International Journal of Global Science Research **ISSN: 2348-8344 (Online)**
Vol. 11, Issue. 2, October 2024, pp. 2398-2414 **DOI: https://doi.org/10.26540/ijgsr.v11.i2.2024.276**
***Available Online* at www.ijgsr.com**
© Copyright 2014 | ijgsr.com | All Rights Reserved

Research Paper

Ichthyofaunal diversity of Pallikaranai marsh and Adjacent areas, Chennai, Tamil Nadu, India

Jayasree Thilak
Southern Regional Centre, Zoological Survey of India, Chennai District, Tamil Nadu, India
E-mail: jayasreethilak@yahoo.com

Received: 13/06/2024
Revised: 28/06/2024
Accepted: 05/07/2024

Abstract: The present study deals with a collection of 53 species of fishes belonging to 31 genera, 9 orders under 17 families from Pallikaranai marsh. In July 2022, Pallikaranai Marsh Reserve Forest in Tamil Nadu was declared a Ramsar site. The IUCN status of the fishes recorded from the marsh was also provided. As per the IUCN status the fishes recorded from the marsh were belonging to the category LC (44), VU (2), EN (1), NT (2), NE (1) and DD (2). Some commercially important fishes such as the *Trichogaster lalius* (Hamilton, 1822), *Trichogaster fasciata* Bloch & Schneider, 1801, *Trichogaster chuna* (Hamilton, 1822), *Pseudetroplus maculatus* (Bloch, 1795), *Etroplus suratensis* (Bloch, 1795), *Esomus danricus* (Hamilton, 1822), *Esomus thermoicos* (Valenciennes, 1842), *Rasbora daniconius* (Hamilton, 1822), and different species of the genus *Puntius* which are used in the ornamental fishery is also recorded during the present study. The invasive alien species of fishes such as the *Pterygoplichthys pardalis* (Castelnau, 1855), *Oreochromis aureus* (Steindachner, 1864), *Oreochromis mossambicus* (Peters, 1852), *Oreochromis niloticus* (Linnaeus, 1758), *Clarias gariepinus* (Burchell, 1822), *Gambusia affinis* (Baird & Girard, 1853) are also recorded from the marsh. The species of fishes such as *Anguilla bengalensis* (Gray, 1831), *Anguilla bicolor* McClelland, 1844 and *Trichogaster chuna* (Hamilton, 1822) are the representative fishes which uses the wetland as a spawning ground. *Channa orientalis* Bloch & Schneider, 1801 is a vulnareble species which needs protection.

Keywords: Pallikaranai marsh, ornamental fishery, invasive alien species, commercially important.

Introduction:

Pallikaranai Marsh is a freshwater marsh area located in the city of Chennai, Tamil Nadu. It is the only surviving wetland ecosystem of the city and is among the few and last remaining natural wetlands of South India. It is one of the 85 identified Wetlands

International Journal of Global Science Research
Vol. 11, Issue. 2, October 2024, pp. 2398-2414
Available Online at www.ijgsr.com
© Copyright 2014 | ijgsr.com | All Rights Reserved
ISSN: 2348-8344 (Online)
DOI: https://doi.org/10.26540/ijgsr.v11.i2.2024.276

of South India under National Wetland Conservation and Management Programme (NWCMP) operationalised by the Government of India1985–86 and one of the eighteen in the state of Tamil Nadu. The co-ordinates of the marsh is 12°55'40"N 80°13'13"E and covers an area of 1247.54 ha of land. The marsh contains several rare or endangered and threatened species and acts as a forage and breeding ground for thousands of migratory birds from various places within and outside the country. The marshland is located along the Coromandel Coast South of Adyar Estuary. It serves as an aquatic buffer of the flood prone Chennai and Chengalpattu districts. It is surrounded by the expressway of Old Mahabalipuram Road and the residential areas of Perungudi, Siruseri, Pallikaranai, Madipakkam, Velachery and Taramani. The wetlands comprise a large marsh (the Pallikaranai marsh), smaller satellite wetlands, large tracts of pastureland and patches of dry forests. The marsh has been cut into two for a road with no free flow underneath. The low-lying area covered by a mosaic of aquatic grass species, scrub, marsh, and water-logged depressions, it is connected to 31 different water bodies, all of which release water into the marsh during the monsoons. Pallikaranai Marsh land rich in biodiversity and is home to a wide variety of species. As per the records of the Forest Department of Tamil Nadu there are 625 species of Plants and animals (2019). There are 176 recorded species of birds. The bird diversity is an indicator of the health of the Marsh Mekonen (2017).

Pisces constitute an important part in the aquatic ecosystem. They are the indicators of the wetland ecosystem. Tamil Nadu has rich freshwater fish genetic resources comprising 226 species representing 13 orders,34 families and 93 genera which constitute about 22.30 % to the total freshwater fish diversity of India (Gopi et al., 2017). From the marine and estuarine waters of Tamil Nadu, Mogalekar et.al., (2018) reported a total of 1656 fish species under two classes, 40 orders, 191 families and 683 genera. In the checklist, they reported that 1075 fish species were primary marine water and remaining 581 species were diadromous. As per the Forest Department of Tamil Nadu 50 species of fishes are recorded from the Pallikarani marsh but there was no detailed information. The present survey is based on some local surveys conducted to Pallikaranai marsh and adjacent areas during the year 2012-2015 by various survey teams of SRC/ZSI/Chennai. The present study deals with 53 species of fishes belonging to 31 genera, 9 orders under 17 families from Pallikaranai marsh. The species marked with * are recorded from literature.

Materials and Methods:

Study area:

Pallikaranai Marsh is a freshwater marsh area located in the city of Chennai, Tamil Nadu. The co-ordinates of the marsh is 12°55'40"N 80°13'13"E and covers an area of 1247.54 ha of land.

International Journal of Global Science Research **ISSN: 2348-8344 (Online)**
Vol. 11, Issue. 2, October 2024, pp. 2398-2414 **DOI: https://doi.org/10.26540/ijgsr.v11.i2.2024.276**
***Available Online* at www.ijgsr.com**
© Copyright 2014 | ijgsr.com | All Rights Reserved

