

ABSTRACT

Effectiveness of Giving 70% Ethanol Root Extract Kecombrang (*Etlingera elatior*) against *Aedes aegypti* larvae instars III as Potential Biolarvacide

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Dengue disease is one public health problem in the countries that has the tropical climate, including Indonesia. DHF has a very rapid clinical course and often leads to death due to delayed treatment. Efforts to control and eradicate the dengue vector has been widely applied. The use of artificial insecticides as larvacide is the most commonly used by communities to control the growth of these vectors. However, the use of artificial insecticides may pose a danger to health or the environment. Dangers of using artificial insecticides can be minimized by using natural insecticides, one of the plants kecombrang (*Etlingera elatior*). Plants kecombrang contains active compounds are saponins and flavonoids that have potential as larvacide.

The purpose of this study was to determine the effectiveness, LC₅₀ and LT₅₀ values kecombrang root extract (*Etlingera elatior*). The study design used was experimental, using completely randomized design. Trials were divided into 6 groups, namely 0% (negative control), 0.25%, 0.5%, 0.75%, 1% and 1% abate (positive control). The number of samples used in this study was 480 larvae. Each group contains 20 larvae in 200 ml solution containing ethanol root extract kecombrang. Repetition done 4 times and given food fish

during the study. Test used is the Kruskal-wallis test ($p < 0.05$), Post-hoc tests Man Whitney ($p < 0.05$) and Probit test to find the value of LC_{50} and LT_{50} .

The results showed that the average number of larvae that died of 26.25% at a concentration of 0.25%, 47.50% at concentration of 0.5%, 75% at concentrations of 0.75% and 96.25% at a concentration of 1%. Based on these results the most effective concentration of 1% due to the concentration of power killed him faster and the number of death is almost equal to abate 1%. LC_{50} value was 4.38% in the 20th minute; 1.56% in the 40th minute; 1.01% in the 60th minute; 0.83% minute 120; 0.71% to-240 minutes; 0.61% to 480 minutes; 0.54% in minute-1440; 0.48% at minute in 2880 and 0.44% in 4320 minutes. LT_{50} value was 380.88 minutes at a concentration of 0.75% and 151.81 minutes at a concentration of 1%.

Key word : *Aedes aegypti*, Kecombrang (*Etlingera elatior*) and Larvacides