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Investigation of the Paramecium Toxicity Test for Detecting of Heavy Metals in an Aquatic Environment

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Heavy metals are ubiquitous elements in the natural environment and also but their presence in the environment is associated with contamination by industrial waste. Contamination of aquatic ecosystems with heavy metals has increased, worldwide. The heavy metals can enter the aquatic food chain through direct consumption of water or through consumption of organism living in the contaminated water. Microorganisms and specially ciliates are the key components for the decomposition of organic materials. They are an important link in the aquatic food-chain and they are involved in water purification. Many studies conducted on heavy metals polluted waters have revealed changes in the dynamics of protist communities. The ciliate species present in the polluted sites could become useful bioindicator for the detection of environmental disturbances and assessment of the trophic state.

Paramecium bursaria is a unicellular organisms, which is widely distributed in aquatic environment. Among ciliates *Paramecium* species, only *Paramecium bursaria* maintains several hundred symbiotic algae in their cytoplasm. The algae can supply the host with a photosynthetic product, maltose enable *P. bursaria* to survive under starvation condition.

The present study of *Paramecium bursaria* and its interaction with cadmium, chromium, nickel, copper, zinc may be useful for bioremediation of heavy metals contaminated environment.