International Journal of Aquatic Science
ISSN: 2008-8019
Vol 14, Issue 01, 2023

A Survey Study of Wild Plants in AL Al Najaf Desert

Neepal Imtair Al-Garaawi[1], Basma Aziz Hamid[2]

[1,2]Department of Biology, College of Education for Pure Science, Kerbala University, Kerbala, Iraq

Email: [1]neepal.i@uokerbala.edu.iq

Abstract: ***The current study examined the survey of the Gymnosperm plant and Angiosperm plant of dicotyledon and monocotyledon wild during the study period (2020-2022) in the area of Najaf desert, there are (257) species belong to (47) families. the dicotyledone species (215) beloing to (40) families, the monocotyledon species (41) beloing to (6) families. All these have been scientifically classified. So their duration and economic importance (medical, toxis, nutritional, forage, artificial, harmful, aromatic, ornamental, fuelplant or other uses) was tabeled. Moreover, their geographical distribution the districts of Iraq and the study results statistics have shown that the most of the collected species are herbal plants totalling (223) wild species out of (257) wild species, the shrub species it amounts to (28) wild species where as the number of woody species of tree is (2) as the number of parasitic species is (4). As for the economic plants and their significance, the current study found that most of species were medical plants and used as forage and fuel, some of them were toxic, ornamental, aromatic plants. it also study the floristic composition ,there are dominating to Compositae ,Graminae and Chenopodianaceae families of (44) species ,(31)species ,(31)species previosly .then the Papilionaceae families with (22)species ,then the Brassicaceae family with (20) species so the dominating genus was Astragalus, , with (7)species ,then ,launaea and Plantago each genus with(6) species ,then the Euphorbia with (5) species , the plant communities was studied ,there are dominating to wild species as Haloxylon salicornicum , Zygophyllum coccenium,Cornulaca leucoantha and Tamarix species sp. .***

Keywords: Survey ,Najaf desert , wild species , angiosperm , dicotyledon , monocotyledon .

1. INTRODUCTION

"The plant is of great importance to the Earth, as it is the basic rule in the food pyramid. It use solar energy and carbon dioxide to produce the food needed for humans and all creatures, and produce the oxygen gas necessary for breathing, rid the air of toxic gases, and maintain temperatures suitable for life."

"many researchers in Iraq were interested in studying the plants of its regions, including a study of [1] to the plant biodiversity of the area of Wadi al-Tayeb in Al-Amarah, so [2] reported a survey study of wild plants of dicotyledons in the area of Diyala chests, then[3] referred to the plant diversity of the southern desert In Basra,[4] produce the previous studies of the western plateau province within which the study area is located were a study of the plant cover along the highway (Ramadi - Rutba) and a study of [5] to the plant biodiversity of

the Rutba Dam area in western Iraq.[6] referred to plant cover of Ain Al-Tamur district , then [7] mentioned a survey study of wild plant in some districts of Karbala . So, the objectives of the study are:

1. Studying some aspects of the biodiversity of the AlNajaf desert in terms of vascular plant wealth.
2. Identifying the wild natural plants in AlNajaf desert and classifying them scientifically during the specified study period.
3. studing the duration 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."

The natural conditions of the study area:

1-Location:

The Iraqi geography divided into five main regions one of them is the desert and semi-desert areas which cover much of the country area. The region lying to the south and south west of AlNajaf district the desert comprises the land that lying to the west and southwest of the River Euphrates, So It subdivided into western desert to the north and southern desert to the south. The south desert consists of a wide stony plain interspersed with sandy stretches. A widely ephemeral wadis-watercourses that are dry most of the year and runs from the international border to the River Euphrates carrying brief but huge floods during the rains of winter. That is known as Al-Dibdibah in the eastern part and as Al-Hajarah in the west. Al-Dibdibah is a sandy region covered with poor vegetation of small shrubs and desert herpes. Al-Najaf desert falls within the Arabian Desert and East Sahero-Arabian Xeric Shrubland ecoregion. Most of the Al-Najaf desert is not populated, except for a small settlement called Al-Shabaka, Al-Najaf desert area is flat landscape its highest height near the Iraqi-Saudi border by 300-400 m [8]. The majority is a plateau dissected by number of valleys, which drained rain water towards the northeastern part.

The climate In Al-Najaf desert region is considered as hot summers and cool winters. This region also receives transitory violent rainstorms in the winter; precipitation is about 50-100mm The sources of water, including rain water, underground water, and this water plays a prominent role in areas where desert characteristics prevail, it is important source in these areas. The need for it increases when there is little rainfall with the scarcity of the surface water resource. Depending on this water, some agricultural areas are built. [9] [10].

Study area districts:

1- Tar Al Najaf Caves:

It is a point that includes the caves and surrounding areas, such as bahr al Najaf. This area was represented by many common plants, such as Haloxylon salicornisum .

2- Agricultural sandy land

It is a point with a variety of environments, most of which are farmed, from which many plants were collected

3- shaeeb Rahemawi

This area in the spread of the raft community *Haloxylon salicornisum* and *Ziziphus nummularia*

2. MATERIALS AND WORKING METHODS

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 (fitty) 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 2020 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 Iraq [13,14, 15 ,16, 17,18, 19]."

