

ETHNOBOTANICAL STUDY OF MEDICINAL PLANTS IN DJEBEL MESSAAD REGION (M'SILA, ALGERIA)

**BENDERRADJI Laid^{1*}, Khellaf REBBAS², GHADBANE Mouloud³,
BOUNAR Rabah⁴, BRINI Faïçal⁵, BOUZERZOUR Hamenna⁶**

^{1,2,3,4}Natural and life sciences department, faculty of sciences, Mohamed BOUDIAF university of M'sila B. PO Box number 166, Ichbilia - M'sila 28000, Algeria

^{1,5}Protection and plant improvement laboratory (PPIL), centre of biotechnology of Sfax, Km N° 6 Sidi Mansour street, PO Box "1177" 3018, Sfax-Tunisia

⁶Biology and ecology department, Ferhat Abbes university, Sétif 19000, Algeria

* Corresponding author: benderradjilaid@yahoo.fr

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ABSTRACT

An ethnobotanical study was conducted in Jebel Messaâd region located in south of Boussaâda city in the province of M'sila (Algeria). Aim of this work was to identify medicinal plants used by local people of this region. The study allowed us to identify 60 species belonging to 55 genera and 33 families. Through a series of ethno-botanical surveys, it was possible to collect much information on the use of these plants. Study showed that foliage was the most used part, in addition to decoction and infusion methods which are the most widely used preparation. Results obtained in this work showed that the study region of Jebel Messaâd was a potential source of Algerian medicinal flora which would provide support in new natural substances research too.

KEY WORDS: Djebel Messaâd, medicinal plants, traditional medicine, ethno-botanical survey, medicinal flora, natural substances.

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INTRODUCTION

Medicinal plants were often used to heal for a long time. Although the current pharmacopeia with the occult, many people are satisfied by their medicinal abilities. Transmission of knowledge, by our elders, was interrupted with modern medicine (Hseini & Kahouadji, 2007). These same plants are a bank of information for those who have decided to take their daily pain differently, neglecting the chemicals in modern medicine. Particularly in the programs of some international organizations such as the international union for conservation of nature (IUCN) that aim, through the involvement of local communities, promote biodiversity conservation and sustainable use of natural resources in the world North Africa.

This study is intended to contribute to the acquisition of additional knowledge and aims to better use these plants for medical purposes in their giving more information about the utility of localized species in the study area through ethnobotanical surveys and collecting as much information on the use of medicinal plants for Jebel Messaad, located in the province of M'sila in Algeria.

MATERIALS AND METHODS

1. Presentation and climate study area

Jebel Messaad forest which was our study area, is located 30 km south of Boussaâda city, with an area of 33564.06 hectares (Figure 1 and 2). This region is characterized by a dry season duration and intensity, playing a key role in the

distribution of flora (Kaâbache, 1990). According phytogeographic subdivisions of Algeria (Quezel and Santa, 1962), Jebel Messaad belongs to the saharian atlas steppe area of Maghreb sector and Mediterranean region.

2. Plant material and study methods

Plants studied have been recorded using surveys in various villages of the study area. The method used is based on surveys through questionnaires prepared and distributed to the residents of the study area. Questions focus on the medical characteristics of plants, their modes of handcraft and the common name of these plants experienced by people in this region. For the identification of species, we used the new flora of Algeria and the southern desert regions (Quezel and Santa, 1962) and flora of North Africa. (Mayor, 1952–1987). The questionnaire is to have information on the type of disease treated by these plants primarily for diseases of the circulatory, digestive, respiratory, urinary and genital apparatus; auditory and visual sensation and diseases of nervous system and skin also. In this questionnaire it was also interested by the part of the plant used (roots, stems, leaves, flowers and fruits) or whole plant. While for the use of such plants in the medical treatment, it is possible to determine several methods such as infusion, decoction, poultice, maceration, inhalation, friction and drop (Table.1).

The questionnaire affected both sexes (male and female) whose age varies between 10 and over than 80 year older (Table. 2).

Figure 1. Geographical location study area (Map-Info software, version 8).

