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ORIGINAL ARTICLE

INVESTIGATION OF WILD LAND PLANTS OF THE RIPARIAN AREA OF THE DUJAIL RIVER, SALAHALDIN PROVINCE, NORTH OF BAGHDAD, IRAQ

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ABSTRACT

In the current study, wild land plant specimens were collected during the flowering and fruiting period of these plants in February, April, June, August, and October 2023 from the riparian area of the Dujail River, Salahaldin Province, north of Baghdad, Iraq. Identified and the results showed that the number of these species were: 104 species, belong to 29 plant families, Included 26 dicotyledon families with 76 genera and 96 species. The asteraceae family was the most diverse, with 30 species, followed by Brassicaceae with (12) species. Additionally, there were 13 families represented by only one species in Dujail River which included: Apocynaceae, Berberidaceae, Capparaceae, Caryophyllaceae, Convolvulaceae, Geraniaceae, Lythraceae, Malvaceae, Papaveraceae, Plumbaginaceae, Primulaceae, Rutaceae and Urticaceae. For the monocotyledon seven genera and eight species. The Poaceae family was the most diverse, with five genera and five species, followed by Cyperaceae which has one genus and two species.

Keywords: Baghdad, Dujail River, Iraq, Plants, Salahaldin Province.

INTRODUCTION

Earth is characterized by an enormous diversity of animals and plants. Plant diversity determines the nature and features of this biodiversity, giving each region unique characteristics that distinguish it from other regions; these differences depend on various factors, including geographical location, climate, nature of the soil and other human factors (Yang *et al*., 2022). Plants are of great importance for the earth, and form the foundation of the food pyramid. They utilize carbon dioxide and solar energy to produce the food needed by humans and all creatures, while also releasing oxygen gas necessary for respiration (Al-Garaawi and Hamid, 2023). Since ancient times humans have relied on plants for food and healing purposes. They were planted and used as a source of, and at other times as medicine or treatment. Over the ages, humans accumulated knowledge of the healing properties of plants, and it also plays an important role at home and garden decoration (Kareem and Ahmed, 2022).

Iraq is known to be located within two phytogeographic regions: Irano-Turanian Region and the Saharo-Sindian Region. It is noteworthy that the first region is represented in Iraq by two secondary regions, which are under the Mesopotamian sub-regio and Irano-Anatolian sub-Region (Mousa, 2018). Iraq is well known for its significant variation in wild plants, which attributed to its climatic conditions and geographical diversity. Additionally, more formal than also Iraq is located at the convergence for three continents: Asia, Africa, and Europe. This unique location contributes to the presence of diverse floras from these continents (Al–Douri, 2014).

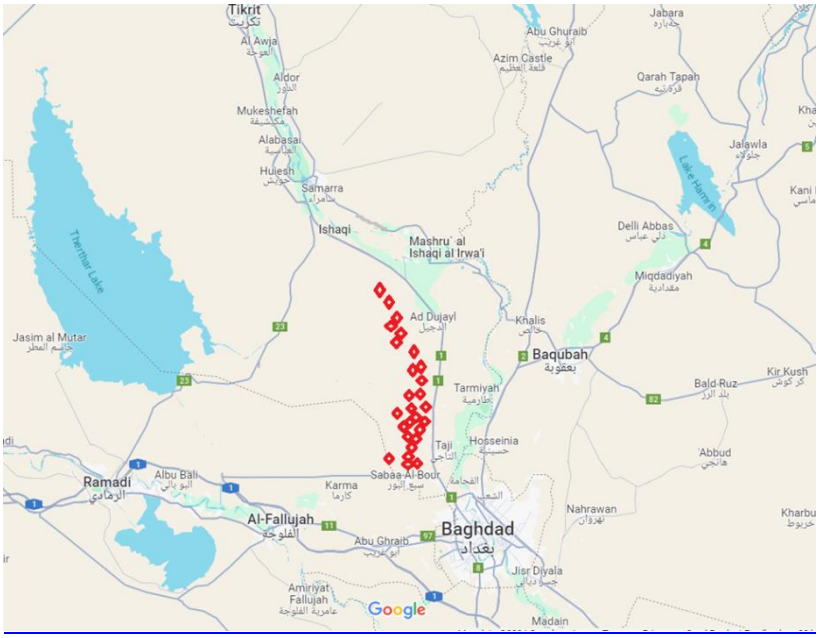
Dujail River is an important irrigation system that has continued to function during challenging times. It is located on the right bank of the Tigris River, and it irrigates the land west for the Tigris at the districts extending from Balad, down to the northern quarters for western Baghdad. Its intake is situated on the right bank for the Tigris River approximately 10 kilometers northwest to Balad and seven kilometers south east of al- Qadisiyya fort, near the ancient town of al- Alath (Adamo and Al-Ansari, 2019), which Dugail area is situated around 55 kilometers south of Samarra on the Dujail River. The old village of Dujail is one of the most well-known communities in the region. It has been recorded in Arab texts as a picnic spot (Al-Khazraji, 2020). The study ares is located within Saharo-Sindian region, specifically in the Middle Saharo-Sindian Sub-region (Guest, 1966).

Plant diversity has declined in Iraq for many reasons, including various sources of pollution, such as buildings, factories, and war and vehicles emitting exhaust gases. Additional contributors include smelting factories, and the burning factories of raw materials like oil (Al-Mashhadi and Alabadi, 2023). There are many studies in different regions of Iraq. For example Naqishbandi (2014) studied plants used in traditional Iraqi medicine in Erbil - Kurdistan Region. Other studies include a survey study of wild plants in AL- Najaf Desert (Al-Garaawi and Hamid, 2023), and the study of Plants used in traditional Iraqi medicine in Erbil - Kurdistan region (Naqishbandi, 2014), and the study of the endemic plant species in Iraq (Youssef, 2020).

The aim of the current study is to identify the plants in the riparian area of the Dujail River in Iraq, noting that the plants that have not been studied in detail previously, and there are no references regarding plant diversity in this area.

MATERIALS AND METHODS

The Study area: The current study was conducted in the riparian area of the Dujail River (Map 1), in Salahaldin Province, North of Baghdad, Iraq. The research involved five field trips following the method of AL-Mayah *et al*. (2018), carried out during February, April, June, August, and October of 2023, during the flowering and fruiting period (fl and fr.) of each plant. A total of 27 geographical locations, were identified to create a map of the collection areas (Tab. 1).



Map (1): Stations collect plants in the riparian area of the Dujail River, Salahaldin Province, north of Baghdad, Iraq. [From: https://www.google.com/maps/@33.9444321,44.3107274,8.89z?entry=ttu]

Table (1): Stations with the coordinates in the study areas

No	Coordinate of Stations
1	33°33'28.6"N 44°12'40.4"E
2	33°34'25.6"N 44°12'49.7"E
3	33°34'53.7"N 44°12'57.7"E
4	33°35'36.8"N 44°13'12.8"E
5	33°35'47.0"N 44°13'11.2"E
6	33°36'25.7"N 44°13'15.7"E
7	33°37'10.7"N 44°13'40.8"E
8	33°37'54.8"N 44°13'31.6"E
9	33°38'20.0"N 44°13'41.5"E
10	33°39'07.3"N 44°13'57.2"E
11	33°40'20.6"N 44°13'59.0"E
12	33°41'05.4"N 44°13'59.5"E
13	33°41'44.6"N 44°13'27.1"E
14	33°42'01.8"N 44°13'47.1"E
15	33°42'26.1"N 44°13'56.4"E
16	33°45'30.8"N 44°15'07.6"E
17	33°46'09.7"N 44°15'10.1"E
18	33°47'34.8"N 44°15'09.8"E
19	33°48'20.4"N 44°15'07.2"E
20	33°49'24.8"N 44°13'26.7"E
21	33°51'00.6"N 44°13'07.1"E

22	33°51'45.9"N 44°12'53.4"E
23	33°52'30.7"N 44°12'27.5"E
24	33°53'18.1"N 44°12'28.5"E
25	33°54'23.2"N 44°11'17.5"E
26	33°56'32.1"N 44°07'57.3"E
27	33°59'04.2"N 44°05'05.2"E

Taxonomy and specimens identification: A total of 558 specimens were identified in the Department of Plant and Environmental Sciences laboratory at the Iraq Natural History Research Center and Museum-University of Baghdad. The identification was based on various keys including: Townsend *et al*. (1968), Townsend and Guest (1974), Townsend and Guest (1980), El-Gazzar *et al*. (2019), and Ghazanfar and Edmondson (2013, 2016, 2019). The valid names and synonyms for the species mentioned in this study were adopted in accordance with GBIF Secretariat (2023), and the distributions of the species mentioned in this study were adopted following the method outlined by Augul and Al-Saffar (2023). Upon completing all study requirements, the specimens will be added to the Natural History Museum's herbarium for preservation.

RESULTS AND DISCUSSION

Plants were collected from twenty-seven stations in the riparian area of the Dujail River. Variation was observed in the number of plant species and a large difference in each station, with some locations containing a rich diversity of plants, while there were a number of stations characterized by poor plant diversity. This disparity may be due to their distance from water sources and the lack of nutrients in the soil. The results showed that the numbers of these species were: 104 species, which belong to 29 plant families, Including 26 dicotyledon families with 76 genera and 96 species then. Asteraceae family is the most diverse, with 30 one species, followed by Brassicaceae (12) specie. In contrast, 13 families were recorded with only one species in the riparian area of the Dujail River including, Apocynaceae, Berberidaceae, Capparaceae, Caryophyllaceae, Cistaceae, Convolvulaceae, Geraniaceae, Lythraceae, Malvaceae, Plumbaginaceae, Primulaceae, Rutaceae and Urticaceae. For the monocotyledon there were seven genera and species. The Poaceae is the most diverse, with five genera and five species, followed by Cyperaceae with one genus and two species, so *Tamarix* L. was the most species-rich genus due to its ability to tolerate an extreme range for environmental conditions, and highly saline soils, Therefore, climatologically (Tab. 2), tamarisks are best suited to arid also semi-arid zones. These species possess specialised roots capable of drawing water from deep underground, while also extracting water from unsaturated soil layers (a facultative phreatophyte); these findings are consistent with Bateman *et al*. (2013).

The results also showed that the species *Sonchus oleraceus* L., 1753 has recorded a wide spread in many stations such as: St 1, St 9, St 11, St 15, St 22, and St 23 (Tab. 3). This plant is characterized by its growth in cultivated land, sand dunes, gardens, waste places, roadsides, burned areas, near waterways, construction sites and rail yards. It is also required light to germinate and grow; furthermore, it is grazed by both farmed and wild livestock. Additionally, it is found in many different substrates, Such as in saline soils, moist soils, rich

in sodium, potassium, phosphorus, and calcium and occurs in a wide range for climates, cold and warm. These findings are consistent with Rojas-Sandoval and Acevedo (2022), while there were few stations exhibited limited plant diversity, this can be attributed to environmental conditions and soil type, or due to human activity and the conversion of much agricultural land into residential areas or areas used for cultivating economically important crops.

It is important to note that no previous studies have been conducted on plant diversity in this region, the results Of the current study revealed that there are 69 annual herbs and 2 biennial herbs: *Silybum marianum* (L.) Gaertn., 1791 and *Onopordum ambiguum* Fresen., 1834 which belong to Asteraceae family. The remaining the species, were divided into perennial herbs and perennial shrubs.

It was observed that large specimens of *Datura innoxia* Mill., 1768 and *D. stramonium* L., 1753 have spread abundantly on both sides of the road between the Balad and Dujail region. This proliferation is perhaps due to the presence of farms in these areas that were propagated by farmers and their seeds spread on the external roads of the cities.

The spread of introduced plants species has also been observed, such as *Conocarpus erectus* L., 1753. It has been observed that it is grown as a fence around homes, and it is one of the plants that causes serious environmental problems that are difficult to control or deal with, the effects of these trees on the environment have also been proven in many studies.

Table (2): Names of plant families and number of genera and species in the study areas.

No.	Families	Number of genera	Number of species
1	Amaranthaceae	6	8
2	Apiaceae	5	6
3	Apocynaceae	1	1
4	Asteraceae	25	31
5	Berberidaceae	1	1
6	Brassicaceae	11	14
7	Convolvulaceae	1	1
8	Caryophyllaceae	1	1
9	Capparaceae	1	1
10	Cistaceae	1	2
11	Fabaceae	5	8
12	Geraniaceae	1	1
13	Lythraceae	1	1
14	Malvaceae	1	1
15	Papaveraceae	2	2
16	Plantaginaceae	1	2
17	Plumbaginaceae	1	1
18	Primulaceae	1	1
19	Resedaceae	1	1
20	Rubiaceae	1	2
21	Rutaceae	1	1
22	Salicaceae	2	3

23	Solanaceae	2	2
24	Tamaricaceae	1	4
25	Zygophyllaceae	1	1
26	Urticaceae	1	1
27	Cyperaceae	1	2
28	Iridaceae	1	1
29	Poaceae	5	5

Table (3): Names of the species, duration, local names and the stations

No.	Famalies	Species	Duration	Local names	Stations
1	Amaranthaceae	*Amaranthus viridis* L.	Annual herb	Slender amaranth	St 1, St 3, St 10
2		*Amaranthus albus* L.	Annual herb	White pigweed	St 4, St 13
3		*Atriplex nummularia* Lindl.	Perennial shrub	Old man saltbush	St 3, St 10
4		*Halothamnus iraqensis* var. *hispidulus* Botsch	Perennial shrub	Bua idh, Shinan, Aiwa, Rimth abu raida, Rimith	St 4, St 27
5		*Chenopodium album* L.	Annual herb	Fat-hen, White goosefoot,	St 1, St 9, St 17
6		*Cornulaca aucheri* Moq.	Annual herb	Thalj	St 1, St 18
7		*Suaeda aegyptiaca* (Hasselq.) Zohary	Annual herb	Tartai, Shuatan	St 4, St 13
8		*Suaeda carnosissima* Post	Annual herb	Hamudh	St 13, St 10
9	Apiaceae	*Artedia squamata* L.	Annual herb	Crown-flower	St 22,
10		*Ammi visnaga* (L.) Lam.	Annual herb	Khella baldi, toothpick weed, khella baladi, khella,	St 10, St 16, St 19
11		*Ammi majus* L.	Annual herb	Garair, Zand al-arus, khaizaran, Akhalla	St 1, St 8, St 13, St 24
12		*Bupleurum lancifolium* Hornem.	Annual herb	Narrow Thorow-Wax	St 3, St 16
13		*Bunium paucifolium* DC.	Perennial herb	Joz bawa, Ughrarira	St 4, St 15
14		*Torilis stocksiana* (Boiss.) Drude	Annual herb	Lizzaij	St 5, St 8, St 26
15	Apocyn--aceae	*Cynanchum acutum* L.	Perennial herb	Halablab, Hallab	St 5, St 12,
16		*Achillea aleppica* DC	Perennial herb	Qaisum, Culilk, Giya mesh	St 4, St 9, St 17, St 18
17		*Achillea wilhelmsii* C.Koch	Perennial herb	Zawal	St 12, St 20

