

# Seasonality and insecticide susceptibility of dengue vectors: An ovitrap based survey in a residential area of northern Sri Lanka

Surendran, S.N. , Kajatheepan, A., Karunakaran, F.A., Sanjeefkumar and Jude, P.J.

Department of Zoology, Faculty of Science, University of Jaffna, Jaffna, Sri Lanka

## 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.

## Indexed keywords

**EMTREE drug terms:** insecticide; rain

**EMTREE medical terms:** *Aedes*; animal; article; demography; dengue; disease carrier; disease transmission; drug effect; growth, development and aging; human; oocyte; population density; prevalence; season; Sri Lanka

**MeSH:** *Aedes*; Animals; Dengue; Humans; Insect Vectors; Insecticides; Ovum; Population Density; Prevalence; Rain; Residence Characteristics; Seasons; Sri Lanka

*Medline is the source for the MeSH terms of this document.*