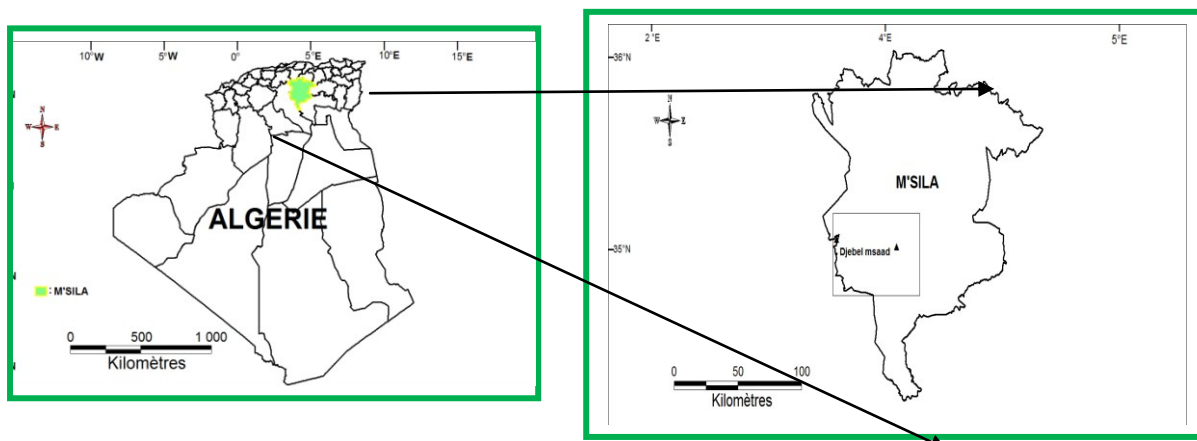


Figure 2: Overview of the forest Jebel Messaâd, *Pinus halepensis* Mill (Photo courtesy: K. Rebbas, 2011)

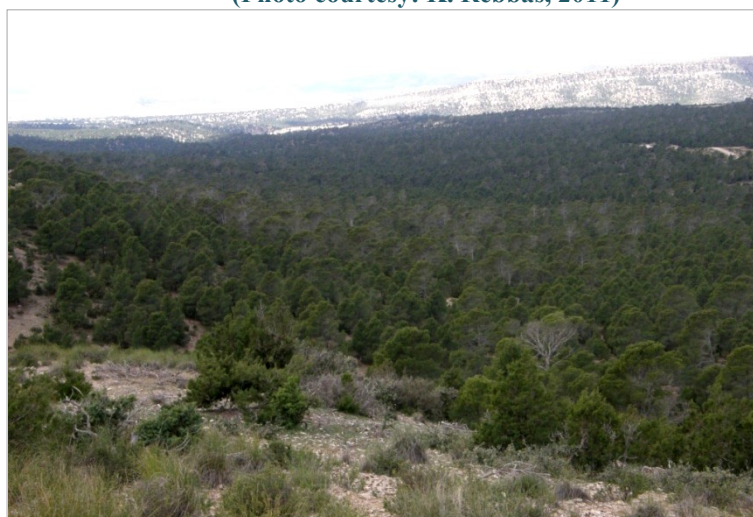


Table 1: Constituents of the questionnaire

Plant	Scientific name	Local or vernacular name
Disease		
Used parts		
Method of préparation		
User	Sex	Age
Herbalist		

Table 2: Classes distribution of informants

Age	10–20	20–30	30–40	40–50	50–60	60–70	80 year >	Total
Female	3	3	5	8	10	16	4	49
Male	4	3	6	4	8	7	9	41
Total	7	6	11	12	18	23	13	90

RESULTS AND DISCUSSION

Generally the study highlights a rich flora of 60 species belonging to 55 genera and 33 families, the most important are the plants belonging to *Asteraceae* and *Lamiaceae* (Table 3).

Women often use medicinal plants compared to men (49 women against 41 men) (Figure 3).

It appears that leaves are the most used part by the people of Jebel Messaâd at a portion of (75.47%), followed by flowers (37.74%), stems

(31.13%), root (27.36%), fruit (16.04%) and seeds (15.09%) respectively (Figure4).

Leaves are the most parts used by the people of Djebel Messaâd using multiple preparation methods. Infusion and decoction are the most frequent instructions with percentage of 100%, 80%, 32.94%, 24, 70%, 11.76%, 10.58%, 8.23% and 2.35% respectively (figure 5); While decoction and infusion are the most frequent dosage forms or methods used (Figure 6). It should be noted that the results table clearly shows the part used and the therapeutic properties of each species recorded in the various traditional treatments.

