

ABSTRACT

THE EFFECTIVENESS OF RAJA BANANA (MUSA PARADISIACA VAR. RAJA) PEEL EXTRACT AS A BIOLARVICIDE FOR AEDES AEGYPTI, THE DENGUE HEMORRHAGIC FEVER VECTOR

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Dengue Hemorrhagic Fever (DHF) is a public health problem transmitted by Aedes aegypti mosquitoes in tropical regions, including Indonesia. Vector control still largely relies on chemical larvicides such as abate; however, these may lead to resistance and environmental impacts. Therefore, alternative biolarvicides derived from natural materials are needed. Raja banana peel (Musa paradisiaca var. Raja) contains flavonoids, tannins, saponins, and alkaloids that have potential as natural insecticides. This study aimed to determine the effectiveness of raja banana peel extract on the mortality and morphological changes of Aedes aegypti larvae. The study employed a true experimental design with a negative control, a positive control (abate), and treatment concentrations of 1%, 2%, 3%, 4%, and 5%. Each treatment consisted of 25 larvae with two repetitions. Observations were conducted over 24 and 48 hours. The raja banana peel extract (Musa paradisiaca var. Raja) at a concentration of 5% showed dominant effectiveness as a biolarvicide against Aedes aegypti larvae, with mortality rates of 72% in instar III and 66% in instar IV after 48 hours of exposure. In addition, the exposed larvae exhibited morphological changes in the abdomen and siphon, characterized by changes in body color and reduced movement activity, indicating a toxic effect of the active compounds in the extract that disrupt the structure and physiological functions of the larvae.

Keywords: *Biolarvicide, Musa paradisiaca var. Raja , Aedes aegypti*