

ANUGRAH FIRDAUS. NIM. 22.03.4.1.1.00056. Struktur Komunitas Gastropoda Pada Berbagai Ekosistem Pesisir Di Desa Prancak Kecamatan Sepulu Kabupaten Bangkalan Madura. Dibawah bimbingan **Prof. Insafitri, S.T, M.Sc, Ph.D**

ABSTRAK

Ekosistem pesisir merupakan sistem yang saling terhubung dan berperan penting dalam menjaga keseimbangan lingkungan laut serta menjadi habitat bagi berbagai organisme, termasuk gastropoda. Gastropoda dapat dimanfaatkan sebagai bioindikator karena sensitif terhadap perubahan kondisi lingkungan, sehingga kondisi ekosistem dapat diketahui melalui analisis struktur komunitasnya. Penelitian ini bertujuan untuk menganalisis jenis dan komposisi spesies gastropoda, struktur komunitas berdasarkan parameter kepadatan, keanekaragaman, keseragaman, dan dominansi, perbedaan kepadatan gastropoda antar ekosistem, serta faktor lingkungan habitat gastropoda pada ekosistem mangrove, pantai, lamun, dan terumbu karang di Desa Prancak, Kecamatan Sepulu, Kabupaten Bangkalan. Metode penelitian menggunakan transek kuadrat berukuran $1 \times 1 \text{ m}^2$ dengan 10 transek pada tiga kali pengulangan sehingga diperoleh total 30 transek pada setiap ekosistem yang diletakkan secara sistematis mengikuti transek garis. Hasil penelitian menunjukkan bahwa ditemukan 16 spesies gastropoda. Jumlah spesies tertinggi terdapat pada ekosistem mangrove dan pantai, masing-masing sebanyak 10 spesies, diikuti ekosistem terumbu karang sebanyak 8 spesies, sedangkan ekosistem lamun memiliki jumlah spesies terendah, yaitu 7 spesies. Perbedaan komposisi spesies pada setiap ekosistem menunjukkan adanya pengaruh karakteristik habitat terhadap keberadaan gastropoda. Ekosistem mangrove dan terumbu karang memiliki nilai indeks keanekaragaman (H') dan keseragaman (E) yang lebih tinggi serta indeks dominansi (C) yang lebih rendah, menunjukkan distribusi spesies yang lebih merata. Berdasarkan uji *Kruskal Wallis*, terdapat perbedaan kepadatan gastropoda yang signifikan antar ekosistem ($p < 0,001$), dengan kepadatan tertinggi ditemukan pada ekosistem pantai. Perbedaan struktur komunitas gastropoda pada setiap ekosistem mencerminkan variasi kondisi lingkungan yang memengaruhi keberadaan gastropoda di masing-masing habitat.

Kata Kunci: Gastropoda, Struktur Komunitas, Kepadatan, Keanekaragaman, Keseragaman, Dominansi.

ANUGRAH FIRDAUS. NIM. 22.03.4.1.1.00056. *Gastropod Community Structure in Various Coastal Ecosystems in Prancak Village, Sepulu District, Bangkalan Regency, Madura. Under the guidance of Prof. Insafitri, S.T, M.Sc, Ph.D*

ABSTRACT

Coastal ecosystems are interconnected systems that play an important role in maintaining the balance of the marine environment and serve as habitats for various organisms, including gastropods. Gastropods can be used as bioindicators because they are sensitive to environmental changes, allowing ecosystem conditions to be assessed through community structure analysis. This study aimed to analyze the species composition and diversity of gastropods, community structure based on density, diversity, evenness, and dominance indices, differences in gastropod density among ecosystems, and environmental factors affecting gastropod habitats in the mangrove, beach, seagrass, and coral reef ecosystems of Prancak Village, Sepulu District, Bangkalan Regency. The study employed a 1×1m² quadrat transect method consisting of 10 quadrats with three replications, resulting in a total of 30 quadrats in each ecosystem, which were systematically arranged along line transects. The results showed that a total of 16 gastropod species were identified. The highest number of species was recorded in the mangrove and beach ecosystems, with 10 species each, followed by the coral reef ecosystem with 8 species, while the seagrass ecosystem had the lowest number of species, with 7 species. Differences in species composition among ecosystems indicated that habitat characteristics influenced the occurrence of gastropods. The mangrove and coral reef ecosystems exhibited higher diversity (H') and evenness (E) indices, along with lower dominance (C) indices, indicating a more even distribution of species. The Kruskal Wallis test revealed significant differences in gastropod density among ecosystems ($p < 0.001$), with the highest density recorded in the beach ecosystem. Differences in gastropod community structure among ecosystems reflected variations in environmental conditions that influenced the occurrence of gastropods in each habitat.

Keywords: Gastropods, Community Structure, Density, Diversity, Evenness, Dominance.