3. RESULTS AND DISCUSSION

The Qualitative Composition of Vegetation:

In current study there are (257) species belong to (47) families. The dicotyledone species (215) beloing to (40) families, the monocotyledon species (41) beloing to (6) families. All these have been scientifically classified. the most of the collected species are herbal plants totalling (223)wild species out of (257) wild species ,there are dominating to compositae ,Graminae and Chenopodianaceae families of (44) species ,(31)species ,(31)species previosly .then the papilionaceae families with (22)species ,then the Brassicaceae family with (20) species so the dominating genus was *Astragalus,* , with (7)species ,then ,*launaea* and *Plantago* each genus with(6) species ,then the *Euphorbia* with (5) species , the plant communities was studied ,there are dominating to wild species as *Haloxylon salicornicum* , *Zygophyllum coccenium*,*Cornulaca leucoantha* and *Tamarix* species sp. .

By comparing these results with other sites, the current study note that the Asteraceae family is one of the largest plant families in Iraq and in the world, the family includes 25,000 species and 1600 genera Wide range environmental tolerance.

The Asteraceae family is the richest plant family in the world and its members can be easily distinguished through its floral groups with vertical inflorescences and fruits with a

fluffy cup, and that its species can appear in all forms of life such as herbs, shrubs, and rarely trees [13]. As for the butterfly and cruciferous families, studies indicate that these families. In terms of genera, the genus *Astragalus* ranked first in the study area in terms of species, as it included 7 species, and is considered the largest genera in Iraq [15], including 116 species, in addition to being the largest genera in flowering plants in the world [20].

Table (1) Plant families and their species in Al-Najaf desert

Name of Family	Scientific name of the Plant	duration	Economic Importance	Density	Location
Gymnospermis					
1- EPHEDRACEAE	**1-*Ephedra alata* L.**	**P**	**M**	**+**	**3**
Angiospermis (Dicotyledon)					
2- AIZOACEAE	**2-*Aizonanthemum hispanicum*(L.)**	**A**	**M**	**++**	**2**
	3-*Mesembryanthemum nodiflorumL.*	**A**	**M,F,OR**	**++**	**2**
3- AMARANTHACEAE (AMARANTH)	**4-*Amaranthus albus L.***	**A**	**M,F**	**+**	**1,3,2**
	5-*Amaranthus hypridus* L.	**A**	**M,F**	**++**	**3,2**
	6-*Amaranthus viridis* L.	**A**	**M,F**	**+**	**3,2**
4 - ASCLEPIADACEAE	**7-*Calotropis procera (Ait.)R.Bn.***	**PSH**	**M,T**	**+**	**3**
5 (COMPOSITAE) ↓	**8-*Aaronsohnia fastorouskyieteig* L.**	**A**	**M,F**	**++**	**3,2**
	9-*Anthemis desertii* L. (Matricaia desertii)	**A**	**M**	**++**	**1,3**
6- ASTERACEAE (COMPASITAE) ↕	**10-*Artemisia campestris* L.**	**A,B**	**F,W,AR**	**+**	**,3,2**
	11-*Artimesia herba-alba* Asso	**A,B**	**F,W,AR**	**+++**	**,3,2**
	12-*Aster subulatus* Michx.	**A**	**F**	**++**	**1,2**
	13-*Asteriscus pygmaeus* (DC.) Coss. et Dur.	**A**	**M,F**	**+**	**,3,2**
	14-*Atractylis cardus* forssk christ	**A,P**	**M,F**	**++**	**3,3**
	15-*Calendula tripterocarpa* L. Rupr.	**A**	**M,OR, AR**	**+**	**3,2**

6- ASTERACEAE (COMPASITAE) ↕	**16-*Carduus getulus* Pomel**	**A**	**M,F**	**++**	**3,2**
	17-*Carduus pycnocephalus* L.s.I.	**A**	**F**	**++**	**3**
	18-*Carthamus oxyacanthus* M.Bieb.	**A**	**M,F**	**+**	**3**
	19-*Centauriea iberica* Trev.ex Spreng.	**A,B**	**F**	**+**	**Widespread**
	20-*Centaurea sinaica* DC. (*centaurea pseudosinaica*)	**P**	**M,F**	**++**	**,3,2**
	21-*Cichorium intybus L.*	**A**	**M,F**	**+++**	**Widespread**
	22-*Erigeron bonariensis* L.	**A**	**M,F**	**++**	**Widespread**
	23-*Eclipta alba (L.) Hausskn .*	**P**	**F**	**+++**	**Widespread**
	24-*Filago germanica* (L.)Huds.	**A**	**F**	**+++**	**Widespread**
	25-*Filago spathulata* Presl.	**A**	**F**	**++**	**,3,2**
	26-*Gundelia tournefortii L.*	**A**	**M**	**+**	**,3,2**
	27-*Gymnarrhena micrantha* L. Desf.	**A**	**M**	**++**	**3,2**
	28-*Hedypnois critical* L.	**A**	**M,F**	**++**	**,3,2**
	29-*Kolpinia linearis* Pall.	**A**	**F**	**+**	**,3,2**
	30-*Lactuca serriola* L.	**A,B**	**M,T**	**+**	**1,2**
	31-*Launaea mucronata* Forssk.	**P**	**F**	**++**	**,3,1,2**
	32-*Launaea angustifolia* desf. O.	**A,P**	**F**	**++**	**Widespread**
	33-*Launaea capitata* spring dandy	**B**	**F**	**++**	**Widespread**
	34-*Launaea intybacea* Jacq.	**A**	**F**	**++**	**Widespread**
	35-*Launaea procumbens*. Roxb. (*Launaea fallax* jaub. Et spach)	**A**	**F**	**+++**	**Widespread**
	36-*Launaea mucronata* Forssk. Muschi.	**P**	**F**	**++**	**,3,2**

