



Fishes from Tamiraparani river system, Tamil Nadu

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ABSTRACT

Streams and rivers originating from Western Ghats have been conferred with diverse fish fauna. Owing to the diverse ichthyofauna, the present investigation was designed to study species diversity, distribution, diversity indices, human use pattern and conservation status of fishes in four fragments of Tamiraparani river system. Altogether, 125 fish species belonging to 13 orders, 44 families and 73 genera were identified from upstream, midstream and lower estuary of Tamiraparani river. In total, 66 fish species were recorded from Vannarapettai, 63 species from Manimuthar, 58 species from Srivaikundam and 53 species from Punnakayal estuary. Cypriniformes (43 species) was the order with diverse species composition and Cyprinidae was the most dominated group represented by 39 species. The river supports 64% food fish, 25.6% ornamental fish and 10.4% ornamental as well as food fish. Out of 125 species, six species were endangered and four vulnerable. Calculated values for various diversity indices were observed on higher side. Our study indicated that the Tamiraparani river system supports highly diverse fish fauna.

Key words: Conservation status, Diversity indices, Fish Fauna, Tamiraparani river system

Tamil Nadu is endowed with rich aquatic resources in the form of streams, rivers, canals (7400 km), major reservoirs (52000 ha), Irrigation tanks (98000 ha) and estuaries (56000 ha) (De 2011, Government of Tamil Nadu 2015). Streams and rivers originating from Western Ghats have been conferred with diverse fish germplasm resources (Johnson and Arunachalam 2009, Mogalekar and Jawahar 2015, Qayoom *et al.* 2018). Cauvery, Vaigai, Tamiraparani, Periyar and Pennar are some of the important rivers of Tamil Nadu which discharge freshwater into Bay of Bengal through the various estuaries (Mogalekar *et al.* 2017). Comprehensive studies on the distribution and diversity of fishes in the Tamiraparani river system especially from upstream to estuarine section is lacking. In view of the paucity of such information, a study was done to investigate the distribution and diversity of fishes in the four different localities of Tamiraparani river system from Manimuthar to Punnakayal.

Tamiraparani river is a perennial river of southern Tamil Nadu and has been mentioned as the Porunai Nathi in Sanskrit literature. The river originates from the peak of Periyapothigai hills above Papanasam along the eastern slope of Western Ghats in the Tirunelveli district of Tamil Nadu. Tamiraparani river basin lies within 08° 82 and 09° 232 N latitude and 77° 092 and 77° 542 E longitude. It traverses to a length of 120 km through Tirunelveli district about 80 km including 24 km in Western Ghat hills and

40 km in Thoothukudi district and finally it confluences in Bay of Bengal at Punnakayal village of Thoothukudi district. The catchment area of Tamiraparani with tributaries is 4536 km². As most of its catchment areas lie in the Western Ghats, river has benefit of both the monsoons, which make it perennial. The annual yield from the river basin is estimated at 48487 million cubic feet. Reservoirs constructed across the river basin are Papanasam, Servalar, Manimuthar, Gadana, Ramanadhi, Karuppanadhi, Gundar, Adavinainar and Vadakku Pachaiyar. It forms a delta in Punnakayal village of Thoothukudi district before out-falling into Gulf of Mannar along Bay of Bengal. The area of the delta is 140.93 km² (Government of Tamil Nadu 2015).

MATERIALS AND METHODS

Fish sampling was done from June 2015 to May 2016 in four different habitats of Tamiraparani river system, viz. Manimuthar dam and its up-stream waters, Vannarapettai midstream, Srivaikundam dam and Punnakayal estuary in 500 m reach of study sites with the help of local fishermen as well as by survey team. Summary of study sites including location (Latitude, longitude and elevation), habitat, general feature, fishing depth and distance covered for sampling are given in Table 1. Species collection, identification, confirmation and preservation was carried out using available literature (Talwar and Kacker 1984, Talwar and Jhingran 1991, Jayaram 2010, Eschmeyer *et al.* 2016, Mogalekar 2017). The check list was prepared, fishes were categorized into food or ornamental based on the utilization,

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Table 1. Summary of sampling sites in Tamiraparani river system, Tamil Nadu

