



Distribution and Classification of Medicinal Plants in Zakhikhah Area of Al-Anbar Desert

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Abstract

This study included the Zakhikhah area in the Al- Anbar desert, which it bounded on the north, east, and west by the Euphrates River and on the south by the Ramadi-Qaim road. Several exploratory field trips were taken to the study area. During this time, a semi-detailed area survey was carried out based on satellite imagery captured by American Land sat-7, topographic maps, and natural vegetation variance. All necessary field tools, including a digital camera and GPS device, were brought to determine the soil type and collect plant samples. All of these visits are planned to cover the entire state of Zakhikhah. All vegetation cover observations, identifying sampling sites and attempting to inventory and collect medicinal plants in the study area at all stages were recorded. The reasons for the variation in the distribution of medicinal plants in the Zakhikhah area were also presented in this study concerning their distribution sites. The total number of species collected in all stages, according to the findings of this study, was 12. The most abundant plant was the hibiscus, which accounted for 35.40% of the total area and covered 4210.8 acres. The samples were identified, named, and preserved in the University of Anbar's College of Education for Pure Sciences/Department of Life Sciences herbarium.

Keywords: Medicinal plants; Western desert; Natural resources.

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1. Introduction

Medicinal plants are one of the most important natural resources. The types of soils that exist within the geographical area and the nature of their spatial distribution within the perspective of the earth, as well as the adoption of all available means of geological and topographic maps, satellite images, and GPS separating systems within the concept of scientific research, to employ everything that exists in successful plant production according to a clear administrative program undertaken by the Department of Nature and Wealth Earth. Smart techniques based on satellite images have recently been used to assess and monitor the level of desertification, as has the use of drones to conduct aerial surveys to study vegetation cover. As a result, it became one of the priorities of life sciences, and their classification is to determine the geographical distribution and diagnose the main characteristics of each plant within the area to be studied [1]. If managed properly, biodiversity can be one of the pillars of natural resources. Especially if there are a full support from the government to intensify of this herpes production in the state due to its economic viability; this would guarantee adequate sustainability [2]. Humanity's future depends on our ability to optimally invest and use this resource in a way that ensures its viability. The fragility of their ecosystems characterizes the value of biodiversity in the Arab world's dry environments due to a scarcity of water resources. The current study's natural plants get their water from rainwater in the winter and groundwater the rest of the year [3].

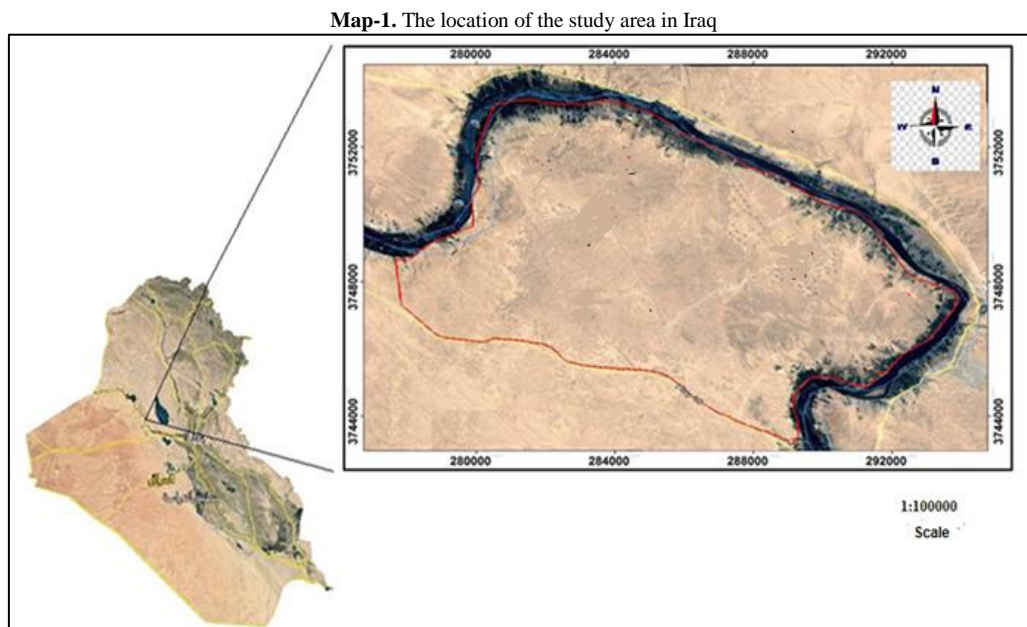
The researcher in this field, may find some difficulties when trying to prepare a research or an integrated study about it, in view of the continuous damage to this environment. Due to some social practices and recent military operations, and the general drought that befell these areas as a result of the lack of rain, and this is what was observed during the numerous field visits since 2012.

