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A survey study of the plants of the district center of Holy City of Kerbala

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***Abstract*---**This study examined the current survey of the Fern, gymnosperm plant and angiosperm plant of dicotyledon and monocotyledon wild during the study period (2021-2022) in the area of Kerbala disitricts, there are (239) species which relate to (161) genus and (49) families. The dicotyledone species (195) beloing to (46) families, the monocotyledon species (44) beloing to (7) families. All these have been scientifically classified with their local and common or Arabic names. Besides their duration and economic importance (medical, toxis, nutritional, forage, artificial, harmful, aromatic, ornamental, fuelplant or other uses). Moreover, their geographical distribution the districts of Iraq and the study results statistics have shown that the vast majority of the collected species are herbal plants totalling (159) wild species out of (239) wild species. As for the shrub species it amounts to (27) wild species where as the number of woody species of tree is (11) as the number of parasitic species is (1). As for the economic plants and their significance, lets mention the fact that the number of the medical plants are (172) species, the plants used as forage amount to (145), the plants used as fuel are (24) species, the toxic plants fall into (23), the ornamental plants are (15) species, the aromatic plants are of (8)species, the weed plants (6)species, it also study the floristic composition, there are clearly dominating to graminae and compositae families of (33) species, (37) species previosly. Then the chenopodianaceae families with (29) species, thent the papilionaceae family with (17) species so the dominating genus was *Astragalus*, *Euphorbia*, *Tamarix* with (8) species, then, launaea and plantago each genus with (7) species, then the euphorbia with (6) species, the plant communities was studied, there are dominating to wild species as haloxylon salicornicum, zygophyllum, coccenium, cornulaca, leucoantha and tamarix species sp.

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Introduction

Plants use solar energy and carbon dioxide to produce food for humans and all creatures, produce oxygen gas necessary for respiration, rid the air of toxic gases, and maintain temperatures suitable for life. In Iraq, many researchers were interested in studying the vegetation cover of its regions, including a study [1] of the plant biodiversity of the area of Wadi al-Tayeb in Al-Amarah, and [2] a survey study of wild plants of dicotyledons in the area of Diyala chests, and referred to [3] of the plant diversity of the southern desert. In Basra, the previous studies of the western plateau province within which the study area is located were a study [4] of the vegetation cover along the highway (Ramadi - Rutba) and a study [5] of the plant biodiversity of the Rutba Dam area in western Iraq. As for the study area, there are only two studies, the first study [6] of biodiversity in Al-Razzaza Lake, where the types of amphibians, fish, reptiles, birds and plants found in the lake and the adjacent lands were studied, as they mentioned 64 plant species, and the second study of Al-Bahadli [7], which carried out a taxonomic study of selected species of dicotyledonous plants in the holy governorate of Karbala, and it conducted a study of some phenotypic and anatomical characteristics of some samples of dicotyledons collected from different environmentally locations in Karbala.

Objectives of the Study

1. Studying some aspects of the biodiversity of the Markaz district in terms of vascular plant wealth.
2. Identifying the wild natural plants of dicotyledons and monocotyledons in the district of the Center and classifying them scientifically during the specified study period.
3. Identify the permanence and life forms of the studied species.
4. Determining the dominant plant communities in the study areas.
5. Environmental awareness of the benefits and harms of the studied plants by defining their economic importance.
6. Indicating the importance of field surveys of natural ecosystems in general and plant flora in particular, working to protect them, rationalizing their investment, and constantly monitoring their conditions.
7. Survey and collection of plants from the study area and preserved in the herbarium of the College of Education - University of Karbala in order to preserve their genetic resources.

1-Location

The district of the governorate center is located in the northeastern part of the governorate, from the north it is bounded by Al-Hur district, from the south by desert lands, from the east by Al-Hussainiya district and Al-Hindiya district, and from the west by desert lands and Al-Razzaza Lake (8).

2- Geological properties

Quaternary period sediments cover more than 80% (80%) of the Karbala plate area, most of the exposed rocks in the region, which date back to before the Quaternary age, ranging in age between the Pliocene, represented by the formation of (Dammam) and elemental (Pliocene - Pleistocene). Represented by the formation of the flower and the bear, notes map (3). As for the rest of the exposed formations in the region, they are represented by the formation of the Euphrates, Al-Nafayl, Al-Fath and Injana.

It appears in most of the study area within the desert region between Karbala and Najaf, as shown on the map. It consists mainly of fine to coarse-grained sandstone with the presence of fine gravel, and the formation also contains alluvial mudstone. (9).

3- Topographic properties

The district of the center occupies part of the alluvial plain, which is characterized by plain, flat and low slope land, and the other part is from the western plateau (8). Terrain (surface). The study area is a flat plateau with a flat surface, and its highest elevation reaches (75) m above sea level in the southern part of the study area. The general appearance of its flat surface is interrupted by a number of valleys that receive additional water from torrential waters This section of the study area is characterized by sandy lands, and is characterized by the presence of valleys covered by soft sediments that facilitate the leakage of water from the surface to underground reservoirs and the ease of water penetration into the ground in During the rains, therefore, it was considered the best areas for groundwater recharge. (10).

