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Geographical Dispersion Pattern of Northern Zagrous Parts in Islam Abad Gharb and Introduction of Biological Shapes Related to Them

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Abstract

The study of the vegetative coverage of a region in order to exploit its natural sources is of great importance. Islam Abad Gharb is located in Kermanshah between 45, 24 min to 38, 30 min of the eastern longitude and 33, 36 min to 35, 15 min of the northern latitude. Its extent is about 4654, and it is 1335 m above sea level. This city is dry according to amperage formula. It is a mountain city with an average annual rain of 414/72 m. The highest average temperature is 37°C in August, and the lowest average temperature is −20°C in December. The vegetative coverage of the region was determined based on the floristic method, and the biological shape of each plant was determined generally. There are 79 families, 225 genera, and 335 species. Six big families are: Brassicaceae (28 spp.), Gramineae (27 spp.), Papilionaceae (26 spp.), Apiaceae (24 spp.). Compositeae (29 spp.), and Labitate (17 spp.). Therophytes are the most common and compromise 47% of all plants. Others are Hemicryptophytes (24%), Phanerophytes (12%), and Geophytes (10%), that is, 54% of Iranian-Toranian plant.

Keywords: Islam Abade Gharb; Northern Zagrous; Geographical dispersion; Flora

Introduction

Among the countries located in western south Asia, Iran has the most diversity of plants, and it is because of its large extent, climate, and topography. Climate diversity has led to an interesting ecosystem in the country that each family of plant has its own genus and species. Plants are live creatures, and humankind is dependent on them forever because plants are the sources of food, oxygen, energy, main materials, and medicinal drugs. However, plants are not treated by us the same as animals. It may be because they do not show any senility as do animals [1]. Although such an ecosystem is of great importance for Islam Abad Gharb, natural habitats have been extensively destroyed by humankind in different ways, especially through agricultural activities, so many valuable species have vanished. However, a natural ecosystem can be seen in the region, yet researchers have had a less head to it. Islam Abad Gharb is located in Kermanshah [2]. It is bounded by Paveh and Gavanrood in the north, Sarpolzahab and Gillangharb in the west, Ilam in the south, and Kermanshah in the east. It is between 45, 24 min to 38, 30 min of the eastern longitude and 33, 36 min to 35, 15 min of the northern latitude. Its extent is about 4654, and it is 1335 m above sea level. It is a mountain city with an average annual rain of 414/72 m. The highest average temperature is 37°C in August, and the lowest average temperature is −20°C in December. Figure 1 shows the rain curve–temperature of Islam Abade Gharb.

Materials and Methods

To introduce the regions' flora, plants were collected from different regions from early march to late June in 2014. In this investigation, perfect samples were used and all vegetative samples, after the preparation of herbarium, were investigated in Payamenoor's herbarium and the herbarium of the agricultural faculty of Razi University; their identification was done after being fixed on herbarium sheets.

- Yazd flora [3], Iranica flora [4], herbal plants [5], names of Iranian plants dictionary [6], and plant ranking [7], Iran's chromophytes [8], Iran's astragalus [9].
- Iran's flora, butterfly-shaped family, Kermanshah flora.
- Application of Lu method—phytosociology in the determination of intergenus [10].
- Introduction of growth flora in the drainage basin of kerned [11].
- Introduction of 72 eatable plants in Kermanshah and Kordestan [12].
- Iraq flora [13] and Turkey flora [14].
- Introduction of flora and determination of the biological shape of growth elements [2].
- Common code of families and genus of Iran's flora [11].
- Investigation of the flora of Dalaho mountain in Kermanshah [1].
- Iran's weeds [15], herbal plants [5], Europe's flora [16].

Raunchier ranking was used for the determination of biological shapes [10]. This ranking is based on the unpleasant condition for growth.

Results

Floristic investigations showed that in the region of study, there are 79 families, 255 genera, and 335 species. The families have the most diversity are Composite (29 spp.), Brassicaceae (28 spp.), Gramineae (27 spp.), Papilionaceae (26 spp.), Apiaceae (24 spp.), Labiateae (17 spp.). The results showed that the Composite family has the most diversity of all (Figure 2).

Moreover, the floristic investigation in the region show that the subspecies of *Acer monspessulanum* L. grow in all the growth regions of Zagrous, including western Azarbaijan, Kordestan, Kermanshah, Ilam, Lorestan, Gharmahal Bakhtiari, Isfahan, Kohgiluyeh and Boyerahmad, Fars, and Khozestan.

