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Floristic, Chorology, and Life form investigation of the Kopal region, Khuzestan province

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Abstract

The purpose of this research is to introduce the flora of the Kopal region in Khuzestan province and determine their life forms and chorology. This site is located between 29°29' and 31°42' north latitude and 48°58' and 49°32' east longitude. It is bounded to the north by the southern parts of Masjed Soleyman County, to the south by Ramshir, to the west by Ahvaz and Mollasani, and to the east by Ramhormoz and Baghmalek. Plant samples were collected through field surveys conducted between 2019 and 2023. Herbarium specimens were prepared following scientific methods, and the plant species list was identified using reliable sources. Based on the observations, 320 wild plant species belonging to 55 families were recorded in this region. The largest families in terms of species numbers were Asteraceae, Poaceae, Fabaceae, Amaranthaceae, and Apiaceae, while the largest genera were *Astragalus* (with 8 species), *Centaurea*, and *Plantago* (each with 5 species). Consistent with the tropical climate of the Kopal region, the dominant life form was therophytes (199 species), and most of its monoregional plants belonged to the Saharo-Sindian zone (18.1%, 58 species). Among all the documented plants, 13 species are endemic to Iran.

Keywords: Floristic, Chorology, Life form, Kopal region, Khuzestan, Iran.

Introduction

Natural resources are considered one of the basic capitals of any country. The first step toward properly utilizing these resources is to study and examine their various components. In this field, vegetation studies are of special importance and serve as the foundation for both applied and theoretical research. One of the essential activities for the proper use of natural resources in an area is floristic study, which involves identifying and introducing the plants (Farsi *et al.*, 2021). The relatively high diversity and richness of the flora of Iran have caused its different places to be studied by foreign and Iranian researchers in terms of the floristic, along with the collection of many plant samples. However, the importance of such research has not diminished (Kiani *et al.*, 2017; Hassanpouraghdam *et al.*, 2022). The phenomenon of desertification is one of the most important problems in arid and semi-arid areas. Some of the main reasons for the expansion and growth of these areas in Iran include: climate change, lack of rainfall, and human activities (Khaledi 2006). Khuzestan province is located in the southwest of Iran and is of special importance from various historical, industrial, and natural dimensions. Following the increase in population and the growth of industry, the destruction of its nature and its negative effects are more evident than in other provinces of the country. According to available reports, the ultra-arid to arid climate covers nearly 65% of the surface of Khuzestan province (Azhdari *et al.*, 2015). The habitats of Khuzestan are situated in two topographic positions: plains and mountains. The plain part comprises wetlands, salt marshes, sand dunes, and moorlands, while the mountainous part, located to the north and northeast, consists of oak forests or dry shrublands and the vegetation of snow-covered alpine zone. According to the report of Dinarvand and Sharifi (2008), plants belonging to 102 plant families grow in this province, of which 80 families are found in dry habitats, 13 families only in aquatic habitats, and 10 families in both habitats. According to the research results of Akhane and Gorbanli (1993), a large part of the vegetation of this province is formed by the communities of annual, moisture-loving, woody halophytes, hydrophile with the ability to tolerate salinity in the saturated areas with salt and grass perennial halophyte species, especially in most of the southern regions. In the past decade, floristic studies have been carried out in the different regions of Khuzestan province, including the floristic study of the Behbahan river forest (Basiri *et al.*, 2011), the introduction of the flora of Shimbar (Dinarvand *et al.*, 2015), the introduction of the plants of the Ala region and Yellow River (Taghipour *et al.*, 2011), and the ethnobotanical survey of Susan district (Baroonian and khodayari, 2023). Currently, the Kopal region is considered one of the critical areas of dust formation in Khuzestan province. Given the location, geographical, and phytogeographic characteristics of this region, and considering that there is no documented botanical study for it, this is necessary to investigate the vegetation of the Kopal region

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from a floristic point of view.

Materials and methods

Introduction of the Kopal region

The location of the Kopal basin is shown in Figure 1. It is limited to the north by the southern part of Masjed Soleyman County, to the south by Ramshir, to the west by Ahvaz and Mollasani, and to the east by Ramhormoz and Baghmalek. This area is located between 29°29' to 31°42' north latitude and 48°58' and 49°32' east longitude (Figure 1). The lowest height of this area is 20 meters and the highest is about 400 meters above sea level (Dehghanianpour, 2018). According to Azhdari *et al.* (2015), the maximum temperature in this region sometimes exceeds 50 °C and the minimum temperature rarely to zero or below zero. The temperature rises rapidly in the spring, and this causes the formation of a nature with a dry and harsh appearance and low pasture value.

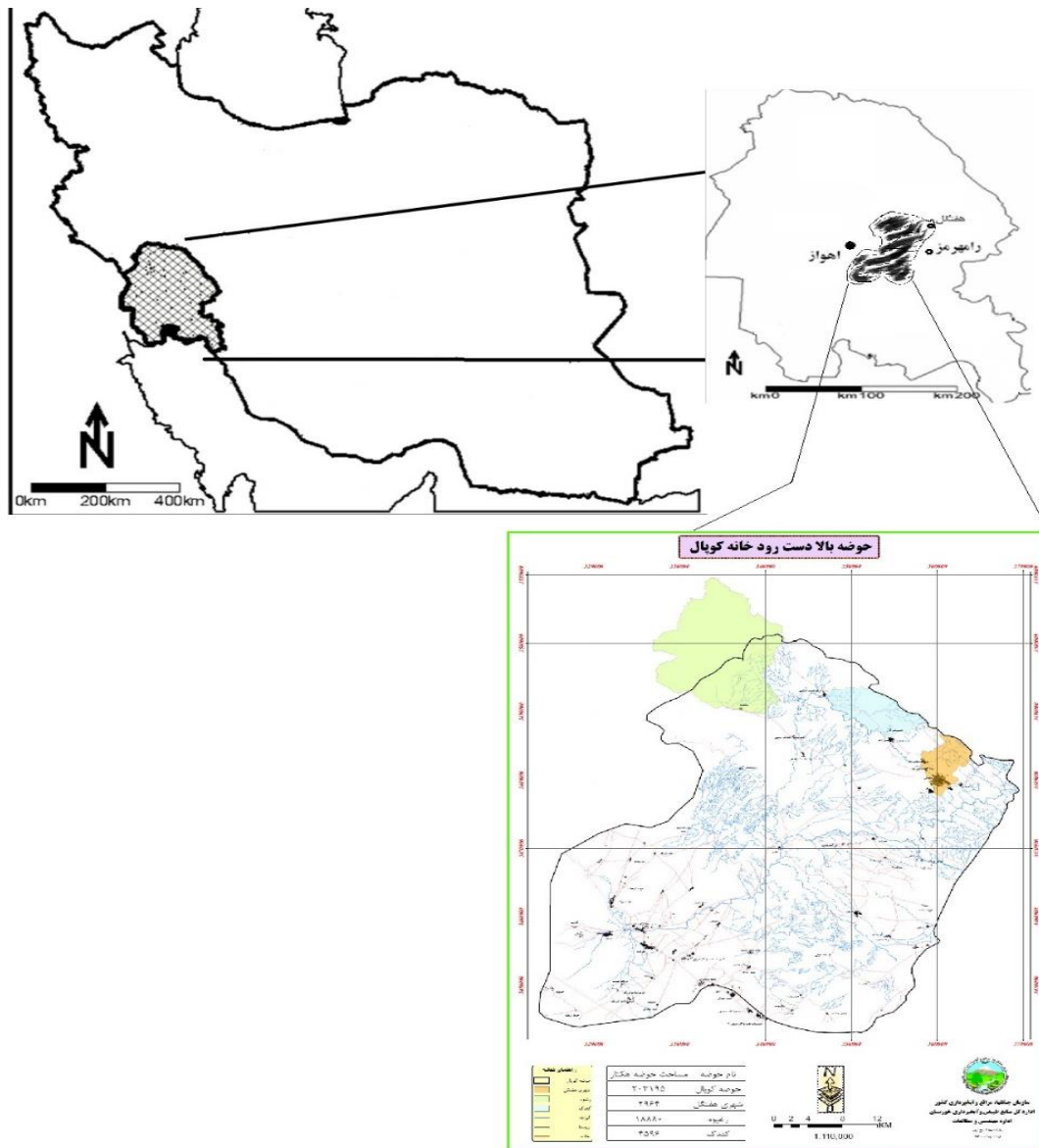


Figure 1: The approximate location of the Kopal basin in Khuzestan province and Iran, along with determination of its boundaries (Prepared based on a drawn map by Department of Natural Resources and Watershed Management of Khuzestan province (Dehghanianpour, 2018).

