

# Mikroplastik pada Saluran Pencernaan dan Insang Ikan Kerapu Lumpur *Epinephelus Coioides* (Hamilton, 1822) dari Tambak Desa Muara, Teluknaga, Tangerang, Banten = Microplastic in Digestive Tract and Gill of Orange Spotted Grouper *Epinephelus coioides* (Hamilton, 1822) from Muara Village Fishpond, Tangerang, Banten

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## Abstrak

Penelitian ini menganalisis kelimpahan serta bentuk mikroplastik pada saluran pencernaan dan insang ikan kerapu lumpur *Epinephelus coioides* (Hamilton, 1822) di Tambak Desa Muara, Teluknaga, Tangerang. Pengambilan sampel ikan dilakukan  $\pm 4$  jam setelah pemberian makan menggunakan alat pancing dengan kriteria sampel berukuran 300400 g. Saluran pencernaan dibagi menjadi dua bagian yaitu lambung dan usus. Mikroplastik pada saluran pencernaan diamati dari air bilasan dan dinding permukaan masing-masing sampel. Setiap lambung dan usus dibedah untuk mengeluarkan isinya kemudian dibilas dengan 15 ml akuades. Sampel air bilasan diambil sebanyak 0,25 ml kemudian diletakkan pada gelas objek untuk diamati di bawah mikroskop. Saluran pencernaan yang telah dibilas selanjutnya dipotong menjadi 2 x 1 cm sampel lambung dan 3 cm sampel usus. Pengamatan insang dilakukan dengan memisahkan antar lembar insang dari lapisan terdalam hingga terluar. Partikel mikroplastik diukur menggunakan aplikasi ImageJ. Hasil penelitian menunjukkan kelimpahan mikroplastik pada saluran pencernaan sebanyak  $1.384 \pm 197,95$  partikel ind-1 pada air bilasan lambung,  $1.822 \pm 292,79$  partikel ind-1 pada air bilasan usus,  $103,24 \pm 19,72$  partikel ind-1 pada dinding lambung dan  $154,27 \pm 26,42$  partikel ind-1 pada dinding usus. Kelimpahan mikroplastik yang ditemukan pada setiap lembar insang yakni  $16,35 \pm 2,8$  partikel pada insang 1;  $20,05 \pm 3,1$  partikel pada insang 2;  $21,9 \pm 2,9$  partikel pada insang 3; dan  $26,7 \pm 3,4$  partikel pada insang 4. Kisaran ukuran mikroplastik yang ditemukan pada seluruh sampel yakni  $94.800 \mu\text{m}$  dengan kelimpahan tertinggi pada bentuk fiber. Terdapat perbedaan kelimpahan mikroplastik antara kedua bagian saluran pencernaan serta antara masing-masing lembar insang.

.....This study analyzed the abundance and shape of microplastics in the digestive tract and gill of orange spotted grouper *Epinephelus coioides* (Hamilton, 1822) in Muara Village Pond, Teluknaga, Tangerang. Fish sampling was carried out  $\pm 4$  hours after feeding by using fishing line with weight criteria around 300400 g. Digestive tract is divided into two parts which are stomach and gut. Microplastic in digestive tract was observed from rinsed water and the surface wall of each sample. Each stomach and gut were dissected to take out its content then they were rinsed with 15 ml distilled water. The rinse water sample was taken as much as 0,25 ml and then placed on object glass to be observed under a microscope. The digestive tract that has been rinsed with the distilled water then cut into 2 x 1 cm stomach sample and 3 cm gut sample. Gill observation was done by separating gills from innermost to outermost layer. Microplastic particles were measured using the ImageJ application. The results showed the abundance of microplastic in digestive tract was  $1.384 \pm 197,95$  particles ind-1 in stomach rinsed water,  $1.822 \pm 292,79$  particles ind-1 in gut rinsed water,  $103,24 \pm 19,72$  particles ind-1 in stomach wall and  $154,27 \pm 26,42$  particles ind-1 in gut wall. Microplastics abundance which found in each gill were  $16,35 \pm 2,8$  particles in 1st gill;  $20,05 \pm 3,1$  particles in 2nd gill;  $21,9 \pm 2,9$  particles in 3rd gill and  $26,7 \pm 3,4$  particles in 4th gill. The range of microplastic sizes

found in all samples was 94.800  $\mu\text{m}$  with fiber as the most abundant shape. There was a difference in microplastic abundance between two parts of the digestive tract and between each gill.