mystus tengara*(Hamilton)	Guinea catfish	Jella	A	FF,OR
	23. *Mystus vitatus*(Bloch)	Erajella/Sukujella	Jella	A	FF,OR
	24. *Mystus aptengra*		Jella	A	FF,OR
Siluridae	25. *Ompok bimaculatus*(Bloch)	Dukadamu/dukaduma	Bugga damma	M	FF,OR, CI
	26. *Wallago attu*(Schneider)	Valaga	Waalugu	M	FF,OR, CI
Schilbeidae	27. *Eutropiichthys vacha*(Hamilton)	Batchawa vacha		M	FF,OR, CI
Clariidae	28. *Clarias batrachus*(Linnaeus)	Marpoo	Marpho	R	FF,CI,OR
Heteropneustidae	29. *Heteropneustes fossilis*(Bloch)	Mapujella/Marpulu	Inglikum	R	FF,ORCI
Anguilliformes					
Anguillidae	30. *Anguilla bicolor*	Indian short finned eel	Malugu	R	FF,CI
Osteoglossiformes					
Notopteridae	31. *Notopterus notopterus*(Pallas)	Ulakthatta	Vellenka	M	FF,CI,OR
Beloiniformes					
Belonidae	32. *Xenentodon cancila*(Hamilton)	Freshwater garfish	Kongamuthi	C	FF,CI,OR
Exocoetidae	33. *Hyporhampus gaimardi*	Gaimard's half beak	Oka muthi cheap	M	FF, CI, OR
Channiformes					
Channidae	34. *Channa marulius*(Hamilton)	Gaint snakehead	Pulachapa	R	FF, CI ,OR
	35. *Channa orientalis*(Humilton)	Asiatic snakehead	Malapankadi	R	FF,CI.OR
	36. *Channa punctatus*(Bloch)	Spotted snakehead	Motta pilla	A	FF, CI, OR
	37. *Channa striatus*(Bloch)	Banded snakehead	Murrel or Koramata	M	FF, CI, OR
Perciformes					
Gobiidae	38. *Glosogobius giuris*(Hamilton)	Isakee doondoo	Uske donthi	A	FF,OR
Mastacembelidae	39. *Mastacembelus armatus*(Lacepede)	Mudibommidai	Papera	C	FF, CI, OR
	40. *Mastacembelus pancalus*(Hamilton)	Barred sping eel	Chinnipapera	M	FF,OR
Osphronemidae	41. *Trichogaster fasciatus*	Colisafasciata	Pamplete	M	FF,CI
Ambassidae	42. *Chanda nama*(Hamilton)	Elongate glass-perchlet	Siravara	A	FF,OR
	43. *Ambassis ranga(Hamilton-1822)*		Kagitham park	A	FF,OR
Mogiliformes					
Mugilidae	44. *Rhinomugil corsula*(Hamilton)	Coraula mullet	Meedhi kandla chapa	M	FF,OR

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). FF-Food fish, CI-Commercially important, OR-Ornamental, and Ex-Exotic.