Medicinal plants are one of the most important natural resources. The types of soils that exist within the geographical area and the nature of their spatial distribution within the perspective of the earth, and the adoption of all available means of geological and topographic maps. One of the pillars of natural resources is the inexhaustible biodiversity if managed rationally. The future of humanity depends on the human being's ability to optimally invest this resource and use it in a way that provides viability. The research gap in this study is the lack of previous research or an incomplete understanding of the distribution and classification of medicinal plants in this region. The study aims to fill this research gap by conducting a thorough analysis of the distribution and classification of

medicinal plants in the Zakhikah area of the Al-Anbar Desert. This information will be used to understand this region's plant life better and potentially identify new medicinal plants that could be used for medicinal purposes. Additionally, understanding the distribution and classification of medicinal plants in this area will also help with conservation efforts and aid in the sustainable use of these plants. Nonetheless, biodiversity is expanding as new plants grow in the research area [4], [5].

2. Materials and Working Methods

1. Location: The study area was chosen to be 50529.6 acres in size, located between longitudes 296000E and 276000E and latitudes 3754000N and (UTM) 3741000N. The study is bounded on the north, east, and west by the Euphrates River and on the south by the Ramadi-Qaim road. Plants and their geomorphological units present within the study environment (Map. 1). According to the stage of data collection.



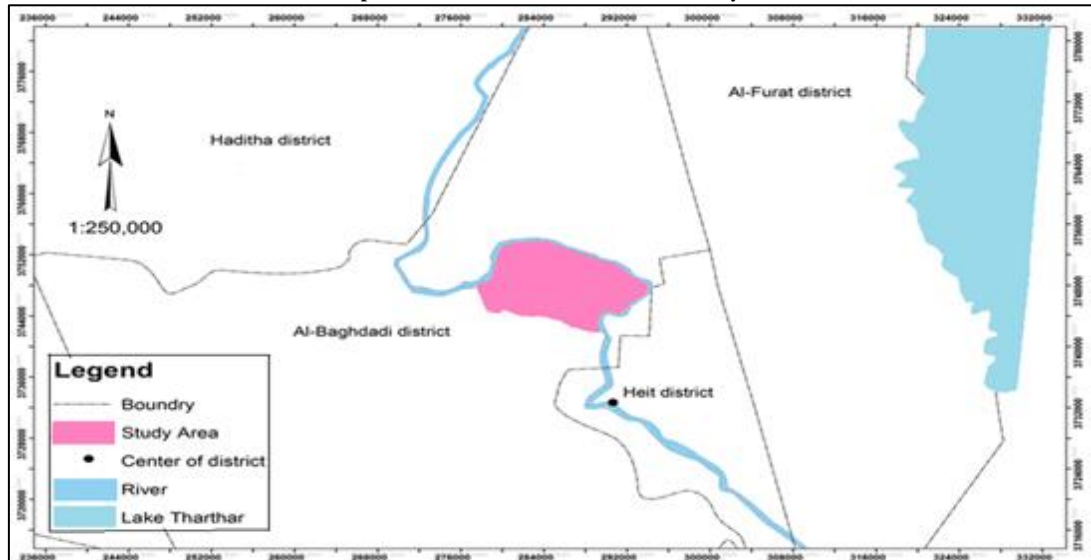
Several exploratory visits to the study area were made. A semi-detailed survey of the natural vegetation spread in the selected area at each selected examination site was carried out using the networking method. This study also made use of several field tools, including repeating the summary.

1- A digital camera. 2- A GPS unit. 3 - Drilling tool; 4- Scissors. 5- A brochure with field notes. 6- A handheld lens. 7- A small numbering card. 8- Various sized plastic bags for collecting plant samples. 9- Small bags for collecting fruits and seeds. 10- Miniature field baler.

Also, investigate the soil types in the area and their impact on the existing plant. The sampling plant locations were determined in the office at 1000 m intervals between holes and geographically using a Garmin GPS device (GPS map 60 CSX) [6]. Seasonally, the types of natural vegetation present in each study site were identified (winter: December - January - February), spring: March - April - May), summer: June - July - August), and (fall: the months of September- October-November). Taking models and identifying their types using Flora of Iraq parts as a guide, [7], [8], [9]. The unidentified species were collected, dried, and then identified using the national herbarium. According to what was suggested, the ecosystem was analyzed to quantify some characteristics of the plant community using the random squares method with dimensions of (2m x 2m) [10]. In addition, by twenty squares in each of the study's examination sites. The following natural plant characteristics were then estimated using the methods described in [11]: [12]. The study area was selected with an area of 50529.6 acres, which lies between longitudes 296000E and 276000E and latitudes 3754000N and (UTM) 3741000N.

The study covers the types of soils by scientific methods in [13] [14].

