

ABSTRAK

UJI EFEKTIVITAS EKOENZIM KULIT PISANG KEPOK (*Musa paradisiaca* L.) MUDA TERHADAP MORTALITAS LARVA NYAMUK *Aedes aegypti*

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Nyamuk *Aedes aegypti* merupakan vektor penyakit Demam Berdarah Dengue (DBD). Pengendalian nyamuk *Aedes* sp. dapat dilakukan dengan memutus rantai penyebarannya, antara lain dengan mematikan larvanya menggunakan larvasida. Penggunaan larvasida sintetik secara terus-menerus dapat menimbulkan pencemaran lingkungan, sehingga diperlukan biolarvasida sebagai alternatif pengendalian vektor yang ramah lingkungan dan menghindari resistensi. Ekoenzim kulit pisang kepok muda berpotensi sebagai biolarvasida *Ae. aegypti* karena memiliki kandungan asam organik dan senyawa metabolit sekunder seperti flavonoid, saponin, dan tanin. Penelitian ini bertujuan untuk mengetahui pengaruh ekoenzim kulit pisang kepok (*Musa paradisiaca* L.) muda sebagai biolarvasida terhadap mortalitas larva nyamuk *Ae. aegypti*. Penelitian merupakan penelitian faktorial 2 faktor yang dirancang dalam Rancangan Acak Kelompok Lengkap (RAKL). Faktor pertama adalah konsentrasi ekoenzim 5%, 10%, 15%, 20%, air PAM (kontrol negatif) dan 1% abate (kontrol positif). Faktor kedua larva *Ae. aegypti* dengan instar III dan IV. Setiap unit perlakuan diujikan pada 25 ekor larva *Ae. aegypti* dengan pengulangan sebanyak 4 kali. Hasil analisis menunjukkan bahwa ekoenzim kulit pisang kepok (*Musa paradisiaca* L.) muda memiliki aktivitas biolarvasida terhadap nyamuk *Ae. aegypti*. Semua konsentrasi mampu meningkatkan mortalitas larva bahkan pada konsentrasi terendah sekalipun. Nilai LC_{50} ekoenzim kulit pisang kepok muda terhadap larva *Ae. aegypti* instar III dan IV adalah konsentrasi 8,31% dan konsentrasi 7,29%, sedangkan nilai LT_{50} larva *Ae. aegypti* instar III dan IV adalah 15,21 jam dan 13,19 jam.

Kata Kunci: Biolarvasida, Ekoenzim, Larva *Aedes aegypti*, *Musa paradisiaca* L.

ABSTRACT

THE EFFECTIVINESS TEST OF UNRIPE KEPOK BANANA PEEL (*Musa paradisiaca* L.) ECOENZYME ON THE MORTALITY LARVAE OF *Aedes aegypti*

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Aedes aegypti mosquito is a vector of Dengue Hemorrhagic Fever (DHF). Control of *Aedes* sp. mosquitoes can be done by breaking the chain of transmission, among others by killing the larvae using larvicide. Continuous use of synthetic larvicide can cause environmental pollution, so biolarvicide is needed as an alternative to environmentally friendly vector control and avoid resistance. Ecoenzyme of unripe banana peel has the potential as a biolarvicide for *Ae. aegypti* because it contains organic acids and secondary metabolite compounds such as flavonoids, saponins, and tannins. This research aims to determine the effect of ecoenzyme of unripe kepok banana peel (*Musa paradisiaca* L.) as a biolarvicide on the mortality of *Ae. aegypti* mosquito larvae. This research is a 2-factor factorial research designed in a Randomized Complete Block Design (RCBD). The first factor is the concentrations of ecoenzyme 5%, 10%, 15%, 20%, PAM water (negative control) and 1% abate (positive control). The second factor was *Ae. aegypti* larvae with instars III and IV. Each treatment unit was tested on 25 *Ae. aegypti* larvae with 4 repetitions. The analysis showed that the ecoenzyme of unripe kepok banana peel (*Musa paradisiaca* L.) has biolarvicidal activity against *Ae. aegypti* mosquitoes. All concentrations were able to increase larval mortality even at the lowest concentration. The LC₅₀ value of unripe kepok banana peel ecoenzyme against *Ae. aegypti* larvae instars III and IV were 8.31% and 7.29%, while the LT₅₀ value of *Ae. aegypti* larvae instars III and IV were 15.21 hours and 13.19 hours.

Keywords: Biolarvicide, Ecoenzyme, *Aedes aegypti* larvae, *Musa paradisiaca* L.