Figure 3. Distribution classes per sex for medicinal plants used

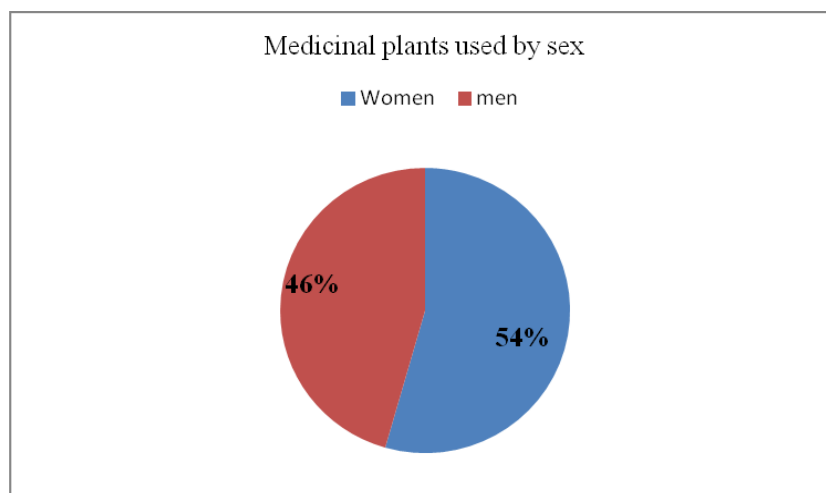


Figure 4. Most plant parts used

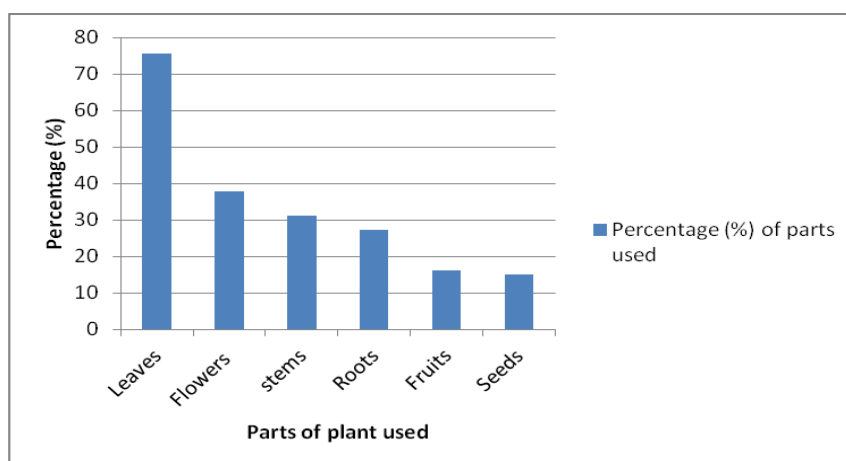


Figure 5. Percentage of methods used of medicinal plants using leaves.

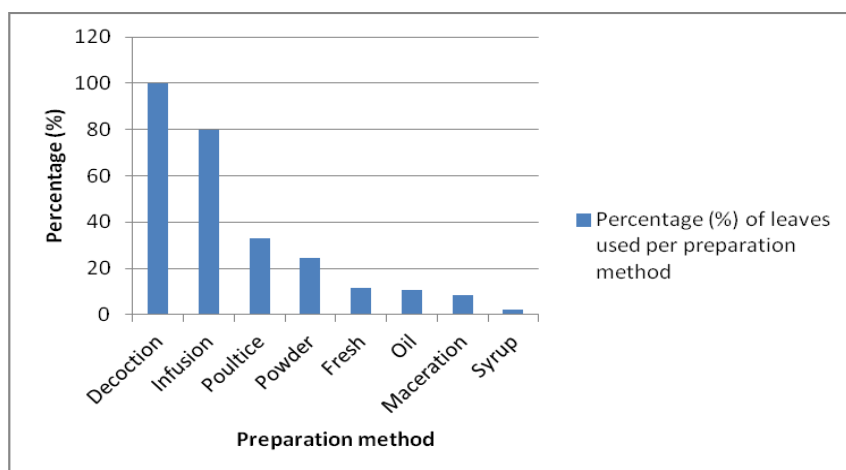
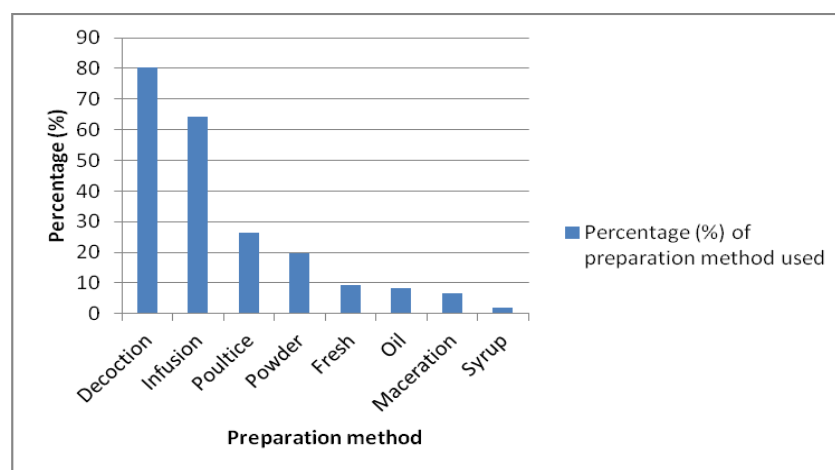


Figure 6. Preparation methods used of medicinal plants.



DISCUSSION

Men use medicinal plants to heal for a long time; so many people are seduced by their medicinal abilities. These same plants are a bank of information for those who have decided to take their daily pain differently, neglecting the chemicals in modern medicine. Particularly in the programs of some international organizations such as the international union for conservation of nature (IUCN) that aim, through the involvement of local communities, promote biodiversity conservation and sustainable use of natural resources in the world (Hseini & Kahouadji, 2007).

Survival, proliferation, and chemical composition of plants in the spontaneous flora of Algerian Sahara closely dependent on

climatic variations (Chehema A & Yousef F, 2009). Herbal medicine can often meet daily occurrence of diseases, and this is the case in disorders of stomatology sphere where herbal medicine has an important role to play.

After a comprehensive analysis of data collected ethno-botanical surveys, results were interested in the informant's profile and groups of medicinal species treating various diseases reported in the study area. Analysis of the questionnaires sheets have allowed us to identify a large number of medicinal plants used in traditional medicine by the people of the region near the studied forest, it is the region of Djebel Messaâd in Boussaâda district.

