

UNIVERSITI TEKNOLOGI MARA

**COMPARATIVE OVIPOSITION
PREFERENCES OF
Aedes albopictus (SKUSE)
(DIPTERA: CULICIDAE)
TO WATER BETWEEN
RAINWATER AND TAP WATER**

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Project submitted in fulfillment of the requirements for
the degree of

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DECLARATION BY STUDENT

Project entitled “Comparative Oviposition Preferences of *Aedes albopictus* (Skuse) (Diptera: Culicidae) to Water between Rainwater and Tap Water” is a presentation of my original research work. Whenever contributions of others are involved, every effort is made to indicate this clearly, with due reference to literature, and acknowledgement of collaborative research and discussions. The project was done under the guidance of Project Supervisor, Dr. Nazri Che Dom. It has been submitted to the Faculty of Health Sciences in partial fulfilment of the requirement for the Degree of Bachelor in Environmental Health and Safety (Hons).

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In the name of Allah, The Most Gracious, The Most Merciful.

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ABSTRACT

Introduction: Dengue is an intense mosquito-borne viral infection and being a standout amongst the most critical in terms of morbidity and mortality. Genus *Aedes* is the fundamental species responsible as virus transmitter of DF and DHF. It is important to understand the breeding ecology to inhibit the colonization process of the dengue vector. **Objective:** The main aim of this study is to identify the oviposition preferences of *Ae. albopictus* between rainwater and tap water. **Methodology:** The comparative oviposition preferences of *Aedes albopictus* to water from rainwater and tap water were evaluated in the laboratory. The study involved three phases with (1) Colonization of mosquitoes, water sample collection and physicochemical analysis, (2) Observation of oviposition preferences of *Ae. albopictus*, (3) Results analysis. There were two test involved in this study, no-choice test and choice test. **Results:** In a no-choice test, there was no significant difference in the numbers of eggs colonized from the rainwater and tap water ($p>0.05$), indicating that *Ae. albopictus* oviposit their eggs on a substrate which is readily available. Whereas, in a choice test, gravid females were given a choice between rainwater and tap water for egg deposition and the results show that the number of eggs laid by *Ae. albopictus* in rain water (461.67 ± 12.4) was significantly more than that in tap water (212 ± 17.6) ($p<0.05$). The oviposition activity index was 0.37, indicating that the rainwater was more attractive compared to tap water as an oviposition substrate. The dissolved oxygen (DO) values of both rainwater and tap water were not significantly different ($p>0.001$). Significant different of water conductivity, pH, and turbidity ($p<0.001$) could have contributed to the site selection for oviposition of *Ae. albopictus*. **Conclusion:** This study provided baseline information on the different water characteristics that may promote the survivorship of *Ae. albopictus* and also concluded that the rainwater provides more suitable medium for the colonization of dengue vector *Ae. albopictus*

Keywords: Oviposition; *Aedes albopictus*; Rainwater; Tap water; Malaysia.