Map-2. The administrative location of the study area



B- Density: It is the number of plant members of one species per unit area relative to the total number of squares.

$$\text{Density} = \frac{\text{The total number of individuals of a particular plant species}}{\text{Total number of study squares} * 4}$$

C- Frequency of occurrence: It is the percentage of occurrence of a member of a particular type of plant relative to the total number of squares [15].

$$\text{Frequency} = \frac{\text{The number of squares in which a particular type of plant appears}}{\text{The total number of study boxes}} \times 100$$

D- Abundance: It is the percentage of the number of individuals of one species relative to the total number of individuals of all species in the study sample.

$$\text{Abundance} = \frac{\text{The total number of individuals of a particular type of plant}}{\text{The total number of individuals of all species}} \times 100$$

E- Coverage: It is the area occupied by the vegetative part of any plant species and it is measured based on the area of the ellipse [16], and according to the following formulas:

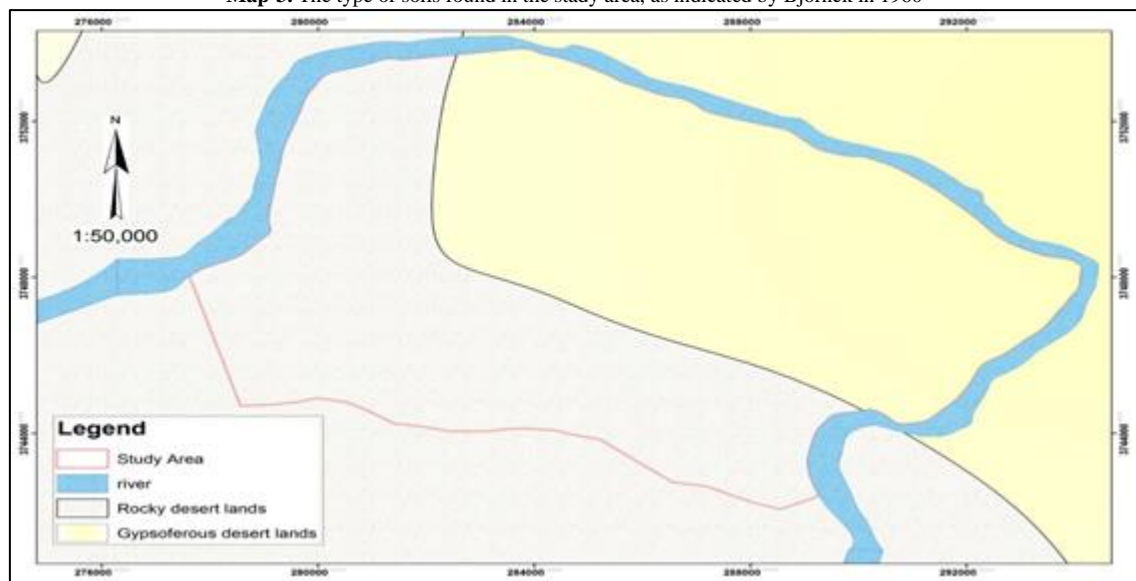
$$\text{Areal coverage} = \text{crown cover} \frac{D1D2}{4\pi}$$

$$\text{Volume coverage} = \frac{1}{6\pi} D1D2h$$

Where: D2 and D1 are the diameters of the vegetative part and h is the height.

F- Biomass: It is the natural plant's dry weight per unit area studied. The Harvest method was used to estimate this trait, as the vegetative parts of each square were harvested. After obtaining the fresh weight in the field, the samples were collected in paper bags and dried in the laboratory for 48 hours in a vacuum oven at 60°C [17]. The study area soils were formed primarily from modern Euphrates River deposits of limestone or gypsum origin, as well as wind deposits transferred from the Western Desert, which gathered and mixed with the river deposits.

Map-3. The type of soils found in the study area, as indicated by Björnck in 1960



[18]. The map depicts the major geological formations in the study area (map 3). According to [19], the Euphrates River sediments are grayish brown and are derived from the Iraqi hills, the Syrian and Jordanian

mountains, and the Iraqi Western Desert. Calcite is the dominant and important mineral, and the sediments in the region are a mix of sand, silt, and clay. The dominant soil types can be distinguished, as indicated by Hesse [20], and illustrated in (map 3).

Map (3). The types of soils found in the study area, as indicated by Björnck in 1960 during an exploratory survey, and according to the old genetic classification. It is the dry weight of the natural plant per unit area studied.

2- Climate: Climate is an important factor in the formation, formation, and classification of soils because of the changes it causes in the soil body due to chemical and physical weathering. In dry areas, where rains decrease and temperatures rise, we notice a predominance of physical and weak chemical weathering. At the same time, soluble substances, particularly bases, remain close to the surface due to more water loss from the soil due to evaporation than the amount of water entering it (Internet report, 2021).