However, the collection of these bodies is an uncontrolled manner by the local population is unconscious preservation rules of the herbal

wealth. This practice can have negative consequences on the preservation of biodiversity in the study area. It can lead to total loss of species, hence the need to improve the habits of the users towards these medicinal plants to respect the natural heritage.

The decoction is the preparation method mainly used (100%) (Figure7). This percentage shows that the local population relies on this type of preparation and is suitable to warm the body and sanitize the plant. Infusion (80%), the poultice (32.94%) powder (24.70%), fresh use (11.76%) and the use of oils from these plants is (10.58%), while the maceration (8.23%), and the end use of syrups is in last position to (2.35%).

The active substances of cartilage damage are not numerous. These are unsaponifiable plants that act on the connective, which have

such activity is called the anti-arthritis effect extended to today. The plants used in stomatology are plants acting on mucous membranes or have astringent and emollient properties. The interest in herbal medicine is to prevent stone formation or treat the condition to avoid the surgical procedure. Local and general treatment must promote salivary secretion, reduce inflammation, prevent or cure the infection of the gland (Goetz, 2010). We could list multiple plants in the treatment of rheumatism used in folk medicine, considering the ethno-botany and ethno-pharmacological aspects, a significant number of plants with different use have been identified (Babulka, 2007). Medicinal plants species founded in Djebel Messaad region and their therapeutic properties and traditional uses were listed in the following table (Table 3).

Table 3: Species growing in Jebel Messaad: Part used, therapeutic properties and traditional use

Species	Part used	Therapeutic properties	Traditional uses
<i>Abietaceae</i> »			
<i>Pinus halepensis</i> Mill.	Buds, leaves and resin	Respiratory and urinary tract, antiseptic, stimulates adrenal glands.	Decoction, and poultice
<i>Anacardiaceae</i>			
<i>Pistacia lentiscus</i> L.	Leaves and fruits	Antiseptic, astringent, expectorant, detergent, diuretic, hemostatic, stimulant, vulnerary	Infusion of fresh boiling water against digestive and gastric disorders.
<i>Pistacia atlantica</i> Desf.	Fruits and leaves	Astringent	Infusion
<i>Apiaceae</i>			
<i>Coriandrum sativum</i> L.	Fruits and leaves	Antispasmodic, antiseptic, carminative, stimulant, stomachic	Infusion (abdominal pain and colic). carminative and antitussive
<i>Thapsia garganica</i> L.	Roots	Against rheumatic pain, and treat bronchitis	treatment in the form of oily maceration roots (root crushed and used as a compress against rheumatic pain)

<i>Asteraceae</i>			
<i>Artemisia absinthium</i> L.	Buds, flowers and leaves	Anti-inflammatory, antiseptic, appetizer, aromatic, cholagogue, digestive, diuretic, tonic bitter, anthelmintic.	Infusion or decoction of leaves for abdominal pain, stomach or headache. Hypotensive, antipyretic, anti-diarrheal. leaves used against epistaxis as nasal instillation
<i>Artemisia campestris</i> L.	Leaves and buds	Digestive disorders, stomach aches, nausea and pain of menstruation. Vulnerary, anti-hemorrhagic poultice.	Infusion or powder (anthelmintic, sedative, anti-emetic, carminative and against abdominal pain, colic and menstruation). as a poultice against migraine, wounds and burns
<i>Artemisia herba-alba</i> Asso.	Flowers, leaves, stems and roots	Antigastralgique, antispasmodic, emmenagogue, stomachic, vermifuge. Roots used for nerve disorders	Infusion (anthelmintic, soothing babies, emmenagogue, stomachic and antidiarrheal). Poultice (migraine and dental pain). Drops from : leaves are used to treat ringing in the ears
<i>Cynara scolymus</i> L.	leaves, and stems	Antidiarrheal, appetizer, cholagogue, cholaretic, blood purifier, diuretic, energy, hypoglycemic, nutritious and stimulating	Decoction, against gastric pain
<i>Inula viscosa</i> L.	Leaves	Analgesic, antiseptic, healing, diuretic, haemostatic and worming	Leaves are used as compresses against rheumatic and headache. Powder is used against wounds and burns
<i>Matricaria chamomilla</i> L.	Flowers	Analgesic, anti-inflammatory, antiseptic, antispasmodic, carminative, emmenagogue, febrifuge, sedative stomachic, tonic and bitter vetch	Infusion (stomachic, calming and antidiarrheal). Oily maceration against migraine and rheumatic pains
<i>Scorzonera undulata</i> Batt.	Leaves and roots	Soothing, purifying, diuretic, emollient, pectoral and sudorific	Infusion as a diuretic, carminative and stomachic
<i>Brassicaceae</i>			
<i>Lepidium sativum</i> L.	Leaves and seeds	Remineralizing, cleansing, hypoglycemic and tonic in women after childbirth, weakened or convalescence. outstanding appetizer	Seeds and henna used against rheumatic pain and arthritis
<i>Caryophyllaceae</i>			
<i>Paronychia argentea</i> (Pourr.) Lamk.	Leaves and juice of the plant	Diuretic, antipyretic, aphrodisiac, aseptic processes inflammation of urinary tract, kidneys and bladder	Infusion of the leaves in boiling water for kidney disease, urinary tract, and hemorrhoids
<i>Saponaria vaccaria</i> L.	Aerial plant parts and roots	Antipruritic, antirheumatic, cholagogue, depurative, diuretic, expectorant, sudorific and tonic	Treats infertility, cockle mixed (taghighicht) with gourd (hadja), white horehound (merriouet), the Phoenician

