Intisari

Struktur Populasi dan Pola Distribusi *Turbinaria* sp. di Pantai Ngrumput Kabupaten Gunungkidul

Turbinaria sp. merupakan salah satu jenis alga cokelat yang memiliki banyak manfaat di bidang kesehatan, seperti antioksidan, antibakteri, dan antiinflamasi. *Turbinaria* sp. banyak tersebar di perairan Indonesia, salah satu perairan yang memiliki populasi *Turbinaria* yang melimpah adalah Pantai Ngrumput, Gunungkidul. Penelitian ini bertujuan untuk menganalisis struktur populasi dan pola distribusi *Turbinaria* sp. dengan mengamati kelimpahan, biomassa, persentase tutupan, dan dinamika morfometrik *Turbinaria* sp. Metode yang digunakan adalah *line transect* dengan plot kuadran berukuran 50 x 50 cm dan periode pengamatan dilakukan pada bulan September sampai Desember 2023. Analisis data dilakukan dengan uji ANOVA satu arah, korelasi *pearson,* dan indeks morisita. Hasil penelitian menunjukkan rerata tertinggi panjang talus, jumlah cabang, dan jumlah *filoid* ditemukan pada bulan Desember. Kelimpahan, biomassa, dan persentase tutupan *Turbinaria* sp. tidak memiliki perbedaan nyata setiap bulannya ($p > \alpha$ 0,05). Hasil kelimpahan dan biomassa berdasarkan jarak dari bibir pantai tidak memiliki perbedaan nyata pada setiap jaraknya ($p > \alpha$ 0,05), sedangkan persentase tutupan memiliki perbedaan nyata setiap jaraknya dari bibir pantai ($p < \alpha$ 0,05). Pola distribusi *Turbinaria* sp. yang ditemukan di Pantai Ngrumput termasuk kedalam kategori mengelompok. Rerata panjang talus *Turbinaria* sp. ditemukan pada bulan Desember sebesar 6,39 cm. Parameter kualitas air yang memiliki hubungan sangat kuat dengan kelimpahan *Turbinaria* sp. adalah nitrat (0,93) dan salinitas (0,96), biomassa memiliki hubungan kuat dengan pH (0,86) dan suhu (0,77).

Kata kunci : biomassa, kelimpahan, persentase tutupan, pola distribusi, *Turbinaria* sp.

Abstract

Population Structure and Distribution Pattern of *Turbinaria* sp. at Ngrumput Beach
Gunungkidul Regency

Turbinaria sp. is a type of brown algae that has many health benefits, such as antioxidant, antibacterial, and anti-inflammatory properties. *Turbinaria* sp. is widely distributed in Indonesian waters; one of the waters that has an abundant *Turbinaria* population is Ngrumput Beach, Gunungkidul. This study aims to analyze the population structure and distribution pattern of *Turbinaria* sp. by observing the abundance, biomass, percentage cover, and morphometric dynamics of *Turbinaria* sp. The method used was a line transect with quadrant plots measuring 50 x 50 cm and the observation period was conducted from September to December 2023. Data analysis was conducted with a one-way ANOVA test, pearson correlation, and morisita index. The results showed that the highest mean thallus length, number of branches, and number of filoid were found in December. The abundance, biomass, and percentage cover of *Turbinaria* sp. did not have a significant difference every month ($p > \alpha$ 0.05). The results of abundance and biomass based on distance from the shoreline did not have a significant difference at each distance ($p > \alpha$ 0.05), while the percentage cover had a significant difference at each distance from the shoreline ($p < \alpha$ 0.05). The distribution pattern of *Turbinaria* sp. found at Ngrumput Beach is categorized as clustered. The mean length of *Turbinaria* sp. thallus found in December was 6.39 cm. Water quality parameters that have a very strong relationship with the abundance of *Turbinaria* sp. are nitrate (0.93) and salinity (0.96); biomass has a strong relationship with pH (0.86) and temperature (0.77).

Keywords : biomass, abundance, precentage cover, distribution pattern, *Turbinaria* sp.