Role *Aedes albopictus* in transmitting dengue virus in some endemic areas in Kurunegala District.

Menaka D.Hapugoda, Nilanthi R. de Silva, S. Abesundara, K.B.A.T.Bandara, M.Y.D.Dayanath and W. Abeyewickreme.

Department of Parasitology, Faculty of Medicine, University of Kelaniya,

ABSTRACT

While *Aedes aegypti* and *Aedes albopictus* are both known vectors of dengue, the former is generally considered as the main vector. However previous studies have indicated that *Ae. albopictus* occur greater abundance than *Ae. aegypti* in several areas of Sri Lanka that have experienced outbreak of dengue in the recent past. Definitive incrimination of the species has not been possible since the virus has not been isolated from wild-caught mosquitoes in Sri Lanka.

Ten fixed monitoring stations were set up in urban areas with endemic dengue in Kurunegala District. Larvae and adults were collected during period of 2000-2002 using ovitraps and human landing diurnal collection method respectively. They were pooled with 1-50 adult/larvae per pool. Four hundred and twenty two larval pools (20856 larvae) and 58 adult pools (98 adults) of *Ae. albopictus* were collected. *Ae. albopictus* was the predominant species in all ten stations during the study. These wild-caught specimens were tested to detect and type dengue virus by Reverse Transcription Polymerase Chain Reaction based Liquid Hybridization and Semi Nested type specific PCR Agarose Gel Electrophoresis assays respectively.

None of the *Ae. albopictus* larvae were positive for dengue virus by either PCR assay. Three of 58 pools of adult *Ae.* albopictus were found to be infected with dengue virus of serotype 3.

The detection of dengue virus for the first time in wild-caught adult *Ae. albopictus* in Sri Lanka, as well as the abundance of *Ae. albopictus* in the study areas confirms that the species may play an important role in transmitting dengue virus in some endemic areas in Sri Lanka.

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