Assessment of Zooplankton Diversity in the River Cauvery near Shrirangapatana, Mandya District, Karnataka, India

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Abstract

The present study investigates the zooplankton diversity in the River Cauvery near Shrirangapatana, Mandya district, Karnataka. The Cauvery River, one of South India's major perennial rivers, flows over 800 kilometers from its origin at Tala Cauvery to the Bay of Bengal, supporting a variety of aquatic life throughout its course. Zooplankton play a crucial role as primary consumers and indicators of aquatic ecosystem health. Water samples were collected from four ecologically distinct sites: near Karighatta Hill, the main entrance of Nimishamba Temple, Triveni Sangama, and Ghosaighat. A total of 19 zooplankton species were identified, representing multiple taxonomic groups including Cyclopoida, Calanoida, Harpacticoida, Cladocera, Anomopoda, Arcellinida, Bdelloida, and Ploima. The community was dominated by Copepoda (42%), while Protozoa, Rotifera, Cladocera, and others collectively constituted the remaining 58%. Variation in species richness suggests moderate influence from local water quality, nutrient availability, and hydrological factors. The results highlight the ecological importance of the Cauvery River and emphasize the need for continuous biomonitoring and targeted conservation measures, including the adoption of nature-based solutions like constructed wetlands and phytoremediation, to protect aquatic biodiversity against ongoing anthropogenic pressures.

Key words; Copepoda, River Cauvery, Shrirangapatana, Zooplankton.

Introduction

Water is one of the abundantly available substances in nature (Elayaraj and Selvaraju, 2015). The qualities of water in each environment provide chief figures about the existing capitals for supporting life in the ecosystem (Randhir, 2012). The world's most diverse ecosystem is the aquatic one. In terms of both number and quality, the biota of a river ecosystem unswervingly reflects environmental circumstances (Sharma and Tiwari, 2011). The presence of plankton in the water body directly affects the productivity of any river system, and the composition and diversity of plankton (Malik and Bharti, 2012).

Planktonic organisms are an imperative part of the ecosystem that retorts hastily to changes in the environment because they are necessary for the ecosystem's turnover of carbon-based substance and energy (Telesh, 2004). Some plankton can form a toxic bloom that can cause high aquatic organism mortality and seriously compromise the safety of water supplies for both residential and commercial use, despite the fact that they are highly valuable as food and are essential for sewage disposal and the natural purification of contaminated water (Sharma *et al.,* 2013).

According to Fernando *et al.,* (1990), zooplankton are floating living things found in water, especially in the pelagic and littoral zones of rivers, lakes, and ponds. The distribution

of these tiny creatures, which float freely in lakes and oceans' water columns, is mostly dictated by mixing and water currents. They are tiny, free-swimming creatures that make up a significant portion of aquatic wildlife and serve as an essential conduit between the ecosystem's primary producers and consumers (Malik and Panwar, 2015).

Zooplankton species occur in freshwater environments throughout the world, including polluted industrial and municipal wastewater (Mukhopadhyay *et al.,* 2007). They play an important role in the aquatic food chain as they are largely consumed by fishes and other higher organisms in the food chain. Zooplankton are heterotrophic plankton, which range from microscopic, unicellular, or multicellular forms with few microns to millimeters and large species (Goswami, 2004). Numerous zooplankton species serve as bioindicators that may be used to track the condition of an aquatic ecosystem or habitat. In addition to being an essential component of a lotic community, zooplankton is known to make a substantial contribution to the biological productivity of freshwater environments. According to Saron and Meitei (2013), the hatching of resting eggs in river sediments or the development of suspended organisms can both increase the zooplankton population in rivers. As a link between autotrophs and heterotrophs, zooplankton is essential to the food chain of freshwater ecosystems (Suresh *et al.,* 2009).

Freshwater zooplankton is divided into five groups: Protozoa, Rotifer, Copepods, Cladocera, and Ostracoda. These organisms predominantly devour bacterioplankton and phytoplankton, although some also eat smaller zooplankton, making them secondary consumers in the food chain (Pradhan, 2014).

