# Analisis Kelimpahan Mikroplastik pada Insang dan Saluran Pencernaan Ikan Mujair Oreochromis mossambicus (Peters, 1852) dan Ikan Sepat Rawa Trichopodus trichopterus (Pallas, 1770) di Situ Mahoni, Kampus Universitas Indonesia, Depok = Abundance Analysis of Microplastics in the Gills and Digestive Tracts of Tilapia Oreochronis mossambicus (Peters, 1852) and Three Spot Gourami Trichopodus trichopterus (Pallas, 1770) in Situ Mahoni, Universitas Indonesia Campus, Depok

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Abstrak

Penelitian ini bertujuan untuk mengetahui kelimpahan mikroplastik pada air, sedimen, serta insang dan saluran pencernaan ikan mujair Oreochromis mossambicus (Peters, 1852) dan Ikan Sepat Rawa Trichopodus trichopterus (Pallas, 1770) di Situ Mahoni, Kampus Universitas Indonesia, Depok. Sampel air diambil sebanyak 20 L menggunakan beaker glass 1000 mL lalu disaring menggunakan plankton net hingga tertampung volume air 300 mL, sampel sedimen diambil menggunakan ekman grab dan ditampung pada jar kaca 250 mL. Sementara itu, sampel ikan mujair dan ikan sepat rawa masing-masing diambil 15 ekor dengan cast net lalu disimpan pada wadah penyimpanan berisi alkohol 70%. Ekstraksi sampel dilakukan di Laboratorium Biologi Kelautan, Departemen Biologi, FMIPA UI dengan metode penghancuran oleh HNO3 65% untuk sampel ikan. Sedangkan, sampel sedimen dikeringkan dengan menggunakan oven selama 2 hari. Selanjutnya, seluruh sampel dicampurkan dengan larutan NaCl jenuh untuk mengapungkan mikroplastik. Kemudian dilakukan analisis kelimpahan, bentuk, dan warna mikroplastik menggunakan mikroskop. Hasil penelitian menunjukkan rata-rata total kelimpahan mikroplastik pada air diperoleh 437,67 Â± 30,21 partikel L-1, pada sedimen diperoleh 36.237,04  Â± 16.702,60 partikel kg-1, pada insang ikan mujair diperoleh 785,78 Â± 292,07 partikel ind-1, pada insang ikan sepat rawa diperoleh 553,33 Â± 242,54 partikel ind-1, saluran pencernaan ikan mujair diperoleh 1.058,67 Â± 215,44 partikel ind-1, pada saluran pencernaan ikan sepat rawa diperoleh 892,89 Â± 156,52 partikel ind-1. Secara keseluruhan, bentuk mikroplastik yang paling banyak ditemukan adalah mikroplastik berbentuk fiber. Berdasarkan hasil uji Mann-Whitney terhadap sampel insang dan saluran pencernaan dari ikan mujair dan ikan sepat rawa didapatkan bahwa terdapat perbedaan jumlah mikroplastik yang signifikan.

.....The purpose of this study is to identify the abundance of microplastics in water, sediment, gills, and digestive tract of tilapia Oreochromis mossambicus (Peters,1852) and three spot gourami Trichopodus trichopterus (Pallas, 1770) in Situ Mahoni, University of Indonesia Campus, Depok. As much as 20 Litres of water samples were taken using a 1000 mL beaker glass and then filtered using a plankton net until 300 mL of water is stored, Sediment samples were taken using an ekman grab then stored on a 250 mL glass jar, while 15 samples of the tilapia and three spot gourami were caught using a cast net and then stored with alcohol 70%. Sample extractions were carried out at the Marine Biology Laboratory, Department of Biology, FMIPA UI by pulverizing the fish samples with HNO3 65%. The sediment samples were dried using the oven for 2 days. Then, all of the samples were mixed with a NaCl solution to float the microplastics. Then, an analysis of abundance, shape, and colours of microplastics under the microscope were done. The results showed that the average total abundance of microplastics was 437,67 Â± 30,21 L-1

particles in water samples, in sediment samples was 36.237,04  Â± 16.702,60 kg-1 particles in sediment samples, 785,78 Â± 292,07 ind-1 particles in the gills of tilapia, 553,33 Â± 242,54 ind-1 particles in the gills of the three spot gourami, 1.058,67 Â± 215,44 ind-1 particles in the digestive tract of the tilapia, 892,89 Â± 156,52 ind-1 particles in the digestive tract of the three spot gourami. Overall, the predominant form of microplastic in the water, sediment, gills, and digestive tract is in the form of fiber. There is a significant difference between the abundance of microplastics based on the results of the Mann-Whitney Test on gill and digestive tract samples of tilapia and three spot gourami.