18	Astera-ceae	*Anthemis pseudocotula* Boiss.	Annual herb	Chamomile	St 8, St 9
19		*Anthemis leucanthemifolia* Boiss. & C.I.Blanche	Annual herb	Dog-fennel	St 13
20		*Anvillea garcinii* (Burm.f.) DC.	Perennial shrub	Nougd, Nakhd, Harr, Niqt	St 11, St 19
21		*Atractylis carduus* (Forssk.) C.Chr.	Perennial herb	Samna, Jalwa	St 18
22		*Carthamus oxyacanthus* M.Bieb.	Annual herb	Wild safflower	St 4,
23		*Calendula arvensis* L.	Annual herb	Khuzna, Hanwa, Kahla	St 10, St 11
24		*Launaea angustifolia* (Desf.) Kuntze,	Annual herb	Murrair	St 20,
25		*Garhadiolus hedypnois* (Fisch. & C.A.Mey.) Jaub. & Spach	Annual herb	Tiny Garhadiolus	St 16
26		*Centaurea bruguierana* (DC.) Hand.-Mazz.	Annual herb	Cornflower	St 1, St 12
27		*Centaurea rigida* Banks & Sol.	Perennial herb	Tahlishk	St 2, St 11, St 15
28		*Centaurea hyalolepis* Boiss.	Perennial herb	Eastern Star-thistle	St 3, St 12
29		*Crepis kotschyana* (Boiss.) Boiss	Annual herb	Kalilk zar	St 11
30		*Cymbolaena griffithii* (A.Gray) Wagenitz	Annual herb	Qutaina, Qutn, Uqtaina	St 6, St 18
31		*Filago pyramidata* L.	Annual herb	Cudweed	St 12
32		*Gundelia tournefortii* L.	Perennial herb	Silifa, Kaub, Kangar	St 2, St 23
33		*Gymnarrhena micrantha* Desf.	Dwarf annual herb	Ain al- buqr	St 9, St 20
34		*Hedypnois rhagadioloides* (L.) F.W.Schmidt	Annual herb	Cretanweed	St 11
35		*Koelpinia linearis* Pall.	Annual herb	lahya at-tais, carter, dickson, dh iluq carter	St 9, St 11
36		*Ifloga spicata* (Forssk.) Sch.Bip.	Annual herb	Hasal, Hasach	St 8
37		*Leontodon laciniatus* (Bertol.) Widder	Annual herb	Ward Hodhan, Murran, Murrar, Murair	St 13, St 14
38		*Onopordum ambiguum* Fresen.	Biannual herb	Cotton thistle	St 10, St 16
39		*Onopordum heteracanthum* C.A.Mey.	Perennial herb	Scotch thistle	St 17
40		*Picris babylonica* Hand.-Mazz.	Annual herb	Umrar, Gula zerde	St 6, St11
41		*Scorzonera papposa* DC.	Perennial herb	Halakok, Ruba hela	St 2, St 8

42		*Senecio glaucus* L.	Annual herb	Word hodhan, Hodhan.	St 3, St 9, St 10
43		*Silybum marianum* (L.) Gaertn.	Biennial herb	Milk thistle, Gulaghan	St 3, St 5, St 8, St 19
44		*Sonchus oleraceus* L.	Annual herb	Harfash, Umm al-halib	St 1, St 9, St 11, St 15, St 22
45		*Sonchus tenerrimus* L.	Annual herb	Clammy sowthistle, Harfash	St 11, St 19,
46		*Xanthium strumarium* L.	Annual herb	hasach, lizzaij	St 2, St 11,
47	Berberid -aceae	*Leontice leontopetalum* L.	Perennial herb	Taqiq, Kaf al-asad	St 8, St 9,
48	Brassic-aceae	*Diplotaxis erucoides* (L.) DC.	Annual herb	Huwaira, Ghuwair	St 4, St 9, St 18
49		*Diplotaxis harra* (Forssk.) Boiss.	Annual herb	hara, khafash, khafaj	St 3, St 19, St 21, St 26
50		*Eruca vesicaria* (L.) Cav.	Annual herb		St 19, St 22
51		*Sisymbrium irio* L.	Annual herb	khubah, bazarulkhamkham	St 6, St 18, St 24
52		*Schimpera arabica* Hochst. & Steud. ex Steud.	Annual herb	Safraa	St 3, St 8
53		*Clypeola jonthlaspi* L.	Annual herb	Azerbaijani	St 17, St 23
54		*Matthiola longipetala* (Vent.) DC.	Annual herb	Shiqara, Shikara	St 12
55		*Zuvanda crenulata* (DC.) Askerova	Annual herb		St 18,
56		*Strigosella grandiflora* (Bunge) Botsch.	Annual herb	Shigar, Sillih, Silla, Yahaq	St 5, St 7
57		*Neotorularia torulosa* (Desf.) Hedge & J.Léonard	Annual herb		St 15
58		*Erucaria hispanica* (L.) Druce	Annual herb	Sillaih, Rishad, Al-Jibal	St 20
59		*Lepidium draba* L.	Annual herb	Qunaibra, jinaibra	St 14, St 15
60		*Helianthemum lippii* (L.) Dum.Cours.	Perennial shrub	Khudhr	St 11, St 19
61		*Helianthemum aegyptiacum* (L.) Mill.	Annual herb	Jaraid	St 4
62	Cappara-ceae	*Capparis spinose* L.	Perennial shrub	Mariana caper-bush, Cariana caper	St 9,
63	Convolv -ulaceae	*Convolvulus arvensis* L.	Perennial herb	Field bindweed	St 3, St 10

64	Caryoph y-llaceae	*Herniaria hemistemon* J.Gay	Perennial herb	Ghebayra	
65	Fabacea e	*Alhagi graecorum* Boiss.	Perennial shrub	Shook, Aqool	St 1, St 2, St 12, St 16
66		*Prosopis farcta* (Banks & Sol.) J.F.Macbr.	Perennial subshrub	Shok, Shauk, Kharnub	St 15, St 18, St 22
67		*Astragalus fasciculifolius* Boiss.	Perennial shrub	Sarcocolla	St 4
68		*Astragalus duplostrigosus* Post & Beauverd	Annual herb	Milkvetch	St 7, St11
69		*Astragalus dactylocarpus* Boiss.	Annual herb	Cheddade, Chettat, Chiddad	St 12
70		*Astragalus spinosus* (Forssk.) Muschl.	Perennial shrub	Taqaiq	St 26, St 25
71		*Lathyrus annuus* L.	Annual herb	Hurtuman, Habb adh-dharat	St 6,
72		*Glycyrrhiza glabra* L.	Perennial shrub	Licorice	St 3, St 5, St 10, St 15, St 22
73	Gerania-ceae	*Erodium cicutarium* (L.) L'Hér.	Annual herb	Dahmiyet el-ghazal, Dardar	St 2, St 7
74	Primula-ceae	*Lysimachia arvensis* subsp. *arvensis*	Annual herb	Red chickweed	St 8, St 22, St 25
75	Lythra-ceae	*Lythrum hyssopifolia* L.	Perennial herb	Grass-poly	St 3, St 27
76	Plumba-ginaceae	*Psylliostachys spicatus* (Willd.) Nevski	Annual herb	Bamboo	St 18
77	Plantag-inaceae	*Plantago lagopus* L.	Annual herb	Hare-foot plantain	St 6, St 19
78		*Plantago afra*	Annual herb	Qatoona, hab el-baragheet	St 17, St 20, St 23
79	Papave-raceae	*Fumaria parviflora* Lam.	Annual herb	Shahtaraj, Shattaraq	St 7
80		*Hypecoum pendulum* L.	Annual herb	Ifiquwun, Daidahan	St 15
81	Malva-ceae	*Malva nicaeensis* All.	Annual herb	Khubbaz	St 6, St 11, St 17, St 18, St 24
82	Reseda-ceae	*Reseda alba* L.	Annual herb	Dhiniban	St 5
83	Rubia-ceae	*Galium spurium* L.	Annual herb	Kurkur, Nusak	St 5, St 7
84		*Galium aparine* L.	Annual herb	Hashishat al-afa, Balashka	St 2, St 14,

85	Rutaceae	*Haplophyllum tuberculatum* (Forssk.) A.Juss.	perennial shrub	Zifra, Jifjaf	St 18
86	Salica-ceae	*Populus euphratica* Olivier	Perennial tree	Gharab	St 7, St 10, St 13, St 20
87		*Populus nigra* L.	Perennial tree	Ispindar, Qauwagh	St 6, St 14, St 17
88		*Salix acmophylla* Boiss.	Perennial tree	Violet willow	St 6, St 7, St 17, St 22
89	Solana-ceae	*Physalis angulate* L.	Annual herb	Winter cherry, harankash	St 15, St 26
90		*Lycium barbarum* L.	Annual herb	Wolfberry, Boxthorn	St 7, St 14,
91	Tamari-caceae	*Tamarix arceuthoides* Bunge	perennial shrub	Tarf	St 1, St 6, St 17
92		*Tamarix ramosissima* Ledeb.	perennial shrub	Tarfa	St 17, St 24
93		*Tamarix brachystachys* Bunge	perennial shrub	Tarfa	St 14, St 26
94		*Tamarix aphylla* (L.) H.Karst.	Annual herb	Athl	St 2, St 11
95	Zygophy-llaceae	*Fagonia glutinosa* Delile	Annual herb	Dereima	St 13, St 22
96	Urtica-ceae	*Urtica urens* L.	Annual herb	Qaris, Qurrais	St 13, St 19, St 26
97	Cypera-ceae	*Cyperus rotundus* L.	Perennial herb	Coco Grass	St 2, St 14, St 16
98		*Cyperus michelianus* (L.) Delile	Annual herb	Shala, Zarair gaba	St 3, St 22
99	Iridaceae	*Gladiolus atroviolaceus* Boiss.	Perennial herb	Anselan, Ansalan	St 9, St 27
100	Poaceae	*Eremopyrum bonaepartis* (Spreng.) Nevski	Annual herb	Shair al-khail, Shuwairib	St 4, St11
101		*Schismus arabicus* Nees	Annual herb	Ahnaita, Hanaita	St 14
102		*Sphenopus divaricatus* (Gouan) Rchb	Annual herb	Naima	St 24
103		*Bromus lanceolatus* Roth	Annual herb	Sanaisla, Usnaisla	St 15, St 9
104		*Phragmites australis* (Cav.) Trin. ex Steud	Perennial grass	Qasab, Qamish, kamish	St 14, St 11, St 23, St 25

It was Observed that the plant diversity in these areas has been adversely affected by neglect, and many areas have been cultivated with agricultural and economic crops, which has further negatively impacted impact the diversity of wild plants in those areas, the plants in these areas will be reviewed as follows:

Family, Amaranthaceae Juss., 1789
Genus, ***Amaranthus*** L., 1743
Amaranthus viridis L., 1763
Remark: Blakelock (1957) recorded this species for Iraq.
Examined specimens: 5 specimens; fl. and fr.: Mar.- Oct.
Distribution in Iraq: Jabal Himrin, Baghdad, Zafaraniya, Garm al Bani Sad and Basra (Ghazanfar and Edmondson, 2016).
Global distribution: Asia, Australia (Reyad-ul-Ferdous *et al*., 2015); Europe and N America (Akbar *et al*., 2017).

Amaranthus albus L., 1759
Remark: Blakelock (1957) recorded this species for Iraq.
Material examind: 9 specimens; fl and fr.: Jul.- Nov.
Distribution in Iraq: Halabja, Mosul, Sudur, Tarmiya, Baghdad, Suwaira, Namaniya and Kut (Ghazanfar and Edmondson, 2016).
Global distribution: N Amrica, Syria, Lebanon, Palestine, Egypt, Iran, Caucasus and Afghanistan (Ghazanfar and Edmondson, 2016).

Genus, ***Atriplex*** L., 1735
Atriplex nummularia Lindl., 1848
Remark: Blakelock (1957) recorded this species for Iraq.
Material examind: 5 specimens; fl. and fr.:Apr- Jun.
Distribution in Iraq: Upper Masopotamian plain and Abu Ghraib (Ghazanfar and Edmondson, 2016).
Global distribution: W S Australia, New South Wales and Victoria (Ghazanfar and Edmondson, 2016).

Genus, ***Halothamnus*** Jaub. & Spach, 1845
Halothamnus iraqensis var. ***hispidulus*** Botsch, 1981
Remark: Ghazanfar and Edmondson (2016) recorded this species for Iraq.
Material examind: 5 specimens; fl. Aug.-Nov., fr. Oct.-May.
Distribution in Iraq: Sulaimaniya, Ramadi, Habbaniya, between Shithatha and Rahhalyah, Kerbela, Samawa, Nasiriya, Diwaniya and Amara (Ghazanfar and Edmondson, 2016).
Global distribution: Syria, Saudi Arabia and Kuwait (Ghazanfar and Edmondson, 2016).

Genus, ***Chenopodium*** L., 1753
Rmark: According to GBIF Scretairat (2023a), this genus was added under Amaranthaceae, Previously it was put under Chenopodiaceae, Currently, all genera and species of this family have become under Amaranthaceae.
Chenopodium album L., 1753
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 8 specimens; fl. and fr.:May- Sep.
Distribution in Iraq: Balad, Maqdadiya, Baquba and Baghdad (Ghazanfar and Edmondson, 2016).

Global distribution: India, N America, N E Europe and Asia (Saini and Saini, 2020).

Genus, ***Cornulaca*** Del., 1813
Cornulaca aucheri Moq., 1840
Remark: Rechinger (1964) recorded this species for Iraq.
Material examind: 5 specimens; fl. and fr.:Oct.- Nov.
Distribution in Iraq: Sulaimaniya, Kirkuk, Al-Sudur, Jabal Hamrine, Balad, Sumaicha, Baiji, Ramadi, Habbaniya, Baghdad, Fakkuja, Rustamiya and Iskanderiya (Ghazanfar and Edmondson, 2016).
Global distribution: Kuwait (Ahmed *et al*., 2019); Arabia, Iran, Afghanistan and Pakistan (Ghazanfar and Edmondson, 2016).

