

Analisis Kelimpahan Mikroplastik pada Air, Sedimen, Insang dan Saluran Pencernaan Ikan Red devil *Amphilophus labiatus* (Günther, 1864) di Situ Kenanga dan Situ Mahoni, Universitas Indonesia, Depok, Jawa Barat = Analysis of Microplastic Abundance in Water, Sediment, Gills and Digestive Tract of Red Devil Fish *Amphilophus labiatus* (Günther, 1864) in Situ Kenanga and Situ Mahoni, Universitas Indonesia, Depok, West Java

Farrel Ferdian, author

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Abstrak

Mikroplastik yang mencemari perairan tawar dapat mengganggu keberlangsungan hidup biota di dalamnya. Penelitian ini bertujuan untuk menganalisis bentuk, warna, dan kelimpahan mikroplastik yang terkandung pada air, sedimen, insang, dan saluran pencernaan ikan red devil *Amphilophus labiatus* di Situ Kenanga dan Situ Mahoni, Universitas Indonesia, Depok, Jawa Barat. Sampel air dan sedimen di ambil pada 3 stasiun pengambilan sampel dari kedua situ. Sampel ikan red devil diperoleh 15 ekor pada masing – masing situ. Sampel insang dan saluran pencernaan dihancurkan menggunakan larutan asam nitrat (HNO_3) 65%. Sampel air diambil 20 L dan disaring menggunakan plankton net. Sampel sedimen dikeringkan dalam oven sebanyak 25 gram. Larutan NaCl jenuh digunakan untuk memisahkan mikroplastik dengan pengotor. Sebanyak 1 mL sample ditetaskan pada Sedgwick Rafter Chamber kemudian diamati dan dihitung berdasarkan bentuk mikroplastik di bawah mikroskop. Hasil penelitian menunjukkan kelimpahan mikroplastik bentuk fiber, fragmen, film, granula terdapat pada seluruh sampel dengan warna yang beragam. Hasil penelitian menunjukkan total kelimpahan rata – rata mikroplastik di Situ Kenanga sebanyak $434,33 \pm 23,51$ partikel L-1 pada air, $45.837,04 \pm 36.305,97$ partikel kg-1 pada sedimen, $268,33 \pm 119,18$ partikel gr-1 dan $1266,2 \pm 349,72$ partikel ind-1 pada insang, $287,79 \pm 185,22$ partikel gr-1 dan $978,22 \pm 336,38$ partikel ind-1 pada saluran pencernaan. Pada Situ Mahoni sebesar $437,67 \pm 30,21$ partikel L-1 pada air, $36.237,04 \pm 16.702,59$ partikel kg-1 pada sedimen, $429,18 \pm 187,50$ partikel gr-1 dan $1233,8 \pm 253,60$ partikel ind-1 pada insang, $318,04 \pm 114,94$ partikel gr-1 dan $1053,78 \pm 328,44$ partikel ind-1 pada saluran pencernaan.

.....Microplastics that contaminate freshwater can disrupt the survival of the biota in it. This study aims to analyze the shape, color, and abundance of microplastics contained in water, sediment, gills, and digestive tract of red devil fish *Amphilophus labiatus* in Situ Kenanga and Situ Mahoni, University of Indonesia, Depok, West Java. Water and sediment samples were taken at 3 sampling stations from the two Situ. Samples of red devil fish were obtained 15 tails in each Situ. Samples of gills and digestive tract were destroyed using 65% nitric acid (HNO_3) solution. Water samples were taken 20 L and filtered using a plankton net. Sediment samples were dried in an oven as much as 25 grams. Saturated NaCl solution was used to separate microplastics with impurities. A total of 1 mL of the sample was dropped into the Sedgwick Rafter Chamber and then observed and calculated based on the shape of the microplastic under a microscope. The results showed an abundance of microplastics in the form of fibers, fragments, films, and granules in all samples with various colors. The results showed the total average abundance of microplastics in Situ Kenanga was $434,33 \pm 23,51$ L-1 particles in water, $45.837,04 \pm 36.305,97$ particles kg-1 in

sediments, 268.33 ± 119.18 particles gr-1 and 1266.2 ± 349.72 particles ind-1 in the gills, 287.79 ± 185.22 particles gr-1 and 978.22 ± 336.38 particles ind-1 in the digestive tract. At Situ Mahoni there are $437,67 \pm 30,21$ particles L-1 in water, $36.237,04 \pm 16.702,59$ particles kg-1 in sediments, 429.18 ± 187.50 particles gr-1 and 1233.8 ± 253.60 particles ind-1 on the gills, 318.04 ± 114.94 particles gr-1 and 1053.78 ± 328.44 particles ind-1 in the digestive tract.