

**BIOSORPTION OF COPPER (CU) AND LEAD (PB) BY HEAVY METAL-  
RESISTANT BACTERIAL ISOLATES FROM ILOILO RIVER**

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# **Biosorption Of Copper (Cu) And Lead (Pb) By Heavy Metal-Resistant Bacterial Isolates From Iloilo River**

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## **ABSTRACT**

Many indigenous organisms isolated from sites contaminated with heavy metals have tolerance to heavy metal toxicity and these microbial activities have always been the natural starting point for all biotechnological applications. It is therefore necessary to isolate bacterial strains with novel metabolic capabilities. In this study, a total number of 18 heavy metal-resistant bacteria (10 Pb-resistant and 8 Cu-resistant) were isolated from Iloilo River sediment samples (10<sup>0</sup> 41.974°N, 122<sup>0</sup>34.187° E). Biosorption of Cu and Pb by the bacterial isolates was characterized to evaluate their applicability for heavy metal removal from industrial waters. Selecting the highest resistance to metal toxicity and biosorption, 4 isolates were identified by phenotypic characterization. Identification of the top four metal-resistant isolates designates: *Vibrio charchariae* (83%) for Cu4; *Vibrio harveyi* (79%) for Cu6; *Moraxella equi* (100%) for Pb8; and *Phoecoenobacter uteri* (92%) for Pb9. Evaluation of specific metal biosorption by the isolates after incubation for 48 h suggested that none of the isolates have good potential for bioremoval of metals from contaminated environments.