



# First insight on ethnobotanical appraisal of plants used traditionally as medicine by Berber community (Amazigh-speaking), living in Driouch province (North-eastern Morocco)

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## Research

### Abstract

**Background:** Most ethnobotanical studies carried out in different regions of Morocco revolved around documentation of medicinal plants and their medical uses. However, little is known about ethnobotanical knowledge coupled to Berber community living in "Driouch province" (Northeastern region of Morocco). This study aimed to identify and document medicinal plants used traditionally by local people to manage health problems while investigating and comparing ethnobotanical patterns obtained in this region with other findings reported elsewhere.

**Methods:** Ethnobotanical surveys were carried out between January 2017 and August 2019 in several regions within Driouch province. Ethnobotanical data were collected using standard methods and with prior informed consent. Quantitative analyses were performed by using some indexes and formulas, including Use Value (UV), Family Use Value (FUV), Informant Consensus Factor (ICF) and Jaccard Index (JI).

**Results:** A total of 997 local inhabitants (415 male and 582 female) were interviewed. The plants listed (158) were reflected by a high number of families (60) and genera (137). Regarding the number of species/Family, *Lamiaceae* was the leading family with 15 species. Among diseases treated, respiratory diseases were ranked first with a rate of 26.46%. The high ICF (0.97) was calculated for respiratory diseases and the most important medicinal plant recorded were *Origanum compactum Benth* with UV=0.55.

**Conclusions:** The present study revealed that the people living in Driouch province holds significant knowledge about medicinal plant resources. Despite the development of medical technology, local people still rely on using these herbs for healthcare.

**Keywords:** Ethnobotanical, Medicinal plants, Driouch province, Morocco.

## Background

Morocco is located in the North of Africa, at the intersection between the Atlantic Ocean and Mediterranean Sea in the north, the Moroccan Sahara (desert) in the south, and the Morocco-Algerian frontier in the east. The country consists of lowlands rising to extensive four high elevation mountain ranges, including Rif, Middle Atlas, High Atlas, and anti-Atlas, interspersed with plateaus and valleys. Owing to these unique features such as biogeographical position, orography, and various bioclimates, Morocco, offers a particular floristic diversity. The vascular flora in this country has been estimated to more than 3913 native vascular plants species (Fennane & Ibn Tattou 2012), of which 879 are considered endemic (Rankou *et al.* 2013).

The current composition of the Moroccan population is the result of several waves of migration from Southern Europe, Arabia, and Sub-Saharan Africa, and mixing with the indigenous North African populations is distinguished by a harmonious ethnologic assemblage of Berber, Arabic, Jewish, Sub-Saharan, and Andalusian cultures that make it a mixture of Africa and Euro-Mediterranean civilizations. The most important immigration was the Muslim expansion by Islamic missionaries, coming from Arabia in the 7th century, who first brought Islam and then the Arabic language and aspects of their culture, had a significant impact on the cultures and beliefs of indigenous North African populations named "Amazigh or Berber" (Ennaji 2009, Henn *et al.* 2012). Likewise, these immigration events of Bedouin people from Arabia had a strong cultural and linguistic influence on the indigenous people living in the Maghreb region (Ennaji 2009).

Among the cultures embodied in this society, traditional medical practices, which is considered as an important cultural tradition in Morocco and play an essential role in the Moroccan economy, as well as the daily lives (as an additional source of income) of Moroccan society, mainly, those living in remote areas. Thus, these herbs constitute for Moroccan society an exceptional richness of phytotherapy and traditional medicine. However, and after reviewing the literature regarding ethnobotanical studies carried out in Morocco, we found only a few studies dedicated to disadvantaged communities, especially those living in mountain regions and speaking the Amazigh language, including various dialects such as Tashelhit, Tarifit, and takeliit (Eddouks *et al.* 2017, Jaadan *et al.* 2020, Idm'hand *et al.* 2020, Rhattas *et al.* 2016, Teixidor-toneau *et al.* 2016). After a careful analysis of the literature review, we found that the province of Driouch is still not studied. In this respect, we undertook this work in the Driouch area, located in the Rif Mountains of Morocco, and has unique features from the standpoints, geographically and demographically. In addition to the biodiversity richness of the region, regarding phylogenetic resources, represents the solid holden region for Amazigh-speaking communities. Nowadays, the population in Driouch province consists mainly of Amazigh ethnic groups. The predominant language spoken in this research area was Tamazight (Tarifit dialect), followed by Arabic. The region demonstrates many of the poverty and livelihood issues found among mountain communities living in this area. The inhabitants represent one of the poorest segments of Moroccan society in terms of literacy, infant mortality, availability of the basic sanitary infrastructures, and other development indicators (Haut Commissariat au Plan de la statistique 2014). For these reasons, the people living in this part of Morocco rely heavily on the traditional use of medicinal plants for curing various ailments. Nevertheless, the present living conditions of these communities seem to influence the local population and could be at the risk of the subsequent loss of this valuable natural heritage, plant-based medicinal and knowledge related.

Like other regions in Morocco, people living in the Driouch area have long histories of using traditional medicinal and aromatic plants for medical purposes. Nowadays, this valuable traditional knowledge acquired and taught "by doing" and is mainly transmitted horizontally, vertically, and/or slanting through family, elders, and neighborhood disseminations remained actively promoted.

It is well known that it is imperative to document the extent of reliance on medicinal plants because the loss of local knowledge of medicinal plants challenges developing countries' health care systems (Quinlan & Quinlan 2007).

It is very important to transform this traditional knowledge into scientific knowledge to reevaluate it, preserve it, and use it rationally. Furthermore, indigenous knowledge of medicinal plants is essential to preserve their uses and practices for new findings and investigations with a modern approach.

In this respect, we undertook this work, targeting three goals:

- (i) To contribute to original documentation of medicinal plant used by Berber community living in the Driouch province.
- (ii) To provide novel insights into the relationship between local and biomedical disease concepts in this region.

(iii) To ascertain the relationship between attribute and relational variables and herbal knowledge collected in this region.

The research question in this survey is to know, what about the ethnobotanical perception of such Berber community living in isolated area "Driouch province "which is located in the Rif Mountains?

## Materials and Methods

### Study area and social characteristics

This ethnobotanical survey was conducted in Driouch province, located in Northeastern Morocco, between 34°30'00" to 35° 20'0" N and between 3°10'00" to 3°50'00" W, with a surface of 2942 km<sup>2</sup>. Established in 2009, this province is limited at the north by the Mediterranean Sea, in the east by the province of Nador, in the west by the province of Al-Hoceima, and in the southeast by two provinces, Guerssif and Taza (Fig. 1). The climate was the Mediterranean type, with a dry period from April to October and wet from November to March. Temperatures are marked by the regularity of annual averages between 16.9 °C and 18.8 °C, and a double spatial irregularity characterizes precipitation.

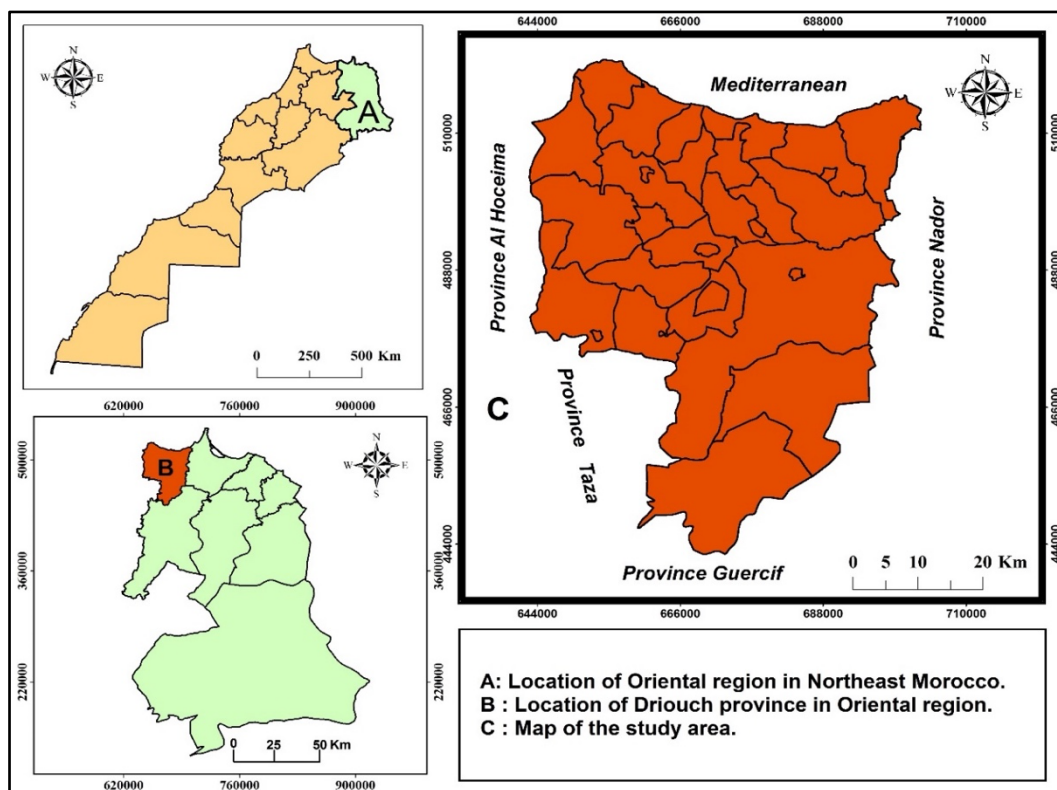


Figure 1. Map showing the location of Driouch province in Morocco

The average land elevation is 458 m, with a maximum elevation of 1979 m above the mean sea level. Driouch province comprises several mountains (Jbel Bnitouzine, Jbel kern), streams and rivers (Oued Garet, Oued Nekor), lowlands (Nekkour, 3000 ha, and Gert 5287 ha). Owing to these orographic and climatic features of the Driouch province, located in Rif Mountain, the region houses flora and fauna significantly and contains many endemics, rare, and very remarkable species (Elachouri 2021).

According to the 2014 census, the population of Driouch province was 211059 inhabitants (48.3% male and 51.7 % female), 81.09 % (178040) of whom lived in rural areas. Most parts of the population speak Tarifit (a kind of Berber's language); however, at least 46.8% of the population are also fluent in Moroccan Arabic, whereas most have basic communication skills in this language, which they learn through television and schools (Haut Commissariat au Plan de la statistique 2014). It should be stressed that the communities studied do not have easy access to hospitals, clinics, and pharmacies. In addition, in some communities, the nearest pharmacy establishment is approximately 30 kilometers from the village, and the roads are unpaved.

### Inventory-based Approach

The conducted study was based on semi-structured interviews and guided field tours, a technique consisting of visiting the sites considered in this work, with one or more informants observed *in situ* the plants cited and collected samples for posterior botanical identification (Albuquerque & Lucena 2004). Such an approach allowed us to obtain ethnobotanical information and collect the medicinal plants and gather their use indications.

