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DENSITY AND DIVERSITY OF MOSQUITO LARVAE ASSOCIATED WITH RICE FIELD AND MARSHLAND HABITATS IN TWO CLIMATICALLY DIFFERENT AREAS IN SRI LANKA

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A B S T R A C T

Rice field and marshland habitats have significant influence on production of mosquito larval populations including vector mosquitoes and hence the disease transmission. Study revealed that mosquito larval density in rice fields of two climatic regions were significantly different and that of rice fields in semi dry zone are more diverse than those of wet zone (H' semi dry zone = 1.48; H' wet zone = 1.35). Marshland habitats in wet zone were represented mainly by *Culex gelidus*. Both *Culex gelidus* and *Culex tritaeniorhynchus* larvae were highly available in rice fields of two climatic regions. They were mainly associated with high Total Dissolved Solids, (TDS) ≥10.00 mg/L, pH level of 6-8, low Dissolved Oxygen, (DO) 5.0 – 6.0 mg/L, low nitrate level, ≤ 5.0 mg/L and low phosphate level, ≤ 1.0 mg/L. However, they could tolerate a range of Biological Oxygen Demand (BOD) level in water. Mosquito larval density in two habitat types in wet zone was not significantly different. Temporal variation of *C. gelidus* and *C. tritaeniorhynchus* was positively or negatively correlated with cultivation cycle of rice in semi dry zone area. The main goal of this study was to determine the variation of mosquito larval diversity in the rice field and marshy land habitats in two climatically different areas, wet zone and semi-dry zone in Sri Lanka. Sampling of mosquito larvae was done using standard dipping method.

Keywords: *Culex, Armigeres,* rice field habitat, marsh land.