

RINGKASAN

Mikroplastik merupakan partikel kecil yang tersebar di lingkungan pesisir dan dapat terakumulasi di air, sedimen, dan organisme laut. *Faunus ater* sebagai *deposit feeder* rentan menelan mikroplastik karena tidak dapat membedakannya dari makanan. Spesies ini hidup di dasar perairan berlumpur dengan serasah sebagai sumber makanannya, sehingga berpotensi tinggi terpapar mikroplastik. Penelitian ini bertujuan membandingkan kelimpahan serta mendeskripsikan karakteristik fisik dan kimia mikroplastik pada air, sedimen, dan *F. ater* di mangrove Kulon Progo, DI Yogyakarta.

Pengambilan sampel dilakukan di perairan mangrove Kulon Progo, DI Yogyakarta, pada empat stasiun yang dipilih secara *purposive*, mewakili dua sisi sungai utama. Penelitian ini berlangsung dari September 2024 hingga Juli 2025, dengan pengambilan dilakukan saat pasang dan surut pada fase bulan sabit tua. Analisis kelimpahan mikroplastik dilakukan secara deskriptif komparatif, kemudian diuji secara statistik menggunakan uji Kruskal-Wallis dan Mann-Whitney. Karakteristik mikroplastik dianalisis berdasarkan bentuk, warna, dan ukuran, serta jenis polimer untuk mengetahui komposisi kimianya.

Hasil penelitian menunjukkan bahwa kelimpahan mikroplastik terbanyak ditemukan pada *F. ater*, diikuti oleh sedimen dan air. Uji Kruskal-Wallis dan Mann-Whitney menunjukkan adanya perbedaan kelimpahan mikroplastik antar ketiga media, yang mencerminkan distribusi mikroplastik tidak merata. Mikroplastik yang ditemukan memiliki berbagai bentuk seperti fragmen, fiber, film, foam, granule, dan pelet, dengan fragmen sebagai bentuk yang paling banyak ditemukan. Warna yang teridentifikasi cukup beragam, namun warna coklat paling sering muncul di semua jenis sampel. Ukuran mikroplastik berbeda antar media, dengan ukuran terbesar ditemukan pada air, diikuti sedimen dan *F. ater*. Jenis polimer yang paling umum adalah *polypropylene* (PP) dan *polyethylene* (PE), yang ditemukan hampir di seluruh sampel dari ketiga media.

Kata kunci: *air, gastropoda, karakteristik, kelimpahan, sedimen.*

SUMMARY

Microplastics are small plastic particles that are widely distributed in coastal environments and can accumulate in water, sediment, and marine organisms. *Faunus ater*, as a deposit feeder, is vulnerable to ingesting microplastics because it cannot distinguish them from food. This species lives on the muddy bottoms of aquatic environments, with leaf litter as its main food source, making it highly exposed to microplastic contamination. This study aims to compare the abundance and describe the physical and chemical characteristics of microplastics in water, sediment, and *F. ater* in the mangrove area of Kulon Progo, DI Yogyakarta.

Sampling was conducted at four stations in the Kulon Progo mangrove area, DI Yogyakarta, selected purposively to represent both sides of the main river. The study was carried out from September 2024 to July 2025, with sampling conducted during high and low tides in the waning crescent moon phase. Microplastic abundance was analyzed using a descriptive comparative approach and statistically tested using the Kruskal-Wallis and Mann-Whitney tests. Microplastic characteristics were analyzed based on shape, color, and size, as well as polymer type to determine their chemical composition.

The results of the study showed that the most abundance of microplastics was found in *F. ater*, followed by sediment and water. The Kruskal-Wallis and Mann-Whitney tests indicated differences in microplastic abundance among the three media, reflecting an uneven distribution. The microplastics identified came in various forms such as fragments, fibers, films, foams, granules, and pellets, and fragments is the most common. The colors observed were quite diverse, but brown appeared most frequently across all samples. Microplastic sizes varied between media, with the largest sizes found in water, followed by sediment and *F. ater*. The most commonly identified polymers were polypropylene (PP) and polyethylene (PE), which were present in almost all samples across the three media.

Keywords: *abundance, characteristics, gastropod, sediment, water.*