Genus, ***Suaeda*** Scop. 1777
Suaeda aegyptiaca (Hasselq.) Zohary, 1957
Remark: Rechinger (1964) recorded this species for Iraq.
Material examind: 5; fl. and fr.: May- Nov.
Distribution in Iraq: Mandali, Balad, Wadi Thirthar, Thirthar Lake, Bahr al-Milh, Karbala, Samawa, Kut, Baquba, Nasiriya, Amara and Basra (Ghazanfar and Edmondson, 2016).
Global distribution: Iran (Malayeri *et al*., 2018); France, Portugal, Spain, Arabian Peninsula, Pakistan, Afghanistan, India, Iran, Africa, Canary is lands, England, Bangladesh and Pakistan (Ahmad *et al*., 2021).

Suaeda carnosissima Post, 1896
Remark: Ghazanfar and Edmondson (2016) recorded this species for Iraq.
Material examind:7 specimens; fl. and fr.: Aug- Dec.
Distribution in Iraq: Shithatha, Rumaitha, Kerbala, Baghdad and Amara (Ghazanfar and Edmondson, 2016).
Global distribution: Turkey and Syria (Ghazanfar and Edmondson, 2016).

Family, Apiaceae Lindl., 1836
Genus, ***Artedia*** L., 1753
Artedia squamata L., 1735
Remark: Zohary (1950) recorded this species for Iraq.
Material examind:4; fl. and fr.: Apr.-May.
Distribution in Iraq: Jabal Sinjar, Balad Sinjar, Jabal Bekher, between Dargala and Karoukh, Bakrajo, Pir Omar Gudrun, Sulaimaniya, Tikrit, Mosul, Baghdad, Mandali and Khanaqin (Ghazanfar and Edmondson, 2016).
Global distribution: Turkey, Jordan, Iran, Greece, Cyprus, Syria, Lebanon and Palestine (Ghazanfar and Edmondson, 2013).

Genus, ***Ammi*** L., 1753
Ammi visnaga (L.) Lam., 1778
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 15 specimens; fl. and fr.: Mar.-Jun.

Distribution in Iraq: Zakho, Halabja, Mosul, Ain Sifni, Kirkuk, Baquba, Muqdadiya, Shahraban, Balaruz and Baghdad (Ghazanfar and Edmondson, 2013).
Global distribution: Egypt (EDA., 2022a); N Africa (Khalil *et al*., 2020); N America, Pennsylvania, Oregon, Alabama, Mediterranean, California, Florida, the Atlantic islands, Argentina, Mexico, Chile, Asia and Iran (Al-Saleh *et al*., 2019).

Ammi majus L., 1753
Remark: Guest (1933) recorded this species for Iraq.
Material examind:12 specimens; fl. and fr.:Mar.-May.
Distribution in Iraq: Sinjar, Tal Afar, Balad Sinjar, Mosul, Baiji, Arbil, Makmur, Baghdad, Badra, Kut, Aziziya, Daltawa, Rustamiya, Basra and Amara (Ghazanfar and Edmondson, 2013).
Global distribution: Egypt, Europe, Mediterranean, West Africa and India (Abdul Munim *et al*., 2021).

Genus, ***Bupleurum*** L., 1753
Bupleurum lancifolium Hornem., 1813
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 12 specimens; fl. and fr.:Apr.-May.
Distribution in Iraq: Chemchamal (Ghazanfar and Edmondson, 2013).

Genus, ***Bunium*** L., 1753
Bunium paucifolium DC., 1830
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 2 specimens; fl and fr.:Mar.-May.
Distribution in Iraq: Mosul, Dohuk, Salah ad-Din, Kuh-i Sefin, Halgord, between Halgord and Kholan, Sakri Sakran, Serkabkhan, Kirkuk, Sulaimaniya, Qaranjir, Chemchemal, Zewiya, Qaradagh, Tanjaro, Penjwin, Hawraman, Halabja, Tawila, Jabal Sinjar, Tal ash-Shur, between Sinjar and Tal Afar, between Balad Sinjar and Ba‘ajm Hamman, Tal Kuchek, Tal Kaif, Arbil, between Arbil and Altun Kupri, Taktak bridge, between Kirkuk and Koi Sanjak, Tuz, Zurbatiya, Samarra, Ba‘quba, Shahraban, Ra‘aya and Daltara (Ghazanfar and Edmondson, 2013).
Global distribution: Asia, Europe and North Africa (Ghazanfar and Edmondson, 2013).

Genus, ***Torilis*** Adans., 1763
Torilis stocksiana (Boiss.) Drude, 1898
Remark: Rechinger (1964) recorded this species for Iraq.
Material examind: 11 specimens; fl and fr.:Mar.-May.
Distribution in Iraq: Shaqlawa, Koi Sanjaq, Jarmo, Pira Magrun, Malakawa, Darband-i-Khan, Makhlat, Kirkuk, Qizil Robat, between Naft Khana and Mandali, Baghdad, Abu Ghraib, Rustamiya, Abu Saldi Jizera, Ba‘quba, Kut al-Imara, Amara, Qala‘t Salih, Basra and Abul Khasib (Ghazanfar and Edmondson, 2013).
Global distribution: Arabia, Iran, Afghanistan and Pakistan (Ghazanfar and Edmondson, 2013).

Family, Apocynaceae Juss., 1789
Genus, ***Cynanchum*** L., 1753
Cynanchum acutum L., 1753
Remark: Guest (1933) recorded this species for Iraq.
Note: In flora of Iraq this species is under the family of Asclepiadaceae (Townsend and Guest, 1980).
Material examind: 12 specimens; fl and fr.: Aug.- Oct.
Distribution in Iraq: Qalat Shergat, Mosul, Nineveh, Baghdad, Qasr Naqib, Abu Ghraib, Za'faraniya, Rustamiya, Babylon, Dabuni, Aziziya, Amara, Mushara and Basra (Townsend and Guest, 1980).
Global distribution: Egypt and Europe (Hamidi *et al*., 2023); Africa, and Asia (Abdelhameed *et al*., 2021); Algeria, S Europe, Syria, Lebanon, Palestine, Arabia, Bahrain, Turkey, Caucasus, Iran, W Pakistan, Afghanistan, China and N Africa (Townsend and Guest, 1980).

Family, Asteraceae Dumort., 1822
Genus, ***Achillea*** L., 1753
Achillea aleppica DC., 1838
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 7 specimens; fl. and fr.: May-Jul.
Distribution in Iraq: Jabal sinjar, Karsi, Zawita, Erbil, Kirkuk, Jarmo, Chemchemal, Tasluja, Sulaimaniya, Gilazarda, Azmir, Pira Magrun, Penjwin, Kamarspa, Kochak, Balad, Jabal Khatchra, Mosul,Baba Gurgur and Mandali (Ghazanfar and Edmondson 2019).
Global distribution: Turkey, Syria, Lebanon, Jordan, Palestine and Iran (Ghazanfar and Edmondson 2019).

Achillea wilhelmsii C.Koch, 1851
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 8 specimens; fl. and fr.: Mar.- Jun.
Distribution in Iraq: Chemchemal, Sulaimaniya, Upper Jazira, Balad Sinjar, Ain Tellawi, Tal Afar, Mosul, Arbil, Kirkuk, Daquq , Jabal Hamrin, Mandali, Badra, Musaiyif al-Ghizlan , Baghdad and Rustamiya (Ghazanfar and Edmondson 2019).
Global distribution: Lebanon, Syria, Palestine,Turkey, Jordan, Afghanistan,Transcaucasia, (Ghazanfar and Edmondson, 2019); Iran (Dehshiri and Jozipoor, 2014).

Genus, ***Anthemis*** L., 1753
Anthemis pseudocotula Boiss., 1846
Remark: Al-Rawi (1964) recorded this species for Iraq.
Material examind: 4 specimens; fl. and fr.: Mar.-Jul.
Distribution in Iraq: Dohuk, Darbandikan, Dokan, Sulaimaniya, Qaradagh, Sinjar, Mosul, Baghdad, Syrian, Arbil, Badra, Balad, Sinjar, Jabal Hamrin, Wadi Alkhirr, Diyala, Diwaniya,
Global distribution: Cyprus, Turkey, Palestine, Syria, Egypt, Arabia and Iran(Ghazanfar and Edmondson, 2019).

Anthemis leucanthemifolia Boiss. & C.I.Blanche, 1856

Remark: Al-Rawi (1964) recorded this species for Iraq.
Material examind: 8 specimens; fl. and fr.: Mar.- Apr.
Distribution in Iraq: Amara, Tikrit, Beiji and Rutba (Ghazanfar and Edmondson, 2019).
Global distribution: Palestine and Lebanon (Ghazanfar and Edmondson, 2019).

Genus, ***Anvillea*** *DC.* 1836
Anvillea garcinii (Burm.f.) DC., 1836
Remark: Zohary (1850) recorded this species for Iraq.
Material examind: 7 specimens; fl. and fr.: May- Oct.
Distribution in Iraq: Tikrit, Rutba, Nukhaib, Najaf, Karbala and Basra (Ghazanfar and Edmondson, 2019).
Global distribution: Saudi Arabia (Aati *et al*., 2021); Syria, Palestine, Jordan, Egypt and Iran (Ghazanfar and Edmondson, 2019).

Genus, ***Atractylis*** L., 1753
Atractylis carduus (Forssk.) C.Chr., 1922
Remark: by Al-Rawi (1964) recorded this species for Iraq.
Material examind: 5 specimens; fl. and fr.: Apr.- Jun.
Distribution in Iraq: Falluja, Ramadi, Habbaniya and Rutba (Ghazanfar and Edmondson, 2019).
Global distribution: Egypt (El-Gazzar *et al*., 2019); Peninsula, Syria, Africa, Palestine and Sinai (Ghazanfar and Edmondson, 2019).

Genus, ***Carthamus*** L., 1753
Carthamus oxyacanthus M.Bieb., 1808
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 3 specimens; fl. and fr.: May – Oct.
Distribution in Iraq: Rowanduz, Jarmo,Sulaimaniya, Ankawa, Sadiya, Mandali, Falluja, Baghdad, Abu Ghraib, Amara and Aqqur Kuf (Ghazanfar and Edmondson, 2019).
Global distribution: Saudi Arabia, Iran (Dehshiri and Jozipoor, 2014); Asia, Afghanistan, Pakistan andTranscaucasia (Ghazanfar and Edmondson, 2019).

Genus, ***Calendula*** L., 1753
Calendula arvensis L., 1763
Remark: Al-Rawi (1964) recorded this species for Iraq.
Material examind: 9 specimens; fl. and fr.:Feb. – Jul.
Distribution in Iraq: Dohuk, Jarmo, Darband, -I Khan, Balad Sinjar, Qaiyara, Arbil, Kirkuk, Khalis, Khanaqin, Samarra, Rutba, Rahhaliya, Nukhaib, Sammawa, Rubaitha, Zubair, Sudur, Garmashaya,Basra, Zubair, Rushida, Amara, Kut and Khalis (Ghazanfar and Edmondson, 2019).
Global distribution: Spain, Palestine, Syria, Iran, Egypt, Turkey, Europe, Afghanistan, Cyprus, Sinai Algeria, Morocco, Libya, Tunisia, Caucasia, Kuwait, Qatar, Oman, Bahrain and Yemen (Ghazanfar and Edmondson, 2019).

Genus, ***Launaea*** Cass., 1822
Launaea angustifolia (Desf.) Kuntze, 1891
Remark: Al-Rawi (1964) recorded this species for Iraq.
Material examind: 4 specimens; fl. and fr.:Feb.-Jun.
Distribution in Iraq: Samarra, Jabal Sanam, Ansab and Shabicha (Ghazanfar and Edmondson, 2019).
Global distribution: Arabian countries in W Asia and N Africa (Aiman *et al*., 2023).

Genus, ***Garhadiolus*** Jaub. & Spach 1849
Garhadiolus hedypnois (Fisch. & C.A.Mey.) Jaub. & Spach, 1850
Remark: Al-Rawi (1964) recorded this species for Iraq.
Material examind: 2 specimens; fl. and fr.: Mar.-Jun. on the plains, Apr.-Jun. in the hills.
Distribution in Iraq: Samarra, Hamam Alil, Kamarspa, Shkho, Sharanish, Kamarspa and Sinjar (Ghazanfar and Edmondson, 2019).
Global distribution: United Arab Emirates (Byalt *et al*., 2022); Iran, Afghanistan, Caucasia, Turkey and Asia (Ghazanfar and Edmondson, 2019).
Remark: In flora of Iraq this species accepted under the name *Garhadiolus angulosus* Jaub. & Spach. (Ghazanfar and Edmondson, 2019), but in GBIF Secretariat (2023b) accepted under the name *Garhadiolus hedypnois (*Fisch. & C.A.Mey.) Jaub. & Spach.

Genus, **C*entaurea*** L., 1753
Centaurea bruguierana (DC.) Hand.-Mazz., 1913
Remark: Ghazanfar and Edmondson (2019) recorded this species for Iraq.
Material examind: 6 specimens; fl. and fr.: Jun. – Aug.
Distribution in Iraq: Jabal Qilat, Balad Sinjar, Jarmo, Mosul, Khabur, Bridge, Mahmur, Dibaga, Kirkuk, Arbil, Diyala, Mandali, Tikrit, Falluja, Zubair, Baghdad,Diwaniya and Amara (Ghazanfar and Edmondson, 2019).
Global distribution:Turkey, Afghanistan, Syria, C Asia (Turkmenia to Kazakhstan), Transcaucasia, Pakistan (Ghazanfar and Edmondson, 2019); Iran (Dehshiri and Jozipoor, 2014).

Centaurea rigida Banks & Sol., 1794
Remark: Rechinger (1964) recorded this species for Iraq.
Material examind: 2 specimens; fl. and fr.: May-Aug.
Distribution in Iraq: Dohuk, Amadiya, Erbil, Jarmo, Jabal Sinjar, Daquq, Kirkuk, Baghdad, Mandali, Jabal Hamrin, Samarra and Muqdadiya (Ghazanfar and Edmondson, 2019).
Global distribution: Jordan, Palestine, Syria and Turkey (Ghazanfar and Edmondson, 2019).

Centaurea hyalolepis Boiss., 1846
Remark: This species was recorded for Iraq by Zohary (1950)
Material examind: 4 specimens; fl. and fr.: May – Aug.
Distribution in Iraq: Balad Sinjar, Baiji, Ankawa, Baquba, Baghdad, Amara, Shahraban, Arbil, Jabal Hamrin, Dukhail, Kirkuk and Qara Hasan (Ghazanfar and Edmondson, 2019).

