

Appendices:

Table S1: Floristic analysis of the studied region at different elevations

Family	Species	Life form	Chorotype	Lifespan	Growth form	Ele 6 (100mtr)	Ele 5 (200mtr)	Ele 4 (400mtr)	Ele 3 (600mtr)	Ele 2 (800mtr)	Ele 1 (1000mtr)
Acanthaceae	<i>Blepharis ciliaris</i> (L.) B.L.Burt	CH	IT + SS + SZ	Per	Herb	√	0	0	0	√	√
Aizoaceae	<i>Aizoon canariense</i> L.	TH	SZ	Ann	Herb	0	0	0	0	√	√
Amaranthaceae	<i>Aerva javanica</i> (Burm.f.) Juss. ex Schultes	CH	PAL	Per	Shrublet	0	√	0	0	√	√
Apiaceae	<i>Pycnocycla saxatilis</i> Danin, Hedge & Lamond	CH	SA	Per	Shrublet	0	0	0	0	0	√
	<i>Ferula sinaica</i> Boiss.	Hem	IT	Per	Herb	0	0	0	0	√	0
Apocynaceae	<i>Rhazya stricta</i> Decne.	CH	SS + SZ	Per	Shrub	√	√	√	√	0	√
Asclepiadaceae	<i>Gomphocarpus sinaicus</i> Boiss.	CH	SA	Per	Shrublet	0	0	0	0	0	√
	<i>Pergularia tomentosa</i> L.	CH	SS + SZ	Per	Shrublet	0	0	√	0	√	√
	<i>Leptadenia pyrotechnica</i> (Forssk.) Decne.	PH	SS	Per	Shrub	0	0	√	√	√	0
Asteraceae	<i>Achillea fragrantissima</i> (Forssk.) Sch.Bip.	CH	IT + SS	Per	Shrublet	0	0	0	0	0	√
	<i>Artemisia sieberi</i> Besser	CH	IT	Per	Shrublet	0	0	0	0	0	√
	<i>Pulicaria incisa</i> (Lam.) DC	CH	SS + SZ	Per	Herb	0	0	√	0	√	√
	<i>Carthamus persicus</i> Willd.	Hem	IT	Ann	Herb	0	0	0	0	√	0
	<i>Iphionia scabra</i> DC.	CH	SA	Per	Herb	√	0	0	0	√	0
Boraginaceae	<i>Arnebia hispidissima</i> (Lehm.) DC	TH	SS + SZ	Ann	Herb	0	√	0	0	0	0
	<i>Heliotropium curassavicum</i> L.	CH	AM	Per	Herb	√	0	0	0	0	0
Brassicaceae	<i>Zilla Spinosa</i> (L.) Prantl	CH	ES +IT + ME +SS	Per	Shrub	0	0	0	0	0	√
	<i>Anastatica hierochuntica</i> L.	TH	SA	Ann	Herb	√	0	0	0	0	0
Capparaceae	<i>Capparis cartilaginea</i> Decne.	PH	SUD	Per	Shrub	0	0	0	0	√	0
	<i>Capparis decidua</i> (Forssk.) Edgew.	PH	SS+SZ+SUD	Per	Tree	√	0	√	0	0	0
	<i>Maerua crassifolia</i> Forssk.	PH	SA+SS	Per	Tree	√	0	0	0	0	0
Chenopodiaceae	<i>Haloxylon salicornicum</i> (Moq.) Bunge	CH	SS	Per	Shrub	√	√	√	√	√	√
	<i>Salsola jordanicola</i> Eig	CH	SA	Ann	Shrublet	0	0	0	0	√	√
	<i>Arthrocnemum macrostachyum</i> (Moric.) K. Koch	CH	ME + SA	Per	Shrub	√	0	0	0	0	0
	<i>Seidlitzia rosmarinus</i> Bunge ex Boiss.	CH	SA	Per	Shrub	√	0	0	0	0	0
	<i>Traganum nudatum</i> Delile	CH	SA	Per	Shrublet	√	0	0	0	0	0
Cleomaceae	<i>Cleome arabica</i> L.	CH	SUD	Per	Herb	0	0	0	0	0	√
	<i>Cleome droserifolia</i> (Forssk.) Del.	CH	SUD	Per	Shrublet	0	√	√	0	0	0
Cucurbitaceae	<i>Citrullus colocynthis</i> (L.) Schrad	Hem	IT + ME + SS+ + SZ	Per	Vine	√	0	√	0	0	√
Cyperaceae	<i>Cyperus bulbosus</i> Vahl	GE	COSM	Per	Herb	√	0	0	0	0	0
Euphorbiaceae	<i>Chrozophora oblongifolia</i> (Delile) A.Juss. ex Spreng.	CH	SZ	Per	Herb	√	0	0	0	0	√
Fabaceae	<i>Retama raetam</i> (Forssk.) Webb.	PH	SS	Per	Shurb	0	0	0	0	0	√
	<i>Vachellia gerrardii</i> (Benth.)	PH	SUD	Per	Tree	0	0	0	0	3.7	√
	<i>Vachellia tortilis</i> (Forssk.)	PH	SUD + SZ	Per	Tree	√	v	√	√	√	0
	<i>Vachellia tortilis</i> subsp. <i>raddiana</i> (Savi) Brenan	PH	SUD + SZ	Per	Tree	√	√	√	√	√	0
	<i>Medicago laciniata</i> var. <i>brachyacantha</i> Boiss.	TH	SS	Ann	Herb	0	√	0	0	0	0
	<i>Senna holosericea</i> (Fresen) Greuter	CH	SS+SUD	Per	Herb	0	√	0	0	0	0
	<i>Tephrosia purpurea</i> ssp. <i>apollinea</i> (Del.) Hosni	CH	SS + SZ	Per	Herb	0	√	0	0	0	0
	<i>Vachellia flava</i> (Forssk.) Kyal. & Boatwr	PH	SA+SZ	Per	Shrub	√	0	0	0	0	0
	<i>Vachellia oeforta</i> (Forssk) Kyal. & Boatwr	PH	SA+SZ	Per	Shrub	√	0	0	0	0	0
Geraniaceae	<i>Erodium oxyrhinchum</i> M.Bieb.	TH	SS + SZ	Ann	Herb	√	0	0	0	0	0
Lamiaceae	<i>Lavandula pubescens</i> Decne.	CH	SS + SZ	Per	Herb	0	0	0	0	√	√
	<i>Lavandula coronopifolia</i> Poir	CH	SS + SZ	Per	Herb	0	0	0	0	√	0
Loranthaceae	<i>Plicosepalus acaciae</i> (Zucc.) Wiens & Polhill	Epi	SUD	Per	Mistletoe	√	0	0	0	√	0
Malvaceae	<i>Abutilon bidentatum</i> A. Rich.	CH	SUD	Per	Shrub	0	0	0	0	√	0