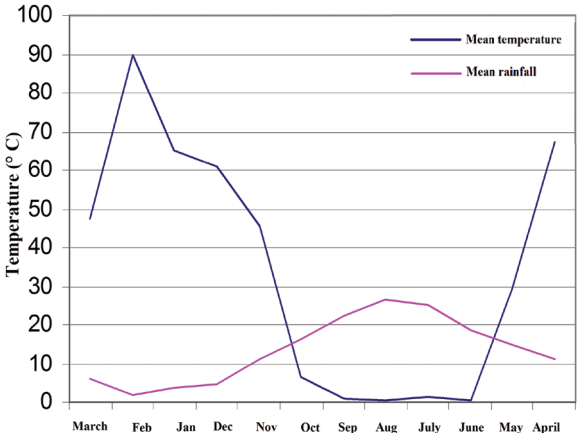

Figure 1: Ombrothermic curve of Islam Abad Gharb

Plant name and family	Karyotype	Region plants
Acantholimon olivieri (Jaub. & spach) Boiss.	Ch	IT
Acanthophyllum caespitosum Boiss.	Ch	IT
Acer negundo L.	Ph	ES-IT
Acer monspessulanum L.	Ph	ES-IT
Achillea wilhelmsii C. Koch	He	IT
Adonis aestivalis L.	Th	IT
Aegilops crassa Boiss	Th	ES-IT
Aegilops cylin drica Host.	Th	SS-IT
Aethionema carneum (Banks et Soland.) B. Fedtsch.	Th	IT
Aethionema grandiflorum Boiss.et Hohen.	Th	ES-IT
Agropyron trichophorum (Link) Richter	He	ES-IT
Ajuga chamaecistus Ging.	He	IT
Alcea hohenackeri (Boiss. & Huet) Boiss.	Th	IT
Alhagi camelorum Fisch.	Ch	IT
Alhagi persarum Boiss. & Buhse	Th	IT
Allium eriophyllum Boiss. Var. eriophyllum	Ge	SS-IT
Altheae hirsuta L.	Th	ES-IT
Alyssum strigosum Banks & Soland.	Th	IT
Alyssum margin atum Steud ex Bioss.	Th	SS-IT
Alyssum spp.	Th	IT
Amaranthus retroflexus L.	Th	IT
Amygdalus haussknechtii (c. K Schneider.) Bornm	Ph	IT
Amygdalus lycioides Spach Var.	Ph	ES-IT
Amygdalus scoparia Spach.	Ph	IT
Anchusa italica Retz.	He	ES-SS-IT
Anchusa cF.	He	IT
Andrachne telephioides L.	He	ES-IT
Anisosciadium orientale Dc.	Th	SS-IT
Anthemis altissima L.	Th	ES-IT
Anthriscus sylvestris (L.) Hoffm	He	ES
Antirrhinum sp.	Th	ES-IT
Arabis aucheri Boiss.	Th	IT
Arabis caucasica Willd.	Th	IT-ES
Aristolochia Bottae-jaub & spach	He	IT
Artedia squamata L.	Th	IT
Arum conphalloides Ky. ex schott	Ge	IT
Arum giganteum A. Ghahreman	Ge	IT
Arundo donax L.	Hel	ES-IT
Astragalus (Sect. platon ychium Bunge.	Ch	ES-IT
Astragalus (tragacantha) Sp.	Ch	IT
Astragalus michauxianus Boiss.	Ch	IT
Avena cF. Wiestii Steud.	He	ES-IT
Avena fatua L.	Th	ES-IT
Bellevalia pycnantha (C.koch) A.Los.	Ge	IT
Biarum cardu chorum (Schott) Engl.	Ge	IT
Biebersteinia multi fida DC.	C	ES-IT
Biscutella didyma L.	Th	SS-IT
bursd-pastoris L. Medicus	Th	ES-IT
Boissiera squarrosa Hochst.	Th	ES-IT
Bongardia chrysogonum (L.) Boiss.	Ge	IT
Bromus danth oniae Trin.	Th	ES-IT
Bromus sericeus Drobov.	Th	ES-IT
Bryoni multiflora Boiss.	He	IT
Bryonia dioica Jacq.	He	IT
Bupleurum lancifolium Hornem.	Th	IT
Bupleurum rotundifolium L.	Th	IT
Calendula officinalhs L.	Th	IT
Callipeltis cucallaria (L.) Stev.	Th	SS-IT
Campanula flaccidula Vatke.	Th	IT
Campanula erinus L.	Th	SS-IT
Cannabis sativa L.	Th	ES
Cardaria draba (L.) Desv.	Th	ES-IT
Carduus arabicus Jacq. ex Murray	Th	IT
Carrichtera annua (L.) D.	Th	SS-IT
Carrichtera annua (L.) Dc.	Th	SS-IT
Carthamus tinctorius L.	Th	IT
Celtis cauca sica Willd.	Ph	IT
Centaurea virgata Lam.	Th	IT
Centaurea depressa M. B.	Th	IT
Centaurea irritans Wagenitz.	Th	IT
Centaurea koeieana Bornm.	Th	IT
Centaurium minus Moench.	Th	ES-IT
Centeaurea solstitialis L.	Th	IT
Cephalaria sp.	Th	IT
Cerastium dichotomum L.	Th	IT
Cerasus vulgaris Miller, Gard.	Ph	ES-IT
Ceratocephalus falcate (L.) Pers.	Th	IT
Cercis siliguastrum L.	Ph	ES-IT
Ceterach officinarum D.c	He	IT
Chaenorhinum sp. (DC) Reichenb.	He	ES-IT
Chardinia orientalis (L.) O. kuntza	Th	ES-IT