1. Protozoa are a diverse group of unicellular, Eukaryotic organisms. Only a few of them are pathogenic to humans. It has an important function in the turnover of organic matter. They play an important role in the fertility of soil (Parameswari *et al.,* 2020).
2. Rotifers are microscopic, pseudocoelomate aquatic animals characterized by crown-like cilia at the head end. They are soft-bodied freshwater invertebrates important fauna, along with protozoa and crustaceans, the large number of species life cycles are influenced by temperature and food. Rotifers are minute metazoans characterized by the presence of an anterior ciliated corona, stiff body wall, variable appendages, and specialized pharyngeal organs (Segers, 2008).
3. Cladocera is a crucial group among zooplankton and forms the most useful and nutritive group of crustaceans for higher members of fishes in the food chain. They feed smaller zooplankton, bacterioplankton, and algae (Reju *et al.,* 2019).
4. Copepods have dynamic populations and are universally distributed, they are omnivorous. Copepods have the longest, strongest appendages and the hardest exoskeleton of any zooplankton, which allows them to swim more quickly than other zooplankton. Their copepods belong to three groups. Cyclopoid copepods are mostly carnivorous, meaning they eat fish larvae and other zooplankton, but they also consume ciliates, rotifers, algae, bacteria, and detritus. The morphological characteristics and diverse feeding habits of harpacticoid copepods, which are largely benthic, let them withstand environmental circumstances (Parameswari *et al.,* 2020).
5. Ostracods are mainly bottom dwellers of lakes, River and live on detritus and dead phytoplankton. These organisms are food for fishes and benthic macro invertebrates (Parameswari *et al.,* 2020).

General research studies were carried out by a Plankton-ologist in river Cauvery to study the physico-chemical parameters and Zooplankton diversity in different locations of water. However, no studies were carried out to assess the zooplankton diversity in river Cauvery at Srirangapatna. So, the present study focuses on the validation of the effect of anthropogenic activities on the zooplankton diversity at sriranganpatna by choosing multiple sites.

Materials and methods

Study Area

The present study was performed on River Cauvery originates from Guddagumalai. It is located in the basin region of Nagore Pattanchery village southern part of the Bay of Bengal on South East coast of Tamil Nadu. River Cauvery is one of the major perennial rivers in It originates at Coorg district in Karnataka state at Tala Cauvery (It is generally considered to be the source of river Cauvery) and it travels about 800 Km carrying a large amount of nutrition, which probably promote the microbial species richness both rationally and individually. The Cauvery is one of the major tributaries of the river and water is available throughout the year because of the discharge of sewage water. The Cauvery River is one of the most important rivers of Indo-Gangetic plains in India.

First site - The flow of water near Karighatta Hill. (12.423° N, 76.716° E)
Second site - Main entrance of Nimishamba temple. (12.419° N, 76.711° E)
Third site - Trivani sangama near the temple, (12.407° N, 76.722° E)
Fourth site - The Ghosaighat. (12.402° N, 76.711° E)

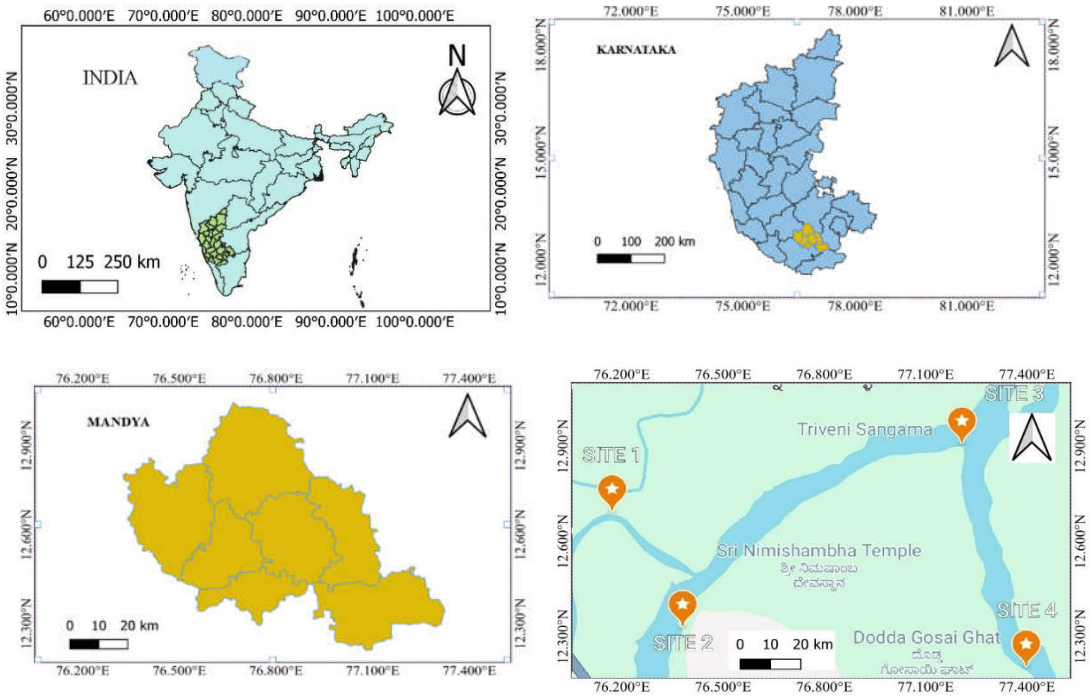

Fig 1. Map of Study site showing 4 different sampling sites of Cauvery River, Mandya District.