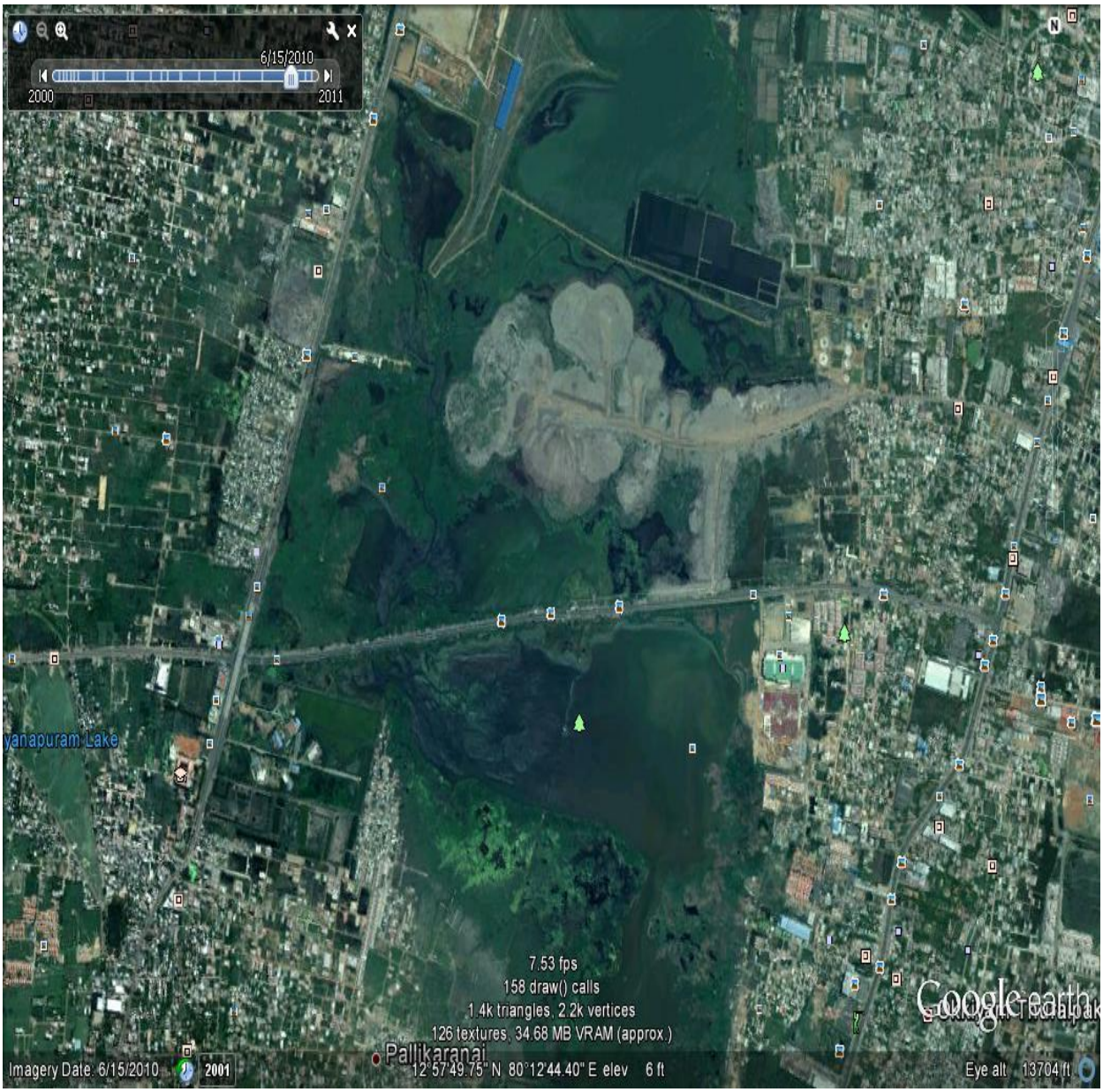


Figure 1. Satellite map of Pallikaranai marsh (Source Google earth)

The field visits were done by different survey teams during 2012-2015. The collected fish specimens were preserved in 10% formaldehyde. For bigger fishes an incision was made along the right side of the belly of the fish. So that the preservative will enter into the internal organs and they will be properly fixed. The preserved fish specimens were later sorted out and subjected to taxonomic studies by referring standard ichthyology books viz.. Day (1875 – 1878), Talwar & Jhingran (1991), Menon (1999) and Jayaram (2010), Nelson (2006).

International Journal of Global Science Research
Vol. 11, Issue. 2, October 2024, pp. 2398-2414
Available Online at www.ijgsr.com
© Copyright 2014 | ijgsr.com | All Rights Reserved
ISSN: 2348-8344 (Online)
DOI: https://doi.org/10.26540/ijgsr.v11.i2.2024.276

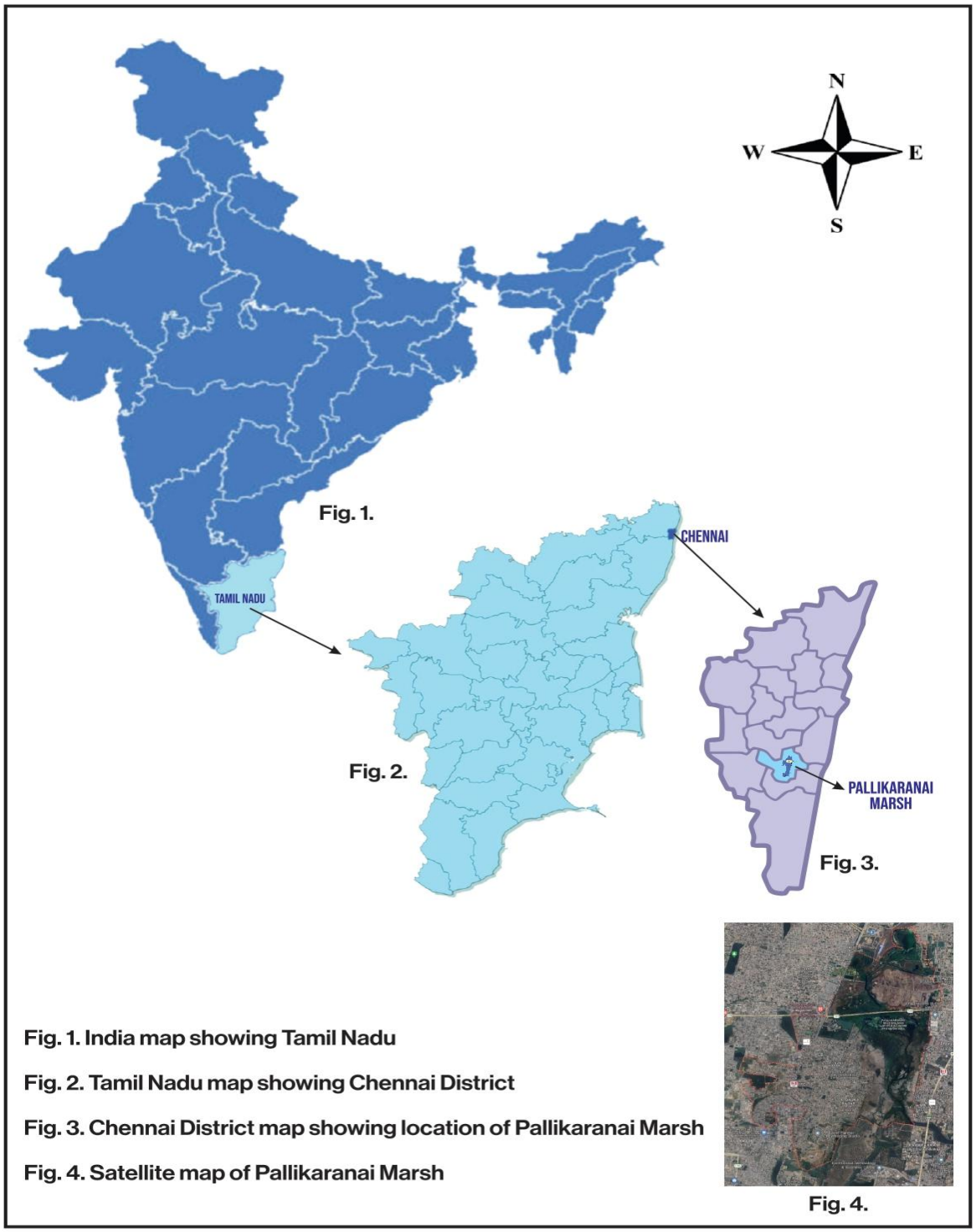


Figure 2. Map showing the location of Pallikaranai marsh.