(Continued)

Plant name and family	Karyotype	Region plants
Charophyllum macropodum Boiss.	He	IT
Chorzophora obliqua (VahL.) Juss.	Ph	IT
Chrozophora tinctoria (L.) Juss.	Th	IT
Cicer arietinum L.	Th	SS-IT
Cichorium intybus L.	He	IT
Clypeola jonthlaspi L.	Th	TH-ES
Consolida oliveriana (D. C) Schrod.	Th	IT
Consolida orientalis (Gay) Schrod.	Th	IT
Consolida tomentosa (Aucher) Schrod.	Th	IT
Convolulus schira zianus Boiss.	Th	IT
Convolvulus stachydiflius Choisy	Th	SS-IT
Convolvulus arvensis L.	Th	SS-IT
Convolvulus commutatus Boiss.	Th	IT
Corydalis verticillaris DC.	Ge	IT
Corylus avellana L.	Ph	ES-IT
Crataegus pontica C. Koch	Ph	IT
Crepis sp.	Th	ES-IT
Crocus haussknechtii Boiss.	Ge	IT
Cydonia oblonga Miller, Gard.	Ph	ES-IT
Cynodon dactylon (L.) Pers.	Ge	ES-IT
Cynoglossum creticum Miller	He	ES-IT
Cyperus alternifolius L.	He	IT
Cyperus cf Longus L.	Hel	IT
cyprium Murb. Lunds Univ. *Rumex*	Th	SS-IT
Daphna mucronata Royle.	Ch	ES-IT
Datrlorrhiza umbroza (Kar. et kir.) Nevski	Ge	ES-IT
Datura stramonium L.	Th	SS-ES-IT
Descurainia sophia (L.) webb et Berth.	Th	IT
Dianthus orientalis Adama subsp. Orientalis	Th	SS-IT
Dianthus persicus Hausskn. Mitt.	Th	IT
Diplotaxis harra (Forssk.) Boiss	Th	SS-ES-IT
Echi nophora platyloba Dc.	He	IT
Echinoch loa crus – galli (L.)	Th	ES-IT
Echinops pungens Traut V.	He	IT
Erodium gruinum (L.)	Th	IT
Erodium x yrrhnchum M.B.Subsp. oxyrrhum	Th	ES-IT
Eryngium thyrsoideum Boiss.	He	IT
Erysimum L.	Th	ES-IT
Allium ascalon icum L	*Th*	*ES-IT*
Erodium cicutarum (L.) L.	*Th*	*ES-IT*
Adianthum capillus-veneris L.	*Ph*	*ES-IT*
Euphorbia SP.	He	IT
Euphorbia cheiradenia Boiss. et Hohen	He	ES-IT
Euphorbia falcata L.	Th	ES-IT
Euphorbia seguieriana Necker subsp. niciciana (Brorb).	He	IT
