

## Composition, Distribution, and Biodiversity of Zooplanktons in Tropical Lentic Ecosystems with Different Environmental Conditions

**Table S1.** Zooplankton composition, abundance, and diversity in relation to environmental parameters in tropical and partially tropical countries

Lake	Species composition	Dominant species	Diversity (Shannon-Wiener Index)	Environmental drivers	References
Sembrong Lake, Malaysia CTSI = 71.11	32 rotifers and nine microcrustacean species consisting of six species of cladocerans and three species of copepods	<i>Brachionus forficula</i> B. <i>calyciflorus</i> , <i>Trichocerca similis</i> , and <i>Ceriodaphnia cornuta</i>	$H' = 1.9$	High nutrient especially total phosphorus (TP) and total nitrogen (TN), higher chlorophyll <i>a</i> , and lower water transparency associated with higher trophic status contributing to the restructuring community of zooplankton from bigger to smaller size species	[7,8]
Ulusuhai Lake, China	50.7 % of rotifers, 32.6 % of copepods, and 16.7 % of cladocerans		$H' = 2.75$	Zooplankton community species were influenced by temperature, DO, wind velocity, turbidity, nitrite nitrogen ( $\text{NO}_2\text{-N}$ ), nitrate nitrogen ( $\text{NO}_3\text{-N}$ ) and TN	[17]
Eleven (11) urban waterbodies in the Klang Valley, Malaysia CTSI = >58.2 - < 100	45 zooplankton species comprising 35 species of rotifer, five species of copepods, three species of cladocerans, and one species of ostracod	<i>Brachionus angularis</i> , <i>Hexarthra mira</i> , <i>Polyarthra vulgaris</i> , and <i>Keratella cochlearis</i>	$H' = 1.41 - 2.34$	Density and diversity were significantly highest in hypereutrophic lakes. Rotifers, dominated by <i>B. angularis</i> , were closely related to TP, and may therefore provide a potential bioindicator of the trophic state in urban tropical lakes	[22]
Bukit Merah Reservoir, Malaysia	49 zooplankton species including 34 rotifers species, 13 cladocerans species, and 2 copepods species	<i>Keratella cochlearis</i> , <i>Trichocerca</i> sp., <i>Polyarthra</i> sp., <i>Bosminopsis deitersi</i> , and <i>Diaphanosoma</i> sp.	$H' = 1.98 - 2.7$	Strong association was found between conductivity, dissolved oxygen (DO), and total dissolved solid (TDS) with zooplankton distribution and abundance	[40]
Tondano Lake, Indonesia CTSI = 50.8 - 60.8	112 zooplankton species were found (60 species of rotifers, 31 species of copepods, and 21 species of cladocerans)	<i>Brachionus calyciflorus</i> , <i>Trichocerca similis</i> , <i>Keratella valga</i> , <i>K. tropica</i> , and <i>Polyarthra</i> sp.	$H' = 1.73 - 1.85$	Temperature, TN, TP, and chlorophyll <i>a</i> are responsible in zooplankton abundance and species number	[41]

