

A Floristic Study of the Southwestern Slopes of Binaloud Elevations (Iran: Khorassan Province)

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Abstract

The present study includes the examination of Binaloud mountain range southwestern slopes north of Neishabour with an area around 500 km² covering town of Kharv and Baghshangach village and the areas between them from floristical point of view. The altitude of the area ranges from 1300 to 3500m, the mean annual rainfall is 239.9 mm and the mean annual temperature is 14.25°C. The area comprises 487 plant species and subspecies belonging to 299 genera and 67 families. The largest families in the studied area were Asteraceae with 71 species, Poaceae with 50 species, Fabaceae with 45 species and Brassicaceae with 30 species, respectively. Therophytes constituting 37% of the biological types are dominant, followed by hemicryptophytes and chamephytes with 34% and 12%, respectively. From the standpoint of vegetation types, 48% of the chorotypes belong to Irano-Turanian vegetative elements and the rest relate to one, two, three or various other vegetation regions or have a global distribution. Based on the type of vegetation, type of basin and accessibility to water, the habitats can be divided into flat plains, rocky-dry slopes, wet slopes, aquatic habitats, landslides and degraded-land habitats.

Keywords: Binaloud, Neishabour, Floristic, Chorotype, Biological types.

Introduction

The studied region covers an area about 500 km² on the southwestern slopes of Binaloud situated between geographic longitude of 58°, 45' and 59°, 15' on the east, embracing Baghshangach village, Kharv town and the areas between them. The altitude of the area ranges from 1300 m to 2500 m.

The Binaloud mountain range is drawn along a line of about 125 km at the East of Elburz mountain range and is located between the cities of Mashhad and Neishabour. This mountain range make up high elevations in Khorasan province, including Binaloud peak (3211 m), Shirbad peak (3200 m) and Zargaran peak (3100 m). All of the northern water channels in this mountain range come down to feed Kashfroud and the southern water channels join to Kalshour.

The Binaloud mountain range in northwestern section has a Paleozoic metamorphosed structure. In the center and south it has a Paleozoic structure, silts and sand. In the west it has a limy upper Jurassic and lower Cretaceous structure. In addition, it has marine Palaeogene sediments, volcanic Palaeogene and Neogene, destructive

Neogene sediments, tilted Pleistocene sediments and slopes sediments relating to Holocene (Darvishzadeh, 1991)

Climatically, this region lies in the semi-arid region in Iran influenced by the Mediterranean out reaching climate. The climatic diagram and climate reports prepared by Neishabour climatology center covering the years 1962-1985 and 1991-2000 show that it is dry for seven months of year and the temperature chart stands above raining chart (Fig. 1).

Wet season starts in November and continues until April. The rainiest month is March. The total annual rain is 239.9 mm and the median annual temperature is 14.2°C. Relative humidity, being in reverse relation to temperature, is, therefore, highest in January (Fig. 2). Tab. 1 shows annual rain for maximum and minimum as well as average temperature.

Methods

The plants in the studied area were regularly collected every month during growing seasons during the years 2002 and 2003 and brought to the Central Herbarium of Tehran University (TUH).

Tab. 1- Climatic reports by Neishabour climatology center covering the years 1962-1985 and 1991-2000

Months	Annual	Dec	Nov	Oct	Sep	Aug	July	June	May	Apr	Mar	Feb	Jan	
temperature	Maximum	19.36	10.4	15.5	22.9	29.7	33.6	34.7	33	27.7	22.1	15.1	11.2	7.4
	Median	14.2	3.9	8.2	14.4	20.4	24.4	26	24	19.5	14.8	8.6	5	1.5
	Minimum	6.4	-2.7	0.8	5.9	10.9	15.1	17.2	15	11.3	7.4	2.2	-1.6	-4.7
Rain (mm.)	239.9	27.5	16.5	9.3	2	0.1	1.7	3.5	20.3	30.1	47.6	38.7	41.5	
Relative humidity	51.1	68.3	58.6	47.2	38.3	36.6	34.5	36.9	50	55.5	63.3	66.6	69.3	

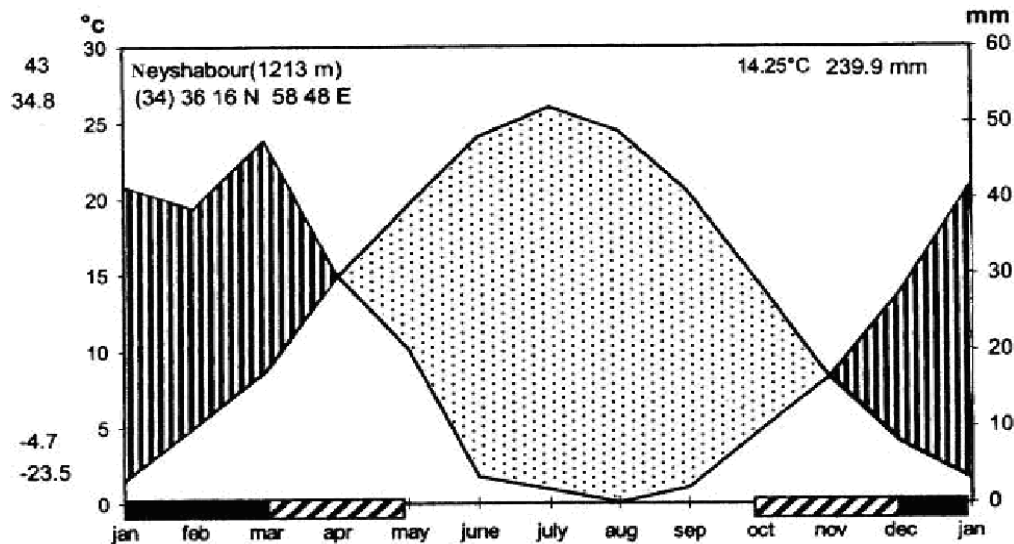


Fig. 1- The climatic diagram based on the data from Neishabour meteorological station covering the years 1962-1985 and 1991-2000.

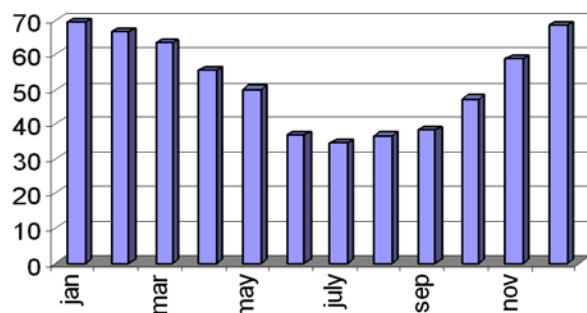


Fig. 2- Relative humidity in the studied area based on the data from neishabour meteorological station covering 1962-1985 and 1991-2000.

The collected samples were then identified and named based on classification and terminology applied to various Flora, such as Flora Iranica (Rechinger 1963-1999), Flora of the U.S.S.R. (Komarov 1933-1964), Flora of Iraq (Townsend et al. 1966-1968), Flora of Turkey (Davis 1965-

1988), Flora of Iran (Assadi 1988-2003), Colored Flora of Iran (Ghahreman 1978-2002). The biological types were determined using Raunkier's method (1934) and the chorology of species is based on Zohary (1973) and Takhtajan (1986). The habitat of each species is carefully noted when collecting them. All specimens were then processed for depositing in TUH.

Results and discussion

The southwestern slopes of the Binaloud Mountain include more than 487 vascular plant species and subspecies belonging to 299 genera and 67 families. Among these families, 54 are dicotyledonous, 10 monocotyledonous, one belongs to gymnosperms and two families belong to Pteridophytes. Asteraceae with 71 species is the most abundant family in the area, followed by families of Poaceae, Fabaceae, and

Brassicaceae with 50, 45, and 30 species, respectively.

Tab. two is a list of all species collected in the area with information about chorology, habitat, biological type, location, elevation from sea level and the herbarium number.

Habitat: The results of this study show the existence of seven different habitats in the studied area as follows:

1. *Plain regions*- They include all mountain slopes and the flat plains between the mountains reaching areas mildly steeped. Being a region fit for agricultural activity, the habitats found here have been subtended to most damage in its ecosystem. Various species belonging to Poaceae and other species such as ones listed below were found distributed in this region:

Achillea bibersteinii, *Aegilops tauschii*, *Artemisia scoparia*, *Artemisia sieberi*, *Brachypodium sylvaticum*, *Bromus sp.*, *Centaurea balsamita*, *Colchicum robustum*, *Convolvulus dorycnium*, *Crepis sancta*, *Diarthron vesiculosum*, *Elymus elongatiformis*, *Euphorbia chamaesyce*, *Gundelia tournefortii*, *Hordeum bulbosum*, *Ixiolirion tataricum*, *Lactuca glaciifolia*, *Noaea mucronata*, *Perovskia abrotanoides*, *Poa pratensis*, *Sideritis montana*, *Tamarix ramosissimum*, *Tragopogon longirostris*, *Verbascum songaricum*.

2. *Rocky areas*: These habitats are usually situated on the slopes strewn with rocks and boulders. They reach also the fissures and crevices including the species, such as:

Anthemis odontostephana, *Ephedra procera*, *Gnaphalium luteo-album*, *Hymenocrater calycinus*, *Melica persica*, *Nepeta glomerulosa*, *Nepeta persica*, *Onosma longilobum*, *Parietaria judaica*, *Phagnalon nitidum*, *Pistacia atlantica*, *Rheum ribes*, *Samolus valerandi*, *Silene odontopetala*, *Silene swertiifolia*, *Stachys trinervis*, *Stiptorhamphus persicus*, *Stipa barbata*.

3. *Arid mountainous regions*: These regions are situated between the above named plain and rocky regions and act as the host to plants from both regions. Some examples of the species growing in this region are:

Acanthophyllum glandulosum, *Acanthophyllum korshinskyi*, *Arrhenatherum kotschyi*, *Berberis integerrima*, *Bromus scoparius*, *Caccinia macranthera*, *Cerasus pseudoprostrata*, *Corydalis*

aitchisonii, *Cousinia monocephala*, *Cousinia trachyphyllaria*, *Iris songarica*, *Onosma bulbosum*, *Trichodesma bamianicum*, *Scrophularia striata*, *Scrophularia variegata*.

4. *Humid mountainous regions and river sides*:

Due to existence of springs and seasonal water channels on the mountain slopes and some underground rock formations which cause humidity to reach the surface, patches of humid ground can be seen on some dry mountain slopes. The humidity alongside the rivers also supports the growth of vegetation in these areas. In this habitat various grass species and some other families such as the followings are found:

Agrostis stolonifera, *Barbarea plantaginea*, *Brachypodium sylvaticum*, *Calamagrostis pseudophragmites*, *Carex diluta*, *Carex divulsa*, *Carex songorica*, *Dactylis glomerata*, *Epipactis veratrifolia*, *Eupatorium cannabinum*, *Fraxinus rotundifolia*, *Juncus articulatus*, *Juncus inflexus*, *Mentha longifolia*, *Ranunculus arvensis*, *Salix acmophylla*, *Salix alba*, *Salix pycnostachya*, *Scrophularia umbrosa*, *Setaria glauca*.