### Informant selection technics

Before initiating data collection with the local people, we obtained oral consent from participants before each interview. Participants provided verbal interest to participate in this study. They were free to withdraw their information at any point in time. We point out to the participants that the objectives of the inquiry were not for commercial purposes but academic reasons. A standard questionnaire was prepared for the interview to meet the objectives of the study. Communication with the local community through the Berber language led us to mix with the area's people quickly. A number of 14 sites (Fig. 2), including villages, douars, and cities "Oulad Amghar (S1); Throughout (S2); Boudinar (S3); Tamsamane (S4); Bni Marghine (S5); Talilit (S6); Ijermouas (S7); Taft (S8); Driouch (S9); Midar (S10); Azlaf (S11); Tafersit (S12); Ben Taieb (S13); Dar Elkabdani (S14); were surveyed between January 2017 and August 2019.

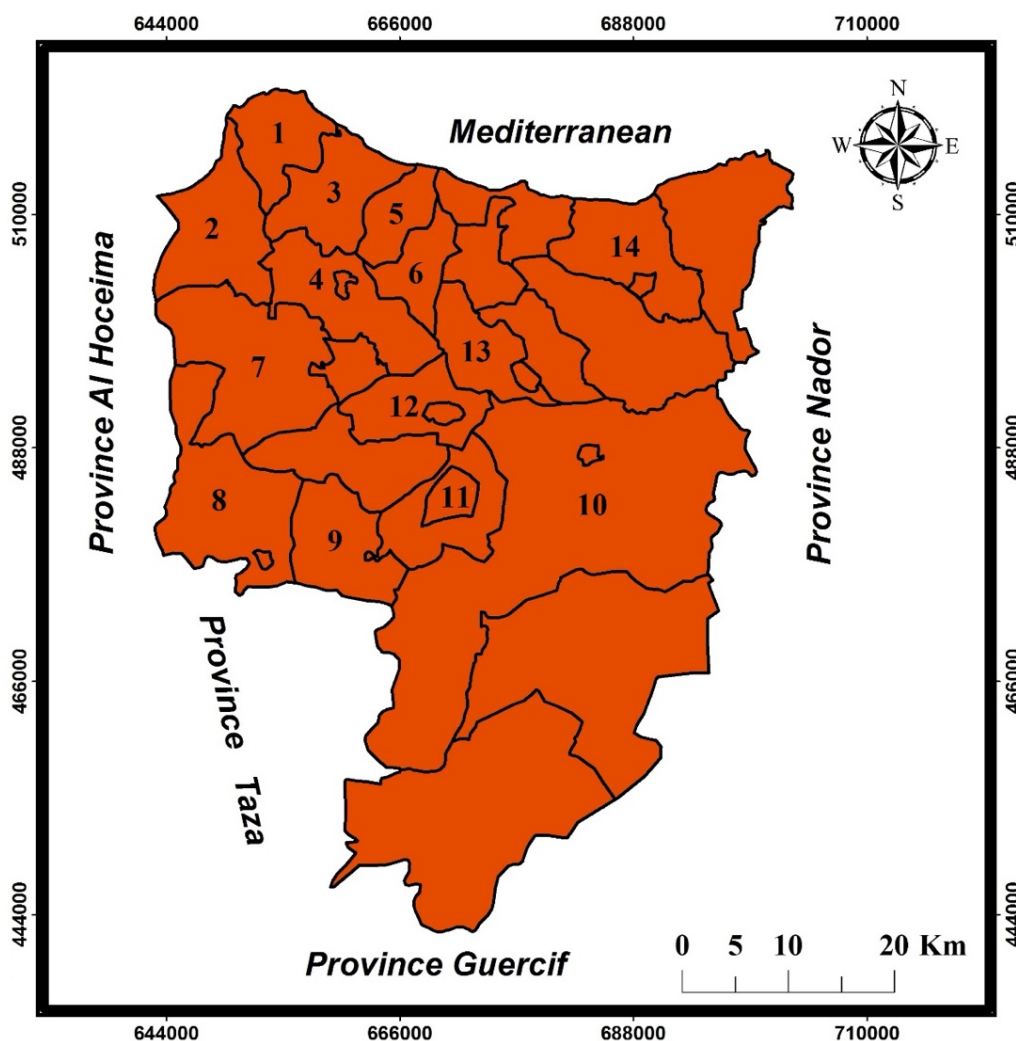


Figure 2. Map of the study area showing the Geographical Position of each visited station.

- |                  |                     |                |               |
|------------------|---------------------|----------------|---------------|
| S1: Oulad Amghar | S2: Troughout       | S3: Boudinar   | S4: Tamsamane |
| S5: Bni Marghine | S6: Talilit         | S7: Ijermaouas | S8: Tsaft     |
| S9: Azlaf        | S10: Driouch        | S11: Midar     | S12: Tafersit |
| S13: Ben Taieb   | S14: Dar El Kabdani |                |               |

The inquiry was based on semi-structured interviews, group discussions, and questionnaires (see Appendix A). The key informants (knowledgeable men and women, plant collectors, household owners) were interviewed to get preliminary information of medicinal plants and their traditional uses such as local name, parts used, method of use, ailments treated, etc. The taxonomic characters of collected plant species with necessary information were noted down in the field. For each ethnospecies, the informant was asked about uses and processing for their uses. Concomitantly, transect walk surveys and plants specimen collections were made. The interviewees were selected with a purposive random sampling technic (probability). This adopted approach helped us discover the various medicinal plants in the studied sites and grasp the complete information related to these plants and their uses. Considering the difference of languages within the studied area, the interviewees were asked in their local language (Arabic Darija or Amazigh languages). The interview transcripts were made by specialists and were translated from Arabic and Amazigh dialects to English to reflect, as much as possible, their contents and to be faithful to the data gathered. Essential information was recorded, such as vernacular names (Arabic/Amazigh names), their nature (Spontaneous, Cultivated or Imported), medicinal uses, parts used, and mode of administration. The approach adopted in this work helped us to discover the various medicinal plants in the studied sites and to grasp the maximum of information related to these plants and their uses.

### Identification and systematization of plant materials

At the laboratory, collected data treatment was done with special care based on the cultural view of the studied area. First, vernacular names recorded were translated into scientific names with the help of translation experts and by using some outstanding references in this matter (Bellakhdar 1997, Bellakhdar *et al.* 1991). Then, the identification was performed by using standard floras available in Morocco (Fennane *et al.* 1999, 2007, 2014). For the accuracy of the scientific nomenclature, the plants recorded were checked against databases available online: Catalogue of Life: 2019 Annual Checklist (<https://www.catalogueoflife.org/col>), the Plant List (<http://www.theplantlist.org/>) and African Plant Database (<http://www.ville-ge.ch/musinfo/bd/cjb/africa/recherche.php>). Only the plant names accepted in these databases were retained. Furthermore, the plant families listed in this paper were in accordance with the Angiosperm Phylogeny Group IV (2016).

Once the name of each plant species selected was identified correctly, the whole or a part of the picked plants were pressed with a plant press and dried adequately. Finally, a voucher number was assigned to each specimen and deposited in the Herbarium (HUMPOM) at Mohammed first University, Oujda, Morocco.

### Classification of diseases

To categorize the recorded local diseases and remedies, we adopted a standard biomedical diseases classification that is closer to ethnomedical reality (Staub *et al.* 2015). This classification is available online: ([https://www.who.int/classifications/icd/ICD10Volume2\\_en\\_2010.pdf](https://www.who.int/classifications/icd/ICD10Volume2_en_2010.pdf)).

### Quantitative analysis

Ethnobotanical data obtained were analyzed and presented using ethnobotanical indexes statistic formula such as Use Value (UV), Family Use-Value (FUV), Informant Consensus Factor (ICF), Jaccard Index of similarity (JI), Performance Index (PI), percentages and frequencies.

### Use value (UV)

To assess the relative importance of plant species used as medicine in the study area, the use value was calculated following the following formula, suggested by (Phillips & Gentry 1993) simplified by (Rossato *et al.* 1999):

$$UV = \Sigma U/N$$

Where:

**UV** = use value of species

**U** = number of use reports for a given species

**N** = total number of informants

### Family Use Value (FUV)

The FUV identify the significance of plant families. It is as an index of cultural importance which can be applied in ethnobotany to calculate a value of biological plant taxon. To calculate FUV, we use the following formula (Hoffman & Gallaher 2007):

$$FUV = \sum UVs / (Ns)$$

Where:

Ns = total number of species within a given family

$\sum UVs$ : Sum the use values for all the species within a given family and divide by Ns.

#### Informant Consensus Factor (ICF)

ICF is used to indicate the level of agreement on use of medicinal plant species for particular ailments between the plant users in the study area. The ICF was calculated using the following formula proposed by (Heinrich *et al.* 1998).

$$ICF = (Nur - Nut) / (Nur - 1)$$

Where:

Nur: is the number of use-reports for a particular ailment category.

Nut: is the number of plants species used for a particular ailment category by all informants.

#### Performance Index of Medicinal Plants

Performance Index (PI) of medicinal plants used for treatment of various ailments was analyzed using Performance Index (PI) as proposed by (Betti 2002). Performance Index is expressed as:  $IP = P1 - P2$

Where:

$$P1 = C1 / C2 \text{ and } P2 = C3 / C4$$

- C1 = number of citations of a specific plant for a specific ailment.
- C2 = number of citations of a specific plant in the global list.
- C3 = total number of citations of the disease.
- C4 = total number of citations for all diseases.
- 

The difference between the two proportions is then used to define a performance index (IP), which ranges from 0 to 3 according to the following scales:

- If  $P1 - P2 < 0$ , IP = 0: the plants concerned are rejected, not significant;
- If  $0 < P1 - P2 \leq 1/3$ , IP = 1: average performance;
- If  $1/3 < P1 - P2 \leq 2/3$ , IP = 2: high performance;
- If  $P1 - P2 > 2/3$ , IP = 3: very high performance.

#### Jaccard similarity Index (JI):

In the end, to assess the percentage of similarities and differences of plant species recorded in the present work with other ethnobotanical fieldworks conducted in another region of Morocco, we used the JI (Jaccard Index) formula, previously adopted by different workers. (Alami Merrouni *et al.* 2021, Eddouks *et al.* 2017, González-Tejero *et al.* 2008).

$$\text{Jaccard Index} = \left[ \frac{C}{A + B - C} \right] \times 100$$

- A: represented the number of species recorded in study A
- B: represented the number of species recorded in study B
- C: represented the number of species common to A and B.

For this comparison, two criteria have been respected:

- (1) The field works considered for comparison should be conducted in Morocco,
- (2) The species listed must be the results of ethnobotanical fieldwork, i.e., not from bibliographical revisions.

