

Limnological parameters affecting monthly abundance of Chironomid larvae in a fish pond and their role in the diet of catfish, *Clarias batrachus*

ABSTRACT

Six months-long experiment was carried out in a fish pond at Bangladesh Agricultural University (BAU), Mymensingh from September 2008-February 2009 to evaluate the limnological parameters affecting monthly abundance of Chironomid larvae and their role in the diet of catfish, *Clarias batrachus*. The water-quality and soil parameters were monitored and found to be within suitable range for freshwater aquaculture. The composition of the benthic macro-invertebrates at the bottom indicated that Chironomidae was most dominant group in this pond. The body-weight percentage of the organisms showed that Chironomids and Oligochaetes were major two groups. The quantitative and qualitative studies of Chironomid larvae indicated that there was monthly variation in the abundance of Chironomids where *Chironomus* was most dominant. The highest (3585.19 m⁻²) and the lowest (548.15 m⁻²) abundance of Chironomids in 3 samples were recorded in the month of January 2009 and October 2008, respectively. Gut content analysis suggested that Chironomids was dominant food item in the diet of *Clarias batrachus*. The maximum 768 and minimum 25 occurrences were recorded in the months of December and October 2008, respectively in 5 fishes sampled from the experimental pond. The electivity indices suggested a shifting to Chironomid larvae from negative selection to positive selection in different months.

Keyword: Abundance; Catfish; Chironomid larvae; Electivity indices; Limnological parameters