A PHYTOREMEDIATION CASE STUDY - THE UPTAKE OF ZINC, MERCURY, ARSENIC AND LEAD IN PLANT SPECIES INDIGENOUS TO A PORTUGUESE POLLUTED SITE

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The region of Estarreja, in Portugal, is known for its strong industrial complex. For many years, several of these industries have conducted its wastewaters into a stream nearby ("Esteiro de Estarreja"). Therefore, the levels of Pb, Zn, As and Hg, in the sediments of this stream are above the limits established by the European legislation. This environmental risk scenario is aggravated by the high permeability of the soils in the area. Nevertheless, in the banks of the stream, the vegetation remains proliferous. This brings up the opportunity for the development of more sustainable remediation solutions, including phytoremediation, which is an emergent technology that uses plants to remove, degrade or immobilize water and soil contaminants.

The purpose of this study is to identify plant species indigenous to the site and to determine their ability to uptake heavy metals. Four plant species - *Phragmites australis*, *Convolvulus* sp. *Rubus* sp. and *Solanum nigrum*-, present in a larger amount, were collected from that area and were tested for the content of the above metals. The content of the metals on the plants was determined and the final results were analyzed for the four metals.

ACKNOWLEDGMENTS

Ana Marques had the support of an FCT grant SFRH/BD/7030/2001.