Sample Collection

For the Zooplankton study, the samples were collected twice a month from November 2018 to April 2019. The samples were collected in the morning time from 7 am to 10 am by using a plankton net having a mesh size of 50 microns. Samples were collected from the four sites of River Cauvery. The sample is preserved in Lugol's iodine solution. A drop of water is taken under the slide and observed under the Microscope. The species were identified by using keys characters by referring the Thesis of Sachidanandamurthy (2006).

Preparation of Lugol's Iodine solution:
Materials:

a) Iodine-5gms.
b) Potassiumiodide-10gms.
c) Aceticacid-10ml.
d) Distilled water-100ml

Result and Discussion

As zooplankton have a short lifetime and react rapidly to changes in their environment, they have long been employed as monitors of water quality. Zooplankton species diversity was the primary focus of the current investigation. The vast collection of main taxonomic groupings that make up zooplankton may be found in Indian water basins. They serve as a bridge between fish, the secondary producers in the aquatic environment, and phytoplankton. A varied collection of main taxonomic groupings makes up the zooplankton population in Indian water basins. Conditions for zooplankton development are created by the interaction of several environmental elements. Because they are a key food supply for tertiary producers and eat primary producers (phytoplankton), zooplankton are important to the aquatic environment. Fish production is supported by zooplankton, which is thought to be the primary natural food source for juvenile and some adult organisms (El-Serafy *et al.,* 2009). Since most zooplankton species have short generation cycles, they frequently react instantly to changes in their surroundings.

According to **Table No.1** a total of **19 zooplankton species** were identified from the water samples collected across selected sites of the River Cauvery near Guddagumalai. The representative species of zooplanktons are depicted in **Fig. 4a to 8c**. The identified species were distributed across a variety of taxonomic groups, reflecting the ecological diversity and water quality of the river system. The group **Cyclopoida** (Family: *Cyclopoidae*) was the most prominent, represented by five species: *Calanoid Cyclops*, *Cyclopid copepod*, *Eucyclops sp.*, *Nauplius larva*, and *Cyclops bicuspidatus*. These species are common components of river zooplankton communities in addition play a significant part in nutrient cycling and as a food source for higher trophic levels. Within the order **Calanoida** (Family: *Diaptomidae*), *Diaptomus forbesi* was recorded, which is a key species known for its sensitivity to environmental changes and its role in aquatic food webs. Two families, Canthocamptidae (which includes *Canthocamptus staphylinus*) and Harpacticoidae (which includes *Harpacticoid sp.*), represented the order Harpacticoida. These are usually found in seas that are rich in silt and benthic zones. The family Chydoridae was found to contain members of the order Anomopoda, including *Chydorus spharicus*. *Alona quadrangularis*, a species that is a significant grazer in freshwater environments, was also supplied by the order Cladocera.

Arcella sp. (Order: Arcellinida, Family: Arcellinidae) were identified in the research from the protozoan group, suggesting the existence of amoeboid organisms that usually live in soft sediments and are involved in the operation of microbial loops.

Conochilus hippocrepis (Family: Conochilidae), *Philodina gregaria* (Family: Philodinidae), and *Asplanchna sp.* (Family: Asplanchnidae) were the representatives of rotifer diversity. Such creatures are well-known for being the main consumers in aquatic environments. *Amoeba sp.* (Order: Tubulinida, Family: Amoebidae), a significant genus of protozoa that indicates the organic load and sediment quality of freshwater bodies, were also identified in the research. A trio of common ostracods that are suggestive of water and sediment quality *Eucypris virens*, *Cypris sp.,* and *Heterocypris incongruens* represented the order Podocopida (Family: Cyprididae). Finally, the species *Macrothrix laticornis* was identified under the order Diplostraca (Family: Macrothricidae), underscoring the zooplankton community's vitality and variety. The biological diversity and possible human impact on the Cauvery River close to Guddagumalai are both reflected in this varied zooplankton assemblage. Along with rotifers, cladocerans, ostracods, and protozoans, copepods are the dominant organisms, suggesting a reasonably balanced aquatic environment with a variety of microhabitats.