Euphorbia splendida Mobayen	He	IT
Euphorbia cond ylocrpa M.B	He	ES-IT
Euphorbia heteradenia Jaub. & Spach.	He	IT
Euphorpia sp.	Th	IT
Falcaria vulgaris Beranh.	He	SS-ES-IT
Ferulago angulata (schlecht) Boiss.	He	IT
Ferulago stellata Boiss.	Th	IT
Ficus carica L.	Ph	ES-IT
Fragaria vesca L.	He	ES
Fraxinus rotundifolia (Foangustifolia Vahi) L.	Ph	ES-IT
Gagea ova Stapf.	Ge	IT
Gagea reticulate (pall.) Roem. et Schult.	Ge	IT
Galium sp.	Th	IT
Galium sp.	Th	IT
Geranium lucidum L.	Th	ES-IT
Geranium sp.	Th	ES-IT
Geranium tuberosum L.	Ge	ES-IT
Gladiolus sp.	Ge	IT
Glaucium grandiflorum Boiss. & Huetin Boiss.	He	IT
Glycyrrhiza glabra L.	Ge	IT
Gypsophila sp.	Th	IT
Heliocarya sp.	He	IT
Hesperis persica Boiss.	Th	IT
Heteranthelium Pilifrum (Banks et soland.)	Th	IT
Hetero caryum szovitsianum (Fisch. et c.A.Mey.) A.DC.	Th	IT
Hibiscus syriacus L.	Th	IT
Hibiscus trionum L.	TH	IT
Hirschfeldia incana (L.) Lag.	Th	SS-IT
Hordeum glaacum Steud.	Ge	ES-IT
Hordeum marinum Hudson.	Th	ES-IT
Hordeum spontan eum C. Kock	Th	IT
Hordrum bulbosum L.	Ge	ES-IT
Hymenocrater longiforus Bench.	Ch	IT
Hyoscyamus sp.	He	IT
Hypecoum pendulum L.	Th	SS-ES-IT
Hypericum scabrum L.	He	IT
Iris aucheri (Baker) sealy	Ge	IT
Iris hymenospatha Mathew & Wendelbo	Ge	SS-IT
Iris reticulate M.B Var. reticulate	Ge	ES-IT
Isatis lustitanica L.	Th	ES-IT
Isatis rephani folia Boiss	Th	IT
Carex stenophyla	*Hel*	*IT*
Rumex acetosa L	He	*IT*
Ixiolirion txtaricum (pall) Herb.	Ge	SS-ES-IT
Johrenia aramatica Rech. F. Unm bell.	He	IT
Juglana regia L.	Ph	ES-IT
Juncus inflexus L.	Hel	ES-IT
Juncus bufonius L.	Hel	ES-IT
Juncus articulatus L.	Hel	ES-IT
Kochia scoparia (L.) schard.	Th	IT
Lactuca sp.	Th	IT
Lagoecia cuminoides L. *Lisaea heterocarpa*	Th	SS-IT

