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*Astragalus (Stenonychium) parrowianus* Boiss et Haussk

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(Coloured melange)

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hanson & et al 1961, )

(Gates 1949, Braun 1983)

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(Globotruncana)

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Rechinger 1963-82, Mueller )

(*et al.* 1967, Kuchler 1967, Kenneth 1969)

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*Astragalus (Stenonychium)parrowianus* Boiss  
 et Haussk (Loamy sand)  
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T2H3b2G3b2bD2b	1)Astragalus parrowianus 2)Centaurea virgata	% / /			
	1)Astragalus parrowianus 2)Scariola orientdis	/			
T2rH3b2r1bG3bD2b	1)Artemisia fragrans 2)Festuca ovina	/			
D2rH3b2bIrG3b2b	1)Thymus migricus 2)Festuca ovina	/			
D2rH3b2bG3b	1)Artemisia fragrans 2)Festuca ovina	/			
G3i2rH2bIbD2b	1)Bromus tomentellus 2)Medicag sativa	/			
G3r2rH3b2IbD2b	1)Bothriochloa ischaemum 2)Taeniatherum crinitum	/			
G3b2iH3b2D2b	1)Festuca ovina 2)Stipa pariflora	/			
G3r2bD2rH3b2bIb	1)Stipa parriflora 2)Stipa barbata	/			
G3r2r2D2rH3b2b1b	1)Festuca ovina 2)Bromus tomentellus	/			
G3r2DH3b2bD2D	1)Melica persica 2)Bromus tomentellus	/			
T2pH3b2bG3b2bD2b	1)Astragalus parrowianus 2)Centaurea virgata	% / /			
T2rH3b2rIbG3bD2b	1)Astragalus parrowianus 2)Scariola orientdis	/			
D2rH3b2bIrG3b2b	1)Artemisia fragrans 2)Festuca ovina	/			
D2rH3b2G3b	1)Artemisia fragrans 2)Festuca ovina	/			
D2rG32rH3b2b	1)Bromus tomentellus 2)Medicag sativa	/			
G3i2rH2bIbD2b	1)Bothriochloa ischaemum 2)Taeniatherum crinitum	/			
G3r2rH3b2bIbD2b	1)Festuca ovina 2)Stipa pariflora	/			
G3b2iH3b2D2b	1)Stipa parriflora 2)Stipa barbata	/			
G3r2bD2rH3b2bIb	1)Festuca ovina 2)Bromus tomentellus	/			
G3r2r2D2rH3b2bIb	1)Melica persica 2)Bromus tomentellus	/			
G3r2DH3b2bD2D		/			
T2rH3D2bIbQ2bD2b	1)Astragalus parrowianus 2)Ceratocarpus arenarius	/			
T2rG3b2rH3b2bD2b	1)Astragalus parrowianus 2)Stipa barbata	/			
G3r2bH3b2bd2b	1)Stipa parviflora 2)Planlago maritima	/			

	1)Pyrus salicifolia 2)Gypsophila pulvinaris				
	1)Cerasus in cana 2)Rhammus pallasii				
	1)Phamnus pallusii 2)Eryngium billardieri				
	1)Ephedra major 2)Paphne oleoides				
	1)Ephedra major 2)onobrychis cornuta				
D2rH3b2bG3b	1)Thymus migricus 2)Festuca ovina	/	/		
G3r2bD2rH3b2blb	1)Stipa parviflora 2)Stipa barbata	/	/		
G3r2bH3b2bD2b	1)melica persica 2)Bromus tomentellus	/	/		
T2rH3b2blbG2bD2b	1)Astragulus parrowinanus 2)Acantholimon kaelinii	/	/		
G3r2bH3b2bD2b	1)Astragulus parrowinanus 2)Centaurea virgata	/	/		
T2rG3b2rH3b2bD2b	1)Stipa parviflora 2)Salvia suffruticosa	/	/		
O3rD2rH3b2bG3b2bt2b	1)Ephedra major 2)cotoneaster kotschy	/	/		
T2rH3b2blbG3b2bD2b	1)onobrychis cornuta 2)Teucrium polium	/	/		
G3r2b2H3b2rD2bT2b	1)Agropyron intermedium 2)Galium verum	/	/		
D2rG3b2bH2blb	1)Salvia suffruticosa 2)Artemisia fragrans	/	/		
T2rH3b2bG3b	1)Artemisia fragrans 2)Seadhys schepscheleevil	/	/		
G3r2bH3b2b2blbD2b	1)Onobrychis cornuta 2)Ziziphora clinopodioides	/	/		
H3r2rG3r2bD2rt2r	1)Stipa barbata 2)Galium verum	/	/		
D2rH3b2blbG3b2b	1)Cirsium lapaceum 2)Bromus tomentellus	/	/		
T2rH3b2bG3b2bD2b	1)Thymus pubescens 2)Cerasus incana	/	/		
T2rG3b2bH2bD2b	1)Onobrychis cornuta 2)Teucrium polium	/	/		
T2rG3b2bH2bD2b	1)Onbrychis cornuta 2)Cerasus incena	/	/		
T2rH3b2bG3b2bD2b	1)Onobrychis cornuta 2)Festuca orina	/	/		
G3r2bD2rH2b	1)Agropyron cristatum 2)Salria suffruticosa	/	/		
G3r2bH3b2bD2b	1)Stipa barbata 2)Bromus tomtneellus	/	/		
H3r2rG3b2rD2b	1)Xeranthemum suarrosum 2)Helichrysum rubicundum	/	/		







- 10-Braun Blanquet, J., 1983. Plant Sociology. Koltz scientific Books.
- 11-Gates. F.C., 1949. Field Manual of Plant Ecology. McGraw Hill Book Company, NewYork.
- 12-Hanson and Churchill, 1961. The Plant community. Ronald Press Company, NewYork.
- 13-Kenneth. A. Kershaw, 1969. Quantitative and Dynamic Plant Ecology.
- 14-Kuchler, A.W. ,1967. Vegetation mapping. The Ronald Press Company NewYork.
- 15-Mueller-Dombois, D. and Ellenberg, H., 1974. Aims and methods of vegetation ecology, Wiley International Edition.
- 16-Rechinger K.H., 1963-1982. Flora of Iranica, No. 1-156Graz.

## The Relationship Between Plant Cover and Geomorphological Units in West Azarbaijan Province (Baroon)

H. Ahmadi<sup>1</sup> A. Ahmadi<sup>2</sup> K. Gavanshir<sup>3</sup> V. Mozafarian<sup>4</sup>

### Abstract

In order to study the relationships between plant cover and geomorphological units, the baroon area was selected. This area is located in north west of Iran (west Azarbaijan province) 4.5 km north of Chalderan city between 39° 6' 21" to 39° 14' 3" north latitude and 44° 29' 28" to 44° 20' 20" east longitude. Recognizing the important role of ecological resources, it is known that they must be identified prior to any land evaluation. Thus, as the first stage of land evaluation, the climatic condition, physiography, geology and geomorphology were studied. Then, the plant coverage was determined using maps of the slope, aspect, hypsometry and geomorphology.

The results indicated that there was a relationship between plant communities and geomorphological units in the mountainous unit. In this study, *Astragalus (Stenonychium) parrowianus* Boiss et Haussk was introduced as the key species of colored melange formation.

**Keywords:** Plant cover, Geomorphological units, West Azarbaijan province, Iran.

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