

Occurrence of dengue vectors in school premises in Gampaha District, Sri Lanka

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Aedes aegypti and *Aedes albopictus* are the vectors responsible for the transmission of dengue virus in Sri Lanka. During the past decade, Gampaha district has been ranked the second on the number of reported dengue cases. *Ae. aegypti* is considered as the primary vector of dengue. Previous studies conducted in the Gampaha district have highlighted that high number of breeding habitats of dengue vectors are common among school premises. The present study was carried out over a period of seven months (June to December 2016) in order to identify the species of dengue vectors inhabiting selected school premises in Gampaha district. In this cross sectional study, 60 schools were randomly selected, representing four educational zones comprising 15 schools from each educational zone namely Gampaha, Minuwangoda, Kelaniya and Negombo. Samples were collected using standard dipping and siphoning methods depending on the nature of the breeding habitat. Developmental stages of dengue vectors were recorded and larval stages of III and IV instar were directly identified using a light microscope, while I and II instars were supplemented with larval food and reared up to III instar in confined cages. The adults emerged were identified under a dissecting microscope. The larvae of *Aedes* mosquitoes were observed at 28 schools (46.7%) of the sixty schools surveyed. Of them, 26 school premises in Gampaha, Minuwangoda and Kelaniya educational zones were positive only for *Ae. albopictus*. This predominating *Ae. albopictus* was identified from the school premises belonging to Gampaha (10%; n=6), Minuwangoda (11.66%; n=7), Kelaniya (15%; n=9), and Negombo (6.66%; n=4) educational zones. The total number of water holding containers found in school premises inhabited by *Ae. albopictus* was 39 (95.12%) while *Ae. aegypti* was found only from two containers (coconut husk, drain) collected from two urban schools situated in Negombo area (4.88%). From the schools surveyed, discarded water holding containers were the most abundant artificial breeding habitat of *Ae. albopictus* (69.23%) while water holding leaf axils of banana plants were the most abundant natural breeding habitat (20.51%; n=7). *Ae. albopictus*, was found as the predominant dengue vector within suburban school premises in Gampaha district along with *Ae. aegypti* in urban school premises. Therefore, school premises should be maintained clean and dry to prevent further spread of dengue vectors among schools in Gampaha district.

Keywords: *Ae. albopictus*, *Ae. aegypti*, dengue, School premises

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