Based on the classification of climate conditions and according to the Ombrothermic diagram obtained from the data of Kopal station No. 3, this region has a dry climate with hot and long summers and mild and short winters (Figure 2). In total, the average annual precipitation in the area is about 228 mm, based on the average yearly rainfall at this station. Accordingly, investigating the long-term distribution of precipitation during 59 years, the months of December and January have been the rainiest months with an average precipitation of more than 50 mm, and four to six months of the year without precipitation or less than 10 mm. This region is



considered a part of the Ramshir sub-basin in terms of the divisions of the basic study of the country's water resources, and the Kopal River is the main water artery, which is one of the branches of the Ramhormoz River. Runoff amount of this river has a positive and increasing slope from the beginning of autumn, changes its direction in the middle of winter and has a decreasing trend in spring and summer (Assistant of basic studies and water resources comprehensive plans of Khuzestan Water and Electricity Organization, 2018). The highlands in the region are part of the Zagros highlands, which were formed during the Tertiary period as a result of Movements of the Arabian plate towards the Eurasian plate, and they include a small part of its area. The main part of the region is a plain area which is the result of erosion and sedimentation of floods and flowing rivers of the Quaternary period (Bahrami *et al.*, 2013).

Methods

To access the studied area with the help of the map and preliminary visits investigated access routes, geographical features, natural complications, and the general condition of its vegetation. Based on the data obtained from the 1:100,000 topographic map and the information of local people, the region boundary was determined, and plant sample collection was planned during the 2019-2023 growing seasons. In order to investigate the flora of the region, the ground survey method was used, which is a common method in taxonomic investigations, and herbarium samples were prepared from the collected samples according to conventional scientific methods. In the next step, the taxa were examined and identified using available scientific resources in this field, such as *Flora Iranica* (Rechinger, 1963-2015), Flora of Turkey (Davis 1965-1984), Flora of Iraq (Townsend and Guest, 1985-1966), Flora of Palestine (Zohary, 1966-1986), Flora of Iran (Assadi *et al.*, 1989-2023), Flore del'Iran (Ghahreman, 1979-2014), Flora of Khuzestan (Mozaffarian, 1999), Flora of Khuzestan province (Dinarvand, 2021), Plants and vegetation of North-West Persian Gulf (Akhani and Samadi, 2015), etc. All identified specimens will be kept in the herbarium of the Faculty of Science, Shahid Chamran University of Ahvaz. Correct spelling of scientific names was verified by referring to the databases of the International Plant Names Index (IPNI), Plants of the World Online (POWO), and Global Biodiversity Information Facility (GBIF). To determine the geographical distribution of the taxa was used of Flora Iranica (Rechinger, 1963-2015), Floristic regions of the world (Takhtajan, 1986), Geobotanical Foundations of the Middle East (Zohary, 1973), A contribution to the flora and vegetation of the deserts of Iran (Léonard, 1988) and Flora of Iran (Assadi *et al.*, 1989-2023). Based on the Raunkiaer method, the life form of the identified taxa was determined (Raunkiaer, 1934) and the conservation status of the species was registered using the Red Data Book of Iran (Jalili and Jamzad, 1999).

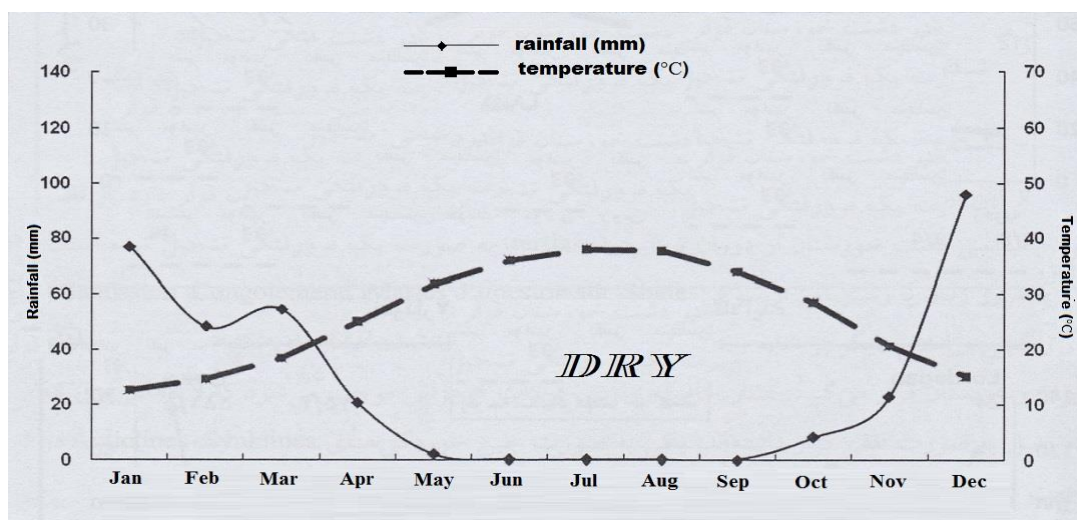


Figure 2: The Ombrothermic diagram (temperature-rain) of Kopal station No. 3

Results and observations

The outcomes of the floristic study of the Kopal region are given in table format 1 (Table 1) (Figure 3), including the list of taxa in alphabetical order, life form, Persian or vernacular name, conservation status, and geographical distribution of the identified species. Based on the produced results, 320 plant species belonging to 55 families were identified including 10 monocotyledonous and 45 dicotyledonous families, among which Asteraceae (54 species), Poaceae (45 species), Fabaceae (31 species), Amaranthaceae (18 species), Apiaceae (15 species), Brassicaceae (12 species) and Caryophyllaceae and Lamiaceae (each with 10 species) were determined as the most diverse the plant families in terms of number of species in the region (Figure 4). *Astragalus* is the largest genus in the Kopal region with 8 species, followed by *Plantago* and *Centaurea* with 5 species each. Also, there are many genera with 4 or 3 species in that. Most life forms in the region belong to therophytes or annual plants at the rate of 62.5% (199 species) (Figure 5- A and B) and in the next ranks are placed hemicryptophytes (14.5%, 46 species), chaemophytes (8.8%, 28 species), geophytes (8.2%, 26 species), phanerophytes (4.1%, 14 species), helophytes (1.6%, 5 species) and hydrophytes (0.3%, one species) (Figure 6). The results showed that the chorotype spectrum of the region is formed of plant elements one regional including Sahara-Sandi (18.1%, 58 species), Iran-Turanian (11.3%, 36 species) and Mediterranean (2.2%, 7 species), elements two regional including: Iran-Turanian/Mediterranean (11.3%, 36 species), Iran-Turanian/Sahara-Sandian (9.7%, 31 species), Sahara-Sandian/Mediterranean (7.2%, 23 species) and Iran-Turanian/Europe-Siberian (2.2%, 7 species), elements three regional including: Iran-Turanian/Sahara-Sindian/Mediterranean (12.2%, 39) species), Iran-Turanian/Mediterranean/European-Siberian (3.4%, 11 species), Iran-Turanian/Sahara-Sindian/European-Siberian (1.5%, 5 species), Iran-Turanian/Sahara-Sindian/Eastern Asiatic (0.6%, 2 species) and Iran-Turanian/European-Siberian/Eastern

Asiatic (0.3%, 1 species), elements multi-regional including elements of four regional and more (12.5%, 40 species) and finally Cosmopolitan plants (7.5%, 24 species) (Figure 7). 13 species endemism were identified in Iran from the total number of available plants. Based on the contents of the Red Data Book of Iran (1999), the protection rank of endemic species of the studied area is placed in two levels: low risk and lack of data. Of course, 3 endemic species in this area have been introduced after the publication of this book, and therefore their protection rank has not been determined. All plant specimens associated with this research are preserved in the herbarium of the Faculty of Science at Shahid Chamran University of Ahvaz.



Figure 3: Pictures of some natural plants of Kopal: A- *Albraunia foveopilosa*, B- *Visnaga daucooides*, C- *Gymnocarpus decander*, D- *Matricaria chamomilla*, E- *Arnebia decumbens*, F- *Adonis dentata*, G- *Calendula persica*, H- *Hyoscyamus insanus*, J- *Pycnocycla cespitosa*, K- *Diplotaxis harra*, L- *Verbascum kochiiforme*, M- *Astragalus baba-alliar*.