International Journal of Global Science Research **ISSN: 2348-8344 (Online)**
Vol. 11, Issue. 2, October 2024, pp. 2398-2414 **DOI: https://doi.org/10.26540/ijgsr.v11.i2.2024.276**
***Available Online* at www.ijgsr.com**
© Copyright 2014 | ijgsr.com | All Rights Reserved

SYSTEMATIC LIST OF PISCES RECORDED FROM PALLIKARANAI MARSH AND ADJASCENT AREAS.

Class ACTINOPTERYGII Klein, 1885
Order ANGUILLIFORMES L. S. Berg, 1943
Family ANGUILLIDAE Rafinesque, 1810
Genus ***Anguilla*** Schrank, 1798

1. *Anguilla bengalensis* (Gray, 1831)*
2. *Anguilla bicolor* McClelland, 1844*

Order CYPRINIFORMES Bleeker, 1859
Family CYPRINIDAE Rafinesque, 1815
Genus ***Salmophasia*** Swainson, 1839

3. *Salmophasia balookee* (Sykes, 1839)
4. *Salmostoma* sps.

Genus ***Esomus*** Swainson, 1839

5. *Esomus danricus* (Hamilton, 1822)
6. *Esomus thermoicos* (Valenciennes, 1842)

Genus ***Rasbora*** Bleeker, 1860

7. *Rasbora cauverii* (Jerdon, 1849)
8. *Rasbora daniconius* (Hamilton, 1822)

Genus ***Amblypharyngodon*** Bleeker, 1860

9. *Amblypharyngodon microlepis* (Bleeker, 1853)

Genus ***Puntius*** Hamilton, 1822

10. *Puntius amphibius* (Valenciennes,1842)
11. *Puntius chola* (Hamilton, 1822)
12. *Puntius dorsalis* (Jerdon, 1849)
13. *Puntius vittatus* (Day, 1865)
14. *Puntius sophore* (Hamilton, 1822)
15. *Puntius mahecola* (Valenciennes, 1844)

Genus ***Systomus*** McClelland, 1839

16. *Systomus subnasutus* (Valenciennes, 1842)

Genus ***Pethia*** Pethiyagoda, Meegaskumbura & Maduwage, 2012

17. *Pethia conchonius* (Hamilton, 1822)
18. *Pethia ticto* (Hamilton, 1822)
19. *Pethia sharmai* (Menon & Rema Devi, 1993)

Genus ***Dawkinsia*** Pethiyagoda, Meegaskumbura &Maduwage, 2012

20. *Dawkinsia filamentosa* (Valenciennes, 1844)

Family COBITIDAE Swainson, 1838
Genus ***Lepidocephalichthys*** Bleeker, 1863

21. *Lepidocephalychthys guntea* (Hamilton, 1822)
22. *Lepidocephalychthys thermalis* (Valenciennes, 1846)

Order SILURIFORMES G. Cuvier, 1817
Family BAGRIDAE Bleeker, 1858
Genus ***Mystus*** Scopoli, 1777

23. *Mystus gulio* (Hamilton, 1822)
24. *Mystus vittatus* (Bloch, 1794)
25. *Mystus cavasius* (Hamilton, 1822)

Genus ***Sperata*** Holly, 1939

26. *Sperata seenghala* (Sykes, 1839)*

Family LORICARRIDAE Rafinesque, 1815
Genus ***Pterygoplichthys*** T. N. Gill, 1858

27. *Pterygoplichthys pardalis* (Castelnau, 1855)
28. *Pterygoplichthys multiradiatus* (Hancock, 1828)*

Family SCHILBIDAE Bleeker, 1858
Genus ***Neotropius*** Kulkarni, 1952

29. *Neotropius atherinoides* (Bloch, 1794)

Family CLARIIDAE Bonaparte 1845
Genus ***Clarias*** Scopoli, 1777

30. *Clarias gariepinus* (Burchell, 1822)*
31. *Clarias batrachus* Linnaeus, 1758*

Family HETEROPNEUSTIDAE Hora, 1936
Genus ***Heteropneustes*** Muller, 1840

32. *Heteropneustes fossilis* (Bloch, 1794)

Order CYPRINODONTIFORMES L. S. Berg, 1940
Family APLOCHEILIDAE Bleeker, 1859
Genus ***Aplocheilus*** Mc Clelland, 1839

33. *Aplocheilus parvus* (Sunder Raj, 1916)

Family POECILIDAE Bonaparte, 1831
Genus ***Gambusia*** Poey, 1854

34. *Gambusia affinis* (Baird & Girard, 1853)

Order SYNBRANCHIFORMES Berg, 1940
Family MASTACEMBELIDAE Swainson, 1839
Genus ***Macrognathus*** Lacepede, 1800

35. *Macrognathus pancalus* (Hamilton, 1822)

Order PERCIFORMES Stirton 1953
Family AMBASSIDAE Klunzinger, 1870
Genus ***Chanda*** Hamilton, 1822

36. *Chanda nama* (Hamilton, 1822)

Genus ***Parambassis*** Bleeker, 1874

37. *Parambassis ranga* (Hamilton, 1822)

Order **CICHLIFORMES** R. Betancur-et.al 2013

International Journal of Global Science Research **ISSN: 2348-8344 (Online)**
Vol. 11, Issue. 2, October 2024, pp. 2398-2414 **DOI: https://doi.org/10.26540/ijgsr.v11.i2.2024.276**
***Available Online* at www.ijgsr.com**
© Copyright 2014 | ijgsr.com | All Rights Reserved

Family CICHLIDAE Bonaparte, 1835
Genus ***Pseudetroplus*** Bleeker, 1862
38. *Pseudetroplus maculates* (Bloch, 1795)
Genus ***Etroplus*** Cuvier, 1830
39. *Etroplus suratensis* (Bloch,1790)
Genus ***Oreochromis*** Guenther, 1889
40. *Oreochromis aureus* (Steindachner, 1864)
41. *Oreochromis mossambicus* (Peters, 1852)
42. *Oreochromis niloticus* (Linnaeus, 1758)
Order GOBIFORMES Günther, 1880
Family GOBIIDAE G. Cuvier, 1816
Genus ***Glossogobius*** Gill, 1859
43. *Glossogobius giuris giuris* (Hamilton, 1822)
Genus ***Favonigobius*** Whitely, 1930
44. *Favonigobius reichei* (Bleeker, 1854)
Order ANABANTIFORMES (Bloch, 1792)
Family ANABANTIDAE Betancur-R et al. 2013
Genus ***Anabas*** Cuvier, 1816
45. *Anabas testudineus* (Bloch, 1792)
Family CHANNIDAE Fowler, 1934
Genus ***Channa*** Scopoli, 1777
46. *Channa punctatus* (Bloch, 1793)
47. *Channa striatus* (Bloch, 1793)
48. *Channa orientalis* Bloch & Schneider, 1801*
Family OSPHRONEMIDAE van der Hoeven, 1832
Genus ***Pseudosphromenus*** Bleeker, 1879
49. *Pseudosphromenus cupanus* (Cuvier, 1831)
Genus ***Trichogaster*** Bloch & Schneider, 1801
50. *Trichogaster lalius* (Hamilton, 1822)
51. *Trichogaster fasciata* Bloch & Schneider, 1801
52. *Trichogaster chuna* (Hamilton, 1822)*
Genus ***Trichopodus***, 1801
53. *Trichopodus trichopterus* (Pallas, 1770)