## Results and Discussion

### Socio-demographic features of the interviewers

Knowing about the sociodemographic characteristics of informants is considered a central element in the ethnobotanical study. Therefore, collecting sociodemographic information (age, gender, study level...) plays an important role in analyzing and interpreting responses obtained from the inquiry. Demographic characteristics of the informants were determined and recorded through face-to-face interviews.

It is worth noting that the context of the interviews with females was very intricate. In fact, in this area, the societal norms among the female members are very traditional and conservative, holding firm to the prevalent value system deriving its basic principles from their religious thoughts. The concept of shame and honor, hospitality, gender segregation, and veiling are predominant within the female community. Delicate shades in the division of labor are evident in this area; women generally manage the domestic life, whereas the male members are responsible for earning and representing the family at the communal level. Furthermore, females are strictly not allowed to talk with male members of the province except close relatives. That is why we adopted a particular strategy in our interview with females. This was to avoid any quarrels or incidents with female interviewers. The ethnobotanical information from female members of the Driouch province was collected at their houses with the help of old ladies and schoolgirls. Generally, the semi-structured questionnaire-based interviews with local inhabitants began after explaining the purpose of this survey to the subject. In order to collect detailed information relating to herbal medicine, inhabitants of the province were requested to share their knowledge of medicinal plants utilization in the local language.

As a result, we found that the traditional use of medicinal plants by people living in 14 sites visited is widespread among the different age brackets and gender. Data regrouped in Table 1 illustrated the general profile of the informants. The analysis of this ethnographical composition demonstrated that out of 997 informants belonging to the Amazigh-speaking community, randomly selected in the study area, most of them living in a rural area 91 %, only 9.9 % of the informants were living in cities. The respondents gender distribution among this Amazigh-speaking community was predominated by women with 582 participants (58.4%) against 415 men (41.6 %). In both groups, women had a greater knowledge of plant species. Several hypotheses could explain this predominance of females; the women who give sustenance and healthcare to their families, in case of health problems, the relative frequency of analphabetism of women in the society, coupled to the women's attachment to traditional knowledge. Furthermore, the women learned mainly from their mothers through routine observations that is why they had accumulated much information from elder females.

The marital status of the informants involved in the present study was as follows; 700 respondents were married, represented 70,2 %, unmarried represented 26.5 %, 264 people, and divorced represented 3.3 % with 33 persons. The highest percentage of married could be explained by the fact that married informants can avoid or minimize the material charges required by the doctor and the pharmacist by using traditional medicine, which is available and less expensive. Regarding the informants' age, we found that the people aged between 31 and 50 years were dominated with a percentage equal to 39.70 %. The following age brackets between (51 to 70 years), (19 to 30 years) and (less than < 19 years) have a frequency of 28.1 %, 19.2 %, and 6.4 %, respectively (Table 1). These results showed that people between the ages of 31 and 50 years have more knowledge of medicinal plants than the other age groups. The oldest respondents provide more reliable information because they hold much of the ancestral knowledge that is part of the oral tradition. This observation, which entails a complete experience, indicated that this kind of knowledge was acquired after a long accumulation of traditional medicine practices. At a local scale, we can consider that the experiences accumulated over the years about the traditional use of plants and related knowledge were behind the primary sources of information detained by the elderly.

Concerning the level of education, we found that most parts of the informants were devoid of primary education, with 42.2 % illiterate, and only 29.8 % at primary school, 20.10 % at High school, but only 7.9 at university.

About the Socioeconomic Status of the informants, the results indicated that most parts of the respondents had a low socioeconomic level (39.6 percent of whom were housewives), 20.3 % were unemployed, 17.3 % were labor, 11.2 % were farmers, 5.6 % were shopkeepers, 4.5 % employed and 1.4 % pensioned.

It is well known that sociocultural factors could have a significative effect on the intracultural distribution of knowledge.

It is obvious that knowledge will vary according to cross-cultural factors such as nature of group's subsistence activities, even with a single community different individual hold different types and levels of knowledge (Gallois *et al.* 2018, Nazarea *et al.* 1998, Reyes-García *et al.* 2016). Various differences in knowledge were determined by specific sociocultural factors such as age and gender, and significantly, this may have a profound influence on the successful elicitation of a specific lifestyle. However, the results obtained in this work indicated that the sustainability of the transmission of folk knowledge from one generation to the next and the persistence of natural and traditional plant use waken over time exposing it to disappearance. In fact, several hypotheses may be

involved to give an interpretation of the results described above. The four parameters consolidating this assumption were described below:

- The illiteracy, which is considered as an obstacle to the documentation of information and the relative frequency of analphabetism in the society, especially the women, which were closely attached to traditional knowledge.
- The difficulties of access to conventional care due to geographical and socio-economic difficulties and the inadequacy of health infrastructures in the area of study
- The mistrust of certain young people, who tend not to believe this herbal medicine due to the influence of exotic culture influence and modernization and development of technology.
- The transmission of traditional medical knowledge between generations is not always assured.

So, we can affirm that all these parameters, compiled herein, could lead to the erosion of this wealthy natural and cultural heritage.

Table1. Socio-demographic data of the informants

Demographic features	Number of informants	Percentage (%)
<b>Gender of informants</b>		
Female	582	58.40 %
Male	415	41.60 %
<b>Age of informants</b>		
Less than 18	64	6.40 %
Between 19-30	191	19.20 %
Between 31-50	396	39.70 %
Between 51-70	280	28.10 %
Over 71	66	6.60 %
<b>Level of education</b>		
Illiterate	421	42.20 %
Primary	297	29.80 %
High School	200	20.10 %
University	79	7.90 %
<b>Marital status</b>		
Unmarried	264	26.50 %
Married	700	70.20 %
Widowed	33	3.30 %
<b>Employment status</b>		
Employed	45	4.5 %
Pensioned	14	1.4 %
Farmer	112	11.2 %
Housewives	395	39.6 %
Labour	172	17.3 %
Shopkeeper	56	5.6 %
Unemployed	203	20.3 %
<b>Habitat</b>		
Urban	99	9.92 %
Rural	898	91.08 %
<b>Therapeutic practice preferred</b>		
Users of modern medicine	235	23.60 %
Users of traditional medicine	384	38.50 %
Users of traditional and modern medicine	378	37.90 %

### Botanical diversity

Details of all the ethnobotanical data obtained from field surveys are summarized in Table 2, including scientific name, vernacular name, voucher number, family name of the plants studied, and a description of plant part (s) used, their preparation, their application method, the medicinal uses and the number of informants who use these plants in the study area. As indicated in Table 2, we noticed a total of 158 plant species belonging to 137 genera and 60 families had been used in the province of Driouch for medicinal purposes. The plant species listed in this work reflected by a high number of families (60), disseminated across 66 wild plants, 74 cultivated and 18 imported, were used by local people for curing several health problems. As indicated in Figure 3, medicinal plant diversity is concentrated in four, most highly represented, plant families including Lamiaceae (15 species and 9 genera),



Fabaceae (13 species and 11 genera), Asteraceae (12 species and 11 genera), and Apiaceae (12 species and 12 genera). Globally, the prevalence of these four families, sometimes ranked in different orders, were in accordance with several works conducted in a different region of Morocco (Fakchich & Elachouri 2020, Belhaj *et al.* 2020).

The abundance of these families was also observed in studies conducted in Mediterranean countries, including Algeria (Bouasla & Bouasla 2017, Miara *et al.* 2018), Turkey (Özdemir & Alpınar 2015), Spain (Rigat *et al.* 2015) and Italy (Vitalini *et al.* 2015).

The predominance of the Lamiaceae family, mostly ranked in the first position, has also been reported in studies carried out in another region of Morocco as a leading family with a maximum number of medicinal plants species (Fakchich & Elachouri 2014, Teixidor-toneau *et al.* 2016). In whole Morocco, the number of species belonging to the family of Lamiaceae was estimated to 202 species in 29 genera (Fennane & Ibn Tattou 2012). This cosmopolitan botanical family (Lamiaceae), which is highly represented in the Mediterranean basin, which comprised about 5600 species, rising to 7200, according to (El-gharbaoui *et al.* 2017), had great importance in Mediterranean traditional medicine. In fact, several ethnobotanical studies, carried out in mediterranean circum, have highlighted many times the importance of the family Lamiaceae in therapeutic uses (Benítez *et al.* 2010, Esperança & Vallès 2012, Parada *et al.* 2009). The group's researchers, (Benítez *et al.* 2010), have indicated that the plant species belonging to the Lamiaceae family were highly used in medical treatment; in their study, they found that 60 plant species were used for 561 different applications. Our fieldwork provided ethnobotanical information for 15 Lamiaceae species with 2731 medicinal uses, serving to treat different pathological groups.

In fine, we can estimate that the importance of the species, belonging to the Family's Lamiaceae, could be justified by the fact these species were rich in essential oils, with a high variety of phenolic compounds in addition to polyphenols, tannins, iridoids, quinones, coumarins, diterpenoids, triterpenoids, saponins and, in some cases, pyridine and pyrrolidine alkaloids (Karpi 2020).

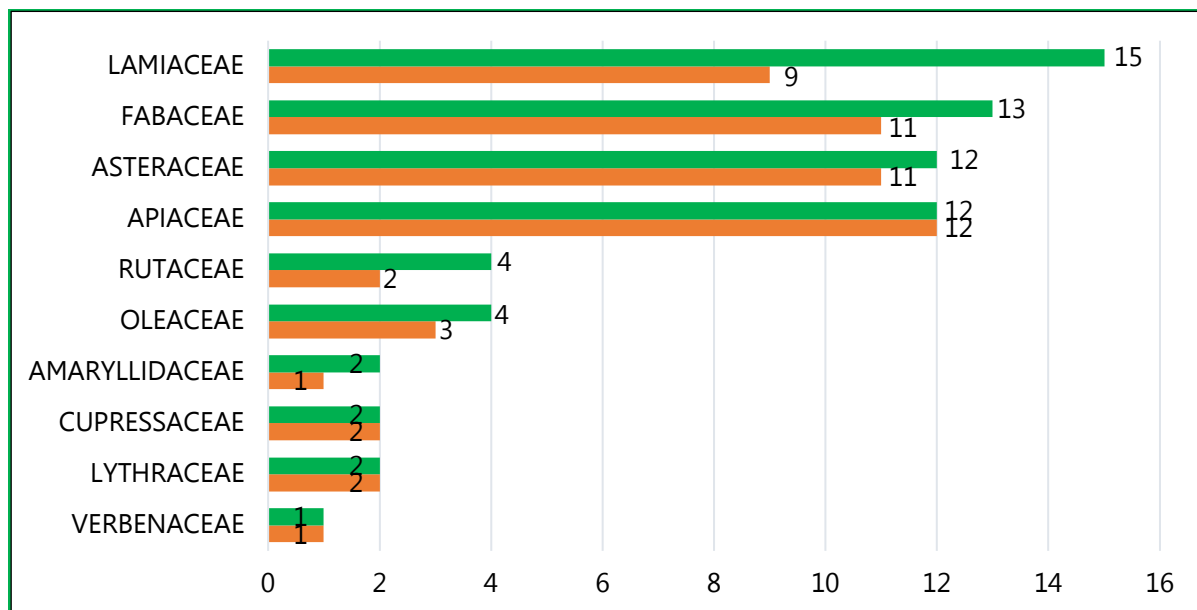


Figure 3. Number of genus (orange) and species (green) in the ten most cited plant families.