4- Soil

According to the analysis of the tissue triangle, the soil of the district of the center consists of several types
1- Sandy loamy soil
2- Loamy Sand
3- Sandy Loam

5- Water Resources

The district of the center is within the dry or highly fluctuating region of the governorate, as it depends directly and entirely on surface water sources to meet its water needs. The Ottoman (Suleiman the Magnificent) in 1534 (1945, Sousse). When he enters the city, two branches branch off from him, Al-Rashdiya and Al-Hunediyah. The first runs towards the northwest for a distance of (18 km) and ends with the land adjacent to Lake Razzaza, while the second branch continues to flow south and then deviates towards the southeast to end in farmland.

Districts of the Study Area

The district of the center was divided into two points. Point No. (1) is the Kantara Al-Salam area, which is an area with diverse environments, most of which are farmed, and Point No. (2) is an area near Karbala Airport, which has a desert environment.

Materials

1- Protective gloves with a shovel with which plants were cut with their roots, scissors used to cut branches of trees and large shrubs, a camera, as well as a Samsung J8 mobile camera with which the selected samples were photographed in the field, an iron ruler measuring 30 cm, an iron tape to measure the length (fifty) by which the height of the plants was measured, and a notebook in which notes were taken and important information.
2- The GPS devices (Global Positioning System) and the (GPS) program for the mobile phone (Samsung J8) was used for the purpose of fixing the coordinates of the specific areas of the study area.
3- Special sealed bags and 30 kg nylon bags in which samples were collected and marked with significant marks.
4- Ordinary cardboard sheets with newspaper and wooden presses in which the samples were pressed and packed for drying.

Samples were collected at the end of August from 2021 until August 2022. During this period, field trips were conducted at close times and at a rate of five to six trips per month, except for some rainy and dusty weeks. Through these trips, samples were photographed and collected, as they were selected with high accuracy, taking into account the stages The growth of different plants, beginning as young, then flowering, fruitful and mature. The plant samples were also classified based on the important encyclopedias, which are the flora of the lowlands in Iraq [11], as well as the Book of Plant Wealth in Iraq in its parts for [12] and the flora of Iraqi [13].

Results and Discussion

Qualitative Composition of the Vegetation

239 species belonging to 161 genera were collected, and the number of families reached 48 families. The compound family was the largest of the families studied in terms of the number of species in the study area, as 37 wild species were recorded, followed by the Gramineae family, 33 species, then the Chenopodiaceae family, whose species reached 29 wild species, then the Papilionaceous family with 17 species, followed by the Cruciferae family with 12 species. This is because the botanical families are large and cosmopolitan in terms of prevalence and number of species. By comparing these results with other sites, we note that the compound family is one of the largest plant families in Iraq and in the world [14], the compound family includes 25,000 species and 1600 genera [15]. Wide range environmental tolerance.

[16]. As for the butterfly and cruciferous families, studies indicate that these families, in addition to the compound family, constitute the largest part of the plant species in Egypt, Saudi Arabia and Kuwait [17]. The supremacy of the mentioned families is also consistent with what was mentioned in [18], [17], [19] and [20]. In terms of genera, the genus Tamarix ranked first in the study area in terms of species, as it included 8 species, while the genus - Plantago included 7 species, and so on.

Table (1) Plant families and their species in The District Center Of Holy City

Name of Family	Scientific name		Economic Importance	Density	Location
					Fern
1- SALVINIACEAE	Azolla filiculoides Lam		M,F,I	+++	
	Gymnosperms				
2- EPHEDRACEAE	2-*Ephedra alata* L.	P	M	+	2
	3-*Ephedra transitoria* L.	P	M	+	2
	Angiospermis (Dicotyledon)				
3- AIZOACEAE	4-*Aizonanthemum hispanicum*(L.)	A	M	++	2
	5-*Mesembryanthemum nodiflorumL.*	A	M,F,OR	++	2
4- AMARANTHACEAE (AMARANTH)	6-*Amaranthus albus L.*	A	M,F	+	2
	7-*Amaranthus hypridus* L.	A	M,F	++	1,2
	8-*Amaranthus viridis* L.	A	M,F	+	1,2
5- APIACEAE (UMBELIFERAE)	9-*Ammi majus* L.	A	M,T,F	+	Widespread
6-APOCYNACEAE	10-*Trachomitum venetum* L.	PSH	M,T	+	1,2
7- ASTERACEAE (COMPASITAE) ↕	11-*Artemisia campestris* L.	A,B	F,W,AR	+	2
	12-*Artimesia herba-alba* L. Asso	A,B	F,W,AR	+++	2
	13-*Aster subulatus* L. Michx.	A	F	++	1
	14-*Asteriscus pygmaeus* L. (DC.) Coss. et Dur.	A	M,F	+	2
	15-*Atractylis cardus* L. forssk christ	A,P	M,F	++	2
	16-*Calendula officinalis* L.	A	M,OR, AR	+	2
	17-*Carthamus oxyacanthus* L. M.Bieb.	A	M,F	+	2
	18-*Centauriea iberica* L. Trev.ex Spreng.	A,B	F	+	Widespread
	19-*Centaurea sinaica* L. DC. (*centaurea pseudosinaica*)	P	M,F	++	2
	20-*Cichorium intybus L.*	A	M,F	+++	Widespread
	21-*Conyza bonariensis* L.	A	F	++	2
	22-*Erigeron bonariensis* L.	A	M,F	++	Widespread
	23-*Eclipta alba (L.) Hausskn .*	P	F	+++	Widespread
7- ASTERACEAE (COMPASITAE) ↕	24-*Filago germanica* (L.)Huds.	A	F	+++	Widespread
	25-*Filago spathulata* L. Presl.	A	F	++	2
	26-*Gundelia tournefortii L.*	A	M	+	2

