RINGKASAN

ARSYA DWI HERLINA FITRI. Distribusi Spasial Spesies Kerang Bambu (*Solen corneus* Lamarck, 1818) berdasarkan Jenis Substrat di Ekosistem Pesisir Pantai Indah, Kabupaten Karimun. Dibimbing oleh SUSIANA DAN AHMAD ZAHID.

Kerang bambu (*Solen corneus*) merupakan bivalvia yang hidup membenamkan diri pada substrat dasar perairan serta memiliki nilai ekologis dan ekonomis bagi masyarakat pesisir. Keberadaan kerang bambu dipengaruhi oleh karakteristik substrat dan kondisi lingkungan perairan. Informasi mengenai kepadatan dan distribusi spasial kerang bambu berdasarkan jenis substrat di kawasan pesisir Pantai Indah, Kabupaten Karimun masih terbatas sehingga diperlukan penelitian sebagai dasar pengelolaan sumber daya yang berkelanjutan. Penelitian ini bertujuan menganalisis kepadatan dan pola distribusi spasial kerang bambu (*Solen corneus*) berdasarkan jenis substrat di kawasan pesisir Pantai Indah, Kabupaten Karimun. Penelitian dilaksanakan pada Februari-Juli 2025 menggunakan metode *systematic random sampling* pada 30 titik pengamatan dengan kuadrat berukuran 1×1 m^2. Data yang dikumpulkan meliputi jumlah individu kerang bambu, jenis substrat, serta parameter kualitas perairan berupa suhu, salinitas, pH, dan *dissolved oxygen* (DO). Jenis substrat dianalisis menggunakan Gradistat, sedangkan data dianalisis dengan *One-Way* ANOVA, *Principal Component Analysis* (PCA), dan Indeks Morisita. Hasil penelitian menunjukkan bahwa kerang bambu ditemukan pada empat jenis substrat, yaitu pasir berlumpur sedikit berkerikil, pasir berlumpur, pasir, dan pasir sedikit berkerikil. Kepadatan tertinggi *Solen corneus* ditemukan pada substrat pasir sebesar 10 ind/m^2, diikuti pasir sedikit berkerikil (1,68 ind/m^2), pasir berlumpur (1 ind/m^2), dan terendah pada pasir berlumpur sedikit berkerikil (0,35 ind/m^2). Hasil *One-Way* ANOVA menunjukkan bahwa perbedaan kepadatan kerang bambu antar jenis substrat tidak signifikan ($p = 0,147$). *Principal Component Analysis* (PCA) menunjukkan bahwa kepadatan kerang bambu memiliki hubungan yang relatif searah dengan salinitas, sedangkan parameter lingkungan lainnya menunjukkan hubungan yang lebih lemah atau berlawanan. Nilai Indeks Morisita (Id = 1,3; Ip = 1,1) menunjukkan bahwa pola distribusi *Solen corneus* bersifat mengelompok (*clumped distribution*). Hasil penelitian menunjukkan bahwa *Solen corneus* ditemukan pada seluruh jenis substrat yang teridentifikasi, namun variasi jenis substrat tidak memberikan pengaruh yang signifikan terhadap kepadatannya, sedangkan pola distribusi cenderung mengelompok di lokasi penelitian.

Kata kunci: Distribusi Spasial, Kepadatan, Kerang Bambu (*Solen corneus*).

SUMMARY

ARSYA DWI HERLINA FITRI. Spatial Distribution of Raz0r Clams (*Solen corneus* Lamarck, 1818) by Substrate Type in the Indah Beach Coastal Ecosystem, Karimun Regency. Supervised by SUSIANA AND AHMAD ZAHID

The razor clam (*Solen corneus*) is a burrowing bivalve that inhabits benthic substrates and has important ecological and economic value for coastal communities. Its occurrence is strongly influenced by substrate characteristics and environmental conditions. However, information on the density and spatial distribution of razor clams based on substrate types in the coastal area of Pantai Indah, Karimun Regency, remains limited. Therefore, this study was conducted to provide baseline information for sustainable resource management. This study aimed to analyze density and spatial distribution pattern of razor clams (*Solen corneus*) based on substrate types in the coastal area of Pantai Indah, Karimun Regency. The research was conducted from February to July 2025 using a systematic random sampling method at 30 sampling stations with 1×1 m^2. Data collected included number of razor clam individuals, substrate types, and water quality parameters, namely temperature, salinity, pH, and dissolved oxygen (DO). Substrate types were determined using Gradistat software. Data were analyzed using One-Way Analysis of Variance (ANOVA), Principal Component Analysis (PCA), and Morisita's Index. The results showed that razor clams were found in four substrate types: slightly gravelly muddy sand, muddy sand, sand, and slightly gravelly sand. highest density of Solen corneus was recorded in the sandy substrate at 10 ind/m², followed by slightly gravelly sand (1.68 ind/m²), muddy sand (1 ind/m²), and the lowest density in slightly gravelly muddy sand (0.35 ind/m²). One-Way ANOVA indicated that differences in Solen corneus density among substrate types were not statistically significant (p = 0.147). Principal Component Analysis (PCA) showed that Solen corneus density was more closely associated with salinity, while the other environmental parameters exhibited weaker or opposite relationships. Morisita's Index (Id = 1.3; Ip = 1.1) indicated a clumped distribution pattern. results demonstrate that Solen corneus was found across all identified substrate types; however, substrate variation did not significantly affect its density, whereas its spatial distribution was characterized by an aggregated pattern within the study area.

Keywords: Density, Razor Clam (*Solen corneus*), Spatial Distribution