Menispermaceae	<i>Cocculus pendulus (J.R. & G. Forster) Diels</i>	CH	SUD	Per	Climber	√	0	0	0	√	0
Moraceae	<i>Ficus cordata ssp. salicifolia (Vahl) C.C. Berg.</i>	PH	SUD	Per	Tree	0	0	0	0	√	0
Nitrariaceae	<i>Nitraria retusa (Forssk.) Asch</i>	PH	SA	Per	Shrub	√	0	0	0	0	0
Palmae	<i>Hyphaene thebaica (L.) Mart.</i>	PH	SUD	Per	Tree	√	√	0	0	√	0
	<i>Phoenix caespitosa Chiov.</i>	PH	SA	Per	Shrub	0	0	0	0	√	0
Poaceae	<i>Leptochloa fusca (L.) Kunth.</i>	Hem	PAL	Per	Grass	0	0	0	0	0	√
	<i>Stipa capensis Thunb.</i>	TH	IT + SS	Ann	Grass	0	0	0	0	0	√
	<i>Panicum turgidum Forssk.</i>	CR	SS + SZ	Per	Grass	√	0	0	0	√	0
	<i>Phragmites australis (Cav.) Trin. Ex. Steudel</i>	GE	COSM	Per	Grass	√	0	0	0	√	0
	<i>Aeluropus lagopoides (L.) Thwaites</i>	Hem	IT+ SA	Per	Grass	√	0	0	0	0	0
	<i>Lasiurus scindicus Henrard</i>	Hem	SA+SS	Per	Grass	√	0	0	0	0	0
	<i>Stipagrostis plumosa (L.) Munro ex T. Anderson</i>	Hem	IT + SA	Per	Grass	√	0	0	0	0	0
Resedaceae	<i>Ochradenus baccatus Del.</i>	PH	SS	Per	Shrub	√	√	0	√	√	√
	<i>Reseda muricata C. Presl</i>	CH	SS	Per	Herb	0	0	0	0	0	√
Rhamnaceae	<i>Ziziphus spina-christi (L.) Desf.</i>	PH	SS + SZ	Per	Tree	0	√	0	0	√	0
Salvadoraceae	<i>Salvadora persica L.</i>	PH	SUD	Per	Tree	√	0	0	0	0	0
Solanaceae	<i>Hyoscyamus muticus L.</i>	CH	SA	Per	Herb	√	0	0	0	0	√
	<i>Lycium shawii Roem & Schult</i>	PH	SS + SZ	Per	Shrub	√	√	√	√	√	√
Tamaricaceae	<i>Tamarix nilotica (Ehrenb.) Bunge</i>	PH	SUD + SZ	Per	Tree	√	√	0	0	0	0
	<i>Tamarix aphylla (L.) Karst</i>	PH	IT + SS + SZ	Per	Tree	√	0	0	0	0	0
Urticaceae	<i>Forsskaolea tenacissima L.</i>	CH	SS + SZ	Per	Herb	0	0	√	0	√	√
Verbenaceae	<i>Avicennia marina (Forssk.) Vierh.</i>	PH	TP	Per	Shrub	√	0	0	0	0	0
Zygophyllaceae	<i>Fagonia indica Burm.f.</i>	Hem	SA+IT+SUD	Per	Herb	0	0	0	0	√	√
	<i>Peganum harmala L.</i>	Hem	IT + ME + SS	Per	Herb	0	0	0	0	0	√
	<i>Zygophyllum coccineum L.</i>	CH	SA	Per	Shrublet	√	0	0	0	0	0