The study area has a hot, dry climate in the summer and a cold, rainy climate in the winter, with a large temperature difference between day and night, as well as winter and summer. Based on the special data of the weather station in the district of Hit (Table 1) and the analysis of climatic characteristics, it is clear that a semi-desert climate with long hot, dry summers and short, mild winters characterizes the study area. The climate is as follows:

1. Average hours of brightness and values of solar radiation: Solar radiation is the primary factor influencing climate, and it is a source of energy that reaches the earth, which is divided into thermal and light energy, and it serves as a catalyst for plants to produce food through photosynthesis.

Based on data from the Heat Meteorological Station, the results of (Table 1) show an increase in the values of solar radiation in the region, which is due to the region's latitude location, as the highest rates of brightness hours reach 13.2 hours day⁻¹ during August. In December, the lowest rate is 6.0 hours per day. Climatic data also show that the sunshine hours increase beginning in January and peaking in June at 14.3 hours on day one because the sun's rays are closer to the vertical this month, and the angle of incidence of the rays reaches 81.5 degrees. Furthermore, the sky is cloudless, which raises the temperature and increases evaporation, reducing the amount of surface water in the area.

2. The temperature: The region's annual average temperature is 21.9 °C. Temperatures begin to rise at a rate of 13.9-25.4°C from April to September, with temperatures reaching 31.5-34.1°C in June, July, and August (General Authority for Meteorology and Seismic Monitoring). Aside from the length of the day during these months, as shown in (Table 1). A clear discrepancy between the maximum and minimum temperatures in the region monthly and annually is due to various factors, including atmospheric depressions, particularly the Indian seasonal depression, which is associated with high temperatures during the hot season, resulting in hot and dry weather. During the cold season, the weather is cold due to cold Siberian air masses and air depressions from the Mediterranean and the Arabian Gulf.

3. Rain: The quantity of precipitation in the study area fluctuates. It only falls in the autumn and winter and does not fall in the summer. According to data from the Hit climatic station, the wettest month is April, with the highest rate of rainfall of 27.3 mm recorded in that month. The rainfall rates in November, December, January, February, and March were 14.5, 17.3, 16.0, 18.3, and 20.4 mm, with the annual amount of precipitation reaching 118.5 mm. There was no rain in June, July, or August.

4. Relative humidity: It is clear from the results of (Table 1) that relative humidity rises by 49.9% in October and continues to rise throughout the winter months until it reaches its maximum in January of 75.8%, then decreases by 55.9 and 50.5% in March and April, respectively. During the dry months, it continues to fall, reaching its lowest level of 31.6% in July.

5. Evaporation: Data on evaporation showed an increase in rates during the summer, from May to the end of October, with an average of 449.2 mm. In addition to the high solar brightness, hot, dry winds are active during this season, causing a significant increase in evaporation values. The lowest evaporation rate was recorded in December and January, when it was 84.4 and 75.8 mm, respectively. The rate of evaporation averages about 152.7 mm from November to the end of April due to various factors, including low temperatures and high relative humidity in the presence of clouds. The results of (Table 1) show that the annual evaporation amount increased in the region, reaching 3611.2 mm.

Table-1. Climatic data for the area in the period 2001-2022, taken from Heet District

Month	Actual average sunshine hours (n) day 1-hour	Average hours of maximum sunshine (N) day 1-hour	n/N	average minimum temperature (M)	average maximum temperature (M)	Average monthly temperature (°C)	Average monthly soil temperature (°C) at a depth of 50 cm	Rainfall (mm)	Relative humidity %	Evaporation (mm)	average wind speed m s ⁻¹
January	6.5	10.2	0.64	3.2	14.1	8.6	13.6	16.0	75.8	80.3	1.5
February	7.3	11.0	0.66	4.6	17.7	11.1	14.5	18.3	67.5	148.2	2.1
March	7.8	11.0	0.71	8.7	22.4	15.5	14.7	20.4	55.9	196.3	2.4
April	8.6	13.0	0.66	13.9	28.2	21.2	25.9	27.3	50.5	265.3	2.5
May	10.5	14.0	0.75	19.1	35.2	27.1	25.6	1.2	39.8	406.3	2.5
June	12.4	14.3	0.87	22.8	40.3	31.5	30.8	-	33.7	521.8	3.0
July	13.0	14.2	0.92	25.4	42.8	34.1	34.5	-	31.6	589.0	3.4
August	13.2	13.4	0.99	24.8	42.7	32.7	35.1	-	34.8	531.1	2.9
September	11.8	12.3	0.96	21.3	40.1	30.1	32.2	-	37.9	387.0	1.9
October	8.8	11.3	0.78	15.5	32.5	24.0	27.4	3.5	49.9	259.8	1.7
November	7.5	10.4	0.72	9.1	23.5	16.3	22.3	14.5	65.9	141.7	1.5
December	6.0	10.0	0.60	4.5	18.2	10.3	16.0	17.3	74.3	84.4	1.1
annual rate total	9.5	12.1	0.77	14.4	29.8	21.9	24.4	118.5	51.5	3611.2	2.2

6. Wind: Two wind patterns have an impact on the research area:

1- Local winds: These winds are caused by the shifting of rising air currents caused by high temperatures during the summer, as well as the formation of local thermal depressions that intensify during the day, increasing the process of evaporation and transpiration.

