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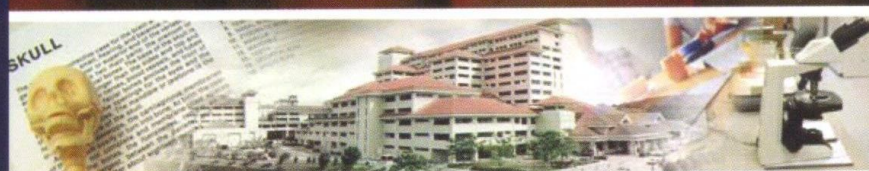
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INSECTICIDES SUSCEPTIBILITY IN *CULEX QUINQUEFASCIATUS* SAY OBTAINED FROM RICE CULTIVATION AREA IN SEKINCHAN, SELANGOR, MALAYSIA

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Background:

Culex quinquefasciatus has been reported as a nuisance biting pest and vector of urban filariasis and Japanese encephalitis. Its control relies heavily on application of insecticides. The present study was conducted to determine the susceptibility of *Cx. quinquefasciatus* larvae collected from a rice cultivation area in Sekinchan, Selangor, Malaysia against malathion, temephos and permethrin.

Material and Methods:

The adult mosquitoes were obtained from the study site by using human landing catch (HLC) and identified. The adult *Cx. quinquefasciatus* were reared under laboratory conditions to obtain first generation larvae for bioassay. Larvae bioassay was performed according to the WHO standard procedures for insecticide susceptibility test. Three insecticides were tested against *Cx. quinquefasciatus* larvae, namely malathion, temephos and permethrin. The larvae were tested against diagnostic dosage of malathion (0.125mg/L) and temephos (0.002mg/L). On the other hand, a total of five to ten concentrations of each insecticide were also tested to obtain 50% lethal concentration (LC₅₀). For each concentration, 25 late third or early fourth instars larvae *Cx. quinquefasciatus* were added. Each concentration was replicated three times. An untreated (control) was similarly set up without addition of insecticide. The larvae were exposed continuously for 24 hours. The larvae mortality was recorded after 24 hours post treatment. The test results obtained from bioassay were pooled and analysed using probit analysis.

Results:

Culex quinquefasciatus larvae were tolerated to diagnostic dosage of malathion and temephos with no mortality were observed after 24 hours post-treatment. However, temephos (0.03±0.00mg/L) exhibited significant lower LC₅₀ value against *Cx. quinquefasciatus*, in comparison to permethrin (0.06±0.00mg/L) and malathion (1.49±0.13mg/L) (p<0.05).

Conclusion:

Culex quinquefasciatus was susceptible against temephos followed by permethrin and malathion. This indicating that temephos was effective in controlling *Cx. quinquefasciatus* in this site.

Keywords:

Culex quinquefasciatus, insecticides resistance, larval bioassay, Malaysia