ABSTRACT

The Effectiveness Test of Phaleria Extracts (Phaleria macrocarpa (Scheff.) Boerl) as the Larvicides towards Third Instar Larvae Aedes aegypti

By

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Case of dengue fever increases and causes fatalities every year. Control efforts of dengue fever vector have been done excessively, one of them is by using synthetic insecticides. However, the use of synthetic insecticides isn’t safe for population of user and also triggers vector resistance. Negative impact of those synthetic insecticides can be minimized by applying natural insecticides, one of them is by using the extracts of Phaleria. Phaleria (Phaleria macrocarpa (Scheff.) Boerl) contains active compounds such as saponin, flavonoid, and alkaloid which have larvicides characteristics.

Purpose of this research was to find out the effectiveness, LC50, and LT50 from active compounds contained in Phaleria extracts. This research was using completely randomized experimental design with 6 treatment groups, 0% (negative control); 0.25%; 0.5%; 0.75%; 1%; and abate 1% (positive control). Number of samples used in this research was 600 larvae. Each group contained 25
larvae in 200 ml of Phaleria extracts solution. It has been done a repetition for 4 times and larvae were fed rabbit pellets. During the research, the test used was Kruskal- wallis (p<0,05) test, Post-hoc Mann Whitney (p<0,05) test, and Probit test to look for LC$_{50}$ and LT$_{50}$.

From the research, the average number of the dead larvae was 100% at all levels of concentration. However, concentration of 0,5% had the fastest killing power 100% towards larvae at the 1440$^{th}$ minute, so that it was the most effective concentration. The values of LC$_{50}$ were 0,279% at the 1440$^{th}$ minute; 0,145% at the 2880$^{th}$ minute; and 0,145 % at the 4320$^{th}$ minute. The values of LT$_{50}$ were 344,367 minutes at concentration of 0,25%; 344,048 minutes at concentration of 0,5%; 343,782 minutes at concentration of 0,75%; and 340,317 minutes at concentration of 1%.

Key words: Aedes aegypti, Larvicides, Phaleria