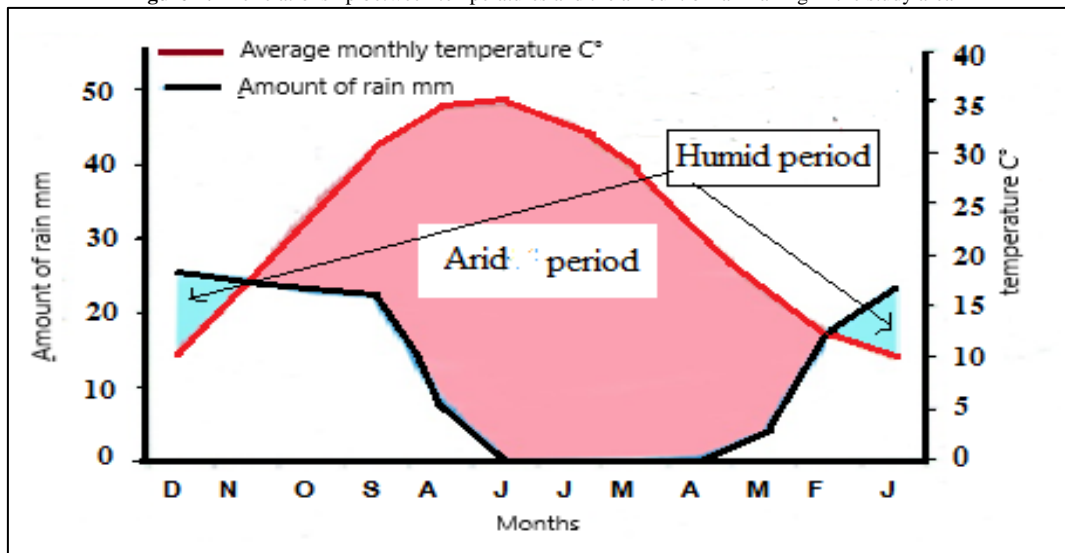
2- Winds from outside the region: These winds change direction because they blow in different directions.

The results of (Table 1) show the variation in wind speed rates in the region caused by changes in atmospheric pressure zones, which cause wind gusts. The annual wind speed in the region was estimated to be around (2.2 m s⁻¹). Furthermore, the monthly rates of wind speed increase until they reach their highest rates during the hot season, which are (3.0, 3.4, and 2.9 m s⁻¹) for June, July, and August, respectively. While the rates of those speeds decrease with decreasing temperatures and rising atmospheric pressure values during the year's cold season, they reach their peak in February at (2.1 m sec⁻¹). The study area is subject to the influence of two wind patterns:

7. Wind frequency rates in the study area: The results of (Table 1) indicate the direction of the prevailing winds in the study area and their frequency. The northwestern, northern and western winds dominate with frequency rates of 24.0%, 21.1% and 16.5%, respectively, compared to the rest of the wind directions in the region.

8. Temperature regime and soil moisture: According to the results of (Table 1), the average annual soil temperature at a depth of 50 cm and the Hit City monitoring station was more than 22 m. The average temperature difference between the summer and winter months is more than 5°C. As a result, the soil's temperature regime is hyperthermic. Because the soils of the region remain dry for more than six months of the year, and the amount of rain is minimal, the soil moisture system is Torricelli (Aridic). (Table 1) depicts the relationship between some climate elements in the region. It is noticed from the results of (Table 1) that the average annual soil temperature at a depth of 50 cm and the monitoring station of Hit city was more than 22 m. The differences between the average temperatures in the summer and winter months are more than 5°C. So the soil temperature regime is Hyperthermic. Since the soil of the region remains dry for more than six months during the year and in succession, and in which the amount of rain is little, the soil moisture system is Torric (Aridic). (Figure 1) shows the relationship between some elements of the climate in the region.

