UNIVERSITI TEKNOLOGI MARA

EFFECTS OF WATER DEPTH AND SURFACE AREA ON THE OVIPOSITION BEHAVIOR OF *Aedes* MOSQUITOES (DIPTERA: CULICIDAE)

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Project submitted in fulfillment of the requirements for the degree of
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DECLARATION BY STUDENT

Project entitled "Effects of Water Depth and Surface Area on The Oviposition Behavior of *Aedes* Mosquitoes (Diptera: Culicidae)" 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. This project was done under the guidance of Project Supervisor, Dr. Nazri Bin 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

Dengue transmitted process is affected by a multipart of aspects such as environment, temperature, population behavior and DENV serotype immunity among human. DF and DHF has the highest increases among infectious diseases annually become the most important vector borne diseases. In Malaysia, dengue cases continuously reported every week. Understanding the association especially in between environmental characteristic and vector behavior significantly for better preventing and controlling dengue transmission. Depth had a significant effect on *Ae. aegypti* oviposition in the experimental environments colonized the number of eggs almost the same pattern on breeding site (ANOVA: df = 3, F = 31.312, P < 0.000) while on oviposition of *Ae. albopictus* (ANOVA: df = 3, F = 14.626, P < 0.000). Surface area had a significant outcome on *Ae. aegypti* oviposition in the experimental environments oviposit the number of eggs where almost the ascending pattern on breeding site (ANOVA: df = 2, F = 87.157, P < 0.005) while surface area had a significant outcome on *Ae. aegypti* oviposition in the experimental environments oviposit the number of eggs where almost the ascending pattern on breeding site (ANOVA: df = 2, F = 87.157, P < 0.005). It was shown that *Ae. albopictus* do not have preferable water depth contradict to *Ae. aegypti* where there is trend to oviposit more in highest depth of water. Despite the effect of depth of water on the *Ae. albopictus*, the number of eggs significantly difference on the experiment with surface area of water where the smallest the surface area received highest number of *Ae. albopictus* eggs laid compared to large surface area in both replica. Besides, *Ae. aegypti* also showed significant difference in surface area of water assessment, however, it strongly prefers larger surface area.

Keywords: *Oviposition behavior, depth, surface area, breeding site, vector control.*