5. *Landslides*: These are rock-strewn basins at the foot of the mountain slopes. In the landslides where some soil exists between the strewn gravels meager vegetation occurs. Some species of this habitat are:

Cousinia adenostegia, *Delphinium turkmenum*, *Eremostachys labiosiformis*, *Iris kopetdagensis*, *Tulipa micheliana*.

6. *Aquatic habitats*: These wet habitats which include those inside the rivers, do not have, due to steepness and rush of water, high plant diversity and in locations where water is still, following species occur:

Nasturtium officinale, *Phragmites australis*, *Typha minima*, *Veronica anagallis-aquatica*.

7. *Degraded areas*: These habitats include manipulated rural areas used for farming and gardening as well as diggings alongside the roads and pathways. They are local to various grasses and weedy species. Some of these species are listed below:

Aegilops triuncialis, *Amaranthus blitoides*, *Amaranthus retroflexus*, *Asperugo procumbens*, *Atriplex micrantha*, *Avena ludoviciana*, *Capparis spinosa*, *Chenopodium album*, *Cynodon dactylon*, *Digitaria sanguinalis*, *Eragrostis barrelieri*, *Euphorbia helioscopia*, *Fumaria*

vaillantii, *Goldbachia laevigata*, *Gypsophila pilosa*, *Heliotropium europaeum*, *Lamium amplexicaule*, *Lophochloa phleoides*, *Malcolmia africana*, *Malva neglecta*, *Nonnea caspica*, *Roemeria refracta*, *Setaria viridis*.

Biological types: Therophytes make up 37% of the vegetation and are the dominant biological type in the studied area, followed by hemicryptophytes, with 34%, as the second dominant type. High presence of annual weedy plant is the characteristic feature of this region, but with increasing in altitude in the mountainous parts hemicryptophytes become more abundant (Fig. 3).

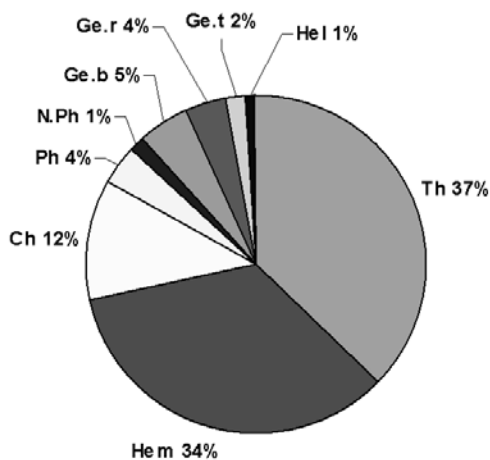


Fig. 3- Percentage of biological types found in the binaloud south-western slopes. Abbreviations: TH=Therophyte, Hem=Hemicryptophytes, Ch=Chamaephytes, Ph=Phanerophytes, N.Ph= Nanophanerophytes, Ge.b=Bulbose geophytes, Ge.r=rhizomatous geophytes, Ge.t=Tuberose geophytes, Hel=helophytes.

Chorology: Irano-Turanian elements compose 48% of the plants growing on the Binaloud southwestern slopes. They are the dominant chorology in the region. Among the species distributed in this area 13% belong to three chorological types including Irano-Turanian, Mediterranean and Euro-Siberian regions and 11% belong to two chorological type, i.e. Irano-Turanian and Mediterranean region (Fig. 4). Some species also belong to one, two or three regions including Sahara-Sindian, Omano-Sindian and Sahara-Arabian territories or a few other types, or even show worldwide distribution.

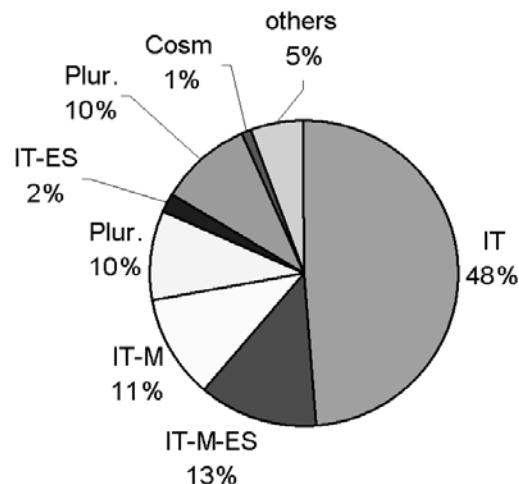


Fig. 4- Percentage of various chorotypes. Abbreviations: IT=Irano-turanian, M=Mediterranean, ES=Euro-Siberian, Plur=More than 2 chorotypes, Cosm=Cosmopolitan, Others including: Sahara-Sindian, Omano-Sindian or Sahro-Arabian.

Endemism: Among 487 plant species distributed in the studied area, 21 species are endemic to Iran. They compose about 4.3% of the total number of species. The taxa endemic to area are: *Allium elbursense*, *Astragalus lycioides*, *A. ochreatus*, *A. renzianus*, *A. touranicus*, *Cicer tragacanthoides* var. *tragacanthoides*, *Cousinia adenostegia*, *C. lasiandra*, *C. monocephala*, *C. spathulata*, *C. trachyphyllaria*, *Dianthus binaludensis*, *D. orientalis* subsp. *stenocalyx*, *Echinops chorassanicus*, *Euphorbia aelleni*, *Ferula flabelliloba*, *Launaea acanthodes*, *Matthiola dumulosa*, *Nepeta glomerulosa* subsp. *glomerulosa*, *Oxytropis binaludensis*, *Oxytropis hypsophila*. *Cousinia adenostegia*, *Dianthus binaludensis* and *Oxytropis binaludensis* are distributed only on Binaloud Mountains.

Among the collected plants the type locality (locus classicus) of seven collected species is in Binaloud Mountains: *Astragalus renzianus*, *Cephalorrhynchus polycladus*, *Cousinia adenostegia*, *Dianthus binaludensis*, *Ferula flabelliloba*, *Helichrysum ocephalum* and *Oxytropis binaludensis*.

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Tab. 2- Floristic list of the southwestern slopes of Binaloud elevations. Abbreviation of the chorology: IT) Irano-Turanian, M) Mediterranean, ES) Euro Siberian, SS) Sahara-Sindian, OS) Omano-Sindian, SA) Sahara-Arabian, Plur) Pluriregional, Cosm) Cosmopolitan. Biological types: TH) Therophyte, Hem) Hemicryptophyte, Ch) Chamae-phyte, Ph) Phanerophyte, N.Ph) Nanophanerophyte, Ge.b) Bulbose geophyte, Ge.r) Rhizomatous geophyte, Ge.t) Tuberose Geophyte, Hel) Helophyte, Par) Parasite. Habitat: 1- Plain regions, 2- Rocky areas, 3- Arid mountainous regions, 4- Humid mountainous regions, 5- Land-slides, 6- Aquatic habitats, 7- Degraded areas. Locations are the near-est village to the collection localities.* endemic in Iran, ** endemic in Binaloud, * locus classicus.**

