

Species Prevalence of Exophilic Anopheline Mosquitoes in Jaffna District

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Malaria is a significant public health problem in Sri Lanka, and creates a considerable socio-economic burden on the country. Out of the 22 anopheline mosquito species identified in Sri Lanka, 13 are proven vectors of malaria. The Jaffna District is situated within the dry zone of the Northern Province, which is one of the most affected areas with respect to malaria. Apart from a few studies that were carried out in 1991 and 1995 in the Jaffna District, no detailed studies have been reported so far on the prevalence of *Anopheles* species in this area, in the aftermath of indoor residual spraying with pyrethroids, which was introduced in 2002. A study was carried out from November 2005 to July 2006 in selected localities within the district to establish the prevalence and the percentage distribution of *Anopheles* species. The study was confined to exophilic anopheline mosquitoes due to logistic reasons. The total number of *Anopheles* species mosquitoes collected during the study period was 824. The percentage prevalence of species was as follows: *An. culicifacies* 0.5%, *An. subpictus* 42%, *An. varuna* 5%, *An. nigerrimus* 47% and *An. pallidus* 5.5%. In contrast to a previous study, which was carried out in 1995 that reported *An. subpictus* as the predominant anopheline species, findings of the present study indicates *An. nigerrimus* as the predominant species in the Jaffna district. The results also showed a positive association between anopheline density and rain fall ($P < 0.005$). This study highlights the need for continuous vector surveillance including studies on vectorial capacity, feeding behavior and insecticide resistance that will help the formulation of appropriate vector control measures for the District.