	27-*Hedypnois critical* L.	A	M,F	++	1,2
	28-*Kolpinia linearis* L. Pall	A	F	+	2
	29-*Lactuca serriola* L.	A,B	M,T	+	2
	30-*Launaea mucronata* L. Forssk.	P	F	++	1,2
	31-*Launaea angustifolia* L. desf. O.	A,P	F	++	Widespread
	32-*Launaea capitata* L. spring dandy	B	F	++	Widespread
	33-*Launaea intybacea* L. Jacq.	A	F	++	Widespread
	34-*Launaea procumbens* L. Roxb. (*Launaea fallax* jaub. Et spach)	A	F	+++	Widespread
	35-*Launaea mucronata* L. Forssk. Muschi.	P	F	++	2
	36-*Launaea nudiculis* L.	B,A	F	+++	2
7- ASTERACEAE (COMPASITAE) ↑	37-*Reichardia picroides (L.)Roth*	A	F	+	2
	38-*Reichardia tingitana* (L.) Roth	A	M,F	+	2
	39-*Senecio glaucus* L. *Subsp.Coronopifolius* (maire) Alex *Senesio desfontainei* druce	A	M,F	+	2
	40-*Silybum marianum* (L.) Gaertn.	A,B	M,F	+	Widespread
	41-*Sonchus asper* (L.)Vill.	A	F,W	++	Widespread
	42-*Sonchus oleraceus* L.	A	M,F,W	++	Widespread
	43-*Senecio sylvaticus* L.	A	M,F,OR	++	1
	44-*Taraxacum monochlamydeum* L.	P	M,F	++	Widespread
	45-*Urospermum picroides (L.)* scop.	A	M,F	+	1,2
	46-*Urospermum picroides (L.) Schmidt*	A	M,F	+	1,2
	47-*Xanthium strumarium* L.	P	M,T,W	+	Widespread
8-BORAGINACEAE (BORAGE) ↓	48-*Arnebia decumbens* L. Vent. Coss. et Kral.	A	M,I,OR	++	2
	49-*Heliotropium bacciferum* L. Frossk.	A	M,T	+++	2
	50-*Heliotropum digynum* L. Frossk.	A	M,T	+++	2
9-BORAGINACEAE↑	51-*Lappula spinocarpos* L. Forssk. Asch. Ogastemma pusillum (coss.& dur. Ex Bonnet & Barratte) Brummitt	A	M,T	+	2
	52-*Moltkiopsis ciliate* L. Forsk. Johnst. Lithospermum angustifolium	A	T	+	2
10-CAPPARIDACEAE (CAPER)	53-*Capparis spinosa L.S.I.*	P	M,F,I	++	Widespread
11-CARYOPHYLLACEAE (PINK)	54-*Gypsophila heteropoda* L.	A	M	+	2
	55-*Herniaria hemistemon* J. GAY	P	M	++	2

