ABSTRAK

DAYA PROTEKSI LOTION EKSTRAK ETANOL RUMPUT LAUT *Sargassum polycystum* SEBAGAI REPELLENT NYAMUK *Aedes aegypti*

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Repellent yang beredar di pasaran pada umumnya mengandung zat kimia sintetik yang cukup berbahaya seperti *Diethyltoluamide* (DEET). Salah satu jenis tanaman yang mengandung senyawa flavonoid, saponin dan tanin memiliki potensi sebagai repellent bagi serangga adalah rumput laut *Sargassum polycystum*. Penelitian ini bertujuan untuk mengetahui kandungan senyawa metabolit sekunder dengan metode *Fourier-transform Infrared Spectroscopy* (FTIR), mengetahui daya proteksi lotion sebagai repellent nyamuk *Aedes aegypti*, mengetahui stabilitas fisik (homogenitas) dan efek iritasi. Jenis penelitian ini adalah eksperimental dengan metode Rancangan Acak Lengkap (RAL) dengan 4 perlakuan dan 6 kali ulangan. Data berupa persentase daya proteksi dianalisis dengan *one-way analysis of variance* (ANOVA) menggunakan program SPSS dan dilanjutkan dengan uji *Least Significant Difference* (LSD). Hasil uji FTIR ekstrak etanol rumput laut *Sargassum polycystum* menghasilkan gugus fungsi O-H, N-H, C-H, C=O, C=C, C-O yang mengandung senyawa metabolit sekunder berupa senyawa flavonoid, tanin, saponin, alkaloid, steroid dan terpenoid. Hasil *one-way* ANOVA menunjukkan terdapat perbedaan daya proteksi yang signifikan antar konsentrasi dengan (*p-value*=0,00). Hasil uji lanjut (LSD) yaitu daya proteksi terbaik sebesar 83,88% pada konsentrasi 50%. Hasil uji stabilitas fisik menunjukkan lotion homogen pada konsentrasi 0%, 12,5%, 25% dan tidak homogen pada konsentrasi 50%. Hasil uji efek iritasi lotion ekstrak rumput laut *Sargassum polycystum* tidak memberikan efek iritasi pada kulit. Kesimpulan, ekstrak rumput laut *Sargassum polycystum* dalam sediaan lotion menunjukkan aktivitas sebagai repellent terhadap nyamuk *Aedes aegypti*.

Kata Kunci : repellent, *Sargassum polycystum, Aedes aegypti*

ABSTRACT

PROTECTIVENESS OF SEAWEED ETHANOL EXTRACT LOTION *Sargassum polycystum* AS A REPELLENT FOR *Aedes aegypti* MOSQUITO

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Repellents on the market generally contain quite dangerous synthetic chemicals such as *Diethyltoluamide* (DEET). One type of plant that contains flavonoids, saponins and tannins which have the potential to act as a repellent for insects is the seaweed *Sargassum polycystum*. This research aims to determine the content of secondary metabolite compounds using the *Fourier-transform Infrared Spectroscopy* (FTIR) method, determine the protective power of lotion as a repellent for the *Aedes aegypti* mosquito, determine physical stability (homogeneity) and irritation effects. This type of research is experimental with a *Completely Randomized Design* (CRD) method with 4 treatments and 6 replications. Data in the form of percentage of protective power were analyzed with *one-way* analysis of variance (ANOVA) using the SPSS program and continued with the *Least Significant Difference* (LSD) test. The FTIR test results of the ethanol extract of *Sargassum polycystum* seaweed produced the functional groups O-H, N-H, C-H, C=O, C=C, C-O which contain secondary metabolite compounds in the form of flavonoids, tannins, saponins, alkaloids, steroids and terpenoids. The results of *one-way* ANOVA show that there is a significant difference in protective power between concentrations (*p-value*=0.00). The results of further tests (LSD) were the best protective power of 83.88% at a concentration of 50%. The results of the physical stability test showed that the lotion was homogeneous at concentrations of 0%, 12.5%, 25% and not homogeneous at a concentration of 50%. The results of the test results for the irritating effect of the *Sargassum polycystum* seaweed extract lotion did not have an irritating effect on the skin. In conclusion, *Sargassum polycystum* seaweed extract in lotion preparation shows activity as a repellent against the *Aedes aegypti* mosquito.

Keywords: repellent, *Sargassum polycystum*, *Aedes aegypti*