

MUSSELS CHEMICAL COMPOSITION IN DEPENDENCE
ON ION RADIUS OF CHEMICAL ELEMENTS

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Summary. The dependence of the content of the most chemical elements in soft tissues and basic parameters of element ions were established.

Knowledge of the chemical elemental composition of mussels is essential because these organisms are very often used as biological indicators of marine pollution. Chemical elements in the soft part of mussels may be classified into five groups according to the basic properties of ions. The first group includes ions of Na, K, Rb, Cs, Fr; the second one - Mg, Ca, Sr, Ba, Ra; the third one - O^{-2} , Cl^{-1} , S^{-2} , Br^{-1} , P^{-3} , I^{-1} , As^{-3} , Sb^{-3} , Bi^{-3} , Te^{-2} , Sc^{-2} ; the fourth one - O^{+6} , Cl^{+7} , S^{+6} , Br^{+7} , I^{+7} , As^{+5} , Bi^{+5} , Sb^{+5} , Sc^{+6} . The fifth group consisted of other elements with different ionic charges including heavy metals.

Within each group an average content of chemical elements in mussels decreases when the ionic radius increases. This curve permits the determination of the variance and an average of heavy metals in mussels. The function of desirability is constructed using the lognormal distribution of heavy metals in mussels. This function reflects a degree of marine environment pollution.

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