	56-*Paronychia arabica* (L.)del.	A	M	++	1,2,
	57-*Paronychia argentea* L. LAM.	P	M	++	2,
	58-*Silene arobica* L. boiss.	A	M	++	2
	59-*Spergula arvensis* L.	A	M	+	1
	60-*Spergularia diandra* L. (Guss.)heldr. Et sart	A	M	+	Widespread
	61--*Spergularia marina(L.) Besser*	A	M,F	++	Widespread
	62-*Stellaria neglecta Weihe*	A	M	+	1
12-CERATOPHYLLACEAE	63-*Ceratophyllum demersum L.*	A	M,F	+++	Widespread
	64-*Agathogeto iraqensis* L. Botsch. *Halogeton alopecuroid* Del.	P	M	++	1
	65-*Atriplex hastate* L.	A	M	++	Widespread
	66-*Atriplex leucockada* L. Boiss	PSH	M	++	Widespread
	67-*Beta maritima* var. cicla L.	A	M	+++	Widespread
	68-*Bassia eriophora* L. Schrad. Aschers	A	M	+++	2
	69-*Baccia hyssopifolia* L. pall. o. kuntze	A	M,F	+++	Widespread
	70--*Baccia muricata* (L.) ascher and sch.	A	M,F	+++	Widespread
	71-*Bassia prostrate (L.)*	A	F	+++	Widespread
	72-*Caroxylon imbricatum* L. Forssk	PSH	M,F,Fu	+++	Widespread
	73-*Cornulaca aucheri* L. Moq.	A	M,F,Fu	+	Widespread
	74-*Chenopodium album* L.	A	M,F,Fu	++	1
	75-*Chenopodium murale* L.	A	M,F,Fu	++	Widespread
13- CHENOPODIACEAE (GOOSEFOOT) ↓	76-*Chenopodium ambrosioides* L	A	M,F	+	2
	77-*Clemacoptera iraqensis Botsch Salsola crassa*	A	M	++	2
13-CHENOPODIACEAE	78-*Halocnemum strobilaceum* L. (Pallas). *Salicornia perennans* Wild. *Salicornia europaea* non L.	A	M,F	+++	Widespread
	79-*Halothamnus iraqensis* L. Botsch	P	M,F,Fu	+++	**2**
	80-*Salicornia herbacea* L.	A	M,F	+	Widespread
	81-*Salsola baryosma* L.	PSH	M,F,FU	++	Widespread
	82-*Salsola jordanicola* L.	A	M,F	+	Widespread
	83-*Salsola soda L.*	A	M	++	Widespread
	84-*Salsola vermiculata L.*	A	M	+	1,2
	85-*Seidlitzia rosmarinus* L. ehrenb. Ex boss.	PSH	M,F,Fu	+++	2
	86-*Suaeda aegypticaca* L. hasselq. zohary.	A	M,F,Fu	+++	Widespread
	87-*Suaeda fruticosa* L. Forssk. Ex J.F.	PSH	M,F,Fu	+++	Widespread
	88-*Suaeda maritime* L.	A	M,F	++	Widespread
	89-*Suaeda mesopotamica* L.	Pt,PS	M,F,Fu	+++	Widespread

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13-CHENOPODIACEAE	90-*Suaeda nigra J.FMacbr*	A	M,F	++	Widespread
	91-*Suaeda vermiculata* L. Forssk.	Pt,PSH	M,F,Fu	++	2
	92-*Traganum nudaltum* L.	PSH	M,F,FU	++	2
14- CISTACEAE	93-*Helianthemum Ledifoium* (L.) Mill.Va. L	A	M	+	2
	94-*Helianthemum Salicifolium* (L.) Mill	A	M	+	2
15-CONVOLVULACEAE (CONVOLVULUS)	95-*Convolvulus arvensis* L.	P	M	+++	Widespread
	96-*Convolvulus oxyphyllus* L. Boiss	PSH	M,FU	++	2
	97-*Convolvulus pilosellaefolius* L. Desr	P	M,F	++	Widespread
	98-*Cressa cretica* L.	P	M	++	Widespread
	99-*Ipomoea carnea Jacq* **.**	PSH	M,T,OR	+	2
16- CRUCIFERAE **(** Brassicaceae**)** (MUSTARD) ↓	100-*Alyssum linifolium* L. steph. Ex. Willd	A	F	+++	2
	101-*Brassica deflexa* L. Boiss.	A	M	++	2
	102-*Brassica nigra* L.	A	M	+++	2
	103-*Brassica tournefortii* L. Gouan.	A	M,F	++	Widespread
17- CRUCIFERAE	104-*Cardaria draba* (L.) Desv.	P	M,T,	+++	Widespread
	105-*Leptalium filifolium* L.Willd. DC.	A	M	++	2
	106-*Raphanus raphanistrum* L.	A	M,F	++	2
	107-*Sinapis arvensis L.*	A	M	++	Widespread
	108-*Sisymbrium irio* L.	A	M,F	++	Widespread
	109-*Sisymbrium septulatum* L. DC.	A	M	++	2
	110 -*Torularia torulosa* L. Desf. Hedge & Leonard	A	M,F	+	2
18 - CUSCUTACEAE **(**CUSCUTA**)**	111-*Cuscuta planiflora* L. Ten.	A	M,W	++	Widespread
19- EUPHORBIACEAE	112-*Euphorbia helioscopia* L.	A	M,T	+	1
	113-*Euphorbia chamaesyce* L.	A	M	+	Widespread
	114-*Euphorbia granulate* L. Forssk	A	M	+	2
	115-*Euphorbia densa* L. Schernk	A	M,T	+	1
	116-*Euphorbia prostrate* L. Ait.	A	M,T	+	2
	117-*Euphorbia peplus* L.	A	T	+	Widespread
	118-*Euphorbia serpens Kunth*	A	M	+++	1
	119-*Chrozophora tinctoria* (L.) Raf.	A	M	++	2
	120-*Ricinus communis* L.	PSH	M,T,OR	+	Widespread
20- FRANKENIACEAE	121-*Frankenia Pulverulenta* L.	A	M	+++	Widespread
	122-*Frankenia hirsute* L.	A	M	++	1,2
21-GENTIANACEAE	123-*Centaurium tenuiflorum (Hoffmanns.&Li*	A	M	+++	Widespread
22- GERANIACEAE	124-*Erodium glaucophyllum* L. Lher	P	M	++	2

