جـــامعة المـرقـــب

المجـلـة العـلـمية

مجلة علمية محكمة تحت مسمى (مجلة علوم التربية الرياضية والعلوم الأخرى)

منشورات كلية التربية البدنية – جامعة المرقب

الموقع الإلكتروني

HTTP://SSJ.ELMERGIB.EDU.LY

العدد الثامن

(ديسمبر) 2021- 2022 م

هيئة التحرير

ملاحظة

كافة البحوث تعبر عن وجهة نظر أصحابها، ولا تعبر بالضرورة عن رأي المجلة أو الكلية

التعليمات الخاصة بنظم النشر مجلة التربية الرياضية والعلوم الأخرى

طبيعة المواد المنشورة

تهدف المجلة إلى إتاحة الفرصة لكافة المتخصصين لنشر إنتاجهم العلمي في مجال علوم الرياضة والتربية البدنية والعلوم الأخرى، الذي تتوافر فيه الأصالة والجدية والمنهجية العلمية.

وتقوم المجلة بنشر المواد التي لم يسبق نشرها باللغة العربية أو الإنجليزية وتقبل المواد في الفئات التالية:

- البحوث الأصيلة.
- المراجعات العلمية.
- تقارير البحوث.
- المراسلات العلمية القصيرة.
- تقارير المؤتمرات والندوات.

اللائحة التنظيمية:

1- أن تكون الدراسات أصلية ولم يسبق نشرها أو قبولها للنشر.

2--تصدر كلية التربية البدنية جامعة المرقب مجلة علمية تسمي (مجلة التربية الرياضية – والعلوم الأخرى) .

3--تصدر المجلة بصفة دورية كل-6 أشهر من كل عام.

أهداف المجلة:

1-المشاركة في تشجيع حركة البحث العلمي.

2-تحقيق إضافة جديدة على الساحة العلمية في المجالات الرياضية.

3--نشر وتعزيز الدراسات والأبحاث العلمية الرياضية.

سياسة النشر:

1- تختص المجلة بنشر الأبحاث والمقالات العلمية في المجالات الرياضية والتربية البدنية والعلاج الطبيعي والتأهيل الرياضي والأبحاث التربوية والعلوم الأخرى المرتبطة بها.

2--يسمح بالاشتراك في المجلة بالأبحاث أو المقالات التي يجريها أو يشترك فيها أعضاء هيئة التدريس أو الباحثين في الجامعة والمعاهد العلمية ومراكز وهيئات البحث العلمي في ليبيا وخارجها.

3--تنشر الأبحاث في المجلة وفق الأسبقية دورها بعد تحكيمها وإعدادها في شكلها النهائي وفق شروط النشر والقواعد التي تقررها المجلة.

4- جميع الأبحاث المقدمة للنشر لا ترد لأصحابها سواء نشرت أو لم تنشر وإذا تمت الموافقة على نشرها فإن لهيئة التحرير الحق في نشرها في الوقت الذي تراه مناسباً.

5--يخضع ترتيب الموضوعات في المجلة لاعتبارات فنية.

شروط ومعايير النشر:

1- تكون الدراسات أصلية ولم يسبق نشرها أو قبولها للنشر.

2- يقدم الباحث أصل + نسخة على CD +ثلاثة نسخ مطبوعة وعلى وجه واحد فقط وعلى ورق كوارتر مقياس 4A مع ضرورة ترك الصفحات بدون ترقيم.

3- تتضمن الصفحة الأولى عنوان البحث، اسم الباحث أو الباحثين ووظائفهم.

4- يجب ألا يزيد عدد الصفحات عن 20 صفحة وفي حالة الزيادة عن 20 صفحة يتم دفع مبلغ خمسة دنانير عن كل صفحة.

إجراءات التحكيم:

1- تلتزم لجنة المجلة بإشعار الباحث بوصول بحثه وإحالته إلى هيئة التحرير.

2- تتم مراجعة البحوث المقدمة بصورة مبدئية من هيئة التحرير لتقرير مدى صلاحيتها وتمشيها مع سياسة المجلة ويمكن تبعا لذلك استبعاد بعض البحوث وعدم إرسالها للتحكيم مع ضرورة إبلاغ صاحب البحث بذلك.

3--يحال البحث للتقييم من قبل ثلاثة من الأساتذة المحكمين أعضاء اللجنة العلمية الدائمة للتربية البدنية في ليبيا.

4--تحال البحوث المقدمة للنشر إلى المحكمين في آن واحد وترفق مع البحث استمارة التحكيم ليقوم كل محكم بملء هذه الاستمارة خلال فترة محددة.

5- تعتمد قرارات المحكمين بالأغلبية من حيث القبول أو الرفض من قبل هيئة التحرير.

6- تقوم لجنة المجلة بإبلاغ أصحاب البحوث بإجازة بحثهم، ولهيئة التحرير أن تطلب إجراء تعديلات شكلية أو موضوعية بناءاً على توصية المحكمين قبل إجازة البحث للنشر

7--تلتزم المجلة بالسرية التامة بالنسبة لعملية التحكيم وأسماء المحكمين.

قواعد عامة:

- تقبل البحوث من خارج ليبيا.

- تسديد الرسوم تحدد من قبل هيئة التحرير أو مجلس الكلية أو مجلس الجامعة.

شروط كتابة البحوث:

1- تكتب البحوث المقدمة للمجلة على ورق حجم.4A .

-2- بالنسبة للهوامش تراعى الشروط التالية:

- من أعلى 3.5 سم ومن باقي الجوانب 3 سم.

- خط العنوان الرئيسي للبحث SakkalMajalla حجم. **Bold** 20 .

- خط الكتابة العربي SakkalMajalla حجم 14 عادي وتأخذ أسماء الباحثين والعلماء..**Bold**

- خط الكتابة الأجنبي Times New Roman حجم **Bold** 12 .

- خط العناوين Simplified Arabic حجم 16 Bold والعناوين الصغيرة **Bold** 14.

- خط العناوين الأجنبي Times New Roman حجم **Bold** 16 .

3- بالنسبة للجداول تكون مفتوحة من الجانبين ومسطرة تحديداً مفردا أما بداية ونهاية الجدول فيكون التحديد مزدوجاً .

كلمة العدد

الحمد لله رب العالمين وأصلي وأسلم على خير الخلق أجمعين محمداً النبي الأمين وعلى آلة وصحبه أجمعين..... وبعد.

إنه ليسعدني نيابة عن مجلس الكلية أن أقدم **العدد الثامن (ديسمبر2021-2022م)** من المجلد الأول العدد الثامن من مجلة التربية الرياضية والعلوم الأخرى الصادرة من كلية التربية البدنية – جامعة المرقب في صورتها الجديدة لتسهم بجهد وافر في النشر العلمي في مختلف أنشطة التربية الرياضية والبدنية والصحية والفنية والترويحية وبعض العلوم الأخرى المرتبطة باعتبارها رائدة المجلات العلمية المتخصصة على مستوى كليات التربية البدنية وعلوم الرياضة بدولة الليبية إيمانا برسالة الجامعة في هذا الصدد مراعية اتسام محتوى المجلة بالتجريب والتطوير والتطبيق في ظل أهداف الجامعات الإقليمية الأمر الذي أصبح ضرورة ملحة في عالم سريع التغيير بابتكارية التكنولوجيا والتقدم العلمي المذهل، حيث حقق العلم وثبة كبيرة في كل المجالات وكان للتربية البدنية نصيبا من هذا التقدم حيث لعب طموح علماؤها دوراً أساسياً في الاعتماد على علوم حديثة ليكون منها المنطلق للتقدم.