Global distribution: Jordan, Palestine, Syria, Turkey, Lebanon and Iran (Ghazanfar and Edmondson, 2019).

Genus, ***Crepis*** L., 1753
Crepis kotschyana (Boiss.) Boiss., 1875
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 5 specimens; fl. and fr.: Apr.- Jul.
Distribution in Iraq: Chemchemal, Khanaqin, Mandali, Samarra, Jarmo, Jabal Khatchra, Injana and Qopi Qaradagh (Ghazanfar and Edmondson, 2019).
Global distribution: Afghanistan, Turkey, Pakistan, C Asia (Turkmenia to Tajikistan) (Ghazanfar and Edmondson, 2019); Iran (Dehshiri and Jozipoor, 2014).

Genus, ***Cymbolaena*** Smoljan., 1955
Cymbolaena griffithii (A.Gray) Wagenitz, 1971
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 3 specimens; fl. and fr.:May – Oct.
Distribution in Iraq: Zakho, Suwara, Kirkuk, Samarra, Shargat, Kirkuk, Shaqlawa, Koi Sanjak, Pira Magrun, Salah ad-Din and Tuz.
Global distribution: Syria, Lebanon, Jordan, Arabia, Turkey, Iran, Turkmenia, Afghanistan and Pakistan (Ghazanfar and Edmondson, 2019).

Genus, ***Filago*** L. 1753
Filago pyramidata L., 1753
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 6 specimens; fl. and fr.: Feb.-May.
Distribution in Iraq: Zakho, Balad Sinjar, Mosul, Chemchemal, Sulaimaniya, Tall Afar, Hawija, Khanaqin, Baquba, Ana, Rawa, Ansab, Zubair, Tarmiya, Khalis, Amara, Baghdad and Hilla (Ghazanfar and Edmondson, 2019).
Global distribution: S Europe, Aegean Is., Syria, Iran, Palestine, Mediterranean, Turkeym, Cyprus, Jordan, Arabia, Afghanistan, N Africa, Caucasia, Pakistan and Macaronesia (Ghazanfar and Edmondson, 2019); Spain and Italy (Bartolucci *et al*., 2018).

Genus, **G*undelia*** L., 1754
Gundelia tournefortii L., 1753
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 5 specimens; fl. and fr.: Mar.-Jul.
Distribution in Iraq: Zakho, Sarsang, Khanzad, Rownduz, Jarmo, Mosul, Qara Dagh, Mosul, Tal Afar, Khanaqin, Ramadi, Rutba and Khlis (Ghazanfar and Edmondson, 2019).
Global distribution: Lebanon, Palestine, Syria, Egypt, Turkey, Cyprus, Algeria Transcaucasia, Afghanistan and Iran (Ghazanfar and Edmondson, 2019).

Genus, ***Gymnarrhena*** Desf., 1818
Gymnarrhena micrantha Desf., 1818
Remark: Al-Rawi (1964) recorded this species for Iraq.

Material examind: 4 specimens; fl. and fr.: Mar.-May.
Distribution in Iraq: Badra, Baghdad, Ramadi, Ana, Qaim, Rutba, Zubair, Jabal Sanam, Basra, Amara, Falluja, Safwan, samawa, Wadi Hawran and Shithatha (Ghazanfar and Edmondson, 2019).
Global distribution: Iran, Syria, N Africa, Palestine, Pakistan (Ghazanfar and Edmondson, 2019); Saudi Arabia (Osman and Abdein, 2019).

Genus, ***Hedypnois*** Hill 1753
Hedypnois rhagadioloides (L.) F.W.Schmidt, 1795
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 6 specimens; fl. and fr.:Apr.-May.
Distribution in Iraq: Jabal Sinjar, Mosul, Koi Sanjaq, Jarmo, Kirkuk, Samarra, Amara, Baghdad, Shahraban, Injana, Kifri and Saadiya (Ghazanfar and Edmondson, 2019).
Global distribution: Palestine, Syria, Iran, Egypt, Turkey, Europe, Cyprus, N Africa (Libya to Morocco), Macaronesia (Madeira, Canaries, Azores)(Ghazanfar and Edmondson, 2019).

Genus, ***Ifloga*** Cass., 1822
Ifloga spicata (Forssk.) Sch.Bip., 1845
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 8 specimens; fl. and fr.:Apr.-Jun.
Distribution in Iraq: Amara, Falluja,Wadi Thirthar, Jabal Muwaila, Rutba, Samarra, Wadi Hauran, Najf, Jumaima, Zubair, Baghdad, Ansab, Busaiya, Julaida and Um-Qasir (Ghazanfar and Edmondson, 2019).
Global distribution: Iran, Turkey, Syria, Palestine, Turkmenia, Afghanistan, Aegean, Lebanon, Palestine, Sinai, S Europe (SE Spain), Kuwait, N Africa (Libya, Tunisia, Algeria, Morocco) and Macaronesia (Ghazanfar and Edmondson, 2019).

Genus, ***koelpinia*** Pall., 1776
Koelpinia linearis Pall., 1776
Remark: Rechinger (1964) recorded this species for Iraq.
Material examind: 2 specimens; fl. and fr.: Mar.- Jun.
Distribution in Iraq: Jarmo, Jabal Qilat, Balad Sinjar, Tal Julaimid, Kirkuk, Rawa, Samarra, Balad, Ramadi, Jabal Sanam, Karbala, Zubair, Susur, Basra, Rustamiya, Sudur and Aidaha (Ghazanfar and Edmondson, 2019).
Global distribution: Iran, Turkey, Syria, Palestine, Turkmenia, Afghanistan, (Ghazanfar and Edmondson, 2019); Saudi Arabia (Osman and Abdein, 2019).

Genus, ***Leontodon*** L., 1753
Leontodon laciniatus (Bertol.) Widder, 1967
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 2 specimens; fl. and fr.: Mar.-Jun.
Distribution in Iraq: Shargat, Rutba, Qaraghan, Rawa, Aziziya, Amara, Samarra, Jumaima, Salman, Rustamiya, Rashida, Babylon, Njaf, Qaaim, Safwan and Shabicha (Ghazanfar and Edmondson, 2019).

Global distribution: Saudi Arabia, Palestine, Jordan, Syria, Iran, Egypt, Kuwait and Caucasus (Ghazanfar and Edmondson, 2019).

Genus, ***Onopordum*** L., 1753
Onopordum ambiguum Fresen., 1834
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 4 specimens; fl. and fr.: Apr.-Sep.
Distribution in Iraq: Rutba, Ana, Hilla Ramadi, Samarra and Falluja.
Global distribution: Saudi Arabia, Jordan, Sinai and Yemen (Ghazanfar and Edmondson, 2019).

Onopordum heteracanthum C.A.Mey., 1831
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 6 specimens; fl. and fr.: Apr.-Aug.
Distribution in Iraq: Sulaimaniya, Mosul, Kirkuk, Mandali, Baghdad, Dohuk, Ramadi, Rutba, Adhaim andTikrit (Ghazanfar and Edmondson, 2019).
Global distribution: Iran, Turkey and Transcaucasia (Ghazanfar and Edmondson, 2019).

Genus, ***Picris*** L., 1753
Picris babylonica Hand.-Mazz., 1913
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 4 specimens; fl. and fr.: Mar.-Jun.
Distribution in Iraq: Balad, Wadi Thirthar, Samarr, Habbbaniya and Samwa (Ghazanfar and Edmondson, 2019).
Global distribution: Jordan Syria, Egypt PalUmm Qasr, Basra, Zubair, Karbala, Najaf, Fallluja, Nukhaib and Ajjrumiya (Ghazanfar and Edmondson, 2019).

Genus, ***Scorzonera*** L., 1753
Scorzonera papposa DC., 1838
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 3 specimens; fl. and fr.: Mar.-May.
Distribution in Iraq: Jabal Sinjar, Sulaaimaniya, Jarmo, Kirkuk, Mandali, Baba Gurgur, Rawa, Haditha, Nukhaib, Sharkat, Rutba and Jabal Sanam (Ghazanfar and Edmondson, 2019).
Global distribution:Transcaucasia, Iran, Turkey, Syria, Lebanon, Jordan, Palestine, Kuwait, (Ghazanfar and Edmondson, 2019); Saudi Arabia (Osman and Abdein, 2019).

Genus, ***Senecio*** L., 1753
Senecio glaucus L., 1753
Remark: This species was recorded for Iraq by Guest (1933).
Material examind: 5 specimens; fl. and fr.: Feb.-Jun.
Distribution in Iraq: Jabal Qilat, Baiji, Jabal Hamrin, Ana, Tal-Julaimid, Mosul, Ramadi, Samarra, Ansab, Amara, Babylon, Basra, Wadi Tib, Wadi Fuhaimi and Tikrit (Ghazanfar and Edmondson, 2019).

Global distribution: Italy (Bartolucci *et al*., 2018); Iran, Pakistan, Palestine, Afghanistan, N Africa from Egypt to Morocco and Canary Is (Ghazanfar and Edmondson, 2019).

Genus, ***Silybum*** Adans., 1763
Silybum marianum (L.) Gaertn., 1791
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 11 specimens; fl. and fr.: Mar.-Oct.
Distribution in Iraq: Mosul, Baghdad, Amara, Basra, Abu-Graib, Baquba, Zafaraniya and Jalala (Ghazanfar and Edmondson, 2019).
Global distribution: New Zealand, The Falkland Islands, Native in Mediterranean region, SW Europe and SW Asia, Afghanistan, Pakistan, Australia, S America, Palestine and Egypt (Ghazanfar and Edmondson, 2019).

Genus, ***Sonchus*** L., 1753
Sonchus oleraceus L., 1753
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 11 specimens; fl. and fr.: Mar.-May.
Distribution in Iraq: Sayid Sadiq, Baquba, Amara, Basra, Qaim, Falluja, Rustamiya and Suwira (Ghazanfar and Edmondson, 2019).
Global distribution: India (Adhikari and Babu, 2008); Saudi Arabia (Osman and Abdein, 2019); New Zealand, Europe, Cyprus, Aegean Is., Palestine, Syria, Lebanon, Sinai, Egypt, Jordan, Iran, Pakistan, N Africa, Caucasia, Turkey, Afghanistan, Siberia, Japan and China (Ghazanfar and Edmondson, 2019).

Sonchus tenerrimus L., 1753
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 4 specimens; fl. and fr.: Mar.-Apr.
Distribution in Iraq: Babylon, Amara, Basra and Khalis (Ghazanfar and Edmondson, 2019).
Global distribution: Jordan, Syria, Palestine (Al-Joboury and Aliwy, 2023), Iran, Egypt, Mediterranean Europe (from Portugal, Italy, Spain, Balkans and Sicily), Pakistan, Cyprus and Macaronesia (Ghazanfar and Edmondson, 2019).

Genus, ***Xanthium*** L., 1753
Xanthium strumarium L., 1753
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 10 specimens; fl. and fr.: Jun.-Feb.
Distribution in Iraq: Sarsang, Penjwin, Badra, Namaniya, Fao, Zurbatiya, Habbaniya, Kirkuk and Khalis (Ghazanfar and Edmondson, 2019).

Family, Berberidaceae Juss., 1789
Genus, ***Leontice*** L., 1753
Remark: In flora of Iraq this genus was diagnosed under Leonticaceae family (Townsend and Guest, 1980b).

Leontice leontopetalum L., 1753
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 3 specimens; fl. and fr.:Mar.-May.
Distribution in Iraq: Jabal Sinjar, Rowanduz, Sinjar, Mosul, Kirkuk, Kifri, Tuz, Mandali, Bdra, Samarra, Rutba, Nukhaib, Ramadi, Ana, Qaim, Khalis, Shahraban, Baquba, Baghdad and Zurbatiya (Townsend and Guest, 1980b).
Global distribution: S E Europe, Crete, Aegean Isles (Al-Snafi, 2019); Cypruc, Syria, Lenanon, Palestine, Jordan, Egypt, Turkey, Iran, Caucasus, Afghanistan and N Africa (Townsend and Guest, 1980b).

Family, Brassicaceae Bumett, 1835
Genus, ***Diplotaxis*** DC., 1821
Diplotaxis erucoides (L.) DC., 1821
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 10 specimens; fl and fr.: Apr.-Jun.
Distribution in Iraq: Darband-I Khan, Mosul, Kirkuk, Balad, Baghdad, Abu Ghraib, Baghdad, Amara, Baquba, Diyala, Ramadi and Sadiya (Townsend and Guest, 1980b).
Global distribution: Mediterranean countries (Clemente-Villalba *et al*., 2020), S W Europe, Turkey, Syria, Sinai, Palestine, , Lebanon, Jordan, Egypt, Arabia, Iran and Africa (Townsend and Guest, 1980b).

Diplotaxis harra (Forssk.) Boiss., 1867
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 5 specimens; fl and fr. Feb-Jul.
Distribution: Sicily, Syria, Sinai, Palestine, Lebanon, Jordan, Egypt, Arabia, Iran, Kuwait, Pakistan, N. Africa and Tropical Africa (Somalia, Ethiopia) (Townsend and Guest, 1980b).

Genus, ***Eruca*** Mill. 1754
Eruca vesicaria (L.) Cav., 1802
Remark: Guest (1933) recorded this species for Iraq.
Remark: In flora of Iraq, this species named *Eruca sativa* Mill. (Townsend and Guest, 1980b).
Material examind: 5 specimens; fl and fr.: Apr.-May.
Distribution in Iraq: Kirkuk, Shargat, Adhaim, Mandali, Baghdad, Rusttamiya, Basra, Sudur and Zubair (Townsend and Guest, 1980b).
Global distribution: Turkey, Syria, Palestine, Lebanon, Caucasus and Iran (Townsend and Guest, 1980b).

Genus, ***Sisymbrium*** L., 1753
Sisymbrium irio L., 1753
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 8 specimens; fl and fr: Feb.-May.
Distribution in Iraq: Khanaqin, Mandali, Rawa, Karbala, Shabicha, Khalis, Diyala, Amara, Kut, Aqarquf, Rustamiya, Abu Ghraib and Haditha (Townsend and Guest, 1980b).

Global distribution: North Africa, Asia and Europe, South Africa, (Tiwari and Bhargava, 2021); North America and Australia (Angelo and Boufford, 2011).