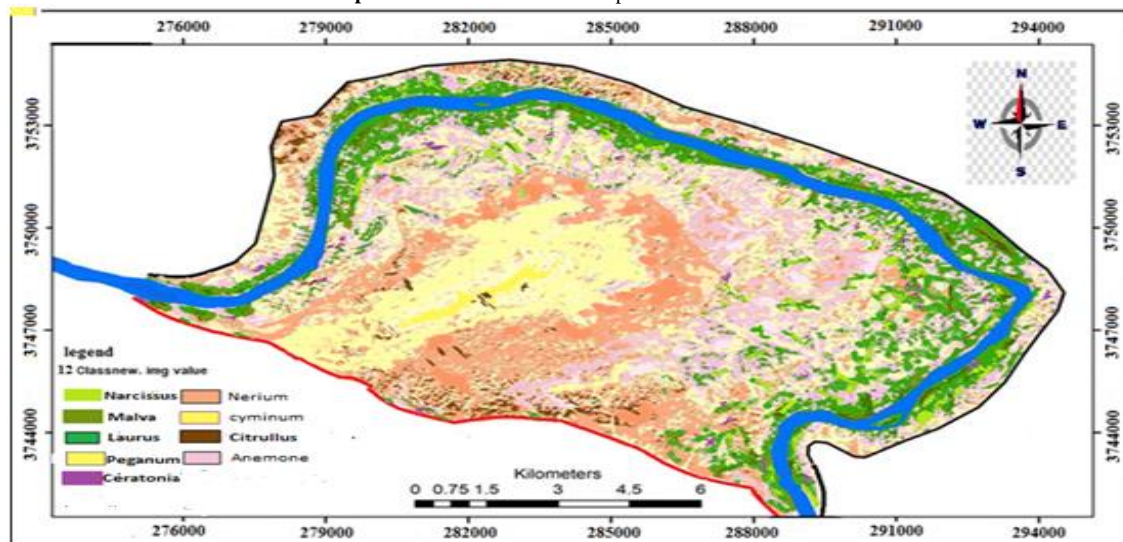
Figure-1. The relationship between temperatures and the amount of rain falling in the study area



3. Results and Discussion

The medicinal plants identified during the study site's field survey were classified. As shown in Map. 4, it included 12 plant species distributed and spread throughout the area. The proportion of perennial medicinal plants ranged from 24.6-29. The annual species was only recorded in a low-lying site with a percentage of 17.3%, as shown in (Figure 1). The dominant families and plant species in the study areas are shown in Table 2.

Map-4. Distribution of medicinal plants in Zakhikhah area



3.1. Description of Medicinal Plants in the Area

According to (Table 2), we explain the characteristics of each type of medicinal plant found in the region:

1. Hibiscus: Description: Stored hibiscus is a wild perennial herb in the hibiscus subfamily. It includes meadows and wetlands along the banks of rivers, streams, and adjacent coasts. Its veins are wedge-shaped, long, and fleshy, with a sour, saliva-like odor. It is long, cylindrical in shape, erect, fluff, with few branches, slightly fluffy leaves, green or whitish, atrial, petiolate, successive, broad, with a sharpened serrated blade. Its flowers are fragrant, mounted on short stems, pink to whitish, emerging from the stalks of the upper leaves, five-seeded and petaled, with many stamens and bearing rounded fruits.

Parts used: veins that collect in the fall, wet or dried leaves in the shade, and flowers.

Active ingredients: mineral salts, vitamin C, and cloude.

Benefits: The flowers are analgesic for coughing, anti-inflammatory, and useful for removing flatulence and diuresis. It will benefit from the eyes of the eyes if its leaves are chewed raw and covered with a little salt, and without salt, the boils will ripen and relieve the pain of stinging wasps and bees.

Table-2. Quantitative analysis of some characteristics of the natural medicinal plants of the study area

medicinal natural plants	scientific name	grand Total of one type	number of squares in which type appeared	plant density plant/m ²	frequency%	abundance%	coverage		Biomass s g.m ²	Total biomass g.m ²
							Area m ²	volumetric		
Hibiscus	Malva parviflora	45	39	0.93	85	35.40	0.303	0.030	15.3	
Carob	Ceratonia silique	21	13	0.53	65	12.96	0.006	0.310	4.2	
bitter melon	Citrullus colocynthis	20	35	0.25	25	26.10	0.220	0.028	10.1	
Cumin	Cuminum	25	32	0.25	15	6.17	0.210	0.009	3.5	
Laurel	Laurus nobilis	36	35	0.60	70	9.88	0.040	0.030	4.5	
Narcissus	Narcissus	25	33	0.38	65	9.26	0.050	0.008	7.0	
Oleander	Nerium	39	25	0.86	80	29.88	0.270	0.130	15.2	
Anemone	Anemone coronaria	27	30	0.12	18	20.17	0.101	0.052	9.2	
Peganum	Peganum	28	34	0.45	23	14.23	0.027	0.039	4.1	

2- Carob: Description: A five-meter-high wild and horticultural tree of the Cornea family that grows in the area. Its petals are stringy, semi-rounded, and turn at each other with a glossy green leathery blade. It has petiole, small, drooping flowers, some male and some female. Its fruits are long pods ranging from 8 to 10 cm and width from 2 to 3 cm. When ripe, the fruit turns from Green to brown. It has a delicious pulp and very solid, brown seeds inside. It is about the size of a lentil seed and weighs about 0.20 g.

