

セスジスリカを用いたバイオアッセイによる河川底質の有害性評価のためのフィージビリティスタディ

Feasibility study for toxicity evaluation of river sediments by bioassay using *Chironomus yoshimatsui*

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Huge numbers of anthropogenic toxic chemicals are newly produced every year and some chemicals are leaking into environment. River sediment is one of the largest sink of toxic chemicals. The toxic chemicals in river sediments are mobile with sediments via river flow and can spread toward seabed. However, there are too many chemicals produced annually to experimentally evaluate the risk of each chemical.

In this study, we measured the hatchability of *Chironomus yoshimatsui* and several toxic trace elements, which is extracted by batch test based on Environment Agency notification No.46 in 1991, in the river sediment and factory waste sludge samples to evaluate the biologic toxicity. Although the concentration of each toxic trace element in the samples is under the level specified in the environmental quality standards for water, the hatchability was zero or nearly zero for several river sediments and factory waste sludge. This indicates that the hatchability works as an indicator to biologic risk. The hatching rate also tends to decrease with the increase of arsenic in samples. Our study supports the toxicity evaluation of river sediments by bioassay using *Chironomus yoshimatsui* is feasible for the unknown chemicals and/or the combination of known toxic chemicals in a river sediment.

キーワード：河川底質、バイオアッセイ、生物毒性

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