Genus, ***Schimpera*** Steud. & Hochst. ex Endl., 1839
Schimpera arabica Hochst. & Steud. ex Steud., 1816
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 4 specimens; fl and fr.: Feb.- Apr.
Distribution in Iraq: Jabal Hamrin, Baghdad, Shahraban, Jalaula, Muqdadiya, Ramadi, Nukhaib, Rawa, Falluja, Samarra, Zarqa, Jumaima, Samawa, Um Qasr, Zubair, Abul-Khassib, Nasiriya, Umam Ibrahim, Jabal Sanam and Basra (Townsend and Guest, 1980b).
Global distribution:Turkey, Syria, Palestine, Lebanon, Caucasus, Iran, Europe, Cyprus, Jordan, Arabia, Kuwait, Pkistan, Afghanistan, N Africa (Libya to Morocco), N America, Australia (Townsend and Guest, 1980b).

Genus, ***Clypeola*** L., 1753
Clypeola jonthlaspi L., 1753
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 5 specimens; fl and fr.: Mar.-May.
Distribution in Iraq: Sinjar, shaqlawa, Jabal Maklub, Bashiqa, Dokan, Khanaqin, Muqdadiya, Rawa and Jarmo (Townsend and Guest, 1980b).
Global distribution:Turkey, Sinai, Egypt, Caucasus, Iran, Jordan, Pkistan, Afghanistan, N Africa (Libya to Morocco), C. Asia (Aralo-Caspian to Tian Shan) (Townsend and Guest, 1980b).

Genus, ***Matthiola*** R.Br. 1812
Matthiola longipetala (Vent.) DC., 1821
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 4 specimens; fl and fr.: Feb.- Apr.
Distribution in Iraq: Balad Sinjar, Baiji, Kirkuk, Baba Gurgur, Rowanduz, Arbil, Chamchamal, Qaiyara, Samarra, Balad, Qaim, Rutba, Ramadi, Nukhaib, Karbala, Jabal Muwailih, Rawa, Shanicha, Zubaida, Nukhaib, Basra, Zubair, Baghdad, Khan Bani Sad, Nahrwan, Bsra and Najan (Townsend and Guest, 1980b).
Global distribution:S E Europe (Greece, S. Russia), Aegean Isles, Turkey, Syria, Sanai, Egypt, Lebanon, , Iran, Jordan, Kuwait, Arabia, Cyprus,, N Africa (Libya) (Townsend and Guest, 1980b).

Genus, ***Zuvanda*** (Dvořák) Askerova, 1985
Zuvanda crenulata (DC.) Askerova, 1985
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 3 specimens; fl. and fr.: Apr.-May.
Global distribution: Palestine, Jordan, Syria, Armenia, Saudi Arabia, Turkey, Lebanon, Zambia and Egypt (Townsend and Guest, 1980b).

Genus, ***Strigosella*** Boiss., 1854
Strigosella grandiflora (Bunge) Botsch., 1972
Remark: Rechinger (1964) recorded this species for Iraq.
Material examind: 5 specimens; fl and fr.:Feb.-May.
Distribution in Iraq: Jabal Hamrin, Mansuriya, Badra, Falluja, Wadi Thirthar, Samarra, Ramadi, Falluja, Karbala, Zubair, Nukhaila, Zubair, Um Qasar, Babylon, Khanaqin, Safwan, Ghubaishiya, Shithatha and Balad (Townsend and Guest, 1980b).
Global distribution: Syria, Kueait, Arabia, Iran, W Pakistan, Afghanistan and C. Asia (Turkmenia to Kazakhstan) (Townsend and Guest, 1980b).

Genus, ***Neotorularia*** Hedge & J.Léonard, 1986
Neotorularia torulosa (Desf.) Hedge & J.Léonard, 1986
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 5 specimens; fl. and fr.:Apr.-Jun.
Distribution: Ukraine, Jordan, Jordan, Spain, Turkey, Spain, Morocco, Georgia, Armenia, Turkmenistan, Syria, Morocco and Cyprus (Townsend and Guest, 1980b).

Genus, ***Erucaria*** Gaertn., 1791
Erucaria hispanica (L.) Druce, 1914
Remark: Rechinger (1964) recorded this species for Iraq.
Material examind: 6 specimens; fl and fr.:Feb.- Jul.
Distribution in Iraq: Jabal Sinjar, Kirkuk, Jalaula, Khanaqin, Badra, Qaim, Haditha, Ramadi, Shabicha, Jabal Muwailih, Sammarra, Balad, Rutba and Nukhaib (Townsend and Guest, 1980b).
Global distribution: S E Europe, Crete, Aegaean, Isles, Lebanon, Jordan, Cyprus, Turkey, Sinai, Syria, Egypt, Palestine, Arabia, Iran, Bahrain, N. Africa and W Pakistan (Townsend and Guest, 1980b).

Genus, ***Lepidium*** L., 1753
Lepidium draba L., 1753
Remark: Rechinger (1964) recorded this species for Iraq.
Material examind: 9 specimens; fl and fr.: Mar.- Aug.
Distribution in Iraq: Zawita, Salah al-Din, Diyala, Baquba, Baghdad, Basra, Amara, Babylon, Azizya and Samarra (Townsend and Guest, 1980b).
Global distribution: Western Asia, Iran, Turkey, Armenia, Syria, E Europe, N America, Africa and Algeria (Naser *et al*., 2019).

Family, Capparaceae Juss., 1789
Remark: In flora of Iraq this family named Capparidaceae, 1936 (Townsend and Guest, 1980a).
Genus, ***Capparis*** L., 1753
Capparis spinose L., 1753
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 15 specimens; fl. and fr.:Apr.-May.

Distribution in Iraq: Jabal Singar, Zakho, Samarra, Baquba, Zurbatiya, Mosul, Abu Graib, Rownduz, Rustamiya, Sadiya and Mosul (Townsend and Guest, 1980a).
Global distribution: N E Africa, Asia, Indonesia, Australia, and Oceania (Annaz *et al*., 2022); Morroco to Crimea, Armernia, Iran, Spain, Moroccourkey and Italy (Mollica *et al*., 2019); Mediterranean, S Europe (Altameme and Abidhuda 2018).

Family, Convolvulaceae Juss., 1789
Genus, ***Convolvulus*** L. 1753
Convolvulus arvensis L. 1753
Material examind: 7 specimens; fl. and fr.:Apr.-May.
Global distribution: Europe and Asia, Mediterranean region and Macaronesia (Alwan and Hamad, 2020).

Family, Caryophyllaceae Juss., 1789
Genus, ***Herniaria*** L., 1753
Herniaria hemistemon J.Gay, 1847
Remark: Rechinger (1964) recorded this species for Iraq.
Material examind: 5 specimens; fl and fr.: Feb.- Apr.
Distribution in Iraq: Samarra, Jabal Sinjar, Jumaima, Falluja, Khalis, Tikrit, Rutba, Zafaraniya and Smawa (Townsend and Guest, 1980a).
Global distribution: North Africa and Asia, spanning from Morocco to Iran (Ghareeb *et al*., 2023); Egypt (Elhagali *et al*., 2019).

Family, Cistaceae Juss., 1789
Genus, ***Helianthemum*** Mill., 1754
Helianthemum lippii (L.) Dum.Cours., 1802
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 4 specimens; fl. and fr.: Mar.- May.
Distribution in Iraq: Kirkuk, Jabal Himrin, Mandali, Zerbatiya, Amara, Karbala, Samarra, Ansab, Zubair, Jabal Sanam, Falluja, Basra, Nukhaib, Rutba, Lake Tharthar and Baghdad (Townsend and Guest, 1980a).
Global distribution: S Europe, Syria, Lebanon, Palestine, Jordan, Sinai, Egypt, N Arabia, Kuwait, Iran, W Pakistan and N Africa (Townsend and Guest, 1980a).

Helianthemum aegyptiacum (L.) Mill., 1768
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 4 specimens; fl. and fr.:Mar.-Apr.
Distribution in Iraq: Jarmo, Arbil, Rutba, Baiji, Khanaqin, Jalaula and Tuz (Townsend and Guest, 1980a).
Global distribution: Mediterranean Europe, Cyprus, Syria, Palestine, Jordan, Egypt, Turkey, Iran, N Africa and N Sudan (Townsend and Guest, 1980a).

Family, Fabaceae Lindl., 1836
Genus, ***Alhagi*** Tourn. ex Gagnebin, 1755

Alhagi graecorum Boiss., 1849
Remark: Rechinger (1964) recorded this species for Iraq.
Material examind: 12 specimens; fl. and fr.:Mar.-Jul.
Distribution in Iraq: Sulaimaniya, Mosul, Kirkuk, Falluja, , Baghdad, Shamiya, Babylon, Hilla, Diyala, Dabouni, Kut,Bani Said, Qurna and Basra (Townsend and Guest, 1974).
Global distribution: UK (Hawar *et al*., 2022); Iran (Esmaeilzadeh-Hosseini and Salehi, 2021); Turkey, Syria, Palestine (Al-Snafi, 2015); Aegean Isles, Lebanon, Sinai, SE Europe (Greece), Kuwait, N Africa (Libya, Algeria,), Rhodes, Cyprus, Bahrain, Caucasus, Jordan, Egypt and Arabia (Townsend and Guest, 1974).

Genus, ***Prosopis*** L., 1767
Prosopis farcta (Banks & Sol.) J.F.Macbr., 1919
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 8 specimens; fl. and fr.:Mar.-Jun.
Distribution in Iraq: Zakho, Atrush, between Harir and Baba Chichak, Rowanduz, Mosul, Arbil, Kirkuk, Jalaula, Khanaquin, Badra, Jabal al-Muwaila, Khalis, Falluja, Bahr al-milh, Shithatha, Salman, Thulaima, Jumaima, Sudur Mansuriya, Abu Ghraib, Baghdad, Rustamiya, Babylon, N'amaniya, Amara, bank of Shatt al-Arab, between Basra and Fao (Townsend and Guest, 1974).
Global distribution: Libya (Sh-hoob *et al*., 2021); Iran, Türkiye, Syria, Palestine, Aegean Isles, Lebanon, Sinai, SE Europe (Greece), Kuwait, N Africa (Libya, Algeria,), Rhodes, Cyprus, Bahrain, Caucasus, Jordan, Egypt and Arabia (Townsend and Guest, 1974).

Genus, ***Astragalus*** L., 1753
Astragalus fasciculifolius Boiss., 1843
Remark: Al-Rawi (1964) recorded this species for Iraq.
Material examind: 8 specimens; fl. and fr.:Apr.-May.
Distribution: Iran (Sadeghi *et al*., 2023).

Astragalus duplostrigosus Post & Beauverd, 1932
Remark: Zohary (1950) recorded this species for Iraq.
Remark: In flora of Iraq this species called *Astragalus hamrinensis* Hausskn. & Bornm., but in GBIF Secretariat (2023c), it is considered a synonym for *Astragalus duplostrigosus* Post & Beauverd.
Material examind: 7 specimens; fl. and fr.:Feb.-May.
Distribution in Iraq: Jabal Bashiqa, Jabal Hamrin, Adhaim, Injana, Mansuriya, Shahraban, Euphrates, between Baiji and Bagga, Baiji, Samarra, Rutba, Amrah, Wadi Hauran and Karbala (Townsend and Guest, 1974).
Global distribution: Iran (Townsend and Guest, 1974).

Astragalus dactylocarpus Boiss., 1843
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 7 specimens; fl and fr.: Mar.- Jul.

Distribution in Iraq: Zakho, Madhiq, Jarmo, Sinjar, Julaimid, Shargat, Baiji, Jabal Makhul, Arbil, between Baba Gurgur and Kirkuk, Tuz, Samarra, Injana, Quraitu, Khanaqin, Jabal Darawishka, between Qizil Robat and Jabal hamrin, Sharaban, Kazariya, Mandali, Badra, Jabal Muwailih, Amara, Euphrates and Baiji Haditha (Townsend and Guest, 1974).
Global distribution: Türkiye, Jordan and Iran (Townsend and Guest, 1974).

Astragalus spinosus (Forssk.) Muschl., 1907
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 6 specimens; fl and fr. Feb-jun.
Distribution in Iraq: Chemchemal, Mosul, Jabal Makhul, Kirkuk, Jabal Hamrin, Khanaqin, Jabal Darawishka, Muqdadiya, Mandali, Badra, Jabal Muwailih, Amara, Khumran, Samarra, Falluja, Qaim, Rutba, Baghdad, Nukhaib, Karbala, Ukhaidhir, Abu Sukhair, Shabicha, Ruhba, Salman, Abu Ghar, Busaiya, Nukhaila, Zubair, Jabal Sanam, Um Qasr, Falluja and Baghdad (Townsend and Guest, 1974).
Global distribution: Syria, Lebanon, Palestine, Jordan, Sinai, Egypt, Arabia, Kuwait and Iran (Townsend and Guest 1974).

Genus, ***Lathyrus*** L., 1753
Lathyrus annuus L, 1753
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 7 specimens; fl and fr.: Apr.- Jun.
Distribution in Iraq: Baghdad, Samaraa, Bghdad, Amara, Babylon and Tarmiya (Townsend and Guest 1974).
Global distribution: Mediterranean, Europe, Aegaean Isles, Cyprus, Syria, Lebanon, Palestine, Macaronesia and N Africa (Townsend and Guest, 1974).

Genus, ***Glycyrrhiza*** Tourn. ex L., 1753
Glycyrrhiza glabra L., 1753
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 8 specimens; fl and fr.: Jun-Sep.
Distribution in Iraq: Dohuk, between Salah ad-Din and Shaqlawa, Debis, Kirkuk, Chamchamal, Sulaimaniya, Nineveh, Gerwona, between Mosul and Aqra, Jabal Hamrin, Sangar, Khanaqin, Qasr, Baghdad, Z‘faraniya, Khalis, B‘aquba, Hilla, Amara, between Basra and Abul-Khassib, between Basra and Fao (Townsend and Guest, 1974).
Global distribution: Egypt (Zadeh *et al*., 2013); Asia, Mediterranean (Townsend and Guest, 1974).

Family, Geraniaceae Juss., 1789
Genus, ***Erodium*** L'Hér., 1789
Erodium cicutarium (L.) L'Hér.,1789
Remark: Blakelock (1948) recorded this species for Iraq.
Material examind: 8 specimens; fl and fr.:Apr.- Jun.
Global distribution: Kuwait, Lebanon, Palestine, Jordan, Syria, Taiwan, Türkiye, Iran, Afghanistan, Armenia, Georgia, Azerbaijan, Russian, Federation, Pakistan, China, India,

Nepal, Kazakhstan, Kyrgyzstan, Turkmenistan, Uzbekistan, Tajikistan Belarus, Estonia, Latvia, Belgium Lithuania, Moldova, Austria, Germany, Hungary, Netherlands, Czech Poland, Slovakia, Switzerland, Denmark, Ireland, Albania, Norway, Sweden, United Kingdom, Bulgaria, Croatia, Greece, Finland Romania, Serbia and Slovenia (Al-Snafi, 2017).

