

ABSTRAK

Ekosistem mangrove memiliki peran penting dalam menjaga keanekaragaman hayati, termasuk komunitas makrozoobentos seperti gastropoda. Namun, aktivitas manusia di wilayah pesisir dapat menyebabkan pencemaran logam berat, salah satunya timbal (Pb), yang berdampak pada struktur komunitas organisme tersebut. Penelitian ini bertujuan untuk menganalisis kandungan Pb pada sedimen serta mengevaluasi pengaruhnya terhadap struktur komunitas gastropoda di Kawasan Edukasi Mangrove Demang Gedi, Purworejo. Pengambilan sampel dilakukan di enam stasiun menggunakan core sampler untuk sedimen dan kuadrat 1×1 meter untuk gastropoda. Analisis Pb dilakukan dengan *Atomic Absorption Spectrophotometry* (AAS), sedangkan struktur komunitas dianalisis menggunakan indeks keanekaragaman (H'), keseragaman (E), dominansi (D), dan kelimpahan. Kandungan Pb pada sedimen berkisar 0,98–18,04 mg/kg, dengan rata-rata 10,86 mg/kg, masih di bawah baku mutu CCME (30,2 mg/kg). Sebanyak 8 spesies dan 3 famili gastropoda ditemukan, didominasi oleh *Faunus ater* (98,38%). Nilai H' rendah (0–0,4294) dan dominansi D tinggi hingga 1,0. Regresi linear menunjukkan Pb hanya memengaruhi 24,7% variasi kelimpahan dan tidak terlalu berpengaruh.

Kata Kunci: Demang Gedi, Gastropoda, Mangrove, Sedimen, Timbal (Pb).

ABSTRACT

Mangrove ecosystems play an important role in maintaining biodiversity, including macrozoobenthos communities such as gastropods. However, human activities in coastal areas can cause heavy metal pollution, one of which is lead (Pb), which impacts the community structure of these organisms. This study aims to analyze Pb content in sediments and evaluate its effect on the community structure of gastropods in the Demang Gedi Mangrove Education Area, Purworejo. Sampling was conducted at six stations using core samplers for sediments and 1x1 meter quadrats for gastropods. Pb analysis was carried out using Atomic Absorption Spectrophotometry (AAS), while community structure was analyzed using diversity (H'), evenness (E), dominance (D), and abundance indices. Pb content in sediments ranged from 0.98–18.04 mg/kg, with an average of 10.86 mg/kg, still below the CCME quality standard (30,2 mg/kg). A total of 8 species and 3 families of gastropods were found, dominated by *Faunus ater* (98.38%). The H' value was low (0–0.4294) and the D dominance was high up to 1.0. Linear regression showed that Pb only affected 24.7% of the abundance variation and had little effect.

Keywords: Demang Gedi, Gastropods, Lead (Pb), Mangrove, Sediment.