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(Anaphyto)

Arc View 3.1

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GIS

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- Selective method
 - Minimal area method
 - Abundance - Dominance
 - Sociability

CAH

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(AFC)

(CAH)

() AFC

(VI V IV I)
III II

CAH AFC

III II

(Barkman)

AFC

CAH

Arcview ver 3.1

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AFC

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Analyse Factorielle des Correspondances

Ordination

Classification Ascendant Hierarchique

Classification

Partial

Syntaxa

Characteristic species

Companion species

Accidental species

Fidelity

Autecology

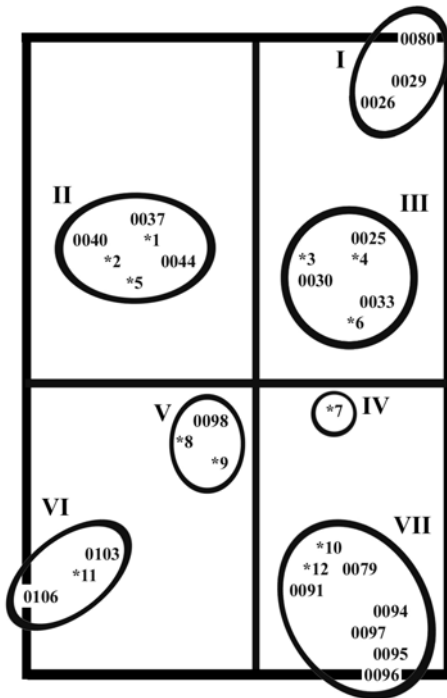
Habitat

Differential species

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- 4-1- *Stipo barbatae - melicetosum persicae*,
- 5- *Dendrostelleretum lessertii*,
- 6- *Astragalo brevidentis - Artemisietum sieberi*,
- 7- *Onobrychido aucheri - Artemisietum sieberi*,
- 8- *Ajugetum chamaecisti*,
- 9- *Aegilopo triuncialis - Taeniatheretum criniti*

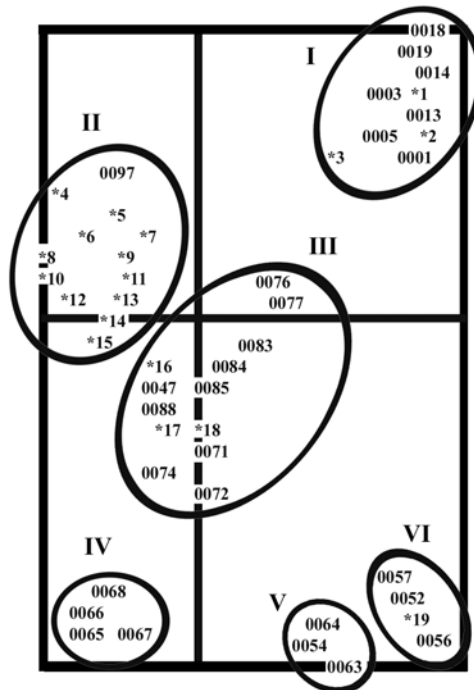
- 1- *Astragaletum microcephali*,
- 2- *Juniperetum excelsae*,
- 3- *Pistacietum muticae*
- 3-1- *Prangotetosum ulopterae*,
- 3-2- *Hymenocrateretosum bituminosi*,
- 3-3- *Hymenocrateretosum elegantis*,
- 3-4- *Stroganowietosum litwinowii*,
- 3-5- *Celtidetosum caucasicae*,
- 4- *Astragaletum compacti*,



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|---------------------|----------------|
| *1: 0036-0035 | *7: 0045-0046 |
| *2: 0039- 0038-0043 | *8: 0100-0102 |
| *3: 0027-0031 | *9: 0099-0101 |
| *4: 0028-0032 | *10: 0090-0078 |
| *5: 0042-0041 | *11: 0104-105 |
| *6: 0024- 0023 | *12: 0093-92 |