Table S2: Species domination (IVs) of the studied region at different elevations, values are the average of the important values of species based on the relative cover and density.

No	Botanical name	Habitats					
		Ele 6	Ele 5	Ele 4	Ele 3	Ele 2	Ele 1
1	<i>Abutilon bidentatum</i> A. Rich.	-	-	-	-	1.92	-
2	<i>Achillea fragrantissima</i> (Forssk.) Sch.Bip.	-	-	-	-	-	4.43
3	<i>Aeluropus lagopoides</i> (L.) Thwaites	4.92	-	-	-	-	-
4	<i>Aerva javanica</i> (Burm.f.) Juss. ex Schultes	-	13.21	-	-	8.54	7.09
5	<i>Aizoon canariense</i> L.	-	-	-	-	4.22	4.79
6	<i>Anastatica hierochuntica</i> L.	4.88	-	-	-	-	-
7	<i>Arnebia hispidissima</i> (Lehm.) DC	-	13.99	-	-	-	-
8	<i>Artemisia sieberi</i> Besser	-	-	-	-	-	3.59
9	<i>Arthrocnemum macrostachyum</i> (Moric.) K. Koch	7.32	-	-	-	-	-
10	<i>Avicennia marina</i> (Forssk.) Vierh.	8.06	-	-	-	-	-
11	<i>Blepharis ciliaris</i> (L.) B.L.Burt	5.38	-	-	-	6.89	5.97
12	<i>Capparis cartilaginea</i> Decne.	-	-	-	-	-	-
13	<i>Capparis decidua</i> (Forssk.) Edgew.	3.05	0	3.52	-	-	-
14	<i>Carthamus persicus</i> Willd.	-	-	-	-	2.44	-
15	<i>Chrozophora oblongifolia</i> (Delile) A.Juss. ex Spreng.	3.5	-	-	-	-	3.79
16	<i>Citrullus colocynthis</i> (L.) Schrad	4.39	-	8.63	-	-	8.06
17	<i>Cleome arabica</i> L.	-	-	-	-	-	3.56
18	<i>Cleome droserifolia</i> (Forssk.) Del.	-	18.4	27.64	-	-	-
19	<i>Cocculus pendulus</i> (J.R. & G. Forster) Diels	1.65	-	-	-	4.83	-
20	<i>Cyperus bulbosus</i> Vahl	6.89	-	-	-	-	-
21	<i>Erodium oxyrhinchum</i> M.Bieb.	1.34	-	-	-	-	-
22	<i>Fagonia indica</i> Burm.f.	-	-	-	-	7.5	8.35
23	<i>Ferula sinaica</i> Boiss.	-	-	-	-	2.47	-
24	<i>Ficus cordata</i> ssp.salicifolia (Vahl) C.C. Berg.	-	-	-	-	3.07	-
25	<i>Forsskaolea tenacissima</i> L.	-	-	11.08	-	7.33	10.38
26	<i>Gomphocarpus sinaicus</i> Boiss.	-	-	-	-	-	6.86
27	<i>Haloxylon salicornicum</i> (Moq.) Bunge	25.45	37.76	56.52	95.06	44.24	50.02
28	<i>Heliotropium curassavicum</i> L.	6.08	-	-	-	-	-
29	<i>Hyoscyamus muticus</i> L.	6.08	-	-	-	-	3.04
30	<i>Hyphaene thebaica</i> (L.) Mart.	11.23	14.63	-	-	8.32	-
31	<i>Iphiona scabra</i> DC.	6.35	-	-	-	6.94	-
32	<i>Lasiurus scindicus</i> Henrard	8.93	-	-	-	-	-
33	<i>Lavandula coronopifolia</i> Poir	-	-	-	-	2.82	-
34	<i>Lavandula pubescens</i> Decne.	-	-	-	-	5.85	4.09
35	<i>Leptadenia pyrotechnica</i> (Forssk.) Decne.	-	-	25.72	33.03	23.03	-
36	<i>Leptochloa fusca</i> (L.) Kunth.	-	-	-	-	-	2.13
37	<i>Lycium shawii</i> Roem & Schult	11.77	8.62	14.47	27.86	20.83	19.05
38	<i>Maerua crassifolia</i> Forssk.	3.98	-	-	-	-	-
39	<i>Medicago laciniata</i> var. <i>brachyacantha</i> Boiss.	0	9.02	-	-	-	-
40	<i>Nitraria retusa</i> (Forssk.) Asch	7.22	-	-	-	-	-
41	<i>Ochradenus baccatus</i> Del.	3.13	5.64	-	18.74	23.51	11.83
42	<i>Panicum turgidum</i> Forssk.	7.76	-	-	-	5.35	-
43	<i>Peganum harmala</i> L.	-	-	-	-	-	2.23
44	<i>Pergularia tomentosa</i> L.	-	-	6.31	-	9.18	6.46
45	<i>Phoenix caespitosa</i> Chiov.	-	-	0	-	3.63	-
46	<i>Phragmites australis</i> (Cav.) Trin. Ex. Steudel	4.68	-	0	-	7.18	-
47	<i>Plicosepalus acaciae</i> (Zucc.) Wiens & Polhill	8.07	-	0	-	9.33	-