The quantity of zooplankton is progressively declining from station S-1 to station S-3. This might be the result of sewage and municipal garbage being dumped into river systems. There are more zooplankton in these locations when station S-1 is less populated. While station S-4 distributes cremated ashes, which has been shown to increase the amount of organic waste in the water, station S-2 accommodates numerous religious events. The number of zooplankton is drastically declining from station S-1 to S-3. The discharge of municipal waste and sewage effluents into river streams may be the cause of this. There is more zooplankton at station S-1 where there is less human activity. There is more zooplankton at station S-1 where there is less human activity. Station S-2 hosts a lot of religious activities, and station S-4 releases cremated ashes, increasing the amount of organic garbage in the river.

These results point to a zooplankton population that is reasonably varied and represents a balance between several taxonomic groupings. However, comparable research in the Cauvery River system shows that species richness and diversity vary by location, underscoring the impact of human activities and local environmental factors on zooplankton ecosystems.

Table No.1. List of Zooplankton Species in River Cauvery

Sl. No.	ORDER	FAMILY	Sl. No.	SCIENTIFIC NAME
1.	Cyclopoida	Cyclopoidae	1.	*Calanoid Cyclops*
			2.	*Cyclopid copepod*
			3.	*Eucyclops sp.*
			4.	*Nauplius larva*
			5.	*Cyclops bicuspidatus*
2.	Calanoida	Diaptomidae	6.	*Diaptomus forbesi*
3.	Harpacticoida	Harpacticoidae	7.	*Harpacticoid sp.*
		Canthocamptidae	8.	*Canthocamptus staphylinus*
4.	Anomopoda	Chydoridae	9.	*Chydorus sphaericus*
5.	Cladocera	Chydoridae	10	*Alona quadrangularis*
6.	Arcellinida	Arcellinidae	11.	*Arcella sp.*
7.	Flosculariaceae	Conochilidae	12.	*Conochilus hippocrepis*
8.	Bdelloida	Philodinidae	13.	*Philodina gregaria*
9.	Ploima	Asplanchnidae	14.	*Asplanchna sp.*
10.	Tubulinida	Amoebidae	15.	*Amoeba sp.*
11.	Podocopida	Cypridae	16.	*Heterocypris incongruens*
			17.	*Cypris sp.*
			18.	*Eucypris virens*
12.	Diplostraca	Macrothricidae	19.	*Macrothrix laticornis*

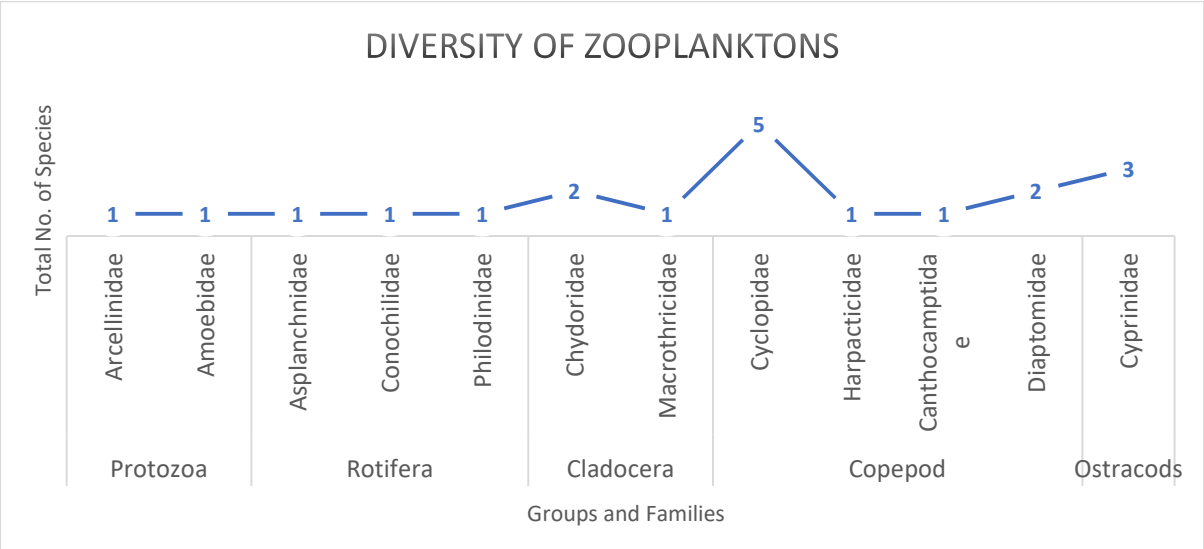

Fig.2 Comparative Analysis of Families and Species Diversity Among Zooplankton Groups