Families and Species	Chorology	Biological types	Habitat	Location, Altitude, Herbarium number (TUH)
ADIANTHACEAE				
<i>Adiantum capillus-veneris</i> L.	M	Hem	2	Ghar, 1500m, 32224
AMARANTHACEAE				
<i>Amaranthus albus</i> L.	Plur	Th	1, 7	Rood, 1340m, 29764
<i>Amaranthus blitoides</i> S.Watson	Plur	Th	1, 7	Rood, 1340m, 29763
<i>Amaranthus retroflexus</i> L.	Plur	Th	1, 7	Rood, 1700m, 29748
<i>Amaranthus viridis</i> L.	Plur	Th	1, 7	Rood, 1340m, 32214
AMARYLLIDACEAE				
<i>Ixiolirion tataricum</i> (Pall.) Herb.	IT	Ge.b	1, 3, 7	Mirabad, 1700m, 32258- Baghshangach, 1600m, 31941
ANACARDIACEAE				
<i>Pistacia atlantica</i> Desf. subsp. <i>mutica</i> (Fisch. & C.A. Mey.) Rech. f.	IT	Ph	3	Mirabad, 1800m, 32258
<i>Rhus coriaria</i> L.	IT- M	Ph	1, 3, 4	Boojan, 1900m, 29547
APIACEAE/UMBELLIFERAE				
<i>Bunium cylindricum</i> (Boiss. & Hohen.) Drude	IT	Ge.t	1, 7	Rood, 1600m, 30438
<i>Bunium persicum</i> (Boiss.) B. Fedtsch.	IT	Ge.t	1, 7	Barfriz, 1900m, 30441- Boojan, 1700m, 32263
<i>Bupleurum exaltatum</i> M. Bieb.	IT	Ch	2	Rood, 1600m, 29718- Barfriz, 2300m, 29719
<i>Caucalis platycarpus</i> L.	IT- M	Th	1, 7	Rood, 1600m, 30427- Boojan, 1700m, 32268
<i>Conium maculatum</i> L.	Plur	Hem	1, 7	Rood, 1600m, 32264
<i>Dorema aitchisonii</i> Korov. ex M. Pimen.	IT	Hem	1, 5	Boojan, 1700m, 31897
<i>Eryngium bungei</i> Boiss.	IT	Hem	3, 5	Boojan, 1700m, 31896- Kharv, 2000m, 31894
<i>Eryngium caucasicum</i> Trautv.	IT	Hem	1, 3, 5	Rood, 1600m, 29720- Mirabad, 1700m, 31895
<i>Falcaria vulgaris</i> Bernh.	IT- M- ES	Hem	1, 7	Rood, 1500m, 32273
<i>Ferula flabelliloba</i> Rech. f. & Aell. *, ***	IT	Hem	3, 5	Mirabad, 1700m, 32269- Rood, 1700m, 32270
<i>Ferula ovina</i> (Boiss.) Boiss.	IT	Hem	2, 3	Boojan, 1700m, 30435
<i>Johrenia platycarpa</i> Boiss.	IT	Hem	1, 2, 3	Rood, 1600m, 29714
<i>Opopanax persicum</i> Boiss.	IT	Hem	1, 7	Boojan, 1700m, 32271
<i>Pimpinella affinis</i> Ledeb.	IT- ES	Hem	1, 7	Boojan, 1900m, 29716- Kharv, 2000m, 31893
<i>Prangos latiloba</i> Korov.	IT	Hem	2, 3	Mirabad, 1700m, 30430- Boojan, 1700m, 31889
<i>Prangos serpentinica</i> (Rech. f., Aell. & Esfand.) Herrnstadt & Heyn.	IT	Hem	2, 3	Barfriz, 1600m, 30429- Boojan, 1700m, 30432
<i>Scaligeria allioides</i> (Regel. & Schmalh.) Boiss.	IT	Ge.t	1, 7	Baghshangach, 1500m, 32266
<i>Scandix aucheri</i> Boiss.	IT	Th	1, 3	Kharv, 2000m, 30560
<i>Scandix stellata</i> Banks & Soland.	IT- M	Th	1, 3	Mirabad, 1600m, 30558
<i>Torilis leptophylla</i> (L.) Reichenb.	IT- M- ES	Th	1	Mirabad, 1600m, 31892- Barfriz, 2000m, 31892
<i>Turgenia latifolia</i> (L.) Hoffm.	IT- M- ES	Th	1, 3	Barfriz, 1900m, 30437- Rood, 1600m, 32264
<i>Zosima absinthifolia</i> (Vent.) Link.	IT	Hem	1, 3	Barfriz, 1900m, 30439- Boojan, 1700m, 30428
ARACEAE				
<i>Arum koitschyi</i> Boiss.	IT	Ge.b	1, 2, 3	Barfriz, 1900m, 30917- Rood, 1500m, 32194
ASCLEPIADACEAE				
<i>Cynanchum acutum</i> L.	IT- M	Hem	2, 3, 4	Rood, 1800m, 32210
<i>Vincetoxicum pumilum</i> Decne.	IT	Hem	3, 3, 5	Boojan, 1500m, 31920- Mirabad, 1800m, 31921
ASTERACEAE/COMPOSITAE				
<i>Achillea biebersteinii</i> Afan.	IT	Hem	1, 3, 7	Rood, 1600m, 29635- Boojan, 1700m, 31868
<i>Achillea tenuifolia</i> Lam.	IT	Ch	1, 2, 3, 7	Barfriz, 2000m, 31866- Mirabad, 1500m, 30110
<i>Acroptilon repens</i> (L.) DC. subsp. <i>australe</i> (Iljin.) Rech. f.	IT	Hem	1, 7	Rood, 1340m, 29717
<i>Anthemis odontostephana</i> Boiss. var. <i>odontostephana</i>	IT	Th	2	Kharv, 2000m, 30133- Mirabad, 1500m, 30108
<i>Artemisia scoparia</i> Waldst. & Kit.	Plur	Ch	1, 7	Boshhrabad, 1380m, 29721
<i>Artemisia sieberi</i> Besser subsp. <i>sieberi</i>	IT- M- ES	Ch	1, 3	Boshhrabad, 1380m, 29723
<i>Carduus pycnocephalus</i> L.	IT- M	Th	1, 4	Rood, 1340m, 30128
<i>Carthamus lanatus</i> L. subsp. <i>turkestanicus</i> (M.pop.) Hanelt.	IT	Th	1, 7	Boojan, 1600m, 31860
<i>Carthamus oxyacantha</i> M. Bieb.	IT- M- ES	Th	7	Rood, 1700m, 29729
<i>Centaurea bruguierana</i> (DC.) Hand.-Mazz. subsp. <i>belangerana</i> (DC.) Bornm.	IT- OS	Th	7	Rood, 1340m, 31901
<i>Centaurea depressa</i> M. Bieb.	IT	Th	1, 7	Mirabad, 1600m, 30094
<i>Centaurea iberica</i> Trev. ex Spreng.	IT- M	Th	1, 3, 4, 7	Baghshangach, 1600m, 31863- Rood, 1340m, 31863
<i>Centaurea virgata</i> Lam. subsp. <i>squarrosa</i> (Willd.) Gugler.	IT	Ch	1, 2, 3	Rood, 1500m, 29727
<i>Cephalorrhynchus polycladus</i> (Boiss.) Kir. ***	IT	Hem	1	Rood, 1700m, 32231
<i>Chardinia orientalis</i> (L.) O. Kuntze.	IT	Th	1, 3	Mirabad, 1500m, 30941
<i>Chondrilla juncea</i> L.	IT- M- ES	Hem	1, 7	Boojan, 1500m, 32222
<i>Cichorium intybus</i> L.	Plur	Hem	1, 4	Barfriz, 2000m, 31877- Mirabad, 1500m, 31850
<i>Cirsium arvense</i> (L.) Scop. var. <i>incanum</i> (S. G. Gmelin) Ledeb.	Plur	Th	1, 4	Barfriz, 2000m, 28577
<i>Cirsium congestum</i> Fisch. & C. A. Mey. ex DC. var. <i>congestum</i>	IT	Hem	1, 3	Rood, 1700m, 29744
<i>Cirsium libanoticum</i> DC.	IT- M	Hem	1, 4	Rood, 1700m, 29722- Barfriz, 1500m, 31870
<i>Cirsium turkestanicum</i> (Regel) Petrak	IT	Hem	1, 3	Rood, 1700m, 29734
var. <i>pseudolappaceum</i> (Charadze) Petrak				

Tab. 2- Continued.

Families and Species	Chorology	Biological types	Habitat	Location, Altitude, Herbarium number (TUH)
<i>Cnicus benedictus</i> L. var. <i>kotschyi</i> (Schultz Bip.) Boiss.	IT- M	Th	1, 7	Rood, 1340m, 31849
<i>Conyza canadensis</i> (L.) Cronq.	Plur	Th	1, 7	Rood, 1340, 29715
<i>Cousinia adenostegia</i> Rech. f. **, ***	IT	Hem	5	Barfriz, 2200m, 28567
<i>Cousinia eryngioides</i> Boiss. *	IT	Hem	3, 7	Barfriz, 2000m, 32283- Baghshangach, 1600m, 28550
<i>Cousinia lasiandra</i> Bunge *	IT	Hem	3	Barfriz, 2000m, 28560
<i>Cousinia microcarpa</i> Boiss.	IT	Hem	1, 3, 4, 7	Baghshangach, 1600m, 28562-Rood, 1700m, 32198
<i>Cousinia monocephala</i> Bunge *	IT	Hem	3	Barfriz, 1800m, 28549
<i>Cousinia</i> cf. <i>spatulata</i> Kult. *	IT	Ch	3	Barfriz, 1900m, 28566
<i>Cousinia trachyphyllaria</i> Bornm. & Rech. f. *	IT	Hem	3	Kharv, 2000m, 28564
<i>Cousinia umbrosa</i> Bunge	IT	Hem	7	Barfriz, 1800m, 31917
<i>Crepis flexuosa</i> (DC.) C. B. Clarke	IT	Ge.r	2	Ghar, 1500m, 28571
<i>Crepis pulchra</i> L. subsp. <i>turkestanica</i> Babcock.	IT	Th	1, 3, 5	Kharv, 2000m, 32209- Boojan, 1500m, 30119
<i>Crepis sancta</i> (L.) Babcock. subsp. <i>iranica</i> Rech. f.	IT- M	Th	1, 3, 5, 7	Mirabad, 1600m, 30098- baghshan ghach,
<i>Echinops</i> cf. <i>chorassanicus</i> Bunge *	IT	Hem	1, 3	Barfriz, 2000m, 28760- Rood, 1600m, 29641
<i>Echinops leiopolyceras</i> Bornm.	IT	Hem	1, 3	Rood, 1600m, 31852
<i>Echinops orientalis</i> Trautv.	IT	Hem	1, 3	Rood, 1600m, 29628
<i>Echinops</i> sp.		Hem	1, 3	Kharv, 2000m, 28763
<i>Erigeron acer</i> L.	Plur	Hem	7	Barfriz, 2000m, 29624
<i>Eupatorium cannabinum</i> L.	IT- M- ES	Hem	4	Rood, 1600m, 29625
<i>Filago desertorum</i> Pomel.	IT- M	Th	3	Kharv, 2000m, 32218
<i>Filago pyramidata</i> L.	IT- M- ES	Th	3	Rood, 1600m, 30123- Kharv, 2000m, 30126
<i>Garhadiolus angulosus</i> Jaub. & Spach.	IT	Th	1, 7	Barfriz, 1900m, 30106- Rood, 1600m, 32117
<i>Gnaphalium luteo- album</i> L.	IT	Hem	2	Rood, 1600m, 29637- Boojan, 1700m, 30112
<i>Gundelia tournefortii</i> L.	IT	Hem	1, 3, 5	Barfriz, 1600m, 30117
<i>Helichrysum ocephalum</i> Boiss. ***	IT	Ch	2, 3	Rood, 1700m, 29639- Kharv, 2000m, 31864
<i>Heteroderis pusilla</i> (Boiss.) Boiss. var. <i>gymnocephala</i> Rech. f.	IT	Th	1, 7	Baghshangach, 1500m, 30118
<i>Heteropappus altaicus</i> (Willd.) Novopokr. var. <i>canescens</i> (Nees.) Serg.	IT- ES	Hem	1, 2	Rood, 1700m, 29636
<i>Koelpinia linearis</i> Pall.	IT- SS	Th	1, 7	Rood, 1340m, 30181
<i>Lactuca glaucifolia</i> Boiss.	IT	Th	1	Kharv, 2000m, 31914
<i>Lactuca serriola</i> L.	IT- M- ES	Hem	7	Rood, 1340m, 31859
<i>Lasiopogon muscoides</i> (Desf.) DC.	SA	Th	1, 3	Barfriz, 1600m, 30131
<i>Launaea acanthodes</i> (Boiss.) O. Kuntze *	IT	Hem	1, 3, 7	Rood, 1600m, 29619
<i>Leontodon asperrimus</i> (Willd.) Boiss. ex Ball.	IT	Hem	3	Boojan, 1700m, 30120
<i>Onopordon leptolepis</i> DC.	IT	Hem	1, 7	Rood, 1600m, 31863
<i>Phagnalon nitidum</i> Fres.	IT	Ch	2	Boojan, 1700m, 28767- Kharv, 2000m, 30125
<i>Pulicaria gnaphalodes</i> (Vent.) Boiss.	IT	Th/Hem	3, 5	Rood, 1600m, 29620
<i>Scariola orientalis</i> (Boiss.) Sojak. subsp. <i>orientalis</i>	IT	Ch	1, 3, 5	
<i>Sclerorhachis platyrachis</i> (Boiss.) Podlech	IT	Hem	2	Rood, 1700m, 30121- Kharv, 2000m, 30124
<i>Scorzonera leptophylla</i> (DC.) Krasch. & Lipsch.	IT	Ge.t	3	Barfriz, 1600m, 30134- Mirabad, 1800m, 30086
<i>Siebera nana</i> (DC.) Bornm.	IT- M	Th	3	Barfriz, 1700m, 31917
<i>Sonchus oleraceus</i> L.	Plur	Hem	1, 7	Rood, 1340m, 29640
<i>Steptorrhaphus persicus</i> (Boiss.) O. Fedtsch. & B. Fedtsch.	IT	Ge.t	2	Boojan, 1700m, 32223
<i>Tanacetum parthenium</i> (L.) Schultz Bip.	Plur	Hem	1, 2	Rood, 1700m, 29627
<i>Taraxacum</i> sp.		Hem	1, 7	Boojan, 1800m
<i>Taraxacum syriacum</i> Boiss.	IT	Hem	4, 7	Barfriz, 2000m, 31856
<i>Tragopogon graminifolius</i> DC.	IT	Hem	1, 7	Rood, 1600m, 29645- Barfriz, 1900m, 30114
<i>Tragopogon longirostris</i> Bosch.	IT- M- ES	Hem	1, 3, 7	Mirabad, 1800m, 30132-Boojan, 1700m, 30116
<i>Xeranthemum longipapposum</i> Fisch. & C. A. Mey.	IT	Th	1, 3	Barfriz, 2000m, 30933- Boojan, 1700m, 30926
BERBERIDACEAE				
<i>Berberis integerrima</i> Bunge	IT	Ph	1, 2, 3	Mirabad, 1800m, 30907- Rood, 1600m, 30906
BORAGINACEAE				
<i>Anchusa italica</i> Retz. var. <i>italica</i>	IT- OS	Th	1, 7	Rood, 1600m, 29603
<i>Anchusa ovata</i> Lehm.	IT- ES	Th	7	Rood, 1340m, 29602
<i>Asperugo procumbens</i> L.	IT- M- ES	Th	7	Kharv, 1800m, 30162- Boojan, 1700m, 30137
<i>Caccinia macranthera</i> (Bank & Soland.) Brand var. <i>crassifolia</i> (Vent.) Brand	IT	Hem	3	Mirabad, 1700m, 30161
<i>Echium italicum</i> L. var. <i>italicum</i>	IT	Hem	7	Mirabad, 1700m, 30956
<i>Heliotropium dasycarpum</i> Ledeb. subsp. <i>dasycarpum</i>	IT	Ch	1, 3, 7	Kharv, 2100m, 31910
<i>Heliotropium europaeum</i> L.	IT- M- ES	Th	1, 7	Rood, 1600m, 29604
<i>Heterocaryum szovitsianum</i> (Fisch. & A. Mey.) A. DC.	IT	Th	3, 7	Rood, 1340m, 30157
<i>Lappula barbata</i> (M. Bieb.) Gurke	IT	Th	1, 3	Rood, 1600m, 30157
<i>Lappula drobovii</i> M. Pop. ex Pavl.	IT	Th	3	Baghshangach, 1500m, 30953
<i>Lithospermum arvense</i> L.	IT- M- ES	Th	7	Rood, 1340, 32232
<i>Myosotis refracta</i> Boiss.	IT- M- ES	Th	4, 7	Rood, 1600m, 30157
<i>Nonnea caspica</i> (Willd.) G. Don.	IT	Th	1, 7	Rood, 1340m, 30954- Mirabad, 1500m, 30138
<i>Nonnea flavescens</i> (C.A.Mey.) Fish. & C. A. Mey.	ES	Hem	7	Boojan, 1700m, 30156
<i>Onosma bulbotrichum</i> DC.	IT	Hem	2, 3	Kharv, 2000m, 30145
<i>Onosma longilobum</i> Bunge	IT	Hem	2, 3	Mirabad, 1700m, 30147- Kharv, 2000m, 30146
<i>Rochelia cardiosepala</i> Bunge	IT	Th	7	Boojan, 1700m, 30160
<i>Trichodesma bamianicum</i> (Bunge) A. DC.	IT	Hem	2, 3	Barfriz, 1600m, 30999- Kharv, 2000m, 32233
BRASSICACEAE/CRUCIFERAE				
<i>Alyssum linifolium</i> Steph. ex Willd.	IT- M	Th	1, 3, 7	Rood, 1340m, 30178
<i>Alyssum menioides</i> Boiss.	IT	Th	1, 3	Barfriz, 2000m, 30199
<i>Alyssum stapfii</i> Vierh.	IT	Th	1, 3, 7	Mirabad, 1500m, 30183- Kharv, 1800m, 32234
<i>Alyssum szovitsianum</i> Fisch. & C. A. Mey.	IT	Th	1, 3, 7	Rood, 1340m, 30176- Mirabad, 1500m, 30946
<i>Arabidopsis wallichii</i> (Hook. f. & Thoms.) N. Busch.	IT	Th/Hem	2	Rood, 1600m, 32236- Kharv, 2000m, 32237
<i>Barbarea plantaginea</i> DC.	IT	Hem	4	Mirabad, 1500m, 30951- Boojan, 1700m, 30549