	125-*Erodium laciniatum* L. Cav. Willd	A,B	M,F	+	2
23- LAMIACEAE	126-*Mentha aqutica* L.	P	M,F,I,AR	+	1
	127-*Mentha longifolia* (L.) Huds	P	M,F,I,AR	+++	Widespread
24- MALVACEAE (MALLOW)	128-*Alcea kurdica* Schl. L. Alef	P	M,OR	+	2
	129-*Corchorus olitorius L.*	A	M,F	+++	Widespread
	130-*Hibiscus trionum L.*	A	M,F	++	Widespread
	131-*Malva nicaeensis* L. all.	A	M,F	++	Widespread
	132-*Malva parviflora* L.	A	M,F	+++	Widespread
25-NAJADACEAE	133-*Najas minor All.*	A	F	+++	Widespread
26- NITRARIACEAE (ZYGOPHYLLACEAE) ↓	134-*Fagonia glutinosa* L.	P	M	++	2,3
	135-*Nitraria retusa* L. Forssk Asch	PSH	M,T,F,AR,	++	2,3,5
	136-*Peganum harmala* L.	A,P	M,T,F,Ar,OR	+	Widespread
	137-*Tribulus terrestris L.*	A	M,F	++	2
	138-*Tetradiclis tenella* L. Ehrend Litw	A	F	+	2
	139-*Zygophyllum coccineum* L.	PSH	T	+++	Widespread
27- OXALIDACEAE (OXALIS)	140-*Oxalis corniculata* L	P	M,T	+	Widespread
	141-*Glaucium corniculatum* (L.)	A	M,OR	-	2
28-PAPILIONACEAE Leguminosae (PEA) FABACEAE↓	142-Alhagi graecorum L.Boiss .	PSH	M,F,I,OR	+++	Widespread
	143-*Astragalus bombycinus* L. Boiss.	A	M,F	++	2,
	444-*Astragalus tribuloides* L. Del.	A	M,F	++	2,
	145-*Astragalus hauarensis* L. Boiss.	A	M	-	2
	149-*Medicago laciniata* (L.) Mill	A	F	++	1,2
	150-*Melilotus indicus* (L.) All	A	M,T	++	Widespread
	151-*Psoralea corylifolia L.*	A	M,F	+	1,2
	152-*Prosopis farcta* L. (Banks et Solan.) Eig	PSH	M,F,I,ex	++	Widespread
	153-*Prosopis glandulosa Torr.*	PSH	M,F,I	++	2
	154-*Sesbania sesban* (L.) Merrill	PT	M,OR		1
	155-*Trigonella stellate* L. Forssk.	A	M,F	+++	2
	156-*Trifolium resupinatum* L.	A	F	++	Widespread
	157-*Tribulus terrestris*	A	F	+	2
	158-*Kickoia elatine (L.)Dumort.*	A	M,F	+	**13**
	159-*Plantago amplexicaulis* L. Cav.	A	F	++	**2,3**
	160-*Plantago albicans* L.	A	F	++	2
	161-*Plantago ciliata* L. Desf.	A	F	++	2
	162-*Plantago lagopus* L.	A	F	++	Widespread
	163-*Plantago lanceolata* L.	P	M,F	++	Widespread
	164-*Plantago major* L.	P	M,F	++	Widespread
	165-*Plantago ovata* L. Forssk.	A	M,F	++	2

29- PLANTAGINACEAE (PLANTAIN) ↑	166-*Veronica agrestis L.*	A	M,F	++	1
	167--*Persicaria maculo Gray*	A	M,F	++	Widespread
	168-*Persicaria lapathifolia (L.) Delarbre*	A	M	+++	Widespread
	169-*Polygonum argyrocoleon Steud.ex*	A	M,F	++	Widespread
	170-*Rumex conglameratus* L. Murr.	P	F	++	Widespread
	171-*Rumex dentatus L.*	A	M	++	Widespread
30-polygonaceae	172-*Rumex vesicarius* L.	A	M,F	++	2,
31- PORTULACACEAE(PURSLANE)	173-*Portulace oleracea* L.	A	M,F	+	Widespread
32- PRIMULACEAE (PRIMROSE)	174-*Anagallis arvensis* L.	A,P	M,T	++	Widespread
33- POTAMOGETONACEAE	175-*Potamogeton pectinatus* L.	P	F	+	1
34- RANUNCULACEAE	176-*Ranunculus muricatus L.*	A	M	++	1
35-ROSACEAE	177-*Prunus Arabica Olivier* L.	PSH	M,F	++	2
	178-*Rubus sanctus* L. Schreb.	PSH	M,OR,FU,I	+	Widespread
36- RUBIACEAE	179-*Crucianella membranacea Boiss.*	A	M	+	2
37- SALICACEAE (WILLOW)	180-*Populus alba L.*	Pt	M,F,I	+++	Widespread
	181-*Populus euphratica* L. Oliv.	Pt	I,Fu.	++	Widespread
	182-*Salix acmophylla* L. Boiss	Pt	M,I,Fu,AR	++	Widespread
38- SOLANACEAE	183-*Lycium barbarum* L.	PSH	M,I,FU		1,2
	183-*Physalis angulate L.*	A	M,T	+++	Widespread
	184-*Solanum nigrum* L.	A	M,T	-	1,2
39- TAMARICACEAE (TAMARISK) ↓	185-*Tamarix arceuthoides* L. Bge *Tamarix florida* Beg.	PT	M,FU	++	Widespread
	186-*Tamarix aralensis* L. bge	PSH	M,FU	++	Widespread
	187-*Tamarix aphylla* (L.) karst.	PT	M,FU,OR	++	2
	188-*Tamarix aucheriana* L. (Decne. Ex Walp.) baum	PSH	M,FU	++	Widespread
	189-*Tamarix Brachystachys* L.	PT,PS	M,FU	++	Widespread