			juniper (Araar) and purple with olive oil and dates, they are prepared as suppositories
Cucurbitaceae			
<i>Colocynthis vulgaris</i> L. (Schrad).	Fruits	Emetic, purgative, tonic scalp	Fruits of coloquinte are used as oily maceration to treat rheumatic pain and in the form of suppositories for hemorrhoids
<i>Ecballium elaterium</i> Rich.	Fruits	Purgative, resolvent, rubefacient, vulnerary and emetic	Momordica is used to treat jaundice, in association with buckthorn (M'liless) as nasal instillations of fruit juice
Cupressaceae			
<i>Cupressus sempervirens</i> L.	Cones and branches	Treatment of hemorrhoids and varicose veins, its oil is antitussive, antispasmodic, astringent and anti-rheumatic.	Infusion of twigs and leaves used for treatment of hemorrhoids and incontinence of urine.
<i>Juniperus phoenicea</i> L.	Palm (ends and wood) and fruits.	Antiparasitic, antiseptic and astringent.	Infusion of leaves has an effect in the treatment of abdominal pain. It is carminative, diuretic and anti diarrheal.
Discomycetes			
<i>Terfezia</i> sp.	Underground part	Antiasthenic, nutritious	Decoction
Fabaceae			
<i>Calycotome spinosa</i> (L.) Lamk.	Flowers, leaves and seeds	Calycotome externally used against swelling, edema and urinary retention because its active substances are strongly diuretic	Infusion or decoction of the flowers and leaves of calycotome is diuretic. use as a powder to treat new wounds
<i>Retama retam</i> Webb.	Aerial part	Vegetative part of the plant is healing (the skin conditions including boils) recommended to treat eye irritation, treat diarrhea, and febrile diseases and tapeworms	Retam used in infusion of dried leaves against abdominal pain. Externally mixture of the powder of stems with olive oil is very effective in the treatment of wounds and back pain
<i>Trigonella faenum-graecum</i> L.	Seeds	Softening, anabolic, emollient, febrifuge, galactagogue, hypoglycemic, tonic	Internally, decoction of seeds relieves abdominal pain, cough and diarrhea. It promotes weight regain and acts as an appetizer and calming. Externally, the seeds are used for dandruff hair
Fagaceae			
<i>Quercus ilex</i> L.	Fruit cups, bark of young twigs, and leaves	Antidiarrheal, antiseptic, astringent, febrifuge, haemostatic. The acorns are nutritious and tonic. They include starch, sugar, lipids,	Leaves used as a tea to relieve abdominal pain and kidney stones. Poultice, the mixture of the powder of the leaves with olive oil is very effective in the