Tab. 2- Continued.

Families and Species	Chorology	Biological types	Habitat	Location, Altitude, Herbarium number (TUH)
<i>Brassica elongata</i> Ehrh.	IT- M	Hem	4, 7	Barfriz, 1900m, 30192- Baghshan ghach, 1500m, 32240
<i>Capsella bursa-pastoris</i> (L.) Medicus	Cosm	Th	1, 7	Kharv, 1800m, 30175
<i>Cardaria draba</i> (L.) Desv.	IT- M	Hem	7	Mirabad, 1800m, 30196- Boojan, 1700m, 30207
<i>Chorispora tenella</i> (Pall.) DC.	IT	Th	7	Rood, 1340m, 30189
<i>Clypeola jonthlaspi</i> L.	IT- M	Th	1, 2, 3	Barfriz, 1600m, 30191- Kharv, 2000m, 30165
<i>Conringia perfoliata</i> (C. A. Mey.) Busch.	IT	Th	7	Barfriz, 2000m, 30198- Mirabad, 1800m, 30193
<i>Crambe kotschyana</i> Boiss.	IT	Hem	2, 5	Mirabad, 1700m, 30205
<i>Descurainia sophia</i> (L.) Webb. & Berth.	IT- M- ES	Th	1, 7	Kharv, 1800m, 30170
<i>Diplotaxis harra</i> (Forssk.) Boiss.	IT- SA	Hem	4, 7	Baghshangach, 1500m, 32239
<i>Drabopsis verna</i> C. Koch.	IT	Th	1, 3	Rood, 1340m, 30174
<i>Eruca sativa</i> Miller.	Plur	Th	7	Mirabad, 1600m, 30190
<i>Euclidium tenuissimum</i> (Pall.) B. Fedtsch.	IT	Th	7	Barfriz, 1900m, 30202- Rood, 1600m, 30182
<i>Goldbachia laevigata</i> (M. Bieb.) DC.	IT- M	Th	7	Rood, 1340m, 30184
<i>Lepidium latifolium</i> L.	IT- M- ES	Hem	2, 4, 7	Rood, 1600m, 29683
<i>Malcolmia africana</i> (L.) R. Br. var. <i>africana</i>	IT- SA	Th	1, 7	Rood, 1340m, 30206- Baghshangach, 1500m, 30201
<i>Matthiola dumulosa</i> Boiss. & Buhse *	IT	Hem	2, 3	Kharv, 2000m, 30950
<i>Nasturtium officinale</i> R. Br.	IT- M- ES	Hel	6	Kharv, 1800m, 30200
<i>Nestia apiculata</i> Fisch.	IT- M	Th	7	Rood, 1340m, 30180
<i>Pachypterygium brevipes</i> Bunge	IT	Th	1, 3	Rood, 1600m, 30204
<i>Rapistrum rugosum</i> (L.) All.	IT- M- ES	Th	1, 4, 7	Mirabad, 1700m, 32235
<i>Sisymbrium loeselii</i> L.	IT- M- ES	Th	4, 7	Boojan, 1900m, 29739
<i>Sisymbrium septulatum</i> DC.	IT	Th	4, 7	Mirabad, 1800m, 32242
<i>Thlaspi perfoliatum</i> L.	IT- M- ES	Th	7	Kharv, 1800m, 30169- Barfriz, 1900m, 30186
CAPPARIDACEAE				
<i>Capparis spinosa</i> L. var. <i>spinosa</i>	Plur	Ch	7	Barfriz, 1900m, 30584
<i>Cleome coluteoides</i> Boiss.	IT	Hem	1, 3, 7	Barfriz, 2000m, 30587- Baghshangach, 1500m, 30585
<i>Cleome khorassanica</i> Bunge & Bien. ex Boiss.	IT	Th	3	Baghshangach, 1500m, 30583
CARYOPHYLLACEAE				
<i>Acanthophyllum crassinodum</i> Yukhan & Edmondson	IT	Ch	2, 3	Rood, 1600m, 29726
<i>Acanthophyllum glandulosum</i> Bunge ex Boiss.	IT	Ch	2, 3	Barfriz, 2300m, 29728- Rood, 1600m, 30934
<i>Acanthophyllum gracile</i> Bunge ex Boiss.	IT	Ch	2, 3	Barfriz, 2000m, 30931- Kharv, 2000m, 30940
<i>Acanthophyllum korshinskyi</i> Schischk.	IT	Ch	2, 3	Kharv, 2000m, 30215- Barfriz, 2000m, 30930
<i>Acanthophyllum sordidum</i> Bunge ex Boiss.	IT	Ch	2, 3	Rood, 1600m, 29727- Kharv, 2000m, 30928
<i>Arenaria leptoclados</i> (Reichenb.) Guss.	IT- ES	Th	1, 3	Mirabad, 1600m, 30222
<i>Buffonia oliveriana</i> Ser.	IT	Th	1, 5	Mirabad, 1700m, 30942
<i>Buffonia sintenisii</i> Freyn.	IT	Ch	2, 3	Kharv, 2000m, 30226
<i>Cerastium dichotomum</i> L.	IT- M	Th	5, 7	Mirabad, 1800m, 30223- Rood, 1340m, 31909
<i>Cerastium inflatum</i> Link ex Desf.	IT	Th	2, 3, 5	Mirabad, 1700m, 30929
<i>Dianthus binaludensis</i> Rech. f. **, ***	IT	Ch	2, 3	Rood, 1700m, 32244
<i>Dianthus orientalis</i> Adams in Weber & Mohr.	IT	Ch	2, 4	Rood, 1600m, 30229- Kharv, 2000m, 30225
subsp. <i>stenocalyx</i> (Boiss.) Rech. f. *	IT	Ch	2, 4	Rood, 1600m, 30229- Kharv, 2000m, 30225
<i>Gypsophila bicolor</i> (Freyn & Sint.) Grossh.	IT	Hem	1, 7	Rood, 1600m, 30935
<i>Gypsophila pilosa</i> Huds.	IT	Th	7	Rood, 1340m, 31905
<i>Holosteum glutinosum</i> (M. Bieb.) Fisch. & C. A. Mey.	IT	Th	7	Rood, 1340m, 30208
<i>Leprodiclis stellarioides</i> Schrenk ex Fisch. & C. A. Mey.	IT	Th	4, 7	Barfriz, 2000m, 30213- Mirabad, 1800m, 30210
<i>Mesostemma kotschyana</i> (Fenzl) Vved. subsp. <i>kotschyana</i>	IT	Th	2, 5	Mirabad, 1600m, 30216
<i>Minuartia hybrida</i> (Vill.) Schischk. subsp. <i>hybrida</i>	IT- M	Th	1, 5	Barfriz, 1600m, 30211
<i>Minuartia meyeri</i> (Boiss.) Bornm.	IT	Th	2, 3	Kharv, 2000m, 30227
<i>Silene chaetodonta</i> Boiss.	IT	Th	1, 3	Barfriz, 2000m, 30938- Mirabad, 1700m, 30943
<i>Silene conoidea</i> L.	IT- M	Th	7	Mirabad, 1500m, 30221
<i>Silene latifolia</i> Poir. subsp. <i>persica</i> (Boiss. & Buhse) Melzh.	IT	Hem	2, 4, 7	Barfriz, 2000m, 30232- Rood, 1600m, 30214
<i>Silene odontopetala</i> Fenzl. subsp. <i>odontopetala</i>	IT	Hem	2	Rood, 1600m, 30228
<i>Silene swertifolia</i> Boiss.	IT	Hem	2	Mirabad, 1500m, 30212- Rood, 1600m, 32243
<i>Stellaria media</i> (L.) Vill.	Plur	Th	4, 7	Kharv, 1800m, 30231- Boojan, 1700m, 30924
<i>Vaccaria oxydonta</i> Boiss.	IT	Th	7	Mirabad, 1500m, 30218- Rood, 1340, 30921
CHENOPODIACEAE				
<i>Atriplex micrantha</i> Ledeb.	IT	Th	7	Rood, 1600m, 29703
<i>Ceratocarpus arenarius</i> L.	IT	Th	1, 3, 7	Booshr abad, 1380m, 29704
<i>Chenopodium album</i> L. subsp. <i>album</i>	Plur	Th	7	Boojan, 1900m, 29707
<i>Chenopodium botrys</i> L.	Plur	Th	1, 4	Rood, 1600m, 29709
<i>Noaea mucronata</i> (Forssk.) Asch. & Schweinf. subsp. <i>mucronata</i>	IT	Ch	3, 7	Boshrabad, 1380m, 29705
<i>Salsola kali</i> L.	Plur	Th	7	Rood, 1340m, 32281
COLCHICACEAE				
<i>Colchicum persicum</i> Baker	IT	Ge.b	2, 3, 7	Barfriz, 2000m, 30578
<i>Colchicum robustum</i> (Bunge) Stefanov	IT	Ge.b	1, 3	Kharv, 1800m, 30576- Mirabad, 1800m, 30580
CONVOLVULACEAE				
<i>Convolvulus arvensis</i> L.	Plur	Ge.r	1, 7	Baghshangach, 1500m, 30258
<i>Convolvulus dorycnium</i> L. subsp. <i>subhirsutus</i> (Regel & Schmalh.) Saad.	IT	Hem	1, 3, 7	Baghshangach, 1500m, 30968
<i>Convolvulus lineatus</i> L.	IT	Hem	1, 3	Barfriz, 1600m, 30259- Baghshangach, 1500m, 30966
<i>Convolvulus pilosellaefolius</i> Desv.	IT- OS	Hem	1, 3, 7	Baghshangach, 1500m, 30965
CORYLACEAE				
<i>Corylus colurna</i> L.	IT- ES	Ph	7	Barfriz, 2000m, 31923
CYPERACEAE				
<i>Carex diluta</i> M. Bieb.	IT	Hem	4, 7	Barfriz, 2300m, 29681- Mirabad, 1500m, 30448
<i>Carex divulsa</i> Stokes. subsp. <i>divulsa</i>	ES- M	Hem	4, 8	Boojan, 1700m, 30450
<i>Carex otrubae</i> Podpera	IT- M- ES	Hem	4, 8	Rood, 1600m, 30359