	37-*Launaea nudiculis* L.	**B,A**	**F**	**+++**	**,3,2**
	38-Leontodon *laciniatus S*	**A**	**M,F**	**+**	**3,2**
	39-*Picris babylonica* Hand- Mzt	**A**	**F**	**+++**	**3,2**
	40-*Reichardia picroides (L.)Roth*	**A**	**F**	**+**	**3,2**
	41-*Reichardia tingitana* (L.) Roth	**A**	**M,F**	**+**	**3,2**
	42-*Rhanterium epapposum* L. in hook	**PSH**	**M,F,FU**	**+++**	**3,2**
	43-*Senecio glaucus* L. *Subsp.Coronopifolius* (maire) Alex	**A**	**M,F**	**+**	**,3,2**
6- ASTERACEAE (COMPASITAE) ↑	**44-*Silybum marianum* (L.) Gaertn.**	**A,B**	**M,F**	**+**	**Widespread**
	45-*Sonchus asper* (L.)Vill.	**A**	**F,W**	**++**	**Widespread**
	46-*Sonchus oleraceus* L.	**A**	**M,F,W**	**++**	**Widespread**
	47-*Senecio sylvaticus* L.	**A**	**M,F,OR**	**++**	**2**
	48-*Taraxacum monochlamydeum* L.	**P**	**M,F**	**++**	**Widespread**
	49-*Urospermum picroides (L.)* scop.	**A**	**M,F**	**+**	**3,2**
	50-*Urospermum picroides (L.) Schmidt*	**A**	**M,F**	**+**	**2**
	51-*Xanthium strumarium* L.	**P**	**M,T,W**	**+**	**Widespread**
7-BORAGINACEAE (BORAGE) ↓	**52-*Arnebia decumbens* Vent. Coss. et Kral.**	**A**	**M,I,OR**	**++**	**3,2**
	53-*Arnebia hispidissima* Lehm. DC.	**A**	**M,T**	**++**	**3**
	54-*Gastrocotyle hispida* Forssk. Bge. (Anchusa hispida)	**A**	**M,T**	**+++**	**3**
	55-*Heliotropium*	**A**	**M,T**	**+++**	**,3,2**

	***bacciferum* L. Frossk.**				
	56-*Heliotropum digynum* Frossk.	**A**	**M,T**	**+++**	**3**
	57-*Lappula spinocarpos* Forssk. Asch.	**A**	**M,T**	**+**	**,3,2**
	58-*Moltkiopsis ciliate* Forsk. Johnst.	**A**	**T**	**+**	**3**
8-CAPPARIDACEAE	**59-*Capparis spinosa L.S.I.***	**P**	**M,F,I**	**++**	**Widespread**
9-CARYOPHYLLACEAE	**60-*Gypsophila heteropoda* L.**	**A**	**M**	**+**	**3,2**
	61-*Herniaria hemistemon* J. GAY	**P**	**M**	**++**	**3,2**
	62-*Herniaria hisutal.* L.	**A**	**M**	**+**	**3**
	63-*Paronychia arabica* (L.)del.	**A**	**M**	**++**	**3,2**
	64-*Paronychia argentea* LAM.	**P**	**M**	**++**	**,3,2**
9-CARYOPHYLLACEAE	**65-*Pteranthus dichotomous* L. Forssk.**	**A**	**M**	**+**	**3**
	66-*Silene succulent Forssk*	**A**	**M**	**+**	**3**
	67-*Spergularia diandra* (Guss.)heldr. Et sart	**A**	**M**	**+**	**Widespread**
	68--*Spergularia marina(L.) Besser*	**A**	**M,F**	**++**	**Widespread**
	69-*Stellaria neglecta Weihe*	**A**	**M**	**+**	**3,2**
10-CHENOPODIACEAE (GOOSEFOOT) ↓	**70-*Agathogeto iraqensis* Botsch.**	**P**	**M**	**++**	**3**
	71-*Anabasis setifera* L.	**PSH**	**M**	**++**	**3,2**
	72-*Atriplex hastate* L.	**A**	**M**	**++**	**Widespread**
	73-*Atriplex leucockada* Boiss	**PSH**	**M**	**++**	**Widespread**
	74-*Bassia eriophora* Schrad. Aschers	**A**	**M**	**+++**	**3**
	75-*Baccia hyssopifolia* pall. o. kuntze	**A**	**M,F**	**+++**	**Widespread**

