

KEMELIMPAHAN, DISTRIBUSI, DAN KEANEKARAGAMAN MAKROINVERTEBRATA BENTIK DI SUNGAI SUKA MAJU, KAPUAS HULU, KALIMANTAN BARAT

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INTISARI

Sungai merupakan ekosistem air tawar yang berperan penting dalam mendukung kehidupan berbagai organisme akuatik, termasuk makroinvertebrata bentik. Organisme ini berfungsi sebagai komponen penting dalam rantai makanan sekaligus bioindikator kualitas perairan karena memiliki tingkat sensitivitas dan toleransi yang berbeda terhadap perubahan lingkungan. Sungai Suka Maju yang terletak di Kecamatan Mentebah, Kabupaten Kapuas Hulu, Kalimantan Barat, merupakan salah satu sungai yang mengalami variasi kondisi lingkungan akibat aktivitas antropogenik. Penelitian ini bertujuan untuk mengkaji kemelimpahan, distribusi, dan keanekaragaman makroinvertebrata bentik di Sungai Suka Maju. Penelitian dilakukan menggunakan metode *purposive sampling* pada tiga stasiun yang tersebar di sepanjang aliran sungai. Pengambilan sampel makroinvertebrata bentik dan pengukuran parameter lingkungan dilakukan secara langsung di lapangan. Analisis data meliputi uji statistik menggunakan ANOVA dan PERMANOVA, analisis struktur komunitas menggunakan indeks EPT dan *Family Biotic Index* (FBI), serta analisis multivariat menggunakan *Canonical Correspondence Analysis* (CCA) dan *Non-metric Multidimensional Scaling* (NMDS). Hasil penelitian menunjukkan bahwa karakteristik habitat dan parameter lingkungan memengaruhi struktur komunitas makroinvertebrata bentik di Sungai Suka Maju. Stasiun 1 memiliki kemelimpahan individu tertinggi dan didominasi oleh kelompok Ephemeroptera, Plecoptera, dan Trichoptera (EPT) serta *functional feeding group* berupa grazers, yang mengindikasikan kondisi perairan yang relatif baik. Sebaliknya, stasiun 2 dan stasiun 3 menunjukkan penyederhanaan struktur komunitas dengan dominansi kelompok collectors yang berkaitan dengan adanya tekanan antropogenik pada lokasi tersebut.

Kata Kunci: Bioindikator, *functional feeding groups*, indeks biotik famili, pencemaran sungai

ABUNDANCE, DISTRIBUTION, AND DIVERSITY OF BENTHIC MACROINVERTEBRATES IN THE SUKA MAJU STREAM, KAPUS HULU, WEST KALIMANTAN

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ABSTRACT

Rivers are freshwater ecosystems that play an important role in supporting the life of various aquatic organisms, including benthic macroinvertebrates. These organisms function as essential components of the food chain and serve as bioindicators of water quality due to their varying sensitivity and tolerance to environmental changes. The Suka Maju Stream, located in Mentebah Subdistrict, Kapuas Hulu Regency, West Kalimantan, is one of the streams experiencing environmental variation caused by anthropogenic activities. This study aimed to assess the abundance, distribution, and diversity of benthic macroinvertebrates in the Suka Maju Stream. This study employed a purposive sampling method at three sampling stations distributed along the stream. Benthic macroinvertebrate sampling and environmental parameter measurements were conducted directly in the field. Data analysis included statistical tests using ANOVA and PERMANOVA, community structure analysis using the EPT index and Family Biotic Index (FBI), and multivariate analysis using Canonical Correspondence Analysis (CCA) and non-metric multidimensional scaling (NMDS). The results showed that habitat characteristics and environmental parameters influenced the structure of benthic macroinvertebrate communities in the Suka Maju Stream. Station 1 exhibited the highest abundance and was dominated by Ephemeroptera, Plecoptera, and Trichoptera (EPT) groups as well as grazer functional feeding groups, indicating relatively favorable water quality conditions. In contrast, Stations 2 and 3 showed simplified community structures dominated by collector groups, which were associated with anthropogenic pressures at those locations.

Keywords: Bioindicator, family biotic index, functional feeding groups, river pollution