Tab. 2- Continued.

Families and Species	Chorology	Biological types	Habitat	Location, Altitude, Herbarium number (TUH)
CUSCUTACEAE				
<i>Cuscuta campestris</i> Yunck.	Cosm	Th	7	Boshhrabad, 1380m, 29652
<i>Carex pachystylis</i> J. Gay.	IT	Hem	1	Rood, 1340m, 30452
<i>Carex pseudofortida</i> Kuk.	IT	Ge.r	3	Rood, 1700m, 30451
<i>Carex songorica</i> Kar. & Kir.	IT	Ge.r	4	Karv, 1800m, 30449
<i>Cyperus rotundus</i> L.	Cosm	Hem	4, 7	Booijan, 1900m, 29680
<i>Scirpoides holoschoenus</i> (L.) Sojak.	IT- M	Hem	4	Rood, 1600m, 32212
DIPSACEAE				
<i>Scabiosa olivieri</i> Coult.	IT- SS	Th	3, 5	Barfriz, 2000m, 30908
<i>Scabiosa rotata</i> M. Bieb.	IT	Th	2, 3	Mirabad, 1600m, 30912- Kharv, 2000m, 30911
ELAEAGNACEAE				
<i>Elaeagnus angustifolia</i> L.	IT- M	Ph	4, 7	Booijan, 1700m, 30461- Mirabad, 1500m, 30462
EPHEDRACEAE				
<i>Ephedra procera</i> Fisch. et Mey.	IT	N. Ph	2, 3	Barfriz, 1600m, 30471- Booijan, 1700m, 30472
EQUISETACEAE				
<i>Equisetum ramosissimum</i> Desf.	Plur	Ge.r	4, 7	Rood, 1600m, 29729- Kharv, 2000m, 30464
EUPHORBIACEAE				
<i>Chrozophora obliqua</i> (Valh.) Juss. ex Spreng.	IT- M- SS	Th	1, 3, 7	Rood, 1600m, 29649
<i>Euphorbia aelleni</i> Rech. f. *	IT	Hem	2, 3	Mirabad, 1700m, 30270
<i>Euphorbia aucheri</i> Boiss.	IT	Hem	2	Rood, 1600m, 30261
<i>Euphorbia biglandulosa</i> Desf.	M	Hem	2, 5	Rood, 1600m, 29658
<i>Euphorbia boissieriana</i> (Woron.) Prokh.	IT	Ch	2, 3	Mirabad, 1600m, 30269
<i>Euphorbia bungei</i> Boiss.	IT	Hem	2, 3	Barfriz, 1600m, 30263- Mirabad, 1800m, 30266
<i>Euphorbia chamaesyce</i> L.	IT- M	Th	1, 7	Baghshangach, 1500m, 30920
<i>Euphorbia helioscopia</i> L.	IT- M- ES	Th	7	Rood, 1340m, 30918
<i>Euphorbia petiolata</i> Banks. & Soland.	IT- M	Th	1, 3	Boshhrabad, 1380m, 29657
<i>Euphorbia sororia</i> Schrenk.	IT	Th	1, 3	Kharv, 2000m, 30272- Rood, 1600m, 30919
FABACEAE/PAPILIONACEAE				
<i>Alhagi persarum</i> Boiss. & Buhse.	IT	Hem	1, 7	Rood, 1340m, 32280
<i>Alhagi pseudalhagi</i> (M. Bieb.) Desv.	IT	Hem	1, 7	Rood, 1600m, 29614
<i>Astragalus argyroides</i> G. Bec.	IT	Ch	3	Barfriz, 1900m, 30312- Baghshangach, 1500m, 30319
<i>Astragalus basineri</i> Trautv.	IT	Hem	1, 3	Kharv, 2000m, 30291- Booijan, 1700m, 30997
<i>Astragalus citrinus</i> Bunge subsp. <i>khorrassanicus</i> Podlech	IT	Ch	1, 3	Barfriz, 1600m, 30280
<i>Astragalus campylorhynchus</i> Fisch. & C. A. Mey.	IT	Th	1, 3	Rood, 1600m, 30292- Barfriz, 2000m, 30304
<i>Astragalus dipelta</i> Bunge	IT	Th	1, 3	Booijan, 1700m, 32208
<i>Astragalus eriocarpus</i> DC.		Ch	1, 3	Rood, 1600m, 30993
<i>Astragalus kerkukiensis</i> Bornm.	IT- M	Th	1	Barfriz, 1600m, 30310- Rood, 1600m, 29610
<i>Astragalus lycioides</i> Boiss. *	IT	Ch	3, 5	Rood, 1600m, 30289- Booijan, 1900m, 29607
<i>Astragalus nephtonensis</i> Freyn	IT	Hem	1, 4, 7	Mirabad, 1800m, 30300- Kharv, 2000m, 30305
<i>Astragalus ochreatus</i> Bunge *	IT	Hem	3	Barfriz, 1600m, 30297
<i>Astragalus renzianus</i> Podlech *, ***	IT	Ch	1, 3	Mirabad, 1700m, 30279- Rood, 1600m, 30988
<i>Astragalus sieversianus</i> Pall.	IT	Hem	1, 4, 7	Mirabad, 1800m, 30299- Booijan, 1700m, 31908
<i>Astragalus touranicus</i> Freitag & Podlech *	IT	Ch	1, 4	Kharv, 1900m, 30298
<i>Astragalus verus</i> Olivier	IT	Ch	1, 3	Barfriz, 2000m, 30994
<i>Cicer chorassanicum</i> (Bunge) M. Pop.	IT	Th	1, 3	Kharv, 2000m, 30325- Mirabad, 1600m, 30295
<i>Cicer arietinum</i> L.	Plur	Th	1, 7	Rood, 1600m, 30313
<i>Cicer tragacanthoides</i> Jaub. & Spach. var. <i>tragacanthoides</i> *	IT	Hem	5	Rood, 1700m, 32202
<i>Colutea buhsei</i> (Boiss.) Shap.	IT- ES	Ph	1, 2, 4	Booijan, 1900m, 29608- Booijan, 1700m, 30323
<i>Glycyrrhiza glabra</i> L. var. <i>glandulifera</i> (Waldst. & Kit.) Boiss.	IT- M- ES	Hem	1, 7	Rood, 1600m, 29613
<i>Halimodendron halodendron</i> (Pall.) Voss.	IT- ES	N. Ph	2, 7	Kharv, 2000m, 30989
<i>Lathyrus aphaca</i> L.	IT- M- ES	Th	7	Barfriz, 1900m, 30317
<i>Lathyrus cicerea</i> L.	IT- M	Th	1, 7	Barfriz, 1900m, 30302
<i>Lathyrus inconspicuus</i> L. var. <i>inconspicuus</i>	IT- M	Th	1, 7	Mirabad, 1500m, 30303
<i>Lotus corniculatus</i> L. subsp. <i>corniculatus</i> var. <i>corniculatus</i> .	Plur	Hem	1, 7	Mirabad, 1700m, 30315- Rood, 1600m, 30981
<i>Medicago lupulina</i> L.	Plur	Hem	1, 7	Rood, 1600m, 30293- Mirabad, 1500m, 30287
<i>Melilotus officinalis</i> (L.) Pall.	IT- M- ES	Hem	1, 7	Mirabad, 1700m, 30984
<i>Onobrychis</i> sp.		Ch	3	Barfriz, 1900m, 30301
<i>Ononis spinosa</i> L. subsp. <i>leiosperma</i> (Boiss.) Širj.	IT- M	Ch	1, 4	Rood, 1600m, 29615
<i>Oxytropis binaludensis</i> Vassilcz. **, ***	IT	Hem	1, 3	Kharv, 2000m, 30294- Barfriz, 2000m
<i>Oxytropis hypsophila</i> Bunge & Boiss. *	IT	Hem	1, 3	Barfriz, 2000m, 30285
<i>Sophora pachycarpa</i> C. A. Mey.	IT	Hem	1, 7	Kharv, 2000m, 30290- Rood, 1600m, 30986
<i>Trifolium fragiferum</i> L. var. <i>fragiferum</i>	IT- M- ES	Hem	1	Rood, 1600m, 29611
<i>Trifolium pratense</i> L. var. <i>pratense</i>	IT- M- ES	Hem	7	Mirabad, 1400m, 30324- Booijan, 1700m, 30322
<i>Vicia aintabensis</i> Boiss. & Hausskn. ex Boiss.	IT- M	Th	7	Rood, 1340m, 30320
<i>Vicia peregrina</i> L. var. <i>peregrina</i>	IT- M- ES	Th	1, 7	Rood, 1340m, 30314- Booijan, 1700m, 31898
<i>Vicia subvillosa</i> (Ledeb.) Trautv.	IT	Ge.r	1, 3	Barfriz, 1600m, 30307
<i>Vicia villosa</i> Roth.	IT- M- ES	Hem	7	Rood, 1600m, 30983- Mirabad, 1600m, 30983
FUMARIACEAE				
<i>Corydalis aitchisonii</i> M. Pop.	IT	Ge.t	3	Kharv, 1800m, 30572
<i>Fumaria vaillantii</i> Loisel.	IT- M- ES	Th	7	Rood, 1340m, 30571
GENTIANACEAE				
<i>Centaurium meyeri</i> (Bunge) Druce	IT- SA	Th	1, 3	Baef riz, 2000m, 30937
<i>Centaurium minus</i> Moench.	IT- ES	Hem	2	Rood, 1600m, 29676
<i>Gentiana olivieri</i> Griseb.	IT	Ge.r	1, 3	Barfriz, 1600m, 30233
GERANIACEAE				
<i>Biebersteinia multifida</i> DC.	IT- M- ES	Ge.t	3	Mirabad, 1500m, 30474- Kharv, 2000m, 31919
<i>Erodium cicutarium</i> (L.) L her. ex Aiton.	IT- M	Th	1, 7	Rood, 1340m, 30482- Barfriz, 1600m, 30479
<i>Geranium kotschyi</i> Boiss.	IT	Ge.t	2, 3, 5	Barfriz, 2000m, 30477

