Kandungan Logam Berat Timbal (Pb), Kadmium (Cd), dan Seng (Zn) pada spons Neopetrosia sp. di Perairan Pulau Pramuka, Kepulauan Seribu, DKI Jakarta = The Content of Lead (Pb), Cadmium (Cd), Zinc (Zn) in (Neopetrosia sp.) Sponge in Pramuka Island Seribu Islands, DKI Jakarta

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Abstrak

Penelitian mengenai kandungan logam berat timbal (Pb), kadmium (Cd) dan seng (Zn) pada spons Neopetrosia sp. di Pulau Pramuka, Kepulauan Seribu telah dilakukan. Logam berat merupakan unsur beracun jika konsentrasinya berada di dalam tubuh. Tujuan dilakukan penelitian, yaitu untuk mengetahui perbedaan konsentrasi logam berat (Pb, Cd, dan Zn) pada spons Neopetrosia sp. di 3 stasiun penelitian yang berbeda di perairan Pulau Pramuka serta mengetahui korelasi kandungan logam berat Pb, Cd, dan Zn pada spons Neopetrosia sp. dengan air dan sedimen. Konsentrasi logam berat (Pb, Cd dan Zn) pada spons Neopetrosia sp., sedimen dan air di Pulau Pramuka dideteksi menggunakan alat Inductively Coupled Plasma-mass Spectrometry (ICP-MS). Hasil rata-rata konsentrasi logam berat Pb, Cd, dan Zn pada Neopetrosia sp. secara berurut berkisar 957,54--2.560,43 ppb; 6,41--7,99 ppb; 2.431,87-- 4.577,91 ppb. Hasil rata-rata konsentrasi logam berat Pb, Cd, dan Zn pada sedimen secara berurut berkisar 132,35--783,96 ppb; 11,08--18,18 ppb; 681,48--5.179,02 ppb. Hasil rata-rata konsentrasi logam berat (Pb, Cd, dan Zn) pada air secara berurut berkisar 0,33--0,85 ppb; 0,00--0,01 ppb; 5,81--9,28 ppb. Data kemudian dianalisis menggunakan korelasi Spearman. Hasil menunjukan bahwa tidak terdapat korelasi antara kandungan logam berat (Pb, Cd, Zn) pada spons Neopetrosia sp. dan sedimen, maupun logam berat (Pb, Cd, dan Zn) pada spons Neopetrosia sp. dan air

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Research on heavy metals (Pb, Cd, and Zn) in sponge Neopetrosia sp. on Pramuka Island, Thousand Islands has been carried out. Heavy metals are toxic element if the concentration is existed in the body. The purpose of this research was to determine the differences of heavy metals Pb, Cd, and Zn concentrations in sponge Neopetrosia sp. in 3 different research stations in Pramuka Island and to know the correlation of heavy metal content of Pb, Cd, and Zn in sponge Neopetrosia sp. with water and sediment. The concentrations of heavy metals Pb, Cd, and Zn in Neopetrosia sp., sediment and water in Pramuka Island were detected with Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) tool. The results of the average concentrations of heavy metals (Pb, Cd, and Zn) in Neopetrosia sp. sequentially ranges from 957.54--2.560.43 ppb; 6.41--7.99 ppb; 2,431.87--4,577.91 ppb. The average concentration of Pb, Cd, and Zn in the sediment ranged from 132.35 to 783.96 ppb; 11.08--18.18 ppb; 681.48--5,179.02 ppb. The results of the average concentrations of Pb, Cd, and Zn in water, respectively, ranged from 0.33--0.85 ppb; 0.00--0.01 ppb; 5.81--9.28 ppb. The data were analyzed using the Spearman correlation. The results have shown that there was no correlation between heavy metals content (Pb, Cd, Zn) in the sponge Neopetrosia sp. and sediments, as well as heavy metals (Pb, Cd, and Zn) on the sponge Neopetrosia sp. and water