Several faunal and hydrographical aspects of Chennai have been studied by many workers, Raj (1916), Venkateswarlu et.al., (1975), Raghunathan (1978), Rama Devi (1994, 1996) and Mary Bai et al., (1997). Major contribution to the fish fauna of Tamil Nadu was done by Rema Devi et al., (2009). From the waterbodies in and around Chennai, such as Adyar & Coovum rivers and the reservoirs such as Chembarampakkam & Redhills, Raj (1916) reported 57 species of fishes of which 44 species may be considered as freshwater fishes (Menon, 1999).

The invasive alien species such as *Oreochromis aureus* (Steindachner, 1864)*Oreochromis mossambicus* (Peters, 1852), *Oreochromis niloticus* (Linnaeus, 1758), *Pterygoplichthys pardalis* (Castelnau, 1855), *Pterygoplichthys multiradiatus* (Hancock, 1828), were also recorded from the lake. The species of guppies viz. Trichogaster lalius (Hamilton, 1822), *Trichogaster fasciata* Bloch & Schneider 1801, *Trichogaster chuna* (Hamilton, 1822), *Trichopodus trichopterus* (Pallas, 1770) are also recorded from the lake. As per the IUCN status the fishes recorded from the marsh were belonging to the category LC (44 species), VU (2 species), EN (1 species), NT (2species), NE (1species) and DD (2species). Also, the species viz. It also includes 44 species which are harmless, 7 species viz. *Channa striatus* (Bloch, 1793), *Clarias gariepinus* (Burchell, 1822), *Clarias batrachus* Linnaeus, 1758, *Oreochromis aureus* (Steindachner, 1864), *Oreochromis mossambicus* (Peters, 1852), *Oreochromis niloticus* (Linnaeus, 1758) and *Gambusia affinis* (Baird & Girard, 1853) are Potential pests and one Traumatogenic species *Heteropneustes fossilis* (Bloch, 1794) and one Venomous species *Mystus cavasius* (Hamilton, 1822) (Tab-1).

International Journal of Global Science Research
Vol. 11, Issue. 2, October 2024, pp. 2398-2414
Available Online at www.ijgsr.com
© Copyright 2014 | ijgsr.com | All Rights Reserved
ISSN: 2348-8344 (Online)
DOI: https://doi.org/10.26540/ijgsr.v11.i2.2024.276

Table 1. Showing the IUCN status of the fishes recorded from the Pallikaranai marsh and adjascent areas.

Sl. No	Scientific Name	Common Name	IUCN Red List status	Date assessed	Threat to Humans
1	*Anguilla bicolor* McClelland, 1844	Indonesian shortfin eel	NT	11 August 2019	Harmless
2.	*Anguilla bengalensis* (Gray, 1831)*	Indian mottled eel	NT	10 August 2019	Harmless
3.	*Salmophasia balookee* (Sykes, 1839)	Bloch razorbelly minnow	LC	02 October 2010	Harmless
4.	*Salmostoma sps*				
5.	*Esomus danricus* (Hamilton, 1822)	Flying barb	LC	01 March 2007	Harmless
6.	*Esomus thermoicos* (Valenciennes, 1842)		LC	11 August 2019	Harmless
7.	*Rasbora cauveri* (Jerdon, 1849)	Cauvery rasbora	LC	18 March 2011	Harmless
8.	*Rasbora daniconius* (Hamilton, 1822)	Slender rasbora	LC	17 March 2011	Harmless
9.	*Amblypharyngodon microlepis* (Bleeker, 1853)	Indian carplet	LC	17 March 2011	Harmless
10.	*Puntius amphibius* (Valenciennes,1842)	Scarlet-banded barb	DD	14 October 2010	Harmless
11.	*Puntius chola* (Hamilton, 1822)	Swamp barb	LC	20 March 2010	Harmless
12.	*Puntius dorsalis* (Jerdon, 1849)	Long snouted barb	LC	11 August 2019	Harmless
13.	*Puntius vittatus* (Day, 1865)	Greenstripe barb	LC	11 August 2019	Harmless
14.	*Puntius sophore* (Hamilton, 1822)	Pool barb	LC	20 March 2010	Harmless
15.	*Puntius mahecola* (Valenciennes, 1844)		DD	29 June 2010	Harmless
16.	*Systomus subnasutus* (Valenciennes, 1842)		LC	20 March 2011	Harmless
17.	*Pethia conchonius* (Hamilton, 1822)	Rosy barb	LC	22 March 2010	Harmless
18.	*Pethia ticto* (Hamilton, 1822)	Ticto barb	LC	22 March 2010	Harmless
19.	*Pethia sharmai* (Menon & Rema Devi, 1993)		EN	31 August 2010	Harmless
20.	*Dawkinsia filamentosa* (Valenciennes, 1844)	Blackspot barb	LC	27 June 2020	Harmless
21.	*Lepidocephalychthys guntea* (Hamilton, 1822)	Guntea loach	LC	06 March 2012	Harmless
22.	*Lepidocephalychthys thermalis* (Valenciennes, 1846)	Common spiny loach	LC	29 July 2019	Harmless
23.	*Mystus gulio* (Hamilton, 1822)	Long whiskers catfish	LC	11 August 2019	Harmless
24.	*Mystus vittatus* (Bloch, 1794)	Striped dwarf catfish	LC	05 October 2009	Harmless
25.	*Mystus cavasius* (Hamilton, 1822)	Gangetic mystus	LC	05 October 2009	Venomous
26.	*Sperata seenghala* (Sykes, 1839)	Giant river-catfish	LC	05 October 2009	Harmless
27.	*Pterygoplichthys pardalis* (Castelnau, 1855)	Amazon sailfin catfish	LC	25 November 2020	Harmless
28.	*Pterygoplichthys multiradiatus* (Hancock, 1828)	Orinoco sailfin catfish	LC	24 August 2020	Harmless

© Copyright 2014 | ijgsr.com | All Rights Reserved
ISSN: 2348-8344 (Online)
DOI: https://doi.org/10.26540/ijgsr.v11.i2.2024.276

