

## Study of diversity and abundance of microfauna and microflora associated with selected mosquito breeding habitats in Gampaha district in Sri Lanka

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The present study was conducted to study the diversity and abundance of microfauna and microflora associated in selected mosquito breeding habitats in selected areas of Gampaha district in Sri Lanka during the period from April to September, 2014. Some physico chemical parameters of water (Temperature, pH, Dissolved Oxygen concentration) were measured *in situ* conditions. The preserved water samples were observed individually under the high power microscope in laboratory and the count of each species of microflora and microfauna was taken. The gut contents of 10 larvae (4<sup>th</sup> instar stage) from each sample were pooled and the count of each food item in each sample was taken. *Aedes albopictus* (86.5%), *Culex quinquefasciatus* (11.5%), *Toxorhynchites* spp (3.8%), and *Mansonia* spp (1.9%) were found in outdoor habitats (23 habitats), where *A. aegyptii* (95.5%) and *Mansonia* spp (4.5%) were found in indoor habitats (6 habitats). A total of eight microfauna species/taxa discovered in different mosquito breeding habitats. They were; *Euglena tripteris* (45.4%), *Phacuscaudatus* (5%), *Onchocamptus mohammad* (5%), *Philodinaroseola* (3.6%), *Canthocamptus staphylinus* (3.6%), *Gloeobotryslimneticus* (1.8%), *Colpodasp* (7.2%) and unidentified insect sp1 (23.6%). Total of ten microflora species/taxa were encountered during the study. They were *Scenedesmusbijuga* (26.1%), *Volvox aureus* (13.8%), *Gloeocystisgigas* (52.3%), *Closteriumlunula* (3.0%), *Trinemalineare* (1.5%), *Ceratiumhirundinella* (1.5%), Blue green algae sp1 (4.6%), *Nitzschiasp* (1.5%), filamentous algae sp1 (1.5%), and *Surirellabiseriata* (1.5%). This study revealed that microfauna and microflora associated in outdoor mosquito breeding habitats covered with vegetation (12 habitats) were more diverse (Shannon-Weiner diversity index (H') = 2.31; Species richness=14) and significantly higher in abundance, than habitats not covered with vegetation (11 habitats, Shannon-Weiner diversity index (H') = 1.71; Species richness=11). Results have also shown that microfauna and microflora associated in outdoor habitats were more diverse than that of indoor habitats. Outdoor mosquito breeding habitats were dominated by two species of green algae *Scenedesmusbijuga* and *Gloeocystisgigas*. These habitats that covered with vegetation were dominated by *S.bijuga*, while habitats not covered with vegetation were dominated by *G.gigas*. However gut contents of *Aedes albopictus*; the dominating species of outdoor habitats and *Aedes aegyptii*; the dominating species of indoor habitats were both occupied by *Euglena tripteris* concluding that the main food item of these two mosquito species is *Euglena tripteris* in this study.