

## Disease transmitting mosquito species breeding in water storage tanks in Kandy, Sri Lanka

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Mosquito species breeding in ground level water storage cemented tanks in Kandy and suburbs were studied from November 2004-May 2005, in order to determine the importance of water storage tanks as breeding sites of disease transmitting mosquitoes in these areas. One thousand seven hundred and fifty water storage tanks in 35 randomly selected localities in 5 Divisional Directors of Health Services areas (Gangawatakorale (including the Kandy Municipality), Harispattuwa, Kundasale, Pathadumbara and Udunuwara) were surveyed for mosquito immatures (larvae and pupae). In each locality, 50 tanks were examined for mosquito immatures and a maximum of 20 larvae from each positive tank were collected randomly in separate containers (if a particular tank had less than 20 larvae, all larvae were collected). Mosquito immatures were staged and identified at the 3<sup>rd</sup> and 4<sup>th</sup> larval stages. First and 2<sup>nd</sup> larval stages were allowed to develop to 3<sup>rd</sup> and 4<sup>th</sup> stages and pupae to adults and identified. Of the 1750 tanks, 105 (6.00 %) were positive for mosquito immatures. Fifteen mosquito species, including six potential vectors, namely, *Aedes aegypti*, *Ae. albopictus* (dengue and dengue hemorrhagic fever), *Culex quinquefasciatus* (filariasis), *Cx. fuscocephala*, *Cx. pseudovishnui* (Japanese encephalitis) and *An. peditaeniatus* (malaria) were found breeding in these tanks. Mixed breeding of *Aedes* and non *Aedes* mosquito species were encountered in 19.05 % of positive tanks.

Water storage tanks are an important breeding site for the potential vectors of dengue and dengue haemorrhagic fever, filariasis, Japanese encephalitis and malaria. Since, mixed breeding of different species of mosquitoes occurs in 19.05 % of tanks, the one larvae collection method for vector surveillance in DF/DHF control would underestimate vector density in areas with ground level water storage cement tanks.