29.	*Neotropius atherinoides* (Bloch, 1794)	Indian potasi	LC	13 October 2009	Harmless
30.	*Clarias gariepinus* (Burchell, 1822)	North African catfish	LC	20 June 2018	Potential pest
31.	*Clarias batrachus* Linnaeus, 1758	Philippine catfish	LC	16 January 2019	Potential pest
32.	*Heteropneustes fossilis* (Bloch, 1794)	Stinging catfish	LC	11 August 2019	Traumato genic
33.	*Aplocheilus parvus* (Sunder Raj, 1916)	Dwarf panchax	LC	29 July 2019	Harmless
34.	*Gambusia affinis* (Baird & Girard, 1853)	Mosquitofish	LC	22 January 2019	Potential pest
35.	*Macrognathus pancalus* (Hamilton, 1822)	Barred spiny eel	LC	23 January 2010	Harmless
36.	*Chanda nama* (Hamilton, 1822)	Elongate glass-perchlet	LC	16 March 2010	Harmless
37.	*Parambassis ranga* (Hamilton, 1822)	Indian glassy fish	LC	16 March 2011	Harmless
38.	*Pseudetroplus maculates* (Bloch, 1795)	Orange chromide	LC	11 August 2019	Harmless
39.	*Etroplus suratensis* (Bloch,1790)	Pearl spot	LC	29 July 2019	Harmless
40.	*Oreochromis aureus* (Steindachner, 1864)	Blue tilapia	N E		Potential pest
41.	*Oreochromis mossambicus* (Peters, 1852)	Mozambique tilapia	VU	02 October 2017	Potential pest
42.	*Oreochromis niloticus* (Linnaeus, 1758)	Nile tilapia	LC	06 April 2020	Potential pest
43.	*Glossogobius giuris giuris* (Hamilton, 1822)	Tank goby	LC	11 August 2019	Harmless
44.	*Favonigobius reichei* (Bleeker, 1854)	Indo-Pacific tropical sand goby	LC	02 July 2016	Harmless
45.	*Anabas testudineus* (Bloch, 1792)	Climbing perch	LC	10 August 2019	Harmless
46.	*Channa punctatus* (Bloch, 1793)	Spotted snakehead	LC	11 August 2019	Harmless
47.	*Channa striatus* (Bloch, 1793)	Striped snakehead	LC	11 August 2019	Potential pest
48.	*Channa orientalis* Bloch & Schneider, 1801	Walking snakehead	VU	06 August 2019	Harmless
49.	*Pseudosphromenus cupanus* (Cuvier, 1831)	Spiketail paradisefish	LC	11 August 2019	Harmless
50.	*Trichogaster lalius* (Hamilton, 1822)	Dwarf gourami	LC	21 January 2010	Harmless
51.	*Trichogaster fasciata* Bloch & Schneider, 1801	Banded gourami	LC	21 January 2010	Harmless
52.	*Trichopodus trichopterus* (Pallas, 1770)	Three spot gourami	LC	21 January 2019	Harmless
53.	*Trichogaster chuna* (Hamilton, 1822)	Honey gourami	LC	12 October 2009	Harmless

Abbreviations: Near Threatened (NT), Least Concern (LC), Vulnerable (VU), Endangered (EN), Data deficient (DD), Not Evaluated (NE).

The Order and family composition of fishes from Pallikarani lake were represented in Tab. 2 & Fig.3. The fishes of Pallikarani lake were represented by 9 Orders viz... Angulliformes (1 family, 1 genus), Cypriniformes (2 families, 9 genera), Siluriformes (5 families, 6 genera), Cyprinodontiformes (2 families, 2 genera), Synbranchiformes (1 family, 1 genera), Perciformes (1 family, 2 genera), Cichliformes (1 family, 3 genera), Anabantiformes, (3 families, 5 genera),

International Journal of Global Science Research
Vol. 11, Issue. 2, October 2024, pp. 2398-2414
Available Online at www.ijgsr.com
© Copyright 2014 | ijgsr.com | All Rights Reserved
ISSN: 2348-8344 (Online)
DOI: https://doi.org/10.26540/ijgsr.v11.i2.2024.276

Gobiiformes (1 family, 2 genera) (Tab-2) (Figs. 3 & 4).

Table 2. Showing the Order, family and Genera composition of fishes recorded from Pallikarani lake.

SL. No	Order	Family	Genera
1	Angulliformes	1	1
2	Cypriniformes	2	9
3	Siluriformes	5	6
4	Cyprinodontiformes	2	2
5	Synbranchiformes	1	1
6	Perciformes	1	2
7	Cichliformes	1	3
8	Gobiformes	1	2
9	Anabantiformes	3	5

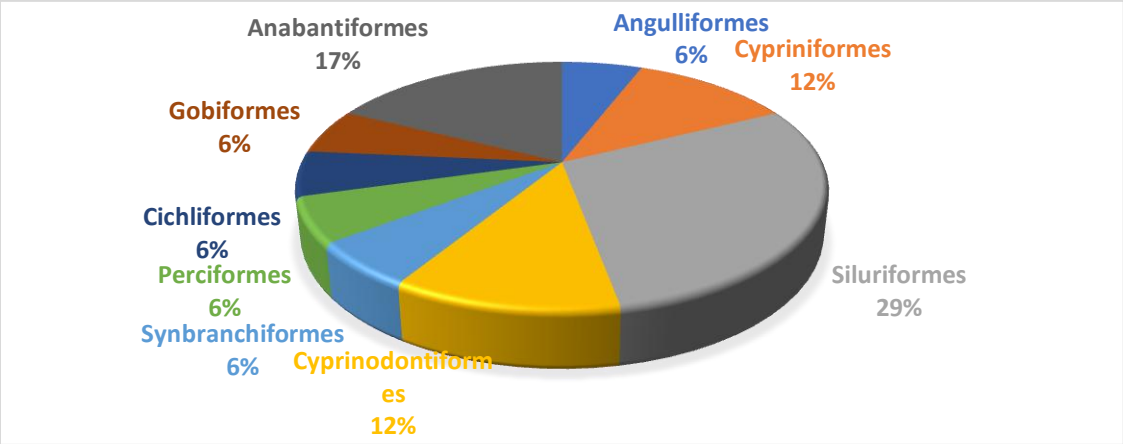


Figure 3. Pai diagram showing the Order wise no family composition of fish recorded from Pallikaranai marsh and adjacent areas.

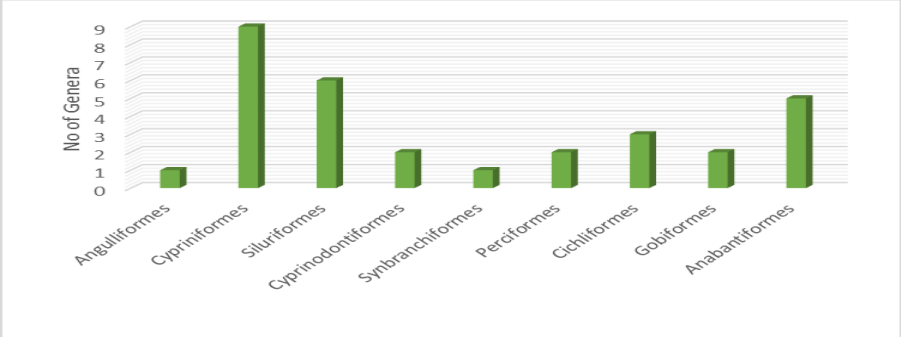


Figure 4. Graph showing the Order wise no. of genera of fish recorded from Pallikaranai marsh and adjacent areas.

