



Trace element accumulation in plants from an area affected by mining activities (SE, Spain).

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Phytoremediation is considered as a potential solution for the remediation of contaminated soils. The aim of this work was to compare the trace element accumulation capacity of selected plant species growing on contaminated soils and to assess changes in the concentration of soil-available metals. Five plant species (*Limonium carthagenens*, *Arthrocnemum macrostachyum*, *Dittrichia viscosa*, *Glaucium flavum* and *Zygophyllum fabago*) were studied, and the transfer factor and the bioconcentration factor were calculated.

For this study, 15 soil samples and plant samples from 5 different species were taken from the surrounding area of Sierra Minera and Portman Bay (Murcia, SE Spain), close to the mining region of La Unión, which was subjected to mining activities since the times of the Roman Empire until 1991. To determine the total trace element content, an acid digestion was carried out in soil samples and in the lyophilized vegetable samples. In order to evaluate the phytoextraction potential of the selected plants, the transfer factor (TF) and the bioconcentration factor (BCF) were calculated.

Obtained results for *Limonium carthagenens* and *Zygophyllum fabago* suggested that trace element concentration in leaves is lower than root concentration for target elements. ($BCF < 1$ and $TF < 1$) (Table 1). *Limonium carthagenens* could be considered as a tolerant species but not as hyperaccumulator, since tolerant species tend to restrict the transfer from roots to leaves, whereas the hyperaccumulator species transfer trace elements to the aerial biomass. *Dittrichia viscosa* could be considered as hyperaccumulator for Cd and *Glaucium flavum* for iron ($TF > 1$). Finally, *Arthrocnemum macrostachyum* showed $BCF > 1$ for Zn and Cd, taking place an absorption process. However, these elements were not transported to the aerial biomass. On the other hand, this species could be considered as hyperaccumulator for iron and manganese