48	<i>Pulicaria incisa (Lam.) DC</i>	-	-	4.81	-	4.49	4.47
49	<i>Pycnocycla saxatilis Danin, Hedge & Lamond</i>	-	-	-	-	-	1.52
50	<i>Reseda muricata C.Presl</i>	-	-	-	-	-	2.02
51	<i>Retama raetam (Forssk.) Webb.</i>	-	-	-	-	-	36.29
52	<i>Rhazya stricta Decne.</i>	19.44	30.95	52.56	64.64	-	29.57
53	<i>Salsola jordanicola Eig</i>	-	-	-	-	1.71	3.14
54	<i>Salvadora persica L.</i>	8.64	-	-	-	-	-
55	<i>Seidlitzia rosmarinus Bunge ex Boiss.</i>	4.82	-	-	-	-	-
56	<i>Senna holosericea (Fresen) Greuter</i>	0	25.33	-	-	-	-
57	<i>Stipa capensis Thunb.</i>	0	0	-	-	-	2.16
58	<i>Stipagrostis plumosa (L.) Munro ex T.Anderson</i>	2.73	0	-	-	-	-
59	<i>Tamarix aphylla (L.) Karst</i>	7.05	0	-	-	-	-
60	<i>Tamarix nilotica (Ehrenb.) Bunge</i>	14.51	33.68	-	-	-	-
61	<i>Tephrosia purpurea ssp. apollinea (Del.) Hosni</i>	-	21.13	-	-	-	-
62	<i>Traganum nudatum Delile</i>	1.43	-	-	-	-	-
63	<i>Vachellia flava (Forssk.) Kyal. & Boatwr</i>	4.19	-	-	-	-	-
64	<i>Vachellia gerrardii (Benth.)</i>	0	-	-	-	3.7	19.64
65	<i>Vachellia oeffortia (Forssk) Kyal. & Boatwr</i>	2.05	-	-	-	-	-
66	<i>Vachellia tortilis (Forssk.)</i>	32.62	34.72	49.86	37.23	26.41	-
67	<i>Vachellia tortilis subsp. raddiana (Savi) Brenan</i>	16.79	29.46	38.83	23.4	27.49	-
68	<i>Zilla Spinosa (L.) Prantl</i>	-	-	-	-	-	35.47
69	<i>Ziziphus spina-christi (L.) Desf.</i>	-	3.32	-	-	13.77	-
70	<i>Zygophyllum coccineum L.</i>	23.44	-	-	-	-	-