COMBINED EFFECTS OF ALLICIN FROM *Allium sativum* (GARLIC) AND ANETHOLE FROM *Illicium verum* (STAR ANISE) ON THE MORTALITY OF *Aedes* MOSQUITO LARVAE

An Undergraduate Research Presented to the

Faculty of the Biological Sciences Department

College of Science and Computer Studies

De La Salle University - Dasmariñas

Dasmariñas City

In Partial Fulfilment of the Requirements

for the Degree of Bachelor of Science Major in Human Biology

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March 2013

ABSTRACT

The combined effects of allicin from garlic and anethole from star anise on the mortality of *Aedes* mosquito larvae were determined in this study using larvicidal bioassay. Garlic (*Allium sativum*) bulbs and dried star anise (*Illicium verum*) were extracted to form the pure substances, allicin and anethole. Each pure substance was subjected to serial dilutions and their minimum lethal concentrations (MLC) were determined. The number of dead mosquito larvae were gathered and subjected to Mann Whitney test. The MLCs were used in comparing the larvicidal efficiency of the individual isolates and the combination. The number of mosquito larvae mortality were gathered and subjected to One-Way ANOVA test. It showed that there is a significant difference among the treatments subjected to mosquito larvae. The combination of allicin and anethole as well as allicin showed no significant difference with the positive control group and can be considered as potent as the cypermethrin, a synthetic insecticide used as the positive control for the experiment. Only pure anethole depicted a significant difference with the positive control group. As such it can be seen that allicin-anethole mixture can be a potentially effective mosquito larvicidal agent that can be a natural, safer alternative to some commercially available, synthetic mosquito larvicides with associated toxic effects to humans and other non-target organisms in the environment.