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PREVALENCE OF *Aedes aegypti* AND *Aedes albopictus* VECTORS IN SUB-REGIONAL AREAS WITHIN MATARA DISTRICT

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Dengue remains Sri Lanka's most critical vector-borne disease, largely due to the lack of specific treatments or vaccines, making it essential to monitor the prevalence and distribution of its primary vector, *Aedes aegypti,* and secondary vector, *Aedes albopictus,* for effective control. This study aimed to determine the prevalence of *Ae. aegypti* and *Ae. albopictus* across all 17 MOH areas in the Matara District, from 2022 to 2024, using systematic monthly entomological larval surveillance. Standard collection methods were used to sample larvae from both permanent and temporary breeding habitats in indoor and outdoor areas. Third and fourth instar larvae were identified to the species level using morphological taxonomic keys. Over the study period, 58,745 wet containers were examined, of which 824 were positive for *Ae. aegypti* and 8,015 for *Ae. albopictus*. Both vectors were detected in 8 MOH areas (urban and peri-urban MOH regions), while the remaining 9 MOH areas (rural MOH regions) reported only *Ae. albopictus*. A Wilcoxon signed-rank test confirmed that all MOH areas had significantly higher counts of *Ae. albopictus*-positive containers compared to *Ae. aegypti* ($W = 153$, $p < 0.001$), indicating the dominance of *Ae. albopictus* across the district. Breeding site analysis revealed that discarded items (36.2%) were the predominant habitat type in urban MOH areas, while water storage containers (30.4%) were more common in peri-urban and rural areas. This study confirms that, *Ae. albopictus* is the predominant *Aedes* vector across all 17 MOH areas in the Matara District. In contrast, *Ae. aegypti* was confined primarily to urban MOH areas, indicating its typical habitat preference. The emergence of *Ae. aegypti* in peri-urban regions such as Kamburupitiya, Welipitiya and Athuraliya highlights a potential shift in vector distribution. This expansion of primary vector presence into previously low-risk areas poses a growing challenge for dengue control efforts and underscores the need for enhanced surveillance and targeted vector management strategies in both urban and peri-urban settings of the district.

Keywords: *Aedes aegypti*, *Aedes albopictus*, Larval survey, Vector prevalence