10-CHENOPODIACEAE	**76--*Baccia muricata* (L.) ascher and sch.**	**A**	**M,F**	**+++**	**Widespread**
	77-*Bassia prostrate (L.)*	**A**	**F**	**+++**	**Widespread**
	78-*Bienertia singuspersici* Akhani	**A**	**M,F**	**++**	**3**
	79-*Caroxylon imbricatum* Forssk	**PSH**	**M,F,Fu**	**+++**	**Widespread**
	80-*Cornulaca aucheri* Moq.	**A**	**M,F,Fu**	**+**	**Widespread**
	81-*Cornulaca monacantha* L. Delile	**PSH**	**M,F,Fu**	**++**	**3**
	82-*Chenopodium album* L.	**A**	**M,F,Fu**	**++**	**3**
	83-*Chenopodium murale* L.	**A**	**M,F,Fu**	**++**	**Widespread**
	84-*Chenopodium ambrosioides* L	**A**	**M,F**	**+**	**3,2**
	85-*Halocnemum pygmaea* L.	**PSH**	**M,F**	**++**	**3**
	86-*Halothamnus iraqensis* L. Botsch	**P**	**M,F,Fu**	**+++**	**,3,2**
	87-*Haloxylon persicum* Bunge	**PT,PSH**	**M,F,FU**	**+++**	**3**
	88-*Haloxylon salicornisum* (moq.) bunge Ex roiss	**p**	**M,F,Fu**	**+++**	**3,2**
	89-*Salsola baryosma* L.	**PSH**	**M,F,FU**	**++**	**Widespread**
	90-*Salsola incanescens* L.	**A**	**M**	**++**	**3,2**
	91-*Salsola jordanicola* L.	**A**	**M,F**	**+**	**Widespread**
	92-*Salsola soda* L.	**A**	**M**	**++**	**Widespread**
	93-*Seidlitzia rosmarinus* ehrenb. Ex boss.	**PSH**	**M,F,Fu**	**+++**	**1,2,3**
	94-*Suaeda aegypticaca* hasselq. zohary.	**A**	**M,F,Fu**	**+++**	**Widespread**

	95-*Suaeda fruticosa* Forssk. Ex J.F.	**PSH**	**M,F,Fu**	**+++**	**Widespread**
	96-*Suaeda maritime* L.	**A**	**M,F**	**++**	**Widespread**
	97-*Suaeda mesopotamica* L. Eig.	**Pt,PSH**	**M,F,Fu**	**+++**	**Widespread**
	98-*Suaeda nigra J.FMacbr*	**A**	**M,F**	**++**	**Widespread**
	99-*Suaeda vermiculata* Forssk.	**Pt,PSH**	**M,F,Fu**	**++**	**2,3**
	100-*Traganum nudaltum* L.	**PSH**	**M,F,FU**	**++**	**3,2**
11- CISTACEAE	**101-*Helianthemum lipii* (L.) Dum. Cours.**	**PSH**	**M**	**++**	**3,2**
	102-*Helianthemum Ledifoium* (L.) Mill.Va.	**A**	**M**	**+**	**3**
	103-*Helianthemum Salicifolium* (L.) Mill	**A**	**M**	**+**	**3,2**
12- CLEOMECEAE	**104-*Cleome amblyocarpa* Barr. Et Murb.**	**A**	**M**	**-**	**3**
13- CONVOLVULACEAE	**105-*Convolvulus arvensis* L.**	**P**	**M**	**+++**	**Widespread**
	106-*Convolvulus oxyphyllus* Boiss	**PSH**	**M,FU**	**++**	**3**
	107-*Convolvulus pilosellaefolius* Desr	**P**	**M,F**	**++**	**Widespread**
	108-*Cressa cretica* L.	**P**	**M**	**++**	**Widespread**
14- CRUCIFERAE (Brassicaceae) (MUSTARD) ↓	**109-*Alyssum linifolium* steph. Ex. Willd**	**A**	**F**	**+++**	**3**
	110-*Brassica deflexa* Boiss.	**A**	**M**	**++**	**3,2**
	111-*Brassica nigra* L.	**A**	**M**	**+++**	**3,2**
	112-*Brassica tournefortii* Gouan.	**A**	**M,F**	**++**	**Widespread**
	113-*Cardaria__draba* (L.) Desv.	**P**	**M,T,**	**+++**	**Widespread**
	114-*Carrichtera annua* (L.) DC.	**A**	**M**	**++**	**3**

	115-*Diplotaxis acris* forssk boiss.	**A**	**M,F**	**+++**	**3**
	116-*Diplotaxis hara* Forssk. Boiss.	**A,P**	**M,F**	**++**	**3**
	117-*Farsetia aegyptiaca* turra	**PSH**	**M**	**+**	**3,2**
	118-*Lepidium aucheri* Boiss.	**A**	**M,F**	**++**	**3**
	119-*Leptalium filifolium* L.Willd. DC.	**A**	**M**	**++**	**,3,2**
	120-*Matthiola longipetala* L.Vent. DC.	**A**	**M,F,OR**	**++**	**3**
	121-*Raphanus raphanistrum* L.	**A**	**M,F**	**++**	**,3,2**
	122-*Savignya parviflora* Del. Webb.	**A**	**M,F**	**+**	**3**
	123-*Schimpera arabica* Hochst. Et Steud.	**A**	**M,F**	**+++**	**3**
	124-*Sinapis arvensis L.*	**A**	**M**	**++**	**Widespread**
	125-*Sisymbrium irio* L.	**A**	**M,F**	**++**	**Widespread**
	126-*Sisymbrium septulatum* L. DC.	**A**	**M**	**++**	**,3**
	127-*Strigosella grandiflora* Bunge	**A**	**F**	**++**	**3**
	128 -*Torularia torulosa* Desf. Hedge & Leonard	**A**	**M,F**	**+**	**3**
15 - CUSCUTACEAE (CUSCUTA)	**129-*Cuscuta planiflora* Ten.**	**A**	**M,W**	**++**	**Widespread**
16- EUPHORBIACEAE SPURGE	**130-*Euphorbia hypericifolia L.***	**A**	**M,F**	**++**	**3**
	131-*Euphorbia helioscopia* L.	**A**	**M,T**	**+**	**3**
	132-*Euphorbia chamaesyce* L.	**A**	**M**	**+**	**Widespread**
	133-*Euphorbia granulate* L. Forssk	**A**	**M**	**+**	**3**
	134-*Euphorbia peplus* L.	**A**	**T**	**+**	**Widespread**