وقد آلت كلية التربية البدنية بالجامعة على تطوير هذه المجلة حتى تصل إلى المستوى اللائق بالجهد الذي تبذله للنهوض بها بين الجامعات الليبية والعربية والعالمية.

ولا يسعنا إلا أن نتقدم بالشكر لجميع من أسهموا في ظهور المجلة سواء بالنقد البناء أو تقديم المقالات والبحوث والتراجم العلمية ونتوجه إليهم جميعاً لطلب المزيد من التعاون حتى نصل بهذه المجلة إلى المستوى العلمي والفني المتكامل في مجالات أنشطة التربية الرياضية والصحية والتربوية.

عميد الكلية
ورئيس هيئة التحرير
د: ميلود عمار النفر

A Taxonomic Study of Medicinal Plants in Al Shaafin Reserve, in Musallata - Libya

Adel D. El Werfalyi[1], Salem A. Hassan[2], Alhusein M Ezarzah[3]

[1]El-Mergeb University, Faculty of Arts and Science Musallata, Department of Biology
[2]El-Mergeb University, Faculty of Science Al-komes, Department of Biology
3Tripoli University, Faculty of Education, Qasr Bin Ghashir, Department of Biology
*Correspondence author email adeldaw@yahoo.com, Phone 00218913387972

Abstract:

This research is concerned with a study of medicinal plants located in the Al-Shaafin Reserve area, Musallata City. The northwestern region of Libya is located at the end of the north-eastern edge of the western mountain, between longitudes 49º 13º - 14º 14º east and the two latitudes 25º 32º - 36º 32º north. The reserve is located on the western side of the Musallata bin Nasir area, 20 km northwest of the center Musallata (Al Qasabat)), And about 90 km east of the assembly of Tripoli, which is an area of high lands, terrain areas interspersed with a number of valleys, with an area of about (469) hectares of study areas during the year 2019-2020, (192) species of medicinal plants were completed. Belonging to (127) genus distributed into (46) plant species, the results of the study showed that the number (168) species of two-cotyledon plants belong to (113) genus distributed into (40) plant species, and (5) plant species, Under it there are (23) species of monocot plants belonging to (13) genera, and only one type of seedless plants was recorded. The percentage of plants with two cotyledons in this study was (87.5%), while plants with monocots was (11.97%) and with seeds represented (0.52%).

Key words: vegetation, Al Shaafin Reserve, medicinal plants.

Introduction:

Natural reserves are nothing but a natural extension to protect the environment and natural resources, and the goal of establishing natural reserves is to protect animal and plant wealth not only for the sake of the present but for the benefit of future generations. Moreover, the purpose of establishing natural reserves is to preserve genetic species. The local animal and plant environment that has its scientific and economic dimensions, as it serves as a laboratory and scientific research center in the field of preserving endangered species, and working to develop and preserve them with the aim of restoring the natural balance. The fauna and flora in the reserves constitute a unique and distinct place for tourist attraction and support for the national economy (**Daabas, 2002**). Libya is characterized by the diversity of its climate and its lands amounting to 1,670,000 km^2, and it is located between longitudes 9.58° – 25° east and latitudes 20° – 33° north, and since this area is mostly sandy desert, it lacks vegetation (**Al-Werfalli *et al*., 2020**) and thus biodiversity It has a small percentage of the total land areas, and the number of plant species in Libya is estimated at about 1800-2000 plant species, distributed into more than 800 genus, belonging to more than 147 species (**EL-Gadi, 1987; Jafri and Gadi, 1977-1987; Ali and Jafri, 1976-1977**), and this number is relatively small compared to the desert area, which calls for preserving what exists and working to preserve it through the establishment of protected areas.

The necessity of establishing protected areas was imposed by the state of serious deterioration that led to the disappearance of some wildlife, which led to the emergence of serious environmental negatives that affected the natural ecological balance (**Al-Maslati**, **2013**). It aims to protect the environment and not disturb its balance, and many scientific bodies, centers and specialized committees have been established and assigned to the tasks of creating, developing and developing natural reserves, and these are efforts made in order to catch up with the countries that preceded us in the field of establishing reserves for the purpose of preserving wild flora and fauna, and finding ways The guarantor and successor to achieve this, address the current situation and correct the mistakes of the past, in order to maintain the ecological balance and protect nature, and to address this situation, the Libyan responsible authorities issued many decisions to support and develop natural reserves, increase their numbers and re-introduce species that existed in the past after they disappeared, as well as experiment with introducing new species after studying them to find out their suitability for local conditions. 28 of 1998.

Natural reserves constitute a modern and vital field, and it is one of the fields of natural anthropology, specifically in one of its branches, the human environment, whether viewed as a branch or as a special method or approach, that studies and understands human, animal and plant life styles and their relationship to the

ecosystem, or natural and human ecosystems and the various forms of interaction and influence between The human being and his environment, the ecosystem is a delicate and balanced system in a self-dynamic way to continue to perform its role in restoring life on the surface of the earth. Therefore, the ecosystem is called from this point of view ((the system of resurrection)) (**Al-Jallad, 1974**).

(**Abd al-Jawad, 1999**) pointed out that the oldest traditional patterns of natural reserves in the Arab world, which are called (Al-Hima or Al-Hamiyah) are those that were established more than two thousand years ago in the pre-Islamic period, as a traditional recognition of the scarcity of renewable resources and the necessity to preserve them The anthropology researcher (**Daabas, 1999**). Also indicated that no one knows how many species that disappear annually on Earth, and the Earth Summit held in Rio de Janeiro in (1992) confirmed that the actual decline in biological diversity represents a serious threat to human development. The world is threatening with annihilation. (**Al-Ani *et al*, 2002**) explained that plant species are at risk of extinction by one of every eight species. In the Arab world, the available data indicate that plant species are at risk of extinction due to human activities and climatic changes. He also emphasized that the population is in a state of continuous increase and this increase is usually associated with by increasing food needs and other life requirements, which leads to agricultural expansion, pastoral intensification, forest exploitation, changing patterns of land use, introducing or developing new strains and varieties to replace the prevailing local varieties, and the price paid is the plant biodiversity and environmental health of our planet, which cast its shadow on the path Sustainable development, by doing so we remove the environmental foundations or components of biological diversity and lose a set of genotypes, even entire plant populations, forever.

(**Ghabbour, 1996**) indicated that preserving biological diversity is by protecting it in natural reserves, planting it in specialized sites for preserving species, or storing seeds in gene banks as a source to provide for the requirements of plant breeding and improvement, etc., when establishing any reserve, a list of wild plants and animals must be provided so that the management and personnel of the reserve have knowledge of the reserve's components, and then they can be monitored and assessed over the years. That is why I chose the newly created Shaafin Reserve as a research subject to limit and classify medicinal plant species, and to provide a list of medicinal plants as a reference for researchers and those interested in studying the plants of Musallata area in subsequent studies (**El Werfalyi *et al*, 2020**)

Materials and Methods:

Study area:

The Musallata area is located in northwestern Libya, at the end of the northeastern edge of the Nafusa heights, between longitudes 49 13º - 14 14º east and two latitudes 25 32º - 36 32º north, bounded to the north by the Khums region, and on the south by

the Tarhuna region, while it extends to the west until the Qarabulli area. The area is about 15 km away from the coast of the Mediterranean Sea, the area of Musallata is estimated at about 90 thousand hectares, and the Shaafin Reserve is located in the western side of the region, 20 km northwest of the central Qasabat, and about 90 km east of the city of Tripoli, which is an area of high lands, with different terrains. It is interspersed with a number of valleys, and the reserve occupies an area of approximately 469 hectares (**El Werfalyi *et al*, 2020**) Figure (1).

Figure (1) shows a model of the study site (**Al-Maslati, 2013**).