Sampling site	Latitude and longitude (Elevation)	Habitat	Description of sampling site, fishing depth, distance covered for sampling
Manimutthar (S1)	8°37'09.10"–8°38'40.96"N and 77°23'44.87"–77°24'32.07"E (107 to 102 m)	Dam and Upstream-river	One of the major dam on Tamiraparani river in Tirunelveli district with total catchment area of 920 ha. The depth of the dam is about 110 feet and depth of fishing varied from 10–50 feet.
Vannarapettai (S2)	8°43'44.94"–8°44'00.27"N and 77°42'56.11"–77°43'01.52"E (34 to 32 m)	Midstream-river	Major fish landing centre on the Tamiraparani river in Tirunelveli. The depth of fishing ranged from 15–30 feet.
Srivaikundam (S3)	8°37'49.30"–8°37'35.49"N and 77°54'29.95"–77°54'38.83"E (19 to 13 m)	Dam and Midstream-river	Major fish landing centre on the Tamiraparani river system in Thoothukudi district. Depth of the fishing varied from 5–20 feet.
Punnakayal (S4)	8°37'41.63"–8°37'40.66"N and 78°07'07.93"–78°07'23.03"E (0 m)	Downstream estuary	The river Tamiraparani drains into Punnakayal estuary in Thoothukudi district. The estuary is characterised by muddy flats and mangrove forests. Depth of fishing was 5–15 Feet.

and conservation status was assessed as per IUCN red list category (IUCN2016). Meteorologically, the whole study period was classified as south-west monsoon (June to September, 2015), post-monsoon (October to December, 2015), north-east monsoon (January to February, 2016) and pre-monsoon (March to May, 2016) (Government of Tamil Nadu, 2015). Total numbers of fishes were recorded on monthly basis from the four sampling stations. Seasonal species abundance data was calculated by taking average value of monthly fish abundance data. Seasonal species abundance data used as input data for the calculation of biodiversity indices such as Shannon Wiener species diversity (H'), Margalef's species richness (d'), Pielou's species evenness (J'), taxonomic diversity (Δ), variation in taxonomic distinctness (Λ) by using PRIMER V6 (Plymouth Routine in Multivariate Ecological Research) software.

RESULTS AND DISCUSSION

Systematic classification of fishes recorded in the Tamiraparani river system with note on human use and conservation status are given in Table 2. The recorded 125 species belong to 13 orders, 44 families and 73 genera. Seventy two species were recorded from freshwater habitat of river and remaining 53 species were from estuarine habitat. In total 66 species of fishes belonging to 7 orders, 22 families and 38 genera were recorded from midstream of Tamiraparani river at Vannarapettai, 63 species of fishes belonging to 6 order, 15 families and 32 genera from upstream of Tamiraparani river in and around Manimutthar Dam, 58 species belonging to 8 orders, 19 families and 33 genera from Srivaikundam dam and 53 species belonging to 10 orders, 31 families and 39 genera from Punnakayal Estuary. The top three orders with diverse species

composition were Cypriniformes (43 species, 19 genera and 4 families), Perciformes (36 species, 23 genera and 17 families) and Siluriformes (19 species, 8 genera and 6 families). The most diverse family was the Cyprinidae with 39 species and 16 genera, followed by Bagridae with 6 species and 1 genera, and Carangidae with 5 species and 3 genera (Table 2).

Study on fish diversity of Tamiraparani river system is the first of its kind and revealed presence of 125 species contributing about 86.80% of total freshwater fish diversity (Devi and Indra 2000) and about 80.12% of freshwater ornamental fish diversity published from Tamil Nadu (Mogalekar and Jawahar 2015). The number of fishes observed in Tamiraparani river system was greater than that given in earlier reports from Tamil Nadu by Devi *et al.* (2007), Johnson and Arunachalam (2009), Ramanujam *et al.* (2014) which might be attributed to limited study areas. All the above reports agreed with dominance of cyprinids over other freshwater fish families. The fishes recorded in the present study were lesser than a recent report by Mogalekar and Jawahar (2015) from Tamil Nadu. Present record of 53 fish species from Punnakayal Estuary is lesser than earlier reports from estuaries of Tamil Nadu by Ramanujam and Anbarasan (2008), Ramanujam *et al.* (2014), Bharadhirajan *et al.* (2015), Khan (2015), Pavinkumar *et al.* (2015). Due to non-availability of literature on fish diversity Tamiraparani river effective comparison in rate of decline in fish diversity is not possible but the present report would serve as baseline information for future fish diversity studies.

