

عنوان مقاله:

Interactive effect of grazing and fire on structure and composition of a semi-steppe rangeland in Iran

محل انتشار:

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خلاصه مقاله:

Biodiversity imply three components namely composition, structure and function. In order to conserve biodiversity of a place it needs to take into consider all these three components. In this study, we considered changes in species composition and structure of a semi-steppe rangeland including shrub land, grassland and intermediate plant communities. Several patches within the study area experienced burning events in 2006, 2008 and 2009 and animal grazing from light to heavy intensity. We compared plant species composition and animal selections on burned and unburned patches of each community according to a conceptual model. To this end, areas more than 50 ha from each community (shrub land, grassland and intermediate) selected and sampling was performed in terms of different treatment includes fire + light grazing, fire + moderate grazing, fire + heavy grazing, no fire + light grazing, no fire + moderate grazing and no fire + heavy grazing in 2x2m treatment and control plots. The results revealed if grazing intensity was light, a shift from shrub lands to grasslands would be the observed pattern of community composition; otherwise, with higher level of grazing intensity, change in structure caused by fire in shrub lands was rather transient and this community composition returned to the former state of vegetation four years after the fire. We also observed a higher animal selection on recently burned areas compared to previously burned patches, a pattern that was the result of a series of positive and negative feedbacks in forage quality created by selective animal foraging behavior. The results indicated that the effect of fire on plant community composition in semi-steppe rangeland is under control by grazing intensity and the local changes in composition within each community. Both determinants cause a cyclical process of vegetation succession. Vegetation patterns represent the various states of recovery and introduce a specific landscape composition in which each shrub land, grassland and intermediate vegetation patch can be describe as part of a shifting mosaic process at landscape scale.

کلمات کلیدی:

Biodiversity, Succession, Shifting mosaics, Semi-steppe Rangelands, Central Zagros, Iran

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