Tab. 2- Continued.

Families and Species	Chorology	Biological types	Habitat	Location, Altitude, Herbarium number (TUH)
<i>Geranium rotundifolium</i> L.	IT- M- ES	Th	1, 5	Mirabad, 1500m, 30478- Rood, 1600m, 30481
HYPERICACEAE/GUTTIFERAE				
<i>Hypericum helianthemoides</i> (Spach) Boiss.	IT	Hem	3, 5	Boojan, 1700m, 31927- Rood, 1500m, 31930
<i>Hypericum perforatum</i> L.	Plur	Hem	2	Rood, 1600m, 29743
<i>Hypericum scabrum</i> L.	IT	Ch	2, 3	Boojan, 1900m, 29742-Mirabad, 1500m, 30380
IRIDACEAE				
<i>Crocus sativus</i> L.		Ge.b	7	Rood, 1340m, 29651
<i>Gladiolus segetum</i> Ker.- Gawl.	IT- SS	Ge.b	7	Rood, 1340m, 31929
<i>Iris kopetdagensis</i> (Vved.) Mathew & Wendelbo	IT	Ge.b	1, 5	Barfriz, 1600m, 30252- Mirabad, 1800m, 30255
<i>Iris songarica</i> Schrenk.	IT	Ge.r	3	Barfriz, 1900m, 30254
JUGLANDACEAE				
<i>Juglans regia</i> L.	IT- ES	Ph	1, 3, 7	Barfriz, 2000m, 30574
JUNCACEAE				
<i>Juncus articulatus</i> L.	IT- M- ES	Hem	4	Rood, 1600m, 29740
<i>Juncus inflexus</i> L.	Plur	Hem	4	Rood, 1600m, 29741
LAMIACEAE/LABIATAE				
<i>Eremostachys labiosiformis</i> (M. Pop.) Knorrng	IT	Hem	3, 5	Boojan, 1700m, 30326- Mirabad, 1600m, 30336
<i>Hymenocrater calycinus</i> (Boiss.) Benth.	IT	Ch	2	Barfriz, 1600m, 30329- Mirabad, 1600m, 30337
<i>Lamium amplexicaule</i> L. var. <i>amplexicaule</i>	IT- M- ES	Th	7	Kharv, 1800m, 30343
<i>Marrubium anisodon</i> C. Koch.	IT	Hem	2, 3, 4	Barfriz, 2100m, 29592- Baghshangach, 1500m, 30338
<i>Phlomis cancellata</i> Bunge	IT	Hem	1, 2, 3	Mirabad, 1600m, 30330- Barfriz, 1800m, 30975
<i>Salvia chloroleuca</i> Rech. f. & Aellen	IT	Hem	2, 3, 7	Kharv, 2100m, 30972
<i>Salvia macrosiphon</i> Boiss.	IT	Hem	3, 5	Baghshangach, 1500m, 30973
<i>Salvia reuterana</i> Boiss.	IT	Hem	2, 3	Boojan, 1700m, 30339
<i>Scutellaria litwinowii</i> Bormm. & Sint.	IT	Ch	2, 3	Kharv, 2000m, 30316
<i>Sideritis montana</i> L.	IT- M	Th	1, 7	Baghshangach, 1500m, 32229
<i>Mentha longifolia</i> (L.) Huds.	Plur	Hem	4	Rood, 1600m, 29593
<i>Nepeta bracteata</i> Benth.	IT	Th	3	Kharv, 2000m, 30333- Baghshangach, 1500m, 30978
<i>Nepeta glomerulosa</i> Boiss. subsp. <i>glomerulosa</i> *	IT	Ch	2	Rood, 1600m, 29595
<i>Nepeta persica</i> Boiss.	IT	Hem	2	Boojan, 1700m, 32221
<i>Perovskia abrotanoides</i> Karel	IT	Ch	1, 2, 3	Rood, 1600m, 29597- Boojan, 1700m, 30974
<i>Stachys lavandulifolia</i> Vahl.	IT	Ch	2, 3	Barfriz, 1600m, 30328
<i>Stachys setifera</i> C. A. Mey. subsp. <i>iranica</i> (Rech. f.) Rech. f.	IT	Ge.r	4	Rood, 1600m, 29600- Barfriz, 2000m, 30971
<i>Stachys trinervis</i> Aitch. & Hemsl.	IT	Ch	2	Barfriz, 1600m, 30334- Mirabad, 1800m, 30342
<i>Teucrium polium</i> L. var. <i>tonsum</i> Stapf.	IT	Ch	2	Boojan, 1700m, 30977
LILIACEAE				
<i>Allium atroviolaceum</i> Boiss.	IT	Ge.b	1, 7	Rood, 1340m, 30520
<i>Allium fibrosum</i> Regel	IT	Ge.b	3	Kharv, 2000m, 30528- Boojan, 1700m, 30516
<i>Allium rubellum</i> M. Bieb.	IT	Ge.b	3	Mirabad, 1600m, 30540
<i>Allium sarawshanicum</i> Regel	IT	Ge.b	7	Boojan, 1700m, 30518
<i>Allium elburzense</i> Wendelbo *	IT	Ge.b	5	Mirabad, 1700m, 30525
<i>Allium xiphopetalum</i> Aitch. & Baker	IT	Ge.b	3	Barfriz, 2000m, 30526- Kharv, 2000m, 30527
<i>Bellevalia saviczii</i> Woron.	IT	Ge.b	1, 3	Rood, 1700m, 30538- Mirabad, 1800m, 30523
<i>Eremurus luteus</i> Baker	IT	Hem	3	Kharv, 2100m, 30534
<i>Fritillaria gibbosa</i> Boiss.	IT	Ge.b	3	Kharv, 1900m, 30545- Mirabad, 1700m, 30537
<i>Gagea afghanica</i> A. Terr.	IT	Ge.b	1	Boshhrabad, 1400m, 30548
<i>Gagea chomutowae</i> Pascher	IT	Ge.b	1, 7	Kharv, 1800m, 30542- Barfriz, 2000m, 30529
<i>Gagea gageoides</i> (Zucc.) Vved.	IT	Ge.b	1, 7	Barfriz, 2000m, 30546
<i>Gagea reticulata</i> (Pall.) Schultes & Schultes f.	IT- SS	Ge.b	1, 3	Kharv, 1800m, 30543
<i>Gagea setifolia</i> Baker	IT	Ge.b	3, 5	Kharv, 1800m, 30547
<i>Gagea stipitata</i> Merckl. ex Bunge	IT	Ge.b	1, 7	Kharv, 1800m, 30535
<i>Gagea tenera</i> Pascher	IT	Ge.b	1, 3	Kharv, 2000m, 30532
<i>Muscari neglectum</i> Guss.	IT- M- ES	Ge.b	1, 7	Boshhrabad, 1400m, 30544- Mirabad, 1800m, 30536
<i>Tulipa micheliana</i> Hoog.	IT	Ge.b	1, 3, 7	Mirabad, 1700m, 30524
LINACEAE				
<i>Linum austriacum</i> L.	IT- M- ES	Ch	7	Barfriz, 1900m, 30461
MALVACEAE				
<i>Alcea tiliacea</i> (Bormm.) Zohary	IT	Hem	3, 7	Rood, 1600m, 29744
<i>Hibiscus trionum</i> L.	IT- M	Th	7	Rood, 1600m, 29744
MORACEAE				
<i>Morus alba</i> L.	IT	Ph	7	Rood, 1340m, 30457
OLEACEAE				
<i>Fraxinus rotundifolia</i> Miller subsp. <i>rotundifolia</i>	IT- M	Ph	3, 4, 7	Mirabad, 1500m, 30463
ONOAGRACEAE				
<i>Epilobium hirsutum</i> L.	IT- M- ES	Ge.r	4	Rood, 1600m, 29678
<i>Epilobium parviflorum</i> Schreb.	IT- M- ES	Ge.r	4	Boojan, 1800m, 29679
ORCHIDACEAE				
<i>Epipactis helleborine</i> (L.) Crantz.	Plur	Ge.r	4, 7	Boojan, 1900m, 29686
<i>Epipactis veratrifolia</i> Boiss. & Hohen.	Plur	Ge.r	4	Barfriz, 2300m, 29685
OROBANCHACEAE				
<i>Orobanche</i> cf. <i>nana</i> Noe		Th	1, 3	Mirabad, 1800m, 30459- Rood, 1600m, 32247
PAPAVERACEAE				
<i>Glaucium elegans</i> Fisch. & C. A. Mey.	IT	Th	1, 3, 7	Mirabad, 1800m, 30599- Kharv, 2000m, 30600
<i>Hypecoum pendulum</i> L.	IT- M	Th	1, 7	Rood, 1340m, 30901
<i>Papaver dubium</i> L.	IT- SS	Th	1, 3, 7	Kharv, 2000m, 30596
<i>Papaver macrostomum</i> Boiss.	IT	Th	1, 3, 7	Mirabad, 1600m, 30594
<i>Papaver pavoninum</i> Fisch. & C. A. Mey.	IT	Th	1, 7	Baghshangach, 1500m, 30589

Tab. 2- Continued.