17- FRANKENIACEAE	**135-*Frankenia Pulverulenta* L.**	**A**	**M**	**+++**	**Widespread**
18-GENTIANACEAE	**136-*Centaurium tenuiflorum (Hoffmanns.&Li***	**A**	**M**	**+++**	**Widespread**
19- GERANIACEAE	**137-*Erodium cicutarium* L.**	**A**	**M**	**++**	**3**
	138-*Erodium glaucophyllum* Lher	**P**	**M**	**++**	**3**
	139-*Erodium laciniatum* Cav. Willd	**A,B**	**M,F**	**+**	**3,2**
	140-*Salvia spinosa* L.	**P**	**M**	**+**	**3**
	141-*Teucrium oliverianum* L. Ging	**P**	**M,AR,OR**	**++**	**3**
20- MALVACEAE	**142-*Corchorus olitorius L.***	**A**	**M,F**	**+++**	**Widespread**
	143-*Hibiscus trionum L.*	**A**	**M,F**	**++**	**Widespread**
	144-*Malva nicaeensis* all.	**A**	**M,F**	**++**	**Widespread**
	145-*Malva parviflora* L.	**A**	**M,F**	**+++**	**Widespread**
21-NAJADACEAE	**146-*Najas minor All.***	**A**	**F**	**+++**	**Widespread**
22- NEURADACEAE	**147-*Neurada procumbens* L. Figaraea aegyptiaca**	**A**	**M**	**++**	**3**
23- NITRARIACEAE (ZYGOPHYLLACEAE) ↓	**148-*Fagonia bruguieri* DC.**	**P**	**M**	**++**	**3,2**
	149-*Fagonia glutinosa* L.	**P**	**M**	**++**	**3**
	150-*Nitraria retusa* Forssk Asch	**PSH**	**M,T,F,AR,**	**++**	**3,2**
	151-*Peganum harmala* L.	**A,P**	**M,T,F,Ar,OR**	**+**	**Widespread**
	152-*Tribulus macropterus* Boiss.	**A**	**M**	**++**	**3**
	153-*Tetradiclis tenella* Ehrend Litw	**A**	**F**	**+**	**3**
23- NITRARIACEAE (ZYGOPHYLLACEAE) ↓	**154-*Zygophyllum fabago* L.**	**P**	**M,T**	**++**	**3**
	155-*Zygophyllum*	**PSH**	**T**	**+++**	**Widespread**

	***coccineum* L.**				
24-OROBANCHACEAE	**156-*Cistanche tubulosa* schenk whght**	**Parasitic**	**M**	**-**	**3**
	157-*Cistanche violacea* L.	**Parasitic**	**M**	**-**	**3,2**
	158-*Cistanche phelypaea* L.	**Parasitic**	**M**	**-**	**3,2**
25- OXALIDACEAE (OXALIS)	**159-*Oxalis corniculata* L**	**P**	**M,T**	**+**	**Widespread**
26- Papavaraceae	**160--*Hypecoum pendulum* L.**	**A**	**M,OR**	**++**	**3,2**
	161--*Papaver glaucum* Boiss. et Huet.	**A**	**M,OR**	**-**	**3**
	162-*Roemeria hybrida* (L.) DC.	**A**	**M,OR**	**-**	**3**
27-PAPILIONACEAE Leguminosae FABACEAE↓	**163-Alhagi graecorum L.Boiss .**	**PSH**	**M,F,I,OR**	**+++**	**Widespread**
	164-*Astragalus bombycinus* Boiss.	**A**	**M,F**	**++**	**3,2**
	165-*Astragalus tribuloides* Del.	**A**	**M,F**	**++**	**,3,2**
	166-*Astragalus hamosus* L.	**A**	**M**	**+**	**3**
	167-*Astragalus kahiricus* D.C	**P**	**M,F**	**++**	**3**
	168-*Astragalus schimperi* Boiss.	**A**	**M**	**++**	**,3,2**
	169-*Astragalus spinosus* L.	**PSH**	**M,F**	**+++**	**3,2**
	170-*Astragalus zubairensis* Aig.	**P**	**M,F**	**-**	**3**
	171-*Hippocrepis bicontorta* lois	**A**	**M**	**+**	**3**
	172-*Lotus corniculatus* L.	**P**	**F**	**+**	**Widespread**
	173-*Lotus halophilus* boiss.& Sprun.	**A**	**F**	**+**	**3**
	174-*Medicago rigidula (L.) All.*	**A**	**F**	**+++**	**3**
	175-*Medicago laciniata* (L.) Mill	**A**	**F**	**++**	**3**
	176-*Medicago polymorpha* L.	**A**	**F**	**++**	**3**