AFC II

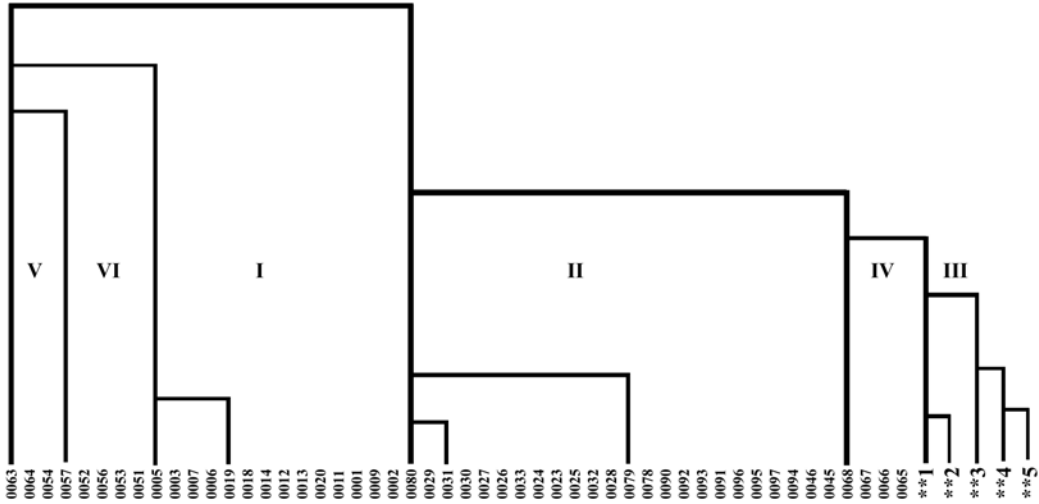
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|-------------------------------|-------------------------------|
| *1: 0011-0020-0012 | *11: 0027-0030-0044 |
| *2: 0002-0009 | *12: 0105-0104-0100 |
| *3: 0006-0007 | *13: 0102-0103 |
| *4: 0095-0096-0080-0029 | *14: 0036-0035-0037-0038-0041 |
| *5: 0094-0046 | *15: 0040-0039-0043 |
| *6: 0026-0028-0025-0023 | *16: 0048-0049 |
| *7: 0045-0032-0033 | *17: 0089-0087 |
| *8: 0078-0079-0052-0093 | *18: 0086-0082 |
| *9: 0031-0090-0024 | *19: 0051-0053 |
| *10: 0099-0101-0098-0091-0106 | |

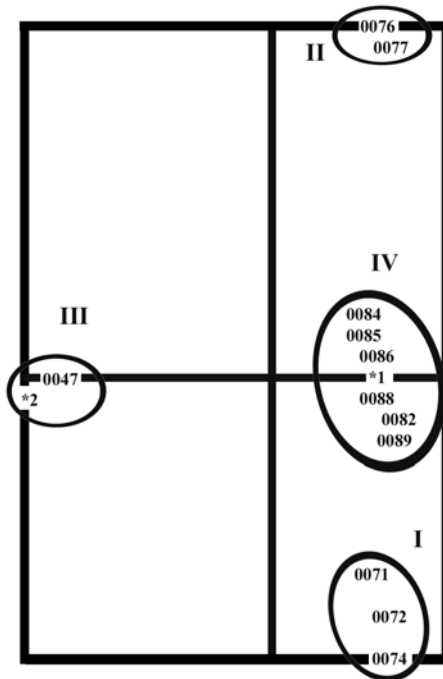
AFC

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- 1: 0074 - 0072 - 0071 - 0049 - 0048 - 0047
- 2: 0083 - 0077 - 0076 - 0085 - 0084 - 0089 - 0088 - 0082 - 0087 - 0086
- 3: 0102 - 0100 - 0098 - 0101 - 0099
- 4: 0106 - 0105 - 0104
- 5: 0044 - 0042 - 0103 - 0040 - 0041 - 0038 - 0043 - 0039 - 0036 - 0037 - 0035

CAH ()



