ABSTRAK

UJI EFEKTIVITAS EKSTRAK ETANOL DAUN ZODIA (*Evodia suaveolens*) SEBAGAI REPELEN DALAM SEDIAAN *SPRAY* TERHADAP NYAMUK *Aedes aegypti*

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Nyamuk *Aedes aegypti* merupakan vektor utama penyakit Demam Berdarah Dengue (DBD) yang dapat menyebabkan kematian jika tidak ditangani secara tepat. Insektisida sintetis telah digunakan untuk pengendalian vektor tersebut, tetapi dapat menimbulkan dampak negatif seperti resistensi, pencemaran lingkungan, dan gangguan kesehatan. Oleh karena itu, diperlukan alternatif yang lebih aman seperti penggunaan insektisida alami dari daun zodia (*Evodia suaveolens*). Penelitian ini bertujuan untuk mengetahui efektivitas sediaan *spray* ekstrak etanol daun zodia sebagai repelen terhadap nyamuk *Ae. aegypti*. Metode penelitian yang digunakan adalah eksperimental dengan Rancangan Acak Lengkap (RAL) yang terdiri dari empat konsentrasi ekstrak, yaitu 0%, 5%, 10%, dan 15%. Parameter pengamatan meliputi kandungan senyawa fitokimia, stabilitas sediaan *spray*, dan daya tolak nyamuk. Data yang diperoleh dianalisis menggunakan uji ANOVA, uji lanjut LSD, dan analisis probit. Hasil penelitian menunjukkan bahwa ekstrak etanol daun zodia mengandung senyawa alkaloid, flavonoid, saponin, tanin, fenol, terpenoid, dan steroid. Sediaan *spray* memiliki pH 5, bersifat tidak homogen dan menunjukkan kekeruhan yang meningkat seiring bertambahnya konsentrasi ekstrak. Peningkatan konsentrasi ekstrak berbanding lurus dengan daya tolak nyamuk. Daya tolak nyamuk pada konsentrasi 5% (13,63%); 10% (36,62%,); dan 15% (74,64%), dengan konsentrasi 15% menunjukkan daya tolak tertinggi. Berdasarkan analisis probit diperoleh nilai EC_{50} sebesar 11,55% menunjukkan bahwa sediaan *spray* ekstrak etanol daun zodia efektif sebagai repelen terhadap nyamuk *Ae. aegypti*.

Kata kunci: *Aedes aegypti*, *Evodia suaveolens*, repelen, *spray*.

ABSTRACT

EFFECTIVENESS TEST OF ETHANOL EXTRACT OF ZODIA LEAVES (*Evodia suaveolens*) AS A REPELLENT IN SPRAY FORMULATION AGAINST *Aedes aegypti* MOSQUITOES

By

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Aedes aegypti mosquitoes are the primary vector of Dengue Hemorrhagic Fever (DHF), which can cause death if not properly treated. Synthetic insecticides have been used to control this vector; however, they may cause negative effects such as resistance, environmental pollution, and health problems. Therefore, safer alternatives are needed, such as natural insecticides derived from zodia leaves (*Evodia suaveolens*). This study aimed to determine the effectiveness of a spray formulation containing the ethanol extract of zodia leaves as a repellent against *Ae. aegypti* mosquitoes. This research employed an experimental method using a Completely Randomized Design (CRD) with four extract concentrations: 0%, 5%, 10%, and 15%. The observed parameters included phytochemical content, spray formulation stability, and mosquito repellency. The data were analyzed using ANOVA, followed by the Least Significant Difference (LSD) test and probit analysis. The results showed that the ethanol extract of zodia leaves contains alkaloids, flavonoids, saponins, tannins, fenols, terpenoids, and steroids. The spray formulation had a pH of 5, was non-homogeneous, and exhibited increased turbidity with higher extract concentrations. An increase in extract concentration was directly proportional to mosquito repellency. The repellency at concentrations of 5% (13,63%); 10% (36,62%,), and 15% (74,64%), with the 15% concentration showing the highest repellency. Based on the probit analysis, the EC_{50} value of 11.55% showed that the ethanol extract spray formulation of zodia leaves is effective as a repellent against *Ae. aegypti* mosquitoes.

Key words: *Aedes aegypti, Evodia suaveolens,* repellent, spray.