Table 2. Database of medicinal plants used by local people living in Driouch province

Family	Scientific name [Ecological status], Voucher number	Vernacular names Tamazight / Arabic / English	Ibn AL Bayter (Lecler voucher)	Part(s) Used	Form of use	Mode of preparation	Mode of administration	Categories of use	Form of plant used	Quantity used of plant	Additives	Quantit y of additiv es added	Duration of the treatment	Result	Side effec t	UV	FUV
<b>AIZOACEAE</b>	<i>Carpobrotus edulis</i> (L.) N.E. Br. [W], HUMPOD 893	ⴰⴳⴰⴳⴰ ⴰⴳⴰⴳⴰⴱⴰⴳⴰ / بوصنيغ / Hottentot-fig	-	L (3)	E (3)	cat (3)	bad (3)	<b>SP (3)</b>	F (3)	PG (3)	A (3)	S (3)	L (3)	A (2), G (1)	B (3)	<b>0,00</b>	<b>0,003</b>
<b>AMARANTHACEAE</b>	<i>Beta vulgaris</i> L. * [C], HUMPOD 894	ⴰⴳⴰⴳⴰⴱⴰⴳⴰ / بزربا / Spinach Beet	n° 1202, 1424	B (19)	E (4)	jus (3), cr (1)	oral (19)	<b>CP (19)</b>	F (19)	P (19)	W (19)	V (19)	L (19)	A (19)	B (22)	<b>0,02</b>	<b>0,019</b>
				L (3)	T (15)	cu (15)		<b>SP (3)</b>	F (3)	P (3)	W (3)	V (3)	S (3)	G (3)			
	<i>Chenopodium ambrosioides</i> L. [W], HUMPOD 895	ⴰⴳⴰⴳⴰⴱⴰⴳⴰ ; ⴰⴳⴰⴳⴰⴱⴰⴳⴰ / مخينزا / Wormseed	-	L (24)	E (15)	cat (8)	bad (8)	<b>DP (2)</b> <b>HM (6)</b>	F (2) F (6)	PG (2) P (6)	A (2) W (6)	S (2) V (6)	T (2) T (6)	G (2) A (6)	B (8)	<b>0,35</b>	<b>1</b>
						dec (7)	oral (7)	<b>DP (7)</b>	F (7)	P (7)	W (7)	V (7)	T (7)	A (7)	A (7)		
					P (5)	cu (5)	bad (5)	<b>SP (5)</b>	D (5)	PG (5)	P (5)	S (5)	S (5)	G (5)	B (20)		
					T (4)	cat (1)	bad (1)	<b>SP (1)</b>	F (1)	P (1)	W (1)	V (1)	S (1)	A (1)			
						dec (3)	oral (3)	<b>SP (1)</b>	D (1)	P (1)	W (1)	V (1)	T (1)	A (1)			
								<b>RD (1), DP (1)</b>	F (2)	P (2)	W (2)	V (2)	T (13)	G (13)			
				ST (11)	E (11)	cat (11)	bad (11)	<b>HM (11)</b>	F (11)	PG (11)	A (11)	S (11)					
	<i>Spinacia oleracea</i> L [C], HUMPOD 896	ⴰⴳⴰⴳⴰⴱⴰⴳⴰ / السبانخ : السلق / Spinach plant	-	L (1)	E (1)	cr (1)	oral (1)	<b>CP (1)</b>	F (1)	PG (1)	P (1)	S (1)	S (1)	A (1)	B (1)	<b>0,00</b>	<b>1</b>
<b>AMARYLLIDACEAE</b>	<i>Allium cepa</i> L [C], HUMPOD 897	ⴰⴳⴰⴳⴰⴱⴰⴳⴰ ; ⴰⴳⴰⴳⴰⴱⴰⴳⴰ / البصلنة / Onion	n° 296, 979	B (173)	E (160)	cr (80)	bad (49)	<b>ED (1)</b> <b>HD (15) ; HM (11) ; IPP (1)</b> <b>SP (21)</b>	F (1) F (27)	PG (1) PG (27)	A (1) A (27)	S (1) S (27)	L (1) T (27)	A (28)	B (173)	<b>0,17</b>	<b>0,258</b>
									F (21)	PG (21)	A (19)	S (19)	L (19)	G (13) ; A(6)			
							oral (22)	<b>RD (1)</b>	F (1)	PG (1)	M (1)	S (1)	L (2)	G (2)			
								<b>DIA (11)</b>	F (11)	PG (11)	H (2) ; P(9)	S (11)	L (11)	A (21)			
							rin (7)	<b>UTP (10)</b>	F (10)	V (10)	W (10)	S (10)	L (10)				
								<b>EP (7)</b>	F (7)	C (3) ; PG (4)	A (7)	S (7)	T (7)	G (7)			
							w (2)	<b>NSD (2)</b>	F (2)	PG (2)	A (2)	S (2)	T (2)	A (2)			
						dec (19)	oral (19)	<b>CAN (1)</b>	F (1)	PG (1)	A (1)	S (1)	L (1)	G (1)			
								<b>DP (1)</b>	F (1)	PG (1)	W (1)	S (1)	T (1)	A (15)			
								<b>OD (4)</b>	F (4)	V (4)	W (4)	S (4)	T (4)				
								<b>UTP (13)</b>	F (13)	C (3)	W (3)	V (3)	L (3)				
										PG (9)	W (9)	S (7) , T (2)	L (9)				
										V (1)	W (1)	S (1)	S (1)				
						inf (2)	oral (2)	<b>DP (2)</b>	F (2)	PG (2)	W (2)	V (2)	T (2)	G (2)			
						jus (59)	bad (6)	<b>MD (1)</b>	F (1)	PG (1)	P (1)	S (1)	S (1)	A (6)			
								<b>SP (5)</b>	F (5)	C (2)	P (2)	S (2)	S (2)				
										PG (3)	M (3)	S (3)	L (3)				
							mas (8)	<b>MD (2)</b>	F (2)	C (2)	H (2)	S (2)	L (2)	G (2)			
								<b>SP (6)</b>	F (6)	PG (2), V(4)	A (6)	S (6)	L (6)	A (6)			
								<b>RD(4)</b>	F (4)	V (4)	W (4)	S (4)	T (4)	A (4)			
								<b>EMD (1)</b>	F (1)	PG (1)	A (1)	S (3)	L (3)	G (3)			



<b>ANACARDIACEAE</b>	<i>Pistacia lentiscus</i> L. * [W], HUMPOD 899	الدرّو ؛ <b>الدرّو</b> / <b>فاضيس</b> <b>Mastic</b>	<i>n° 923</i>	L (73)	E (27)	cat (10)	bad (7)	<b>HM (1)</b> <b>MD (2)</b> <b>SP (4)</b>	F (1) F (2) F (4)	PG (1) PG (2) PG (4)	A (1) A (2) A (2)	S (1) S (2) S (2)	T (1) T (1) S (1) S (2) S (1) S (1) S (1)	L (1) L (1) L (3) L (3) L (3) L (3)	G (1) G (1) A (1) G (1), A (1) G (2) G (3) G (9)	B (20)	<b>0,07</b> <b>7</b>	<b>0,077</b>	
							mas (3)	<b>SP (3)</b>	F (3)	PG (3)	P (3)	S (3)	L (3)	G (3)					
						cr (10)	bad (5) oral (5)	<b>SP (5)</b> <b>IPP (1)</b> <b>OD (3)</b> <b>IPP (1)</b>	F (5) F (1) F (3) F (1)	PG (5) C (1) P (3) P (1)	P (5) A (1) A (3) A (1)	S (5) V (1) S (3) S (1)	T (9) V (1) S (3) T (1)	G (9)					
							cu (5) jus (2) cu (5) inf (3) pd (2)	bad (5) oral (2) bad (5) rin (3) oral (2)	<b>HM (5)</b> <b>DP (2)</b> <b>SP (5)</b> <b>DIA (3)</b> <b>OD (1), DP (1)</b>	F (5) F (2) D (5) D (3) D (2)	PG (5) C (2) PG (5) PG (3) P (2)	H (5) W (2) P (5) W (3) A (2)	S (5) V (2) S (5) T (3) S (2)	T (5) T (2) S (5) L (3) T (2)	A (1) A (2) G (5) A (3) G (2)	A (5)	B (2)		B (23)
						P (13)	cu (5) inf (3) pd (2)	bad (5) rin (3) oral (2)	<b>HM (5)</b> <b>DP (2)</b> <b>SP (5)</b> <b>DIA (3)</b> <b>OD (1), DP (1)</b>	F (5) F (2) D (5) D (3) D (2)	PG (5) C (2) PG (5) PG (3) P (2)	H (5) W (2) P (5) W (3) A (2)	S (5) V (2) S (5) T (3) S (2)	T (5) T (2) S (5) L (3) T (2)	A (1) A (2) G (5) A (3) G (2)				
						T (33)	w (3) cat (5)	w (3) bad (5)	<b>RP (3)</b> <b>HM (2)</b> <b>SP (3)</b>	D (3) F (2) F (3)	PG (3) PG (2) PG (2)	A (3) P (4) P (4)	S (3) S (4) S (4)	L (3) T (4) T (4)	A (3) G (4)				
							cr (5)	oral (5)	<b>IPP (2)</b> <b>OD (3)</b>	D (2) F (3)	P (2) P (2) C (1)	W (2) A (2) W (1)	S (2) S (2) V (1)	T (2) T (3)	A (2) G (3)				
							dec (17)	oral (17)	<b>RD (3)</b>	F (2)	C (2)	P (2)	V (3)	T (3)	A (3)				A (3)