(Continued)

Plant name and family	Karyotype	Region plants
Lallemantia iberica (Stev.) Fishch. et C. A. Mey.	Th	ES-IT
Lappula sp.	Th	IT
Lathyrus inconspicuous L.	Th	ES-IT
Lens cyanea (Boiss. & Hohen.) Al	Th	SS-IT
Lens culinaris Mmedicus.	TH	IT
Lepidium cartilagineum (J.marer) thell	Th	IT
Lepidium vesicarium L.	Th	IT
Leptaleum filifolium (Willd.) Dc.	Th	ES-IT
Ligustrum vulgare L.	Ph	IT
Linaria chalepensis (L.) Miller.	Th	SS-ES-IT
Linaria grandiflora Desf.	Th	IT
Linum mucronatum Subsp. Assyriacum	Th	IT
Linum strictum L.	TH	IT
Lolium pernne L.	Th	ES-IT
Lonicera numm ulariifolia jaub. et Spach.	Ph	SS-IT
Loranthus europaeus Jacq Enum Stirp.	Ph	IT
Loranthus grewinkii Boiss et Buhse	Ph	IT
Lysimachia linum – stellatum L.	Th	SS-ES-IT
Malabaila secacul (Miller) Boiss.	Ge	IT
Malva neglecta Wallr.	Th	IT
Marrubium astracanicum Jacq.	Ch	ES-IT
Marrubium sp.	He	IT
Matthiola sp.	Th	IT
Medicago sativa L.	He	ES-IT
Melica persica subsp persica	He	IT
Melilotus indicus (L.) All.	Th	SS-IT
Melilotus officinalis (L.) Desr	Th	IT
Mentha longifolia (L.) Hudson	He	ES-IT
Mentha sp.	He	IT
Milium vernal M.B	Th	ES-IT
*Mobaye*nii Ghahreman & Attar, Iran	He	IT
Morus alba L.	Ph	SS-ES-IT
Morus nigra L.	PH	
Myriophllum verticillatum L.	Hy	IT
Myriophyllum fabmersum L.	Th (Hy)	IT
Neslia apiculata Fisch	Th	IT-ES
Nigella arvensis L.	Th	IT
Noae mucronata (Forsk.) Aschers	Th	Eh-IT
Nonnea sp.	Th	ES-IT
Notobasis syriaca (L.)	Th	SS-IT
Nuphar luteum (L.) Smith	Hy	IT
Oliveria decumbens Vent.	Th	SS-IT
Onobrychis sp.	Th	IT
Onobrychis melanotricha Boiss., Diagno.	Th	IT
Onosma sp.	He	SS-IT
Onosma sp.	Ge	SS-IT
Onosma bulbotrichum Dc.prodr.	He	IT
Onosma macro ph yllum Bornm.	He	IT
Ornithogalum sp.	Ge	IT
Ornithogalum tenuifolium	Ge	IT
Orobanche sp.	Th	IT
Orobanche alba Steph.	Th	IT
Orochis anatolica Boiss.	Ge	IT
Outreya cardui formis Jaub .et spach	He	ES-IT
Papaver rhoeas L.	Th	SS-ES-IT
Parietaria alsinifolia Delile.	Th	SS-IT
Parietaria judaica L.	C	ES-IT
Phaseolus vulgaris L.	Th	IT
Phleum iranica Um Brorn.	Th	ES-IT
Phlomis olivieri Benth.	He	ES-IT
Phlomis persica Boiss.	He	ES-IT
Phlomis rigida Labill.	He	IT
Phlomis sp.	He	Es-IT
Phragmites australis (Cav.) Trin. ex Steud.	Hel	SS-ES-IT
Picnomon acarna (L.) Cass.	He	ES-IT
Picris strigosa M. B. Subsp.	He	IT
Pimpinella kostchyana Boiss.	He	IT
Pimpinella eriocarpa Banks et Soland.	Th	SS-IT
Pinus eldarica Medw.	Ph	ES
Pistacia mutica Fisch. et mey.	Ph	SS-IT
Pisum sativum L.	Th	SS-ES-IT
Plantago lanceolata L.	He	SS-ES-IT
Plantago major L.	He	ES-IT
Platanus orientalis L.	Ph	IT
Platycladus orientalis (L.) Franco	Ph	IT
Plygonum lusuloides Jaub. & Spach.	Th	IT
Poa bulbosa L.	Th	ES-IT
Polygonum alpestre C. A Mey.	Th	ES-IT
Polygonum sp.	Ch	ES-IT
Polytrichum sp.	Th	ES-IT
Populuscaspica Bornm.	Ph	ES-IT
Potamogeton lucens L.	Th	ES-IT
Prangos sp.	He	IT
Prangos ferulaceae (L.) Linadl.	He	IT
Pterocephalus canus coulter ex Dc.	He	IT
Pterocephlus kurdicus Vatke.	He	IT
Punica grantum L.	Ph	ES-IT
Quercus brantii Lind L.	Ph	IT
Quercus in fectoria olive. roy, Emp.	Ph	IT
Quercus longipes Stev.	Ph	IT
Ranunculus sp.	Ge	IT
Ranunculus sp.	Ge	IT
Ranunculus sp.	Ge	IT
Ranunculus sp.	Ge	IT
Ranunculus arvensis L.	Ge	IT
Ranunculus asiaticus L.	Ge	IT

(Continued)