39-TAMARICACEAE (TAMARISK) ↑	bge. (*Tamarix tetragyna*)	H			
	190-*Tamarix macrocerpa* L. Ehrenb. Bge. *Tamarix passerinoides* Delileex	PT,PSH	M,FU	++	Widespread
	191-*Tamarix ramosissima* L. ledeb.	PT	OR	++	Widespread
	192-*Tamarix smyrnensis* L.	PSH	M,FU		Widespread
40- THYMELEACEAE	193-*Dendrostellera lessertii* L.	PSH	M	+	2
41- URTICACEAE **(**NETTLE**)**	194-*Urtica urens* L.	A	M,T	+	1
42-VERBENACEAE	195-*Phyla canescens(Kunth) Greene*	A	M,F	+++	1
Monocotyledon					
43- CYPERACEAE	196-*Cyperus difformis L.*	p	M	++	1
	197-*Cyparus corymbosus* L. rottb	P	M	++	Widespread
	198-*Cyparus rotundus* L.	P	M	+++	Widespread
	199-*Schoenoplectus litoralis* L. Schrad.	P	M	+	Widespread
44-HYDROCHARITAC	200-*Elodea nuttallii(Planch.)H,St.John*	A	M,F	+++	Widespread
45- JUNCACEAE	201*Juncus articulates* L.	P	M	+	2
	202-*Juncus maritimus* L.	P	M,I	++	Widespread
	203-*Juncus rigidus* L. Desf	P	M,I	++	Widespread
46-LEMNACEAE	204-*Lemna minor L.*	A	M,F	+++	1
47- POACEAE (Gramineae) ↕	205-*Aegilops kotschyi* L. Boiss.	A	F	++	2
	206*Aleuropus lagopoides* (L.)	P	M,F	+++	Widespread
	207-*Aleuropus littoralis* L.	P	M,F	++	Widespread
	208-*Avena barbate* L. pott ex link	A	F	+	1
	209-*Avena fatua* L.	A	F	+	Widespread
	210-*Bromus madritansis* L.	A	F	++	1,2
	211-*Chloris virgate* L.	A	F	+++	2
	212-*Cutandia memphitica* L. (Speremd.)	A	F	++	2
	213-*Crithopsis delileana* L.	A	F	++	1
	214-*Cynodon dactylon*(L.) Pers.	P	OR	+++	Widespread
	215-*Docty loctenium aegyptium* (L.) p. beauv.	A	F	+++	Widespread
	216-*Dichanthium annulatum* L. frossk. stapf.	P	F	+++	Widespread
	217-*Digitaria sanguinalis* (L.) scop.	A	F	++	Widespread
	218-*Dinebra retroflexa* L. (Vahl) Panz.	A	F	++	Widespread
	219-*Echinochloa colonum* (L.) Link	A	F	++	Widespread
	220-*Enneapogon persicus* L. Boiss	P	F	++	Widespread

47- POACEAE (Gramineae) ↑	221-*Eragrostis cilianensis* L. (ell.)vign. Latut.	A	F	+	2
	222-*Eremopyrum confusum* L.	A	F	+	2
	223-*Imperata cylindrical* (L.) P. Beauv.	P	F	+++	Widespread
	224-*Lolium temulentum* L.	A	F	+	Widespread
	225-*Lolium rigidum* L. Gaud.	A	F	+	Widespread
	226-*Lophochloa pumila* L. Desf. Bor.	A	F	++	2
	227-*Lophochloa phleoides* L. vill Rchb.	A	F	++	Widespread
	228-*Panicum repens* L.	P	F	++	Widespread
	229-*Paspalum paspaloides* L. Michx.	P	F	++	Widespread
	230-*Phalaris minor* L. Retz.	A	F	+++	Widespread
	231-*Phragmites aystralis* L. cav. trin. Ex staud	P	F,I	+++	Widespread
	232-*Poa annua* L.	A	F	++	Widespread
	233-*Polypogon monspeliensis* (L.) Desf.	A	F	+++	Widespread
	234-*Setaria verticillata (L.) P.Beauv .*	A	M,F	++	2
	235-*Sorghum halepense* (L.) Prs.	P	F	++	Widespread
	236-*Stipa capensis* L.	A	F	++	2
	237-*Trachynia distachya* (L.)	A	F	++	1
48-POTAMOGETONA	238*Potamogeton crispus L.*	A	M,F	+++	Widespread
49- TYPHACEAE	239-*Typha domingensis* L. pers.	P	I,M	++	Widespread