<i>Cuminum</i> <i>cuminum</i> L. [C], HUMPOD 906	.QK.EI ; .QK.EI / الكمون / Cumin	n° 1967, 1969, 1971, 1972				cu (8)	oral (8)	<b>RD (3)</b>	D (3)	C (3)	W (3)	V (3)	T (3)	G (3)			
						inf (8)	oral (8)	<b>IPP (5)</b>	D (5)	P (5)	P (5)	S (5)	T (5)	A (5)			
								<b>DP (3)</b>	D (3)	C (3)	A (3)	S (3)	T (3)	G (3)			
								<b>RD (1)</b>	D (1)	C (1)	W (1)	V (1)	T (1)	G (1)			
								<b>DP (7)</b>	D (7)	C (7)	W (7)	V (7)	T (7)	G (1), A(7)			
								<b>DP (3)</b>	D (3)	C (3)	W (3)	V (3)	L (3)	A (3)			
			Y (3)	P (3)	dec (3)	oral (3)	oral (3)	<b>DP (3)</b>	D (3)	C (3)	A (3)	V (3)	T (3)	G (3)			
<i>Daucus carota</i> L. [C], HUMPOD 907	.X.X. / خيزو / Wild carrot	n° 96, 481, 983, 1389, 2240	R (6)	E (5)	cr (4)	oral (4)		<b>CP (2)</b>	F (2)	PG (2)	A (2)	S (2)	L (2)	A (20)	B (20)	<b>0,02</b>	
									<b>ED (2)</b>	F (2)	PG (2)	A (2)	S (2)	T (2)			
									<b>SP (1)</b>	F (1)	PG (1)	M (1)	S (1)	S (2)			
								<b>DP (1)</b>	D (1)	C (1)	M (1)	C (1)					
			ST (14)	E (14)	cr (14)	oral (14)	oral (14)	<b>ED (7)</b>	F (7)	PG (7)	A (7)	S (14)	S (14)				
								<b>DP (5), CP(2)</b>	F (7)	PG (7)	W (7)						
<i>Ferula communis</i> L. * [W], HUMPOD 908	.H.H.O.Q / الفسوغ / Giant fennel	n° 1834, 1961	L (1)	P (1)	cr (1)	bad (1)		<b>SP (1)</b>	D (1)	PG (1)	H (1)	S (1)	L (1)	G (1)	B (1)	<b>0,00</b>	
																	<b>1</b>
<i>Foeniculum</i> <i>vulgare</i> Mill. * [C], HUMPOD 909	.Q.E.O.O ; .H.H.H.H ; .E.O. / النافع ؛ البساس Fennel	n° 265, 286, 1019, 1341, 1784	L (5)	E (5)	cr (5)	oral (5)		<b>OD (5)</b>	F (5)	C (5)	A (5)	S (5)	T (5)	G (5)	B (9)	<b>0,01</b>	
			R (2)	P (2)	cr (1)	oral (1)		<b>DP (1)</b>	D (1)	C (1)	A (1)	S (1)	L (1)	A (1)		<b>3</b>	
									<b>RD (1)</b>	D (1)	PG (1)	A (1)	S (1)	T (1)	G (1)		
			SE (2)	P (1)	cr (1)	oral (1)		<b>RD (1)</b>	D (1)	C (1)	P (1)	S (1)	L (1)	G (1)			
									<b>DP (1)</b>	D (1)	C (1)	W (1)	V (1)	L (1)	A (1)		
									<b>RP (1), RD (1)</b>	D (2)	C (2)	W (2)	V (4)	L (4)	G (4)		
			W (2)	T (2)	dec (2)	oral (2)	oral (2)	<b>DP (2)</b>	F (2)	C (2)	P (2)						
<i>Petroselinum</i> <i>crispum</i> (Mill.) Fuss * [C], HUMPOD 910	.H.H.A.I.S.O ; .H.H.R.I.S.O / معنوس ؛ Parsley	n° 307, 1902, 2161	L (35)	E (1)	cr (1)	oral (1)		<b>CVHD (1)</b>	F (1)	PG (1)	H (1)	S (1)	L (1)	A (1)	B	<b>0,10</b>	
									<b>DIA (1), EMD (3), UTP (13)</b>	F (17)	C (17)	W (17)	V (17)	L (17)	A (34)	(102)	<b>2</b>
									<b>RD (5)</b>	F (5)	C (5)	W (5)	V (5)	T (5)			
									<b>CVHD (1)</b>	F (1)	C (1)	W (1)	V (1)	L (1)			
									<b>DP (6)</b>	F (6)	C (6)	W (6)	V (6)	T (1), S (5)			
									<b>UTP (5)</b>	F (5)	C (5)	W (5)	V (5)	L (5)			
									<b>RP (2)</b>	D (2)	P (2)	W (2)	S (2)	S (2)	A (2)		
									<b>SP (1)</b>	F (1)	PG (1)	W (1)	S (1)	S (1)	G (1)		
									<b>RD (5)</b>	F (5)	C (5)	W (5)	V (5)	T (5)	G (10)		
									<b>CVHD (3)</b>	F (3)	C (3)	W (3)	V (3)	L (3)			
									<b>DIA (3)</b>	F (3)	C (3)	W (3)	V (3)	L (3)	A (3)		
									<b>DP (4)</b>	F (4)	C (4)	A (2)	V (2)	T (2)	G (4)		
											<b>EMD (3)</b>	F (3)	C (3)	W (3)	V (3)	L (3)	A (4)
								<b>CP (1)</b>	F (1)	C (1)	W (1)	V (1)	T (1)				
								<b>RP (2)</b>	F (2)	C (2)	A (2)	V (2)	L (2)	G (2)			
								<b>UTP (2)</b>	F (2)	C (2)	A (1)	V (1)	L (1)	A (1)			
											W (1)	V (1)	L (1)	G (1)			
								<b>DP (4), UTP (1)</b>	F (5)	C (5)	W (5)	V (5)	L (5)	A (5)			
								<b>HM (2)</b>	F (2)	PG (2)	W (2)	S (2)	T (2)	G (2)			
								<b>CP (3)</b>	F (3)	C (3)	W (3)	V (3)	S (2), T (1)	A (8)			
								<b>DP (5)</b>	F (5)	C (5)	W (5)	V (5)	L (5)				
								<b>EMD (1)</b>	F (1)	C (1)	W (1)	V (1)	L (1)	G (1)			
								<b>UTP (15)</b>	F (15)	C (15)	W (15)	V (15)	L (12)	A (12)			
													S (3)	G (3)			
								<b>SP (1)</b>	F (1)	PG (1)	W (1)	T (1)	L (10)	A (10)			

	<i>Visnaga daucoides</i> Gaertn. [W], HUMPOD 911	†.Θ.ϵ!ϵX† / تيشنيخت ؛ تريلان / Khella	-	W (6)	P (6)	inf (9) cr (6)	oral (9) oral (6)	<b>UTP (9)</b> <b>EMD (6)</b>	F (9) D (6)	C (9) C (6)	W (9) M (6)	V (9) C (6)	L (6)	G (6)	B (6)	<b>0,00</b> <b>6</b>	
<b>APOCYNACEAE</b>	<i>Nerium oleander</i> L. * [W], HUMPOD 912	•GϵQϵ / النقلة / Oleander	n° 567, 833, 873, 984, 1232	L (31)	E (6)	cat (3) cr (3)	w (1) bad (2) mas (3)	<b>DIA (1)</b> <b>SP (2)</b> <b>SP (3)</b>	F (1) F (2) F (3)	PG (1) PG (2) PG (1)	W (1) A (2) A (1)	S (1) S (2) S (1)	L (1) S (2) T (1)	G (6)	B (53)	<b>0,05</b> <b>3</b>	<b>0,028</b>
						P (10)	cr (10)	<b>DIA (1)</b> <b>DP (1),MD (1)</b> <b>SP (3)</b>	D (1) D (2)	C (1) C (2)	A (1) H (2)	S (1) C (2)	L (1) S (2)	A (3)			
							w (4)	<b>RD (4)</b>	D (4)	C (4)	A (4)	V (4)	T (4)	G (2)			
						T (15)	dec (9)	<b>DIA (5)</b> <b>OD (1)</b> <b>MD (2)</b> <b>DIA (1)</b> <b>ED (1)</b> <b>HM (5)</b>	F (5) F (1) F (2) F (1) D (1) D (5)	C (5) C (1) PG (2) PG (1)	W (5) W (1) W (2) W (1)	V (5) V (1) T (2) T (1)	L (5) T (1) S (2) L (1)	X (5) A (1) A (3)			
							w (6)	<b>DIA (1)</b> <b>HM (5)</b>	D (1) D (5)	PG (1) P (5)	P (1) A (5)	S (1) S (5)	T (1) T (5)	G (1) G (1), A (4)			
						R (3)	dec (3)	<b>OD (2)</b> <b>DP (1)</b>	F (2) F (1)	C (2) C (1)	W (2) W (1)	V (2) V (1)	T (2) T (1)	G (2) A (1)			
						ST (19)	cr (5)	<b>SP (4)</b> <b>MD (1)</b> <b>OD (3)</b> <b>SP (1)</b>	D (4) D (1) D (3) D (1)	PG (4) PG (1) PG (3) PG (1)	A (4) A (1) A (3) A (1)	S (4) S (1) S (3) S (1)	S (4) S (1) T (3) S (1)	G (4) A (1) G (4)			
							cr (12)	<b>X (3)</b> <b>DP (5)</b> <b>HM (2)</b>	F (3) F (5) D (2)	PG (3) PG (5) PG (2)	A (3) A (5) A (2)	S (3) S (5) S (2)	T (3) T (5) T (2)	A (3) G (5) A (2)			
	<i>Apteranthes europaea</i> subsp. <i>maroccana</i> (Hook. f.) Plowes [W], HUMPOD 913	•A.ϵCϵO / - الدغوس	-	ST (2)	E (2)	cr (2)	oral (2)	<b>DIA (2)</b>	F (2)	C (2)	L (2)	V (2)	L (2)	A (2)	B (2)	<b>0,00</b> <b>2</b>	
<b>ARACEAE</b>	<i>Arisarum vulgare</i> O. Targ. Tozz. * [W], HUMPOD 914	ϵΨ•!ϵ / ارنبي / Common arisarum	n° 2047	X (3)	P (3)	cu (3)	oral (3)	<b>DIA (3)</b>	F (3)	PG (3)	W (3)	S (3)	L (3)	A (3)	B (3)	<b>0,00</b> <b>3</b>	<b>0,003</b>
<b>ARACEAE</b>	<i>Phoenix dactylifera</i> L. * [C], HUMPOD 915	†ϵ!ϵ / التمر ؛ ثشي / Date palm	-	SE (1)	P (1)	cr (1)	bad (1)	<b>SP (1)</b>	D (1)	C (1)	P (1)	S (1)	L (1)	A (4)	B (4)	<b>0,00</b> <b>4</b>	<b>0,004</b>
						X (2)	inf (1)	<b>DP (1)</b>	F (1)	C (1)	W (1)	V (1)	T (1)				
							oral (1)	<b>ID (1)</b>	F (1)	PG (1)	P (1)	S (1)	T (1)				
						Y (1)	cr (1)	<b>RP (1)</b>	D (1)	C (1)	M (1)	C (1)	L (1)				
<b>ARISTOLOCHIACEAE</b>	<i>Aristolochia fontanesii</i> Boiss. & Reut * [W], HUMPOD 916	ΘQ.ϵ†•C / برزطم / Birthwort	n° 58, 243, 1099, 1300, 1744, 2135	R (1)	P (1)	inf (1)	oral (1)	<b>DP (1)</b>	D (1)	C (1)	M (1)	V (1)	T (1)	A (1)	B (1)	<b>0,00</b> <b>1</b>	<b>0,001</b>
<b>ASPARAGACEAE</b>	<i>Agave americana</i> L. [C], HUMPOD 917	•ϵϵϵQ / الصائيرا / Sentry Plant	-	L (1)	E (1)	cr (1)	mas (1)	<b>SP (1)</b>	F (1)	P (1)	A (1)	S (1)	S (1)	G (1)	A (1)	<b>0,00</b> <b>5</b>	<b>0,006</b>
						ST (4)	cat (1)	<b>SP (1)</b>	F (1)	PG (1)	A (1)	S (1)	S (1)	G (1)	B (4)		
							cr (3)	<b>SP (3)</b>	F (3)	PG (3)	A (3)	S (3)	S (3)	A (3)			
	<i>Asparagus acutifolius</i> * L.		n° 518, 2260, 2308	R (3)	T (3)	dec (3)	rin (1)	<b>DP (1)</b>	F (1)	PG (1)	H (1)	S (1)	T (1)	A (1)	B (7)	<b>0,00</b> <b>7</b>	
							oral (2)	<b>RD (2)</b>	F (2)	PG (2)	W (2)	T (2)	T (2)	G (2)			