Plant name and family	Karyotype	Region plants
Ricinus communis L.	Th	IT
Rosa sp.	Ph	IT
Rosa sp.	Ph	IT
Rosularia sempervium Var. Sempervium	He	IT
Rosularia sempervium (M.B.) Berger	He	IT
Rumex acetosella L.	He	IT
Saccharum ravennae (L.) murray	He	ES-IT
Salix alba L.	Ph	ES-IT
Salix acmophylla Boiss.	Ph	ES-IT
Salix excelsa J. F. Gmel	Ph	ES-IT
Salvia sp.	He	IT
Salvia bracteata Banks et Soland	He	IT
Salvia russellii Benth.	He	IT
Salvia syricca L.	He	ES-IT
Salvia multicaulis Vahl.	He	ES-IT
Sanguisorba minor Scop.	He	ES-IT
Scabiosa calocephala Boiss.	Th	IT
Scandix pecten-veneris L	Th	IT
Scariola orientalis (Boiss) Sojak Subsp.	He	IT
Scirpus lancustris L.	Hel	IT
Scorzonera phaeopappa (Boiss.)	Th	IT
Scrophularia deseti Del. Descr.	He	SS-IT
Scrophularia striata Boiss.	He	IT
Senecio vulgaris L.	Th	IT
Senecio vernalis Waldst. & Kit.	Th	IT
Silene conoidea L.	Th	IT
Silene dichotoma Ehrh., Beitr. Naturk.	Th	ES-IT
Silene morganae Freyn, Bull.	Th	IT
Sinapis au cheri (Boiss.)	Th	SS-IT
Sinapis arvensis L.	Th	IT
Sisymbrium irio L.	Th	IT
Smyrniopsis aucheri Boiss	He	IT
Smyrnium cordifolium Boiss	He	IT
Solanum melongena L.	Th	SS-ES-IT
Solanum nigrum L.	Th	SS-ES-IT
Solenanthus circinnatus Ledeb.	He	ES-IT
Sophora alopecuroides L.	He	ES-IT
Sorghum bicolor (L.) moench.	Ge	ES-IT
Sorghum halo pensis (L.) pers	Ge	ES-IT
Spartium junceum L.	Ph	ES-IT
Spirodela polyrrhiza (L.) Schleiden	Hy	ES-IT
Stachys benthamiana Boiss	He	IT
Stachys kermanshahensis Rech. F. Pl.	He	IT
Stachysin inflata Bench.	He	IT
Sterigmostemum Sulphureum (Banks et Soland.) Bornm.	Th	SS-IT
Stipa barba ta Desf.	He	IT
Tamarix sp.	Ph	It
Taraxacum officinale Weber.	He	IT
Taraxacum sp.	He	IT
Teucrium melissoides Boiss. et Hausskn. et Boiss.	He	SS-IT
Teucrium polium L.	He	IT
Teucrium parviflorum Schreb.	He	IT
Physalis divaricata D.Don	*TH*	*ES-IT*
Theligonum cynocrambe L.	Th	IT
Thymelaea mesopotamica (C. Jeffrey) B. Peterson	Th	SS-IT
Trifolium dasyurum C. Presl.	Th	ES-IT
Trifolium grandi forum Schreb.	Th	SS-ES-IT
Trifolium purpureum L.	He	IT
Trifolium tomentosum L.	Th	ES-IT
Trifolium campestre Schreb.	TH	SS-ES-IT
Trigonella foenum – graecum L.	Th	SS-IT
Turgenia latifolia (L.) Hoffm.	Th	ES-IT
Typha latifolia L.	Hel	SS-IT
Ulmus campetris L.	Ph	ES-IT
Umbelicus intermedius Boiss.	He	ES-IT
Umbilicus tropaeolifolius Boiss	He	IT
Urtica dioica L. Var. dioica	He	SS-ES-IT
Urtica pilulifera L.	Th	SS-ES-IT
Vaccaria grand iflora (fisch. ex Dc.)	Th	IT
Vaccaria liniflora (Boiss& Hausskn)	Th	IT
Valeriana sp.	Th	ES-IT
Valerianella dufresnia Bunge et Boiss.	Th	ES-ES-IT
Vallerianella vesicaria (L.) moench, Meth.	Th	ES-IT
Verbascum sp.	He	ES-IT
Verbascum sp.	He	IT
Verbascum sp.	He	ES-IT
Verbascum cheiranthifolium Boiss. Diagn.	He	ES-IT
Verbascum nudicaule (Wydl.) Takht.	Th	IT
Veronica anagallis-aquatic L. Subsp. Oxycarpa (Boiss.)	Th	IT
Vicia hyrcanica Fisch. et C.Amey	Th	IT
Viola occulta Lehmann, Ind. Sem. Hort. Bot.	Th	ES-IT
Viola modesta Fenzl.	Th	IT
Viola tricolor L. var. arvensis Murr.	Th	ES-IT
Xantium spinosum L.	Th	IT
Xantium strumarium L.	Th	ES-IT
Xeranthemum squarrosum Boiss.	He	ES-IT
Zeugandra iranica P. H. davis Hook.	He	IT
Ziziphora clinopodioides Lem.	He	IT
Ziziphora capitata L.	Th	IT
Ziziphora tenuir L.	Th	ES-IT
Zoegea leptaurea L.	Th	IT