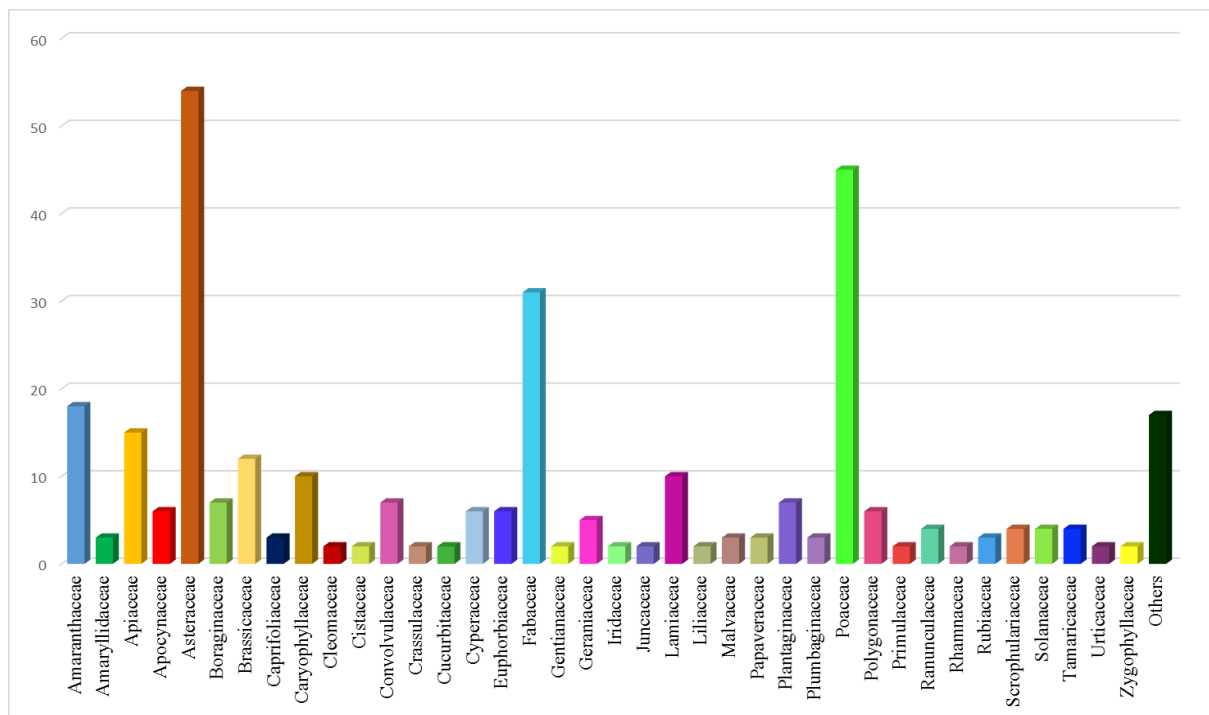


Figure 4: Diagram of the number of species of plant families in the Kopal region

In addition to the natural flora in the Kopal region, the implanted plants in agricultural lands and tree-planted areas, in order to prevent soil erosion or create green spaces, are observed (Figure 5- C). Among the cultivated plants, we can refer to different cultivars of *Triticum aestivum* (Gandom), *Hordeum vulgare* (Jo) and *Phoenix dactylifera* (Khorma) and from the cultivated trees there are various species of *Acacia*, *Albizia lebbek* (Burhan), *Cassia fistula* (Floss, Senna), *Leucaena leucocephala* (Sobabel), *Prosopis juliflora* (Kahur-e-Pakistaniani), *Vachellia farnesiana* (Moshk), *Dalbergia sissoo* (Derakht-e-Sheshum), *Senna pendula* (Burhan goli, Senna maki), *Bougainvillea spectabilis* (Gol-e-kaghazi), *Cordia dichotoma*, *Cordia myxa* (Sepistan), *Cascabela thevetia* (Kharzahr-e-zard), *Nerium oleander* (Kharzahreh), *Hibiscus rosa-sinensis* (Khatmi Chini), *Morus alba* (Tot), *Ficus religiosa* (Anjir-e-Maeabed), *Ficus benghalensis* (Lol), *Dodonaea viscosa* (Natarakeh), *Conocarpus erectus*, various species of *Eucalyptus* including *E. camaldulensis* and *E. microtheca*, *Melaleuca viminalis* (Shisheh shor), *Syzygium cumini* (Ogen), *Olea europaea* (Zeyton), *Citrus × aurantium* (Narenj), *Lantana camara* (Shahpasand-e-derakhti), *Vitex trifolia*, *Volkameria inermis* (Shemshad Abadani), *Tecoma stans*, *Tamarix aphylla* (Ghaz-e-Shahi), etc.

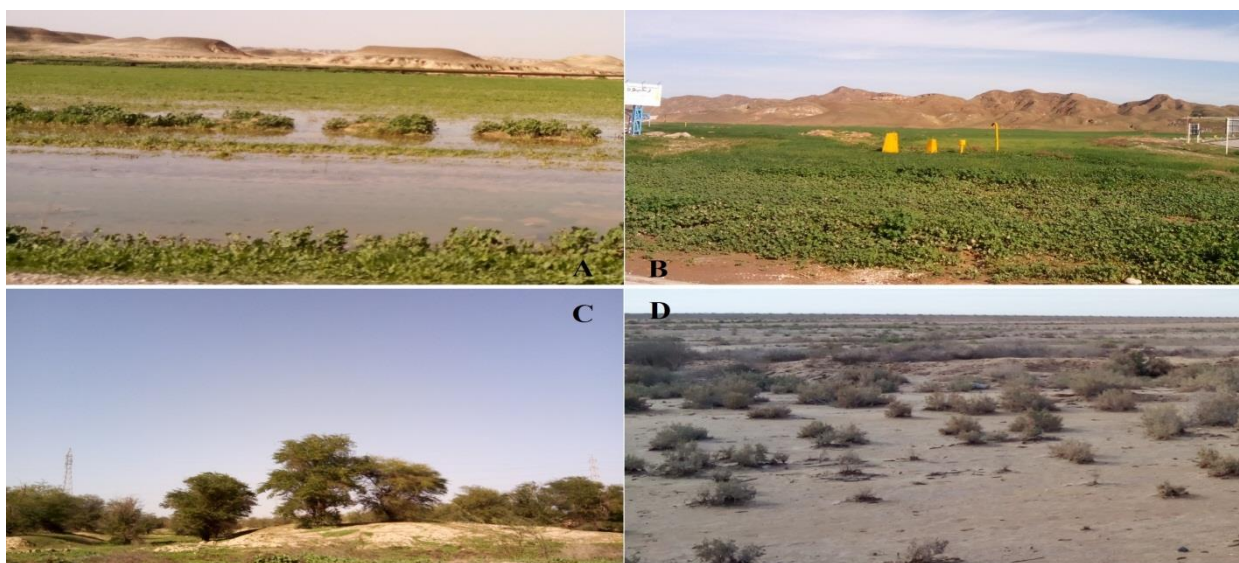


Figure 5: A- Seasonal Pond created in the Kopal region, B- Kopal's ephemeral vegetation, C- The Forests created in the Kopal region, D- Kopal's halophytic vegetation

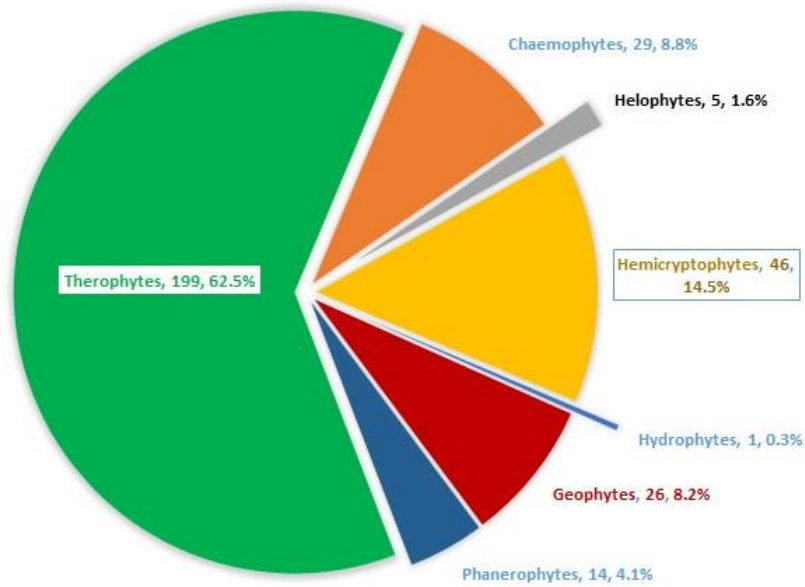


Figure 6: Life Form percentage of plants identified in the Kopal region

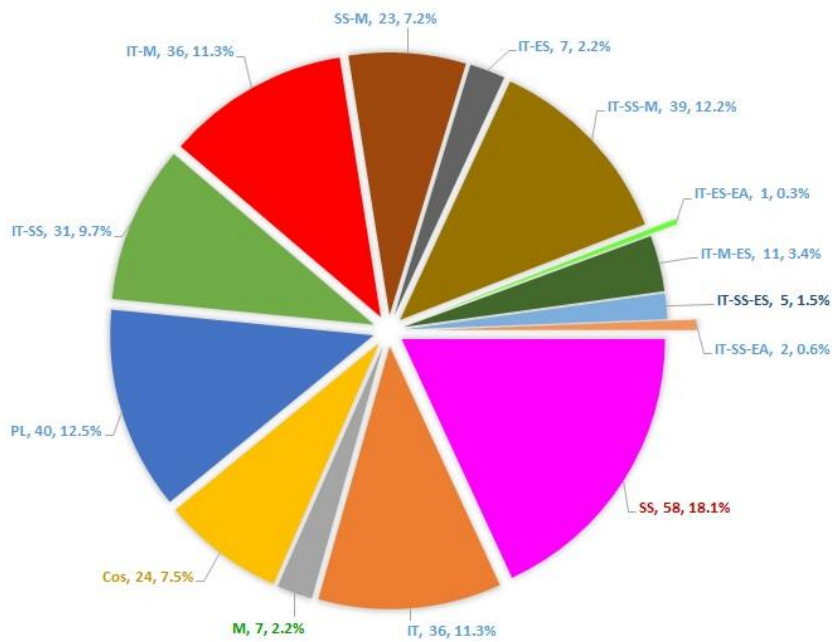


Figure 7: Chorology of plant elements present in the Kopal region

Discussion

Increased pressure on biodiversity resulting from the development of local or regional access roads and the extraction of underground resources will change the species composition of the region, which will have important effects on its ecosystem (Peres *et al.*, 2010; Feeley *et al.*, 2011; Swaine and Liebsch, 2011; Murguía *et al.*, 2016). On the other hand, probably the increasing demographic changes the biodiversity of the region gradually, and will cause more negative ecological and economic changes, by putting higher pressure on natural resources through the development of agriculture, the intensity of grazing, and the occurrence of fires (Mehring *et al.*, 2020; IPCC, 2022). With attention to the location of the Kopal region, its natural resources have been severely affected by destruction. The Kopal's flora natural face has been changed, due to human dominance along with road construction operations for agriculture and the



