

ABSTRAK

UJI EFEKTIVITAS EKSTRAK ETANOL DAUN API-API PUTIH (*Avicennia marina*) TERHADAP MORTALITAS LARVA NYAMUK *Aedes aegypti*

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Bahaya penggunaan insektisida sintetik untuk pengendalian vektor Demam Berdarah Dengue (DBD) berpotensi menimbulkan resistensi pada nyamuk serta mencemari lingkungan. Salah satu alternatif yang lebih ramah lingkungan adalah larvasida nabati, salah satunya berasal dari tanaman api-api putih (*Avicennia marina*). Penelitian ini bertujuan untuk mengetahui kandungan metabolit sekunder ekstrak etanol daun *A. marina* melalui uji fitokimia dan menentukan nilai LC_{50} ekstrak tersebut terhadap mortalitas larva *Ae. aegypti*. Penelitian menggunakan metode Rancangan Acak Lengkap (RAL) dengan enam perlakuan, yaitu kontrol negatif (akuades), kontrol positif (abate 1%), serta ekstrak etanol *A. marina* pada konsentrasi 4%, 6%, 8%, dan 10% dengan 3 kali ulangan dan pengamatan dilakukan selama 72 jam. Hasil uji fitokimia pada ekstrak etanol daun *A. marina* mengandung senyawa alkaloid, flavonoid, dan steroid, sedangkan saponin, terpenoid, tanin dan fenolik tidak terdeteksi. Hasil uji *One-way* ANOVA menunjukkan adanya perbedaan mortalitas yang signifikan ($p < 0,05$) antar konsentrasi. Uji lanjut *Tukey's* menunjukkan konsentrasi 10% menghasilkan mortalitas paling tinggi. Efektivitas ekstrak dianalisis dengan probit, menunjukkan nilai LC_{50} sebesar 6,09% pada 72 jam. Berdasarkan hasil tersebut, dapat disimpulkan bahwa ekstrak etanol daun *A. marina* efektif sebagai larvasida nabati.

Kata kunci: *Aedes aegypti*, *Avicennia marina*, efektivitas, ekstrak, LC_{50} .

ABSTRACT

TESTING THE EFFECTIVENESS OF WHITE API-API LEAF (*Avicennia marina*) ETHANOL EXTRACT ON THE MORTALITY OF *Aedes* *aegypti* MOSQUITO LARVAE

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The use of synthetic insecticides for controlling the Dengue Haemorrhagic Fever (DHF) vector has the potential to cause resistance in mosquitoes and pollute the environment. One more environmentally friendly alternative is plant-based larvicides, one of which comes from the white mangrove (*Avicennia marina*). This study aims to determine the secondary metabolite content of *A. marina* leaf ethanol extract through phytochemical testing and to determine the LC₅₀ value of the extract against *Ae. aegypti* larval mortality. The study used a completely randomised design (CRD) with six treatments, namely negative control (distilled water), positive control (1% abate), and *A. marina* ethanol extract at concentrations of 4%, 6%, 8%, and 10% with 3 replicates and observations made over 72 hours. The phytochemical test results on the ethanol extract of *A. marina* leaves contained alkaloids, flavonoids, and steroids, while saponins, terpenoids, tannins, and phenolics were not detected. The *One-way* ANOVA test results showed a significant difference ($p < 0.05$) in mortality between concentrations. Further *Tukey's* test showed that the 10% concentration resulted in the highest mortality. The effectiveness of the extract was analysed using probit, showing an LC₅₀ value of 6.09% at 72 hours. Based on these results, it can be concluded that *A. marina* leaf ethanol extract is effective as a botanical larvicide.

Keywords: *Avicennia marina*, *Aedes aegypti*, extract, LC₅₀, effectiveness.