A list of fishes of Tamiraparani river system comprises of 80 species with food value, 32 species with ornamental value and 13 species could be used for both ornamental as well as food (Table 2). Among the species listed under

Table 2. Fish diversity of Tamiraparani river system with note on human use and conservation status

Taxa	Distribution	Human Use	IUCN Status
Order: Anguilliformes			
Family: Anguillidae			
<i>Anguilla bengalensis</i> (Gray, 1831)	S1, S2, S3	Food	NT
<i>Anguilla bicolor</i> McClelland, 1844	S3, S4	Food	NT
Family: Congridae			
<i>Conger cinereus</i> Rüppell, 1830	S4	Food	NE
Order: Beloniformes			
Family: Adrianichthyidae			
<i>Oryzias dancena</i> (Hamilton, 1822)	S2, S3	Ornamental	LC
Family: Belonidae			
<i>Xenentodon cancila</i> (Hamilton, 1822)	S2, S3	Ornamental, Food	LC
<i>Strongylura strongylura</i> (van Hasselt, 1823)	S4	Ornamental, Food	LC
<i>Tylosurus crocodilus</i> (Péron and Lesueur, 1821)	S4	Food	NE
Family: Hemiramphidae			
<i>Hyporhamphus limbatus</i> (Valenciennes, 1847)	S2, S3	Food	LC
<i>Hemiramphus marginatus</i> (Forsskal, 1775)	S4	Food	NE
Order: Clupeiformes			
Family: Clupeidae			
<i>Ehirava fluviatilis</i> Deraniyagala, 1929	S3, S4	Food	NE
<i>Nematalosa nasus</i> (Bloch, 1795)	S4	Food	LC
<i>Tenualosa ilisha</i> (Hamilton, 1822)	S4	Food	LC
Family: Engraulidae			
<i>Stolephorus commersonnii</i> Lacepède, 1803	S4	Food	NE
<i>Stolephorus indicus</i> (van Hasselt, 1823)	S4	Food	NE
Order: Cypriniformes			
Family: Balitoridae			
<i>Bhavana australis</i> (Jerdon, 1849)	S1, S2	Ornamental	LC
Family: Cobitidae			
<i>Lepidocephalichthys guntea</i> (Hamilton, 1822)	S1, S2, S3	Ornamental	LC
<i>Lepidocephalichthys thermalis</i> (Valenciennes, 1846)	S1, S2, S3	Ornamental	LC
Family: Nemacheilidae			
<i>Nemacheilus triangularis</i> Day, 1865	S1, S2	Ornamental	LC
Family: Cyprinidae			
<i>Amblypharyngodon microlepis</i> (Bleeker, 1853)	S2, S3	Ornamental	LC
<i>Cirrhinus cirrhosis</i> (Bloch, 1795)	S1, S2, S3	Food	VU
<i>Cirrhinus macrops</i> Steindachner, 1870	S1, S2, S3	Food	NE
<i>Cirrhinus mrigala</i> (Hamilton, 1822)	S1, S2, S3	Food	LC
<i>Ctenopharyngodon idella</i> (Valenciennes, 1844)	S1, S2, S3	Food	NE
<i>Cyprinus carpio</i> Linnaeus, 1758	S1, S2, S3	Food	VU
<i>Dawkinsia arulius</i> (Jerdon, 1849)	S1, S2	Ornamental	EN
<i>Dawkinsia filamentosa</i> (Valenciennes, 1844)	S1, S2	Ornamental	LC
<i>Dawkinsia tambraparniei</i> (Silas, 1954)	S1, S2	Ornamental	EN
<i>Dawkinsia rohani</i> (Rema Devi, Indra and Knight, 2010)	S1, S2	Ornamental	VU
<i>Devario aequipinnatus</i> (McClelland, 1839)	S1, S2, S3	Ornamental	LC
<i>Devario malabaricus</i> (Jerdon, 1849)	S1, S2	Ornamental	LC
<i>Esomus danricus</i> (Hamilton, 1822)	S1	Ornamental	LC
<i>Garra mullya</i> (Sykes, 1839)	S1	Ornamental	LC
<i>Garra kalakadensis</i> Rema Devi, 1993	S1	Ornamental	EN
<i>Catla catla</i> (Hamilton, 1822)	S1, S2, S3	Food	LC
<i>Hypselobarbus curmuca</i> (Hamilton, 1807)	S1	Food	EN
<i>Hypselobarbus dobsoni</i> (Day, 1876)	S1	Food	DD
<i>Hypselobarbus dubius</i> (Day, 1867)	S1	Food	EN
<i>Hypselobarbus kolus</i> (Sykes, 1839)	S1	Food	VU
<i>Labeo calbasu</i> (Hamilton, 1822)	S1, S2, S3	Food	LC
<i>Labeo dyocheilus</i> (McClelland, 1839)	S1, S2, S3	Food	LC
<i>Labeo fimbriatus</i> (Bloch, 1795)	S1, S2, S3	Food	LC
<i>Labeo kontius</i> (Jerdon, 1849)	S1, S2, S3	Food	LC
<i>Labeo pangusia</i> (Hamilton, 1822)	S1, S2, S3	Food	NT