Table 1: Plant name and family in the study area (Karyotype and region

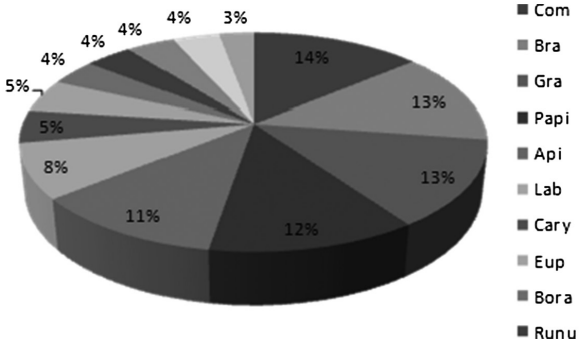

Figure 2: Piechart of plant species distribution in high species family

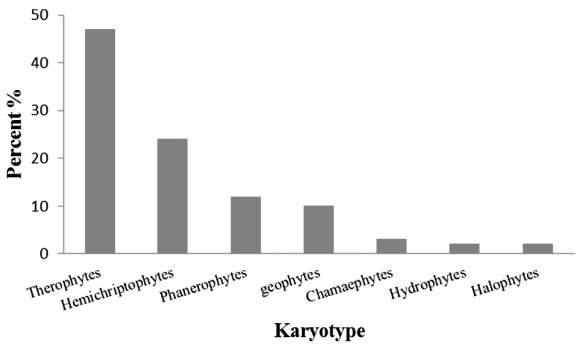

Figure 3: Pie chart of plant species distribution in high species genus

The largest genera in the region are Euphorbai (7 spp.), Allium (5 spp.), Trifolium (5 spp.), Convolvulus (4 spp.), Hordum (4 spp.), and Salvia (4 spp).

The percentages of biological shapes of plants in the region are: 47% (Therophytes), 24% (Hemichriptophytes), 12% (Phanerophytes), 10% (Geophytes), 30% (Chamaephytes), 2% (Hydrophytes), and 2% (Halophytes).

The geographical dispersion of the plants in the region is as follows:

Iranian-Toranian (54%), European-Syrian (30%), Sahara-Sydney (11%), and worldwide (5%).

Discussion

The flora of the region has been investigated for the first time, and it was clear that the flora has 255 genera, 335 species, and 79 families. Composite (29 spp), Brassicaceae (28 spp), Gramineae (27 spp), Papilionaceae (26 spp), Apliaceae (24 spp.), and Labiateae (17 spp) are the most common. Euphorbiae (7 spp.) is the largest genus in the region, and the lowest growth shapes belong to: trophits (47%), Hydrophytes (02%), Halophytes (02%).

In terms of vegetative geography, Islam Abad Gharb belongs to Iranian-Toranian area, and it is confirmed by the results that show that more than half of the species (54%) are in this region. The comparison of chorotypes of plants in different habitats show that Iranian-toranian species increases with the increase in height while Sahara-Sandi species decreases. Among the trees and shrubs are *Quercus brantii, Q. infectoria, Q. libani, var persica: Cratagus pontica, Daphne mucronata, Cerasus microcarpa subsp*. tortuosa, *Acer monspessulanum subsp., and Amygdalus orientalis subsp.* orientalis.

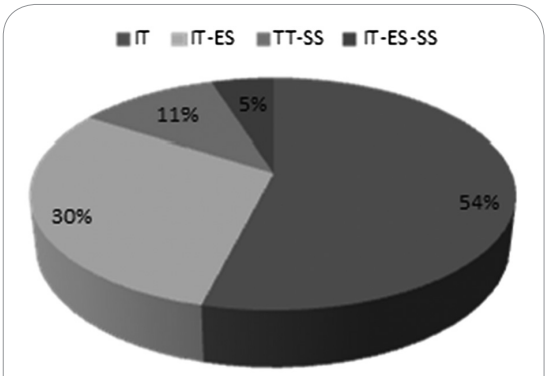

Figure 4: The percentage of growth elements of the regions' plants

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