ABSTRAK

Ismawati Alican, (080322005). Fisika Kimia Lingkungan cacing laor di Perairan Pulau Morotai. Dibawah bimbingan Halikudin Umasangaji, S.Pi.,M.Sc.,Ph.D dan Dr. Najamuddin, S.T., M.Si.

Antioksidan adalah senyawa yang berfungsi untuk mencegah dan memperbaiki kerusakan sel-sel di dalam tubuh, khususnya yang disebabkan oleh paparan radikal bebas. Antioksidan bisa ditemukan dalam berbagai jenis makanan, minuman, serta suplemen. Tujuan dari penelitian ini adalah Menganalisis kandungan Senyawa bioaktif yang terkandung dalam ekstrak cacing laor (Polychaeta). Penelitian ini dilakukan pada bulan mei sampai Juni 2024. Dimulai dengan pengambilan sampel laor dari perairan Kabupaten Pulau Morotai. Analisis sampel dilakukan di Laboratorium FPIK Universitas Pasifik Morotai. Ekstrak samppel menggunakan etanol maserasi dengan pelarut etanol. Identifikasi golongan senyawa bioaktif meliputi alkaloid, flavonoid, saponin, stroid, tanin, dan quinon. Data yang diperoleh kemudian dianalisis secara deskriptif. Penelitian ini dilakukan pada bulan mei sampai Juni 2024. Analisis sampel dilakukan di laboratorium DPIK Universitas Psifik Morotai dan di laboratorium Kimia Pakan Jurusan Nutrisi dan Makanan Ternak Universitas Hasanudin Makassar. Hasil pengukuran faktor fisika kimia lingkungan sebelum dan saat pengambilan kondisi permukaanair ke tiga lokasi tenang dan saat pengambilan bergelombang kondisi pasang surut ke tiga sebelum dan saat pengambilan ketiga lokasi mulai surut, cuaca cera, substrat karang dan pasir, salinitas ketiga lokasi sebelum 32 °/₀₀ Tanjung dehegila, 31°/₀₀ Wayabula, 32 °/₀₀ Gorua, saat pengambilan 34°/₀₀ Tanjung Dehegila, 32°/₀₀ Wayabula, 33°/₀₀ Gorua. Suhu sebelum pengambilan 28°c Tanjung Dehegila, 27°c Wayabula, 28°c Gorua, saat pengambilan 29°c Tanjung Dehegila, 28°c Wayabula, 30°c Gorua. pH sebelum pengambilan 6 Tanjung Dehegila, 5 Wayabula, 5 Gorua. saat Pengambilan 8 Tanjung Dehegila, 7 Wayabula, 7 Gorua. Ekstrak sampel menggunakan etanul menserasi dengan pelarut etanol dan uji antioksidan menggunakan DPPH. Identifikasi golongan senyawa dan antioksidan meliputi uji senyawa alkaloit, flavonoid, saponin, steroid, tanin, dan quinon. data yang diperoleh kemudian dianalisis cara deskriptif. Golongan senyawa bioaktif yang terkandung dalam ekstrak laor Tanjung Dehegila dan ekstrak laor wayabula adalah alkaloid, Flavonoid, Saponin, Stroid, Tanin, dan Quinon. Sedangkan ekstrak laor Gorua hanya mengandung senyawa bioaktif alkaloid, Flavonoid, Saponin, dan Tanin. Dari ketiga lokasi semuah memiliki antioksidan yang diperoleh dari ekstrak laor Tanjung Dehegila 85,10 ppm, ekstrak laor wayabula 109,05 ppm, dan ekstrak laor gorua 120,74 ppm. Termasuk dalam kategori kuat dan sedang.

Kata kunci: fisika kimia,cacing laor,pulau morotai,antioksidan

ABSTRACT

Ismawati Alican, (080322005). Physics and Chemistry of the Environment of laor worms in the waters of Morotai Island. Under the guidance of Halikudin Umasangaji, S.Pi., M.Sc., Ph.D and Dr. Najamuddin, ST, M.Sc.

Antioxidants are compounds that function to prevent and repair damage to cells in the body, especially that caused by exposure to free radicals. Antioxidants can be found in various types of food, drinks and supplements. The aim of this research is to analyze the content of bioactive compounds contained in laor worm extract (Polychaeta). This research was carried out from May to June 2024. It started with taking samples from the waters of Morotai Island Regency. Sample analysis was carried out at the FPIK Laboratory at Pacific University, Morotai. Extract the sample using ethanol maceration with ethanol solvent. Identification of bioactive compound groups includes alkaloids, flavonoids, saponins, steroids, tannins and quinones. The data obtained was then analyzed descriptively. This research was carried out from May to June 2024. Sample analysis was carried out in the DPIK laboratory at Psifik Morotai University and in the Feed Chemistry laboratory, Department of Nutrition and Animal Food, Hasanudin University, Makassar. Results of measurements of environmental physicochemical factors before and during collection, water surface conditions at the three locations were calm and during collection, wavy tidal conditions at the three locations before and during collection at the three locations began to recede, clear weather, coral and sand substrates, salinity at the three locations before 32°/◦◦ Tanjung Dehegila, 31°/◦◦ Wayabula, 32°/◦◦ Gorua, when taken 34°/◦◦ Tanjung Dehegila, 32°/◦◦ Wayabula, 33°/◦◦ Gorua. The temperature before collection was 28°c Tanjung Dehegila, 27°c Wayabula, 28°c Gorua, at the time of collection 29°c Tanjung Dehegila, 28°c Wayabula, 30°c Gorua. pH before collection 6 Tanjung Dehegila, 5 Wayabula, 5 Gorua. when taking 8 Tanjung Dehegila, 7 Wayabula, 7 Gorua. Extract the sample using ethanol, certify it with ethanol solvent and test the antioxidant using DPPH. Identification of compound and antioxidant groups includes tests for alkaloids, flavonoids, saponins, steroids, tannins and quinones. The data obtained was then analyzed descriptively. The groups of bioactive compounds contained in Tanjung Dehegila laor extract and Wayabula laor extract are alkaloids, flavonoids, saponins, stroids, tannins and quinones. Meanwhile, Gorua laor extract only contains the bioactive compounds alkaloids, flavonoids, saponins and tannins. All three locations had antioxidants obtained from Tanjung Dehegila laor extract 85.10 ppm, Wayabula laor extract 10 9.05 ppm, and Gorua laor extract 120.74 ppm. Included in the strong and medium categories .

Key words: chemical physics, laor worms, Morotai Island, antioxidants