
Evaluation the Oviposition Behaviour of *Aedes Aegypti* and *Ae. Albopictus* Mosquitoes; Main and Secondary Vector for Dengue Transmission in Sri Lanka under Laboratory Conditions

P.A.D.H.N. Gunathilaka^{1*}, R.M.T.B Ranathunga¹, N.W.B.A.L Udayanga¹, W. Abeyewickreme¹

Studies on the oviposition behavior of *Aedes albopictus* and *Ae. aegypti* are critical for effective controlling of dengue vector breeding. However, less attention has been drawn on such aspects of vector biology and bionomics in Sri Lanka. Therefore, the objective of the current study was to evaluate the oviposition behavior of dengue vectors under laboratory conditions.

Ovitrap with different sizes, colours, sources of water, sodium chloride (NaCl) concentration (0.2, 0.5, 1, 2 and 3%) and presence and absence of larvae were kept within separate cages of batches of 1000 *Ae. albopictus* and *Ae. aegypti* with (1:1, male: female ratio). Female mosquitoes were allowed to lay eggs and the number of eggs laid in different ovitraps were enumerated. ANOVA and cluster analysis were used to investigate the significance in the variations among oviposition behaviours.

The mean number of eggs laid by both *Ae. albopictus* and *Ae. aegypti* increased with the increasing size of the ovitraps. *Ae. albopictus* indicated the highest mean number of eggs in 0.2% of NaCl than that of distilled water, while the egg laying preference reduced with the increasing salinity for both species. Drain water with low dissolved oxygen level (0.43 ± 0.12 mg/l) was the preferred water source for both species and indicated a significantly high oviposition rate in ovitraps with larvae. Black colour ovitraps attracted the majority of the gravid females, while white was least preferred.

There were no significant variations among oviposition behaviors of *Ae. albopictus* and *Ae. aegypti* under laboratory conditions. Black coloured ovitraps were the preferred breeding place.

Keywords: *Aedes*, oviposition, ovitraps, behaviour.

¹ University of Kelaniya, Sri Lanka *n.gunathilaka@kln.ac.lk