Family, Lythraceae J.St.-Hil., 1805
Genus, ***Lythrum*** L., 1735
Lythrum hyssopifolia L., 1753
Remark: Rechinger (1964) recorded this species for Iraq.
Material examind: 4 specimens; fl. and fr.: Apr- Jun.
Distribution in Iraq: Zhkho, Chamchamel, Diyala, Takrit, Khalis and Aziziya (Townsend and Guest, 1980a).
Global distribution: S Europe, S E Africa and Asia (Townsend and Guest, 1980a).

Family, Malvaceae Juss., 1789
Genus, ***Malva*** L., 1753
Malva nicaeensis All., 1785
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 12 specimens; fl. and fr.:Mar.-May.
Global distribution Türkiye (Renda *et al*., 2021); Mediterranean Europe, Aegaean Isles, Cyprus, Syria, Lebanon, Palestine, Jordan, Arabia, Iran, Caucasus, Iran, N Africa, Macaronesia and Asia (Townsend and Guest, 1980a).

Family, Plumbaginaceae Juss., 1789
Genus, ***Psylliostachys*** (Jaub. & Spach) Nevski, 1937
Psylliostachys spicatus (Willd.) Nevski, 1937
Remark: Rechinger (1964) recorded this species for Iraq.
Material examind: 2 specimens; fl. and fr.: Mar- Apr.
Distribution in Iraq: Tuz, Jabal Hamrin, Mandali, Jazira, Kut, Baghdad, Amara, Basra and Fao (Townsend and Guest, 1980a).
Global distribution: Syria Palestine, Arabia, Iran, Azerbaijan and Turkmenistan (Townsend and Guest, 1980a).

Family, Plantaginaceae Juss., 1789
Genus, ***Plantago*** L. 1753
Plantago lagopus L., 1753
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 10 specimens; fl. and fr.: Mar- Apr.
Distribution in Iraq: Zawita, Dohuk, Jabal Maqlub, Mosul, Tuz, Khanaqin, Samarra, Baquba, Diyala, Falluja, Shahraban, Abu Ghraib, Amara and Kut (Ghazanfar and Edmondson, 2013).
Global distribution:Egypt (Behiry *et al*., 2022); Syria, Kuwait, Palestine, Iran, Mediterranean, S Europe, N Africa, Caucasus, Afghanistan and Pakistan (Ghazanfar and Edmondson, 2013).

Plantago afra, 1762
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 3 specimens; fl. and fr.:Feb.- Jun.
Distribution in Iraq: Darband-i-Khan, Sulaimaniya, Dohuk, Mosul Liwa, Arbil, Zurbatiya, Khanaqin, Badra, Jaybabal Makhal, Ain Dis and Salah Al-Din(Ghazanfar and Edmondson, 2013).
Global distribution: Egypt (EDA., 2022b); Mediterranean, Asia and N Africa (Mohsenzadeh *et al*., 2020).

Family, Papaveraceae Juss., 1789
Genus, ***Fumaria*** L., 1753
Remark: In flora of Iraq this genus It was diagnosed within the Fumariaceae family (Townsend andGuest, 1980b).
Fumaria parviflora Lam., 1788
Remark: Rechinger (1964) recorded this species for Iraq.
Material examind: 2 specimens; fl. and fr.:Mar.- Jun.
Distribution in Iraq: Sinjar, Dohuk, Aqra, Shaqlawa, Jarmo, Mosul, Arbil, Namrud, Kirkuk, Rutba, Wadi Hauran, Haditha, Rustamiya, Babylon and Basra (Townsend andGuest, 1980b).
Global distribution: Syria, Palestine, Arabia, Iran, Türkiye, Iran, Europe, Cyprus, N America, N Africa, Morocco, Algeria, Egypt, Ethiopia, Lebanon, Sinai, Kuwait, W Pakistan, Afghanistan, and Asia (Townsend and Guest, 1980b).

Genus, ***Hypecoum*** L., 1753
Hypecoum pendulum L., 1753
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 5 specimens; fl. and fr.:Mar.- Jun.
Distribution in Iraq: Balad Sinjar, Baghdad, Samarra, Falluja, Shabicha, Rutba, Nukhaib, Haditha, Khanaqin, Mosul, Tal afar and Karbala.
Global distribution: Syria, Palestine, Arabia, Iran, Türkiye, Iran, Europe, Cyprus, N America, N Africa, Morocco, Algeria, Egypt, Lebanon, Sinai, Kuwait, W Pakistan, Afghanistan, Asia, W Siberia, India, Macaronsia (Canary), S Russia, Aegean Isles, Jordan, Kuwait and Caucasus (Townsend and Guest, 1980b).

Family, Primulaceae Batsch ex Borkh. (1797)
Genus, ***Lysimachia*** Tourn. ex L., 1753
Lysimachia arvensis subsp. ***arvensis*** U. Manns & Anderb, 2009
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 5 specimens; fl. and fr.: Mar.- Apr.
Distribution in Iraq: Gara Dagh, Diyala, Jabal al-Muwaila, Shithatha, Smawa, Amara, Daltawa, Fao, Mosul, Kirkuk, Fuuhaimi, Shitatha, Baghdad and Heditha (Townsend and Guest, 1980a).
Global distribution: Egypt, Palestine, S America, Taiwan and India (Yasmeen *et al*., 2020).

Family, Resedaceae Martinov., 1820
Genus, ***Reseda*** L. 1753
Reseda alba L., 1753
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 5 specimens; fl and fr.: Feb.- May.
Distribution in Iraq: Rawa, Wadi al-Battikha, Nukhaib, Rutba, Banks of Zab, Kirkuk, Qaraghan and Nukhaib (Townsend and Guest, 1980).
Global distribution: Türkiye (Çilden *et al*., 2021); N America (Angelo and Boufford, 2011); Lebanon, Jordan, S Europe, Aegean Isles, Crete, Türkiye, Sinai, , Syria and Egypt (Townsend and Guest, 1980a).

Family, Rubiaceae Gen Pl., 1789
Genus, ***Galium* L.** 1753
Galium spurium L., 1753
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 5 specimens; fl and fr.: Mar.- Jun.
Distribution in Iraq: Amadiya, Rowanduz, Jarmo, Dokan Sulaimaniya, Baghdad, Amara, Samarra, Khurmal, Basra, Amara, Arbil, Great Zab Penjwin and Samarra (Townsend and Guest, 1980a).
Global distribution: S Europe, Syria, Labanon, Türkiye, Iran, Palestine and N Africa (Townsend and Guest, 1980a).

Galium aparine L., 1753
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 7 specimens; fl and fr.: Mar.- Jun.
Distribution in Iraq: Aqra, Qaradagh, Baghdad and Chemchamal (Townsend and Guest, 1980a).
Global distribution: All Europe, Egypt Syria, Labanon, Türkiye, Caucasus, Pakistan, Iran, Palestine and N Africa (Townsend and Guest, 1980a).

Family, Rutaceae Juss., 1789
Genus, ***Haplophyllum*** A.Juss., 1825
Haplophyllum tuberculatum (Forssk.) A.Juss., 1825
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 3 specimens; fl. and fr.: Apr.-Jun.
Distribution in Iraq: Balad Sinjar, Harir, Ankawa, Rownduz, Kirkuk, Injana, Khanaqin, Mandali, Badra, Amara, Ain al hasan, Aqra, Badra, Fakka, Jabal Makhul, Arbil, Naft Khana, Shargat, Mosul, Baba Gurgur and Jabal al-Muwailih (Townsend and Guest, 1980a).
Global distribution: Türkiye, Syria, Palestine, Jordan, Sinai, Egypt, Arabia, Kuwait, Iran, Pakistan, Afghanistan, N Africa and Sudan (Townsend and Guest, 1980a).

Family, Salicaceae Mirb., 1815
Genus, ***Populus*** L., 1753
Populus euphratica Olivier, 1807

Remark: Guest (1933) recorded this species for Iraq.
Material examind: 7 specimens; fl. and fr.: Mar.- Jun.
Distribution in Iraq: Amadiya, Rowanduz, Qara Dagh, Mosul, Khanaqin, Mandali, Zurbatiya, Samarra, Babylon, Karbala, Samara, Rustamiya, Zafaraniya, Nasiriya, Kut and Amara (Townsend and Guest, 1980a).
Global distribution: Spain, Syria, Palestine, Jordan, Egypt, Türkiye, Caucasus, Iran, W Pakistan, Afghanistan, Asia and N Africa (Ruisheng and Dong, 2005).

Populus nigra L., 1753
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 5 Specimens; fl. and fr.:Mar.- May.
Distribution in Iraq: Bakrajo, Rustamiya and Zafaraniya (Townsend and Guest, 1980a).
Global distribution: Europe, British Isles, Mediterranean, N Africa, Kazakstan and China (De Rigo *et al*., 2016).

Genus, ***Salix*** L., 1753
Salix acmophylla Boiss., 1846
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 4 specimens; fl and fr.:Mar.- May.
Distribution in Iraq: Jabal Sinjar, Amadiya, Sersang, Aqra, Khanaqin, Baghdad, Daltawa, Karbala, Rustamiya, Abu Ghraib, Babylon, Amara, Qurna, Basra and Fao (Townsend and Guest, 1980a).
Global distribution: India (Capuana *et al*., 2022); Syria, Lebanon, Palestine, Jordan, Türkiye, Iran, W Pkistan, Afghanistan and Asia (Townsend and Guest, 1980a).

Family, Solanaceae Juss., 1789
Genus, ***Physalis*** L., 1753
Physalis angulate L., 1753
Remark: Alallaq (2012) recorded this species for Iraq.
Material examind: 10 specimens; fl. and fr.: Mar.- Jun.
Global distribution: Libya (Mahklouf, 2019) and Syria (Mahklouf, 2016).

Genus, ***Lycium*** L., 1753
Lycium barbarum L., 1753
Material examind: 5 specimens; fl and fr.: Mar.-Apr.
Distribution in Iraq: Baghdad (Hasan *et al*., 2023).
Family, Tamaricaceae Link., 1821

Genus, ***Tamarix*** L., 1753
Tamarix arceuthoides Bunge, 1851
Remark: Rawi (1964) recorded this species for Iraq.
Material examind: 9 specimens; fl and fr.:Mar.- May.

Distribution in Iraq: Sulaimaniya, Mosul, Great-Zab, Kirkuk, Tuz, Jabal Hamrin, Mandali, Jabal al-Muwailiah, Euphrates, Quaim, Jadida, Baghdad, Garma, Falluja, Hilla, Kut, Nasiriya, Diyala, Baquba, Amara and Basra (Townsend and Guest, 1980).
Global distribution: China (Wang *et al*., 2023), Iran and North of Evaniki (Villar *et al*., 2019).

Tamarix ramosissima Ledeb., 1829
Remark: Guest (1932) recorded this species for Iraq.
Material examind: 5 specimens; fl and fr.: Mar.- Jun.
Distribution in Iraq: Mosul, Nineveh, between Arbil and Rowanduz, Rawa, Tikrit, Baghdad, Rustamiya, Abu Ghraib, Babylon and Amara (Townsend and Guest, 1980a).
Global distribution: In the arid and semi-arid areas for continental Asia, North Africa, S Africa and Europe (Wang *et al*., 2023).

Tamarix brachystachys Bunge, 1852
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 5 specimens; fl. and fr.: Apr.-May.
Distribution in Iraq: Baidha, Khanzad, Hawija, Wadi Fuhaimi, Wadi Thirthar, Hadhr, between Ramadi and Shithatha, Karbala, between Karbala, Hilla and Najf, Rustamiya, Abu-Ghraib, Mahmudiya, Diyala, Ba'quba, Salman Pak, Baghdad-Kut highway, Kut, Amara and Basra (Townsend and Guest, 1980a).
Global distribution: Europe, Caucasus, Iran and Asia (Townsend and Guest, 1980a).

Tamarix aphylla (L.) H.Karst., 1881Gez
Remark: Rechinger (1964) recorded this species for Iraq.
Material examind: 5 specimens; fl and fr.: Jun- Dec.
Distribution in Iraq: Ramadi, Rutba, Busaiya, Shaiba, Baghdad, Falluja and Basra (Townsend and Guest, 1980a).
Global distribution: Africa, Asia, Mediterranean, America and Australia (Villar *et al*., 2022).

Family, Urticaceae Juss., 1789
Genus, ***Urtica*** L., 1753
Urtica urens L., 1753
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 10 specimens; fl and fr.:Mar.- May.
Distribution in Iraq: Sinjar, Baghdad, Kut, Amara and Mosul (Townsend and Guest, 1980a).

Family, Zygophyllaceae R. Br., 1814
Genus, ***Fagonia*** L., 17531
Fagonia glutinosa Delile, 1813
Remark: Rechinger (1964) recorded this species for Iraq.
Material examind: 4 specimens; fl. and fr.: Feb- Jun.
Distribution in Iraq: Habbaniya, Falluja, Karbala, Balad, Ansab, Zubair, Busaiya, Shabicha and Wadi al Khirr (Townsend and Guest, 1980a).

Global distribution: Palestine, Jordan, Sinai, Egypt, Arabia, Kuwait and N Africa (Townsend and Guest, 1980a).

Family, Cyperaceae Juss., 1789
Genus, ***Cyperus*** L., 1753
Cyperus rotundus L., 1753
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 4 specimens; fl. and fr.: May-Oct.
Distribution in Iraq: Rawi, Salah ad-Din, Mosul, Nineveh, Mandali, south of Shithatha, Balad, Garma, Falluja, Abu Ghraib, Baghdad, Khalis, Rustamiya, Z'faraniya, Mahmudiya, Hilla, Graham, Suwaira, Bablyon, Shatra, Diwaniya, Aziziya, Kut and Basra (Townsend and Guest, 1985).
Global distribution: Syria, Europe, Cyprus, India, China, Iran, Jordan, Lebanon, N Africa, Macaronesia, S Amrica, Aegaean Isles, Palestine and N Australia (Townsend and Guest, 1985).

Cyperus michelianus (L.) Delile, 1813
Remark: Rawi (1964) recorded this species for Iraq.
Material examind: 6 specimens; fl. and fr.:Jul.- Oct.
Distribution in Iraq: Falluja and Baghdad (Townsend and Guest, 1985).
Global distribution:East Mediterranean Europe, Syria, Palestine, Jordan, Egypt, Türkiye, S Iran, India, Malaysia, Australia, China, Japan, New Guinea, Philippines and Tropical Africa (Townsend and Guest, 1985).