(Table 2. Contd...)

Taxa	Distribution	Human Use	IUCN Status
<i>Labeo rohita</i> (Hamilton, 1822)	S1, S2, S3	Food	LC
<i>Pethia ticto</i> (Hamilton, 1822)	S1, S2, S3	Ornamental	LC
<i>Puntius sophore</i> (Hamilton, 1822)	S2, S3	Ornamental	LC
<i>Puntius amphibius</i> (Valenciennes, 1842)	S2, S3	Ornamental	DD
<i>Puntius bimaculatus</i> (Bleeker, 1863)	S2, S3	Ornamental	LC
<i>Puntius chola</i> (Hamilton, 1822)	S2, S3	Ornamental	LC
<i>Puntius dorsalis</i> (Jerdon, 1849)	S1, S2, S3	Ornamental	LC
<i>Puntius melanostigma</i> (Day, 1878)	S1	Ornamental	NE
<i>Puntius vittatus</i> Day, 1865	S1, S2, S3	Ornamental	LC
<i>Rasbora daniconius</i> (Hamilton, 1822)	S1, S2	Ornamental	LC
<i>Rasbora dandia</i> (Valenciennes, 1844)	S1	Ornamental	NE
<i>Salmotomabacaila</i> (Hamilton, 1822)	S2, S3	Ornamental, Food	LC
<i>Salmophasia untrahi</i> (Day, 1869)	S2, S3	Ornamental, Food	LC
<i>Systemus sarana</i> (Hamilton, 1822)	S1, S2, S3	Ornamental, Food	LC
Order: Cyprinodontiformes			
Family: Aplocheilidae			
<i>Aplocheilus lineatus</i> (Valenciennes, 1846)	S1, S2, S3	Ornamental	LC
<i>Aplocheilus parvus</i> (Sundara Raj, 1916)	S1, S2, S3	Ornamental	NE
Family: Poeciliidae			
<i>Gambusia affinis</i> (Baird and Girard, 1853)	S2, S3	Ornamental	LC
Order: Elopiformes			
Family: Elopidae			
<i>Elops machnata</i> (Forsskål, 1775)	S4	Food	LC
Order: Gonorhynchiformes			
Family: Chanidae			
<i>Chanos chanos</i> (Forsskål, 1775)	S4	Food	NE
Order: Mugiliformes			
Family: Mugilidae			
<i>Chelon parsia</i> (Hamilton, 1822)	S4	Food	NE
<i>Mugil cephalus</i> Linnaeus, 1758	S4	Food	LC
Order: Perciformes			
Family: Acanthuridae			
<i>Acanthurus mata</i> (Cuvier, 1829)	S4	Food	LC
Family: Ambassidae			
<i>Chanda nama</i> Hamilton, 1822	S2, S3, S4	Food	LC
<i>Parambassis ranga</i> (Hamilton, 1822)	S2, S3, S4	Food	LC
Family: Anabantidae			
<i>Anabas testudineus</i> (Bloch, 1792)	S2, S3	Food	LC
Family: Carangidae			
<i>Carangoides ferdau</i> (Forsskål, 1775)	S4	Food	NE
<i>Caranx ignobilis</i> (Forsskål, 1775)	S4	Food	NE
<i>Caranx sexfasciatus</i> Quoy and Gaimard, 1825	S4	Food	LC
<i>Scomberoides tol</i> (Cuvier, 1832)	S4	Food	NE
<i>Scomberoides commersonianus</i> Lacepède, 1801	S4	Food	NE
Family: Channidae			
<i>Channa orientalis</i> Bloch and Schneider, 1801	S2, S3	Food	NE
<i>Channa punctata</i> (Bloch, 1793)	S1, S2, S3, S4	Food	LC
<i>Channa striata</i> (Bloch, 1793)	S1, S2, S3	Food	LC
Family: Cichlidae			
<i>Etroplus maculatus</i> (Bloch, 1795)	S1, S2, S3, S4	Ornamental, Food	LC
<i>Etroplus suratensis</i> (Bloch, 1790)	S1, S2, S3, S4	Ornamental, Food	LC
<i>Oreochromis mossambicus</i> (Peters, 1852)	S1, S2, S3, S4	Food	NT
<i>Oreochromis niloticus</i> (Linnaeus, 1758)	S1, S2, S3	Food	NE
Family: Gerreidae			
<i>Gerres filamentosus</i> Cuvier, 1829	S4	Food	LC
<i>Gerres setifer</i> (Hamilton, 1822)	S4	Food	NE
Family: Gobiidae			
<i>Glossogobius giuris</i> (Hamilton, 1822)	S1, S2, S3	Ornamental, Food	LC

