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Analisis Kelimpahan Mikroplastik pada Air, Sedimen, serta Insang dan Saluran Pencernaan Ikan Sapu-Sapu Pterygoplichthys pardalis (Castelnau, 1855) dari Situ Kenanga dan Situ Mahoni, Kampus Universitas Indonesia, Depok, Jawa Barat = Analysis of Microplastics Abundance in Water, Sediment, Gills and Digestive Tract of Amazon Sailfin Catfish Pterygoplichthys pardalis (Castelnau, 1855) from Situ Kenanga and Situ Mahoni, Universitas Indonesia Campus, Depok, West Java

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Abstrak

Keberadaan mikroplastik di perairan dapat mengancam biota di dalamnya. Penelitian dilakukan dengan tujuan menganalisis kelimpahan, bentuk, dan warna mikroplastik pada air, sedimen, insang dan saluran pencernaan ikan sapu-sapu Pterygoplichthys pardalis dari Situ Kenanga dan Situ Mahoni, Kampus Universitas Indonesia, Depok. Pengambilan sampel air dan sedimen dilakukan pada inlet, midlet, dan outlet kedua situ. Sampel air disaring menggunakan plankton net, sampel sedimen diambil menggunakan Ekman grab kemudian dikeringkan menggunakan oven, sampel P. pardalis sebanyak 15 individu diambil menggunakan cast net dari masing-masing situ, kemudian insang dan saluran pencernaannya diisolasi dan didestruksi menggunakan HNO3 65%. Tiap sampel yang diperoleh dilarutkan dengan larutan NaCl jenuh agar terjadi flotasi. Pengamatan dilakukan menggunakan mikroskop cahaya dan Sedgwick Rafter Chamber untuk meletakkan sampel, dengan mengamati bentuk, warna, dan jumlah partikel mikroplastik. Hasil penelitian menunjukkan bahwa bentuk fiber, film, fragmen, granula, serta warna transparan, hitam, biru, dan merah muda ditemukan pada semua sampel. Kelimpahan mikroplastik di Situ Kenanga pada air sebanyak 48,26 ± 23,51 partikel L-1, sedimen 45837,04 ± 36305,97 partikel Kg-1, insang 290,48 ± 154,58 partikel g-1 atau 1156,44 ± 378,69 partikel ind-1, saluran pencernaan 134,37 ± 55,72 partikel g-1 atau 1364,89 ± 339,54 partikel ind-1. Kelimpahan mikroplastik di Situ Mahoni pada air sebanyak 48,63 ± 30,21 partikel L-1, sedimen 36237,04 ± 16702,60 partikel Kg-1, insang 287,23 ± 109,40 partikel g-1 atau 1153,78 ± 324,32 partikel ind-1, saluran pencernaan 123,77 ± 34,35 partikel g-1 atau 1304,44 ± 270,90 partikel ind-1. Tidak terdapat perbedaan signifikan antara kelimpahan mikroplastik di Situ Kenanga dan Situ Mahoni pada semua sampel.

.....The presence of microplastics in the water could threaten the biota there. This study was conducted to analyze the abundance, shapes, and colors of microplastics in water, sediment, gills and digestive tract of amazon sailfin catfish Pterygoplichthys pardalis from Situ Kenanga and Situ Mahoni, Universitas Indonesia Campus, Depok. Sampling of water and sediment were carried out at the inlet, midlet, and outlet of both situ. Water samples were filtered using plankton net, sediment samples were taken using Ekman grab and dried using an oven, as many as 15 individual P. pardalis samples were taken using cast net from each situ, then their gills and digestive tract were isolated and pulverized using 65% HNO3. Each sample obtained was dissolved with saturated NaCl solution for flotation to occur. Observations were made using a light microscope and Sedgwick Rafter Chamber to place each sample, by observing the shape, color, and number of microplastic particles. The results showed that the shapes of fibers, films, fragments, granules, as well as

transparent, black, blue, and pink colors were found in all samples. The abundance of microplastics in Situ Kenanga water was 48.26 ± 23.51 particles L-1, sediment 45837.04 ± 36305.97 particles Kg-1, gills 290.48 ± 154.58 particles g-1 or 1156, 44 ± 378.69 ind-1 particles, digestive tract 134.37 ± 55.72 particles g-1 or 1364.89 ± 339.54 ind-1 particles. The abundance of microplastics in Situ Mahoni water was 48.63 ± 30.21 particles L-1, sediment 36237.04 ± 16702.60 particles Kg-1, gills 287.23 ± 109.40 particles g-1 or 1153, 78 ± 324.32 ind-1 particles, digestive tract 123.77 ± 34.35 particles g-1 or 1304.44 ± 270.90 ind-1 particles. There was no significant difference between the abundance of microplastics in Situ Kenanga and Situ Mahoni in all samples.