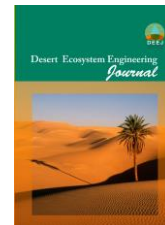




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Investigation the effect of the patches ecological and single basal holofite bases of Urmia Lake as microbial habitat on soil characteristics

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Extended Abstract

Introduction: The microbial habitats formed through plant patches, as fertile islands, are an effective factor in the development of vegetation and improve the soil surface characteristics of saline ecosystems. The pulping plant is the most economical solution for improving the saline soils, in this way, toxic ions, especially chlorine and sodium, are removed from the soil by salinity resistant plants. The purpose of this study was to evaluate the effect of various halophyte species on soil characteristics in aradiation zone and to determine the species with the highest positive and maximum effect on soil condition improvement in Urmia Soporgha region saline habitats.

Materials and Methods: To conduct research, the plant type *Halocnemum strobilaceum*-*Atriplex verrucifera* which represents a large area of saline rangelands around the Lake Urmia, has been selected by spotting along two 150-meter transects parallel to the salinity gradient and the distances between them, was considered as a patch between patches. Soil samples were taken from the inside of the stains and the space between the patches from the soil depth with three replications. In each of the patches, the morphological characteristics of the *Halocnemum strobilaceum* and *Atriplex verrucifera* species included the large crown diameter, crown diameter, base height, collar diameter and number of spikes with three replications and the ion accumulation value (Elements) in their air organs. Using independent t-test, the values of measured parameters between the spots and the space between the spots as well as the average reserve of elements in the air biomass between the two species were compared.

Results: The results showed that presence of *Atriplex verrucifera* has a significant effect on the increase of nitrogen content inside the droplets, but shows an increase in external staining in the case of electrical conductivity and sodium ion. For other elements, there were no significant difference between the inside and outside of the stains. There was no significant difference between the inside and outside of plantlets in the case of *Halocnemum strobilaceum* species, for no element. It was also observed that the amount of magnesium ion

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outside the stains was higher than inside them, but the amounts of calcium, sodium, and chlorine in the stains were more than opaque. The results of the analysis of the elements in the aerial biomass of species showed that there was a significant difference in the amount of sodium, potassium and magnesium elements in the two species, but there was no significant difference for other elements. Since the sodium element is the most significant element in determining the salinity index, and the storage of this ion in the strobilaceum *Halocnemum* is more than *Atriplex verrucifera*, *Halocnemum strobilaceum* can be introduced as a high-purity salt species.

Discussion and Conclusion: Since the sodium element is the most significant element in determining the salinity index, and the storage of this ion in the *Halocnemum strobilaceum* is more than *Atriplex verrucifera*, *Halocnemum strobilaceum* can be introduced as a high-purity salt species.

Keywords: Salty rangelands, soil, Lake Urmia, the space between the patches, the patches ecological, biomass.