

UJI EFEKTIVITAS EKSTRAK DAUN RASAMALA (*Altingia excelsa*) SEBAGAI INSEKTISIDA NYAMUK *Aedes aegypti*

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ABSTRAK

Latar Belakang – Demam berdarah *dengue* (DBD) merupakan penyakit akibat virus *Dengue* yang ditularkan oleh nyamuk *Aedes aegypti*. Pencegahan DBD banyak menggunakan insektisida kimia yang tidak ramah lingkungan dan banyak mengalami resistensi.

Tujuan – Penelitian ini bertujuan untuk mengetahui efek ekstrak daun Rasamala (*Altingia excelsa*) sebagai insektisida nyamuk *Ae. aegypti*.

Metode Penelitian – Metode penelitian menggunakan pendekatan eksperimental dengan desain *post test only with control group* menggunakan 500 ekor nyamuk *Ae. aegypti* betina berusia 3-5 hari yang diberikan paparan uap menggunakan alat *electric liquid* dan terbagi dalam 5 kelompok dengan total 4 pengulangan : kontrol positif, kontrol negatif, ekstrak 25%, ekstrak 50%, dan ekstrak 75%. Data dikumpulkan dengan menilai jumlah kematian nyamuk pada 8, 16, dan 24 jam setelah pemberian paparan.

Hasil – Hasil menunjukkan bahwa ekstrak daun Rasamala memiliki efek sebagai insektisida nyamuk *Ae. aegypti*. Analisis bivariat menggunakan uji *Kruskal Wallis* didapatkan *p-value* sebesar 0,001, menunjukkan adanya perbedaan yang signifikan antara rerata kematian nyamuk *Ae. aegypti* pada berbagai konsentrasi ekstrak daun Rasamala. Uji *Post Hoc* menunjukkan bahwa konsentrasi ekstrak 50% efektif dalam membunuh nyamuk *Ae. aegypti*. Analisis probit menunjukkan nilai *Lethal Concentration* (LC50) sebesar 182% sehingga ekstrak daun Rasamala memiliki nilai toksisitas sangat rendah. *Lethal Time* (LT50) memiliki nilai parameter *estimate* yang tidak signifikan sehingga nilai LT50 tidak dapat ditentukan.

Kesimpulan – Pemberian ekstrak daun Rasamala (*A. excelsa*) memiliki efek sebagai insektisida nyamuk *Ae. aegypti* dengan konsentrasi paling efektif yaitu konsentrasi ekstrak 50%.

Kata Kunci : Nyamuk, *Aedes aegypti*, Rasamala, Insektisida, DBD

EFFECTIVENESS TEST OF RASAMALA LEAF EXTRACT (*Altingia excelsa*) AS INSECTICIDE FOR *Aedes aegypti* MOSQUITOES

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ABSTRACT

Background – Dengue hemorrhagic fever (DHF) is a disease caused by the Dengue virus, which is transmitted by the *Aedes aegypti* mosquito. The prevention of DHF commonly involves the use of chemical insecticides, which are not environmentally friendly and often lead to resistance.

Objective – The purpose of this study is to determine the effect of Rasamala leaf extract (*Altingia excelsa*) as insecticide against *Aedes aegypti* mosquitoes.

Methods – The research method used an experimental approach with a post-test only design with a control group, utilizing 500 female *Aedes aegypti* mosquitoes aged 3-5 days that were exposed to vapor using an electric liquid device. The mosquitoes were divided into 5 groups with a total of 4 repetitions: positive control, negative control, 25% extract, 50% extract, and 75% extract. Data were collected by assessing the number of mosquito deaths at 8, 16, and 24 hours after exposure.

Results – The results indicate that the extract of Rasamala leaves has an effect as an insecticide against *Aedes aegypti* mosquitoes. Bivariate analysis using the Kruskal-Wallis test yielded a p-value of 0.001, indicating a significant difference in the average mortality of *Aedes aegypti* mosquitoes at various concentrations of Rasamala leaf extract. The Post Hoc test showed that the 50% extract concentration is effective in killing *Aedes aegypti* mosquitoes. Probit analysis revealed a Lethal Concentration (LC50) value of 182%, indicating that Rasamala leaf extract has very low toxicity. The Lethal Time (LT50) parameter estimate was not significant, thus the LT50 value could not be determined.

Conclusion – The exposure of Rasamala leaf extract (*A. excelsa*) has an effect as an insecticide against *Aedes aegypti* mosquitoes, with the most effective concentration being the 50% extract concentration.

Keywords: Mosquito, *Aedes aegypti*, Rasamala, Insecticide, Dengue Fever