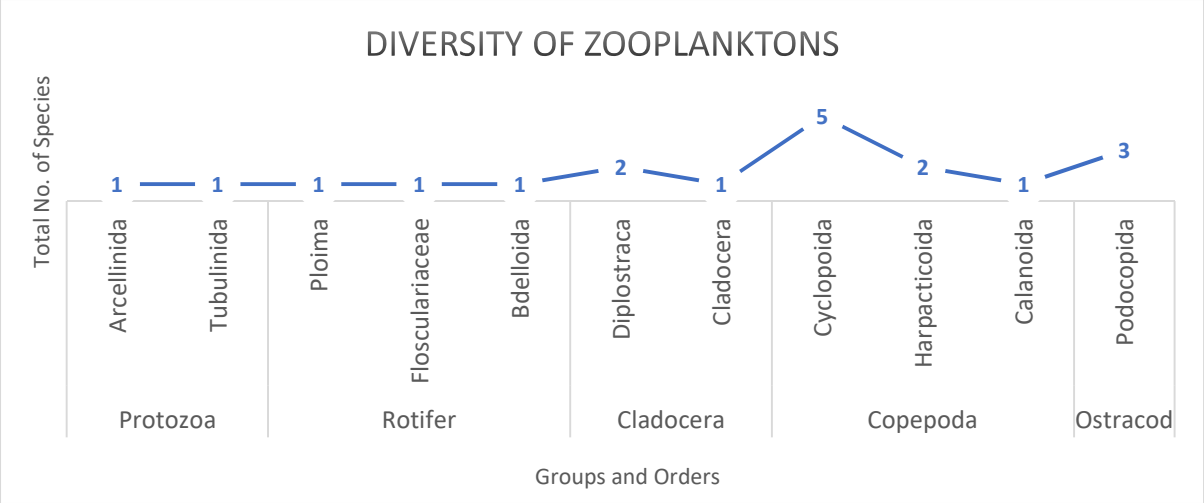

Fig.3 Comparative Analysis of Orders and Species Diversity Among Zooplankton Groups

Regional Variation in Zooplankton Composition Along the River Cauvery and Connected Ecosystems

With 110 species, research in the Kaduviyar Estuary (Perumal *et al.,* 2009) found the greatest variety of zooplankton. A more diverse zooplankton population is supported by estuarine habitats, which are nutrient-rich and undergo seasonal fluctuations in water quality, according to this study's findings of the dominance of Copepoda (43%) and Ostracoda (34%) (Table 2). This is in line with the results of Mahadevaswamy (2020), who found 33 species in South Karnataka's Cauvery River and its tributaries. With 25 species, Protozoa were the most prevalent category in this instance, indicating that the growth of protozoans in freshwater systems is significantly influenced by nutrient availability. Such species may benefit from high nutrient loads, which are frequently caused by sewage discharges and agricultural runoff (Vijayan *et al.,* 2018).

However, studies conducted in places like Erode (Uthirasamy *et al.,* 2021) and Kumbakonam (Annalakshmi, 2012) showed that species were more uniformly distributed throughout a variety of taxonomic groups, with notable numbers of Rotifera, Cladocera, and Copepoda. The most prevalent taxa among the 44 species identified in the Kumbakonam region were Copepoda (25%), Rotifera (30%), and Cladocera (27%) (Table 2). This balanced variety may represent better water quality and more stable ecological conditions compared to regions with greater fertilizer loading. Additionally, the Chikkadevarayana Canals 51 species (Smitha *et al.,* 2021) suggest that local hydrological circumstances and human activities like irrigation and damming may affect the species composition. The relatively lower diversity in these regions may be due to altered flow regimes and water quality degradation, which are often associated with human-modified aquatic ecosystems.

The dominance of copepods in the study site may be due to the absence of a large amount of suspended material. Among the zooplankton we collected they are bioindicators of pollution. The zooplankton population in River Cauvery is decreased because of the discharge of sewage water and entry of industrial waste. The diversity of zooplankton depends upon the nutrient condition of the water body, abiotic factors, food chain, and soli-water chemistry to monitor the aquatic ecosystem the integrity (Jhakar *et al.,* 2013).

