

**UNIVERSITI TEKNOLOGI MARA**

**EPIDEMIOLOGICAL AND  
ENTOMOLOGICAL PROFILE OF  
DENGUE IN SUB-URBAN AREA IN  
JEMPOL, NEGERI SEMBILAN**

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## ABSTRACT

Epidemiological and entomological profile of dengue is a basic data that may be applied in controlling dengue disease. A hybrid epidemiologic study design within sub-urban population was used. The design require exposure information for the complete population with DF cases (2011-2015) and a random sample for the dengue vector density in Jempol District, Negeri Sembilan. A cross-sectional longitudinal study was conducted in two localities with highest prevalence rate of dengue. The aims of this study was to assess the distribution and abundance of dengue vectors by measuring two indicators; (i) the positive ovitrap index (POI) and (ii) mean eggs per ovitrap (MET) in different settings namely populated and vegetative environment. Secondary data on the weather variables was taken into account in order to determine the effect of weather variables on the abundance of dengue vectors. Nine hundred sixty ovitraps ( $n=960$ ) within the study location was deployed from April to September 2017. Result showed the POI and MET of *Aedes* mosquitoes were higher in vegetative environment. There was insignificant difference in POI and MET of *Aedes* species between the environment with  $p\text{-value}<0.05$ . A total of 50.08% and 40.33% of POI were collected from vegetative and populated environment respectively, consequently for MET was found 22.89 and 19.05 from vegetative and populated environments. A positive correlation was recognized between the temperature and the number of eggs ( $r=0.053$ ,  $p\text{-value}= 0.87$ ). The POI and MET of *Aedes albopictus* were higher than *Aedes aegypti* in these two environment types, where 54% of *Aedes aegypti* was found in vegetative compared to 46% in populated environment. For *Aedes albopictus*, a total of 58% were identified in vegetative than 42% in populated environment. It can be concluded that vegetative was the favoured environment for oviposition of *Aedes* mosquito due to conducive weather condition.

**Keywords:** *Positive ovitrap index, Mean eggs per trap, populated environment, vegetative environment, weather, dengue fever*

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