- *1: 0083 - 0087
- *2: 0040 - 0040

() AFC III

Associations number	1	2	3	3a	3b	3c	3d	3e	4	4a	5	6	7	8	9
Minimal area (m*m)	25	64	64						25		25	25	25	25	25
Relevés number	000	00000	00000000	0000	000	00	000	00	000000000	000	0000000000	0000	00000	00000000000	00000000000000
	000	00000	00000000	0000	000	00	000	00	000000000	000	0000000000	1111	11010	00000000000	00000000000000
	665	55555	888888888	6666	777	44	444	77	232322332	822	9979999997	0000	00909	4444343333	00111100000121
	344	72631	45637829	5786	124	65	789	67	338254017	096	1083427569	6354	20819	2041639875	76984219235301
Characteristic species of associations															
1245	Astragalus (Rhacophorus) microcephalus Willd	333													
6890	Stipa hohenackeriana Trin. & Pupr.	222													
7755	Astragalus (Hymenostegis) leptynctius Maasso	112													
4296	Juniperus excelsa M.B.	33333													
5391	Paracaryum rugulosum (DC.)Boiss.	+111+													
5404	Parietaria judaica L.	1++++													
7482	Verbascum cheiranthifolium Boiss. var. trans	+.+++													
5415	Paronychia kurdica Boiss. var. kurdica	+.1++													
6508	Scutellaria platystegia Juz.	+.+++													
0223	Aethionema grandiflorum Boiss. & Hohen.	..1+1													
5795	Psathyrostachys fragilis (Boiss.) Nevski	+.++													
5351	Papaver arenarium M.-B.	+....													
6629	Silene chlorifolia Sm.	+.+													
5563	Pistacia atlantica Desf.	.....	23333333	1122	221	21	211	33	1.2..21.2	...	1121112122	2121	12111	1112111111	12.....1....
7756	Astragalus (Rhacophorus) comoactus Lam.	111							333332333	123	..1.....+	....	+++++	..+.++..+	.....
4565	Linum album Boiss.	.....							2....2...						
2377	Convolvulus chondrilloides Boiss.	.....							..1.1....						
2378	Convolvulus commutatus Boiss.	.....							.....1...						
3224	Ephedra major Host.	.....							.....+
2947	Dendrostellera lessertii (Wikstr.) Van Tiegh	.....									3333232223	..11	11122	.....
6225	Salvia ceratophylla L.	.....									..2.....2				
3000	Dianthus szowitsianus Boiss.	.....									.....2.2				
4379	Lagochilus kotschyanus Boiss.	.....									.....1.2.				
6505	Scutellaria pinnatifida A. Hamilt. subsp. pi	.....									.....+.1.				
6287	Sanguisorba minor Scop	.....									.....+.1				
4167	Hypericum hirtellum (Spach)Boiss. var. hirte	.....									.....1				
0921	Astragalus (Onobrychoidei) brevidens Freyn &	.....										2222	.....	
0129	Acanthophyllum pachystegium Rech.f.	.....										1.11	.....	
0131	Acanthophyllum sordidum Bunge ex Boiss.	.....										+.11	.....	
3114	Echinophora platyloba DC.	.....										+.+	.....
6058	Rosa persica Michx.	.....										1.	.....	
0769	Artemisia sieberi Besser subsp. sieberi	.....							+.+++	..+	.....	3333	33323	1111+1+111	.....
5071	Onobrychis aucheri Boiss. subsp. aucheri	.....											22332	.....
7099	Teucrium polium L.	.....											11+1	.....
3957	Helichrysum rubicundum (C.Koch) Bornm.	.....											++++	.....
1370	Astragalus (Caprini) remotijugus Boiss. & Ho	.....											..11	.....