27-PAPILIONACEAE Leguminosae FABACEAE↓	**177-*Melilotus indicus* (L.) All**	**A**	**M,T**	**++**	**Widespread**
	178-*Onobrychis ptolemaica* L. (Dl.DC.)	**A**	**M,T**	**+**	**3**
	179-*Psoralea corylifolia L.*	**A**	**M,F**	**+**	**3,2**
	180-*Prosopis farcta* (Banks et Solan.) Eig	**PSH**	**M,F,I,ex**	**++**	**Widespread**
	181-*Sesbania sesban* (L.) Merrill	**PT**	**M,OR**		**3**
	182-*Trigonella hamosa* L.	**A**	**M,F**	**++**	**3**
	183-*Trifolium resupinatum* L.	**A**	**F**	**++**	**Widespread**
	184-Tribulus terrestris	**A**	**F**	**+**	**3**
28-PLANTAGINACEAE (PLANTAIN) ↑	**185-*Plantago amplexicaulis* L. Cav.**	**A**	**F**	**++**	**3**
	186-*Plantago ciliata* Desf.	**A**	**F**	**++**	**3**
	187-*Plantago lagopus* L.	**A**	**F**	**++**	**Widespread**
	188-*Plantago lanceolata* L.	**P**	**M,F**	**++**	**Widespread**
	189-*Plantago major* L.	**P**	**M,F**	**++**	**Widespread**
	190-*Plantago ovata* Forssk.	**A**	**M,F**	**++**	**3**
29-PLUMBAGINACEAE	**191-*Limonium carnosum* Boiss.**	**A**	**M**	**++**	**3**

30- POLYGONACEAE	**192-*Emex spinosus* (L.) Campd.**	**A**	**M**	**++**	**3**
	193--*Persicaria maculo Gray*	**A**	**M,F**	**++**	**Widespread**
	194-*Persicaria lapathifolia (L.) Delarbre*	**A**	**M**	**+++**	**Widespread**
	195-*Polygonum argyrocoleon Steud.ex*	**A**	**M,F**	**++**	**Widespread**
	196-*Rumex conglameratus* Murr.	**P**	**F**	**++**	**Widespread**
30- POLYGONACEAE	**197-*Rumex dentatus L.***	**A**	**M**	**++**	**Widespread**
	198-*Rumex vesicarius* L.	**A**	**M,F**	**++**	**3,2**
31-PORTULACACEAE	**199-*Portulace oleracea* L.**	**A**	**M,F**	**+**	**Widespread**
32- PRIMULACEAE	**200-*Anagallis arvensis* L.**	**A,P**	**M,T**	**++**	**Widespread**
33- RANUNCULACEAE	**201-*Adonis dentat* L.**	**A**	**M**	**+**	**3**
34-RESEDACEAE	**202-*Oligomeris linifolia* Vahl. Macbride**	**A,P**	**M**	**+**	**3**
	203-*Reseda alba* L.	**A**	**M**	**+**	**3**
	204- Reseda Arabica Boiss	**A**	**M**	**+**	**3,2**
	205-*Reseda muricata* L.	**P**	**F**	**+**	**3,2**
35- RHAMNACEAE	**206-*Ziziphus nummularia* burm F. wight et Arn.**	**PSH**	**M,F,FU**	**+**	**3**
36-ROSACEAE ↓	**207-*Rubus sanctus* Schreb.**	**PSH**	**M,OR,FU,I**	**+**	**Widespread**
37- RUTACEAE	**208-*Haplophyllum tuberculatum* Forssk.**	**P**	**M**	**+**	**3**
38- SCROPHULARIACEAE	**209-*Scrophularia deserti* Del.**	**P**	**M**	**+**	**3**
	210-*Lycium barbarum* L.	**PSH**	**M,I,FU**		**3**
39- SOLANACEAE	**211-*Physalis angulate L.***	**A**	**M,T**	**+++**	**Widespread**

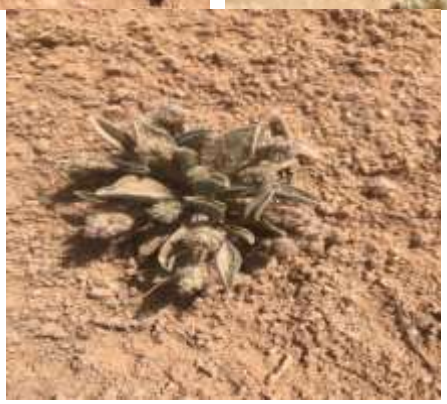
40- TAMARICACEAE (TAMARISK) ↓	**212-*Tamarix arceuthoides* Bge**	**PT**	**M,FU**	**++**	**Widespread**
	213-*Tamarix aucheriana* (Decne. Ex Walp.) baum	**PSH**	**M,FU**	**++**	**Widespread**
	214-*Tamarix Brachystachys* bge. (*Tamarix tetragyna*)	**PT,PSH**	**M,FU**	**++**	**Widespread**
	215-*Tamarix macrocerpa* Ehrenb. Bge. *Tamarix passerinoides* Delileex	**PT,PSH**	**M,FU**	**++**	**Widespread**
41- URTICACEAE (NETTLE)	**216-*Urtica urens* L.**	**A**	**M,T**	**+**	**3**
Angiospermis (Monocotyledon)					
42- CYPERACEAE↓	**217-*Cyperus difformis L.***	**p**	**M**	**++**	**3**
	218-*Cyparus corymbosus* rottb	**P**	**M**	**++**	**Widespread**
	219-*Cyparus laevigatus* L.	**P**	**M**	**++**	**3**
	220-*Cyparus rotundus* L.	**P**	**M**	**+++**	**Widespread**
	221-*Schoenoplectus litoralis* Schrad.	**P**	**M**	**+**	**Widespread**
43- COLCHICACEAE	**222-*Colchicum szovitsii Tivi***	**A**	**M,F**	**+**	**3**
44- IRIDACEAE	**223-*Gynandriris sisyrinchium* (L.) Parl.**	**A**	**M**	**++**	**3**
45- JUNCACEAE	**224-*Juncus maritimus* L.**	**P**	**M,I**		**Widespread**
	225-*Juncus rigidus* Desf	**P**	**M,I**	**++**	**Widespread**
46- POACEAE (Gramineae) ↓	**226-*Aegilops kotschyi* L. Boiss.**	**A**	**F**	**++**	**3**