(Table 2. Contd...)

Taxa	Distribution	Human Use	IUCN Status
<i>Acentrogobius ennorensis</i> Menon and Rema Devi, 1980	S4	Food	NE
Family:Leiognathidae			
<i>Leiognathus brevirostris</i> (Valenciennes, 1835)	S4	Food	NE
<i>Secutor insidiator</i> (Bloch, 1787)	S4	Food	NE
Family: Lutjanidae			
<i>Lutjanus argentimaculatus</i> (Forsskål, 1775)	S4	Food	NE
<i>Lutjanus johnii</i> (Bloch, 1792)	S4	Food	NE
Family:Mullidae			
<i>Upeneus moluccensis</i> (Bleeker, 1855)	S4	Food	NE
Family:Osphronemidae			
<i>Pseudosphromenus cupanus</i> (Cuvier, 1831)	S2	Ornamental	LC
Family: Scatophagidae			
<i>Scatophagus argus</i> (Linnaeus, 1766)	S4	Food	LC
Family:Serranidae			
<i>Epinephelus diacanthus</i> (Valenciennes, 1828)	S4	Food	NT
<i>Epinephelus malabaricus</i> (Bloch and Schneider, 1801)	S4	Food	NT
Family:Sillaginidae			
<i>Sillago sihama</i> (Forsskål, 1775)	S4	Food	NE
<i>Sillago vincenti</i> McKay, 1980	S4	Food	NE
Family:Siganidae			
<i>Siganus canaliculatus</i> (Park, 1797)	S4	Food	NE
<i>Siganus javus</i> (Linnaeus, 1766)	S4	Food	NE
<i>Siganus lineatus</i> (Valenciennes, 1835)	S4	Food	NE
Family:Teraponidae			
<i>Terapon jarbua</i> (Forsskål, 1775)	S4	Food	LC
<i>Terapon puta</i> Cuvier, 1829	S4	Food	NE
Order: Pleuronectiforms			
Family: Cynoglossidae			
<i>Cynoglossus arel</i> (Bloch and Schneider, 1801)	S4	Food	NE
Family: Soleidae			
<i>Brachirus orientalis</i> (Bloch and Schneider, 1801)	S4	Food	NE
Order: Siluriformes			
Family: Ariidae			
<i>Arius arius</i> (Hamilton, 1822)	S4	Food	LC
<i>Arius jella</i> Day, 1877	S4	Food	NE
<i>Arius maculatus</i> (Thunberg, 1792)	S4	Food	NE
<i>Arius subrostratus</i> Valenciennes, 1840	S4	Food	NE
Family:Bagridae			
<i>Mystus bleekeri</i> (Day, 1877)	S1, S2, S3	Food	LC
<i>Mystus cavasius</i> (Hamilton, 1822)	S1, S2, S3	Food	LC
<i>Mystus gulio</i> (Hamilton, 1822)	S1, S2, S3, S4	Food	LC
<i>Mystus malabaricus</i> (Jerdon, 1849)		Ornamental	NT
<i>Mystus oculatus</i> (Valenciennes, 1840)	S1, S2, S3	Food	LC
<i>Mystus vittatus</i> (Bloch, 1794)	S1, S2, S3	Ornamental, Food	LC
Family: Clariidae			
<i>Clarias batrachus</i> (Linnaeus, 1758)	S1, S2, S3, S4	Food	LC
<i>Clarias gariepinus</i> (Burchell 1822)	S1, S2, S3	Food	LC
Family: Heteropneustidae			
<i>Heteropneustes fossilis</i> (Bloch, 1794)	S1, S2, S3	Food	LC
<i>Heteropneustes longipectoralis</i> Devi and Raghunathan, 1999	S1	Ornamental, Food	DD
Family: Schilbeidae			
<i>Neotropius atherinoides</i> (Bloch, 1794)	S1, S2	Ornamental, Food	LC
Family:Siluridae			
<i>Ompok bimaculatus</i> (Bloch, 1794)	S1, S2, S3	Food	NT
<i>Ompok malabaricus</i> (Valenciennes, 1840)	S1	Food	LC
<i>Pterocryptis wynaadensis</i> (Day, 1873)	S1	Food	EN
<i>Wallago attu</i> (Bloch and Schneider, 1801)	S1, S2, S3	Food	NT
Order: Synbranchiformes			
Family:Mastacembelidae			