The study sites were identified for the Shaafin reserve, and the site was described based on a visual survey inside the reserve, where the reserve was divided into four sites for ease of study and inventory of the plant species in it, which shows as follows: (**Al-Maslati, 2013**)

1. The first location: a low valley in and around.
2. The second location: within and in the middle of the reserve, the surrounding mountains and valleys of low elevation.
3. The third location: the fenced mountain and valley to the right of the main entrance and on their extension.
4. The fourth location: from its beginning to the last point of the parallel mountain, along the dirt road and its branches.

The geology of the area:

Musallata area are deposits of limestone and sand, which are the direct cause of the spread of sand, which is the result of exposure of these rocks to the factors of erosion and weathering (**Al-Hajaji, 1989; Al-Mahdawi, 1990**). Musallata mountains as part of Nafusa Ridge range, their formation dates back to the late second and early third times (**Al-Hinnawi, 1975**). Most of the geological formations in the region, like the northern parts of Libya, are limestone, and most of the rocks belong to the Cretaceous period, one of the second eras.

Topography:

The topographical differences have a great impact on the vegetation, because it divides the general environment into different and distinct local environments, and the valleys in the reserve represent a more suitable environment for the growth of plants, and for this the valley plants were dense and varied, the average height in the steles area ranges between 300 - 360 m above The sea surface, while the height of the highest point in the area is 413 meters above sea level, and it is located within the study area, which is characterized by a hilly character, being a natural extension of the Nafusa Ridge, and the protected land is characterized by a strong terrain, which is a plateau extending in the form of hilly chains interrupted by many canyons and valleys.

The climate of the study area:

Most of the lands of Libya, which prevail in most of the northern part of the African continent, are subject to the Mediterranean climate and the desert climate, and the latter may prevail in some seasons, which increases the impact of the desert climate, (**Sharaf, 1996**). The study area falls within a transitional zone between the Mediterranean climate that prevails The coastal strip has the climate of the northern highlands, which is generally mild in winter, hot and dry in summer, and rains in winter (**Hassan, 2008**).

Temperature:

Heat, like other elements of the climate, is greatly affected by the presence of Libya between the Mediterranean Sea on the north side, and the desert in the south, and this sea effect is often limited to a narrow strip along the coast, while the desert effect is clear and very large. The effect of the sea on heat appears in the summer in particular, as it causes a temperature change of 10°C - 20°C (**Shaltout, 2002**). The temperatures in the study area are at their highest levels during the summer, while they drop to their lowest levels during the winter period Figure (2).

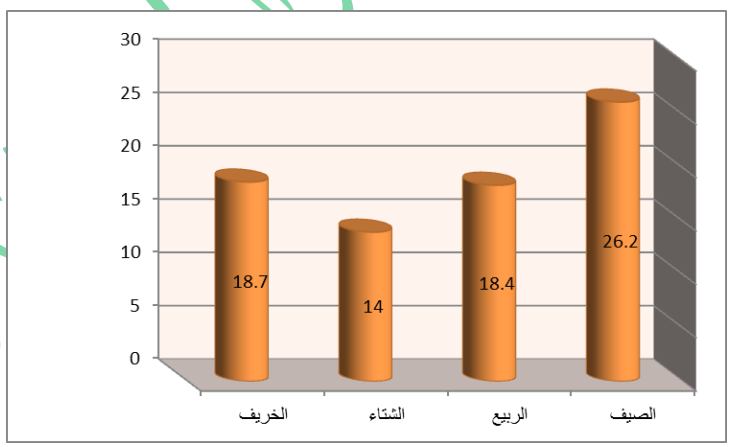

Figure (2) shows the average seasonal temperature for the study area.

During 19 consecutive years, the highest temperatures were recorded in the month of (August), when the average temperature during this month reached 27.6 °C, while the lowest temperature was recorded during the month (January), where the average temperature in this month did not exceed 13.5°C, while The average annual

temperature in the region is about 19.3 °C, and in the summer the average is 26.2 °C, while in the winter the average is 14 °C.

Rain fall:

The Musallata area has a relatively high rate of rain than the rest of its neighboring regions, and the amount of rain that falls on the Musallata area depends on many factors, the most important of which is the height factor and it is the most fortunate in the amount of rain, and this explains that the most of the rain falling on the city of its Musallata was on the study area, The second factor is the direction of the mountains and facing the rainy winds, as the presence of Tarhuna Mountains and its Musallata in the northwest of its Musallata area, and its proximity to the sea coast, led to a change in the course of the rain-laden winds, and for this reason they fall on the areas facing the gusts of the rainy winds in each of the "protected" area. And Sam Al-Dees area (**Al-Werfalli and Hassan, 2018**) Figure (3).

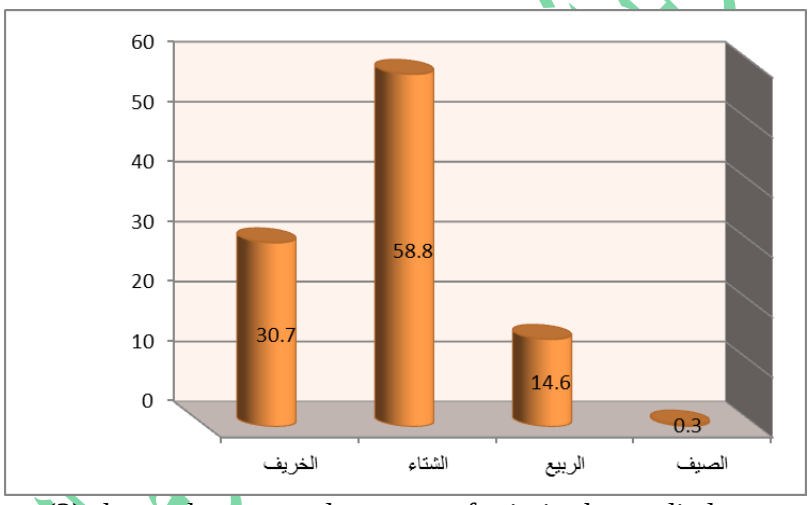

Figure (3) shows the seasonal average of rain in the studied area.

Humidity:

Due to the location of the Musallata area close to the sea, it is like the rest of the Libyan coast, which is characterized by high relative humidity, especially in the summer and early autumn, due to the activity of the evaporation process, and the wind blows, almost regularly from the sea side, where the average humidity sometimes reaches more than 80% And it may happen that the relative humidity decreases drastically on some days, especially when the local tribal winds blow from the direction of the "southern" desert, carrying with them very dry tropical air, which leads to a decrease in the humidity to less than 10% Figure (4) (**Al-Khafaf, and Al-Shalash, 1982**).

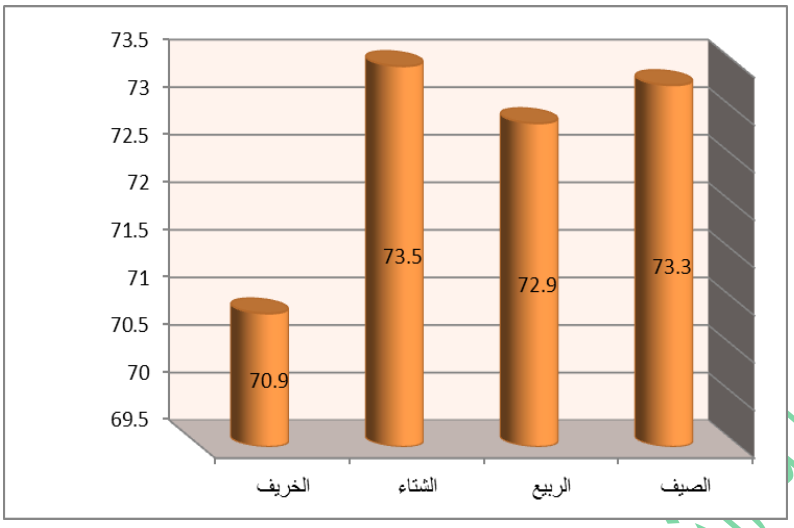

Figure (4) shows the seasonal average humidity in the studied area.