International Journal of Global Science Research
Vol. 11, Issue. 2, October 2024, pp. 2398-2414
Available Online at www.ijgsr.com
© Copyright 2014 | ijgsr.com | All Rights Reserved
ISSN: 2348-8344 (Online)
DOI: https://doi.org/10.26540/ijgsr.v11.i2.2024.276

The present paper deals with 53 species of fishes belonging to 31 genera, 9 orders under 17 families from Pallikaranai marsh. The taxonomic composition of fish fauna suggests that Cyprinidae was the most dominant family with 18 representative species (33.97 %) followed by Cichlidae and Osphronemidae with 5 species (9.53%). Bagridae represents 4 species (7.55 %) followed by Channidae 3 species (5.66 %). Angullidae, Cobitidae, Loricaridae, Clariidae, Ambassidae and Gobiidae were represented by 2 species (3.77 %) each and the remaining families viz., Schilbididae, Heteropneustidae, Aplocheilidae, Poecilidae, Mastacembelidae and Anabantidae represented by 1 species (1.89 %) each (Tab-1).

Table 3. Showing the family wise composition of Genera and no of fish species and their % composition.

No	Name of family	No of genera	% Composition of genera	No of species	% Composition of species
1	Angullidae	1	3.23	2	3.77
2	Cyprinidae	9	29.03	18	33.97
3	Cobitidae	1	3.23	2	3.77
4	Bagridae	2	6.45	4	7.55
5	Loricaridae	1	3.23	2	3.77
6	Schilbididae	1	3.23	1	1.89
7	Clariidae	1	3.23	2	3.77
8	Heteropneustidae	1	3.23	1	1.89
9	Aplocheilidae	1	3.23	1	1.89
10	Poecilidae	1	3.23	1	1.89
11	Mastacembelidae	1	3.23	1	1.89
12	Ambassidae	2	6.45	2	3.77
13	Cichlidae	3	9.68	5	9.43
14	Gobiidae	2	6.45	2	3.77
15	Anabantidae	1	3.23	1	1.89
16	Channidae	1	3.23	3	5.66
17	Osphronemidae	3	9.68	5	9.43
		31		**53**	

International Journal of Global Science Research
Vol. 11, Issue. 2, October 2024, pp. 2398-2414
Available Online at www.ijgsr.com
© Copyright 2014 | ijgsr.com | All Rights Reserved
ISSN: 2348-8344 (Online)
DOI: https://doi.org/10.26540/ijgsr.v11.i2.2024.276

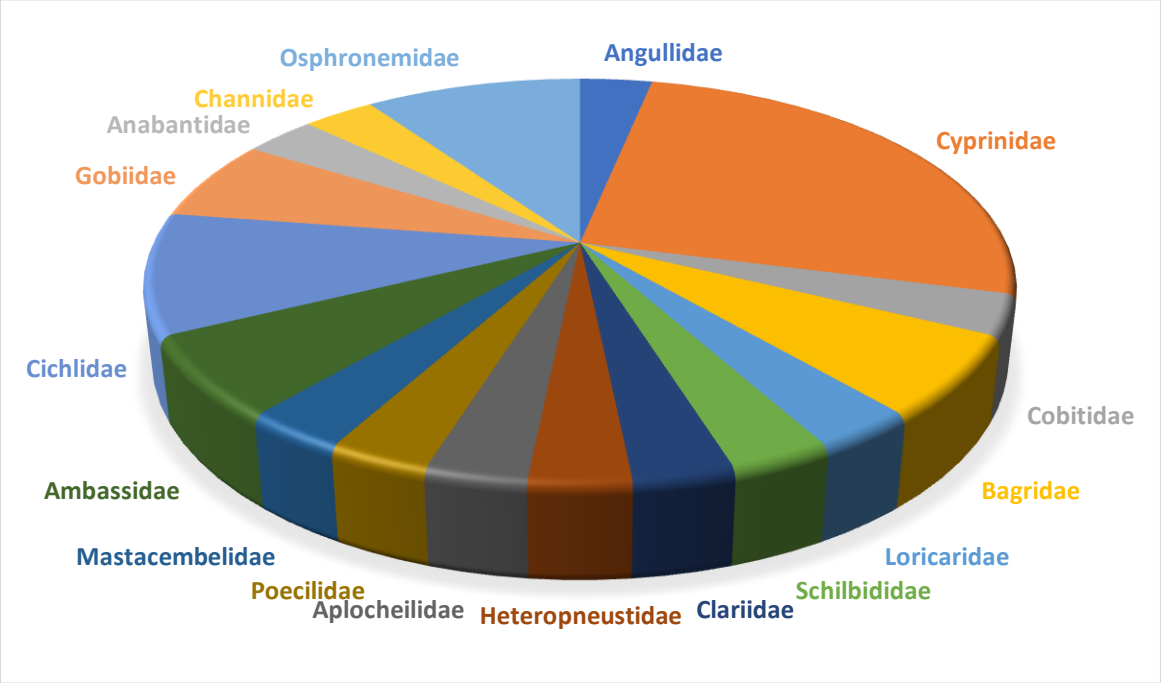


Figure 5. Graph showing the familywise composition of fish species recorded from Pallikaranai marsh and adjacent areas.

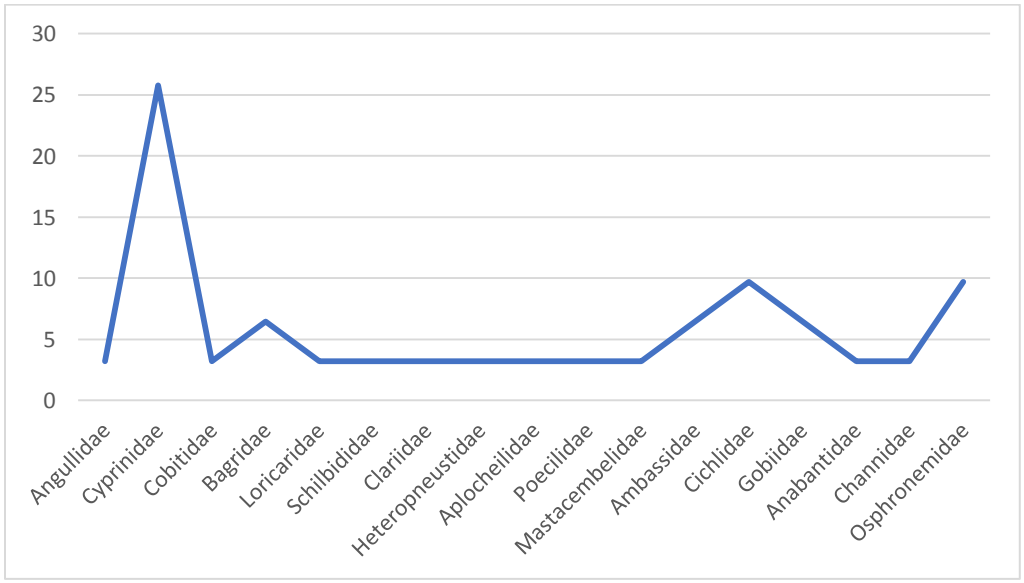


Figure 6. Graph showing the familywise % composition of genera recorded from Pallikaranai marsh and adjacent areas.

