Kandungan Logam Berat Tembaga (Cu) dan Kadimum (Cd) pada Sedimen dan Kepiting Bakau Scylla serrata (Forsskål, 1775) di Tambak Blanakan, Subang, Jawa Barat = Heavy Metals Content of Copper (Cu) and Cadmium (Cd) in Sediment and Mangrove Crab Scylla serrata (ForsskÃ¥l, 1775) at Blanakan Ponds, Subang, West Java

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Abstrak

Logam berat yang mencemari sungai dapat mengontaminasi air dan hasil tangkapan pada tambak. Tambak Blanakan merupakan tempat budidaya hasil tangkapan perairan yang terletak di Kabupaten Subang, Jawa Barat dengan sumber air laut dan air tawar yaitu sungai Blanakan. Penelitian ini bertujuan untuk menganalisis kandungan logam berat tembaga (Cu) dan kadmium (Cd) pada sedimen dan kepiting bakau Scylla serrata, serta menentukan nilai bioconcentration factor (BCF) pada kepiting bakau di tambak Blanakan. Sampel sedimen diambil pada tiga stasiun secara purposive sampling pada tiga titik yaitu inlet, midlet, dan outlet sebanyak 500 g, sedangkan kepiting bakau diambil pada tiga stasiun sebanyak 5 ekor tiap stasiun. Sampel sedimen dipanaskan menggunakan oven selama 48 jam di suhu 60oC dan kepiting (yang sudah dipisahkan jaringan lunaknya). Analisis logam berat tembaga (Cu) pada sedimen dan kepiting bakau dilakukan menggunakan metode Atomic Absorption Spectrophotometry (AAS), sedangkan logam kadmium (Cd) pada sampel sedimen dianalisis menggunakan Inductively Coupled Plasma (ICP). Hasil analisis kandungan tembaga (Cu) pada sampel sedimen memiliki rata-rata sebesar 5,5367 – 8,31 ppm, sedangkan analisis tembaga (Cu) pada sampel kepiting bakau memiliki rata-rata sebesar 27,98 ppm. Hasil analisis kandungan kadmium (Cd) pada sedimen tidak terdeteksi, sedangkan kandungan kadmium (Cd) di kepiting bakau memiliki rata-rata 0,12 ppm. Nilai BCF tembaga (Cu) pada kepiting bakau adalah BCF > 2 yang menunjukkan bahwa kepiting bakau di tambak Blanakan merupakan konsentrator makro.
.....Heavy metals that pollute rivers can contaminate water and catches in ponds. Blanakan pond is a place for cultivating water catches located in Subang Regency, West Java, with sources of sea water and fresh water, namely the Blanakan river. This study aims to analyze the content of heavy metals copper (Cu) and cadmium (Cd) in sediments and mud crabs Scylla serrata, and determine the value of bioconcentration factor (BCF) in mud crabs in Blanakan ponds. Sediment samples were taken at three stations by purposive sampling at three points, namely inlet, midlet, and outlet as much as 500 g, while mud crabs were taken at three stations with 5 fish per station. Sediment samples were heated using an oven for 48 hours at 60oC and crabs (which had been separated from the soft tissue). Analysis of heavy metal copper (Cu) in sediments and mud crabs was carried out using the Atomic Absorption Spectrophotometry (AAS) method, while metal cadmium (Cd) in sediment samples was analyzed using Inductively Coupled Plasma (ICP). The results of the analysis of the copper (Cu) content in the sediment samples had an average of 5.5367 – 8.31 ppm, while the copper (Cu) analysis in the mud crab samples had an average of 27.98 ppm. The results of the analysis of the content of cadmium (Cd) in the sediment was not detected, while the content of cadmium (Cd) in mud crabs had an average of 0.12 ppm. The BCF value of copper (Cu) in mangrove crabs is BCF > 2 which indicates that the mangrove crabs in Blanakan ponds are macro concentrators.