

KEANEKARAGAMAN ZOOBENTOS PADA KAWASAN EKOSISTEM MANGROVE DESA BUDENG, KABUPATEN JEMBRANA, BALI

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ABSTRAK

Ekosistem mangrove berperan penting sebagai habitat berbagai organisme, termasuk zoobentos yang sensitif terhadap perubahan kondisi lingkungan sehingga berpotensi digunakan sebagai bioindikator kualitas perairan. Mangrove Desa Budeng, Kabupaten Jembrana, Bali merupakan kawasan rehabilitasi yang mengalami peningkatan tutupan vegetasi, namun informasi keanekaragaman zoobentos pada kawasan tersebut masih terbatas. Penelitian ini bertujuan untuk mengetahui komposisi spesies zoobentos, keanekaragaman zoobentos, serta kondisi faktor lingkungan pada ekosistem mangrove Desa Budeng, Kabupaten Jembrana, Bali. Penelitian dilaksanakan pada bulan Maret–April 2026 menggunakan metode eksploratif dengan analisis deskriptif pada tiga zona pengamatan yang ditentukan secara *purposive sampling*. Hasil penelitian ditemukan 15 spesies makrozoobentos dan 11 spesies meiozoobentos. Nilai indeks makrozoobentos menunjukkan H' sedang–tinggi (2,512–3,465), E tinggi (0,643–0,887), dan C rendah (0,118–0,244). Sementara itu, meiozoobentos menunjukkan H' sedang–tinggi (2,876–3,292), E tinggi (0,831–0,952), dan C rendah (0,115–0,207). Faktor lingkungan menunjukkan pH 7,75–7,91, salinitas 23,01–26,83 psu, suhu 27,26–28,25°C, intensitas cahaya 50,74–61,06 lux, DO 4,06–4,58 mg/L yang masih memenuhi baku mutu, serta BOD 5,58–6,41 mg/L yang rendah dan COD 132,78–248,96 mg/L yang melebihi baku mutu. Berdasarkan hasil penelitian dapat disimpulkan bahwa ekosistem mangrove Desa Budeng memiliki struktur komunitas zoobentos yang relatif stabil dengan kondisi lingkungan yang secara umum masih mendukung kehidupan zoobentos, namun nilai COD tinggi mengindikasikan adanya tekanan terhadap kualitas perairan.

Kata kunci: mangrove, makrozoobentos, meiozoobentos

DIVERSITY OF ZOOBENTHOS IN THE MANGROVE ECOSYSTEM AREA OF BUDENG VILLAGE, JEMBRANA REGENCY, BALI

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ABSTRACT

Mangrove ecosystems serve as important habitats for various organisms, including zoobenthos, which are sensitive to environmental changes and can therefore be used as bioindicators of water quality. The mangrove ecosystem in Budeng Village, Jembrana Regency, Bali, is a rehabilitated area that has experienced an increase in vegetation cover; however, information regarding zoobenthic diversity in this area remains limited. This study aimed to determine the species composition, diversity of zoobenthos, and environmental conditions in the mangrove ecosystem of Budeng Village, Jembrana Regency, Bali. The study was conducted from March to April 2026 using an exploratory method with descriptive analysis at three observation zones selected through purposive sampling. The results recorded 15 species of macrozoobenthos and 11 species of meiozoobenthos. The macrozoobenthos indices indicated moderate to high diversity ($H' = 2.512\text{--}3.465$), high evenness ($E = 0.643\text{--}0.887$), and low dominance ($C = 0.118\text{--}0.244$). Similarly, the meiozoobenthos indices showed moderate to high diversity ($H' = 2.876\text{--}3.292$), high evenness ($E = 0.831\text{--}0.952$), and low dominance ($C = 0.115\text{--}0.207$). Environmental parameters included pH ranging from 7.75 to 7.91, salinity from 23.01 to 26.83 psu, temperature from 27.26 to 28.25°C, light intensity from 50.74 to 61.06 lux, and dissolved oxygen (DO) from 4.06 to 4.58 mg/L, which met the water quality standard. Biological oxygen demand (BOD) ranged from 5.58 to 6.41 mg/L and remained relatively low, whereas chemical oxygen demand (COD) ranged from 132.78 to 248.96 mg/L, exceeding the established water quality standards. In conclusion, the mangrove ecosystem of Budeng Village exhibits a relatively stable zoobenthos community structure, with environmental conditions that generally support zoobenthos survival. However, the elevated COD values indicate potential pressure on water quality.

Keywords: mangrove, macrozoobenthos, meiozoobenthos