

RINGKASAN

RIZKA AGUSTINA. Struktur Komunitas Bivalvia di Pesisir Pantai Tanjung Setumu, Pulau Dompak, Kota Tanjungpinang. Dibimbing oleh AHMAD ZAHID dan SUSIANA.

Pantai Tanjung Setumu merupakan kawasan pesisir yang dimanfaatkan untuk berbagai aktivitas wisata dan pemanfaatan sumber daya pesisir yang berpotensi memengaruhi kondisi lingkungan serta keberadaan biota bentik, termasuk bivalvia. Bivalvia memiliki peran penting dalam ekosistem perairan dan dapat digunakan sebagai bioindikator kualitas lingkungan. Oleh karena itu, penelitian ini bertujuan untuk menganalisis jenis bivalvia, struktur komunitas bivalvia, serta hubungannya dengan faktor lingkungan di Pantai Tanjung Setumu, Pulau Dompak, Kota Tanjungpinang. Penelitian dilaksanakan pada bulan November 2025 hingga Januari 2026 di pesisir Pantai Tanjung Setumu, Pulau Dompak, Kota Tanjungpinang. Pengambilan sampel dilakukan pada 30 titik menggunakan metode *systematic random sampling* dengan bantuan perangkat lunak QGIS dan jarak antar titik 15 meter. Data yang dikumpulkan meliputi bivalvia, parameter kualitas perairan, dan sedimen. Pengambilan sampel bivalvia dilakukan menggunakan kuadran berukuran 1×1 m, sedangkan parameter lingkungan yang diamati meliputi suhu, pH, oksigen terlarut (DO), kekeruhan, dan jenis substrat. Analisis data dilakukan melalui perhitungan kepadatan, indeks keanekaragaman Shannon-Wiener, indeks keseragaman, indeks dominansi Simpson, analisis klaster, Analisis Komponen Utama (PCA), dan uji ANOVA. Hasil penelitian menunjukkan bahwa kondisi perairan memiliki suhu rata-rata 27,82°C, pH 8,82, DO 7,6 mg/L, kekeruhan 7,06 NTU, dan substrat berupa pasir. Sebanyak delapan spesies bivalvia berhasil diidentifikasi, yaitu *Trachycardium flavum*, *Pitar pellucidus*, *Pitar citrinus*, *Gafrarium pectinatum*, *Gafrarium dispar*, *Gafrarium divaricatum*, *Gafrarium tumidum*, dan *Anomalodiscus squamosus*. Kepadatan tertinggi ditemukan pada klaster 4 sebesar 0,50 individu/m² dan terendah pada klaster 2 sebesar 0,17 individu/m². Nilai indeks keanekaragaman berkisar 1,05–1,29, indeks keseragaman 0,72–0,96, dan indeks dominansi 0,32–0,43. Hasil PCA menunjukkan bahwa parameter DO dan pH merupakan faktor lingkungan yang paling berpengaruh terhadap struktur komunitas bivalvia. Uji ANOVA menunjukkan seluruh parameter ekologi memiliki nilai $p > 0,05$ sehingga tidak terdapat perbedaan yang signifikan antar klaster. Berdasarkan hasil penelitian dapat disimpulkan bahwa komunitas bivalvia di Pantai Tanjung Setumu terdiri atas delapan spesies dengan struktur komunitas yang relatif stabil.

Kata kunci: Bivalvia, Pantai Tanjung Setumu, Struktur Komunitas

SUMMARY

RIZKA AGUSTINA. Bivalve Community Structure along the Tanjung Setumu Coast, Dompak Island, Tanjungpinang City. Supervised by AHMAD ZAHID and SUSIANA.

Tanjung Setumu Beach is a coastal area used for various tourism activities and the utilization of coastal resources, which have the potential to affect environmental conditions and the presence of benthic biota, including bivalves. Bivalves play a crucial role in aquatic ecosystems and can serve as bioindicators of environmental quality. Therefore, this study aims to analyze the species of bivalves, the structure of the bivalve community, and their relationship with environmental factors at Tanjung Setumu Beach, Dompak Island, Tanjungpinang City. The study was conducted from November 2025 to January 2026 along the coast of Tanjung Setumu Beach, Dompak Island, Tanjungpinang City. Sampling was carried out at 30 points using the systematic random sampling method with the assistance of QGIS software, with a distance of 15 meters between points. The data collected included bivalves, water quality parameters, and sediments. Bivalve sampling was conducted using 1×1 m quadrants, while the environmental parameters observed included temperature, pH, dissolved oxygen (DO), turbidity, and substrate type. Data analysis was performed through density calculations, the Shannon-Wiener diversity index, the evenness index, the Simpson dominance index, cluster analysis, Principal Component Analysis (PCA), and ANOVA tests. The results of the study showed that the water conditions had an average temperature of 27.82°C, a pH of 8.82, dissolved oxygen (DO) of 7.6 mg/L, turbidity of 7.06 NTU, and a sandy substrate. A total of eight bivalve species were successfully identified, namely *Trachycardium flavum*, *Pitar pellucidus*, *Pitar citrinus*, *Gafrarium pectinatum*, *Gafrarium dispar*, *Gafrarium divaricatum*, *Gafrarium tumidum*, and *Anomalodiscus squamosus*. The highest density was found in cluster 4 at 0.50 individuals/m², and the lowest in cluster 2 at 0.17 individuals/m². Diversity index values ranged from 1.05 to 1.29, evenness index from 0.72 to 0.96, and dominance index from 0.32 to 0.43. PCA results indicated that DO and pH were the environmental factors most influential on the structure of the bivalve community. ANOVA tests showed that all ecological parameters had p-values > 0.05, indicating no significant differences among clusters. Based on the research findings, it can be concluded that the bivalve community at Tanjung Setumu Beach consists of eight species with a relatively stable community structure.

Keywords: Bivalvia, Community Structure, Tanjung Setumu Beach