



***Phragmites australis* and *Typha domingensis* as bioaccumulators and biomonitors of three trace metals along Shatt Al-Basra canal, south of Hammer marsh.**

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Abstract

Three trace metals Cu, Pb and Zn at the region of Shatt Al-Basra canal in south of Hammer marsh, were determined monthly from Sep.2003 to Feb.2004 in water, surface sediments and two emerged aquatic plants (*Phragmites australis* and *Typha domingensis*) which were collected from four selected stations. Trace metal concentrations were high in the surface sediment with a clear local variation. While their values in the water samples were much lower than that found in the surface sediment, with clear local variations among the studied stations. *P. australis* showed its ability to accumulate higher concentrations of studied pollutants than *T. domingensis* and underground parts of both plants were accumulated higher concentrations than aboveground parts. The study of water samples and corresponding sediments from the canal near oil refinery discharging point showed that the area is polluted with different levels of Cu, Pb and Zn. Emergent aquatic plants *P. australis* and *T. domingensis* were good bioaccumulators and can be considered as an interesting candidate for potential use as biomonitors and phytoremediate for such pollutants.

1- Introduction

Trace metals, such as Zinc, Copper and Lead, introduce into water columns of rivers and streams from different sources, including; industrial, automobile exhaust, mines, and even natural soil. Trace metals become more concentrated as animals feed on plants and are consumed in turn by other animals. When they

reach high levels in the body, heavy metals can be immediately poisonous, or can result in long-term health problems (Blaylock *et al.*, 1997; Ebbs and Kochian, 1997).

The fate of trace metals such as lead and zinc, in the aquatic environment is of extreme importance due to their impact on the ecosystem. The metals in such environment can