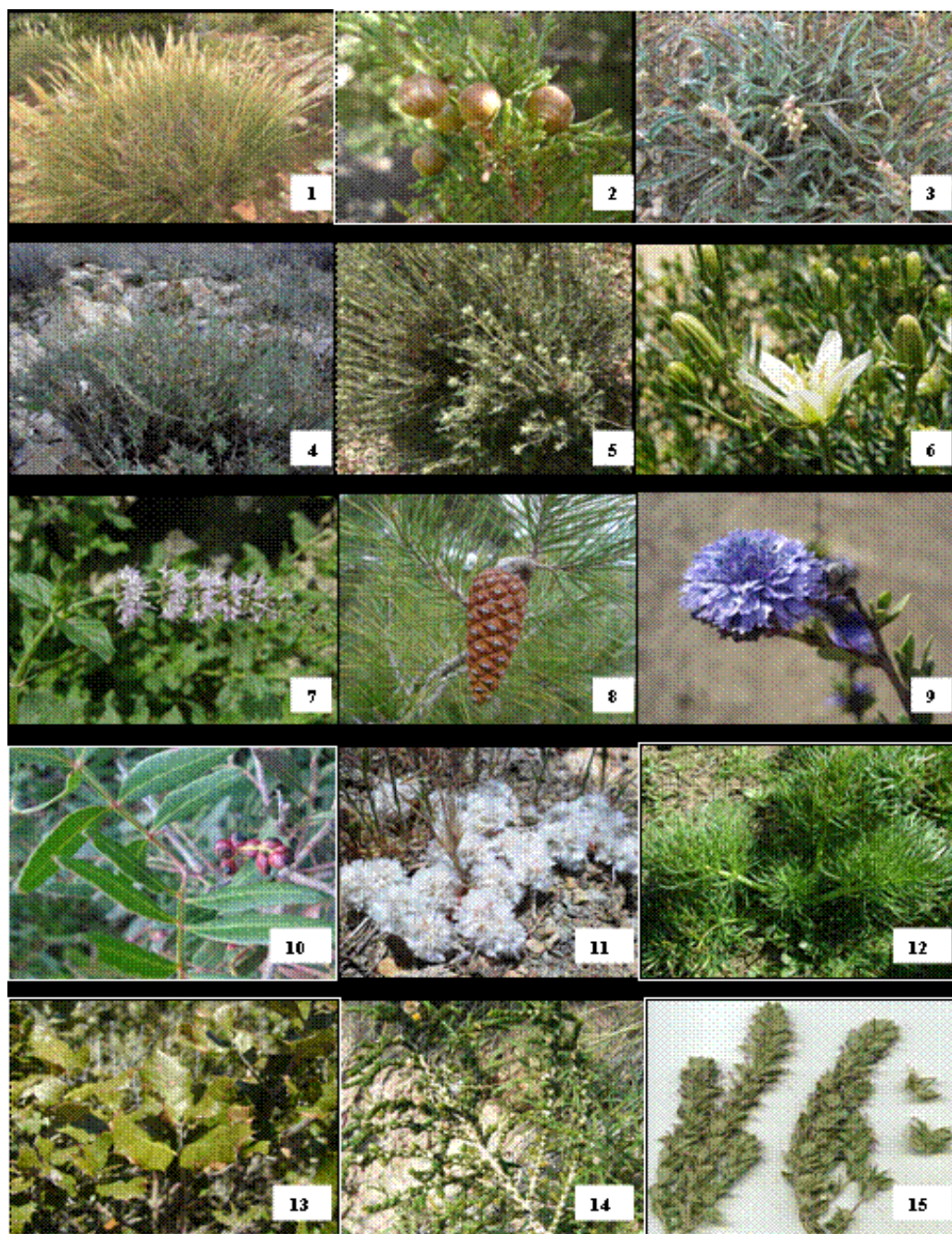
		flavonoids, tannins and albumin	treatment of corns
Globulariaceae			
<i>Globularia alypum</i> L.	Leaves	Astringent, cholagogue, depurative, diuretic, laxative (depending on the dose, it can become purgative), stomachic and sudorific	Infusion to treat stomach problems, diarrhea and pain of menstruation. Powder used against eczema, burns and wounds. During the treatment, it is advisable to make a plan that is to refrain from consuming acidic and salty foods, hot peppers and coffee for (40) days
Juglandaceae			
<i>Juglans regia</i> L.	Leaves and kernels	Astringent, antidiabetic, stomachic, purgative, antiseptic and anthelmintic.	Tea made from leaves helps to lower blood sugar. Root bark is used for the treatment of oral disease
Lamiaceae			
<i>Ajuga iva</i> (L.) Schrebr.	Plant without roots	Antiseptic (for external use), astringent, anti-rheumatic, vulnerary	Infusion to treat sore head, abdominal pain colic and diabetes. It is appetizing and has great utility in the treatment of kidney stones, so that mixing the powder with germander (Khayata) and the juice from the infusion of the seeds of barley
<i>Marrubium vulgare</i> L.	Flowering tops and leaves	Tonic, purgative, stomachic, expectorant, antipyretic, weight loss, diuretic, promoting rules, influenza, vulnerary, antiseptic and anti-diarrheal	Infusion for pain of abdominal, stomach, teeth, ears, menstruation sore head, and kidney stones
<i>Mentha spicata</i> L.	Leaves	Analgesic, antiseptic, antispasmodic, aromatic, carminative, cholagogue, digestive, stimulant, tonic	Used to treat dysmenorrhea, urinary incontinence and oral disease. Powder, spearmint used to treat wounds and burns and to feed the hair
<i>Rosmarinus officinalis</i> L.	Leaves and flowers	Anti-inflammatory, antiseptic, antispasmodic, astringent, carminative, cholagogue, emmenagogue, febrifuge, general stimulant, stomachic, tonic, vulnerary	In decoction or in infusion against gastric disorders, colic and pain of menstruation and back. It is considered carminative and diuretic
<i>Salvia officinalis</i> L.	Leaves and flowers summits	Antiperspirant, antispasmodic, sedative (nervous), carminative, stomachic, choleric, hypoglycemic, and tonic	Infusion of leaves and flowers is used as stomachic, emmenagogue and fortify. Externally, it is very effective for the care of teeth and gums