	227-*Aleuropus lagopoides* (L.)	**P**	**M,F**	**+++**	**Widespread**
	228-*Aleuropus littoralis* L.	**P**	**M,F**	**++**	**Widespread**
	229-*Alopecurus myosuroides* Huds	**A**	**F**	**++**	**3,2**
	230-*Avena fatua* L.	**A**	**F**	**+**	**Widespread**
	231-*Bromus danthoniae* trin.	**A**	**F**	**++**	**3,2**
	232-*Bromus tectorum* L.	**A**	**F**	**+**	**3,2**
	233-*Bromus scoparius* L.	**A**	**F**	**+**	**3,2**
	234-*Crithopsis delileana* L.	**A**	**F**	**++**	**2**
	235-*Cynodon dactylon*(L.) Pers.	**P**	**OR**	**+++**	**Widespread**
	236-*Docty loctenium aegyptium* (L.) p. beauv.	**A**	**F**	**+++**	**Widespread**
	237-*Dichanthium annulatum* frossk. stapf.	**P**	**F**	**+++**	**Widespread**
	238-*Digitaria sanguinalis* (L.) scop.	**A**	**F**	**++**	**Widespread**
	239-*Dinebra retroflexa* (Vahl) Panz.	**A**	**F**	**++**	**Widespread**
	240-*Diplachne fusca* (L.) P.Beauv.	**P**	**F**	**++**	**2**
	241-*Enneapogon persicus* Boiss	**P**	**F**	**++**	**Widespread**
	242-*Imperata cylindrical* (L.) P. Beauv.	**P**	**F**	**+++**	**Widespread**
	243-*Lolium temulentum* L.	**A**	**F**	**+**	**Widespread**
	244-*Lolium rigidum* Gaud.	**A**	**F**	**+**	**Widespread**
	245-*Lophochloa pumila* Desf. Bor.	**A**	**F**	**++**	**2**
	246-*Lophochloa phleoides* vill Rchb.	**A**	**F**	**++**	**Widespread**

46- POACEAE (Gramineae) ↑	**247-*Panicum repens* L.**	**P**	**F**	++	**Widespread**
	248-*Paspalum paspaloides* Michx.	**P**	**F**	++	**Widespread**
	249-*Phalaris minor* Retz.	**A**	**F**	+++	**Widespread**
	250-*Phragmites aystralis* L. cav. trin. Ex staud	**P**	**F,I**	+++	**Widespread**
	251-*Poa annua* L.	**A**	**F**	++	**Widespread**
	252-*Polypogon monspeliensis* (L.) Desf.	**A**	**F**	+++	**Widespread**
	253-*Sorghum halepense* (L.) Prs.	**P**	**F**	++	**Widespread**
	254-*Stipa capensis* L.	**A**	**F**	++	**3,2**
	255-*Stipagrostis plumose* L.	**P**	**F**	+	**3,2**
	256-*Trachynia distachya* (L.)	**A**	**F**	++	**2**
47- TYPHACEAE	**257-*Typha domingensis* pers.**	**P**	**I,M**	++	**Widespread**

***A : (Annual)- P: (Perennial) – PA : (Parasitic) – B: (Biennial) PT: (Perennial trees) – PSH : (Perennial shrub**
M : (Medical) - F: (Food) – FU: (Fuel) – T: (Toxic) – W (Weed) - OR : (Ornamental) AR: (Aromatic) - I : (Industrial
Plates (1-40) pictures of some studied species





1 - Plantago c ***2 - Emex spinosus (L L.*** ***3 - Carduus getulus Pomel***



4 - Centauriea iberica ***5 - Centaurea sinaica DC*** *6-* ***Prosopis farcta***



7-Erigeron candensi ***8-Filago spathulata Presl*** ***9-Gymnarrhena micrantha.***




10-Kolelpinia linearis Pall ***11- Astragalus zubairensis*** ***12- Launaea angustifolia***



13- Astragalus kahiricus ***14- Launaea procumbens*** ***15- Launaea mucronata***




16- Launaea nudiculis L. ***17- Rhanterium epapposum*** ***18- Silybum marianum (L.)***

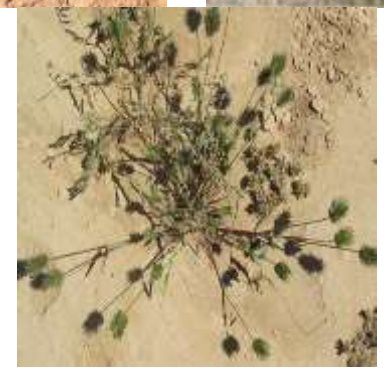
19- Sonchus oleraceus L. ***20-Roemeria hybrida*** ***21- Taraxacum monochlamydeum L.***

