

Abstract

The present study concerned with the use of three types of aquatic plants (unrooted submerge, *Ceratophyllum demersum*, rooted submerged, *Hydrilla verticillata* and merged, *Phragmites australis*) to determine the concentrations of copper and lead in three stations from Shatt Al-Arab river, the first station near at Al-Sendibad, near Khalid brigde, second station locates at the junction of Al-Khorah canal with Shatt Al-Arab while the third near Mohawlat Al-Zuhair south of second station. The study was extended from October, 2007 to September, 2008. The samples of plants and sediment were collected monthly during low tide period.

In this study the temperatures of water were ranged from (12 – 33)°C. and water salinity were ranged between (1.20 – 3.45) ‰ at January and July respectively .

The mean Concentration of copper in *C. demersum* (40.0) , (35.8) and (39.0) µg/gm dry wet., and in the *H. verticillata* were (26.2) ,(28.2) and (24.9) µg/gm dry wet. while in *P. australis* were (28.6) , (25.4) and (24.6) µg/gm dry wet. for three stations respectively .

Concentration of copper in the leaves of *C. demersum* were (29.7) , (27.2) and (32.9) µg/gm dry wet., and in the leaves of *H. verticillata* were (16.7) ,(20.5) and (15.1) µg/gm dry wet., while in the leaves of *p. australis* were ranged (18.3) , (16.9) and (15.8) µg/gm dry wet. for three stations respectively . The mean Concentration of copper in the roots of *H. verticillata* and *P. australis* were (22.7) and (29.4) µg/gm dry wet. in Al-Sendibad station and (19.8) and (32.0) µg/gm dry wet. Al-Khorah station and (16.4) and (28.0) µg/gm dry wet. In the Mohawlat Al-Zuhair station respectively.

The mean Concentration of lead in *C. demersum* were (34.6) , (41.8) and (56.0) µg/gm dry wet., and in *H. verticillata* were (38.2) , (42.0) and (55.8) µg/gm dry wet., and in *P. australis* (43.0) , (49.6) and (64.8) µg/gm dry wet. for three stations respectively.

The mean concentration of lead in the leaves of *C. demersum* were (31.0) , (34.5) and (47.7) µg/gm dry wet., and in the leaves of *H. verticillata* were (31.9) , (34.1) and (45.2) µg/gm dry wet., while in the leaves of *P. australis* (30.3) , (41.0) and (15.6) µg/gm dry wet. for three stations respectively.

The mean concentration of lead in the roots of *H. verticillata* and *P. australis* were (28.0) and (46.7) µg/gm dry wet. in Al-Sendibad station and (33.2) and (47.8) µg/gm dry wet. in Al-Khorah station and (40.0) and (64.3) µg/gm dry wet. in the Mohawlat Al-Zuhair station respectively.

The mean concentration of copper in sediments of the three stations were (53.1) , (55.3) and (48.8) µg/gm dry wet. Respectively, while the mean concentration of lead in three stations were (94.7) , (120.9) and (137.1)

µg/gm dry wet. respectively.

The results of this study was appeared that it is possible to use these three plants to determine concentrations copper and lead especially *C. demersum* (as whole plant) and *P. australis* because the roots ability of the plant can accumulated high concentrations of these metals then *H. verticillata*.