The high humidity in the Musallata area, especially in the summer and early autumn, reduces the transpiration process during the day, especially when the activity of hot wind movement increases.

The Wind:

Wind is considered one of the important factors that affect plant growth in terms of its effect on rain and the thermo-atmospheric effect or its dry and hot effect, which works to dry plants early or damage them, and the effect of wind appears as one of the factors that control the growth of plants and their geographical distribution on the surface of the earth, When the wind speed increases, it has an effect on increasing evaporation, and if the influence of the wind is continuous and continuous, then it is the most environmental factor that affects the shape and appearance of the plant (**Al-Halli and Al-Ani, 1989**).

The winds that blow on the Musallata area can be illustrated in the following types: -
1. The dry northwest wind. Rainy in winter and autumn.
2. The dry northeast wind.
3. Southeastern winds in the summer.
4. Southern winds (tribal winds) in spring and summer, and it usually blows from three directions (south, southeast, southwest), (**Al-Hajjaji, 1989**). When the wind blows from the southwest, it is characterized by being the most severe type of tribal heat. It is dry and hot, and it works to destroy plants because of its drought, especially in the early stages of growth, as well as the period of flowering and the formation of fruits and seeds Figure (5) (**Tripoli Meteorological Station, 2010**).

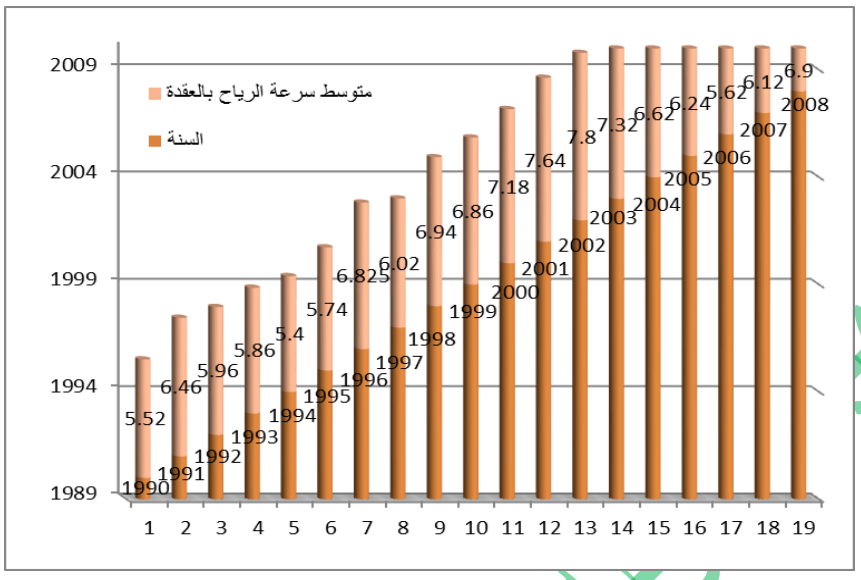

Figure (5) shows the average wind speed per node in the study area.

Materials	
Laboratory tools	**Field tools**
Herbarium leaves, sterile materials	A map showing the boundaries of the study area
Sew and needle	Field notes notebook
Microscope	Digital camera
Electric freezer	magnifying glass
Glue	Drilling tools
a brush	GPS device
The piston	Plastic bags
Drying leaves	a pair of scissors
Drying oven	Numbering card

Action Steps :

Sample collection:

The plant samples were collected while they are in the stage of flowering or fruiting due to their importance in classification, and based on the visual description of the survey in terms of the composition of the biological groups in the reserve, the reserve was divided into four sites of specific height in order to facilitate its full study, and during the collection, each sample was given the site number collected And to record the coordinates of the place where the plant is located, and the height above sea level by means of a GPS device, the study took a whole year, to collect samples of medicinal plants.

The taxonomic treatment for each type: -

All the collected plants were named and their families, genera and types were determined using optical microscopy and the Libyan Plants Species Manual (**Al-Rateeb, 2003**), and the Libyan Encyclopedia of Plants (**El-Gadi, 1976**), as well as among the Arab and international references and encyclopedias (**Potter, 1981, Marcel, 1973-1982, Dothan, 1978, Tutin, 1964, Batanouny, 1981, Davis, 1965, Migahid, 1978, Flori, 1969-1972**) Plants collected from the region were classified into botanical families as well as genera and species.

Pressing, drying and fixing:

The samples were pressed into wooden presses, each consisting of a pair of wooden pressing frames, and used to dry the plants, newspaper papers.

After drying the samples, they were fixed and glued to the herbarium sheet in a standard size and fixed using gum with a special brush. As for the log samples, they were fixed by thread and needle by stitching them with several stitches to confirm their fixation.

The sterilization was done against pests and insects, and the method of freezing was used by electric freezer for samples, where they were placed at a temperature of minus 30° C for a period of 4 hours, to kill all insects or microorganisms related to them.

Definition of samples:

organizing the samples after classifying them and giving them the correct scientific name. The samples were defined and arranged according to the Angler classification system, using the Libyan flora manuals and the Libyan expertise of professors with experience in this field, such as Prof. Abdullah Al-Qadi.

Results and discussion:

What is a medicinal plant

It is that plant used for medicinal purposes either in whole or in part. The use of one or more parts of the plant, regardless of whether the plant is wild or cultivated, was prepared in raw form or isolated compounds from it (**Al-Maslati, 2013**). During the field visits in this practical study was done. Inventory and classification of medicinal plants, where their number reached "192" medicinal plants, Table (1), as it reached 43.14% of the total number of plant species grouped, which amounted to (445) plant species.

percentage%	N	Family	percentage%	N	Family
0.52	1	Globulariaceae	0.52	1	Anacardiaceae
2.60	5	Illecebraceae	1.56	3	Apiaceae
1.04	2	Iridaceae	1.04	2	Asclepiadaceae
6.77	13	Lamiaceae	0.52	1	Alliaceae
3.13	6	Liliaceae	16.14	31	Asteraceae.
1.56	3	Linaceae	0.52	1	Amaryllidaceae
1.04	2	Malvaceae	0.52	1	Aizoaceae
0.52	1	Oxalidaceae	1.56	3	Boraginaceae
1.56	3	Papaveraceae	4.68	9	Brassicaceae
2.08	4	Plantaginaceae	3.13	6	Caryophyllaceae
0.52	1	Plumbaginaceae	0.52	1	Caesaipiniaceae
6.25	12	Poaceae	2.60	5	Chenopodiaceae
2.60	5	Polygonaceae	2.60	5	Cistaceae
0.52	1	Primulaceae	1.04	2	Cucarbitaceae
2.60	5	Ranunculaceae	3.13	6	Convolvulaceae
0.52	1	Resedaceae	2.08	4	Crassulaceae
1.04	2	Rhamnaceae	0.52	1	Cuscutaceae
0.52	1	Rubiaceae	1.04	2	Capparaceae
1.04	2	Rutaceae	0.52	1	Cupressaceae
0.52	1	Scrophulariaceae	1.04	2	Dipsacaceae
1.04	2	Solanaceae	2.08	4	Euphorbiaceae
0.52	1	Urticaceae	10.93	21	Fabaceae
0.52	1	Zygophyllaceae	2.60	5	Geraniaceae

Table (1) The number and percentage of plant species for each family.