International Journal of Global Science Research
Vol. 11, Issue. 2, October 2024, pp. 2398-2414
Available Online at www.ijgsr.com
© Copyright 2014 | ijgsr.com | All Rights Reserved
ISSN: 2348-8344 (Online)
DOI: https://doi.org/10.26540/ijgsr.v11.i2.2024.276

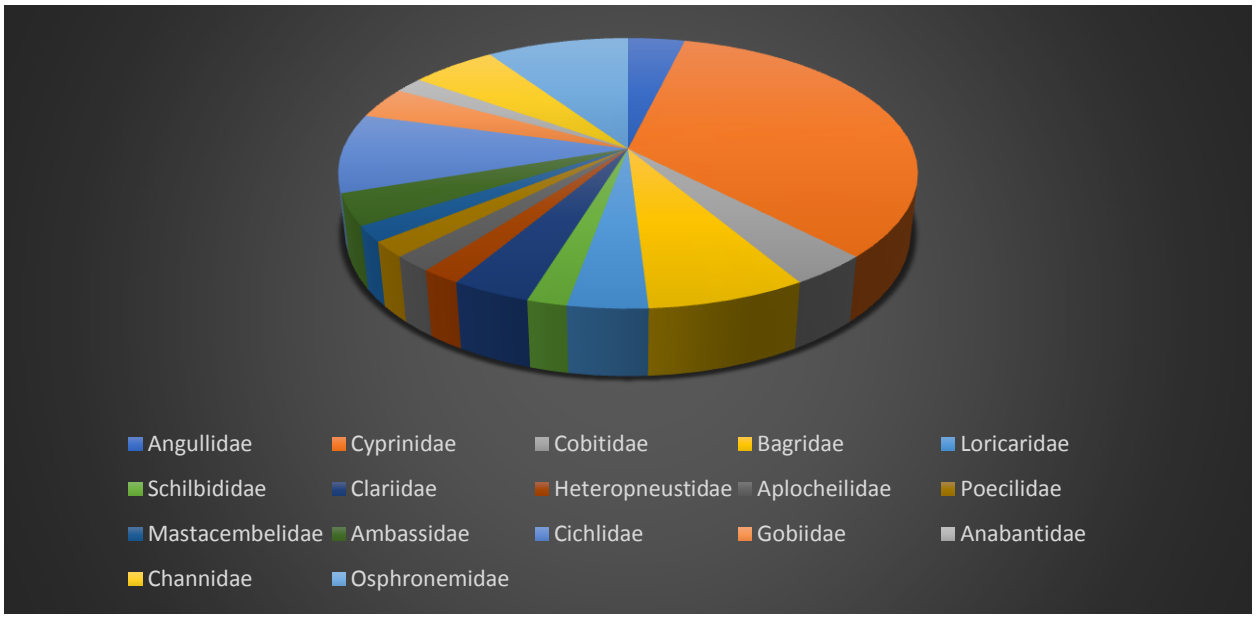


Figure7. Graph showing the species wise % composition of fish species recorded from Pallikaranai marsh and adjacent areas.

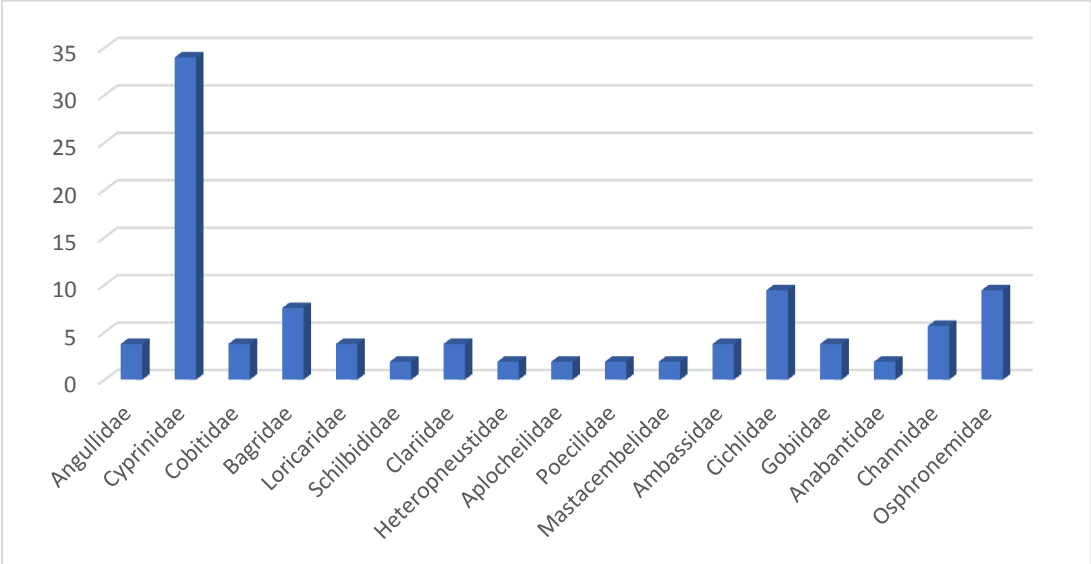


Figure 8. Graph showing the species wise % composition of fish genera recorded from Pallikaranai marsh and adjacent areas.

Summary:

The present paper comprises 53 species of fishes belonging to 31 genera, 9 orders under 17 families from Pallikaranai marsh. Further studies will reveal a greater number of species from this lake.

© Copyright 2014 | ijgsr.com | All Rights Reserved
ISSN: 2348-8344 (Online)
DOI: https://doi.org/10.26540/ijgsr.v11.i2.2024.276

Acknowledgements:

The authors are thankful to the Director, Zoological Survey of India for providing necessary facilities and to the Officer-in-Charge, Southern Regional Centre, Zoological Survey of India, Chennai.

References:

Tamil Nadu Wetlands Mission (2019) Published by Environment, Climate Change and Forest Department - Tamil Nadu State Wetland Authority.

Mekonen Sefi (2017) Birds as Biodiversity and Environmental Indicator. Journal of Natural Sciences Research Vol.**7**, No.21, 28-34.

Gopi, K. C., Subhrendu S. Mishra, and Laishram Kosygin (2017) Pisces. In Current Status of Freshwater Faunal Diversity in India. P. 527-570. Edited by Kailash Chandra, Gopi, K. C., Rao, D. V., Valarmathi, K. and Alfred, J. R. B. (Published by the Director, Zool. Surv. India, Kolkata).

Mogalekar, H. S and Canciyal, J. (2018) Freshwater fish fauna of Tamil Nadu, India. Proceedings of the International Academy of Ecology and Environmental Sciences. 8(4): 213-230.

Day, F. (1875–88) The fishes of India; being a natural history of fishes known to inhabit the seas and freshwaters of India, Burma and Ceylon. Text and atlas in 4 parts, including the supplement London, xx, 1-816. pls. 197.

Day, F. (1889) The Fauna of British India, including Ceylon and Burma. *Fishes*. 1.548 pp. 2. 509 pp. London, Taylor and Francis.