Companion species

7722	Ziziphora tenuior L.	+++	..+.	..+++++	++++	+++	++	+++	..	+.+.+++++	..+	..+.+.+.+	+++	++++	..+++++	.....
6823	Stachys inflata Benth.	...	...	...	...	...	11	111	..	222212111	111	2112121111	...	++++1	..++	.....
3928	Hedysarum wrightianum Aitch. & Baker	...	...	...	...	...	11	...	..	121.111+1	+21	121112+1+1	...	..112	.....	.....
0098	Acantholimon tragacanthinum (Jaub. & Spach) B	...	...	...	...	...	+	..+	..	..++11+1+	..+1	..+.+.+.+	...	..++	..+.+.+.+	.....
0126	Acanthophyllum microcephalum Boiss.	...	...	...	...	...	..	..+	..	..+.1+1+.+	..+1	..+.+.+.+	...	+++	..+.+.+.+	..+.+.+.+
0554	Amygdalus lycioides Spach var. lycioides	...	...	...	1	1121	11.	...	..	..+.+.+.+	...	..1	...	...	1221122221	.....
0747	Artemisia aucheri Boiss.	..1	11111	11222121	1121	22.	...	...	...	...	...	...	...	...	...	.....
0970	Astragalus (Hymenostegis) chrysostachys Bois	...	...	...	...	...	+	..+	..	..+++1.++1	..+	...	...	..+	..+.+++++	.....
1496	Astragalus (Platonychium) verus Olivier-Voy.	..+	...	...	...	...	++	11+	..	..+.+.+.+	...	...	...	...	...	.....
1085	Astragalus (Poterion) glaucacanthos Fischer	...	...	...	...	...	...	...	...	..+++	..+	...	...	..+.++	..+.+.+.+	.....
5183	Onosma sericeum Willd.	...	...	...	...	...	...	...	...	1.1++1.+	..+	..+.+.+.+	...	...	..+.+.+.+	.....
3951	Helichrysum ocephalum Boiss.	...	...	...	...	+++	..	++	..	..+.+.+.+	..+	...	...	...	..+.+.+.+	.....
6379	Scleranthus orientalis Rossler	...	...	...	...	...	...	...	...	..+++	..+	...	...	..+.+.+	..+.+.+.+	.....
5083	Onobrychis gaubae Bornm.	...	...	...	...	...	..	+1	..	1...1+..	...	..2	...	..2	.....	.....

Accidental species

1704	Bromus tectorum L. var. tectorum	111	11111	1111+...	...	1..	..1	..1	11	111111111	11.	1..1.+++.	...	...	..+.+.1+1	11+1111111111
1643	Boissiera squarrosa (Banks & Soland.) Nevski	..1	11111	111.+11.	..1.	...	..1	111	1+	.....	...	..+.+.+.+	+1++	11.++	1++++1111+	1.+1..+1..1+1
6338	Scabiosa olivieri Coult.	...	...	..+.+++	++++	+++	...	...	..	..+.++++	..+	..+.+.+.+	+++	++++	..+.+.+.+	.....
4051	Heteranthellium piliferum (Banks & Soland.) H	...	...	11+.1++	...	...	...	...	..	..+.++++	..+	..+.+.+.+	+++	1+.++	++++++11.	1.....1..
0630	Anthemis gilanica Bornm. & Gauba	...	...	...	...	...	++	1++	..	..+.++++	..+	..+.+.+.+	...	..+.+	++++++11.	.....
6328	Scabiosa calocephala Boiss.	...	...	..+++++	++++	+++	..	1++	..	..+.+.+.+	..+	..+.+.+.+	...	...	..+.+.+.+	.....
1674	Bromus danthoniae Trin. var. danthoniae	111	1111+	..+.1.	...	+1.	...	..+	1	.....	...	...	...	...	..1+11+.11.1	.....
5149	Onosma bulbotrichum DC.	...	...	...	...	...	...	...	..	11221112+	..+1	..+.+.+.+	...	11221	.....	.....
0491	Alyssum longistylum (Sommier & Le)	...	...	1.11	111	...	...	...	..	..1+++.+	..+	11.1.1.	...	12+11	.....	.....
6360	Scariola orientalis (Boiss.) Sojak subsp. or	...	...	...	...	...	...	..	..	..1+++.+	..+	...	...	...	..+.+.+.+	.....
5973	Reseda aucheri Boiss.	...	...	...	...	...	...	...	...	...	...	122212+112	...	...	.....	.....
5159	Onosma elwendicum Wettst.	...	...	..+11+	...	...	...	222	..	.....	...	...	...	...	.....	.....
6556	Senecio glaucus L.	...	...	..++++	+++	...	...	...	..	..+.+.+.+	..+	...	...	...	.....	.....
5296	Outreya carduiformis Jaub. & Spach	...	...	...	...	...	...	...	..	..+.+.+	..+	...	...	..+.+.+	.....	.....
3450	Euphorbia teheranica Boiss.	...	...	...	...	...	...	..	..	..+.+.+	..+	...	...	...	..+.+.+	.....
2791	Crupina crupinastrum (Moris) Vis.	...	...	..++++	..+	...	...	..	..	..+.+.+	..+	...	...	...	..+.+.+	.....
2279	Cleome buhsea Bge.	...	...	...	...	...	...	..	..	..+.+.+	..+	...	...	...	..+.+.+	.....
5540	Pimpinella aurea DC.	...	...	..11+1	...	...	...	...	..	...	...	...	...	...	.....	.....
2745	Crepis kotschyana Boiss.	...	...	...	...	...	...	..	..	...	...	...	..+	...	.....	.....
2696	Crambe kotschyana Boiss.	...	...	...	...	...	..	1	..	...	...	...	..+	...	.....	.....
3277	Eremopyrum bonaepartis (Spreng.) Nevski var.	...	...	11.1	...	...	...	...	..	...	...	...	...	...	.....	.....
5617	Poa bulbosa L. var. vivipara Koel.	...	...	...	...	...	...	..	++	...	...	..+	...	...	.....	.....
0181	Acroptilon repens (L.) DC. subsp. repens	...	...	...	...	...	...	..	..	...	...	..1.2.	...	...	.....	.....
5984	Reseda lutea L.	...	...	...	...	...	...	..	..	...	...	..1.1.	...	...	.....	.....
6434	Scorzonera tortuosissima Boiss.	...	...	...	...	...	...	..	..	...	...	..+.+.1	...	...	.....	.....
3635	Gaillonia bruguieri A.Rich.	...	...	...	...	...	...	..	..	...	...	..+.1.	...	...	.....	.....
2950	Descurainia sophia (L.) Webb & Berth	...	...	...	...	...	...	..	..	..+.+.+	..+	...	...	...	.....	.....
7209	Tragopogon longirostris Bisch.	...	...	...	...	...	...	..	..	..+.+.+	..+	...	...	...	.....	.....
1997	Centaurea balsamita (DC.) Wagenitz subsp. ba	...	...	...	...	...	...	..	..	...	...	..1.	...	..+.+	.....	.....
2432	Coronilla varia L. subsp. varia	...	...	...	...	...	...	..	..	...	...	..1.	...	...	.....	.....
7471	Velezia rigida L.	...	...	...	...	...	...	..	..	...	...	..+	...	...	.....	.....