	[W], HUMPOD 918	اسكوم / Wild Asparagus اسكوم / Wild Asparagus	N° 113,	X (4)	E (4)	cu (4)	oral (4)	DIA (4)	F (4)	PG (4)	H (4)	S (4)	L (4)	A (4)			
ASTERACEAE	<i>Artemisia absinthium</i> L. * [C], HUMPOD 919	الشيبيا / Grand wormwood	759, 957, 1942	L (61)	E (6)	cu (6)	mas (6) oral (2) oral (52)	DP (6) OD (2) RD (39)	F (6) F (2) F (39)	P (6) P (2) P (39)	H (6) W (2) L (39)	V (6) V (2) V (39)	S (6) T (2) T (39)	A (8)	B (61)	0,06 5	0,044
				ST (4)	T (4)	inf (4)	rin (1) oral (4)	CP (2) DP (8) IPP (3) SP (1) RD (4)	F (2) F (8) F (3) F (1) F (4)	P (2) P (8) P (3) P (1) P (4)	L (2) W (6),L(2) L (2),W(1) W (1) L (4)	V (2) V (8) V (3) V (1) V (4)	S (2) T (8) T (3) T (1) T (4)	A (10) A (3) A (1) G (4)			
	<i>Artemisia herba-alba</i> Asso * [W], HUMPOD 920	الشبيح ايزري / White Wormwood	n° 1372	L (85)	E (2)	cat (2)	bad (2) bad (2) oral (1) w (9) mas (3) oral (58)	RD (2) SP (2) DP (1) ID (9) SP (3) RD (3) DIA (1) DP (54)	F (2) D(2) D (1) D (9) D (3) F (1) D (2) D (1) D (39)	PG (2) PG(2) C (1) P (9) PG (3) PG (1) PG (2) PG (1) PG (39)	W (2) H(2) M (1) A (9) W (3) W (1) W (2) P (1) W (39)	T (2) S(2) C (1) S (9) T (3) T (1) T (2) S (1) T (39)	T (2) L(2) T (1) L (9) L (3) T (1) T (2) L (1) T (39)	A (2) A(2) G (1) A (9) A (3) G (1) A (2) A (1) A(6), G(33) G (2) G(10), A(3) A (8)	B (156)	0,15 7	
				R (6)	P (4)	inf (1) w (1) inf (4) dec (2)	oral (1) w (1) oral (4) rin (1) oral (1)	SP (1) RD (4), ID (3) DP (1) RD (1) DIA (4) SP (1) RD (1)	D (1) D (4) D (1) D (1) D (5)	PG (1) PG (7) PG (1) PG (1) PG (5)	W (1) W (7) W (1) W (1) W (5)	T (1) T (7) T (1) T (1) T (5)	L (1) T (7) T (1) T (1) L (5)	A (6)			
				ST (65)	E (3)	cr (1) cat (2) cr (1) dec (59)	oral (1) bad (2) oral (1) oral (59)	OD (1) SP (2) DP (1) RD (11) DP (48)	F (1) F (1) F (2) F (1) D (8) F (3) D (11) F (37)	PG (1) PG (1) PG (2) PG (1) PG (8) PG (3) PG (11) PG (37)	W (1) W (1) W (2) W (1) W (8) W (3) W (11) W (37)	T (1) T (1) T (2) T (1) T (8) T (3) T (11) T (37)	T (1) T (1) S (2) T (1) T (8) T (3) T (11) T (33)	A (1) G (2) A (1) A (8) G (3) A (11) A (22), G(11) G(4) A (2)			
	<i>Carthamus tinctorius</i> L. [I], HUMPOD 921	عشبة / Safflower	-	F (1)	P (1)	inf (1)	oral (1)	RP (2) EMD (1)	F (2) D (1)	P (2) C (1)	W (2) W (1)	V (2) V (1)	T (2) L (1)	A (1)	B (1)	0,00 1	
	<i>Chamaemelum nobile</i> (L.) All. [W], HUMPOD 922	منساتيا / Chamomile	n° 121, 220, 418, 590, 745, 907, 1767	F (10)	T (10)	dec (4) inf (6)	oral (4) oral (6)	RD(2), DP(2) UTP (1) DP (5) DP (2) X (22) RD (4) DP (26) X (3)	D (4) D (1) D (5) D (2) D (22) D (4) D (26) D (3)	C (4) C (1) C (5) C (2) C (22) C (4) C (26) C (3)	W (4) W (1) W (5) W (2) W (22) W (4) W (26) W (3)	V (4) V (1) V (5) V (2) V (22) V (4) V (26) V (3)	T (4) L (1) S (5) L (2) T (22) T (4) T (26) T (3)	G (10)	B (104)	0,10 4	
				FL (24)	T (24)	dec (2) inf (22) inf (33)	oral (2) oral (22) oral (33)							G (2) A (22) G (4) A(9), G(17) A (3)			



			SE (26)	T (26)	dec (2)	oral (1)		<b>DP (1)</b>	D (1)	C (1)	W (1)	V (1)	T (1)	A (1)		
						rin (1)		<b>ED (1)</b>	D (1)	C (1)	W (1)	V (1)	L (1)	G (1)		
					inf (24)	oral (24)		<b>RD (3),</b>	D (24)	C (24)	W (24)	V (24)	T (24)	A (24)		
								<b>NDP(3), X</b>								
			ST (4)	T (4)	dec (4)	oral (4)		<b>IPP (4)</b>	D (4)	C (4)	W (4)	V (4)	T (4)	G (11)		
			X (7)	T (7)	dec (3)	oral (3)		<b>DP (3)</b>	D (3)	C (3)	W (3)	V (3)	L (3)			
					inf (4)	oral (4)		<b>RD (2), X (2)</b>	F (4)	C (4)	W (4)	V (4)	L (4)			
<i>Cynara scolymus</i>	<b>قخسة؛</b>	<i>n° 658</i>	L (1)	T (1)	dec (1)	bad (1)		<b>SP (1)</b>	D (1)	C (5)	W (5)	V (5)	S (5)	A (5)	B (14)	<b>0,01</b>
L [C], HUMPOD	<b>مخوخة /</b>		R (4)	T (4)	dec (4)	oral (4)		<b>DP (4)</b>	F (4)							<b>4</b>
923	<b>الخرشوف؛ الكركم</b>		ST (5)	P (3)	cu (3)	oral (3)		<b>DP (3)</b>	D (3)	C (3)	W (3)	V (3)	S (3)	A (3)		
	<b>Green artichoke</b>			T (2)	dec (1)	rin (1)		<b>SP (1)</b>	F (1)	C (1)	W (1)	V (1)	S (1)	G (1)		
					cu (1)	oral (1)		<b>DIA (1)</b>	F (1)	C (1)	W (1)	V (1)	L (1)	A (1)		
			X (4)	T (4)	dec (4)	oral (4)		<b>UTP (1)</b>	F (1)	C (1)	W (1)	V (1)	L (1)	A (1)		
								<b>DP (2), EMD</b>	F (3)	C (3)	W (3)	V (3)	L (3)	G (3)		
								<b>(1)</b>								
<i>Dittrichia viscosa</i>	<b>عروق؛</b>	<i>n° 413,</i>	FL (7)	E (7)	cu (4)	mas (4)		<b>DP (2), RD(2)</b>	F (4)	PG (4)	H (4)	S (7)	T (7)	G (7)	B (68)	<b>0,16</b>
(L.) Greuter subsp.	<b>أخروف؛</b>	<i>1448</i>			cat (3)	bad (3)		<b>SP (3)</b>	F (3)	PG (3)	A (3)					<b>2</b>
<i>viscosa</i> [W],	<b>ميهرمين / False</b>		L (114)	E (73)	cat (46)	bad (41)		<b>HM (12)</b>	F (12)	PG (12)	A (11),P(1)	S (12)	T (12)	A (12)		
HUMPOD 924	<b>yellowhead</b>							<b>MD (2)</b>	F (2)	PG (2)	P (2)	S (4)	T (4)	G (4)		
								<b>RP (2)</b>	F (2)	PG (2)	H (2)					
								<b>SP (24)</b>	F (24)	PG (24)	A (20)	S (20)	T (20)	G (18),		
														A(2)		
											H (1)	S (1)	T (1)	G (4)		
											M (3)	S (3)	L (3)			
						mas (3)		<b>SP (3)</b>	F (3)	PG (3)	P (3)	S (3)	L (3)	G (3)		
						w (2)		<b>CP (2)</b>	F (2)	P (2)	A (2)	S (2)	T (2)	A (2)		
					cr (15)	bad (10)		<b>SP (10)</b>	F (10)	PG (10)	A (10)	S (10)	T (10)	G (58)		
						mas (4)		<b>SP (4)</b>	F (4)	PG (4)	P (4)	S (4)	L (4)			
						oral (1)		<b>DP (1)</b>	F (1)	P (1)	A (1)	V (1)	T (1)			
						bad (3)		<b>SP (3)</b>	F (3)	PG (3)	H (3)	S (3)	T (3)			
					cu (3)	rin (1)		<b>EP (1)</b>	F (1)	PG (1)	W (1)	T (1)	T (1)			
					dec (1)	rin (1)		<b>DP (5)</b>	F (5)	PG (5)	A (5)	S (5)	S (5)			
					jus (8)	rin (5)		<b>HM (3)</b>	F (3)	PG (3)	P (3)	S (3)	T (3)			
						mas (3)		<b>SP (5)</b>	D (5)	PG (5)	H (5)	S (5)	L (5)			
			P (5)		cu (5)	bad (5)		<b>RD (1)</b>	F (1)	PG (1)	P (1)	T (1)	T (1)			
			T (36)		dec (1)	rin (1)		<b>IPP (3)</b>	F (3)	PG (3)	P (3)	S (3)	L (3)			
					cat (20)	bad (20)		<b>SP (17)</b>	F (17)	PG (17)	A (17)	S (17)	T (17)			
								<b>SP (5)</b>	F (5)	PG (5)	A (5)	S (5)	T (5)			
					cr (5)	bad (5)		<b>DP (1)</b>	F (1)	PG (1)	W (1)	S (1)	L (1)	A (1)		
					dec (10)	bad (1)		<b>RD (2)</b>	F (2)	P (2)	P (2)	V (2)	T (2)	A (2)	A (2)	
						oral (8)		<b>DP (5)</b>	F (5)	P (3)	W (3)	V (3)	S (1),L(2)	A (5)	B (47)	
											PG (2)	T (2)	L (2)			
								<b>RD (1)</b>	F (1)	P (1)	W (1)	V (1)	T (1)	A (1)		
								<b>SP (1)</b>	F (1)	PG (1)	W (1)	T (1)	S (1)	G (1)		
								<b>MD (5)</b>	F (5)	PG (5)	H (4)	S (4)	T (4)	A (4)		
											A (1)	S (1)	S (1)	G (1)		
								<b>SP (1)</b>	F (1)	PG (1)	P (1)	S (1)	L (1)	A (1)		
								<b>DP (1)</b>	F (1)	P (1)	W (1)	V (1)	L (1)	A (1)		
								<b>DP (1)</b>	F (1)	PG (1)	W (1)	S (1)	S (1)	G (1)		
								<b>DP (3)</b>	D (3)	C (3)	M (3)	C (3)	L (3)	A (3)		
								<b>SP (11)</b>	F (11)	PG (11)	W (11)	S (11)	L (11)	A (11)		
								<b>MD (3)</b>	D (3)	PG (3)	W (3)	S (3)	T (3)	A (3)		
								<b>DP (10)</b>	F (10)	PG (1)	P (1)	S (1)	L (1)	G (1)		
										P (9)	W (9)	V (9)	L (8)	A (8)		