Figure-1
Map showing the study area

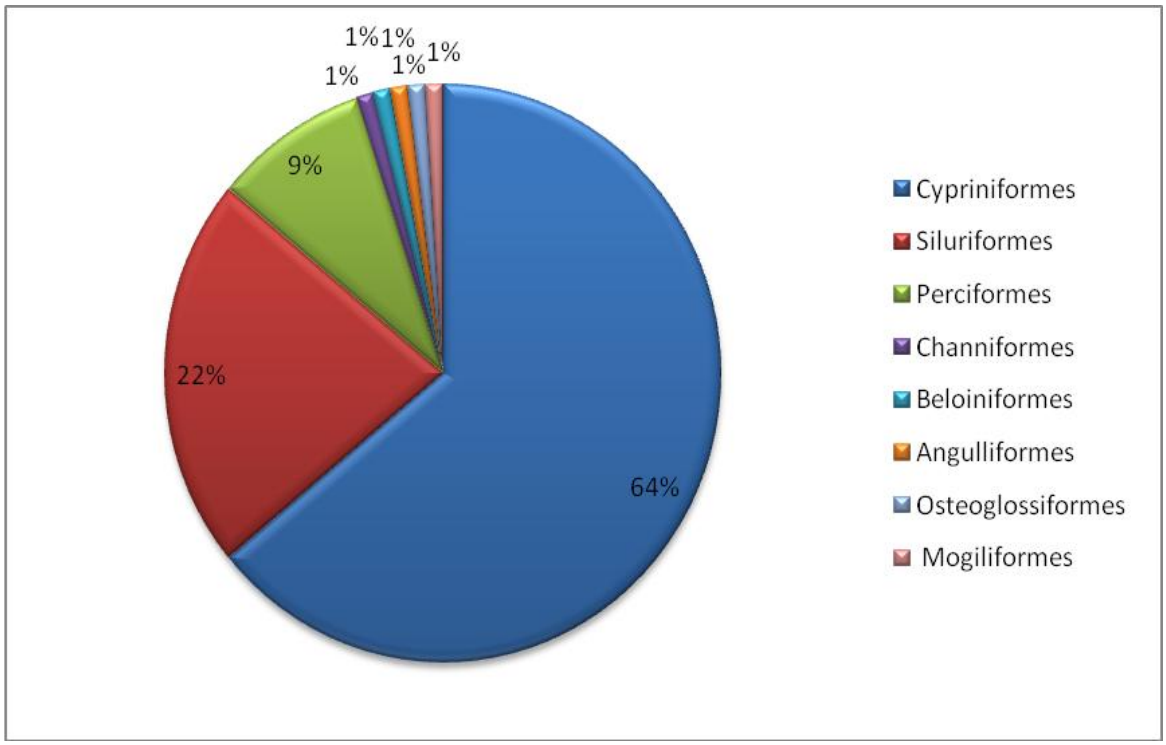

Figure-2
Order –wise percentage composition of fishes in study area

References

1. Kumar Varun and Kumar Kamad, Icthyofaunal Diversity of Dhaura Reservoir, Kichha, Uttarkhand, India, *Res. J. Animal, Veterinary and Fishery Sci.,* **1(5),** 1-4 **(2013)**

2. Kumar Niraj and Singh N.P., Studies on the Ichthyofauna of Kararia Lake of Motihari, East-Champaran, Bihar, India, *Res. J. Animal, Veterinary and Fishery Sci.,* **1(4),** 8-12 **(2013)**

3. Kar D., *In Environment Pollution and Management* APH Publishing Corporation, New Delhi (Kumar A., Bohra C., Sing L. K. eds.) 203-211 **(2003)**

4. Sing Tarun Kumar, Guru Bhikari Charan and Swain Saroj Kumar., Review of River Mahanadi and Identifying the probable potential Ornamental Fishes among them with reference to threats and Conservation Measures, *Res. J. Animal, Veterinary and Fishery Sci.,* **1(3)**, 16-24 **(2013)**

5. Jayaram, K.C., The Freshwater Fishes of India, Pakistan, Bangladesh, Burma and Sri Lanka-A Hand Book, Director, Zoological Survey of India, Kolkata **(1981)**

6. Talwar P.K. and A.G. Jhingran, Inland fishes of India and adjacent countries, Oxford IBH Publication, New Delhi Vol. **1&2,** 1158 **(1991)**

7. Devi K.R. and Indra T.J., Check list of the native freshwater fishes of India, Zoological Survey of India, http://zsi.gov.in/check_list.html **(2012)**

8. Rahimullah M.**,** Fish Survey of Hyderabad State, Part-II. Fishes of Hyderabad city and its suburbs, *Journal of the Bombay Natural History Society*, **44 (1&2),** 88-95 **(1943)**