(Table 2. Contd...)

Taxa	Distribution	Human Use	IUCN Status
<i>Macrogathus aral</i> (Bloch and Schneider, 1801)	S1, S2, S3	Ornamental, Food	LC
<i>Mastacembelus armatus</i> (Lacepède, 1800)	S1, S2, S3	Ornamental, Food	LC
Order: Tetrodotiformes			
Family: Triacanthidae			
<i>Triacanthus biaculeatus</i> (Bloch, 1786)	S4	Ornamental	NE
Family: Tetrodontidae			
<i>Arothron leopardus</i> (Day, 1878)	S4	Ornamental	NE

S1, Manimutthar dam and its up-stream waters; S2, Vannarapettai; S3, Srivaikundam; S4, Punnakayal estuary. EN, Endangered; VU, Vulnerable; NT, Near threatened; LC, Least Concern; DD, Data Deficient; NE, Not Evaluated.

threatened category, 6 species are endangered while 4 species are vulnerable. There are 115 species under the non-threatened category, among which 9 are near threatened, whereas 64 species belonged to least concern category, 3 species were data deficient and 39 species have not been evaluated against IUCN criteria (Table 2).

Calculated values for various diversity indices presented in Table 3. The Shannon Wiener diversity index (H') values were found to be on higher side and varied from 4.76 during north-east monsoon to 4.72 during pre-monsoon. The maximum value of Margalef richness index (d) was 21.89 also recorded during the north-east monsoon season. However the minimum value was 21.76 recorded during the post-monsoon season. The maximum value of Pielou's evenness index (J') was 0.9929 recorded during north-east monsoon and the minimum value of 0.9896 during pre-monsoon season. The taxonomic diversity index (D) calculated during the various seasons varied from 86.55 during south-west monsoon to 86.24 during pre-monsoon. Variation in taxonomic distinctness (Λ) was maximum (536) during north-east monsoon, while minimum value (508.9) observed during south-west monsoon.

According to calculated values of Shannon Wiener diversity index and Margalef richness index ecological status of fishes in Tamiraparani river system was rich. Calculated values for Pielou's evenness index were

Table 3. Diversity indices of finfishes in Tamiraparani river system recorded during different seasons.

Index/Season	South-west monsoon	North-east monsoon	Post monsoon	Pre monsoon
S	118	121	118	118
N	212	240	216	215
$H'(\log_e)$	4.733		4.762	4.731
4.721				
d	21.84	21.89	21.76	21.79
J'	0.9921	0.9929	0.9918	0.9896
Delta	86.55	86.47	86.39	86.24
Λ	508.9	536	531.8	531.6

S, Number of species; N, Number of individuals; $H'(\log_e)$, Shannon Wiener species diversity; d , Margalef species richness; J' , Pielou's species evenness; Delta, Taxonomic diversity; Λ , Variation in taxonomic distinctness.

observed on higher side. Thus, it could be inferred that the species evenness is high which might be due to representation of individual species in evenly nature and not dominated by individual species. Higher values of taxonomic diversity index suggest that, the species in the assemblage were distantly related. In the absence of literature on fish diversity indices in Tamiraparani River system effective comparison of diversity indices estimates could not possible.

The fish fauna of Tamiraparani river system is highly diverse and setting up of a local level management body is vital for the conservation and proper management of the fish biodiversity.

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