

The Relation between Soil Parameters and Growth Characteristics of *Tamarix ramosissima* in Abyaneh, Isfahan Province

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Abstract

Vegetative characteristics of plant species are strongly dependent on habitat environmental conditions. Most Salt cedar (*Tamarix ramosissima*) individuals grow on unsuitable soil and climate conditions. One of the important habitats of this species is near Abyaneh in Isfahan Province. To investigate the relation of edaphic factors on the growth of *T. ramosissima*, three plots 400m² in area were randomly placed in this region. In each plot, crown cover and mean height of each tree were measured. Chemical and physical properties of soil were evaluated in two depths (0-20, 20-40cm). The relation between soil and vegetation was assessed using ordination method and RDA. The results suggest that in the upper depth, organic matter and saturation percentage (%SP) have a strong positive correlation with vegetative factors of *T. ramosissima* including canopy cover and mean height. On the other hand, in lower depth pH, %CaSO₄ factors have higher correlation with plants factors compared to upper depth. Therefore, organic matter in upper layer and saturation percentage (%SP) have more correlation with vegetative factors. This suggests the importance of studying these two soil depths. In the restoration projects on this species, it is necessary to consider the abovementioned soil factors.

Keywords: Autecology, Natural habitat, Ordination, Soil parameters, *Tamarix ramosissima*.

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