Parts used: peels, fruits.

Active ingredients: sugar, protein, nicotine, basic acid, formic acid, mucus, vitamins, and nitrogenous substances.

Benefits: If the fruit is dried, one of the most well-known benefits of carob is that it is astringent with anti-diarrheal and anti-mycotic properties. If the abdomen is soft or immature, it is released. It isn't easy to digest. It will also go away if you rub warts with hard carob. Eating out of season reduces menstrual blood flow.

3- Bitter melon: An annual herb with thick, white veins and a few branches studded with many threads. It has creeping, curved, branching, and downy stems. The leaves are alternate and grooved, and the blade is lobed into three lobes. They are green on top and gray on the bottom, with hooks. Its flowers are small, five-petaled, yellow, single, ergodic, and emerge from the axillary leaf; some are male with three stamens, while others are female with ovate and penniless stamens. It produces spherical fruits. Its diameter ranges from 3 to 5 cm: Green at first, then yellowish as it ripens, or Green and yellow mottled. A smooth crust is topped with a thin, hard, light shell containing a white spongy pulp. It is extremely bitter and is known as butternut sebum or flesh. It has many compact oval-shaped seeds, and the closed fruit can last a year without spoiling up to three years.

Parts used: veins, leaves, fruits. The most commonly used is its husk-free pulp. The pulp may be dried and ground to a bitter, light-white powder.

Benefits: According to Paul, it is finely crushed, and a drink of its powder contains no more than two grams. And the majority of what is extracted from the buttermilk is half a gram in 80 grams of honey, which is then boiled and served as a drink. Anyone who wishes to use his leaves must harvest them when they are ripe and then dry them in the shade. Dressing the navel with buttermilk fat also causes diarrhea and the expulsion of stomach worms.

4- Cumin: An Apiaceae family annual herb used in agriculture. Its stems are fine branches that can grow up to 20 cm tall. It has a few finely slit, fluffy, fringed-like dill leaves and a delicate white flower carried by a hemp inflorescence. In contrast to the spherical seed, its seed is derived from the shoots and is distinguished only by the aromatic smell of cumin agricultural annual herb of the family Apiaceae.

Parts used: seeds

Active ingredients: An essential oil called a chemical.

Benefits: Digestive, removes stomach gases, diaphoretic, and milk-producing. It is frequently used after a meal to relieve flatulence and colic and produce milk by drinking a teaspoonful of coffee for every cup of boiled water. You can also consume 2 g of its powder daily. The ancient herbalists claimed that chewing cumin with salt and swallowing it stopped saliva and that it was a sexual tonic if eaten twice a day mixed with honey and black pepper.

5- Laurel: A Lauraceae family wild and ornamental tree. It can grow to a height of 1-5 m and has many branches and leaves. Its leaves are rigid, petiolate, successive, shiny, fragrant, and sweating, and contain oil glands that appear when exposed to sunlight. Its flowers are small, yellowish, clustered, and differ depending on the sex. The male has 8 to 12 stamens, while the female has an egg, a pen, and a stigma. Its fruits resemble olives in shape and size and range in color from blue to black. It has a kernel similar to an olive kernel, from which a high-quality oil extracted.

Parts used: leaves and fruits.

Active ingredients: lactic acid, essential oil, tannins, gum.

Benefits: Laurel has the properties of being a digestive, antiseptic, chest stimulant, and diuretic. As a result, it can help with flatulence, indigestion, catarrh, insomnia, and failure. Internally, it relieves stomach bloating by infusing 4 to 6 leaves in a cup of boiling water and drinking it three times a day. Similarly, the fruits are 5 to 10 grains in a liter of water, boiled briefly, and then consumed in 2 to 3 cups per day. 5 to 10 leaves are cooked in a cup of water for 3 minutes, and wounds are washed or gargled to treat throat diseases. The ointment made from laurel fruit oil is beneficial for joint pain.

6- Narcissus: A narcissus family wild perennial plant. It grows in wastelands and agricultural lands in the Mediterranean countries. It appears with lovely fragrant flowers. It is about the size of an egg, with a brown surface shell and a white interior. Three or four smooth, long, up to 50 cm long three or four very aromatic flowers follow leek-like leaves. Its flowers are tubular, oblong, drooping, medium in size, white with yellow inside, and three-chambered ovules lactating like an onion seed.

Parts used: onions, flowers.

Active ingredients: essential oil, narcotic.