Below is a list of medicinal plants grouped according to species, including (192) plant species, based on the following sources: (**Ali and jafri. , 1977-1976, Jafri, and El - Gadi, 1987 - 1977, Kotb, 1986, AL-sherif and EL- Taife, 1986, Elgadi, 1988, Batanouny, 1981**) which classified and considered these plants medicinal plants, as shown in the appendix, as (113) genus were classified under them (168) species of dicotyledon plants, and these species represent (87.5%) distributed into (40) plant species. (13) genus under which (23) species of monocot plants were classified a ratio of (11.97%) is distributed among (5) plant species, and one genus falls under it and

one plant type of seedless plants, and these species represent a percentage of (0.52%) Figure (6).

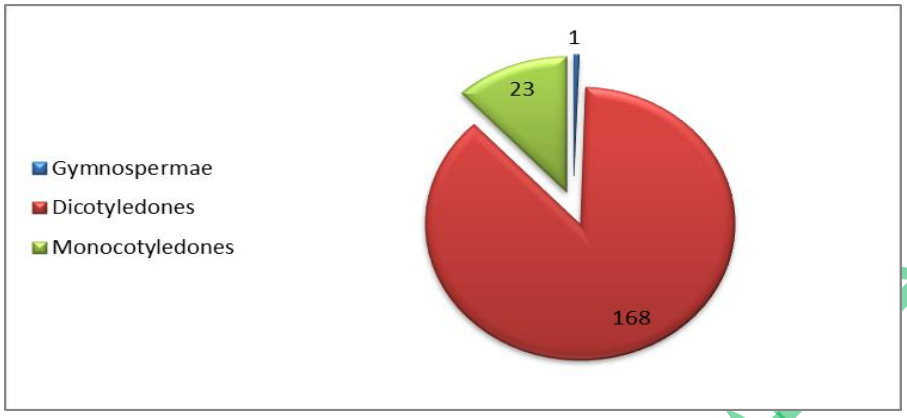

Figure (6) vegetation coverage in the study area.

This number is located within a limited area that does not exceed (469) hectares, which indicates the importance of medicinal plant coverage in this area and the need to pay more attention to it as a nature reserve Table (2).

Table (2) vegetation coverage in the study area.

percentage%	Species	Genus	Family	Group	
0.52	1	1	1	Gymnospermae	
87.5	168	113	40	Dicotyledones	Angiospermae
11.97	23	13	5	Monocotyledones	
100	192	127	46	Total	

Many medicinal plants were identified in the study area, including the thyme plant, *Thymus capitatus*, which is widespread in high density, which comes on top of the list of medicinal plants in Libya in terms of its medicinal value and its multiple benefits, as well as the rabbit herb species *Helichrysum stoechas* L. It is widely used in these There is also a *juniperus phoenicea* tree in the region, but this plant is abundant in the surrounding areas, and we know how important this plant is medically and there is also *Ceratonia siliqua*, which treats diarrhea in children by reducing the percentage of water in the stool, and one of the companies has succeeded in extracting A drug from this plant "Arabon" treats diarrhea in children. This plant also treats cases of diabetes mellitus. This plant also absorbs toxins from the intestine and treats acidity Intestines. (**WWW.geocities.com–2003**). *Umbilicus horizontalis* DC plant. Belonging to the family Crassulaceae, it is frequently found in and around the study area and is known as a treatment for analgesia of ear pain. We also know very well

the plant *Ecballium elaterium* L., which is abundant in the area and is used in the treatment of wheezing disease. The *Cuscuta planiflora* Ten plant is also spread in a high degree in the region and it is parasitic on thyme bushes and is used in the treatment of cases of constipation and expulsion of worms from the abdomen, and its cleaning is used with a great degree of care because it is very dangerous, so the doses must be regulated and specific. As for *Teucrium polium* L. This plant is abundant in the study area, and it has been scientifically proven that this plant is useful in treating diabetes, as it was studied on experimental animals at King Saud University in the Kingdom of Saudi Arabia, and they reached impressive results in this field, as other studies have done. On this plant in the treatment of diabetes, and they also reached good results, as it was found that this plant is widely known in folk medicine in the treatment of diabetes. It is also useful in treating infections of the large intestine, and Bedouins use it in the treatment of malaria, because the plant has an antibiotic. (**WWW.Alhawmah.com-2002**). The effectiveness of this plant in treating diabetes in Libya has been confirmed. As for *Lavandula multifida* L. of the Lamiaceae family, which mostly contains aromatic medicinal plants that grow in the wild in the region and is used in the treatment of eczema by spraying the powder of its flowers on the affected area. (**WWW. Khayma.com-2002**). As for *Silybum marianum* L., it is also used medicinally in several countries, and although it is widely available in the region, the plant is not known to us as a medicinal plant at all. There is also the *Pancratium foetidum* pomel plant. Which is widely spread in the region and is not used by us, due to our lack of awareness of its therapeutic value, (**WWW.News masrawy .com-2000**). Found *Ziziphus lotus* L. Known for thousands of years, and mentioned in the *Pharaonic Cartes* (**WWW. Ibn- taymia .edu-2001**). It was mentioned in his book Ancient Egyptian Medicine that this plant is among the drugs used in embalming in addition to other plants and other materials such as dirt, honey, wax, tar and sandalwood. Soothing the stomach and intestines. The herb *Urtica urens* L. is a plant that has great nutritional value, as it is a nutritious and medicinal plant at the same time and also cleaning, and until recently it was used as a folk remedy for arthritis and rheumatism, and it is used as a treatment for anemia or anemia, and it is a diuretic. Milk for breastfeeding women also treats eczema, promotes healthy hair shine and treats its loss by stimulating the blood circulation, but the plant has types that are toxic to humans, so its use as a medicine should be controlled in specific doses and only when needed. (**WWW.egalibya.org-2001**). Also, this study revealed the existence of *Globularia alypum* Linn plant. Inside and outside the Musallata reserve, which indicates that this plant is still in good health, but that it needs protection from the causes of its shortage and extinction (**Al-Rateeb *et al.* 1994**). By analogy with this importance of medicinal plants and the extent to which they are used, we find that the medicinal plants in the region have not been economically benefited from them in any way, and until this present time we are still importing medicinal herbs and their extracts from abroad, as many plants are here in Libya and

yet we have not benefited from them. . It was mentioned in (**David, 2009**) that among the plants widely spread in various parts of Europe and Asia, herbs *Plantago ssp*, grow on the sides of the paths and in the meadows without turning attention to their appearance in the form of wild weeds that are useless, unless we return to In the history books, we found these herbs were used in the treatment of many diseases in the past, especially the plant *Plantago lanceolata* L., which the Arabs called the ewe bit, as well as the species *Plantago ovate* Forsk. Which is seen in Afghanistan, Iran and the Arab countries, it is also grown in Egypt and it belongs to the plantaginaceae. These two herbs entered the world of herbal medicine since ancient times, as Roman doctors used them in preparing medical compresses used in the treatment of difficult wounds, wounds caused by animal bites, as well as burns. The ancient doctors also advised the use of these two herbs internally in the treatment of stomach and intestinal diseases, and the plant *Plantago lanceolata* L. was used in the treatment of the respiratory system, as it became clear that this plant contains substances used as an anti-inflammatory treatment, especially if the drug is fresh, and currently *Plantago lanceolata* L. is used in Preparing many anti-colds and associated respiratory diseases. Also *plantago arenaria*, which is a world-famous medicinal plant, is used to make throat lozenges, as it is used to treat many conditions and diseases in Germany, and is approved in the Encyclopedia of Medicinal Plants as a medicinal plant, but this plant is not known to us for this medicinal value, although it is abundant In the study area and the surrounding areas (**Jafri and Gadi, 1977.1980**) as well as the *plantago albicans*, which is widespread in high density in the region, also did not stimulate any interest we have, nor has it been utilized yet. Modern laboratory research confirms that most of the materials that make up the popular medicinal prescriptions, which were recorded by the ancient Pharaohs and Arabs, the people of China and India, and many other countries in their manuscripts are almost 90% sound to the point that most of the scientific dissertations for masters and doctoral degrees, from several universities Every year in the world revolves around how to extract medicine from plants and herbs. One of the most important facts of herbal medicine is that these discoveries in the plant world have had a good effect in saving the lives of millions of people. Thier of diseases that threatened humanity Long eras. This calls us to the need to pay attention to medicinal plants available as a natural wealth in our country, and to preserve them from extinction and the factors that threaten them, because many of the very important medicinal plants have been exposed to the risk of extinction and some of them are still controversial and discussed to this day. Among the plants of medicinal importance in Libya we mention, for example, *Salvia officinalis* and *Teucrium polium*, and there are also large areas covered with plants such as *Pistaica lentiscus, Arbutus polium, Ceratonia* and *Juniperus phoenicea* (**WWW.egalibya. org- 2002**).