			ST (5)	E (4)	cat (4)	bad (4)		<b>SP (2)</b>	F (2)	PG (2)	A (2)	S (2)	S (1)	G (1)			
								<b>CVHD (2)</b>	F (2)	PG (2)	A (2)	S (2)	T (2)	G (4)			
				T (1)	dec (1)	w (1)		<b>ID (1)</b>	F (1)	C (1)	W (1)	V (1)	T (1)	A (1)			
<i>Lactuca sativa</i> L. [C], HUMPOD 925	👤👤👤 / تشوفا : الخصب / lettuce	n° 792	L (5)	E (5)	cr (5)	oral (5)		<b>DIA (4)</b>	F (4)	PG (4)	A (4)	S (4)	L (4)	A (5)	B (5)	<b>0,00</b>	<b>5</b>
								<b>RP (1)</b>	F (1)	PG (1)	P (1)	S (1)	S (1)				
<i>Launaea arborescens</i> (Batt.) Murb. * [W], HUMPOD 926	👤👤👤 : أم لبينا / Pensasrisuva lvatti	-	L (2)	E (2)	cr (2)	mas (2)		<b>SP (2)</b>	F (2)	PG (2)	A (2)	S (2)	S (2)	A (2)	B (2)	<b>0,00</b>	<b>2</b>
<i>Matricaria chamomilla</i> L [W], HUMPOD 927	👤👤👤 / البايونج / Chamomile	n° 121, 1767	L (5)	T (5)	dec (2)	oral (2)		<b>OD (1)</b>	D (1)	C (1)	W (1)	V (1)	T (1)	G (1)	B (9)	<b>0,00</b>	<b>9</b>
								<b>NSD (1)</b>	D (1)	C (1)	P (1)	V (1)	T (8)	A (8)			
								<b>RD (1), DP (2)</b>	D (3)	C (3)	W (3)	V (3)					
			SE (2)	T (2)	dec (1)	rin (1)		<b>ED (1)</b>	D (1)	PG (1)	W (1)	T (1)					
					w (1)	w (1)		<b>ED (1)</b>	D (3)	C (3)	W (3)	V (3)					
			ST (2)	T (2)	inf (2)	oral (2)		<b>NSD (2)</b>									
<i>Sonchus tenerimus</i> L. [W], HUMPOD 928	👤👤👤 / ثيفلف / Slender Sow-thistle	-	L (1)	E (1)	cat (1)	bad (1)		<b>SP (1)</b>	F (1)	PG (1)	A (1)	S (1)	T (1)	G (1)	B (1)	<b>0,00</b>	<b>1</b>
<i>Stevia rebaudiana</i> (Bertoni) Bertoni [C], HUMPOD 929	👤👤👤 / أستيفيا / Candyleaf	-	X (1)	P (1)	cr (1)	oral (1)		<b>DIA (1)</b>	D (1)	C (1)	L (1)	S (1)	L (1)	A (1)	B (1)	<b>0,00</b>	<b>1</b>
<i>Taraxacum obovatum</i> (Willd.) DC. [W], HUMPOD 930	👤👤👤 / اودجن / Pissenlit obovale, dandelion	-	ST (7)	P (3)	cr (3)	oral (3)		<b>CAN (3)</b>	D (3)	C (3)	M (3)	C (3)	L (3)	A (9)	B (9)	<b>0,00</b>	<b>9</b>
								<b>DIA (4)</b>	D (4)	C (4)	M (4)	C (4)	L (4)				
			X (2)	T (2)	cr (2)	oral (2)		<b>CP (2)</b>	F (2)	P (2)	A (2)	S (2)	S (2)				
<b>BORAGINACEAE</b>																	
<i>Anchusa italica</i> Retz. [W], HUMPOD 931	👤👤👤 / لسان الأرض / garden anchusa	-	L (3)	E (3)	cr (3)	bad (3)		<b>MD (3)</b>	F (3)	PG (3)	A (3)	S (3)	S (3)	A (3)	A (3)	<b>0,00</b>	<b>0,009</b>
			R (6)	E (6)	cat (6)	bad (6)		<b>MD (5)</b>	F (5)	PG (5)	A (5)	S (5)	S (5)	A (5)	B (6)	<b>9</b>	
								<b>SP (1)</b>	F (1)	PG (1)	A (1)	S (1)	T (1)	G (1)			
<b>BRASSICACEAE</b>																	
<i>Brassica juncea</i> (L.) Czern. [C], HUMPOD 932	👤👤👤 / حب الخردل / Black mustard	-	R (1)	P (1)	cr (1)	oral (1)		<b>RD (1)</b>	D (1)	C (1)	M (1)	C (1)	T (1)	G (1)	B (1)	<b>0,00</b>	<b>0,006</b>
<i>Brassica rapa</i> L. [C], HUMPOD 933	👤👤👤 / الفت / Colza	-	B (3)	T (3)	inf (3)	oral (3)		<b>RD (3)</b>	F (3)	PG (3)	M (3)	S (3)	T (3)	G (3)	B (15)	<b>0,01</b>	<b>5</b>
			L (12)	E (9)	cat (9)	bad (9)		<b>HM (9)</b>	F (9)	PG (9)	W (7)	S (7)	T (7)	A (7)			
								<b>HM (3)</b>	F (3)	PG (3)	P (3)	S (3)	T (3)	G (3)			
<i>Eruca vesicaria</i> subsp. <i>sativa</i> (Mill.) Thell. * [W], HUMPOD 934	👤👤👤 / الجرجير / Rocket salad	-	L (2)	E (2)	cat (1)	bad (1)		<b>SP (1)</b>	F (1)	PG (1)	A (1)	S (1)	L (1)	G (1)	B (2)	<b>0,00</b>	<b>2</b>
								<b>DIA (1)</b>	D (1)	C (1)	W (1)	V (1)	L (1)	A (1)			
<i>Lepidium sativum</i> L. * [C], HUMPOD 935	👤👤👤 / حبة الرشاد / Cress	n° 446, 578, 653, 1041, 1776, 2160	SE (8)	P (7)	cr (2)	bad (2)		<b>SP (2)</b>	D (2)	C (2)	M (2)	C (2)	T (2)	G (2)	B (8)	<b>0,00</b>	<b>9</b>
								<b>DP (1), MD (3)</b>	D (4)	C (4)	L (4)	V (4)	S (4)	A (6)			
								<b>RD (1)</b>	D (1)	C (1)	L (1)	V (1)	L (1)				
								<b>DIA (1)</b>	D (1)	C (1)	L (1)	V (1)	L (1)				
<i>Rorippa nasturtium-aquaticum</i> (L.) Hayek [W], HUMPOD 936	👤👤👤 / ركنوش / Watercress	-	L (1)	T (1)	dec (1)	oral (1)		<b>NSD (1)</b>	D (1)	C (1)	W (1)	V (1)	T (1)	A (1)	B (1)	<b>0,00</b>	<b>1</b>
<b>CACTACEAE</b>																	
			F (17)	P (10)	cr (10)	oral (10)		<b>CVHD (1), DIA (1)</b>	D (2)	C (2)	M (2)	C (2)	L (2)	A (2)	B (57)	<b>0,05</b>	<b>0,057</b>
																<b>7</b>	