Copepod diversity is more than that of the other species. Copepod species are viewed as pollution sensitive zooplankton as they fade from unclean water (Purushotham *et al.,* 2011, Verma *et al.,* 1984). In areas with lower levels of contamination, Cyclops sp. is a common tolerant contaminant, and the ecology there is robust and productive. They prefer more stable environments and disappear in severely contaminated water, making them widely recognized as species that are susceptible to water pollution (Das *et al.,* 1996). Therefore, it may be said that because of its agricultural and human runoff, the waterbody exhibits moderate contamination and low variety. These reports were mentioned in the current study as well as by Purushothama et al. (2011) and Perumal et al. (2009).

Both natural and man-made variables, such as nutrient contamination and shifting hydrological regimes, do not appear to have an effect on the river's zooplankton ecology, as seen by the dominance of Copepoda (Table 2) and the diminishing proportions of other species. In order to maintain the same river state, this comparison emphasizes the variety of zooplankton across the Cauvery River system and the necessity of continuous ecological monitoring. Strategies including improved wastewater management, lowering nitrogen loading, and restoring river flow regimes must be implemented in order to boost biodiversity and ecosystem function. By taking these steps, the area's aquatic ecosystems will continue to benefit from less human activities and remain sustainable.

Table 2: Comparative Studies of Regional Variation in Zooplankton Composition Along the River Cauvery and Connected Ecosystems

Study Location & Reference	Total Zooplankton Species	Protozoa	Rotifera	Cladocera	Copepoda	Ostracoda / Other Groups
Guddagumalai (Present Study)	19	2	3	3	8	3
Cauvery and Its Tributaries in South Karnataka (Mahadevaswamy, 2020)	33	25	10	1	1	ND
Kumbakonam Region (Annalakshmi, 2012)	44	6	13	12	11	2
Kaduviyar Estuary (Perumal *et al.,* 2009)	110	18	12	3	43	34
Chikkadevarayana Canal Mysore (Smitha *et al.,* 2021)	51	17	22	6	5	1
Cauvery River (Vijayan *et al.,* 2018)	45	12	14	11	13	ND
Cauvery River in Erode district, Tamilnadu (uthirasamy *et al.,* 2021)	42	4	21	8	7	2
Cauvery river Mathivanan *et al.,* 2007	52(Station I)	ND	13	18	11	ND
	13 (Station II)	2	3	5	3	ND

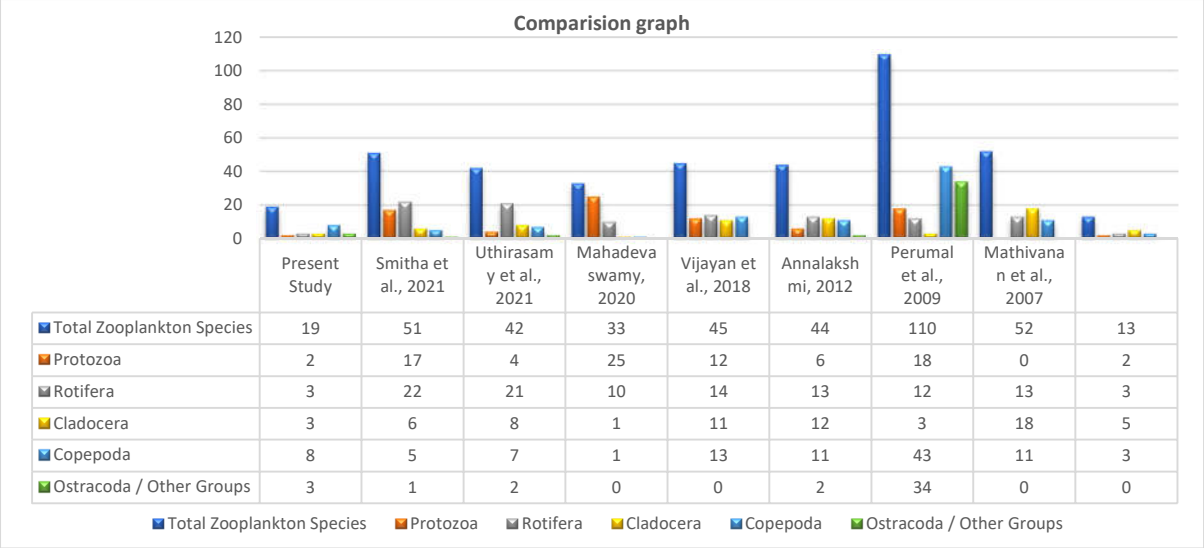

Fig 4. Comparative graph of Regional Variation in Zooplankton Composition Along the River Cauvery and Connected Ecosystems