Baiyangdian Lake, China CTSI = 54.9	65 zooplankton species comprising of 68.0 % of rotifers, 16.0 % of cladocerans, and 16.0 % of copepods	<i>Polyarthra vulgaris</i> , <i>Trichocerca pusilla</i>	H' = 1.07 – 1.89	Ammonia nitrogen (NH <sub>4</sub> <sup>+</sup> ), TN, TP, and DO were the main environmental factors influencing the species abundance and diversity	[42]
Chen Yao Lake, China	49 zooplankton species consisting 28 species of rotifers (57.1 %), 13 species of cladocerans (26.5 %), and eight species of copepods (16.3 %)	<i>Polyarthra trigla</i> , <i>Brachionus budapestiensis</i> , and <i>Keratella cochlearis</i>	H' = 2.4	Electrical conductivity (EC), chlorophyll <i>a</i> , TP, and pH were the main environmental factors affecting the zooplankton community structure	[64]
Ghrib Reservoir, Algeria	61 species of zooplankton consisting of 45 rotifers, 13 cladocerans, and 3 copepods.	<i>Keratella quadrata</i> , <i>Hexarthra fennica</i> , <i>Ceriodaphnia reticulata</i> , and <i>Diaphanosoma brachyurum</i>	H' = 1.2 – 3.8	Water temperature, DO, PO <sub>4</sub> -P, and NO <sub>3</sub> -N are the most significant environmental factors influencing zooplankton community	[67]
Saheb Bandh Lake, India	32 zooplankton species consisting of 15 species of rotifers (44.4 %), 10 species of cladocerans (35.3 %), six species of copepods (19.4 %), and one species of ostracods (0.9 %)	<i>Brachionus</i> and <i>Trichocerca</i>	H' = 1.67 – 2.60	Temperature, pH, DO, and nutrients are the important factors influencing the zooplankton composition. Higher TP and TN is responsible for eutrophication in this lake	[68]
Vitoria Lake, Kenya	Rotifera (10.8%), copepoda (69.8%) and cladocera (19.4%).	<i>Brachionus</i> sp., <i>Trichocerca</i> , <i>Ceriodaphnia</i> sp.,	H' 1.65-2.23	Negative correlations between abundance of Copepoda with Chlorophyll <i>a</i> (r = -0.5). Rotifera was significantly and negatively correlated with depth (r = -0.7), dissolved oxygen (r = -0.51) but significantly positively correlated with TDS (r = 0.5), salinity (r = 0.5) and conductivity (r = 0.5). Cladocera was significantly and negatively correlated with depth (r = -0.73)	[71]
Liuye Lake, China CTSI = 38.5 – 56.0	87 rotifer species	<i>Polyarthra dolichoptera</i> , <i>Synchaeta stylata</i> , <i>Anuraeopsis fissa</i> ,	H' = 2.24	Temperature, water depth and trophic state were the key factors for spatial-temporal	[75]

		<i>Brachionus angularis</i> , <i>Keratella cochlearis</i> , <i>Filinia terminalis</i> , <i>Ascomorpha saltans</i> , <i>A. ovalis</i> , and <i>Trichocerca</i> sp.		variation of rotifer community in the urban lake ecosystems	
Hydroelectric reservoirs in Brazil CTSI = 52.2 – 55.3	99 zooplankton species consisting 62 species of rotifers, 27 species of cladocerans, and 10 species of copepods	<i>Keratella cochlearis</i> , <i>Conochilus unicornis</i> , <i>Polyarthra vulgaris</i> , <i>Bosmina hagamanni</i> , <i>Bosminopsis deitersi</i> , <i>Ceriodaphnia cornuta</i> , <i>C. silvestrii</i> , <i>Diaphanosoma spinulosum</i> , <i>Moina minuta</i> , and <i>Thermocyclops decipiens</i>	-	TP and total suspended solid (TSS) concentrations and phytoplankton abundance were most associated with the zooplankton community structure	[86]
Teluk Bahang Reservoir, Malaysia	28 zooplankton species including 22 species of rotifers (78.7 %), 4 species of copepods (12.2 %), and 2 species of cladocerans (9.1 %)	<i>Ptygura</i> sp. and <i>Bosminopsis deitersi</i>	-	The pattern of zooplankton distribution was associated with DO.	[88]
Eight (8) reservoirs in Brazil	Rotifers were the richest group (62 species), followed by Cladocera (27 species) and Copepoda (10 species).	<i>Keratella cochlearis</i> , <i>Bosminopsis deitersi</i> , <i>Ceriodaphnia cornuta</i> and juvenile forms (nauplii and copepodites) of copepods3	-	High abundance of zooplankton was associated with parameter related to trophic status such as nutrients and chlorophyll a	[89]
Pantabangan Reservoir, Philippines	Rotifera (56.48%), copepoda (35.59%) and cladocera (7.93%).	<i>Mesocyclops</i> , <i>Bosmina</i> , <i>Monostyla</i> ,	H' = 0.24 – 0.33	Dissolved oxygen, temperature, pH and total dissolved solids associated with zooplankton community structure	[89]
Thandikulam Reservoir, Sri Lanka	Rotifera (14 species), copepoda (5 species) and cladocera (4 species)	<i>Brachionus falcatus</i> , <i>B. caudatus</i> , <i>Ceriodaphnia laticaudata</i> , <i>Mesocyclops leukarti</i>	H' = 1.5 – 2.8	Dissolved oxygen	[90]

Dangana Lake, Nigeria	Rotifera (56.39%), copepoda (29.18%) and cladocera (14.42%).	<i>Keratella</i> sp., <i>Brachionus variabilis</i> ,	$H' = 2.09 - 2.15$	Biochemical oxygen demand, Conductivity, pH, nitrate, phosphate and temperature strongly positively correlated with zooplankton distribution.	[91]
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