Benefits: Narcissus bulbs are aesthetically pleasing, dried, emetic, laxative, and a chest purifier. It will cool and prevent bleeding if crushed and mixed with honey and applied to a burning wound. In addition, its oil is similar to the conditions of jasmine oil. Combined with vinegar removes vitiligo and melasma and stops hair loss. If narcissus oil is applied to the chest, it relieves nerve and joint pain and analyzes solid tumors. The daffodil bulb was said to treat sores both inside and out. And if it was soaked in milk for three days before being crushed and rubbed, it left the urethra with a raging head. The smell of flowers helps to relieve headaches.

7- Oleander: It is a two to a four-meter-tall wild and ornamental perennial shrub of the oleander family. It grows in valleys, especially in the form of many compact stems. Its leaves are symmetrical or replica, double or triple-collected, and measure 6 to 14 cm in length and 2 cm in width. Steel spear-shaped blade, green on top, gray on the bottom, and streaky. Its flowers are multicolored: red, white, and pink, with five sepals, intertwined to form a lobed tube at the end. Its flowers leave centuries-old ruins that are about an inch long.

Good parts: the whole plant. It is extremely toxic to animals.

Active ingredients: Nerine, oleandrin.

Benefits: Oleander is only treated externally due to its toxicity because drinking it is a lethal poison immediately. Soak 20 g of its crushed leaves in a liter of water and use this water to wash away baldness, scabies, cancer, and bruises. Alternatively, apply leaves to skin diseases. We tried it by washing the peeled soles of our feet in boiling water, and it worked well. Cooking its leaves and applying an ointment to solid tumors will dissolve and melt them, and the juice from its leaves may help with itching and scabies. Spraying its home-cooked water on fleas and termites kills them. Cooking it in ghee and coating it with fungi had a miraculous effect. Crushed and spread the dry paper on the sores will dry them out. According to Al-Antaky, oleander is beneficial for chronic knee and back pain when bandaged. Its evaporation soothes the tooth.

8- Anemones: A wild annual poppy family herb that proliferates in wheat fields in the spring, creating a beautiful view. It has an upright, fluffy stalk and is full of pulp; white milk comes out when cut. Its leaves are lobed and opposite. Its blade is made of rickety tissue, has thick veins, and has a sharp edge. Its flowers are single, oblong, with a red trigger and a black scab at the base, two-seeded, four-petaled, and fall off quickly. Hence the name scattered. It has true fruits encapsulating the fine seeds, which are kidney-shaped and brown.

Parts used: The heads and petals that dry carefully because they spoil quickly, so they are not left during drying, far from each other.

Active ingredients: potash nitrate, rhodamine, saliva, phycocyanin, and dye.

Benefits: One of the most important characteristics of the poppy is that it is hypnotic, analgesic, anti-shrinking, laxative and diaphoretic. Therefore, it is given to those who do not sleep or have coughs or fevers; it is drunk by putting a handful of dried flowers in a bowl of boiling water and steeping for 10 minutes. The drink is for three cups a day. It is also useful for colds if the forehead is bandaged with it. If you take 10 heads of this poppy, cook them in half a liter of water, and then water someone from this pot, make him sleep.

9- Peganum: It is a perennial plant from the warm regions, green in color and foul-smelling until animals leave it. Stem up to 80 cm, or many branches covered with simple successive leaves. Its flowers are single-assembled, mounted on a short stem, green in color, with a five-petaled, white, oval, veined stalk, 15 sluggish stamens, and long filaments. Its fruits are real or round envelopes inside, with many black pods the size of mustard seeds, which are quick to crush, heavy in smell, and remain strong for four years. **Parts used:** seeds, twigs and leaves.

The active ingredients: are two hormones and two alkaloids.

Benefits: Peganum is a repellent for worms from the stomach, especially the type called pumpkin seeds, and it is useful in colon irritation, sciatica and hip pain; it strongly helps to flow menstruation and urine. And if it is drunk from it at a weight of 50 g for 12 days, the sciatica pain will be cured. And if it were cooked with vinegar and covered, the body organs would strengthen them, making the hair dark and the numbness removed.

Figure-2. Shows the medicinal plants in the region



4. Conclusions and Recommendations

The study included wild natural plants with medicinal uses, particularly in herbal medicine and folk medicine. Due to numerous factors that threaten the continued growth of these plants and the ecosystem in general, the area under study needs to be addressed. The study revealed the presence of eight plant families, with Malvaceae being the most prevalent and Cucurbitaceae having the least distribution. Numerous aspects of the region's soil, climate, plant species, description, medicinal uses, and scientific names were examined in the study. The study suggested establishing medicinal plant investment projects and marketing the products to pharmaceutical laboratories. And take the necessary precautions to prevent desertification. Additionally, establishing private nature reserves to safeguard rare and endangered plant species.

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