setting up of oil wells, indiscriminate and unplanned grazing, afforestation, and the construction of green spaces to prevent soil erosion and dust formation by planting some non-native species. Like other floristic studies in hot and dry regions (Basiri *et al.*, 2011; Taghipour *et al.*, 2011; Alsharif *et al.* 2013; Hassani *et al.*, 2014; Malekshahi *et al.*, 2022), the results of this research indicate the presence of a larger number (almost four times) of dicotyledonous plants (with 256 species) than monocotyledonous plants (with 64 species) in the region, which is the result of greater ecological adaptability of dicotyledonous in dry environments than monocotyledonous. According to the results, more than half of the plants identified in the region belong to 8 large plant families with a wide distribution range and high species diversity, among which the Asteraceae (with 54 species) is considered the most diverse plant family in this region. Hamzeh'ee (2016) and Ghahremani-Nejad and Aqli (2009) consider the causes of this diversity to include the destruction of vegetation due to excessive grazing and human activities and the high power of dispersal due to the evolutionary nature of the plants of this family. Like most of the previous floristic studies, *Astragalus* with 8 species was identified as the largest plant genus in the Kopal region, which is in concordance with Maassoumi's opinion based on the domination of *Astragalus* in Iran (Maassoumi, 2003). The presence of similar life forms in a habitat indicates the same response of plants to environmental factors and as a result it will have the same effect on its processes (Prochazka *et al.*, 2024). Nearly two-thirds of the plants in the region belonging to therophytes have been identified. The presence of a large number of therophytes in the zone not only indicates the dominance of a hot and dry climate but also indicates the effect of human intervention and the transfer of seeds to it from the surrounding regions (Tavakkoli and Mozaffarian, 2005). The presence of 14 species of trees and shrubs, scattered or in the form of patchy masses along the waterways, shows the lack of diversity of phanerophytes in the region, efforts have been made to fix this defect by planting trees in different parts of the region. One of the obvious main factors in determining the type of vegetation in dissimilar areas is its edaphic factors (Amitha Bachan, 2003). Due to the high salinity of the soil and its chalkiness in a large part of the Kopal region, both in lowland and higher places, a large number of halophyte species can be identified among the flora of the region (Figure 5- D). The Kopal region is located in a dry and tropical climate, in other words, in the Sahara-Sindian area of Iran, and the presence of a relatively larger number of elements related to this area (18.1%) can be understood. Of course, it is noteworthy that the elements tri- or pluriregional in Kopal have the highest percentage. This situation has likely occurred due to the introduction and establishment of pluriregional taxa in the region, facilitated by extensive human activities. These taxa are better adapted to the prevailing climatic conditions and more resilient to the regional environment. The results of the present study showed that 13 endemic species are found in the region, which includes about 4% of its flora. According to Ghahremani-Nejad and Aqli (2009), the low percentage of endemic species has occurred as a result of the expansion of resistant species with a wide range of distribution and the cessation of continuous speciation due to overgrazing. Our results indicate that some taxa previously listed in the Red Data Book (1999) and considered endemic to Iran have now been confirmed to exist in neighboring countries. Consequently, their conservation status has become questionable. Accurate identification of plant species and having information about plant biodiversity, habitat diversity, plant communities, and the potential of resources available in each region is essential for planning sustainable development and managing its natural resources (Jamzad, 2008). The extremely low and rare abundance of numerous existing species poses a risk of their eradication and elimination for the Kopal region, even though according to sources, they are not considered endangered plants for Iran. The elimination of plant species and the weakening of the species richness of the region will cause the plant formations to become monospecific, and the continuation of this process will increase the intensity of desertification in the region. There is a need for careful management of the harvesting of its natural resources to prevent the expansion of critical dust-producing areas, considering the abundance of ephemeral and ruderal plants in the Kopal region as a result of warm and dry weather conditions, excessive livestock grazing, destructive human activities, etc. Ultimately, it is hoped that this study will help complete the description of the plant biodiversity of the region.

Acknowledgment

This article is based on approximately four years of continuous sampling in the Kopal region. Therefore, the author considers it his duty to thank and acknowledge all the individuals who played a role in identifying each of the taxa, as well as the organizations, particularly the Vice Chancellor for Research of Shahid Chamran University of Ahvaz, for providing financial support through an annual grant, which made this research possible.

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Table 1- List of wild plant species in the Kopal region with their related information. Life forms: He: Hemicryptophyte, Th: Therophyte, Ch: Chamaephyte, Ph: Phanerophyte, Ge: Geophyte, Hy: Hydrophyte, Hel: Helophyte; Chorology: IT: Irano-Turanian, ES: Euro-Siberian, M: Mediterranean, SS: Sahara-Sindian, EA: East Asia, PL: Pluriregional, Cosm: Cosmopolitan, Endemic: Endemic; Conservation status: LR: Least Concern, DD: Data Deficient (Conservation status is determined only to species that are listed in the Red Data Book.).

No	Botanical name	Persian or Local name	Chorotype	Life Form	Conservation Status
	<i>Aizoaceae</i>				
1	<i>Aizoon hispanicum</i> L.	Alafe farsh espaniaie	SS	Th	-
	<i>Amaranthaceae</i>				
2	<i>Amaranthus albus</i> L.	Taj khourus sefid	Cosm	Th	-
3	<i>Amaranthus viridis</i> L.	Taj khourus sabz	Cosm	Th	-
4	<i>Atriplex turcomanica</i> (Moq.) Boiss.	Salmaki sagheh sefid	IT, SS	Ch	-
5	<i>Bassia eriophora</i> (Schrad.) Aschers	Panbe tan	M, SS	Th	-
6	<i>Beta vulgaris</i> L. subsp. <i>maritima</i> (L.) Arcang.	Choghondare vahshi, Selij	IT, SS, M	Th, He	-
7	<i>Bienertia sinuspersici</i> Akhani	Tokmeh shour, Monji	SS	Th	-
8	<i>Caroxylon incanescens</i> (C.A.Mey.) Akhani & Roalson	Shoure khakestari	IT	Th	-
9	<i>Caroxylon jordanicola</i> (Eig) Akhani & Roalson	Shoure ordoni	SS	Th	-
10	<i>Caroxylon nitrarium</i> (Pall.) Akhani & Roalson	Shoure soudi, Ghafeleh koshak	IT	Th	-
11	<i>Chenopodium album</i> L.	Salmeh tareh, Goudgoudo	Cosm	Th	-
12	<i>Chenopodium murale</i> (L.) S.Fuentes, Uotila & Borsch	Salmak barg gazanehie, Khouvis	Cosm	Th	-
13	<i>Cornulaca aucheri</i> Moq.	Chipchap	IT, SS	Th	-
14	<i>Halocharis sulphurea</i> (Moq.) Moq.	Zibaie shourezar, Hatm	IT, SS	Th	-
15	<i>Halocnemum strobilaceum</i> (Pall.) M.Bieb.	Batlaghi shour, Rams, Gadak	IT, SS, M	Ch	-
16	<i>Halothamnus iranicus</i> Botsch.	Ajveh irani	SS	Ch	-
17	<i>Salicornia iranica</i> Akhani	Ghalia	SS, IT	Th	-
18	<i>Suaeda aegyptiaca</i> (Hasselq.) Zohary	Siah shoure mesri, Gageleh	SS	Th, Ch	-
19	<i>Suaeda fruticosa</i> Forssk. ex J.F.Gmel.	Siah shour, Tahmeh	SS	Ch	-
	<i>Amaryllidaceae</i>				
20	<i>Allium atroviolaceum</i> Boiss.	Piaze banafsh, Mangeleh	IT	Ge	-
21	<i>Allium eriophyllum</i> Boiss.	Piaze gol dorousht	M	Ge	-
22	<i>Allium stamineum</i> Boiss.	Piaze dashti, Piaze khoudro	M	Ge	-
	<i>Apiaceae</i>				
23	<i>Ammi majus</i> L.	Gourel, Zeniane khoudro	SS, M	Th	-
24	<i>Anisosciadium orientale</i> DC.	---	IT	Th	-
25	<i>Bupleurum haussknechtii</i> Boiss.	Chatr gandomie kouhestan	SS	Th	-
26	<i>Daucus guttatus</i> Smith	Havije manghout, Havije rishdar	IT, M	Th	-
27	<i>Ducroria anethifolia</i> (DC.) Boiss.	Moshgak	IT, SS	He	-
28	<i>Ducrosia flabellifolia</i> Boiss.	Moshgake badbezani	SS	He	-
29	<i>Oliveria decumbens</i> Vent.	Laale kouhestan	IT	Th	-
30	<i>Pimpinella barbata</i> (DC.) Boiss.	Jaafari kouhi rishdar	IT	Th	-
31	<i>Pimpinella eriocarpa</i> Banks & Soland.	Jaafari kouhi halabi	IT	Th	-

