

AZRIL HAIDAR. NIM. 22.03.4.1.1.00045. Struktur Komunitas Bivalvia Dan Hubungan Fraksi Sedimen Terhadap Kepadatan Bivalvia Di Desa Lembung, Kecamatan Galis, Pamekasan. Dibawah bimbingan **Prof. Wahyu Andy Nugraha, S.T., M.Sc., Ph.D.**

ABSTRAK

Keberadaan bivalvia di wilayah pesisir dipengaruhi oleh kondisi lingkungan, terutama karakteristik substrat yang berfungsi sebagai habitat, tempat mencari makan, dan tempat berkembang biak. Perbedaan jenis substrat diduga mempengaruhi struktur komunitas dan kepadatan bivalvia di Desa Lembung, Kecamatan Galis, Kabupaten Pamekasan. Penelitian ini bertujuan untuk menganalisis struktur komunitas bivalvia dan hubungan jenis substrat terhadap kepadatan bivalvia. Metode yang digunakan adalah transek linier kuadran berukuran $1 \times 1 \text{ m}^2$ dengan teknik purposive sampling sebanyak 30 plot pada setiap stasiun, pengambilan substrat sedalam $\pm 20 \text{ cm}$ sebanyak 200 gram. Analisis data meliputi kepadatan, kelimpahan relatif, indeks keanekaragaman (H'), indeks keseragaman (E), indeks dominansi (C), dan uji korelasi Spearman. Hasil penelitian menunjukkan ditemukan 14 spesies bivalvia pada substrat pasir, pasir liat, lempung berpasir, dan lempung berlanau. Kepadatan tertinggi terdapat pada substrat lempung berpasir sebesar $1,79 \text{ ind/m}^2$ dan terendah pada substrat pasir liat sebesar $0,59 \text{ ind/m}^2$. Nilai indeks keanekaragaman berkisar $1,472-2,154$ dengan kategori sedang, indeks keseragaman berkisar $0,670-0,931$ dengan kategori tinggi, dan indeks dominansi berkisar $0,127-0,277$ dengan kategori rendah. Hasil uji korelasi Spearman menunjukkan bahwa fraksi clay memiliki hubungan positif lemah namun signifikan terhadap kepadatan bivalvia dengan nilai koefisien korelasi sebesar $r = 0,344$. Berdasarkan hasil penelitian dapat disimpulkan bahwa jenis substrat berpengaruh terhadap distribusi dan kepadatan bivalvia di Desa Lembung. Substrat dengan kandungan liat yang lebih tinggi cenderung mendukung kepadatan bivalvia. Penelitian lanjutan disarankan untuk menganalisis kandungan bahan organik sedimen guna memperoleh pemahaman yang lebih komprehensif mengenai faktor-faktor yang mempengaruhi keberadaan bivalvia.

Kata kunci: Bivalvia, Jenis substrat, Kepadatan, Struktur komunitas, Desa Lembung

AZRIL HAIDAR. NIM. 22.03.4.1.1.00045. Bivalve Community Structure and the Relationship of Sediment Fractions to Bivalve Density in Lembung Village, Galis District, Pamekasan. Under the guidance of **Prof. Wahyu Andy Nugraha, S.T., M.Sc., Ph.D.**

ABSTRACT

The presence of bivalves in coastal areas is influenced by environmental conditions, especially the characteristics of substrates that function as habitats, foraging places, and breeding grounds. Differences in substrate types are suspected to affect the community structure and density of bivalves in Lembung Village, Galis District, Pamekasan Regency. This study aims to analyze the structure of bivalves communities and the relationship of substrate type to bivalve density. The method used was a quadrant linear transect measuring 1x1m² with a purposive sampling technique of 30 plots at each station, taking a substrate as deep as ± 20 cm as much as 200 grams. Data analysis included density, relative abundance, diversity index (H'), uniformity index (E), dominance index (C), and Spearman correlation test. The results showed that 14 species of bivalves were found on sand substrates, clay sand, sandy clay, and silent clay. The highest density was found in sandy clay substrate at 1.79 ind/m² and lowest in clay sand substrate at 0.59 ind/m². The diversity index value ranges from 1.472-2.154 with the medium category, the uniformity index ranges from 0.670-0.931 with the high category, and the dominance index ranges from 0.127-0.277 with the low category. The results of the Spearman correlation test showed that the clay fraction had a weak but significant positive relationship with bivalve density with a correlation coefficient value of $r = 0.344$. Based on the results of the study, it can be concluded that the type of substrate affects the distribution and density of bivalves in Lembung Village. Substrates with a higher clay content tend to favor the density of bivalves. Further research is recommended to analyze the organic matter content of sediments in order to gain a more comprehensive understanding of the factors that influence the presence of bivalves.

Keywords: Bivalves, substrate type, density, community structure, Lembung Village