

Ina Nurul Hidayati Rodiyah NIM 210341100111. Hubungan Antara Kepadatan Rekrutmen Karang Keras (*Scleractinia*) dan Karang Lunak (*Alcyoniina*) di Perairan Bangsring Underwater dan Pulau Tabuhan, Banyuwangi, Indonesia. Pembimbing **Insafitri, S.T., M.Sc., Ph.D.**

ABSTRAK

Terumbu karang berperan penting secara ekologis dan ekonomis di wilayah pesisir. Rekrutmen karang keras (*Scleractinia*) merupakan indikator pemulihan alami yang dipengaruhi faktor lingkungan, termasuk interaksi dengan karang lunak (*Alcyoniina*). Penelitian ini bertujuan menganalisis hubungan kepadatan karang keras dan karang lunak, serta membandingkan keduanya di Bangsring Underwater dan Pulau Tabuhan yang memiliki karakteristik perairan berbeda. Bangsring berada dekat pemukiman dengan bahan organik tinggi, sedangkan Tabuhan merupakan pulau terpencil dengan arus kuat dan kandungan nutrisi rendah. Data dikumpulkan menggunakan metode *belt transect* (1×50 m) yang dibagi menjadi 50 plot (1×1 m). Analisis dilakukan menggunakan indeks ekologi untuk menilai struktur komunitas, uji Spearman Rank untuk melihat hubungan antar kepadatan, dan Mann-Whitney U Test untuk membandingkan antar lokasi. Hasil menunjukkan terdapat 9 genus karang keras di kedua lokasi, serta 4 genus karang lunak yang hanya ditemukan di Bangsring. Kepadatan karang keras tergolong sangat rendah di Bangsring dan sedang di Tabuhan, sedangkan kepadatan karang lunak hanya ada di Bangsring. Struktur komunitas rekrutmen karang keras di kedua lokasi menunjukkan keanekaragaman sedang, keseragaman tinggi, dan dominansi rendah yang mencerminkan komunitas yang cukup stabil. Sementara itu, struktur komunitas karang lunak di Bangsring menunjukkan keanekaragaman rendah, keseragaman tinggi, dan dominansi sedang, mengindikasikan adanya spesies yang mendominasi ruang hidup. Uji korelasi menunjukkan hubungan negatif sedang antara kepadatan karang lunak dan rekrutmen karang keras ($r = -0,430$; $p < 0,05$), yang mengindikasikan adanya potensi kompetisi ruang antara kedua kelompok tersebut.

Kata kunci: Rekrutmen karang keras, karang lunak, struktur komunitas, Bangsring Underwater, Pulau Tabuhan, kompetisi.

Ina Nurul Hidayati Rodiyah NIM 210341100111. *The Relationship Between the Recruitment Density of Hard Corals (Scleractinia) and Soft Corals (Alcyoniina) in the Waters of Bangsring Underwater and Tabuhan Island, Banyuwangi, Indonesia.* Thesis Supervisor **Insafitri, S.T., M.Sc., Ph.D.**

ABSTRACT

Coral reefs play a crucial ecological and economic role in coastal areas. The recruitment of hard corals (Scleractinia) serves as a natural indicator of reef recovery and is influenced by environmental factors, including interactions with soft corals (Alcyoniina). This study aims to analyze the relationship between the density of hard and soft coral recruits and compare their presence at Bangsring Underwater and Tabuhan Island, which have contrasting environmental characteristics. Bangsring is located near a residential area with high organic matter input, while Tabuhan is a remote island with strong currents and low nutrient levels. Data were collected using the belt transect method (1×50 m), divided into 50 plots (1×1 m). Ecological indices were used to assess community structure, Spearman Rank correlation was used to examine the relationship between coral groups, and an Mann-Whitney U Test was performed to compare locations. Results identified 9 genera of hard corals at both sites, and 4 genera of soft corals found only in Bangsring. Hard coral recruitment density was very low in Bangsring and moderate in Tabuhan, while soft corals were only present in Bangsring. The structure of the hard coral recruitment community showed moderate diversity, high evenness, and low dominance, indicating a relatively stable community. In contrast, soft corals in Bangsring exhibited low diversity, high evenness, and moderate dominance, suggesting a few dominant species. A moderate negative correlation ($r = -0.430$; $p < 0.05$) between soft coral density and hard coral recruitment indicates potential spatial competition between the two groups.

Keywords: Hard coral recruitment, soft coral, community structure, Bangsring Underwater, Tabuhan Island, competition.