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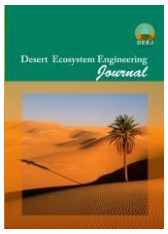

The effect of geographical directions and distance from Playa salt layer on the composition and diversity of plant species (Case Study: Sirjan Playa)

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Abstract

It has been paid less attention to effect of environmental factors on species richness and diversity indices in fragile ecosystems around Playa. Therefore, this study was conducted to evaluate the effect of geographical directions and distance from Playa salt layer on the composition and species diversity in Sirjan Playa, Kerman Province, Iran. Determination of intervals 10, 1000 and 2000 meters in four main geographical aspects surrounding salt crust (North, South, East and West), were done using GPS positioning and field operation. Along the perpendicular direction, sampling of vegetation in each distanc by relevee (with dimensions equal to minimum level) in early May 2016 with three replications was carried out systematically. After determining the diversity of each unit in the software PAST and BIO-DAP, statistical analysis of data for analysis of variance (ANOVA) and mean comparison with Duncan's multiple range test was performed by SPSS software. The result showed that the main effects and interaction of geographical directions and distance from playa salt layer on all indicators of species diversity and richness were significant. In all directions at intervals of 10 meters of salt crust due to the dominance of one-dimensional of *Halocnemum strobilaceum* plant species and the absence of other plant species, dominance index and uniformity index of Jaccard were maximum and cotroversially richness (Menhing, Margarf and Fisher) and diversity (Shannon - Wiener, Simpson) were minimal. Due to the presence of other plant species with *Halocnemum strobilaceum* in 1000 meter of distance of all directions (except for the west), all the richness and diversity on the contrary of dominance and uniformity indicators increased significantly and the situation in most indicators were kept at a distance of 2000 meters. According to the development of a single plant species *(Halocnemum strobilaceum*) strip with very low species diversity and non-uniformly with increasing distance from center of playa in the west, likely to spread the risk of desertification and land degradation in this direction than in other directions.

Keywords: Aspects, Playa, Halophyte, Species Richness, Kerman.

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