The current state of vegetation cover in Libya is very critical, and it is reflected in the shrinking and disappearance of medicinal plants, especially the endemic plants, and the reason for this is due to the deterioration of natural environments that occurred in the past, and is still happening in the present with a much faster acceleration than it was in the past, as a result of exploitation Unjust and irrational natural resources by human factors, such as the unjust uprooting of many plants of medicinal value, especially in the stage of their reproduction, as well as the unfair, early and uncontrolled grazing, and the failure to follow the pastoral cycle is one of the most important causes of the deterioration of the vegetation cover, and the urban expansion also has a role. In the disappearance and shrinking of the vegetation cover, as the area of the natural vegetation cover has also shrunk as a result of agricultural expansion and land reclamation. Pollution with solid and liquid wastes is also considered one of the influencing factors, such as the drainage of sewage water in many valleys, which does not leave the opportunity for plants to regenerate naturally. As for the natural factors, we find that the period of drought in Libya is very large compared to the period of rainfall, whose quantities are fluctuating and irregular in their temporal and spatial distribution, and only a small amount of water escapes into the soil, while most of it is lost through evaporation and transpiration, which hinders the process. Natural regeneration, in addition to the encroachment of the desert, and all this formed environmental pressure on the vegetation cover at certain periods, and sometimes those environmental and climatic conditions led to the disappearance of many plant species, even if for a seasonal period, in addition to other negative effects, as many plant species and genera that follow The Libyan flora has become extinct or on the way to extinction, and perhaps this is the reason that made the recommendations of the Conference on the Preservation of Natural Resources held in Al-Bayda in April 1989, strongly stipulating the protection of nature, the reduction of plant degradation and the preservation of what remains of it. (**WWW.egalibya**.org - **2003**). The Libyan plants are part of the heritage, as parents and grandparents used them for treatment and did not know the medicine in the past, but rather know the plants and their medicinal and medicinal uses, but they do not know the composition of these plants and herbs, which in numbers of them carry some toxic compounds in one of their components. From here comes the role of universities as specialized scientific and academic bodies to analyze and extract what is useful from them for treatment, and their entry with other elements in medicinal formulations. Therefore, we must make more efforts to discover plants, survey them geographically, and locate them so that we can benefit from them. Some of them are believed to have disappeared or become extinct, although they may be present in abundance confirms the call to use herbs to treat the sick, after the reality of herbal medicine and its safety was clarified, and it was adopted in many countries of the world, to benefit from it as a national wealth that grows in our land.

Recommendations:

1. Prohibition of carrying out any activities or procedures that destroy, destroy or degrade the natural environment.

2. Monitor the protected fences from any sabotage that may occur, and expedite the completion or completion of the outer fence of the reserve from the western side, up to the main entrance to the reserve, and also a fence must be made on the western side of the main entrance to the reserve until it reaches the other side of the entrance. The main part is used as a park for visitors, while the rest of the area is used as a reserve that is only entered by specialists who conduct scientific studies.

3. Control of rare medicinal plant species, to keep them from extinction or any other unintended work, by preparing local and external training courses for the reserve's workers to raise their efficiency and scientific experience.

4. A fire extinguishing unit must be provided in the reserve, so that its workers can control fires resulting from lightning strikes, or fires resulting from other actions.

5. Conducting another study in which other methods are used to study the composition of medicinal vegetation.

6. Recommending the conduct of taxonomic studies for other reserves in Libya, in order to preserve rare or threatened species.

7. Not to exploit the area as a dumping ground, as we have noticed in some sites, and not to drain harmful liquids or chemicals and oils of all kinds in the area of the reserve or its neighboring areas, which leads to their leakage into the reserve.

8. Preventing the construction of roads and corridors for any reason, because this may affect the protected environment in some way, and not serve it in any way.

9. Recommending the establishment of a management program for the reserve, through which the reserve is managed properly and working on implementing the quality system in it.

REFERENCES:

Abdel - Jawad M., (1999): Natural Reserves and Conservation of Natural Resources in the Arab World - Alexandria, Egypt.

Adel D. El Werfalyi and Salem A. Hassan (2018): Vegetation management for Msellata Natural Reserve in Libya. Alqala Journal. 855 - 886: Issue 9.

Adel D. El Werfalyi, Sami H. Rabei, Abdel Hamid A. Khedr Salem A. Hassan (2020): Floristic Composition, Chorotypes and Life form of the Masalata Natural Reserve, Libya. Journal of Medicinal Plants Studies 2020; 8(6): 131- 141.

Al - Ani, T. and Al - Mufti, M. M., (2002): Environment and Sustainable Development Research - Volume 5 - First Issue.

Al-Hajjaji, S. A., (1989): New Libya - Publications of Al-Fateh University Complex - Tripoli - Libya.

Al-Halli, M. R. and Al-Ani, H. A., (1989): Plant Ecology - Dar Al-Hikma - Baghdad.

Al-Hinnawi, M., (1975): The Geological Map of Libya - Explanatory Booklet - Industrial Research Center - Libya.

Ali ,S.I. and S.M. H , Jafri (Editors) (1976 - 1977): Flora of Libya . Al- faath. Univ. Fac. Sci, Dept. Bot.Tripoli.

Al-Jallad, A., (1974): Ecology and Tourism Activation in Egypt - Tourism Research Journal - Cairo.

Al-Khafaf, Abd Al-Aali and Al-Shalash, Ali (1982) - Biogeography - Dar Al-Fikr - Amman.

Al-Mahdawi, M. A., (1990): Human Geography of Libya - University of Garyounis - Benghazi - Libya.

Al-Masallati, N. A., (2013): Plant Diversity Through Protected Mountain Heights, and Maslata National Park, Master Thesis, Benghazi University, Libya.

Al-Rateeb, F.B., (1994): Directory of Libyan Plants Species - International Publishing and Distribution House - Cairo - Egypt.

Al-Rateeb, F.B., (2003): New additions to Libyan plants - the tenth conference of the Arab Biological Union - Al-Marqab University - Al Khums – Libya.

AL-sherif, A. S. and EL- Taife , A., (1986): flora of libya .Gymnosperms . AL-faath univ . fac. Sci , dept. bot. Tripoli.

Batanouny, K. H., (1981): Ecoloyg And Flora of Qatar - University of Qatar .

Daabas, M. Y., (1999): the nature reserves and the ecological balance, Bitash Center Publishing House, Alexandria, Egypt.

Daabas, M.Y., (2002): Nature reserves and parks in the Kingdom of Saudi-Arabian Publishing House Bitash Center - Alexandria - Egypt.

David, R., (2009): Medieval Arabic Medical Autobiography Journal of the American Oriental Society Vol. 129, No. 4 (October-December 2009), pp. 559-569.