Conclusion

A study on zooplankton in the Cauvery River in the Srirangapatna area indicates that some of the species are very common. It is believed that some zooplankton species serve as markers of the health and contamination of water bodies. The current study was carried out in the River Cauvery basin in the Srirangapatna region of the Mandya district. Despite the introduction of household sewage and industrial effluents, the areas remained uncontaminated. By adhering to the regulations to keep the river clean, this showed that the effluents and sewage discharge are in a well-maintained proportion. According to the present study, the water body has more Copepod zooplankton than Rotifers and Cladocera. Copepod diversity is a sign of a robust and fruitful ecology. Thus, it is obvious from the existing research that there is no immediate action is needed to safeguard the body of water. In order to prevent more pollutants from entering the water body and assist keep it in the same state for a longer amount of time, people should refrain from bathing and washing their homes, pets, and clothing excessively.

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References

1. Annalakshmi, G., & Amsath, A. (2012). Studies on the hydrobiology of river Cauvery and its tributaries Arasalar from Kumbakonam region (Tamilnadu, India) with reference to zooplankton. *IJABPT*, *3*, 325-336.
2. Das, P. K., Michael, R. G., & Gupta, A. (1996). Zooplankton community structure in Lake Tasek, a tectonic lake in Garo Hills, India. *Tropical Ecology*, *37*(2), 257-263.
3. Elayaraj, B., & Selvaraju, M. (2015). Dynamics of micro algae in relation to water quality parameters of pasupatheswarar temple pond, Annamalai Nagar, Tamil Nadu. *International Letters of Natural Sciences*, *46*.
4. El-Serafy, S. S., Mageed, A. A., & Hesham, R. (2009). Impact of flood on the distribution of zooplankton in Lake Nasser khors-Egypt. *J. Egypt. Acad. Environ. Dev*, *10*, 121-141.

5. Fernando, C. H., Tudorancea, C., & Mengestou, S. (1990). Invertebrate zooplankton predator composition and diversity in tropical lentic waters. *Intrazooplankton Predation*, 13-31.
6. Goswami, S. C. (2004). Zooplankton methodology, collection & identification-A field manual.
7. Jakhar, P. (2013). Role of phytoplankton and zooplankton as health indicators of aquatic ecosystem: A review. *International Journal of Innovation Research Study*, *2*(12), 489-500.
8. Mahadevaswamy, M. (2020). A Study on Diversity and Abundance of Micro-Phytoplankton in River Cauvery and its four Upstream Tributaries in South Karnataka, India. *Ind. J. Pure App. Biosci.* 8(3), 477-486.
9. Malik, D. S., & Bharti, U. (2012). Status of plankton diversity and biological productivity of Sahastradhara stream at Uttarakhand, India. *Journal of Applied and Natural Science*, *4*(1), 96.
10. Mathivanan, V., Vijayan, P., Sabhanayakam, S., & Jeyachitra, O. (2007). An assessment of plankton population of Cauvery River with reference to pollution. *Journal of environmental biology*, *28*(2), 523.
11. Mukhopadhyay, S. K., Chattopadhyay, B., Goswami, A. R., & Chatterjee, A. (2007). Spatial variations in zooplankton diversity in waters contaminated with composite effluents. *Journal of Limnology*, *66*(2), 97.
12. Parameswari, E., Davamani, V., Kalaiarasi, R., Ilakiya, T., & Arulmani, S. (2020). Utilization of ostracods (Crustacea) as bioindicator for environmental pollutants. *International research journal of pure and applied chemistry*, *21*(7), 73-93.
13. Perumal, N. V., Rajkumar, M., Perumal, P., & Rajasekar, K. T. (2009). Seasonal variations of plankton diversity in the Kaduviyar estuary, Nagapattinam, southeast coast of India. *J. Environ. Biol*, *30*(6), 1035-1046.
14. Pradhan, V. P. (2014). Zooplankton diversity in freshwater Wunna Lake. *Int. J. of Life Sciences*, *2*(3), 268-272.
15. Purushothama, R., Sayeswara, H. A., & Goudar, M. A. (2011). Dynamics of zooplankton diversity in relation to water quality of Heggere tank, Kanale Sagara Karnataka, India. *Environment Conservation Journal*, *12*(1&2), 29-34.
16. Randhir, T. (2012). Water for Life and Ecosystem Sustainability. *Journal of Earth Science & Climatic Change*. 3. 1-2. DOI:10.4172/2157-7617.1000e107.
17. Reju, J., Thampiraj, & Prakash, J. W. (2019). Seasonal variations of zooplanktons in the selected ponds of Venganoor Grama Panchayath, southern western Ghats.
18. Sachidanandmurthy, K. L. (2006). Investigation on the water quality, plankton, and fish growth in two fresh water lakes, (Doctral disseratation, University of Mysore, Manasagangotri).
19. Saron, T., & Meitei, L. B. (2013). Seasonal variation of zooplankton population with reference to water quality of Iril River in Imphal. *Curr. World Environ*, *8*, 133-141.
20. Segers, H. (2008). Global diversity of rotifers (Rotifera) in freshwater. *Freshwater animal diversity assessment*, 49-59.
21. Sharma, C., & Tiwari, R. P. (2011). Studies on Zooplanktons of fresh water reservoir at Lony Dam Theonther Rewa (MP). *Int. J. Pharm. Life Sci*, *2*(1), 492-495.
22. Sharma, S., Solanki, C. M., Sharma, D., & Tali, I. (2013). Population dynamics of Planktons in river Narmada at Omkareshwar. *IJAR*, *1*(1), 11-15.
23. Smitha, P., Shivashankar, & Venkataramana, G. V. (2013). Zooplankton diversity of Chikkadevarayana Canal in relation to physico-chemical characteristics. Journal of Environmental Biology., 34, 819–824.
24. Suresh, B., Manjappa, S., & Puttaiah, E. T. (2009). The contents of zooplankton of the

