

SEASONALITY AND INSECTICIDE SUSCEPTIBILITY OF DENGUE VECTORS: AN OVITRAP BASED SURVEY IN A RESIDENTIAL AREA OF NORTHERN SRI LANKA

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Abstract. With the backdrop of a high incidence of dengue in Jaffna District, Sri Lanka, an ovitrap based survey was carried out from May 2005 to April 2006 in a residential area to study the seasonality and insecticide susceptibility of *Aedes aegypti* and *Ae. albopictus*. Conventional ovitraps were placed inside and outside of 10 randomly selected houses to collect indoor breeding and outdoor breeding *Aedes* mosquitoes; collections took place fortnightly. A total of 3,075 *Ae. aegypti* and 2,665 *Ae. albopictus* were collected in outdoor ovitraps, whereas in indoor ovitraps a total of 2,528 *Ae. aegypti* and 2,002 *Ae. albopictus* were collected. The highest values for *Aedes* density and positive ovitrap percentage were recorded in January 2006. A seasonal shift was observed in the density of *Ae. aegypti* and *Ae. albopictus*. *Ae. aegypti* density was high during and after the Northeast monsoon whilst *Ae. albopictus* was the dominant species during the onset of the Northeast monsoon. A significant association ($p < 0.05$) between *Aedes* density and rainfall was observed. The association of these two species to site, either indoors or outdoors, was not statistically significant ($p > 0.05$). Both the species were found to be highly resistant to 4% DDT and completely susceptible to 5% malathion. The high prevalence and the ability of both species to breed indoors and outdoors should be taken into account when formulating a dengue vector control program with community participation in the Jaffna District, Sri Lanka.

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