Davis, P. H., (1965 – 1988): Flora of Turkey and the East Aegean Islands, University of Edinburgh, Vol . 1 – 10.

Dothan , N. F., (1978): Flora of Palaestin Part Three, Text. Jerusalem.

El - Gadi, A. A., (editor) (1988-1990): Flora of Libya AL-faateh. Univ .Fac.Sci.Dept.Bot.Tripoli .Libya.

EL-Gadi , A. A., (1976): New plant records for Libya.

EL-Gadi , A. A., (1987): New plant records for Libya.

Flori , A., (1969 – 1972): Flora Analitica Italia.

Ghabbour S. I., (1996): Biodiversity, Arab Journal of Science, Issue 14.

Hassan, S. A., (2008): Environmental and Taxonomic Study of Maslata Protected Plants - Master Thesis - Al-Marqab University - Libya.

Jafri , S. M. and El - Gadi, A.A., (Editors) (1977 – 1987): Folra of Libya , Al faateh. Univ. Fac. Sci.Dept.Bot.Tripoli.

Kotb .F. T., (1985): Medicinal Plants in Libya.

Marcel, G., (1973 – 1982): Flora de France. Vol 1.3. France.

Migahid , A., (1978): Flora of saudi Arabic Vol . 2.

Potter, G., (1981): Flore De LA Tunisie.

Sharaf, Abdul Aziz Tareeh (1996): Geography of Libya - Alexandria - Egypt.

The Transportation and Transport Secretariat - National Center of Meteorology - Tripoli (2010).

Tutin, T. G., (1964): Flora Europaea. Cambridge.The University Press.W.H. Freeman and Company.

WWW. Ibn- taymia .edu-2001

WWW. Khayma.com-2002.

WWW.Alhawmah.com-2002.

WWW.egalibya. org- 2002

WWW.egalibya.org -2003

WWW.egalibya.org-2001

WWW.geocities.com–2003.

WWW.News masrawy .com-2000

Appendix: Floristic list of medicinal plant species recorded of Msellata Natural Reserve, Libya.

Species	Life form	Chorotype	Local naming
GYMNOSPERMAE			
***Juniperus phoenicea* L.**	**PH**	**MD**	
ANGIOSPERMAE			
Dicotyledones			
***Rhus tripartita* Ucria.**	**CH**	**IT**	الجداري
***Daucus capillifolius* Gilli.**	**TH**	**MD**	سفناري حمير
***Daucus sahariensis* Murb.**	**TH**	**MD. IT**	جزر بري
***Ferula tingitana* L.**	**CH**	**MD**	الكلخ
***Mesembryanthemum crystallinum* L.**	**TH**	**MD. ES**	
***Caralluma europaea* Guss.**	**CH**	**MD**	الدغموس
***Periploca angustifolia* Labill.**	**CH**	**IT**	الحلاب
***Anacyclus monanthos* L.**	**TH**	**MD**	صرة الكبش
***Anthemis secundiramea* Biv.**	**TH**	**MD. SA**	الغريرة
***Calendula arvensis* L.**	**TH**	**MD. IT**	عين البقرة
***Carthamus lanatus* L.**	**TH**	**MD. ES**	
***Camilla aurea* Loefl.**	**HC**	**MD**	الفلية
***Centaurea dimorpha* Viv.**	**HC**	**MD**	البلعلع
***Centaurea maroccana* Ball.**	**HC**	**MD. IT**	
***Centaurea melitensis* L.**	**HC**	**IT**	
***Centaurea sphaerocephala* L.**	**HC**	**MD**	
***Centaurea africana* Lam.**	**TH**	**MD**	الشبرم
***Chrysanthemum carinatum* Sch.**	**TH**	**MD**	رجل الدجاجة
***Chrysanthemum coronarium* L.**	**TH**		الاقحوان
***Chrysanthemum segetum* L.**	**TH**	**MD**	
***Conyza aegyptiaca* L.**	**TH**	**MD. SA**	شيكوريا، السريس
***Conyza bonariensis* L.**	**TH**	**MD. SA**	نشاش الدبان
***Conyza Canadensis* L.**	**TH**	**AM**	نشاش الدبان
***Cynara cardunculus* L.**	**HC**	**MD**	شوك البل
***Helichrysum stoechas* L.**	**CH**	**MD**	عشبة الارنب
***Lactuca serriola* L.**	**TH**	**MD. ES. IT**	سلاطة
***Launaea resedifolia* L.**	**CH**	**MD**	العضيدة
***Phagnalon rupestre* L.**	**CH**	**MD. IT**	عشبة الارنب
***Reichardia tingitana* L.**	**TH**	**MD. IT**	المريرة
***Scorzonera undulata* L.**	**TH**	**MD**	القيز
***Senecio gallicus* L.**	**TH**	**IT. SA**	الزريطة
***Silybum marianum* L.**	**TH**	**MD. IT**	القرطم
***Sonchus asper* L.**	**TH**	**MD. IT**	التيفاف

Sonchus oleraceus L.	TH	MD. ES. IT	التيفاف
Sonchus tenerrimus L.	CH	MD. ES. IT	تيفاف
Urospermum dalechampii L.	TH	MD. IT	
Urospermum picroides L.	TH	MD. IT	
Alkanna tinctoria L.	HC	MD	حنة العقرب
Echium angustifolium Mill.	CH	MD	حنة العقرب
Heliotropium europaeum L.	TH	MD. IT	الرمرام
Brassica tournefortii Gouan.	TH	MD. SA	العسلوز
Carrichtera annua L.	TH	SA	خشنة
Didymus bipinnatus DC.	TH	MD	لسلس
Diplotaxis harra Forskt.	HC	SA	جرجير بري – حارة
Enarthrocarpus clavatus Delile.	TH	SA	شلطام
Eruca sativa Mill.	TH	MD. IT	جرجير
Lobularia libyca Viv.	TH	SA	حب رشاد
Lobularia maritima L.	CH	MD	
Matthiola longipetala Vent.	TH	MD. IT	
Ceratonia siliqua L.	PH	MD	خروب
Capparis spinosa L.	PH	MD	الكبار
Cleome amblyocarpa Barr.	TH	SU. SA	أم الجلاجل
Silene behen L.	TH	MD	
Silene cerastioides L.	TH	MD	
Silene apetala Auct.	TH	MD. IT	
Silene articulata L.	TH	MD. IT	أم قرين
Silene colorata Poiret.	TH	MD	البرامة – أم قرين
Silene gallica L.	TH	MD. ES	البرامة
Atriplex halimus L.	PH	PL	العفينة
Chenopodium album L.	TH	PL	
Chenopodium ambrosioides L.	TH	PL	
Chenopodium murale L.	TH	PL	
Kochia indica Wight.	TH	IT. SA	
Helianthemum ciliatum Desf.	CH	SA	
Helianthemum hirtum L.	CH	SA	العود الرقيقة
Helianthemum kahiricum Delile.	CH	SA	ليرقا – زفزاف
Helianthemum lippii L.	CH	SA .SU	
Helianthemum virgatum Desf.	CH	SA .SU	
Convolvulus althaeoides L.	HC	MD	
Convolvulus arvensis L.	GH	PL	العليق
Convolvulus dorycnium L.	HC	MD	خيطة – خضرايا
Convolvulus oleifolius Desr.	CH	MD	
Convolvulus siculus L.	TH	MD	
Convolvulus supinus Coss.	HC	MD	
Bryonia cretica L.	HC	MD	
Ecballium elaterium L.	TH	MD. IT	
Sedum album L.	CH	MD. ES	
Sedum sediforme Jacq.	CH	MD	دغموس المعيز
Umbilicus horizontalis Guss.	GH	MD	الدغموس
Umbilicus rupestris Salisb.	HC	MD. IT	الدغموس
Cuscuta planiflora Ten.	PA	MD. SA	حرير الزعتر
Scabiosa arenaria Forskal.	TH	SA	عين التشميسة
Scabiosa monspeliensis Jacq.	TH	MD	عشبة أم الندى
Euphorbia falcata L.	TH	MD. IT	
Euphorbia helioscopia L.	TH	MD. ES	اللبينة
Euphorbia bivonae steud.	TH	MD	
Euphorbia paralias L.	CH	MD	اللبينة
Euphorbia peplus L.	TH	MD. ES. IT	
Anagyris foetida L.	PH	MD. IT	خروب كلاب
Anthyllis vulneraria L.	HC	MD	حشيشة الذنب
Astragalus hamosus L.	TH	MD	خرنبوش ـ كداد
Astragalus sinicus Boiss.	TH	MD	خرنبوش – قتات
Calicotome villosa poir.	CH	MD	
Coronilla repanda Poir.	TH	MD	القندول
Coronilla scorpioides L.	TH	MD	أقرينة

