ABSTRAK

UJI EFEKTIVITAS EKSTRAK ETANOL DAUN MAHONI (*Swietenia mahagoni* L.) DALAM SEDIAAN LOSION SEBAGAI REPELAN TERHADAP NYAMUK *Aedes aegypti*

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Upaya pencegahan yang dilakukan untuk menghindari gigitan nyamuk umumnya menggunakan repelan yang mengandung zat kimia sintetik berupa *N, N-dietil-meta-toluamide* (DEET) dan jika digunakan dalam jangka waktu yang lama dapat menyebabkan kerusakan pada tubuh manusia. Diketahui tanaman mahoni (*Swietenia mahagoni* L.) mengandung senyawa metabolit sekunder berupa flavonoid, saponin, tannin, alkaloid dan terpenoid yang diduga berpotensi sebagai repelan serangga. Penelitian ini bertujuan untuk mengetahui efektivitas ekstrak etanol daun mahoni (*S. mahagoni* L.) dalam sediaan losion sebagai repelan nyamuk *Ae. aegypti*, *Effective Concentration* 50% (EC_{50}), sifat fisik dan efek iritasi losion ekstrak etanol daun mahoni. Penelitian ini dilaksanakan pada bulan Januari - Maret 2024 bertempat di Laboratorium Botani dan Laboratorium Zoologi, FMIPA, Unila. Penelitian menggunakan Rancangan Acak Lengkap (RAL) dengan 4 perlakuan yang terdiri dari 4 tingkat konsentrasi uji yaitu 0%, 5%, 10% dan 15%. Setiap perlakuan dilakukan pengulangan sebanyak 6 kali. Daya proteksi masing - masing ekstrak etanol daun mahoni dianalisis dengan *oneway* Anova dilanjutkan dengan uji LSD 5% serta analisis probit. Hasil penelitian ini menunjukkan losion ekstrak etanol daun mahoni pada konsentrasi 15% memiliki daya proteksi sebagai repelan sebesar 87,63% dan nilai EC_{50} losion ekstrak etanol daun mahoni adalah 9,60%. Losion memiliki sifat fisik yang baik dan tidak menimbulkan iritasi di kulit. Kesimpulan, ekstrak etanol daun mahoni memiliki efektivitas sebagai repelan nyamuk *Aedes aegypti*.

Kata kunci: *Aedes aegypti*, Infeksi virus Dengue, Repelan, Daun mahoni

ABSTRACT

EFFECTIVENESS TEST OF ETHANOL EXTRACT MAHOGANY LEAF (*Swietenia mahagoni* L.) IN LOTION AS *Aedes aegypti* MOSQUITO REPELLANT

By

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Preventive efforts made to avoid mosquito bites generally use repellants containing synthetic chemicals in the form of N, N-diethyl-meta-toluamide (DEET) and if used for a long period of time can cause damage to the human body. It is known that mahogany plants (*Swietenia mahagoni* L.) contain secondary metabolite compounds in the form of flavonoids, saponins, tannins, alkaloids and terpenoids which are thought to have potential as insect repellants. This study aims to determine the effectiveness of ethanol extract of mahogany leaves (*S. mahagoni* L.) in lotion preparation as a mosquito repellent for *Ae. aegypti*, Effective Concentration 50% (EC_{50}), physical properties and irritation effects of mahogany leaf ethanol extract lotion. This research was conducted from January to March 2024 at the Botany Laboratory and Zoology Laboratory, FMIPA, UNILA. The study used a completely randomized design (CRD) with 4 treatments consisting of 4 levels of test concentrations namely 0%, 5%, 10% and 15%. Each treatment was repeated 6 times. The protective power of each ethanol extract of mahogany leaves was analyzed by *oneway* Anova followed by LSD test at 5% and probit analysis. The results of this study showed that the lotion of mahogany leaf ethanol extract at a concentration of 15% had a protective power as a repellant of 87.63% and the EC_{50} value of mahogany leaf ethanol extract lotion was 9.60%. The lotion has good physical properties and does not cause irritation on the skin. In conclusion, the ethanol extract of mahogany leaves has effectiveness as a repellent for *Aedes aegypti* mosquitoes.

Key words: *Aedes aegypti*, *Dengue* virus infection, Repellant, Mahogany leaf