

PRELIMINARY INVESTIGATION OF DIVERSITY AND ABUNDANCE OF MOSQUITOES IN NATURAL BREEDING SITES IN AMBALANTOTA MOH AREA, SRI LANKA

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Mosquito-borne illnesses, particularly dengue, have become more frequent in Sri Lanka despite ongoing vector control efforts. Studies on the mosquito species and breeding sites of various mosquito species are few and are confined to a few areas of the country. Understanding these vector dynamics is essential to determine the potential for disease transmission and implementing effective vector control strategies. The present study aimed to investigate the diversity and habitat preferences of mosquitoes in selected natural breeding sites in the Ambalantota MOH area of the Hambantota district. Six different breeding sites; a rock pool, burrow pit, connected pool, tree hole, paddy field and a natural pool selected based on the previous entomological records, were surveyed within the month of December 2022. Larval sampling was conducted using a dipper and a pipette, and five dips were performed at each site. Collected larvae were observed under a compound microscope and identified up to species level using standard taxonomic keys. Data were analysed using PAST statistical software version 4.0. Mosquito larvae were present in all observed breeding sites. A total of 147 larvae belong to 6 different species; *Aedes vittatus* (44.9%), *Ae. albopictus* (24.5%), *Culex whitmorei* (0.7%), *Cx. tritaeniorhynchus* (14.3%), *Anopheles pallidus* (6.1%) and *Ae. macdougalli* (9.5%) were identified. Shannon Weiner (H') diversity observed was 0.97, 0.96, and 0.86 from the connected pool, rock pool and burrow pit, respectively. *Culex tritaeniorhynchus* which is the main vector of Japanese encephalitis was recorded only from rock pool (26.9%) and burrow pit (30.7%) while *Ae. albopictus*, which is a vector of dengue, was recorded from a connected pool (41.2%) and tree hole (87.8%). The three species; *Ae. vittatus*, *Ae. macdougalli* and *C. tritaeniorhynchus* were identified in rock pool while *Ae. vittatus*, *C. whitmorei*, and *C. tritaeniorhynchus* were identified in the burrow pit. *Aedes vittatus* was reported from all selected breeding sites, while *Ae. albopictus* reported only from the connected pool and tree hole. The co-existing patterns of different mosquito species should be further studied extensively to identify the most preferred breeding habitats of these mosquito species.

Keywords: Breeding habitats, Habitat preference, Mosquito species, Vector control