Families and Species	Chorology	Biological types	Habitat	Location, Altitude, Herbarium number (TUH)
<i>Roemeria hybrida</i> (L.) DC. subsp. <i>dodecandra</i> (Forssk.) Maire in Jahandiez & Maice.	IT- M- SS	Th	1, 3, 7	Rood, 1600m, 30592
<i>Roemeria refracta</i> DC.	IT	Th	1, 3, 7	Mirabad, 1600m, 30593
PLANTAGINACEAE				
<i>Plantago gentianoides</i> Sibth. & Sm. subsp. <i>griffithii</i> (Desne) Rech. f.	IT	Hem	7	Rood, 1600m, 31939
<i>Plantago lanceolata</i> L.	IT- M- ES	Hem	7	Barfriz, 2000m, 29733
<i>Plantago major</i> L.	Cosm	Hem	7	Booijan, 1800m, 29734
PLATANACEAE				
<i>Platanus orientalis</i> L.	IT- M	Ph	1, 3, 7	Barfriz, 2000m, 30575
PLUMBAGINACEAE				
<i>Acantholimon erinaceum</i> (Jaub. & Spach) Lincz.	IT	Ch	3	Rood, 1700m, 32275
<i>Acantholimon longiflorum</i> Boiss.	IT	Ch	3	Baghshangach, 1500m, 30494
<i>Acantholimon pterostegium</i> Bunge	IT	Ch	3	Mirabad, 1600m, 30496- Rood, 1700m, 32276
<i>Acantholimon raddeanum</i> Czernjak.	IT	Ch	3	Rood, 1600m, 32277
<i>Plumbago europaea</i> L.	IT- M	Hem	1, 3	Kharv, 2000m, 32260
POACEAE/GRAMINEAE				
<i>Aegilops tauschii</i> Cosson.	IT	Th	1, 7	Rood, 1340m, 30355
<i>Aegilops triuncialis</i> L.	IT- M	Th	7	Rood, 1340m, 31874- Baghshangach, 1500m, 30345
<i>Agrostis stolonifera</i> L.	Plur	Hem	1, 4	Rood, 1600m, 29699
<i>Alopecurus arundinaceus</i> Poir. var. <i>arundinaceus</i>	IT- M- ES	Hem	1, 4, 7	Rood, 1600m, 30375
<i>Arrhenatherum kotschyi</i> Boiss.	IT	Ge.b	2, 3	Mirabad, 1600m, 30354
<i>Avena ludoviciana</i> Durieu.	IT- M	Th	1, 7	Mirabad, 1700m, 31873
<i>Bothriochloa ischaemum</i> (L.) Keng.	Plur	Hem	1, 3, 7	Rood, 1600m, 29693
<i>Brachypodium sylvaticum</i> (Hudson.) P. Beauv.	M- ES	Hem	1, 4	Booijan, 1900m, 29688
<i>Bromus danthoniae</i> Trin.	IT	Th	2, 3	Kharv, 2000m, 30371
<i>Bromus gracillimus</i> Bunge	IT	Th	1, 3	Mirabad, 1600m, 30365
<i>Bromus japonicus</i> Thunb.	Plur	Th	1, 3	Mirabad, 1700m, 30374
<i>Bromus scoparius</i> L. var. <i>scoparius</i>	IT- M- ES	Th	3	Mirabad, 1700m, 30362
<i>Bromus</i> sp.		Th	4, 7	Rood, 1600m, 30373
<i>Bromus sterilis</i> L.	IT- M- ES	Th	1, 4, 7	Rood, 1600m, 30347- Booijan, 1700m, 30378
<i>Bromus tectorum</i> L. var. <i>hirsutus</i> Regel	IT- M- ES	Th	1, 2, 3	Barfriz, 1900m, 30351- Kharv, 2000m, 30370
<i>Calamagrostis pseudophragmites</i> (Hall. f.) Koel.	IT- ES	Ge.r	4	Booijan, 1700m, 31875- Barfriz, 2300m, 29695
<i>Cynodon dactylon</i> (L.) Pers.	Plur	Hem	7	Rood, 1340m, 29696
<i>Dactylis glomerata</i> L. subsp. <i>glomerata</i>	Plur	Hem	4, 7	Booijan, 1700m, 30363
<i>Digitaria sanguinalis</i> (L.) Scop. subsp. <i>sanguinalis</i>	M- ES	Th	7	Rood, 1340m, 32282
<i>Echinochloa crus-galli</i> (L.) P. Beauv.	IT- M- ES	Th	7	Rood, 1340m, 32259
<i>Elymus elongatiformis</i> (Drobov.) Assadi	IT	Hem	1, 3	Kharv, 2000m, 31904
<i>Elymus hispidus</i> (Opiz.) Melderis var. <i>podperae</i> (Nabelek) Assadi	IT- M	Hem	3	Barfriz, 2000m, 32256
<i>Eragrostis barrelieri</i> Dav.	Plur	Th	7	Rood, 1340m, 29694
<i>Eremopyrum bonaepartis</i> (Spreng.) Nevski var. <i>bonaepartis</i>	IT	Th	1, 3	Barfriz, 2000m, 31881
<i>Henrardia persica</i> (Boiss.) C. E. Hubb. var. <i>persica</i>	IT	Th	1, 7	Kharv, 2000m, 32249
<i>Heterantherium piliferum</i> (Banks. & Soland.) Hochst.	IT- SS	Th	1, 3	Baghshangach, 1500m, 31878- Barfriz, 1900m, 30361
<i>Hordeum bulbosum</i> L.	IT- M	Hem	1, 2, 3, 7	Barfriz, 1900m, 30376
<i>Hordeum glaucum</i> Steud.	IT- M	Th	1, 3, 7	Rood, 1340m, 30348
<i>Lolium persicum</i> Boiss. & Hohen. ex Boiss.	IT	Th	1, 4, 7	Mirabad, 1600m, 30372- Rood, 1600m, 30366
<i>Lophochloa phleoides</i> (Vill.) Reichenb.	SS	Th	1, 7	Mirabad, 1700m, 32252- Rood, 1340m, 32251
<i>Melica persica</i> Kunth. subsp. <i>inaequiglumis</i> (Boiss.) Bor.	IT	Hem	2, 3	Mirabad, 1700m, 30364
<i>Melica persica</i> Kunth. subsp. <i>persica</i>	IT	Hem	2, 3	Barfriz, 2000m, 31880
<i>Nardurus subulatus</i> (Banks. & Soland.) Bor & Dan.	IT	Th	1, 3	Barfriz, 1600m, 30349
<i>Oryzopsis microcarpa</i> Pilger	IT	Hem	1, 7	Mirabad, 1600m, 31876- Booijan, 1700m, 32253
<i>Pennisetum orientale</i> L.	IT- SA	Hem	2, 3	Rood, 1600m, 29701- Kharv, 2000m, 30357
<i>Phragmites australis</i> (Cav.) R. Trin. ex Steud.	Cosm	Hel	4, 6	Rood, 1600m, 29689
<i>Poa angustifolia</i> L.	Plur	Hem	1, 7	Booijan, 1900m, 29700
<i>Poa bulbosa</i> L.	IT- M- ES	Hem	1, 3, 4, 7	Barfriz, 1600m, 30346
<i>Poa pratensis</i> L.	Plur	Hem	1, 4, 7	Kharv, 2000m, 30369- Mirabad, 1600m, 32257
<i>Poa timoleontis</i> Helder. ex Boiss.	IT- M	Hem	1, 3	Barfriz, 1900m, 30358
<i>Setaria glauca</i> (L.) P. Beauv.	IT- SS	Th	4, 7	Rood, 1340m, 29690
<i>Setaria verticillata</i> (L.) P. Beauv.	Plur	Th	1, 7	Rood, 1340m, 29692
<i>Setaria viridis</i> (L.) P. Beauv.	Plur	Th	1, 7	Booijan, 1900m, 29697- Rood, 1340m, 29691
<i>Sorghum halepense</i> (L.) Pers.	Plur	Hem	1, 7	Rood, 1600m, 29687
<i>Trisetaria cavanillesii</i> (Trin.) Maire.	IT- M	Th	1, 3	Barfriz, 1600m, 30377
<i>Vulpia myuros</i> (L.) C. C. Gmelin	IT- M	Th	1, 3, 7	Booijan, 1700m, 32254- Barfriz, 1900m, 32255
PODOPHYLLACEAE				
<i>Bongardia chrysogonum</i> (L.) Spach	IT	Ge.t	1, 3, 7	Mirabad, 1800m, 30905
POLYGONACEAE				
<i>Atraphaxis spinosa</i> L.	IT	Ch	1, 3	Mirabad, 1600m, 30957
<i>Polygonum afghanicum</i> Meisn.	IT	Ch	2, 3	Barfriz, 2000m, 29737- Booijan, 1700m, 30958
<i>Polygonum convolvulus</i> L.	Plur	Th	4, 7	Barfriz, 2000m, 31942
<i>Polygonum patulum</i> M. Bieb.	IT- M	Th	7	Rood, 1600m, 29736
<i>Polygonum polycnemoides</i> Jaub. & Spach	IT- M	Th	3	Rood, 1700m, 32247
<i>Rheum ribes</i> L.	IT	Hem	2, 3	Booijan, 1700m, 30409- Mirabad, 1700m, 30403
<i>Rumex chalepensis</i> Miller	IT	Hem	7	Kharv, 2000m, 30960- Rood, 1340m, 30961
<i>Rumex tuberosus</i> L. subsp. <i>turcomanicus</i> (Rech. f.) Rech. f.	IT	Ge.t	2, 4, 7	Rood, 1600m, 30401- Booijan, 1700m, 30397
PORTULACACEAE				
<i>Portulaca oleracea</i> L.	IT- M- ES	Th	7	Rood, 1340m, 29659
PRIMULACEAE				
<i>Anagalis arvensis</i> L.	IT- M- ES	Th	4, 7	Booijan, 1900m, 29663
<i>Androsace maxima</i> L.	IT- M- ES	Th	1, 7	Rood, 1600m, 30499

Tab. 2- Continued.