<i>Teucrium polium</i> L.	Leaves and flowers summits	Anti-inflammatory, astringent, detergent, antipyretic (malaria), hypoglycemic, bitter tonic	Infusion against abdominal pain, colic and against stomach ulcer
<i>Thymus ciliatus</i> (Desf.) Benth.	Plant without roots	carminative; tonic, antiseptic, antispasmodic, aromatic, anthelmintic, antitussive, digestive, appetizer, stomachic	Infusion, decoction
<i>Ziziphora hispanica</i> L.	Plant without roots	Antiseptic, astringent, detergent, antipyretic	Infusion of plant without roots
Lauraceae			
<i>Laurus nobilis</i> L.	Fruits and leaves without petiole	Antiseptic, aromatic, appetizer, carminative, digestive, fungicidal, sedative, stomachic, stimulant, sudorific	Decoction laurel leaves is used in the treatment of hypertension, in addition, it is carminative
Lilliaceae			
<i>Allium cepa</i> L.	Bulbs	Anti-inflammatory, anti-scurvy, antirheumatic, antiseptic, bactericide, bacteriostatic (gastrointestinal), cholagogue, diuretic, emmenagogue, emollient, balancing glandular	Onion is highly regarded in-house use, the mixture of onion juice with sugar is very effective in the treatment of cough and laryngitis. Externally, it is used as compresses against sunburn, sore head and hemorrhoids
<i>Allium sativum</i> L.	Bulbs	Anti-inflammatory, antiseptic, antispasmodic, cleansing, diuretic, expectorant, antipyretic, hypoglycemic, hypotensive, stimulant, sudorific, tonic and anthelmintic	Raw, mixed in salads, it is considered hypertensive. Externally, it is used as an antiseptic for insect bites and against alopecia and warts
Malvaceae			
<i>Malva sylvestris</i> L.	Leaves, flowers and roots	Soothing, antiseptic, astringent, antitussive, soothing, emollient, laxative, pectoral, limiting	Treatment of abdominal pain, colic and in cases of otitis and asthma. It is carminative and vulnerary
Moraceae			
<i>Ficus carica</i> L.	Fruit and latex	Antiasthenic, cleansing, diuretic, emollient, laxative, nutritive, pectoral and tonic. Latex: coricide, resolvent and worming	Infusion, the fruit is used to treat cough and latex is used externally against warts
Myrtaceae			
<i>Eucalyptus globulus</i> Labill	Leaves	Antiseptic, bactericide, carminative, diaphoretic, expectorant, and stimulant. Eucalyptus oil's used for repelling mosquitoes. With olive oil, it has a calming effect against rheumatic pain and burns	The fresh or dried leaves are used in fumigation to disinfect houses flu season, and infusion against angina and respiratory disorders

<i>Oleaceae</i>			
<i>Olea europaea</i> L.	Leaves, fruits and bark oil	Astringent, diuretic, antipyretic, hypoglycemic, tonic, hypotensive. Antihaemorrhoidal, hypocholesterinisants, hypotensive, laxative, sedative. Olive oil protects the mucous membranes facilitates the expulsion of stones	The infusion of the leaves of the olive tree is used as a gargle against oral disease (inflammation of the gums, canker sores and bad breath). Olive oil is useful against coughs, colds and hoarseness, the redness of the skin, sinusitis and chronic constipation
<i>Papaveraceae</i>			
<i>Papaver rhoeas</i> L.	Flowers	Antispasmodic, softening, soothing, emollient, pectoral, sedative, slightly hypnotic	The infusion of the flowers is used as a sedative, and antitussive
<i>Plantaginaceae</i>			
<i>Plantago albicans</i> L.	Leaves, roots and seeds	Soothing, astringent, emollient, diuretic and laxative	Associated with the root of bitter apple to make poultices in wound care. Against diarrhea
<i>Poaceae</i>			
<i>Ampelodesma mauritanica</i> (Poir.) Dur. & Schinz	Leaves	Based tender succulent flower stalks its often consumed in companions; its sweet juice is refreshing	Plant is used as a tea to treat kidney stones and gall bladder
<i>Hordeum vulgare</i> L.	germinated seeds and semolina	Improving health, diabetes, anemia, tuberculosis, stomach, thin, colon, rheumatism, diseases of the kidney and urinary tract, jaundice, and diarrhea	The mixture of crushed barley with fig and honey seeds is used to treat asthma and abdominal pain
<i>Stipa tenacissima</i> L.	Leaves	By washing the ashes are prescribed in the treatment of chronic ulcers of the scalp. Folk medicine use as hypoglycemic	An infusion of crushed strands of the Alfa in boiling water is very effective in treating kidney stones
<i>Triticum vulgare</i> Vill.	Seeds	Recommended in cases of asthenia, anemia, growth, pregnancy, lactation, convalescence. Wheat germ, as recommended by the Dietary	Used in many forms; rolled and steamed; in the treatment of stomach pain, anemia and bone fractures. It is considered galactagogue, cholesterol, and odontalgique
<i>Renonculaceae</i>			
<i>Nigella sativa</i> L.	Seeds	Analgesic, antiseptic, antispasmodic, appetizer, carminative, digestive, diuretic, expectorant,	The use of black seed is very effective against the flu by inhaling the crushed seeds
<i>Rhamnaceae</i>			
<i>Rhamnus alaternus</i> L.	Leaves and stems	Astringent, laxative, purgative, effective against hepatic jaundice	Used as an infusion in combination with balsam pear to treat jaundice and abdominal pain