9. Zafer A.R., Limnology of Hussain Sagar Lake, Hyderabad, India, *Phykos*, **5,** 115-129 **(1966)**

10. Rao M. and Reddy Y.S., Fish fanua of Hussainsagar, Hyderaba, Jantu, **2,** 1-16 **(1984)**

11. Barman R.P., Pisces: Freshwater fishes, In: State Fauna series 5, Fauna of Andhra Pradesh, Part-I, Zoological Survey of India, 89-334 **(1993)**

12. Babu Rao M., Studies on the ecology and fish fauna of an oligotrophic lake Hamayatsagar Hydrabad (A.P.), Rec. Adv.In freshwater Biology, **II (8),** 123-138 **(1997)**

13. Menon A.G.K., Check list - freshwater fishes of India, Records of the Zoological Survey of India, Occasional, **175**, 366 **(1999)**

14. Chandrasekhar S.V.A.**,** Fish fauna of Hyderabad and its environs, *Zoos' Print Journal,* **19(7),** 1530-1533 **(2004)**

15. Rao C.AN., J. Deepa and M. Hakeeel, Comparative account on icthyofauna of Pocharam and Wyra lakes of Andhra Pradesh, India, *Journal of Threatened Taxa,* **3(2),** 1564-1566 **(2011)**

16. Jayaram K.C., The freshwater Fishes of the Indian region, Narendra Publication New Delhi, India, 551 **(1999)**

17. Chandanshive Nanath Eknath, The seasonal Fluctuation of physico-chemical parameters of River Mula-Mutha at Pune, India and their impact on Fish Biodiversity, *Res. J. Animal, Veterinary and Fishery Sci.,* **1(1),** 14-15 **(2013)**

18. Uchchariya D.K., Meenakshi Saxena and Saksena D.W., Fish Biodiversity of Tighra reservoir of Gwalior, Madhya Pradesh, India, *Journal of Fisheries and Aquaculture,* **3(1),** 37-43 **(2012)**

19. Jadhav B.V., Kharat S.S., Raut R.N., Paingankar M. and Dahanukar N., Freshwater fish fauna of Koyana River, northern Western Ghats, India, *Journal of Threatened Taxa* **3(1),** 1449-1455 **(2011)**

20. Gohil Mahendrasinh N. and Mankodi Pradeep C., Diversity of fish Fauna from Downstream Zone of River Mahisagar, Gujarat state, India, *Res. J. Animal, Veterinary and Fishery Sci.,* **1(3),** 14-15 **(2013)**

21. Rebert T.R., The Freshwater Fishes of Western Borneo (Kalimantan Barat, Indonesia), California: California Academy of Science, **(1989)**

22. Nyanti L., Fish fauna of Sayap-Kinabalu Park, Sabah. In. I. Ghazally and D. Laily (Eds), A scientific journey through Borneo: Sayap-Kinabalu Park, Sabah (189-199), Kuala Lumpur: Pelanduk Publication **(1995)**

23. Leh M.U.C., Fishes In E. Soepadomo and P.P.K. Chai (Eds.), Development of Lanjak-Entimau Wildife Sanctuary as a Total Protected Area (124-136), International Tropical Timber Organization, Japan and Sarawak Forest Department: Sarawak, Malaysia **(2000)**

24. Prabahar C. and Senthil Murgan A., Fish Diversity In Relation to physico-chemical characteristics of Kamala Basin of Darbhanga District, Bihar, India, *International Journal of Pharmaceutical & Biological Archives,* **3(1),** 211-217 **(2012)**

25. Biswas B.K. and V.V. Sugunan, Fish diversity of Brahmaputhra river system in Assam, India, *Journal of the Inland Fisheries Society of India,* **40(1),** 23-31 **(2008)**

26. Johnson J.A., Ravi Parmar K. Ramesh, Subharanjansen & Sreenvasa., Fish diversity and assemblage structure in Ken River of Panna landscape, Central India, *Journal of Threatened Taxa,* **4(13),** 3161-3172 **(2012)**