22- Xanthium strumarium L. ***23 - Atriplex leucockada Boiss*** ***24 - Bassia eriophora***

25 - Carrichtera annua (L.)DC 26- Diplotaxis hara (Forssk) 27-Matthiola longipetala

28-Strigosella grandiflora 29 - Zilla spinosa 30 - Tamarix smyrnensis





31-Reseda muricata ***32- Trigonella foenum – graecum*** ***33- Eremopyrum confusum***



34- Baccia muricata (L.) ***35- Baccia hyssopifolia*** ***36 - Caroxylon imbricatum***



37- Chenopodium ambrosioides L 38 - Rumex vesicarius , 39- Haloxylon persicum



38 - Seidlitzia rosmarinus 39- Suaeda aegypticaca 40- Suaeda fruticosa

Duration :

The current study included six sections representing life forms of the plant, which are annuals, perennials, perennial trees, perennial 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 66.53%, with a number of 171 species. Followed by perennial herbs , amounting to 20.23%, with a number of 52 species, and perennial shrubs, with a rate of 10.89%, with a number of 28 species, while perennial trees accounted for 0.77%, while parasitic plants was 1.55%. the reason that most annual plants have the ability to Resisting unsuitable environmental conditions through several mechanisms, including the ability of its seeds to adapt, and they can shorten their growth within a short period with any availability of water, due to their response to harsh climate as well as providing moisture [15] and that the high percentage of annuals shown by the current study is consistent with the findings The mechanism of a study [7] a survey study of Ain altamur district, and a survey study of [6] to the Kerbala district , and a study [1] of the biodiversity of The plant biology of the Wadi Al-Tayeb region, northeast of Al-Amarah, a study [2] of the taxonomic ranks of wild dicotyledons in the Diyala chest region, and a study of[3] the plant biodiversity of the southern desert in Basra.

Table (2) the duration of studied species

Parasitic PAR	**Perennial Trees PT**	**Perennial PSH shrub**	**Perennial herbs** P	**Annual herbs** A	**Numbers of species**
4	2	28	52	171	257
%1.55	%0.77	%10.89	%20.23	%66.53	% Percentage

The Economic Importance of Plants

The importance of wild species recorded. It was found from the results of the study and depending on several sources, including [12], it was found that the percentage of medicinal plants constitutes the highest percentage among other uses of plants, followed by plants used as food for humans in one part of the plant or forage plants such as grazing animals, followed by plants used as fuel, then a few of poisonous plants, ornamental plants, and aromatic plants .and finally, harmful plants. It is believed that the number of species of medical and therapeutic importance and used in Folk medicine in Iraq ranges between 360-370 species.

4. 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 the Extension 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]. Al-Saady, Hawraa Saeed Tahir (2021)A survey study of wild plants in some districts and subdistricts of the holy Karbala province. , Master's thesis, College of Education for Pure Sciences, University of Kerbala.
[7]. Al-Assadi, Huda Abdul Aali Sahib(2022)A survey study of wild plants in some districts and subdistricts of the holy Karbala province. , Master's thesis, College of Education for Pure Sciences, University of Kerbala.
[8]. Ma'ala, K. A. 2009. Geomorphology. The Geology of the Iraqi Southern Desert, State Company of Geological Survey and Mining. *Iraqi Bulletin of Geology and Mining*, Special Issue, 2: 7-33.
[9]. Saleh, S. A., Al-Ansari, N. and Abdullah, T. 2020. Groundwater hydrology in Iraq. *Journal of Earth Sciences and Geotechnical Engineering*, 10(1): 155-197.
[10]. Al-Kafaji, S. N. 2016. The Morphometric and Hydrologic Features to Qarin Al-Thimad Valley in the Southern Desert of Iraq- Al-Najaf Desert. *Basic Education College Magazine for Educational and Humanities Sciences*, 26: 616-639. (In Arabic with an English abstract
[11]. Rechinger, K.H. (1964). Flora of Lowland Iraq . Weiheim Verlag Von j. cramer . New york Hofener co : pp 685.
[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. and E. Guest.(1966) Flora of Iraq Vol 2 : Ministry of Agriculture and Agrarian Reform Baghdad Republic of Iraq
[14]. Townsend, C.C. , E. Guest. and AL-Rawi , A. (1968). Flora of Iraq. Gramineae. Vol 9 : Published by Ministry of agriculture and Agrarian Reform Republic of Iraq.
[15]. Townsend, C.C. and E. Guest. (1974). Flora of Iraq , leguminales. Vol 3: Ministry of agriculture and Agrarian Reform , Baghdad , Iraq , pp 662.
[16]. Townsend, C.C. and E. Guest. (1980). Flora of Iraq. Bignoniaceae to Resedaceae. Vol 4 part 2 : Ministry of Agriculture and Agrarian Reform Republic of Iraq.
[17]. Townsend, C.C. and E. Guest.(1980) Flora of Iraq. Cornaceae to Resedaceae. Vol 4 : Ministry of agriculture and Agrarian Reform Republic of Iraq.
[18]. Townsend, C.C. . (1985) . Flora of Iraq . vol. 3. Ministry of agriculture and agrarian reform . 1-662.
[19]. Townsend, C.C. and E. Guest. (1985). Flora of Iraq. Monocotyledones. Vol 8 : Ministry of agriculture and Agrarian Reform Republic of Iraq. 022 .
[20]. 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.