

Halophyte species of desert areas and soil physicochemical properties (case study: eastern rangelands of Sabzevar city)

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ABSTRACT:

Rangeland ecosystems are a different type of habitat in saline ecosystems. Vegetation distribution on these lands depend on soil properties; therefore studying vegetation changes related to soil properties are necessary for management and restoration of saline rangelands. This study tries to identify main halophyte plant communities and their relationships with soil physical and chemical properties in eastern rangelands of Sabzevar province. In order to study vegetation and soil properties and after field study, six main types were determined in the study area considering observed differences in the communities. Sampling method was systematic–randomized method. Considering distribution patterns of species, the plots of 3×3 meter were selected to study the vegetation cover. Soil sampling includes five samples in each point, one from central plot and others from four corners of the plot. The results showed that the most important separation factors of *Halocnemum strobilaceum* from *Salsola* sp are the amount of salinity and sodium. Also, the amount of gypsum is one of the other factors to separate *H. strobilaceum* from other species. The most significant factors to separate *Alhagi camelorum* and *Artemisia sieberi* from others species are the maximum amounts of sand percentage and the minimum amounts of gypsum. *Prosopis farcta* by the maximum amounts of clay has the significant and noticeable difference with others spices. Finally, *Seidlitzia rosmarinus* has the minimum amount of clay and maximum amount of gypsum after *H. strobilaceum*, and this can be the cause of separation of this species from other species.

Keywords:

Saline Soil, Vegetation Communities, Soil Properties, Rangeland of Sabzevar