

## Effect of Depth on the Distribution of Zooplankton in Wushishi Lake Minna, Niger State, Nigeria

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**Abstract :** The present study was conducted to evaluate the effect of depth on the distribution of zooplankton and some physicochemical parameters in Tungan Kawo Lake (Wushishi dam). Water and zooplankton samples were collected from the surface, 3.0 meters deep and 6.0 meters deep, for a period of 24 hours for six months. Standard procedures were adopted for the determination of physicochemical parameters. Results have shown significant differences in the pH, DO, BOD Hardness, Na, and Mg. A total of 1764 zooplankton were recorded, comprising 35 species, with cladocera having 18 species (58%), 14 species of copepoda (41%), 3 species of diptera (1.0%). Results show that more of the zooplankton were recorded in the 3.0 meters-deep region compared to the two other depths and a significant difference was observed in the distribution of *Ceriodaphnia dubia*, *Daphnia laevis*, and *Leptodiptomus coloradensis*. Though the most abundant zooplankton was recorded in the 3.0 meters deep, *Leptodiptomus coloradensis*, which was observed in the 6.0 meters deep as the most individual observed, this was followed by *Daphnia laevis*. Canonical correspondence analysis between physicochemical parameters and the zooplankton indicated a good relationship in the Lake. *Ceriodaphnia dubia* was found to have a good association with oxygen, sodium, and potassium, while *Daphnia laevis* and *Leptodiptomus coloradensis* are in good relationship with magnesium and phosphorus. It was generally observed that this depth does not have much influence on the distribution of zooplankton in Wushishi Lake.

**Keywords :** zooplankton, standard procedures, canonical correspondence analysis, Wushishi, canonical, physicochemical parameter

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