
(*Artemisia*)

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(*Ar. aucheri* *Ar. siberi*)

Artemisia sieberi *Artemisia aucheri* :

(E-mail: hazar@chamran.ut.ac.ir)



‡ -Shumar
 † -Canonical Correspondence Analysis

‡ -Winward
 † -Jensen
 ‡ - Detrended Correspondence Analysis

PC-

(PCA)

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Ar. aucheri , *Ar. sieberi*

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pH

(pH)

Artemisia

(G= S= V= Ar. Au=Ar. Aucheri Ar.si-Ar.sieberi)

Ar. aucheri *Ar. sieberi*

)	pH									()		
/	/	/	/	/	/	/	/	/	/	/	/		<i>Ar.si</i>	
/	/	/	/	/	/	/	/	/	/	/	/		<i>Ar.au</i>	
/	/	/	/	/	/	/	/	/	/	/	/		<i>Ar.si</i>	
/	/	/	/	/	/	/	/	/	/	/	/		<i>Ar.au</i>	
/	/	/	/	/	/	/	/	/	/	/	/		<i>Ar.si</i>	

/	/	/	/	/	/	/	/	/	/	/	/	/	Ar.au	
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tridentata
Ar.tridentata *Wyomingensis* *Artemisia*
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Artemisia tridentata

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Ar.sieberi

Ar.aucheri

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Ar.aucheri

Ar.sieberi

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Ar.aucheri

Ar.sieberi

Ar.sieberi

Ar.sieberi

€ -Noy-Meir

∩-Fisher
 √-Doescher
 √-Jensen

- 3-Jensen, M., 1989. Soil moisture regimes on some rangeland of Southern Idaho, Soil Science Soc. Amer. 48:1328-1330.
- 4-Noy-Meir, I., 1973. Multivariate analysis of the semi-arid vegetation of southern Australia. II. Vegetation catenae and environmental gradients. Australian Journal of Botany, 22:40-115.
- 5-Fisher, F.M., J.C Zak, G.L. Cunningham and W.G. Whitfor, 1987. Water and nitrogen effects on growth and allocation pattern of creosote bush in northern Chihuahuan Desert, Journal of Range Management, 41:384-391.
- 5-Doescher P.S.; R.F. Miller, wang and J. Rose, 1990. Effects of nitrogen availability on growth and photosynthesis on *Artemisia tridentata* spp. Wyomingensis. Great Basin Naturalist. 50 (1): 9-19.
- 6-Jensen, E., 1990 . Interpretation of environmental gradients which influences sagebrush community distribution in northeastern Nevada, J. Range Management. 42(2): 161-167.
- 7-Shumar, L. and E. Anderson, 1986 Gradient analysis of vegetation dominated by two sub-species of big sagebrush, Journal of Range Management, 39 (2): 156-160.

The Effects of Soil Characteristics and Elevation on Distribution of Two *Artemisia* Species (Case study: Vard Avard, Garmsar and Semnan Rangelands)

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Abstract

The aim of this research was to investigate the effects of soil characteristics and elevation gradient on distribution of two *Artemisia* species (*Ar. sieberi* and *Ar. aucheri*). After identification of the species sites in Vard Avard, Garmsar and Semnan, data on vegetation, soil and topography were collected. Sampling was conducted in the key area of each site based on randomized-systematic pattern. The area of each plot was determined by minimal area method according to plant species and variation while number of plots was determined based on the characteristics of the sites studied. Data were analyzed using principal component analysis.

The results showed that the most important factors affecting the distribution of mentioned species were elevation and such soil characteristics as organic matter, nitrogen, texture and gypsum.

Keywords: Soil characteristics, Elevation, *Artemisia sieberi*, *Artemisia aucheri*, Principal component analysis.

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