<i>Ziziphus lotus</i> (L.) Desf.	Roots, fruits, leaves	Anti-inflammatory, emollient, pectoral	Decoction
Rasaceae			
<i>Crataegus monogyna</i> Jacq.	flowers in bud bark and fruits	In herbal medicine, hawthorn ranked highest among the plants with antispasmodic, sedative and vasodilatory properties of the coronary arteries	An infusion of the flowers or fruit is used as a hypotensive and anti-diarrheal
Rutaceae			
<i>Ruta montana</i> (Clus) L.	Leaves	Antispasmodic, anti-inflammatory, emmenagogue, sedative	Infusion
Solanaceae			
<i>Hyoscyamus niger</i> L.	Leaves and flowering tops	Analgesic, anticatarrhal, antispasmodic, diuretic, eupnéque, sedative	Its use is limited externally. The leaves and seeds are used in powder for treating eczema
<i>Lycium europeum</i> L.	Roots and dried berries	Antispasmodic, antiophthalmie, diuretic, febrifuge, hypotensive, purgative	Poultices for ophthalmia
Tamaricaceae			
<i>Tamarix africana</i> Poiret.	Leaves, bark and gall	Anticatarrhale, appetizer, astringent, diuretic, styptic, sudorific	The infusion of the roots is used to treat kidney stones
Thyphaceae			
<i>Typha angustifolia</i> L.	Pollen	Analgesic, hemostatic	applied locally against bleeding or taken orally mixed with honey
Thymeleaceae			
<i>Thymelaea hirsuta</i> (L.) Endl.	Leaves and stems	The passerine is expectorant, and anthelminthe hydragogue decoction of the leaves is recommended against dandruff	Externally, it involves mixing crushed with olive oil to treat wounds, scabies, and feed the hair leaves
Verbenaceae			
<i>Verbena officinalis</i> L.	Leaves	Cholagogue, digestive, emmenagogue, febrifuge, galactagogue, sedative, tonic	Infusion
Zygophyllaceae			
<i>Peganum harmala</i> L..	Leaves and seeds	Analgesic properties (rheumatism), aphrodisiac and euphoric. The seeds were used as galactagogue, emmenagogue	The seeds are used in powder form in the treatment of rheumatic pain, back pain, and hemorrhoids

Figure 7: Medicinal plants study area (Photos: K. Rebbas, 2011).



1. *Stipa tenacissima* L.; 2. *Juniperus phoenicea* L.; 3. *Plantago albicans* L.; 4. *Artemisia herba-alba* Asso. ; 5. *Teucrium polium* L. ; 6. *Peganum harmala* L.; 7. *Mentha spicata* L.; 8. *Pinus halepensis* Mill.; 9. *Globularia alypum* L.; 10. *Pistacia lentiscus* L.; 11. *Paronychia argentea* (Pourr.) Lamk.; 12. *Thapsia garganica* L.; 13. *Quercus ilex* L.; 14. *Thymelaea hirsuta* (L.) Endl.; 15. *Ziziphora hispanica* L.

CONCLUSION

Ethno-botanical study at Jebel Messaâd forest indicates that the region is very rich in many plants which have a medicinal importation in traditional medicine uses by the

people. So people of Jebel Messaâd use herbal medicines much as a custom. We noticed that some people have no idea on a few plants found in the study area, and local plants do not treat all diseases, and also, we do not know the

names or usefulness of most medicinal plants. Women and men have shared medical knowledge. The percentage of plants used between the sexes is different. The results show that women use large quantities of medicinal plants. This study allowed us to identify that decoction is the most used, among the most used in traditional herbal medicine part. Leaves are the most used. The uncontrolled harvesting known for their therapeutic qualities species poses a risk to their survival. Some species are endangered due to overexploitation (excessive tearing). *Lamiaceae* family that are systematically torn with their roots to be sold in the cities and villages of the region. In North Africa many plants have been ethnobotanical studies and phytochemical analysis, the majority of these plants are included in the list of plants of the study area as *Artemisia herba-alba* Asso, *Artemisia campestris* L., *Cynodon dactylon* L., *Inula viscosa* L., *Olea europaea* L., *Marrubium vulgare* L., *Pistacia atlantica* Desf., *Pistacia lentiscus* L., *Salvia verbenaca* L., *Teucrium polium* L. *Ziziphora hispanica* L. (Chemli 1997; Bellakhdar 1997; Beloued 2005; Hachicha *et al.*, 2009;. Kattouf *et al.*, 2009; Bezza and 2010; Lahsissene and Kahouadji, 2010; Baba Aïssa, 2011; Bounar *et al.*, 2012; Bounar *et al.*, 2013; Rebbas et Bounar, 2014). The implementation process of cultures,

species, instead of the haphazard collection can improve the income of local people while ensuring the conservation of plant diversity of this region. The culture of these economic plants, especially medicinal herbalists and marketing undeniably increase income populations (Rebbas *et al.*, 2012; Rebbas, 2014). The extraction of active ingredients, the phytochemist needs a certain amount of plant, a plant part or the entire plant, both in the entire plant is harvested during flowering and fruiting. This requires the creation of plots of cultivation of medicinal plants selected from floristic lists drawn through floristic inventories. In Algeria, the market for plants with medicinal properties is unchecked (Boulaâcheb *et al.*, 2006). Given the different uses of these plants, regulation seems necessary. Each country must develop its own specifications.

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