Tungabhadra river, near Harihar, Karnataka and the saprobiological analysis of Water Quality. *J. Ecol. Nat. Environ*, *1*(9), 196-200.

25. Telesh, I. V. (2004). Plankton of the Baltic estuarine ecosystems with emphasis on Neva Estuary: a review of present knowledge and research perspectives. *Marine Pollution Bulletin*, *49*(3), 206-219.
26. Uthirasamy, S., Chitra, T., & Stalin, P. (2021). Zooplankton Diversity of Cauvery River in Erode District, Tamilnadu. *Asian Journal of Advances in Research*, *7*(2), 1-5.
27. Verma, S. R., Sharma, P., Tyagi, A., Rani, S., & Kumar, A. (1984). Pollution and saprobic status of eastern Kalinadi.
28. Vijayan, P., Senthilmurugan, S., Pugazhendy, K., & Tamizhazhagan, V. (2018). Analysis of physicochemical parameters water samples from Cauvery River in Thanjavur district, Tamil Nadu. *International Journal of Biology Research*, *3*(1), 223-227.

List of Zooplankton found at different sites of Cauvery river near Srirangapatana.

Protozoa species

Fig 4a. *Amoeba Sp.*

Fig 4b. *Arcella species*

Rotifera species

Fig 5a. *Asplancha sp.*

Fig 5b. *Conochilus hippocrepis*

Fig 5c. *Philodina gregaria*

Cladocera species

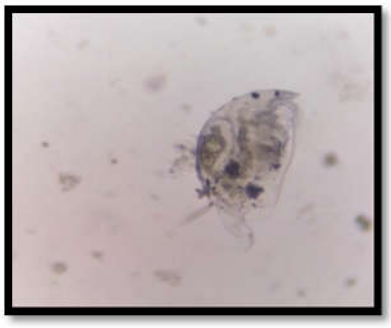

Fig 6a. *Alona quadrangularis*

Fig 6b. *Chydorus sphaericus*

Fig 6c. *Macrothrix laticorni*

Copepoda species

Fig 7a. *Calanoid cyclops*

Fig 7b. *Cyclopoid copepod*

Fig 7c. *Eucyclops sp.*

Fig 7d. *Nauplius larva*

Fig 7e. *Cyclops bicuspidatus*

Fig 7f. *Harpacticois sp.*

Fig 7g: *Canthocampus staphylinus*

Fig 7h: *Diaptomus forbesi*

Ostracods species

Fig 8a. *Cypris sp.*

Fig 8b. *Eucypris virnes*

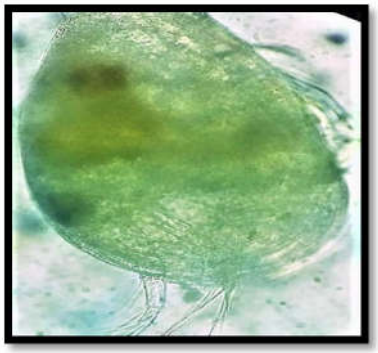

Fig 8c. *Heterocypris incongruens*