

UNIVERSITI TEKNOLOGI MARA

**VERTICAL DISTRIBUTION OF *Aedes*
MOSQUITOES IN SELECTED MULTIPLE
STOREY BUILDINGS AT KOTA KINABALU,
SABAH**

FAZLINA BINTI YUSOF

Project submitted in fulfilment of the requirement for
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AUTHOR'S DECLARATION

The project titled “Vertical Distribution of *Aedes* Mosquitoes in Selected Multiple Storey Buildings at Kota Kinabalu, Sabah” is a presentation of my original work. Every contribution by those involved was indicated clearly, with references to literature, and acknowledgement of collaborative research and discussions. The project was done under the supervision of Dr Nazri Che Dom. This thesis 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).

Student's signature:

.....
(Fazlina Binti Yusof)

2014235788

900214-12-5268

Date:

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ABSTRACT

VERTICAL DISTRIBUTION OF *Aedes* MOSQUITOES IN SELECTED MULTIPLE STOREY BUILDING AT KOTA KINABALU, SABAH

by

Fazlina Yusof (2014235788)

Introduction: The tremendous existence of multiple storey buildings is growing up in Malaysia. The movement and breeding behaviour of *Aedes* mosquito changed due to the current development. The aim of the present study was therefore to determine the vertical distribution of *Aedes* mosquitoes in selected multiple storey buildings by performing entomological surveillance. **Objective:** To assess the vertical distribution of *Aedes* in multiple storey buildings. **Methodology:** The study was conducted in Angkasa Apartment, Kota Kinabalu Sabah. A total of 204 of ovitrap placed in two different types of block (high and low dengue risk blocks) from ground floor (0.0-3.0m) height up to level 8(24.1-27.0m) for 3 consecutive weeks. **Results:** Result implied that, the dominant species found was *Aedes albopictus*, (74.9%) followed by *Aedes aegypti* (25.50%). In overall, the highest percentage of ovitrap index (POI) recorded was in high dengue risk 16(72.7%) and the lowest was in low dengue risk block 6(27.3%). There was a significant difference of (POI) between the two blocks ($6.521 (1) = p < .0.611$). Based on number of eggs collected was observed in different block where the high eggs collected was reported in high dengue risk 416 (MET: 26) compared to low dengue risk 132(MET: 22). There was also a significant difference of MET within the two types of blocks ($0.021 (2) = p < .0.016$). The presence of *Aedes* mosquitoes breeding can be found in all levels throughout this study. In terms of density (MET), the highest density was recorded at ground floor level (MET: 30) followed by level 3 (MET: 25) and least was recorded at level eight (MET:20). Based on the trends it can be concluded that the infestation of *Aedes* was concentrated at lower level as compared to higher level. A poor correlation of the mean of eggs per trap collected with the level of multiple storey buildings, where the coefficient (r) is -0.347 , which suggest negative and low correlation. The capability of *Aedes aegypti* can reached up to level 8 (24.1-27.0m), while *Aedes albopictus* up to only level 7 (21.1-24.0m). **Conclusion:** The finding shows that the capability of *Aedes* mosquitoes breeding can reached up to upper level of multiple storey building. As a conclusion, the results indicate that the invasion of *Aedes* mosquitoes in high-rise apartments could facilitate the transmission of dengue virus and new approaches to vector control in this type of residential area should be developed.

Keywords: *Aedes*, dengue, distribution, ovitrap index.