No	Botanical name	Persian or Local name	Chorotype	Life Form	Conservation Status
32	<i>Pimpinella puberula</i> (DC.) Boiss.	Jaafari kouhi korki	IT	Th	-
33	<i>Pycnocycla cespitosa</i> Boiss. & Hausskn.	Sagdandane poshtehei	SS, Endemic	Ch	LR
34	<i>Scandix pecten-veneris</i> L.	Shaneh venous	M, SS, IT	Th	-
35	<i>Torilis leptophylla</i> (L.) Reichenb.	Mastonake nazokbarg, Kharabgah	IT, M	Th	-
36	<i>Turgenia latifolia</i> (L.) Hoffm.	Gis chasbak, Gis mimasi	IT, M	Th	-
37	<i>Visnaga daucooides</i> Gaertn. <i>Apocynaceae</i> (incl. <i>Asclepiadaceae</i>)	Khelale dandan	M, SS	Th	-
38	<i>Apocynum venetum</i> L.	Gheitani	IT, M, ES, EA	He	-
39	<i>Calotropis procera</i> (Aiton) W.T.Aiton	Estabragh, Ghalablab	SS	Ph	-
40	<i>Cionura erecta</i> (L.) Griseb.	Zard kish, Kondorango	IT	Ch	-
41	<i>Cynanchum acutum</i> L.	Alafe sagkosh, Alafe parasto	SS, IT, ES, M	He	-
42	<i>Nerium oleander</i> L.	Kish, Kharzahreh	IT, SS	Ph	-
43	<i>Pergularia tomentosa</i> L. <i>Asparagaceae</i>	Mobar, Labashir	SS	Ch	-
44	<i>Ornithogalum persicum</i> Hausskn. ex Bornm. <i>Asphodelaceae</i>	Shiremorgh irani	IT	Ge	-
45	<i>Asphodelus tenuifolius</i> Cav. Asteraceae	Serishk, Sefid serish	SS	Th	-
46	<i>Achillea tenuifolia</i> Lam. (Anthemideae)	Bomadaran biabani	IT	He	-
47	<i>Achillea wilhelmsii</i> C. Koch (Anthemideae)	Bomadaran	IT	He	-
48	<i>Anthemis pseudocotula</i> Boiss. (Anthemideae)	Baboneh shirazi	IT, M	Th	-
49	<i>Anthemis susiana</i> Nabelek (Anthemideae)	Baboneh shoshi	SS	Th	-
50	<i>Asteriscus pygmaeus</i> (DC.) Cosson. & Dur. (Inuleae)	-----	SS	Th	-
51	<i>Atractylis cancellata</i> L. (Cynareae)	Khar panbeh	IT, SS, M	Th	-
52	<i>Calendula alata</i> Rech. f. (Calenduleae)	Hamishe bahare baldar	M, SS	Th	-
53	<i>Calendula persica</i> C. A. Mey. (Calenduleae)	Hamishe bahare irani	IT, SS	Th	-
54	<i>Calendula sancta</i> L. (Calenduleae)	Hamishe bahare moqadas	IT, SS	Th	-
55	<i>Carduus arabicus</i> Jacq. ex Murray (Cynareae)	Tatarie arabi	IT, M, SS	Th	-
56	<i>Carthamus lanatus</i> L. (Cynareae)	Golrange moqadas	IT, SS	Th	-
57	<i>Carthamus oxyacantha</i> M. B. (Cynareae)	Golrange zard	IT	Th	-
58	<i>Centaurea bruguierana</i> (DC.) Hand-Mzt. (Cynareae)	Gole gandome mohajer	IT, M, SS	Th	-
59	<i>Centaurea hyalolepis</i> Boiss. (Cynareae)	Gole gandome gogerdi	PL	He	-
60	<i>Centaurea iberica</i> Trev. ex Spreng. (Cynareae)	Gole gandome chamanzar	PL	He	-
61	<i>Centaurea intricata</i> Boiss. (Cynareae)	Gole gandome gachdost	IT, Endemic	He	DD
62	<i>Centaurea solstitialis</i> L. (Cynareae)	Gole gandome zard	IT, ES	Th	-
63	<i>Cichorium intybus</i> L. (Lactuceae)	Kasni	Cosm	He	-
64	<i>Cichorium pumilum</i> Jacq. (Lactuceae)	Kasnie pakotah	M	Th	-
65	<i>Cnicus benedictus</i> L. (Cynareae)	Khare moqadas	IT, M, SS	Th	-
66	<i>Conyza bonariensis</i> (L.) Cronquist (Astereae)	Pirbaharake harz	Cosm	Th	-
67	<i>Conyzanthus squamatus</i> (Spreng.) Tamamsch. (Astereae)	Pirbaharaki	Cosm	He	-
68	<i>Crepis sancta</i> (L.) Babcock (Lactuceae)	Rish Qush	IT, SS, M	Th	-
69	<i>Cymbolaena griffithii</i> (A. Gray) Wagenitz (Inuleae)	-----	M, IT	Th	-
70	<i>Dittrichia graveolens</i> (L.) Greuter (Inuleae)	Pire paeizi	M, IT	Th	-
71	<i>Echinops polychromus</i> Rech. f. (Cynareae)	Shekartighale jounobi	SS, Endemic	He	DD
72	<i>Filago desertorum</i> Pomel. (Inuleae)	Halbeh	SS, M	Th	-
73	<i>Garhadiolus angulosus</i> Jaub. & Spach (Lactuceae)	-----	IT, ES, M	Th	-
74	<i>Glebionis coronaria</i> (L.) Cass. ex Spach (Anthemideae)	Davoodi khodro	PL	Th	-
75	<i>Ifloga spicata</i> (Forssk.) Sch.-Bip. (Inuleae)	-----	SS, M	Th	-
76	<i>Koelipinia linearis</i> Pall. (Lactuceae)	Hezarpaie	IT, SS	Th	-
77	<i>Lactuca serriola</i> L. (Lactuceae)	Kahoye talkh	IT, ES, M	Th, He	-
78	<i>Launea mucronata</i> (Forssk.) Muschl. (Lactuceae)	Kahosaie noukdar	SS	Th, He	-
79	<i>Launea procambens</i> (Roxb.) Ramayya & Rajgopal (Lactuceae)	Kahosaie khabideh	IT, SS	He	-
80	<i>Matricaria aurea</i> (Loefl.) Sch.-Bip. (Anthemideae)	Baboneh europaie zard	IT, M, SS	Th	-
81	<i>Matricaria chamomilla</i> L. (Anthemideae)	Baboneh europaie	PL	Th	-
82	<i>Notobasis syriaca</i> (L.) Cass. (Cynareae)	Badavard	IT, SS, M	Th	-