Talwar, P. K and Jhingran Arun. G. (1991) Inland fishes of India and Adjacent Countries. Vol.1 & 2 xix + 1158. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.

Menon, A. G. K. (1999) Check list - fresh water fishes of India. Records of the Zoological Survey of India, Miscellaneous Publication, Occasional Paper No. 175, 1-366 pp.

Jayaram, K. C. (2010) The freshwater fishes of the Indian Region. 2nd Edition. p. 1- 616. plate. I - XXXIX.

Nelson, J. S. (2006) Fishes of the World. 4th ed. Hoboken (New Jersey, USA): John Wiley & Sons. xix+601 p. DOI / ISBN, 978-0-471-25031-9.

Raj, S. B. (1916) Notes on the freshwater fish of Madras. Records of the Indian Museum XII-part VI: 249-294.

Venkateswarulu, T., K., V.R. Rao and T. S. N. Murthy (1975). A list of fishes, amphibians and reptiles of Madras and its vicinity. The Indian Journal of Zootomy 16(2): 149-169.

Raghunathan, M. B. (1978) Studies on seasonal tanks in Tamil Nadu.1. Chambarampakkam Tank. The Indian Journal of Zootomy 19(2), 81-85.

Rema Devi, K. (1994) The Fresh and Brackish water fishes of Chengleput-MGR District.Chellgleput-MGRDistrict Gazetteer.

Rema Devi, K. (1996) Extension of range of distribution of *Horadandia atukorali* Deraniyagala (Pisces: Cyprinidae: Rasborinae) to Poridicherry and Tamil Nadu. J. Bombay nat. Hist. Soc., 93 (2) 303-304.

Mary Bai, M., K. Rema Devi, and T. J. Indra (1997) Fish as biological indicator in Coom River. Ms. 8 pp. Table 1. *'Indian Academy of Envtl. Sci.* IV *National Symposium on Fish and their Environment,* 26-28, Nov. 97. Bangalore ·University.

Devi K. R., Indra T. J.and Raghunathan M. B. (2009) Pisces (Freshwater). In: Editor-Director (Eds). Fauna of Tamil Nadu, Zoological Survey of India: State Fauna Series, 17(l), 155-163.

International Journal of Global Science Research
Vol. 11, Issue. 2, October 2024, pp. 2398-2414
Available Online at www.ijgsr.com
© Copyright 2014 | ijgsr.com | All Rights Reserved
ISSN: 2348-8344 (Online)
DOI: https://doi.org/10.26540/ijgsr.v11.i2.2024.276

Some photographs of Pisces recorded from Pallikaranai marsh

Plate-1

Esomus danricus **(Hamilton, 1822)**

Esomus thermoicos **(Valenciennes, 1842)**

Rasbora daniconius **(Hamilton, 1822)**

Rasbora cauverii **(Jerdon, 1849)**

Salmophasia balookee **(Sykes, 1839)**

Amblypharyngodon microlepis **(Bleeker, 1853)**

Puntius chola **(Hamilton, 1822)**

Puntius dorsalis **(Jerdon, 1849)**

Puntius vittatus **(Day, 1865)**

Puntius sarana subnasutus **(Valenciennes, 1842)**

Puntius sophore **(Hamilton, 1822)**

Pethia conchonius **(Hamilton, 1822)**

Pethia sharmai **(Menon & Rema Devi, 1993)**

International Journal of Global Science Research
Vol. 11, Issue. 2, October 2024, pp. 2398-2414
Available Online at www.ijgsr.com
© Copyright 2014 | ijgsr.com | All Rights Reserved
ISSN: 2348-8344 (Online)
DOI: https://doi.org/10.26540/ijgsr.v11.i2.2024.276

Plate-2

Pethia ticto **(Hamilton, 1822)**

Dawkinsia filamentosus **(Valenciennes, 1844)**

Lepidocephalichthys guntea **(Hamilton, 1822)**

Lepidocephalichthys thermalis **(Valenciennes, 1846)**

Puntius amphibius **(Valenciennes,1842)**

Puntius mahecola **(Valenciennes, 1844)**

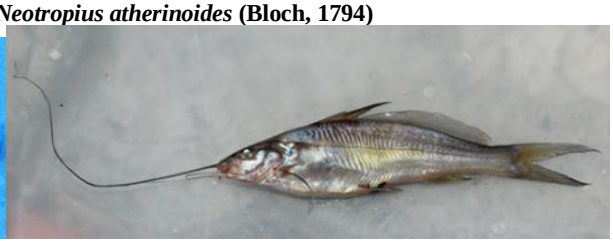
Mystus gulio **(Hamilton, 1822)**

Mystus vittatus **(Bloch, 1794)**

Pterygoplichthys pardalis **(Castelnau, 1855)**

Neotropius atherinoides **(Bloch, 1794)**

Heteropneustes fossilis **(Bloch, 1794)**



Mystus cavasius **(Hamilton, 1822)**

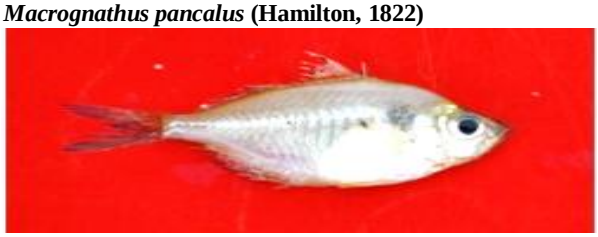
International Journal of Global Science Research
Vol. 11, Issue. 2, October 2024, pp. 2398-2414
Available Online at www.ijgsr.com
© Copyright 2014 | ijgsr.com | All Rights Reserved
ISSN: 2348-8344 (Online)
DOI: https://doi.org/10.26540/ijgsr.v11.i2.2024.276

Plate-3

Gambussia affinis **(Baird & Girard, 1853)**

Macrognathus pancalus **(Hamilton, 1822)**

Chanda nama **(Hamilton, 1822)**



Parambassis ranga **(Hamilton, 1822)**

Etroplus maculatus **(Bloch, 1795)**

Etroplus suratensis **(Bloch, 1790)**

Oreochromis mossambicus **(Peters, 1852)**

Oreochromis niloticus **(Linnaeus, 1758)**

Oreochromis aureus **(Steindachner, 1864)**

Anabas testudineus **(Bloch, 1792)**

Channa punctatus **(Bloch, 1793)**

Channa striatus **(Bloch, 1793)**

International Journal of Global Science Research
Vol. 11, Issue. 2, October 2024, pp. 2398-2414
***Available Online* at www.ijgsr.com**
© Copyright 2014 | ijgsr.com | All Rights Reserved
ISSN: 2348-8344 (Online)
DOI: https://doi.org/10.26540/ijgsr.v11.i2.2024.276

Plate 4

***Pseudosphromenus cupanus* (Cuvier, 1831)**

***Trichogaster lalius* (Hamilton, 1822)**

***Trichopodus trichopterus* (Pallas, 1770)**

***Trichogaster fasciata* Bloch & Schneider, 1801**

***Glossogobius giuris* (Hamilton, 1822)**

***Favonigobius reichei* (Bleeker, 1854)**

***Aplocheilus parvus* (Sunder Raj, 1916)**