ABSTRAK

UJI EFEKTIVITAS EKSTRAK ETIL ASETAT DAUN *Avicennia marina* (MANGROVE API-API PUTIH) SEBAGAI LARVASIDA TERHADAP NYAMUK *Aedes aegypti* VEKTOR DEMAM BERDARAH DENGUE (DBD)

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Penggunaan insektisida sintetis dalam penanggulangan vektor Demam Berdarah Dengue (DBD) yang ditularkan melalui nyamuk *Aedes aegypti* secara terus-menerus dapat menimbulkan berbagai dampak negatif, antara lain terjadinya resistensi pada nyamuk, pencemaran lingkungan, serta resiko membahayakan kesehatan manusia, oleh karena itu larvasida alami dapat digunakan sebagai alternatif yang lebih aman dan ramah lingkungan. Salah satu tumbuhan yang berpotensi sebagai larvasida alami adalah mangrove *Avicennia marina*, karena diketahui mengandung senyawa metabolit sekunder yang bersifat insektisida. Penelitian ini bertujuan untuk mengidentifikasi kandungan metabolit sekunder pada ekstrak etil asetat daun *A. marina* melalui uji fitokimia, serta mengetauhi pengaruh dan efektivitasnya sebagai larvasida terhadap larva instar III nyamuk *Ae. aegypti*. Metode penelitian menggunakan Rancangan Acak Lengkap (RAL) dengan enam perlakuan, yaitu kontrol negatif (akuades), kontrol positif (abate 1%), serta variasi konsentrasi ekstrak etil asetat daun *A. marina* sebesar 1%, 2%, 3%, dan 4%, masing-masing dengan tiga ulangan. Uji larvasida dilakukan selama 72 jam. Untuk mengetahui perbedaan mortalitas antar perlakuan diuji dengan ANOVA pada taraf kepercayaan 95% kemudian untuk mengetahui efektivitas ekstrak etil asetat *A. marina* dianalisis dengan uji probit. Hasil uji fitokimia menunjukkan ekstrak etil asetat *A. marina* mengandung senyawa metabolit sekunder berupa steroid. Hasil *one way* ANOVA menunjukkan adanya perbedaan mortalitas antar perlakuan dengan nilai p = 0,001. Hasil uji lanjut Tukey menunjukkan konsentrasi 4% ekstrak *A. marina* menyebabkan jumlah mortalitas larva nyamuk tertinggi sebesar 78,67%. Hasil analisis probit menunjukkan bahwa ekstrak etil asetat *A. marina* efektif sebagai larvasida dengan nilai LC_{50} sebesar 3,04%.

Kata kunci : etil asetat, *Avicennia marina*, larvasida, larva *Aedes aegypti*

ABSTRACT

EVALUATION OF THE EFFICACY OF ETHYL ACETATE EXTRACT FROM *Avicennia marina* (WHITE MANGROVE) LEAVES AS A LARVACIDE AGAINST *Aedes aegypti* MOSQUITOES, THE VECTOR OF DENGUE HEMORRHAGIC FEVER (DHF)

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The continuous use of synthetic insecticides in the control of Dengue Hemorrhagic Fever (DHF) vectors transmitted by *Aedes aegypti* mosquitoes can cause various negative impacts, including the occurrence of resistance in mosquitoes, environmental pollution, and the risk of endangering human health, therefore natural larvicides can be used as a safer and more environmentally friendly alternative. One of the plants that has the potential as a natural larvicide is the *Avicennia marina* mangrove, because it is known to contain secondary metabolite compounds that have insecticidal properties. This study aims to identify the content of secondary metabolites in the ethyl acetate extract of *A. marina* leaves through phytochemical tests, and to determine its effect and effectiveness as a larvicide against instar larvae of *Ae*. *aegypti* mosquitoes. The research method used a Completely Randomized Design (CRD) with six treatments, namely negative control (aquadest), positive control (abate 1%), and variations in the concentration of ethyl acetate extract of *A. marina* leaves of 1%, 2%, 3%, and 4%, each with three replications. The larvicidal test was conducted for 72 hours. To determine the difference in mortality between treatments, it was tested using ANOVA at a 95% confidence level, then to determine the effectiveness of the ethyl acetate extract of A. marina, it was analyzed using a probit test. The results of the phytochemical test showed that the ethyl acetate extract of *A. marina* contained secondary metabolite compounds in the form of steroids. The results of one-way ANOVA showed a difference in mortality between treatments with a p value = 0.001. The results of the Tukey further test showed that a concentration of 4% *A. marina* extract caused the highest number of mosquito larvae mortality of 78.67%. The results of the probit analysis showed that the ethyl acetate extract of *A. marina* was effective as a larvicide with an LC_{50} value of 3,04%.

Key words: *Aedes aegypti* larvae, *Avicennia marina*, ethyl acetate, larvicide