Family, Iridaceae Juss., 1789
Genus, ***Gladiolus*** Tourn. ex L., 1753
Gladiolus atroviolaceus Boiss., 1854
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 3 specimens; fl. and fr.:Apr.-May.
Distribution in Iraq: Between Kirkuk and Chamchamal, Sulaimaniya, Balad, Sinjar and Hamam Alil (Townsend and Guest, 1985).
Global distribution: Jordan (Al-Jabera *et al*., 2019); Syria, Palestine, Iran, Türkiye, Lebanon, Afghanistan, Transcaucasia and C. Asia (Turkmenia) (Townsend and Guest, 1985).

Family, Poaceae Barnhart, 1895
Genus, ***Eremopyrum*** (Ledeb.) Jaub. & Spach, 1851
Eremopyrum bonaepartis (Spreng.) Nevski, 1933
Remark: Rawi (1964) recorded this species for Iraq.
Material examind: 7 specimens; fl. and fr.:Mar.-May.
Distribution in Iraq: B'aj, Baidha, Sinjar, Tal Afar, Rutba, Ramadi, Karbala, Rawa, Wadi Thirthar, Falluja, Samarra, Baghdad, Kut-Amara and Badra (Townsend and Guest, 1968).
Global distribution: Türkiye (Cabi and Doğan, 2010); Syria, Palestine, Jordan, Sinai, Egypt, Caucasus, Iran, Central Asia, W Pakistan, Afghanistan and India (Townsend and Guest, 1968).

Genus, ***Schismus*** P. Beauv. 1812
Schismus arabicus Nees, 1841
Remark: Zohary (1950) recorded this species for Iraq.
Material examind: 5 specimens; fl. and fr.:Mar.-Apr.
Distribution in Iraq: Tuz, Rutba, Ramadi, Baghdad, Babylon, Fallujah, Samarra, Busaiya, Zubair and Jebel Sanam (Townsend and Guest, 1968).
Global distribution: China, (Olonova *et al*., 2021); Europe (Sicily, Balkans), Aegaean Isles, Rhodes, Cyprus, Syria, Palestine, Jordan, Egypt, Arabia, Türkiye, Caucasus, Iran, Pakistan, Afghanistan, Tunisia, Libya, N America, S Australia and India (Townsend and Guest, 1968).

Genus, ***Sphenopus*** Steenstrup, 1856
Sphenopus divaricatus (Gouan) Rchb., 1830
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 5 specimens; fl. and fr.: Mar-Apr.
Distribution in Iraq: Qaiyara, Tuz, Khanaqin, Rawa, Zubair, Amara, Basra, Tikrit, Baghdad, Wadi Thirthar, Aziziya and Kirkuk (Townsend and Guest, 1968).
Global distribution: Mediterranean Europe, Cyprus, Syria, Palestine, Jordan, Sinai, Egypt, Arabia, Türkiye, Caucasus, Iran, Kuwait, Bahrain, Asia, N Africa, Macaronesia and Australia (Townsend and Guest, 1968).

Genus, ***Bromus*** L., 1753
Bromus lanceolatus Roth, 1797
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 6 specimens; fl. and fr.: Apr.-Jun.
Distribution in Iraq: Aqra, Darband-i Khan, Tanjaro valley, Wadi Thirthar, Baghdad, Amaran and Abul-Khassib (Townsend and Guest, 1968).
Global distribution: S E Europe (Balkans), Cyprus, Lebanon, Syria, Palestine, Egypt, Türkiye, Caucasus, Iran, Afghanistan, C. Asia and N Africa (Townsend and Guest, 1968).

Genus, ***Phragmites*** **Adans**., 1763
Phragmites australis (Cav.) Trin. ex Steud., 1841
Remark: Guest (1933) recorded this species for Iraq.
Material examind: 12 specimens; fl. and fr.: May-Dec.
Distribution in Iraq: Zawita, Haji Umran, Jabal Hamrin, Baghdad, Rustamiya, Mahmudiya, Babylon and Amara (Townsend and Guest, 1968).
Global distribution: Türkiye, Syria, Korea, Japan, N Africa, Palestine, India, Iran, Afghanistan, Siberia and China (Townsend and Guest, 1968).

CONCLUSIONS

The current study that a large number of dicotyledon plants were widespread in the study areas despite the neglect these areas have suffered. The botanical diversity of wild plants continues to flourish, with dicotyledons plants characterized by the wide distribution of their species. Many of these species have spread with a distinct density, especially the Asteraceae. The number of plant species recorded reached 30, distributed across most of the study areas,

while it was observed that a number of plant families were represented by only one family, Also, monocotyledons plants were collected, which spread in a much lower numbers of types and densities compared to dicotyledons, which were represented by three plant families: Cyperaceae, Iridaceae and Poaceae.

CONFLICT OF INTEREST STATEMENT

"The authors have no conflicts for interest to declare".

LITERATURE CITED

Aati, H. Y., Perveen, S., Orfali, R., Al-Taweel, A. M., Peng, J., Tabassum, S. and Taglialatela-Scafati, O. 2021. Phytochemical analysis of *Anvillea garcinii* Leaves: identification of garcinamines F–H and their antiproliferative activities. *Plants*, 10(6): 1130. [CrossRef]

Abdelhameed, R. F., Ibrahim, A. K., Elfaky, M. A., Habib, E. S., Mahamed, M. I., Mehanna, E. T. and Elhady, S. S. 2021. Antioxidant and anti-inflammatory activity of *Cynanchum acutum* L. isolated flavonoids using experimentally induced type 2 diabetes mellitus: Biological and in silico investigation for nf-κb pathway/mir-146a expression modulation. *Antioxidants*, 10(11): 1713. [Click here]

Abdul Munim, Q. U., Ahmed, M. and Arshad, Q. 2021. Atrilal (*Ammi Majus* L.) an herbal plant: A cmprehensive review of the medicinal uses. *International Journal of Pharmacy and Pharmaceutical Research*, 23 (1): 47-57. [ResearchGate]

Adamo, N. and Al-Ansari, N. 2019. Nasrat official complete copy history of irrigation and agriculture in the land between the two rivers. Sweden, 467pp. [ResearchGate]

Adhikari, B. S. and Babu, M. M. 2008. Floral diversity of Baanganga Wetland, Uttarakhand, India. *Check List*, 4(3): 279-290. [Click here]

Ahmad, I., Gul, H., Noureen, A., Ujjan, J. A., Manzoor, S. and Muhammad, W. 2021. Antimicrobial, antioxidant and antidiabetic potential of *Suaeda fruticosa* L. *International Journal on Emerging Technologies*, 12(2): 155-160. [ResearchGate]

Ahmed, M. M., Al-Dousari, N. and Al-Dousari, A. M. 2019. The ecological role of *Cornulalca aucheri* (Amaranthaceae) in the stabilization of degraded sandy soils in Kuwait. p. 47-49. *In book*: Exploring the Nexus of Geoecology, Geography, Geoarcheology and Geotourism: Advances and Applications for Sustainable Development in Environmental Sciences and Agroforestry Research, Springer International Publishing. [CrossRef]

Al–Douri, N. A. 2014. Some important medicinal plants in Iraq. *International Journal of Advances in Herbal and Alternative Medicine*, 2: 10-20. [Click here]

Al-Garaawi, N. I. and Hamid, B. A. 2023. A survey study of wild plants in Al Najaf desert. *International Journal of Aquatic Science*, 14(1): 42-67. [Click here]

Akbar, S., Rahman, R., Mushtaq, A., Azeem, M. W. and Al Mahruqi, Z. M. H. 2017. Slender Amaranth: A review on botany, chemistry, pharmacological importance and potential benefits. *International Journal of Chemical and Biochemical Sciences*, 12: 152-156. [ResearchGate]

Alallaq, S. A. 2012. The first record of *Physalis angulata* L. (Solanaceae) for the flora of Iraq. *Al-Nahrain Journal of Science*, 15(4): 31-42. [Click here]

Al-Joboury, K. R. and Aliwy, S. A. 2023. Survey with revised checklist of Compositae in the herbarium of Iraq Natural History Research Center and Museum. *Bulletin of the Iraq Natural History Museum*, 17(3): 375-407. [CrossRef]

Al-Khazraji, M. M. A. 2020. The city of Dujail and its great mosque during the Ottoman era. *Al Malweah for Archaeological and Historical studies*, 7(19): 329-363. [Click here]

Al-Mashhadi, M. J. H. and Alabadi, L. A. S. 2023. Study and evaluation of soil contamination with some heavy metals according to International standards for pollution. *Earth and Environmental Science*, 1213 (1):107-112. [CrossRef]

AL-Mayah, A. A., Taha, S. A. and Abdulzahra, E. M. 2018. Plant biodiversity and vegetation analysis of chilat, north tib, Amara Persian of foothills distric Iraq. *Global Journal of Biology, Agriculture and Health Sciences*, 7(1): 18-25. [Click here]

Al-Jabera, H. I., Al-Qudahb, M. A., Odehc, F. M. and Zargac, M. H. A. 2019. Two new 28-noroleanane type triterpenoids and other constituents from *Gladiolus atroviolaceus* growing wild in Jordan. *Jordan Journal of Chemistry*, 14(1): 11-16. [Click here]

Al-Rawi, A. 1964. Wild plants of Iraq with their distribution. Ministry of Agriculture & Irrigation, Government Press, Baghdad: 148 pp.

Al-Saleh, M. M., Shibli, R. A., Al-Qadiri, H. M., Tahtamouni, R. W., Darwish, M. M. and Al-Qudah, T. S. 2019. Investigating the antimicrobial potential of *in-vitro* grown microshoots and callus cultures of *Ammi visnaga* (L.) Lam. *Jordan Journal of Biological Sciences*, 12(1): 43-48. [Click here]

Al-Snafi, A. E. 2015. *Alhagi maurorum* as a potential medicinal herb: An overview. *International Journal of Pharmacy Review and Research*, 5(2): 130-136. [ResearchGate]

Al-Snafi, A. E. 2017. Therapeutic potential of *Erodium cicutarium*-A review. *Indo American Journal of Pharmaceutical Research*, 4(2): 407-413.[CrossRef]

Al-Snafi, A. E. 2019. Constituents and pharmacological effects ofleontice leontopetalum-a review. *Chemistry Journal*, 3: 103-108.

Altameme, J. M. and Abidhuda, H. J. 2018. Molecular screening of *E. colibiofilm* and ananti-biofilm activity of *Capparis spinosa* L extracts. *International Journal of Pharmaceutical Research*, 10(4): 09752366. [CrossRef]

Alwan, M. H. and Hamad, M. N. 2020. Phytochemical Investigation of the aerial part of Iraqi *Convolvulus arvensis*. *Iraqi Journal of Pharmaceutical Sciences*, 29(2): 62-69. [CrossRef]

Aiman, A. A., Ahmad, R. A., Ramzi, A. A., Al-Ghadi, M. G. and Ahmed, G. R. 2023. Evaluation of Launaea angustifolia extract treatment on rat blood serum enzymes and histology of liver and kidney. *Indian Journal of Animal Research*, 57(8): 995-1001. [CrossRef]

Annaz, H., Sane, Y., Bitchagno, G. T. M., Ben Bakrim, W., Drissi, B., Mahdi, I. and Sobeh, M. 2022. Caper (*Capparis spinosa* L.): an updated review on its phytochemistry, nutritional value, traditional uses, and therapeutic potential. *Frontiers in pharmacology*, 13: 878-749. [Click here]

Angelo, R. and Boufford, D. E. 2011. Atlas of the flora of new England: Salicaceae to Brassicaceae. *Phytoneuron*, 12: 1-12. [Click here]

Augul, R. Sh. and Al Saffar, H. H. 2023. Checklist of darkling beetles (Coleoptera, Tenebrionidae) in Iraq. *Bulletin of the Iraq Natural History Museum*, 17(4): 699-724. [CrossRef]

Blakelock, R. A. 1948. Notes on the Flora of 'Iraq with Keys: Part I. Kew Bulletin; 3 (3): 375-443. [CrossRef]

Blakelock, R. A. 1957. Notes on the flora of Iraq with Keys: Part IV. *Kew Bulletin*, 12 (3): 461-497. [CrossRef]

Bartolucci, F., Peruzzi, L., Galasso, G., Albano, A., Alessandrini, A.N.M.G., Ardenghi, N. M. G., Astuti, G., Bacchetta, G., Ballelli, S., Banfi, E. and Barberis, G. 2018. An updated checklist of the vascular flora native to Italy. *Plant Biosystems*, 152(2): 179-303. [CrossRef]

Bateman, H. L., Paxton, E. H. and Longland, W. S. 2013. Tamarix as wildlife habitat. Tamarix: a case study of ecological change in the American West. Oxford University Press, New York, p. 168-188. [CrossRef]

Behiry, S. I., Al-Askar, A. A., Soliman, S. A., Alotibi, F. O., Basile, A., Abdelkhalek, A. and Heflish, A. A. 2022. *Plantago lagopus* extract as a green fungicide induces systemic resistance against Rhizoctonia root rot disease in tomato plants. *Frontiers in Plant Science*, 13: 966-929. [CrossRef]

Byalt, V. V., Korshunov, V. M., Korshunov, M. V. and Melnikov, D. G. 2022. Records of new and rare native species of flowering plants in Fujairah (United Arab Emirates). *Skvortsovia*, 8(2):1-24. [CrossRef]

Cabi, E. and Doğan, M. 2010. Taxonomic study on the genus *Eremopyrum* (Ledeb.) Jaub. et Spach (Poaceae) in Turkey. *Plant systematics and evolution*, 287: 129-140. [CrossRef]

Capuana, M., Nissim, W. G. and Klein, J. D. 2022. Protocol for in vitro propagation of *Salix acmophylla* (Boiss.). Studies on three ecotypes. *Forests*, 13(7):1124. [ResearchGate]

Çilden, E., Özmen-Baysal, E. and Yildirimli, Ş. 2021. Comparative palynological survey of the species of *Reseda* L. (Resedaceae) from Turkey. *Palynology*, 45(4): 641-656. [CrossRef]

Clemente-Villalba, J., Ariza, D., García-Garví, J. M., Sánchez-Bravo, P., Noguera-Artiaga, L., Issa-Issa, H. and Carbonell-Barrachina, Á. A. 2020. Characterization and potential use of *Diplotaxis erucoides* as food ingredient for a sustainable modern cuisine and comparison with commeurcial mustards and wasabis. *European Food Research and Technology*, 246: 1429-1438. [Click here]

