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**Spatial Distribution, Abundance, and Diversity of Zooplankton in Trans-Boundary River of Bangladesh**

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Zooplankton are important component of aquatic food chain as an intermediate link between the primary producers and the higher trophic level and contribute significantly to aquatic biological productivity. The study investigated the spatial distribution, abundance, and diversity of zooplankton in Dakatia river during October 2022 to February 2023. Six physico-chemical parameters were recorded where water temperature varied from 28.38 to 29.30°C; Salinity 0.60 to 1.03 ppt; pH 6.7 to 7.8; Dissolve oxygen (DO) 5.72 to 6.91 mg/L; Transparency 28.33 to 32.67; and the value of TDS varied from 61 to 116 mg/L.

A total of 25 taxa of zooplankton were identified, including 9 species belonging to Rotifera, 10 species to Copepoda, 5 species to Cladocera and 1 species to Crustacea. Among all groups, Copepoda was the dominant which probably play an important role in food chain. The densities of zooplankton species during study period are as follows- Copepoda (40%) > Rotifera (36%) > Cladocera (20%) > Crustacea (4%). Number of zooplankton species were recorded to be the highest at station 8 (97.16 ind./L) and minimum at station 3 (34.13 ind./L). The Shannon Weiner Diversity Index varied between 2.58 to 2.1, Margalef species richness index value 6.29 to 4.10, Equitability index value 0.88 to 0.70, value of Simpson index ranged from 0.91 to 0.79 during the study period. These analyses demonstrated a significant similarity and dissimilarity within zooplankton population and studied areas. The study presents a snapshot of the zooplankton community in the Dakatia River and the findings of the study will be useful to understand the ecosystem of the aforementioned area.

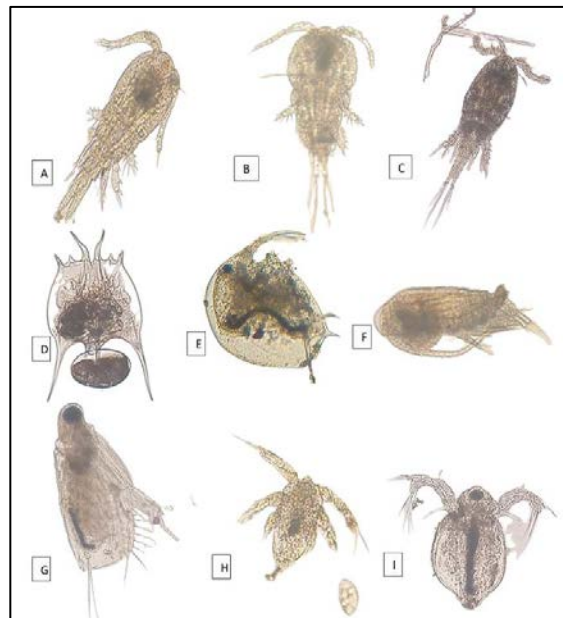


Figure 1: Some representative specimen of Zooplankton (A-I)

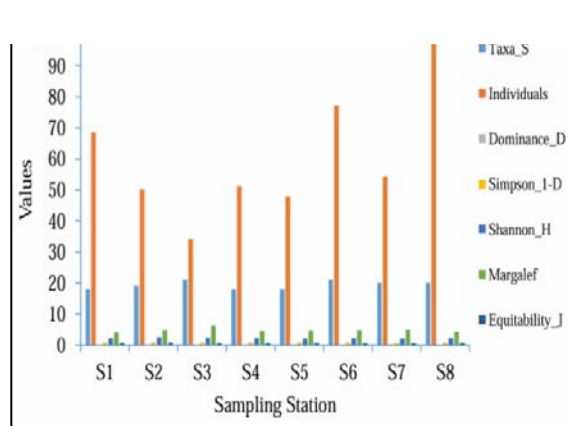


Figure 2. Different diversity indices of Zooplankton in Dakatia river