Genista acanthoclada DC.	TH	MD	كسماية – كسمة
Lotus edulis L.	TH	MD	
Lotus halophilus Boiss.	TH	MD	مخبش الدجاج
Medicago minima L.	TH	MD. ES	
Ononis serrata Forsk.	TH	MD	
Ononis sicula Guss.	TH	MD	
Ononis variegata L.	TH	MD	
Psoralea bituminosa L.	HC	MD	
Retama raetam Forsk.	CH	MD. ES	الرتم
Scorpius muricatus L.	TH	MD. ES	النفل
Tetragonolobus purpureus Moench.	TH	MD. ES	
Trifolium tomentosum L.	TH	MD. ES	النفل
Vicia monantha Retz.	TH	MD	
Vicia sativa L.	TH	MD	جلبان
Erodium glaucophyllum L.	HC	SA	خلال الغولة
Erodium hirtum L.	HC	SA	التمير
Geranium molle L.	TH	MD. ES	
Geranium robertianum L.	TH	MD	
Globularia alypum Linn.	PH	ES	الزريقة
Gymnocarpos decander Forsk.	CH	SA	ابوقرين – القجرود
Herniaria fontanesii J. Gay.	HC	MD. IT	النخيلة
Herniaria hemistemo J.Gay.	CH	SA	
Paronychia argentea Lam.	CH	MD	
Paronychia capitata L.	CH	MD	غفة العبد
Ajuga iva L.	CH	MD	الشندقورة
Lamium amplexicaule L.	TH	MD. ES. IT	
Lavandula multifida L.	CH	MD. ES. IT	الخزام
Marrubium vulgare L.	CH	MD. IT	الروبية
Micromeria nervosa Desf.	CH	MD	
Prasium majus L.	CH	MD	التلمة
Rosmarinus officinalis L.	CH	ES	الكليل
Salvia lanigera Poir.	CH	MD. SA	مرمية
Salvia verbenaca L.	CH	MD	ساق الناقة
Teucrium polium L.	CH	MD. IT	
Thymus algeriensis Boiss.	CH	MD	الجعدة
Thymus capitatus L.	CH	MD	
Linum decumbens Desf.	TH	MD	الزعتر
Linum strictum L.	TH	MD	الكتان
Linum usitatissimum L.	TH	MD	الكتان
Malva aegyptia L.	TH	SA	الخبيز
Malva parviflora L.	TH	SA	
Oxalis pes-caprae L.	GH	PL	حميضة الزرازير
Glaucium flavum Crantz.	HC	MD	
Papaver hybridum L.	TH	MD. IT	خنيقة
Papaver rhoeas L.	TH	ES	
Plantago albicans L.	TH	MD. SA	إينم
Plantago amplexicaulis Car.	TH	SA	إينم
Plantago arenaria Waldst .	TH	MD. ES. IT	حبل البراغيث
Plantago ovata Forskal.	TH	IT. SA	دقيس
Limonium echioides L.	TH	MD	
Calligonum azel Maire.	CH	MD	
Emex spinosa L.	TH	MD	حنزاب
Polygonum equisetiforme Sm.	CH	MD. IT	القرضاب
Rumex tingitanus L.	TH	IT	حميضة
Rumex vesicarius L.	TH	SA	حميضة
Anagallis arvensis L.	TH	MD. ES. IT	عوينة القطوس
Adonis aestivalis L.	TH	MD. ES. IT	
Adonis dentata L.	TH	IT. SA	
Adonis microcarpa DC.	TH	MD	جميرة
Nigella damasceana L.	TH	MD. ES. IT	
Ranunculus asiaticus L.	TH	MD	الزغليل
Reseda alba L.	TH	MD. IT	ديل الخروف

***Rhamnus alaternus* L.**	**CH**	**MD**	
***Ziziphus lotus* L.**	**CH**	**MD. SA**	**السدر**
***Galium verrucosum* Huds.**	**TH**	**MD**	
***Ruta chalepensis* L.**	**CH**	**MD**	
***Ruta graveolens* L.**	**CH**	**ES**	**الشدب - الفيجل**
***Kickxia aegyptiaca* L.**	**CH**	**MD. SA**	**الطرحة**
***Nicotiana glauca* Graham.**	**PH**	**PL**	**المصاص**
***Solanum nigrum* L.**	**TH**	**MD. ES. IT**	**عنب الذيب**
***Urtica urens* L.**	**TH**	**MD. ES**	**الحريق**
***Fagonia cretica* L.**	**CH**	**SA**	
Monocotyledones			
***Allium roseum* L.**	**GH**	**MD**	**القازول**
***Pancratium foetidum* Pomel.**	**GH**	**MD**	**السوسن الصيقي**
***Iris sisyrinchium* L.**	**GH**	**MD. IT**	**سوسن بري**
***Gladiolus byzantinus* Miller.**	**GH**	**MD. IT**	
***Androcymbium gramineum* Cav.**	**GH**	**MD. SA**	**كركوس – تيقوط**
***Asphodelus fistulosus* L.**	**GH**	**MD. SA**	**لحية العنوت**
***Asphodelus tenuifolius* L.**	**HC**	**MD. SU**	
***Asphodelus microcarpus* Salzm.**	**GH**	**MD. SA**	**بلوز**
***Muscari comosum* L.**	**GH**	**ES**	**كيطوط**
***Urginea maritime* L.**	**GH**	**MD**	**فرعون**
***Avena barbata* Pott.**	**TH**	**MD**	**شوفان بري**
***Avena sativa* L.**	**TH**	**ES**	**شوفان**
***Briza maxima* L.**	**TH**	**MD**	
***Bromus madritensis* L.**	**TH**	**MD**	
***Hordeum murinum* L.**	**TH**	**MD. ES**	
***Hordeum vulgare* L.**	**TH**	**ES**	
***Lagurus ovatus* L.**	**TH**	**MD**	**ديل الارنب**
***Lolium rigidum* Gaud.**	**TH**	**MD. IT**	**زيوان**
***Psilurus incurvus* Gouan.**	**TH**	**MD. IT**	
***Stipa capensis* Thunb.**	**HC**	**IT. SA**	**البهمة**
***Stipa tenacissima* L.**	**HC**	**ES. SA**	**الحلفاء**
***Trachynia distachya* L.**	**TH**	**MD. IT**	

The life forms are: PH: phanerophytes, CH: chamaephytes, HC: hemicryptophytes, GH: geophytes-helophytes, TH: Therphytes and PA: parasites. The Chorotypeare: ES: Euro-Sibarian, IT: Irano-Turanian, ME: Mediterranean, SA: Saharo-Arabian, SU: Sudanian, PL: Pluriregional, AM: American

قائمة المحتويات