

Intisari

Keanekaragaman dan Kemelimpahan Makrozoobentos di Sungai Gajah Wong Yogyakarta

Sungai Gajah Wong yang terletak di Daerah Istimewa Yogyakarta sering dimanfaatkan untuk keperluan rumah tangga, industri, pertanian, dan perusahaan sehingga kualitas airnya mengalami penurunan dan akan berdampak pada organisme yang ada, terutama makrozoobentos yang dapat dijadikan sebagai bioindikator pencemaran air. Penelitian ini bertujuan untuk mengetahui keanekaragaman dan kemelimpahan makrozoobentos serta mengetahui tingkat pencemaran Sungai Gajah Wong. Penelitian dilakukan di aliran Sungai Gajah Wong yaitu di Kabupaten Sleman, Kota Yogyakarta, dan Kabupaten Bantul yang terbagi menjadi enam stasiun. Pengambilan sampel dilakukan tiap minggu selama bulan Desember 2019–Januari 2020. Sampel makrozoobentos diambil menggunakan *surber net* 30cm x 30cm. Indeks biologi yang dihitung yaitu kemelimpahan, indeks keanekaragaman Shanon-Wiener, indeks dominansi Simpson, dan indeks kemerataan Evenness. Parameter fisika-kimia air yang diamati yaitu tipe substrat, suhu air, kecepatan arus, kedalaman, pH, kandungan oksigen terlarut, dan kandungan bahan organik. Makrozoobentos di Sungai Gajah Wong memiliki nilai densitas 439 individu/m² yang berasal dari Filum Annelida, Mollusca, dan Arthropoda dengan jumlah spesies sebanyak 23 jenis. Spesies yang paling banyak ditemukan yaitu *Pleurocera ampla*. Tipe substrat didominasi oleh pasir dan batu, suhu air berkisar antara 26,4–29,6°C; kecepatan arus berkisar antara 0,2–0,7 m/detik; dan kedalaman sungai berkisar antara 8,7–33,8 cm. Nilai pH air berkisar antara 6,6–7,1; kandungan oksigen terlarut berkisar antara 4,7–7,0 ppm; dan kandungan bahan organik di air yaitu 10,9–14,7 ppm. Nilai indeks keanekaragaman makrozoobentos yaitu 1,31 yang termasuk dalam kategori sedang. Sungai Gajah Wong termasuk dalam kategori pencemaran sedang.

Kata kunci: keanekaragaman, kemelimpahan, makrozoobentos, Sungai Gajah Wong

Abstract

Diversity and Abundance of Macrozoobenthos in Gajah Wong River Yogyakarta

Gajah Wong River was located at Yogyakarta and utilized in household utilities, industry, agriculture, and factories so that the water quality of the river has decreased and affected the organisms in the river, especially macrozoobenthos as a bioindicator of water pollution. The study aims to determine the diversity and the abundance of macrozoobenthos and to see water pollution rate in Gajah Wong River, Yogyakarta. There were six sampling stations located in Sleman, Yogyakarta, and Bantul Regency. The sampling was conducted once a week from December 2019–January 2020. Macrozoobenthos samples were collected using surber net (30cmx30cm). The biological index that measured were the density, Shannon-Wiener diversity index, Simpson dominancy index, and Evenness similarity index. The physico-chemical parameters of water that measured were substrate type, water temperature, flow velocity, river depth, pH, dissolved oxygen, and organic matter. The results show that the density of macrozoobenthos in Gajah Wong River was 439 ind/m² that were from Phylum of Annelida, Mollusca, and Arthropod with the number of taxa was 23 species. *Pleurocera ampla* was the macrozoobenthos that commonly found in the river. Substrate type was dominated by sand and rocks, the water temperature was ranged from 26.4–29.6 °C, the flow velocity ranged from 0.2–0.7 m/s, and the river depth ranged from 8.7–33.8 cm. Water pH value was ranged from 6.6–7.1, dissolved oxygen ranged from 4.7–7.0 ppm, and organic matter in water ranged from 10.9–14.7 ppm. The diversity index of macrozoobenthos was 1,31 which classified in moderate level. Gajah Wong River was moderately polluted.

Keywords: abundance, diversity, Gajah Wong River, macrozoobenthos