De Rigo, D., Enescu, C. M., Durrant, T. H. and Caudullo, G. 2016. *Populus nigra* in Europe: distribution, habitat, usage and threats. *In*: San-Miguel-Ayanz, J., de Rigo, D., Caudullo, G., Durrant, T. H., and Mauri, A. (eds.). European Atlas of Forest Tree Species, Publication Office of the European Union, Luxembourg, p. 136-137. [ResearchGate]

Dehshiri, M. M. and Jozipoor, M. 2014. Angiosperms, Kuhdasht gypsum areas, Lorestan, Iran. *Check List*, 10(3): 516-523. [CrossRef]

Eghlima, G., Kheiry, A., Sanikhani, M., Hadian, J., Aelaei, M. and Nejad, E. S. 2020. Investigation of phytochemical variability, antioxidant activity and ecological conditions of native Iranian *Glycyrrhiza glabra* L. *International Journal of Horticultural Science and Technology*, 7(4): 387-400. [Click here]

Elhagali, G. A., Abozeed, A. E. and Youssif, Y. M. 2019. Investigation of bioactive constituents and biological activities of different fractions from *Herniaria hemistemon* J. Gay. *Al-Azhar Bulletin of Science*, 30(1): 67-80. [CrossRef]

El-Gazzar, A., Elhusseini, N., Khafagi, A. A. and Mostafa, N. A. A. 2019. Computer-generated keys to the flora of Egypt. 9. The spiny taxa of Asteraceae. *Egyptian Journal of Botany*, 59(1): 107-138. [Click here]

Esmaeilzadeh-Hosseini, S. A. and Salehi, M. 2021. First report of *Alhagi maurorum* as a new plant host of '*Candidatus- Phytoplasma aurantifolia*'(subgroup 16SrII-C) in Iran. *Journal of Plant Pathology*, 103(1): 367-367. [CrossRef]

EDA. 2022a. Egyptian Herbal Monograph: *Ammi visnaga*. Egyptian Drug Authority, Egypt, p.136-146. [Click here]

EDA. 2022b. Egyptian Herbal Monograph: *Plantago afra*. Egyptian Drug Authority, Egypt, p. 178-187. [Click here]

El-guourrami, O., Salhi, N., Benkhouili, F. Z., Zengin, G., Yilmaz, M. A., Ameggouz, M. and Benzeid, H. 2023. Phytochemical composition and toxicity assessment of *Ammi majus* L. *Asian Pacific Journal of Tropical Biomedicine*, 13(4): 165-175. [ResearchGate]

Ghazanfar, S. A. and Edmondson, J. R. 2019. Flora of Iraq (Volume 6). Ministry of Agriculture Republic of Iraq, 530pp

Ghazanfar, S. A. and Edmondson, J. R. 2016. Flora of Iraq (Volume 5 part one). Ministry of Agriculture Republic of Iraq, 349pp

Ghazanfar, S. A. and Edmondson, J. R. 2013. Flora of Iraq (Volume 5 part Two). Ministry of Agriculture Republic of Iraq, 284pp

GBIF Secretariat. 2023a. Chenopodiaceae. [Click here]

GBIF Secretariat. 2023b. *Garhadiolus angulosus* Jaub. & Spach.[Click here]

GBIF Secretariat. 2023c. *Astragalus hamrinensis* Hausskn. & Bornm. [Click here]

Ghareeb, M. A., Sobeh, M., Aboushousha, T., Esmat, M., Mohammed, H. S. and El-Wakil, E. S. 2023. Polyphenolic profile of herniaria hemistemon aerial parts extract and assessment of its anti-cryptosporidiosis in a murine model: In silico supported in vivo study. *Pharmaceutics*, 15(2):415. [CrossRef]

Guest, E. 1966. Flora of Iraq (Volume 1). Ministry of Agriculture of the Republic of Iraq Publications, Iraq, p.1-213.

Guest, E. R. 1933. Notes on plants and plant products, with their colloquial names in Iraq. Ministry of Agriculture of the Republic of Iraq Publications, Iraq, 111pp.

Guest, E. R. 1932. Notes on trees and shrubs for lower Iraq. Ministry of Agriculture of The Republic of Iraq Publications, Iraq, 18pp.

Hawar, S. N., Al-Shmgani, H. S., Al-Kubaisi, Z. A., Sulaiman, G. M., Dewir, Y. H. and Rikisahedew, J. J. 2022. Green synthesis of silver nanoparticles from *Alhagi graecorum* leaf extract and evaluation of their cytotoxicity and antifungal activity. Journal of Nanomaterials, 2022: 1-8. [Click here]

Hasan, Z. Y. M., Alsamarrae, K. W. and Rushdi, A. 2023. Molecular immuno-response effects for Iraqi *Lycium barbarm* carotenes upon normal human lymphocytes culture. *Journal of Contemporary Medical Sciences*, 9(2): 101-105. [CrossRef]

Hamidi, B., Amara, D. G., Alia, Z., Chemsa, A. E., Rezkallah, C., Mohammed, M. and Rabhi, M. 2023. *Cynanchum Acutum* L: phytochemical screening, allelopathic and cyto/genotoxicity effects in the Plant Model *Arachis Hypogaea*. *Cradiva*, 62(8): 144-156. [ResearchGate]

Kareem, H. R. and Ahmed, Y. M. 2022. A study of medicinal plants in Tuz Area in the middle of Iraq. *Egyptian Academic Journal of Biological Sciences*, 13(2): 235-243. [CrossRef]

Khalil, N., Bishr, M., Desouky, S. and Salama, O. 2020. *Ammi visnaga* L., a potential medicinal plant: A review. *Molecules*, 25(2): 301. [ResearchGate]

Malayeri, A. R., Albosuf, F., Khalili, H. R. and Bakhtiari, N. 2018. Studying the effect of *Suaeda aegyptiaca* extract in comparison to the metformin on streptozotocin-nicotinamide induced type 2 diabetes rats. *Iraq Medical Journal*, 2(1): 5-9.[Click here]

Mahklouf, M. H. 2019. The first record of *Physalis angulata* L. (Solanaceae) for the flora of Libya. *Biodiversity Research and Conservation*, 53(1): 67-71. [CrossRef]

Mahklouf, M. H. 2016. A new record *Physalis Angulata* L. (Solanaceae) for the flora of Syria. *American Journal of Life Science Researches*, 4(1): 9-11.[Click here]

Mollica, A., Stefanucci, A., Macedonio, G., Locatelli, M., Luisi, G., Novellino, E. and Zengin, G. 2019. Chemical composition and biological activity of *Capparis spinosa* L. from Lipari Island. *South African Journal of Botany*, 120: 135-140. [Click here]

Mohsenzadeh, S., Sheidai, M. and Koohdar, F. 2020. Populations genetic study of the medicinal species *Plantago afra* L. (Plantaginaceae). *Caryologia*, 73(2): 73-80. [CrossRef]

Mousa, O. M. 2018. Plant biodiversity of the Rutba-Dam region in west of Iraq. *Iraqi Journal of Desert Studies*, 8(1): 41-55. [Click here]

Naqishbandi, A. 2014. Plants used in Iraqi traditional medicine in Erbil-Kurdistan region. *Zanco Journal of Medical Sciences*, 18(3): 811-815. [CrossRef]

Naser, E. H., Khthr, M. F. A. and Abed, S. A. 2019. Phytochemistry and therapeutic uses of *Cardaria draba* L.: a review. *Plant Archives*, 19: 118-125. [ResearchGate]

Olonova, M. V., Gudkova, P. D., Shiposha, V. D., Kriuchkova, E. A., Mezina, N. S. and Blinnikov, M. 2021. Phytoliths from some grasses (Poaceae) in arid lands of Xinjiang, China. *Acta Biologica Sibirica*, 7: 345-361. [CrossRef]

Osama, A. K. E. and Abdein, M. A. E. H. 2019. Floristic diversity of Wadi Ar'ar, Saudi Arabia. *Journal of Taibah University for Science*, 13(1): 772-789. [CrossRef]

Rechinger, K. H. 1964. Flora of Lowland Iraq. Carmer Verlag, Wein, 746 pp.

Renda, G., Šoral, M. and Şöhretoğlu, D. 2021. Isolation of a megastigman glycoside and an indol derivative from *Malva nicaeensis* All. *Journal of Research in Pharmacy*, 25(5): 564-568. [Click here]

Reyad-ul-Ferdous, M., Shahjahan, D. S., Tanvir, S. and Mukti, M. 2015. Present biological status of potential medicinal plant of *Amaranthus viridis*: a comprehensive review. *American Journal of Clinical and Experimental Medicine*, 3(5): 12. [CrossRef]

Ruisheng, G. and Dong, P. 2005. *Populus euphratica*, a Tolerant Model but endangered Arborescent Species. *Growth*, 1000: 3-7. [Click here]

Sadeghi, Z., Alizadeh, Z. and Moridi Farimani, M. 2023. Recent reports in the biggest herbal genus, *Astragalus*, in Iran; with a special viewpoint on tragacanth gum production. *Natural Product Research*, 38(16): 1-19. [CrossRef]

Saini, S. and Saini, K. K. 2020. *Chenopodium album* Linn: An outlook on weed cum nutritional vegetable along with medicinal properties. *Emergent Life Sciences Research*, 6: 28-33. [Click here]

Sh-hoob, M., Mahklouf, M. H. and Azzu, Y. M. 2021. The first record of a medicinal plant species *Prosopis farcta* (Banks & Sol). JF Macbr (Fabaceae; Mimosoideae) from Libya. *Journal of Research in Agriculture and Animal Science*, 8(6): 39-43. [ResearchGate]

Tiwari, M. and Bhargava, P. 2021. Current updates on sisymbrium irio L.: A traditional medicnal plant. *Plant Archives*, 21(1): 411-419. [CrossRef]

Townsend, C. C., Guest, E. and Al-Rawi. 1968. Flora of Iraq (Volume Nine). Ministry of Agriculture Republic of Iraq, 585pp

Townsend, C. C. and Guest, E. 1974. Flora of Iraq (Volume Three). Ministry of Agriculture Republic of Iraq, 662pp

Townsend, C. C. and Guest, E. 1980a. Flora of Iraq (Volume 4 part one). Ministry of Agriculture Republic of Iraq, 627pp

Townsend, C. C. and Guest, E. 1980b. Flora of Iraq (Volume 4 part Two). Ministry of Agriculture Republic of Iraq, 1199pp

Townsend, C. C. and Guest, E. 1985. Flora of Iraq (Volume Eight). Ministry of Agriculture Republic of Iraq, 440pp.

Villar, J. L., Alonso, M. Á. and Crespo, M. B. 2022. Synopsis of the genus *Tamarix* (Tamaricaceae) in the Iberian Peninsula and Balearic Islands. *Anales del Jardín Botánico de Madrid*, 79(2): e132-e132. [CrossRef]

Villar, J. L., Alonso, M. Á., Juan, A., Gaskin, J. F. and Crespo, M. B. 2019. Out of the Middle East: new phylogenetic insights in the genus *Tamarix* (Tamaricaceae). *Journal of Systematics and Evolution*, 57(5): 488-507. [CrossRef]

Wang, X., Cao, Q. and Wei, Y. 2023. The complete chloroplast genome sequence of *Tamarix arceuthoides* Bunge and *Tamarix ramosissima* Ledeb.(Tamaricaceae). *Mitochondrial DNA Part* B, 8(5): 541-545. [CrossRef]

Yang, M., Wei, S., Mwangi, B. N., Liu, S., Huang, J. and Li, Y. 2022. Horizontal distribution characteristics and environmental factors of shrubland species diversity in Hainan Island, China. *Land*, 11(7): 1-15. [CrossRef]

Yasmeen, Z., Basit, A. and Tahir, S. 2020. Traditional uses and pharmacological effects of *Anagallis arvensis*: A review: *The International Journal of Frontier Sciences*, 4(2): 97-100. [CrossRef]

Youssef, S. 2020. Endemic plant species of Iraq: From floristic diversity to critical analysis review. *Journal of Duhok University*, 23(2): 90-105. [Click here]

Zadeh, J. B., Kor, Z. M. and Goftar, M. K. 2013. Licorice (*Glycyrrhiza glabra* Linn) as a valuable medicinal plant. *International Journal of Advanced Biological and Biomedical Research*, 1(10):1281-1288. [Click here]

Zohary, M. 1946. The flora of Iraq and its Phytogeographical Subdivision. Iraq Dep. Agriculture Bull., Iraq, p. 135-136.

Bull. Iraq nat. Hist. Mus.
(2024) 18 (2): 315-356.

دراسة النباتات البرية في منطقة ضفاف نهر الدجيل، محافظة صلاح الدين، شمال بغداد، العراق

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مركز بحوث ومتحف التاريخ الطبيعي، جامعة بغداد، بغداد، العراق.

الاستلام: 2023/12/8، المراجعة: 2024/7/29، القبول: 2024/8/5، النشر: 2024/12/20

الخلاصة

في الدراسة الحالية تم جمع النباتات البرية في منطقة ضفاف نهر الدجيل، محافظة صلاح الدين، شمال بغداد، العراق وذلك في فترة التزهير والاثمار لهذه النباتات خلال الاشهر: شباط، نيسان، حزيران، اب وتشرين الاول في 2023، وتم تشخيصها، وقد اظهرت النتائج ان عدد النباتات التي تم جمعها بلغ مئة واربعة انواع، والتي تعود لتسعة وعشرين عائلة نباتية، والتي تتضمن ستة وعشرين عائلة من ذوات الفلقتين منها ست وسبعين جنسا نباتيا وستة وتسعون نوعا، وكانت العائلة المركبة الاكثر تنوع والمتضمنة اربعة وعشرون نوعا نباتيا تتبع بالعائلة الصليبية باثنا عشر نوعا نباتيا، بينما تم تشخيص ثلاثة عشر عائلة نباتية من خلال نوع نباتي واحد وهي: Apocynaceae، Berberidaceae، Capparaceae، Caryophyllaceae، Convolvulaceae، Geraniaceae، Lythraceae، Malvaceae، Papaveraceae، Plumbaginaceae، Primulaceae، Rutaceae، و Urticaceae. بالاضافة الى نباتات احادية الفلقة والمتضمنة سبع اجناس وثمان انواع نباتية، وكانت العائلة النجيلية الاكثر تنوعا مع خمس اجناس وخمس انواع تتبع بالعائلة السعدية بتشخيص جنس نباتي واحد ونوعين.