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PAPER

Phytoplankton and Zooplankton Community Dynamics and Aspects of Food of Two Fish Species in Two Streams and Two Lakes in Presence and Absence of *Anophelese* Mosquito Larvae in Mahaoya, Sri Lanka

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Plankton samples were collected using plankton nets to examine the phytoplankton and zooplankton community dynamics in two streams: namely, Mahaoya, and Panajjawa Oya and two lakes: namely, Bubula Lake and Wagaspitiya Lake in Mahaoya, Ampara district, Sri Lanka. The samples were collected in two consecutive periods in May and August 2011.

Aplocheilus dayi and *Rasbora daniconius*, two naturally occurring fish species were collected (n=50) using cast nets to examine their food aspects in absence of *Anopheles* mosquito larvae in May 2011 and in their presence in August 2011. Of the total plankton community, only about 28% (14 species) represented zooplanktons while 72% (55 species) were phytoplanktons. Total 14 zooplankton species belonged to; Class Branchiopoda (5 species); Class Lobosa (1 species); Class Maxillopoda (4 species); and Class Monogononta (4 species), and 55 species of phytoplankton population belonged to Class; Chlorophyta (24 species); Class Cyanophyta (11 species); Class Bacillariaphyta (10 species); Class Ochrophyta (4 species); Class Euglenophyta (4 species); Class Heterokontophyta (2 species).

The zooplankton population of two streams was dominated by *Chromogaster* spp. (40 - 80 /ml) while that of two lakes, Bubula and Wagaspitiya were dominated by *Eucyclops* spp.(120/ml) and *Cyclops* spp. (80/ml) respectively. The phytoplankton population in all the four water bodies was dominated by *Closterium* spp. (200-400/ml).

The above data reveals that the phytoplankton diversity in two lakes is greater (total of 26 species/taxa) than that of two streams (total number of 14 species/taxa) but, there was no difference in zooplankton diversity between the two habitats. Density and diversity of both phytoplankton and zooplankton in each site between two consecutive sampling occasions (soon after heavy rains in absence of mosquito larvae and during the dry spell in presence of mosquito larvae) did not vary significantly. Gut analysis of two naturally occurring fish species, *Aplocheilus dayi* and *Rasbora daniconius* revealed that both of their diets mainly composed of crustaceans 40%, insects 35% and algae, detritus, diatoms and plant parts 25% by number, in presence of mosquito larvae in the habitats in August 2011.

Acknowledgement: Financial support by GFATM PROJECT –ROUND 8 PHASE 1 – Grant No. SRL-809-G12-M