No	Botanical name	Persian or Local name	Chorotype	Life Form	Conservation Status
83	<i>Onopordon leptolepis</i> DC. (Cynareae)	Kharpanbeh nazokbarg	IT, SS	He	-
84	<i>Pentanema divaricata</i> Cass. (Inuleae)	-----	IT, SS	Th	-
85	<i>Picnomon acarna</i> (L.) Cass. (Cynareae)	Zardekhar	IT, ES	Th	-
86	<i>Picris longirostris</i> Sch.-Bip. (Lactuceae)	Talkhake noukderaz	SS	Th	-
87	<i>Phagnalon nitidum</i> Fres. (Inuleae)	-----	IT, SS	He	-
88	<i>Platychaete mucronifolia</i> (Boiss.) Boiss. (Inuleae)	Rish pahne menghari	IT, Endemic	Ch	DD
89	<i>Pulicaria arabica</i> (L.) Cass. (Inuleae)	Kak koshe garmsiri	IT, SS	Th, He	-
90	<i>Reichardia orientalis</i> (L.) Hochreutiner (Lactuceae)	-----	IT, ES, SS	Th	-
91	<i>Rhanterlopsis puberula</i> (Boiss. & Haussk.) Rau. (Inuleae)	-----	SS, Endemic	Ch	LR
92	<i>Scorzoneroides laciniata</i> (Bertol.) Greuter (Lactuceae)	Shange asbi	SS	Th	-
93	<i>Senecio glaucus</i> L. (Senecioneae)	Pirgiah	IT, SS, M	Th	-
94	<i>Silybum marianum</i> (L.) Gaerth. (Cynareae)	Khar maryam	Cosm	He	-
95	<i>Sonchus asper</i> (L.) Hill (Lactuceae)	Shir tighake	IT, M	He	-
96	<i>Sonchus oleraceus</i> L. (Lactuceae)	Shir tighake rutobatpasand	Cosm	Th, He	-
97	<i>Urospermum picroides</i> (L.) Desf. (Lactuceae)	Shir talkhak	IT, M	Th	-
98	<i>Xanthium strumarium</i> L. (Heliantheae)	Zardineh	Cosm	Th	-
99	<i>Zoegea leptaurea</i> L. (Cynareae)	Khorshide sobh	IT	Th	LR
Berberidaceae					
100	<i>Leontice leontopetalum</i> L.	Cheshme shir, Cheghchegh, Kanak	IT, M	Ge	-
Boraginaceae					
101	<i>Anchusa azurea</i> Mill.	Gavzabane kharakdar	ES, M, IT	He	-
102	<i>Arnebia decumbens</i> (Vent.) Coss. & Karlik	Gole asali	SS, IT	Th	-
103	<i>Heliotropium crispum</i> Desf.	Aftabparaste porshakkeh	IT, SS	Ch	-
104	<i>Heliotropium europaeum</i> L.	Aftabparaste europaie	IT, ES, SS	Th	-
105	<i>Heliotropium noeanum</i> Boiss.	Aftabparaste mazraerouy	IT, SS	Th	-
106	<i>Heterocaryum szovitsianum</i> (Fisch. & C.A.Mey.) A.DC.	-----	IT	Th	-
107	<i>Onosma dasytrichum</i> Boiss.	Zangolehie pashmaloo	IT, Endemic	He	LR
Brassicaceae					
108	<i>Biscutella didyma</i> L.	Separsepari, Aeinaki	IT, SS, M	Th	-
109	<i>Brassica nigra</i> (L.) Koch.	Khardale siah	IT, SS, M	Th	-
110	<i>Capsella bursa-pastoris</i> (L.) Medicus	Kiseh keshish	Cosm	Th	-
111	<i>Diplotaxis harra</i> (Forssk.) Boiss.	Doorj	IT, M	Th	-
112	<i>Eruca sativa</i> Lam.	Mandab	IT, ES, M	Th	-
113	<i>Erucaria hispanica</i> (L.) Druce	Mandabi	SS, M	Th	-
114	<i>Lepidium deraba</i> L.	Mooche, Ozmak	IT, M	Ge	-
115	<i>Malcolmia africana</i> (L.) R. Br.	Shabboie biabani, Tovik	IT, M, ES	Th	-
116	<i>Matthiola longipetala</i> (Vent.) DC.	Shabboie sahraie, Chalipa	SS, M	Th	-
117	<i>Physorrhynchus chamaerapistrum</i> (Boiss.) Boiss.	Kalamo	SS, Endemic	Ch	LR
118	<i>Sinapis arvensis</i> L.	Khardale biabani	IT, M, ES	Th	-
119	<i>Sisymbrium irio</i> L.	Khakshire talkh	IT, M, SS	Th	-
Capparaceae					
120	<i>Capparis spinosa</i> L.	Kavar, Lagaji	IT, M	He	-
Caprifoliaceae					
121	<i>Cephalaria syriaca</i> (L.) Schrad	Sardare sarshekaftah	IT, M	Th	-
122	<i>Scabiosa calocephala</i> Boiss.	Tosake ziba	IT	Th	-
123	<i>Scabiosa leucactis</i> Patzak	Tosake kongelomeraie	SS	Th	-
Caryophyllaceae					
124	<i>Gymnocarpus decander</i> Forssk.	Alafe khargoosh, Koruj	SS	Ph	-
125	<i>Gypsophila linearifolia</i> (Fisch. & C. A. Mey.) Boiss.	Gachdoste shenrouy	M	Th	-
126	<i>Gypsophila pilosa</i> Huds.	Gachdoste vazhegon	IT	Th	-
127	<i>Herniaria hirsute</i> L.	---	IT, SS	Th	-
128	<i>Polycarpon tetraphyllum</i> (L.) L.	Pordaneh	IT, M	Th	-
129	<i>Pteranthus dichotomus</i> Forssk.	Goltaj	IT, SS	Th	-
130	<i>Silene apetala</i> Willd.	Silene bigolbarg	IT, M	Th	-
131	<i>Silene austro-iranica</i> Rech. f., Aellen & Esfand.	Silene jonoubi	SS, IT	Th	-
132	<i>Spergularia diandra</i> (Guss.) Boiss.	Zamingostare doparchami	SS, M, IT	Th	-
133	<i>Spergularia marina</i> (L.) Griseb	Zamingostare shorrouy	SS, M, IT	Th	-
Cleomaceae					
134	<i>Cleome quinquenervia</i> DC.	Alafe mare gachdost	SS	Th	-
135	<i>Cleome noeana</i> Boiss.	Alafe mare karandi	IT, SS	Th	-
Ceratophyllaceae					

No	Botanical name	Persian or Local name	Chorotype	Life Form	Conservation Status
136	<i>Ceratophyllum demersum</i> L.	Changal abi, Alafshakhie ghotovar	PL	Hyd	-
Cistaceae					
137	<i>Helianthemum lippii</i> (L.) Pers.	Gole aftabi derakhtchehie	SS	Ch	-
138	<i>Helianthemum salicifolium</i> (L.) Mill.	Gole aftabi bargbidi, Daneh gonjeshki	IT, M	Th	-
Convolvulaceae					
139	<i>Convolvulus arvensis</i> L.	Pichake sahraie	PL	Ge	-
140	<i>Convolvulus kotschyanus</i> Boiss.	Pichake rishdar	SS	Ch	-
141	<i>Convolvulus oxyphyllus</i> Boiss.	Pichake bargtiz	IT, SS	Ch	LR
142	<i>Convolvulus reticulatus</i> Choisy	Pichake bargmakhmali	IT	Ch	-
143	<i>Cressa cretica</i> L.	Alafe morcheh	IT, SS	Th	-
144	<i>Cuscuta campestris</i> Yunck.	Ses	Cosm	Th	-
145	<i>Cuscuta planiflora</i> Ten	Sese porgol	M, IT	Th	-
Crassulaceae					
146	<i>Crassula alata</i> (Viv.) Berger	Nazak	IT, SS	Th	-
147	<i>Sedum hispanicum</i> L.	Naz espaniaie	IT, ES	Th	-
Cucurbitaceae					
148	<i>Citrullus colocynthis</i> (L.) Schrad.	Hendavaneh abojahl, Henzel	SS	He	-
149	<i>Cucumis melo</i> L.	Wild melon	PL(Paleo)	Th	-
Cyperaceae					
150	<i>Bolboschoenus maritimus</i> (L.) Palla	Tazak, Boria	IT, SS, M	Ge, Hel	-
151	<i>Cyperus eremicus</i> Kukkonen	---	SS	Ge	-
152	<i>Cyperus longus</i> L.	---	IT, SS, M	Ge	-
153	<i>Cyperus rotundus</i> L.	Uiarsalam	Cosm	Ge	-
154	<i>Eleocharis palustris</i> (L.) Roem. & Schult. var. <i>iranica</i> Kukkonen	--	IT	Hel	-
155	<i>Scirpoides holoschoenus</i> (L.) Sojak	---	IT, M	Ge	-
Euphorbiaceae					
156	<i>Andrachne telephioides</i> L.	Nazebiabani	IT, M	Ch	-
157	<i>Chrozophora tinctoria</i> (L.) A. Juss.	Ranginak, Arzagh, Nonkalaghi	IT, M, SS	Th	-
158	<i>Euphorbia chamaesyce</i> L.	Farfion kongerehie	IT, M	Th	-
159	<i>Euphorbia peplus</i> L.	Farfione zaghildar	IT, M, ES	Th	-
160	<i>Euphorbia petiolata</i> Banks & Sol.	Farfione pashmalo	IT, M	Th	-
161	<i>Euphorbia serpens</i> Kunth	Farfione marie	PL	Th	-
Fabaceae					
162	<i>Alhagi graecorum</i> Boiss.	Kharshotore mandar, Aeaghoh, Toranjebin	SS, M	He	-
163	<i>Anthyllis circinnata</i> (L.) D.D. Sokoloff	Yonjeh sekehie, Yonjeh espaniaie	M, SS	Th	-
164	<i>Astragalus baba-alliar</i> Parsa	Anzourt	IT, Endemic	Ph	LR
165	<i>Astragalus campylorrhynchus</i> Fisch. & C. A. Mey	---	IT	Th	-
166	<i>Astragalus crenatus</i> Schult.	---	SS, M	Th	-
167	<i>Astragalus gossypinus</i> Fischer	Gavan panbehie	IT	Ch	LR
168	<i>Astragalus hamosus</i> L.	Nakhonak	IT, M	Th	-
169	<i>Astragalus kentrophyllus</i> Podlech	---	SS, Endemic	Ch	?
170	<i>Astragalus obtusifolius</i> DC.	Gavan barggherd	SS	He	-
171	<i>Astragalus tribuloides</i> Delile	Gavan separeh	IT, M	Th	-
172	<i>Glycyrrhiza glabra</i> L.	Sos, Shirinbaian	IT, ES	Ge	LR
173	<i>Hippocrepis bisiliqua</i> Forssk.	Naele asbi doniami	IT, M	Th	-
174	<i>Lathyrus cicera</i> L.	Kholar, Nokhodi	M, IT	Th	-
175	<i>Lotus corniculatus</i> L.	Aho mash, Yonjeh pakalaghi	PL	He	-
176	<i>Medicago minima</i> (L.) Bartalini	Yonjeh saghir	IT, ES, SS, M	Th	-
177	<i>Medicago polymorpha</i> L.	Yonjeh khardar, Yonjeh chanshekli	PL	Th	-
178	<i>Medicago rigidula</i> (L.) All.	Yonjeh sakht	M, IT	Th	LR
179	<i>Melilotus indicus</i> (L.) All.	Yonjeh zarde hendi, Yonjeh zarde yeksaleh	IT, ES, SS, M	Th	-
180	<i>Onobrychis acaulis</i> Bomm.	Esperese kotoleh, Esperese bisagheh	SS, Endemic	He	?
181	<i>Onobrychis crista-galli</i> (L.) Lam.	Esperese tajkhorosi	SS	Th	-
182	<i>Onobrychis gypsicola</i> Rech.f.	Esperese haftgeli, Esperese gachdost	SS, Endemic	Ch	DD



