ABSTRAK

Rumput laut coklat diketahui memiliki kandungan bioaktif antibakteri. Pantai Karapyak diketahui memiliki keanekaragaman rumput laut yang tinggi. Tujuan penelitian ini adalah mengetahui karakteristik morfologi phaeophyta yang diperoleh dari pantai Karapyak dan potensi aktivitas antibakteri ekstrak phaeophyta terhadap bakteri *Bacillus megaterium*, *Escherichia coli*, dan *Micrococcus luteus*. Metode yang digunakan adalah eksperimental laboratorium murni. Identifikasi morfologi rumput laut coklat berdasarkan bantuan mikroskop. Sampel difiksasi dengan 70% alkohol selama 48 jam. Rumput laut coklat diekstrak dengan pelarut methanol dengan perbandingan 1:30. Metode uji antibakteri menggunakan teknik difusi agar menurut Kirby-Bauer dengan menggunakan konsentrasi ekstrak sebesar 10 mg/ml. Uji fitokimia dilakukan secara deskriptif kualitatif dengan indikator perubahan warna. Analisis data dilakukan secara deskriptif. Hasil identifikasi morfologi menunjukan spesies phaeophyta di Pantai Karapyak di antaranya adalah S*argassum polycystum, Padina australis, Sargassum muticum, Sargassum licifolium,* dan *Turbinaria decurens.* Ekstrak phaeophyta dengan kisaran rendemen 3% - 6% menunjukan aktivitas antibakteri yang bersifat bakteriostatik. Ekstrak *S. polycystum* berperan aktif dalam menghambat pertumbuhan bakteri *M. luteus* termasuk kedalam kategori sedang (5-10 mm) dan *E. coli* dengan kategori lemah (< 5 mm). Kemudian ekstrak *T. deccurens* paling aktif dalam menghambat pertumbuhan bakteri *B. megaterium* termasuk ke dalam kategori sedang. Ekstrak *S. polycystum* dan *T. deccurens* memiliki senyawa fitokimia berupa alkaloid, steroid, saponin, dan flavonoid.

Kata Kunci : *Phaeophyta, Morfologi, Antibakteri, Pantai Karapyak*

ABSTRACT

Brown seaweed is known to have antibacterial bioactive content. Karapyak Beach is known to have a high diversity of seaweed. This study aimed to determine the morphological characteristics of phaeophyta obtained from Karapyak beach and the potential antibacterial activity of phaeophyta extracts against *Bacillus megaterium, Escherichia coli,* and *Micrococcus luteus* bacteria. The method used is a pure laboratory experiment. Identification of brown seaweed morphology was carried out with the help of a microscope. Samples were fixed with 70% alcohol for 48 hours. Brown seaweed is extracted with methanol solvent with a ratio of 1:30. The antibacterial test method uses the agar diffusion technique according to Kirby-Bauer using an extract concentration of 10 mg/ml. The phytochemical test was carried out in a qualitative descriptive manner with a color change indicator. Data analysis was carried out descriptively. The results of morphological identification showed that the phaeophyta species on Karapyak Beach included *Sargassum polycystum, Padina australis, Sargassum muticum, Sargassum licifolium,* and *Turbinaria decurens.* Phaeophyta extract with a yield range of 3% - 6% showed bacteriostatic antibacterial activity. The *S. polycystum* extract plays an active role in inhibiting the growth of *M. luteus* bacteria which is included in the moderate category (5-10 mm) and *E. coli* in the weak category (< 5 mm). Then the *T. deccurens* extract was most active in inhibiting the growth of *B. megaterium* bacteria which was included in the medium category. *S. polycystum* and *T. deccurens* extracts contain phytochemical compounds in the form of alkaloids, steroids, saponins, and flavonoids.

Keywords: *Phaeophyta, Morphology, Antibacterial, Karapyak Beach*