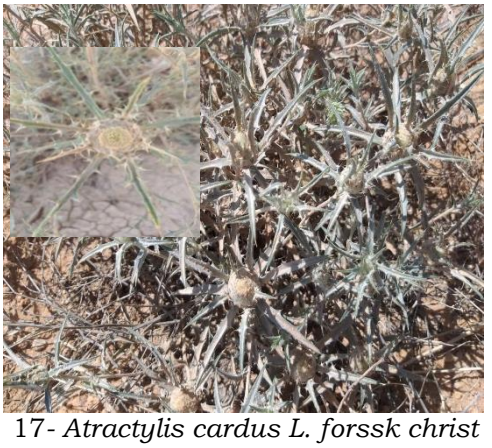
Plate (1) the pictures of some studied species

13- *Artemisia campestris L.*

14- *Artimesia herba-alba L. Asso*

15- *Aster subulatus L. Michx.*

16- *Asteriscus pygmaeus L.*

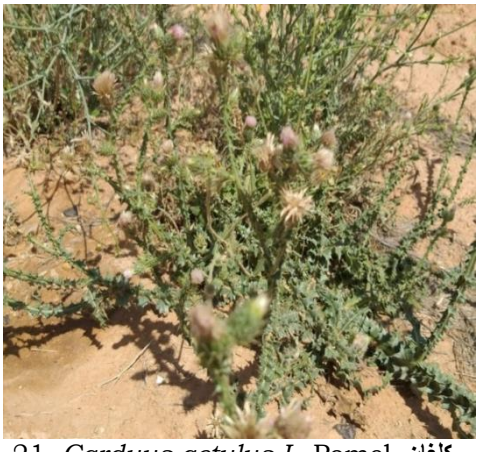


17- *Atractylis cardus L. forssk christ*

18- *Calendula arvensis* L. -

19- *Calendula officinalis* L.

20- *Centaurea sinaica L.* DC



21- *Carduus getulus L.* Pomel **كلغان**

22- *Carduus pycnocephalus* L.s.I. **لسان الكلب**

23- *Carthamus oxyacanthus L.* M.Bieb. **كسوب أصفر**

24- *Centauriea ibericaL.* **كسوب أرجواني**

27- *Filago spathulata L.* Presl

28- *Conyza bonariensis* L. **ذويل الذيب**

29-*Erigeron candensis* L.**ذيل الفرس**

30- *Filago germanica* (L.)Huds. **كطينة**

33- *Gymnarrhena micrantha* L. Desf. **عين البقر**

34 - *Hedypnois critical L.* **مرار**

35- *Lactuca serriola* L.

36- *Kolpinia linearis L.* Pall

39- *Launaea mucronata* L. Forssk.

40- *Launaea angustifolia L.* (desf.) O.

Duration

The current study included six sections representing the permanence of the plant, which are annuals, perennial plants, trees and shrubs, and bi-annual plants. These six sections gave a clear picture of the nature of the cover for the families studied, as the percentage of annual plants was the highest, reaching 66.52%, with a number of 159 species. Followed by perennial shrubs, amounting to 11.29%, with a number of 27 species, while perennial plants accounted for 20.92%, with a number of 50 species, while perennial trees constituted 4.60%, while biennial plants were 3.34. Annual plants because they have the ability to resist unsuitable environmental conditions through several mechanisms, including the ability of their seeds to dormancy and then return to growth with the availability of appropriate conditions and they can shorten their growth within a short period with any availability of water, due to their response to harsh climate and human pressure as well as providing moisture [15]. [And that the high percentage of annuals shown by the current study is consistent with the findings of a study [6] of biodiversity in Lake Razzaza and its neighboring areas, and a study [5] of biodiversity The plant biology of the Rutba Dam region in

western Iraq, a study [1] of the plant biodiversity of al-Tayyib Valley region, northeast of Amarah, a study [2] of the taxonomic ranks of dicotyledonous wild plants in the chest area of Diyala, and a study [3] of the plant biodiversity of the southern desert in Basra.

Table (2) the duration of studied species

PAR Parasitic	B Biennial	PT Perennial Trees	Perennial PSH shrub	Perennial P	Annual A	Type duration of plants
1	8	11	27	50	159	Number of plant
% 0.41	% 3.34	%4.60	%11.29	% 20.92	%66.52	% percentage

The Importance of Plants

The importance of wild species recorded in the study area for the studied families was counted. It was found from the results of the study and depending on several sources, including [9] and the Encyclopedia of Iraqi Plants [10] and [19], it was found that the percentage of medicinal plants constitutes the highest percentage among other uses of plants, with a rate of 71.96 With a number of 172 wild species out of 239 recorded wild species, followed by plants used as food for humans in one part of the plant or forage plants such as grazing animals, a rate of 60.66% was recorded, followed by plants used as fuel, at a rate of 10.04% and 24 wild plants, followed by the percentage of poisonous plants, which amounted to 9.62% By 23 species, 15 of them were recorded as ornamental plants, at a rate of 6.27%, and aromatic plants were recorded by 3.34%, by 8 plants, and finally harmful plants by 2.51 and by 6 plants. It is believed that the number of species of medical and therapeutic importance and used in folk medicine in Iraq ranges between 360 and 370 species.

