

ABSTRACT

LARVICIDAL ACTIVITY TEST OF A COMBINATION OF BLUE-PEA FLOWER EXTRACT (*Clitoria ternatea* L.) and PAPAYA FLOWER (*Carica papaya* L.) AGAINST *Aedes aegypti* LARVAE

By

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Background: Dengue Hemorrhagic Fever (DHF) remains a health problem in Indonesia, necessitating effective vector control. Natural larvicides, such as a combination of *Clitoriae ternateae Flos* and *Caricae papayae Flos* extracts, have the potential to be a safer alternative to synthetic insecticides. This study aimed to assess the larvicidal activity of the extract combination against *Aedes aegypti* larvae.

Methods: A laboratory experimental study with a post-test only with control group design was conducted to evaluate the larvicidal activity of a combination of ethanol extracts of *Clitoriae ternateae Flos* and *Caricae papayae Flos* against *Aedes aegypti* larvae. Larvicidal effectiveness was assessed based on the level of larval mortality after a certain exposure time compared to the control group.

Results: There was a relationship between variations in the combination of *Clitoriae ternateae Flos* and *Caricae papayae Flos* extracts with the mortality rate of *Aedes aegypti* larvae. A concentration of 0.002% in a 2:1 combination showed the highest larvicidal effectiveness with a percentage of larval mortality of 85%, compared to a combination of 1:1 (73.75%) and 1:2 (52.5%).

Conclusions: The combination of *Clitoriae ternateae Flos* and *Caricae papayae Flos* extracts had an effect on the mortality of *Aedes aegypti* larvae in all treatment groups.

Keywords: *Aedes aegypti*, *Caricae papayae Flos*, *Clitoriae ternateae Flos*, combination extract, larvicide, mortality

ABSTRAK

UJI AKTIVITAS LARVASIDA KOMBINASI EKSTRAK BUNGA TELANG (*Clitoria ternatea* L.) dan BUNGA PEPAYA (*Carica papaya* L.) TERHADAP LARVA *Aedes aegypti*

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Latar Belakang: Demam Berdarah Dengue (DBD) masih menjadi masalah kesehatan di Indonesia sehingga diperlukan pengendalian vektor yang efektif. Larvasida alami, seperti kombinasi ekstrak bunga telang (*Clitoria ternatea* L.) dan bunga pepaya (*Carica papaya* L.), berpotensi menjadi alternatif yang lebih aman dibandingkan insektisida sintetik. Penelitian ini bertujuan menilai aktivitas larvasida kombinasi ekstrak terhadap larva *Aedes aegypti*.

Metode: Penelitian eksperimental laboratorium dengan desain *post-test only with control group design* untuk mengevaluasi aktivitas larvasida kombinasi ekstrak etanol bunga telang (*Clitoria ternatea* L.) dan bunga pepaya (*Carica papaya* L.) terhadap larva *Aedes aegypti*. Efektivitas larvasida dinilai berdasarkan tingkat kematian larva setelah waktu paparan tertentu dibandingkan dengan kelompok kontrol.

Hasil: Terdapat hubungan antara variasi kombinasi ekstrak bunga telang (*Clitoria ternatea* L.) dan bunga pepaya (*Carica papaya* L.) dengan tingkat kematian larva *Aedes aegypti*. Konsentrasi 0,002% pada kombinasi 2:1 menunjukkan efektivitas larvasida tertinggi dengan persentase kematian larva sebesar 85%, dibandingkan kombinasi 1:1 (73,75%) dan 1:2 (52,5%).

Kesimpulan: Kombinasi ekstrak bunga telang (*Clitoria ternatea* L.) dan bunga pepaya (*Carica papaya* L.) berpengaruh terhadap mortalitas larva *Aedes aegypti* pada seluruh kelompok perlakuan.

Kata Kunci: *Aedes aegypti*, bunga pepaya, bunga telang, kombinasi ekstrak, larvasida, mortalitas