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183	<i>Onobrychis ptolemaica</i> (Delile) DC.	Esperese mesri	M, SS	Ch	-
184	<i>Ononis reclinata</i> L.	---	M, SS	Th	-
185	<i>Prosopis farcta</i> (Banks & Sol.) J. F. Macbr.	Kahorak, Jekhjeghak, Shouk	IT, M	Ph	-
186	<i>Scorpiurus muricatus</i> L.	Dom aghrabi, Devijeh	M, SS	Th	-
187	<i>Taverniera nummularia</i> DC.	Esperese derakhti-sekehie	SS	Ch	-
188	<i>Trifolium campestre</i> Schreb.	Shabdare zard	M, SS, ES, IT	Th	-
189	<i>Trifolium resupinatum</i> L.	Shabdar irani	PL	Th	-
190	<i>Trifolium stellatum</i> L.	Shabdare setarehie	M	Th	-
191	<i>Trigonella glabra</i> subsp. <i>uncata</i> (Boiss. & Noë) Lassen	Shanbalileh ghollabdar	SS	Th	-
192	<i>Vicia monantha</i> Retz.	Mashake tak gol	IT, M, SS	Th	-
	Frankeniaceae				
193	<i>Frankenia pulverulenta</i> L.	Shabnami	M, IT	Th	-
	Gentianaceae				
194	<i>Centaurium pulchellum</i> (Sw.) Druce	Ghantaron	IT, M	Th	-
195	<i>Gentiana olivieri</i> Griseb.	Gole sepas	IT	He	-
	Geraniaceae				
196	<i>Erodium ciconium</i> (Jusl.) L'Hér. ex Aiton	Noklaklakie deraz	IT, M, ES	Th	-
197	<i>Erodium cicutarium</i> (L.) L'Hér. ex Aiton	Noklaklakie harz	PL	Th	-
198	<i>Erodium glaucophyllum</i> (L.) L'Hér.	Noklaklakie zagrosi	SS, M	He	-
199	<i>Erodium laciniatum</i> (Cav.) Willd.	Noklaklakie gardaloud	IT, M, SS	Th	-
200	<i>Geranium dissectum</i> L.	Sozane chopane pareh pareh	PL	Th	-
	Iridaceae				
201	<i>Gladiolus italicus</i> Mill.	Glaiole khoudro, Glaiole biabani	M, ES, IT	Ge	-
202	<i>Moraea sisyrinchium</i> (L.) Ker Gawl.	Zanbaghsa	PL	Ge	-
	Ixioliriaceae				
203	<i>Ixiolirion tataricum</i> (Pall.) Schult. & Schult.f.	Khiarak	ES, IT, SS	Ge	-
	Juncaceae				
204	<i>Juncus hybridus</i> Brot.	Sazoye dorag	M, IT	Th	-
205	<i>Juncus inflexus</i> L.	Sazoye shallaghi	ES, IT, SS	Ge	-
	Lamiaceae				
206	<i>Ajuga austroiranica</i> Rech. f.	Labdisi jonoubi	SS	Ch	-
207	<i>Phlomis polioxantha</i> Rech. f.	Ghoshbarehe irani, Ghoshbareh sakhrehzi	SS	Ch	-
208	<i>Phlomoides molucelloides</i> (Bunge) Salmaki	Sonbole biabani	IT	He	-
209	<i>Salvia compressa</i> Vent.	Maryamgoli ghamsiri, Marmarashk	IT	He	-
210	<i>Salvia macrosiphon</i> Boiss.	Maryamgoli loulehie	IT, SS	He	-
211	<i>Salvia palaestina</i> Benth.	Maryamgolie palestiny	SS, M	He	-
212	<i>Teucrium oliverianum</i> Ging. & Benth.	Maryamnokhoudi shendost	SS	Ch	-
213	<i>Teucrium polium</i> L.	Maryamnokhoudi, Chez, Kalpoureh	IT, SS, M	Ch	-
214	<i>Ziziphora capitata</i> L.	Kakuti sarsan	IT, ES	Th	-
215	<i>Vitex agnus-castus</i> L. var. <i>pseudo-negundo</i> Hausskn.	Banghero, Bangheleh, Panj anghoshti	IT, SS, M	Ph	-
	Liliaceae				
216	<i>Gagea chlorantha</i> (M. B.) Schultes & Schultes	Najmetalaie ranghin	IT, M	Ge	-
217	<i>Gagea tenuifolia</i> (Boiss.) Fomin	Najmetalaie perspolisi	M, IT	Ge	-
	Linaceae				
218	<i>Linum usitatissimum</i> L.	Katan, Bazrak	Cosm	Th	-
	Lythraceae				
219	<i>Lythrum hyssopifolia</i> L.	Khonfame zofaei	M, IT, SS	Th	-
	Malvaceae				
220	<i>Alcea sulphurea</i> (Boiss. & Hohen.) Alef.	Khatmi gogardi	IT	He	-
221	<i>Corchorus olitorius</i> L.	Katane hendi	SS	Th	-
222	<i>Malva parviflora</i> L.	Panirake gholriz	M, SS	Th	-
	Nitrariaceae				
223	<i>Peganum harmala</i> L.	Esfand, Espand	IT, ES, SS	He	-
	Orobanchaceae				
224	<i>Parentucellia latifolia</i> (L.) Caruel	---	PL	Th	-
	Papaveraceae				
225	<i>Fumaria parviflora</i> L.	Shahtareh	IT, ES, M, SS	Th	-
226	<i>Hypecoum pendulum</i> L.	Shahtarehie, Shahtarehie zard	IT, ES, M, SS	Th	-

