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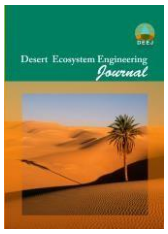

Random Fraction of Ecological Niche Related to Animal Grazing in Rangelands (Case study: Bourojen of Chaharmahal and Bakhtiari Province)

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Abstract

Species relative abundance have closely related to ecological niche of plant communities. The broader specie ecological niche for food sources the greater relative abundance of plant species. Species abundance distributions models can be are divided into two groups Statistical and biological models. In this study we aimed to investigate how animal grazing (Long time grazing exclusion, Grazing and Short time grazing exclusion) could change species abundance distribution based on biological models such as Dominance decay, MacArthur fraction, Power fraction, Random fraction, Random assortment, and Dominance per-emption. Ecological niche apportionment models were presented according assumption that species abundance is a ratio of resources (Niche) that allocated to a species with its entrance to community. Vegetation data was sampled in each region using of 40 plots (1*1 m2) across four 100m transects based on systematic random sampling. Data analysis was performed in R software and "nicheApport" package according Monte-Carlo test. The results showed that random fraction model was appropriately fitted to observed frequency of species distribution in Grazing and grazing exclusion Short- time grazing exclusion.

Keywords: Ecological Niche, Grazing, Power Fraction, Grazing Exclusion.

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