Table (3) the Economic Importance of studied species

weedW	A R aromatic	O R ornamental	Ttoxic	fuel FU	food F	M medicinal	Importance
6	8	15	23	24	145	172	239 Plants Type of
% 2.51	%3.34	% 6.27	% 9.62	%10.04	%60.66	%71.96	% Percentage

References

[1] Al-Kanaani, Suhad Abdul-Salaah Taha. (2009). A study of plant biodiversity in the Wadi Al-Tayeb region, northeast of Al-Amarah, PhD thesis, College of Science, University of Basra.

[2] Al-Mahdawi, Nasreen Sabbar Hashem Hussein. (2014). Taxonomic ranks of dicotyledonous wild plants in the Sadr-Diyala region, Master's thesis, College of Education for Pure Sciences, University of Diyala

[3] Maleh, Haider Rady (2015). Vegetation and plant biodiversity in the southern desert region in Basra Governorate, southern Iraq. Ph.D. thesis College of Science Albasrah University.

[4] Al-Alwani, Abdul-Karim Ahmad Mukhtlaf, Muhammad, Othman Musa and Latif, Mahmoud Hadid Al-Fahdawi (2012). Analysis of the vegetation cover on theExtension of the Muroor Highway (Rutba Ramadi within the Western Desert of Iraq. Iraqi Journal of Science: 166-146

[5] Musa, Muhammad Othman (2018) The plant biodiversity of the Rutba Dam area in western Iraq Iraqi Journal of Desert Studies Volume 8, Issue 1

[6] Muhammad, Kazem Muhammad and Hassan Ali, Hussein Ali (2013). Study of biodiversity in the Al-Razzaza region and the neighboring regions. Al-Ustad Journal, Volume 2, No. 205.

[7] Al-Bahadli, Zeina Khalil (2015). A taxonomic study of selected species of plants. Dicotyledons in the Holy Karbala Governorate, Iraq, PhD thesis submitted to the Council of the College of Science / University of Baghdad We Cammer Wien.

[8] Al-Haidari, Muayad Sagit Cltag (2015). Spatial analysis of solid household waste in the city of Karbala (a study in environmental geography). Master's Thesis - College of Education for Science. Humanity - University of Karbala - Iraq

[9] Hussein, Fatima Najaf (2014), Geomorphological characteristics of the desert margin in Karbala Governorate and their impact on human activity. Master Thesis - College of Education for Human Sciences / Ibn Rushd - University of Baghdad - Iraq.

[10] Al-Fatlawi, Dalia Abdel-Karim Nagy (2021). Groundwater and its impact on the development of agricultural production in the desert of Karbala district. Master's thesis - College of Education for Human Sciences - University of Karbala - Iraq

[11] Rechinger, K.H. (1964). Flora of Lowland Iraq.Verlg Von.J.Carmer.Wien.

[12] Chakravarty,H.L. (1976). Plant wealth of Iraq, (Dictionary of Economy plant).Vol 1: Ministry of agriculture and agrarian Reform, Baghdad, Iraq, 505pp

[13] Townsend, C.C. (1985). Flora of Iraq. vol. 3. Ministry of agriculture and agrarian reform. 1-662.

[14] Good, R. (1974). The geography of the flowering Plants. Fourth Adion. London: Longman Limited.

[15] Heywood, V.H. Brummitt, R.K. Culham, A. and Ceberg, O. (2007). Flowering Plant families of the world. Firefly Book: Ontairo Cinde .2122 PP.

[16] Funk V.A., Baye, R.J., Keeley, S., Chan, R., Watson, L., Gemeinholzer, B., Schilling, E., Panero, G.L., Paldwin, P.G., Garcia, gagas, N. and gansan, A. (2005). Everywhere but Antarctica: Using a super tree to understand the diversity and distribution of the Compositae, Biol. Skr., 55:343-374.

[17] Abd El-Gani, M.M., and El-Sawaf, N. (2004). Diversity and distribution of plant species in the agro-ecosystem of Egypt. Syst. Geogr. PL. 74:319-336.
[18] Qureshi, R., Shaheen, H., and Ilyas, M. (2014). Phytodiversity and plant life form of Khanpur Dam, Khyber Pakhtunkhwa, Pakistan. Pak.J.Bot.,46(3):841-849.
[19] Besefky, K.I.S. (2011). Effect of elevation and aspect on natural vegetation character of some location in Duhok Governorate / Iraqi Kurdistan Region.Ph.D.Thesis. College of Agriculture .Univ .of Duhok
[20] Townsend, C.C. and E. Guest. (1974). Flora of Iraq .Vol 3: leguminales, Ministry of agriculture and Agrarian Reform, Baghdad, Iraq, 662pp