Families and Species	Chorology	Biological types	Habitat	Location, Altitude, Herbarium number (TUH)
<i>Samolus valerandi</i> L.	Plur	Hem	2	Ghar, 1500m, 31899
RANUNCULACEAE				
<i>Anemone biflora</i> DC.	IT	Hem	3	Mirabad, 1800m, 30569
<i>Anemone petiolulosa</i> Juz.	IT	Hem	3	Kharv, 1800m, 30568- Rood, 1600m, 30567
<i>Ceratocephala falcata</i> (L.) Rers.	IT- M- ES	Th	1, 3, 7	Rood, 1340m, 30566
<i>Ceratocephala testiculata</i> (Crants.) Roth.	IT- M- ES	Th	1, 7	Kharv, 1800m, 30565
<i>Clematis orientalis</i> L.	IT	Ch	3, 5	Rood, 1800m, 32274
<i>Consolida orientalis</i> (Gay.) Schrod.	IT- M	Th	1, 7	Rood, 1340, 30563
<i>Consolida rugulosa</i> (Boiss.) Schrod.	IT	Th	1, 7	Rood, 1340m, 30562
<i>Delphinium turkmenum</i> Lipsky	IT	Hem	5	Mirabad, 1700m, 30550- Kharv, 2000m, 30564
<i>Ranunculus oxyspermus</i> Willd.	IT	Ge.r	1, 7	Barfriz, 1900m, 30561- Rood, 1600m, 30559
<i>Thalictrum isopyroides</i> C. A. Mey.	IT	Ge.r	2, 3	Mirabad, 1800m, 30571
RESEDACEAE				
<i>Reseda lutea</i> L.	IT- M- ES	Th	1, 7	Rood, 1600m, 23710
ROSACEAE				
<i>Agrimonia eupatoria</i> L. subsp. <i>asiatica</i> (Juz.) Schönbeck.	IT- M- ES	Hem	4, 7	Barfriz, 2000m, 31907
<i>Amygdalus spinosissima</i> Bunge subsp. <i>turcomanica</i> (Lincz.) Browicz	IT	N.Ph	2, 3	Kharv, 1800m, 30245- Mirabad, 1700m, 30243
<i>Cerasus microcarpa</i> (C. A. Mey.) Boiss. subsp. <i>microcarpa</i>	IT	Ph	2, 3	Mirabad, 1600m, 30234
<i>Cerasus pseudoprostrata</i> Pojark	IT	Ch	2, 3	Barfriz, 2000m, 30235
<i>Cotoneaster nummularioides</i> Pojark	IT	N.Ph	2, 3	Rood, 1600m, 29669
<i>Crataegus pseudoheterophylla</i> Pojark	IT	Ph	2, 3, 7	Boojan, 1900m, 29663- Kharv, 2000m, 31926
<i>Geum urbanum</i> L.	IT	Hem	4, 7	Boojan, 1800m, 29666
<i>Potentilla reptans</i> L.	IT- M- ES	Hem	4	Boojan, 1900m, 29672- Rood, 1600m, 30239
<i>Rosa beggeriana</i> Schrenk.	IT	N.Ph	4	Barfriz, 2300m, 29671
<i>Rosa canina</i> L.	IT- M- ES	N.Ph	2, 7	Rood, 1600m, 29667
<i>Rosa persica</i> Michx. ex Juss.	IT	Ch	1, 7	Mirabad, 1500m, 30247
<i>Rubus caesius</i> L.	IT- M- ES	Ch	2, 4, 7	Barfriz, 2000m, 29670
<i>Sanguisorba minor</i> Scop. subsp. <i>muricata</i> (Spach) Briq.	IT- M- ES	Hem	2, 4, 7	Rood, 1600m, 29665- Mirabad, 1600m, 30246
RUBIACEAE				
<i>Asperula glomerata</i> (Bieb.) Griseb.	IT	Ch	2, 3	Mirabad, 1600m, 30382- Kharv, 2000m, 30383
<i>Callipeltis cucullaria</i> (L.) Steven	IT- M	Th	1, 3	Barfriz, 1900m, 30389- Kharv, 2000m, 30384
<i>Galium aparine</i> L.	Plur	Th	4, 7	Mirabad, 1600m, 30388- Boojan, 1700m, 30387
<i>Galium setaceum</i> Lam.	IT	Th	2, 3	Kharv, 2000m, 30386
<i>Galium tricorneratum</i> Dandy.	IT- M	Th	4, 7	Mirabad, 1800m, 30393
<i>Galium verum</i> L.	Plur	Hem	2, 3	Barfriz, 2000m, 31906
<i>Putoria calabrica</i> (L. Fil.) DC.	M	Ch	2, 3	Mirabad, 1800m, 30395
<i>Rubia tinctorum</i> L.	IT- M	Hem	7	Kharv, 2000m, 31903
<i>Valantia hispida</i> L.	M	Th	2, 3	Kharv, 2000m, 30385
RUTACEAE				
<i>Haplophyllum perforatum</i> (M. Bieb.) Kar. & Kir.	SA	Hem	3	Kharv, 2000m, 30179- Boojan, 1700m, 30172
SALICACEAE				
<i>Populus alba</i> L.	ES	Ph	7	Kharv, 1800m, 30515
<i>Salix acmophylla</i> Boiss.	IT- M	Ph	1, 4	Mirabad, 1700m, 30506
<i>Salix alba</i> L.	IT- M- ES	Ph	1, 4	Mirabad, 1700m, 30511- Kharv, 2000m, 30508
<i>Salix excelsa</i> S. G. Gmelin.	IT- M	Ph	1, 4	Rood, 1600m, 30505
<i>Salix pycnostachya</i> N. J. Andersson	IT	Ph	1, 4	Boojan, 1700m, 30507- Rood, 1600m, 30509
SCROPHULARIACEAE				
<i>Leptorhabdos parviflora</i> (Benth.) Benth.	IT	Th	7	Barfriz, 2000m, 29596
<i>Linaria cf. odora</i> (M. Bieb.) Fischer		Hem	3	Kharv, 2000m, 30410
<i>Scrophularia scoparia</i> Pennell	IT	Ch	3	Barfriz, 2300m, 29726
<i>Scrophularia umbrosa</i> Dumort.	IT- M- ES	Hem	4	Rood, 1600m, 29722- Barfriz, 2100m, 30483
<i>Scrophularia striata</i> Boiss.	IT	Ch	3	Mirabad, 1700m, 30418- Rood, 1600m, 30414
<i>Scrophularia variegata</i> M. Bieb. subsp. <i>variegata</i>	IT	Ch	3	Boojan, 1700m, 30422
<i>Verbascum cheiranthifolium</i> Murb. var. <i>transcaspicum</i> Murb.	IT	Hem	1, 3	Mirabad, 1600m, 31937
<i>Verbascum songaricum</i> Schrenk ex Fisch. & C. A. Mey. subsp. <i>songaricum</i>	IT	Hem	1, 3	Rood, 1600m, 29723- Boojan, 1700m, 31938
<i>Veronica anagallis-aquatica</i> L. subsp. <i>oxycarpa</i> (Boiss.) A. Jelen.	IT	Hel	6	Mirabad, 1500m, 30486- Barfriz, 2000m, 30484
<i>Veronica argute-serrata</i> Regel & Schmal.	IT	Th	1, 3, 7	Barfriz, 2000m, 30412- Rood, 1340m, 30487
<i>Veronica campylopoda</i> Boiss.	IT	Th	2, 3	Mirabad, 1600m, 30419- Rood, 1600m, 30411
<i>Veronica polita</i> Fries.	Plur	Th	7	Rood, 1340m, 30425
<i>Veronica rubrifolia</i> Boiss. subsp. <i>respectatissima</i> M. A. Fischer.	IT	Th	3	Mirabad, 1600, 30415
SOLANACEAE				
<i>Datura stramonium</i> L.	Plur	Th	7	Rood, 1340m, 32285
<i>Hyoscyamus pusillus</i> L.	IT	Th	1, 7	Rood, 1340m, 30159- Mirabad, 1700m, 31935
<i>Hyoscyamus squarrosus</i> Griff.	IT	Hem	1, 7	Rood, 1340m, 30150- Baghshangach, 1500m, 31936
<i>Solanum nigrum</i> L.	Cosm	Th	7	Rood, 1340m, 29664
TAMARICACEAE				
<i>Myricaria germanica</i> (L.) Desv.	ES	Ph	1, 4	Rood, 1600m, 29747
<i>Tamarix ramosissima</i> Ledeb.	Plur	Ph	1, 4	Mirabad, 1800m, 30446
THYMELAEACEAE				
<i>Diarthron vesiculosum</i> (Fisch & C. A. Mey. ex Kar. & Kir.) C. A. Mey.	IT	Th	1, 7	Rood, 1600m, 29684
TYPHACEAE				
<i>Typha minima</i> Funk.	IT- M	Hel	6	Mirabad, 1600m, 31918
ULMACEAE				
<i>Ulmus minor</i> Miller	ES- M	Ph	1, 7	Rood, 1600m, 32220
URTICACEAE				
<i>Parietaria judaica</i> L.	IT- M- ES	Ch	2	Rood, 1600m, 29731- Boojan, 1900m, 29732
<i>Urtica dioica</i> L. subsp. <i>dioica</i>	Plur	Hem	4	Rood, 1600m, 29730

Tab. 2- Continued.

Families and Species	Chorology	Biological types	Habitat	Location, Altitude, Herbarium number (TUH)
VALERIANACEAE				
<i>Valerianella oxyrrhyncha</i> Fisch. & C. A. Mey.	IT	Th	1, 3	Mirabad, 1700m, 30468
VERBENACEAE				
<i>Verbena officinalis</i> L.	Plur	Hem	1, 7	Rood, 1600m, 29605- Boojan, 1700m, 30588
VIOLACEAE				
<i>Viola modesta</i> Fenzl	IT- M	Th	1, 3	Rood, 1600m, 30500- Barfriz, 2000m, 30502
<i>Viola sieheana</i> W. Becker	ES	Hem	2, 7	Boojan, 1700m 30501- Kharv, 2000m, 30503
ZIGOPHYLLACEAE				
<i>Peganum harmala</i> L.	IT- M- SS	Hem	1	Baghshangach, 1500m, 29661
<i>Tribulus terrestris</i> L. var. <i>terrestris</i>	Plur	Th	7	Rood, 1340m, 29650

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