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227	<i>Papaver dubium</i> L.	Khashkhashe harz	IT	Th	-
	Plantaginaceae				
228	<i>Albraunia foveopilosa</i> Speta.	---	SS, Endemic	Th	?-
229	<i>Plantago amplexicaulis</i> Cav. subsp. <i>bauphula</i> (Edgew.) Rech.f.	Barhange saghe aghoush	SS	Th	-
230	<i>Plantago coronopus</i> L.	Barhange panjehgazi, Lalar	IT, SS, M, ES	Th, He	-
231	<i>Plantago indica</i> L.	Barhange katani, Esfarzeh	IT, M, ES, SS	Th	-
232	<i>Plantago lagopus</i> L.	Barhange pagorbehie	IT, ES, M	Th	-
233	<i>Plantago leoflingii</i> L.	Barhange mazraero	M	Th	-
234	<i>Veronica polita</i> Fries	Sizabe harz	IT, ES, M, SS	Th	-
	Plumbaginaceae				
235	<i>Limonium gmelini</i> (Willd.) Kuntze	Shastearosan taleshi	IT, ES	He	-
236	<i>Limonium scoparium</i> (Pall. Ex Willd.) Stankov	Shastearosan ghafghazi	ES, IT	He	-
237	<i>Psylliostachys spicatus</i> (Willd.) Nevski	Barhange shour, Vikh	IT, SS	Th	-
	Poaceae				
238	<i>Aegilops crassa</i> Boiss.	Gandomniaye zakhim	IT	Th	-
239	<i>Aegilops triuncialis</i> L.	Gandomniaye selayeh	IT, M, SS	Th	-
240	<i>Aegilops umbellulata</i> Zhuk.	Gandomniaye chatraki	IT	Th	-
241	<i>Aeluropus lagopoides</i> (L.) Trin. ex Thwaites	Chaman shoure paghorbehie, Boni	IT, SS, M	Ge	-
242	<i>Aeluropus littoralis</i> (Gouan) Parl.	Chaman shoure sahehi, Sharib	IT, SS, M, EA	Ge	-
243	<i>Aristida adscensionis</i> L.	Seif, Sesikhaki	PL	Ge, Th	-
244	<i>Avena sterilis</i> subsp. <i>ludoviciana</i> (Durieu) Nyman	Yulafe khoudroie zemestani	SS, M, IT	Th	-
245	<i>Brachypodium distachyon</i> (L.) P. Beauv.	Ghis bafteh	IT, M, SS	Th	-
246	<i>Bromus danthoniae</i> Trin.	Jaroalafi harz	IT, ES, M	Th	-
247	<i>Bromus fasciculatus</i> C. Presl	Jaroalafi dastehie	M, SS, IT	Th	LR
248	<i>Bromus scoparius</i> L.	Jaroalafi bibargh	M, ES, IT, SS	Th	-
249	<i>Bromus tectorum</i> L.	Alafe bam	PL	Th	-
250	<i>Cutandia memphitica</i> (Spreng.) K. Richt.	Alafe memfis	SS, M, IT	Th	-
251	<i>Cymbopogon iwarancusa</i> subsp. <i>olivieri</i> (Boiss.) Soenarko	Kaheh maki, Potar	SS	He	-
252	<i>Cynodon dactylon</i> (L.) Pers.	Margh	Cosm	Ge	-
253	<i>Desmostachya bipinnata</i> (L.) Stapf	Kartaki, Karteh	SS	Ge	-
254	<i>Dichanthium annulatum</i> (Forssk.) Stapf	Chamangereh rish	PL	Ge	-
255	<i>Digitaria sanguinalis</i> (L.) Scop.	Panje kalaghi	PL	Th	-
256	<i>Dinebra retroflexa</i> (Vahl) Panz.	Shaneh chaman	SS	Th	-
257	<i>Echinochloa colonum</i> (L.) Link	Sorouf berenji	PL	Th	-
258	<i>Echinochloa crus-galli</i> (L.) P. Beauv.	Sorouf, Berenj arzani	PL	Th	-
259	<i>Festuca myuros</i> L.	Annual fescue	PL	Th	-
260	<i>Heteranthelium pliferum</i> (Banks & Sol.) Hoschst	Degar gole gandomi	IT, M	Th	-
261	<i>Hordeum murinum</i> subsp. <i>glaucum</i> (Steud.) Tzvelev	Wild barley	SS, IT	Th	-
262	<i>Hordeum murinum</i> subsp. <i>gussoneanum</i> (Parl.) Thell.	Jouye sahehi, Shaeireh	SS, M, IT	Th	-
263	<i>Hordeum vulgare</i> L. subsp. <i>sponthaneum</i> (C. Koch) Asch. & Graebn.	Jouye vahshi	SS, M, IT	Th	-
264	<i>Hyparrhenia hirta</i> (L.) Stapf	Narisht	M, SS	He	-
265	<i>Imperata cylindrica</i> (L.) Raeusch.	Halfeh, Zolfe sheytan	SS, M	Ge	-
266	<i>Lolium persicum</i> Boiss. & Hohen.	Chachame irani	IT, SS, EA	Th	-
267	<i>Lolium rigidum</i> Gaudin	Chachame sakht, Chachame shekanandeh	M, IT, SS, EA	Th	-
268	<i>Panicum repens</i> L.	Arzane juibari, Arzane mordabi	PL	Hel	-
269	<i>Parapholis incurva</i> (L.) C. E. Hubbard	Dom mari, Graneh	SS, M, IT	Th	-
270	<i>Phalaris minor</i> Retz.	Daneh Ghanari	SS, M, IT	Th	-
271	<i>Phragmites australis</i> (Cav.) Trin. ex Steud.	Nei, Kesab, Shohaf	Cosm	Hel, Ge	-
272	<i>Poa annua</i> L.	Chamane yeksaleh	Cosm	Th	-
273	<i>Poa persica</i> Trin.	----	IT, M	Th	-
274	<i>Polypogon monspeliensis</i> (L.) Desf.	Shaldom	Cosm	Th	-
275	<i>Rostraria cristata</i> (L.) Tzvelev	Dom robahak	M, SS, IT	Th	-
276	<i>Rostraria obtusiflora</i> (Boiss.) Holub	Dom robahake beiroti, Gambo	M	Th	-
277	<i>Schismus arabicus</i> Nees	Chamane biabani	M, IT, SS	Th	-
278	<i>Setaria verticillata</i> (L.) P. Beauv.	Arzani, Gavrose charkheie	PL	Th	-
279	<i>Sorghum halepense</i> (L.) Pers.	Chaeir, Dokhen	SS, IT, EA	Ge	-
280	<i>Sphenopus divaricatus</i> (Gouan) Rechb.	Dom govehie	M, IT	Th	-



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281	<i>Stipagrostis plumosa</i> (L.) Munro ex T. Andreson	Sebte parmorghi, Sebte pakoutah	SS, IT	He	-
282	<i>Stipellula capensis</i> (Thunb.) Röser & Hamasha	Bahman, Stepie afrighaie	SS, M, IT	Th	-
Polygonaceae					
283	<i>Polygonum aviculare</i> L.	Haftband maemoli	Cosm	Th, He	-
284	<i>Polygonum maculosa</i> Gray	Haftbande holoie	PL	Th	-
285	<i>Polygonum patulum</i> M. Bieb.	Haftbande pakotah, Haftbande gostardeh	IT, ES, EA	Th	-
286	<i>Rumex spinosus</i> L.	Khar torshak	M, SS	Th	-
287	<i>Rumex dentatus</i> L.	Torshake dandanehdar	PL	Th	-
288	<i>Rumex vesicarius</i> L.	Torshake badkonaki, Torsh pako	SS	Th	-
Portulacaceae					
289	<i>Portulaca oleracea</i> L.	Khorfeh, Parpin	Cosm	Th	-
Primulaceae					
290	<i>Lysimachia arvensis</i> (L.) U. Manns & Anderb.	Anaghalis	Cosm	Th	-
291	<i>Lysimachia linum-stellatum</i> L.	---	M, SS	Th	-
Ranunculaceae					
292	<i>Adonis dentata</i> Delile	Cheshme khorouse irani	SS, M	Th	-
293	<i>Delphinium cycloplectrum</i> Boiss.	Zabanpasghafaie zagrousi	IT	He	-
294	<i>Delphinium flava</i> DC.	Zabanpasghafaie zard	SS	Th	-
295	<i>Ranunculus asiaticus</i> L.	Alalehe irani, Alalehe ghermez	SS	Ge	-
Resedaceae					
296	<i>Reseda aucheri</i> Boiss.	Varase biabani	SS	He	-
Rhamnaceae					
297	<i>Ziziphus nummularia</i> (Burm. F.) Wight & Arn.	Ramlik	SS	Ph	-
298	<i>Ziziphus spina-christi</i> (L.) Desf.	Konar, Sedr, Nabuk	SS	Ph	-
Rubiaceae					
299	<i>Callipeltis microstegia</i> Boiss.	Zibasepar	SS	Th	-
300	<i>Galium ceratopodum</i> Boiss.	Shirpanir	SS	Th	-
301	<i>Galium setaceum</i> Lam	Shirpanir	IT, M, SS	Th	-
Rutaceae					
302	<i>Haplophyllum tuberculatum</i> (Forssk.) Juss.	Sodabi jonoubi, Sodabi zagildar	IT, SS	He	-
Salicaceae					
303	<i>Populus euphratica</i> Olive.	Padeh	IT, SS, M	Ph	-
Scrophulariaceae					
304	<i>Scrophularia deserti</i> Del.	Gole meimone biabani	M, SS	Ch	-
305	<i>Scrophularia striata</i> Boiss.	Gole meimone sazoi	IT	Ch	-
306	<i>Verbascum kochiiforme</i> Boiss. & Hauskn.	Gole mahoure behbahani Gole mahoure mavvaj,	SS, Endemic	He	DD
307	<i>Verbascum sinuatum</i> L. var. <i>adenosepalum</i> Murb.	Gole mahoure medaetranehie	M, IT	He	-
Solanaceae					
308	<i>Hyoscyamus insanus</i> Stocks	Bazrolbanje jononavar	SS	Ch	-
309	<i>Lycium shawii</i> R. Roem. & Schult.	Serim, Dehir, Zirouk, Gatgato	SS	Ph	-
310	<i>Physalis divaricata</i> D. Don.	Arosak poshteh pardeh harz	SS	Th	-
311	<i>Solanum nigrum</i> L.	Tajrizi siah	Cosm	Th	-
Tamaricaceae					
312	<i>Tamarix arceuthoides</i> Bunge	Tarfeh, Zora	IT	Ph	-
313	<i>Tamarix leptopetala</i> Bunge	Gaze angabin, Gaze faransavi	IT	Ph	-
314	<i>Tamarix passerinoides</i> Delile ex Decne.	Gaze mesri	SS	Ph	-
315	<i>Tamarix tetragyna</i> Ehrenb.	Gaze biabani	SS, IT	Ph	-
Typhaceae					
316	<i>Typha domingensis</i> Pers.	Loei, Bardi	PL	Hel	-
Urticaceae					
317	<i>Parietaria alsinefolia</i> Delile	Goshmosh saieh pasand	SS	Th	-
318	<i>Urtica urens</i> L.	Gazane sag	Cosm	Th	-
Zygophyllaceae					
319	<i>Tribulus terrestris</i> L.	Kharkhasak	Cosm	Th	-
320	<i>Zygophyllum bruguieri</i> (DC.) Christenh. & Byng	Esfand romi	SS	Ch	-



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