- 1- Astragaletum microcephali 2- Juniperetum excelsae 3- Pistacietum muticae 3a- prangotetum ulopterae 3b- hymenocrateretosum bituminosi
- 3c- hymenocrateretosum elegantis 3d- stroganowietosum litwinowii 3e- celtidetosum caucasicae 4- Astragaletum compacti
- 4a- stipo barbatae - melicetosum persicae 5- Dendrostelleretum lessertii 6- Astragalo brevidentis - Artemisietum sieberi
- 7- Onobrychido aucheri - Artemisietum sieberi 8- Ajugetum chamaecisti 9- Aegilopo triuncialis - Taenitheretum criniti

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Pistacietum muticae

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Aegilopo triuncialis

(AFC)

(CAH)

Taeniatheretum crinite

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Pistacia sp. *Juniperus* sp.

Amygdalus sp.

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A Study of Plant Associations and Vegetation Mapping, Bagheshad Region, Iran

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Abstract

Bagheshad is a part of Khojir national park with an area of 2310 hectares. It is located 22 kilometers east of Tehran, south of Haraz Highway. Its geographical position is 35° 36' 41" to 35° 39' 33" N, and 51° 40' 29" to 51° 46' 22"E. In this research the vegetation cover of Bagheshad region was studied based on Braun-Blanquet method. Main and minor plant combinations were determined based on physionomic factors, and then in each, association units were differentiated on the basis of floristic and ecological factors. Area of plot in association units was found using minimal area method. Finally a number of 85 plots were gathered in the whole region. Information recorded in each plot included abundance – dominance and sociability of plant species. The phytosociologic data were analyzed through ordination and classification methods using Anaphyto Software. Because of existence of different association units in the region partial analysis was done following primary analysis. Then table of plant associations was made using conclusion resulted from analyses of plots and plant species. Finally a number of 9 plant associations and 6 plant sub- associations were distinguished in the area. Map of plant associations was prepared after determining boundaries of plant associations using Arcview ver 3.1 software.

Keywords: Phytosociology, Anaphyto, Braun-Blanquet, Bagheshad, Khojir National Park, Iran.