<i>Opuntia ficus-indica</i> (L.) Mill. [C], HUMPOD 937	* [C], HUMPOD 937	* [C], HUMPOD 937	* [C], HUMPOD 937	* [C], HUMPOD 937	* [C], HUMPOD 937	* [C], HUMPOD 937	* [C], HUMPOD 937	DP (7)	D (7)	C (7)	H (4)	S (4)	T (4)	G (7)									
								ID (1)	D (1)	C (1)	M (3)	C (3)	T (1), L (2)	L (1)	A (1)								
								UTP (1), DP (3)	D (4)	C (4)	M (4)	C (4)	L (4)	A (7)									
								DIA (2)	D (2)	C (2)	A (2)	S (2)	L (2)										
								RP (1)	D (1)	PG (1)	M (1)	S (1)	S (1)										
								DP (2)	F (2)	C (2)	A (2)	S (2)	L (2)	A (3)									
								SP (1)	D (1)	C (1)	M (1)	C (1)	S (1)										
								SP (5)	F (5)	PG (5)	A (5)	S (5)	L (2)	A (2)									
													S (3)	G (3)									
													T (4)	G (4)									
													C (2)	M (2)	C (2)	S (2)	S (2)	A (2)					
													F (2)	PG (2)	A (2)	S (2)	S (2)	T (1)	A (1)				
													F (3)	PG (3)	A (3)	S (3)	S (2)	S (2)	G (2)				
													F (2)	PG (2)	A (2)	S (2)	S (2)	A (11)					
					F (1)	C (1)	P (1)	S (9)	L (9)														
					F (3)	C (3)	A (8)																
					F (2)	V (2)																	
					F (3)	C (3)																	
					F (9)	PG (9)	A (9)	S (9)	T (9)	G (12)													
					F (3)	V (3)	M (3)	S (3)	S (3)														
					F (3)	V (3)	M (3)	S (3)	S (3)														
<b>CANNABACEAE</b>	<i>Cannabis sativa</i> L. * [C], HUMPOD 938	٣٠٠٠٠٠ / الكيف / Cannabis	n° 1874	L (6) ST (1)	T (6) P (1)	cat (6) cr (1)	bad (6) mas (1)	SP (7)	D (7)	P (7)	W (7)	S (7)	L (7)	G (7)	B (7)	0,00	0,007	7					
<b>CAPPARACEAE</b>	<i>Capparis spinosa</i> L. [W], HUMPOD 939	٣٠٠٠٠٠ / ثريريت / Caper Bush	n° 95, 1877, 2030	ST (11)	E (11)	cr (11)	bad (11)	SP (11)	F (11)	PG (11)	W (11)	S (11)	T (11)	G (11)	B (11)	0,01	0,011	1					
<b>CARYOPHYLLACEAE</b>	<i>Herniaria cinerea</i> DC [W], HUMPOD 940	٣٠٠٠٠٠ / مهريس لاجر / Hairy rupturewort	-	W (68)	T (68)	dec (68)	oral (68)	UTP (68)	D (61) F (7)	C (61) C (7)	W (61) W (7)	V (61) V (7)	L (61) L (7)	A (44), G (17) A (7)	B (68)	0,06	0,024	8					
	<i>Silene vulgaris</i> (Moench) Garcke [W], HUMPOD 941	٣٠٠٠٠٠ / ثيفيفشت / Maidenstears	-	B (3) W (1)	T (3) E (1)	dec (3) cat (1)	oral (3) bad (1)	DP (3) SP (1)	F (3) F (1)	C (3) PG (1)	W (3) A (1)	V (3) S (1)	L (3) S (1)	A (3) G (1)	B (4)	0,00	4						
	<i>Vaccaria hispanica</i> (Mill.) Rauschert [W], HUMPOD 942	٣٠٠٠٠٠ / بوساط الملووك / Cow soapwort	-	L (1)	T (1)	dec (1)	oral (1)	UTP (1)	D (1)	C (1)	W (1)	V (1)	L (1)	A (1)	B (1)	0,00	1						
<b>CISTACEAE</b>	<i>Cistus ladanifer</i> L. * [W], HUMPOD 943	٣٠٠٠٠٠ / ثوزانتس / Common gum cistus	-	L (8) X (1)	P (3) T (5) T (1)	cr (3) dec (5) cr (1)	bad (3) oral (5) oral (1)	SP (3) DP (5) DP (1)	D (3) D (5) F (1)	P (3) P (5) PG (1)	M (3) W (5) A (1)	V (3) V (5) S (1)	S (3) L (5) L (1)	A (9)	B (9)	0,00	0,017	9					
	<i>Cistus salvifolius</i> L. [W], HUMPOD 944	٣٠٠٠٠٠ / شماغت / Sage-leaved Rock-rose	-	L (13)	E (6)	cat (4)	bad (4)	DP (1) HM (3)	F (1) F (3)	PG (1) PG (1)	A (1) A (1) A (2)	S (1) S (1) S (2)	T (1) T (1) T (2)	G (1) G (1) A (2)	B (24)	0,02	4						
						cr (2)	mas (2)	SP (2)	F (2)	P (2)	A (2)	S (2)	T (2)	G (2)									
						P (2)	pd (1)	SP (1)	D (1)	C (1)	P (1)	V (2)	L (2)	A (2)									
						cr (1)	bad (1)	SP (1)	D (1)	P (1)	W (1)												
						T (5)	dec (5)	RD (2) DP (3)	D (2) F (2)	P (2) C (2)	W (2) W (2)	V (2) V (2)	T (2) L (2)	G (2) A (2)									
						ST (9)	P (1)	cr (1)	MD (1)	D (1)	C (1)	H (1)	C (1)	S (1)	G (1)								

					T (8)	dec (2)	oral (2)		<b>DP (2)</b>	F (2)	P (2)	W (2)	V (2)	L (2)	A (2)			
						cr (6)	bad (6)		<b>SP (6)</b>	D (6)	C (6)	M (6)	C (6)	L (6)	G (6)			
					W (2)	P (2)	cr (2)	bad (2)	<b>SP (2)</b>	D (2)	C (2)	A (2)	S (2)	S (2)	G (2)			
<b>CONVOLVULACEAE</b>	<i>Convolvulus althaeoides</i> L. [W], HUMPOD 945	الطوايا : ثمنات / <b>Mallow bindweed</b>	n° 1297, 2004	L (92)	E (92)	cat (88)	bad (88)		<b>SP (88)</b>	F (88)	PG (88)	A (83),P(5)	S (88)	T (88)	G (88)	B (104)	<b>0,10</b>	<b>0,104</b>
						dec (4)	oral (4)		<b>DIA (2)</b>	F (2)	PG (2)	P (2)	S (2)	L (2)	A (4)		<b>4</b>	
					W (12)	E (12)	cat (12)	bad (12)	<b>DP (2)</b>	F (2)	PG (2)	P (2)	S (2)	S (2)				
									<b>SP (12)</b>	F (12)	PG (12)	A (12)	S (12)	T (12)	G (12)			
<b>CUCURBITACEAE</b>	<i>Citrullus lanatus</i> (Thunb.) Matsum. & Nakai * [C], HUMPOD 946	الدلاح / <b>watermelon</b>	-	X (1)	E (1)	jus (1)	oral (1)		<b>RD (1)</b>	F (1)	V (1)	A (1)	S (1)	L (1)	A (1)	B (1)	<b>0,00</b>	<b>0,003</b>
																	<b>1</b>	
	<i>Cucumis sativus</i> L. [C], HUMPOD 947	الخيار / <b>Cucumber</b>	n° 508, 835, 1690, 1739, 1743	X (6)	E (6)	cat (2)	bad (2)		<b>HM (2)</b>	F (2)	PG (2)	A (2)	S (2)	T (2)	G (2)	B (6)	<b>0,00</b>	
						cr (2)	bad (2)		<b>SP (2)</b>	F (2)	PG (2)	A (2)	S (2)	S (2)	A (4)		<b>6</b>	
						jus (2)	oral (2)		<b>DIA (2)</b>	F (2)	C (2)	L (2)	V (2)	L (2)				
	<i>Cucurbita maxima</i> Duchesne ex Lam. [C], HUMPOD 948	الكرعة الحمراء / <b>Pumpkin</b>	-	SE (2)	P (2)	cr (2)	oral (2)		<b>UTP (2)</b>	D (2)	C (2)	M (2)	C (2)	L (2)	A (2)	B (2)	<b>0,00</b>	<b>2</b>
<b>CUPRESSACEAE</b>	<i>Cupressus sempervirens</i> L. [C], HUMPOD 949	البستان / <b>Mediterranean cypress</b>	n° 1168, 1291, 1416	SE (4)	T (4)	dec (4)	oral (4)		<b>OD (4)</b>	F (4)	C (4)	W (4)	V (4)	S (4)	G (4)	B (4)	<b>0,00</b>	<b>0,158</b>
																	<b>4</b>	
	<i>Tetraclinis articulata</i> (Vahl) Mast. [W], HUMPOD 950	العصر / <b>Sictus tree</b>	n° 1528	L (281)	E (47)	cat (33)	bad (32)		<b>DIA (1)</b>	F (1)	PG (1)	P (1)	S (1)	L (1)	A (29)	B (310)	<b>0,31</b>	<b>1</b>
									<b>HM (5)</b>	F (5)	PG (5)	A (5)	S (5)	T (5)				
									<b>MD (23)</b>	F (23)	PG (23)	A (6)	S (6)	L (23)				
									<b>SP (3)</b>	F (3)	PG (3)	P (3)	S (3)	S (3)	G (3)			
						mas (1)			<b>SP (1)</b>	F (1)	PG (1)	H (1)	S (1)	L (1)	G (1)			
						cr (4)	bad (4)		<b>MD (4)</b>	F (4)	PG (4)	H (4)	S (4)	L (4)	A (4)			
						cu (10)	mas (9)		<b>MD (9)</b>	F (9)	C (9)	H (9)	S (9)	T (9)	A (10)			
						oral (1)	oral (1)		<b>DP (1)</b>	F (1)	C (1)	W (1)	V (1)	T (1)				
					P (119)	cat (10)	bad (10)		<b>HM (4)</b>	D (4)	PG (4)	W (1)	S (1)	S (1)	G (4)			
												P (3)	S (3)	T (3)				
									<b>MD (4)</b>	F (3)	PG (3)	H (3)	S (3)	L (3)	A (6)			
										D (1)	PG (1)	W (1)	S (1)	S (1)				
									<b>SP (2)</b>	D (2)	PG (2)	P (2)	S (2)	L (2)				
						cr (98)	bad (74)		<b>HM (12)</b>	D (12)	PG (12)	P (12)	S (12)	T (12)	A (12)			
									<b>MD (24)</b>	D (24)	PG (24)	P (24)	S (24)	L (7)	G (4), A (3)			
														T (17)	A (17)			
									<b>SP (37)</b>	D (37)	PG (37)	P (22)	S (22)	L (16), S (6)	A (37)			
											W (15)	S (15)	L (15)					
									<b>X (1)</b>	D (1)	PG (1)	P (1)	S (1)	T (1)	G (1)			
						mas (7)			<b>RP (7)</b>	D (7)	P (7)	P (7)	S (7)	S (7)	A (7)			
						oral (16)			<b>DP (16)</b>	D (16)	C (16)	L (6)	V (6)	L (6)	A (2), G (4)			
												M (10)	C (10)	L (10)	A (10)			
									<b>X (1)</b>	D (1)	PG (1)	A (1)	S (1)	T (1)	G (1)			
						dec (1)	r (1)		<b>MD (1)</b>	D (1)	PG (1)	W (1)	T (1)	T (1)	A (1)			
						inf (9)	oral (9)		<b>DP (9)</b>	D (9)	C (9)	L (2)	V (2)	L (2)	A (2)			
												W (7)	V (7)	T (7)	G (7)			
						w (1)	w (1)		<b>NSD (1)</b>	D (1)	PG (1)	A (1)	S (1)	T (1)	G (1)			
					T (115)	cat (20)	bad (20)		<b>RD (1)</b>	F (1)	PG (1)	H (1)	S (1)	L (1)	A (1)			
									<b>HM (5)</b>	F (5)	PG (5)	A (4)	S (4)	T (4)	G (1), A (3)			



FABACEAE																			
<i>Anagyris foetida</i> L. * [W], HUMPOD 955	⬆⬆⬆⬆⬆⬆⬆⬆ / الخروب / ديال الديب / Stinking Wood	n° 153, 156, 558, 765, 1406, 1608	L (1)	T (1)	cat (1)	bad (1)	HM (1)	F (1)	PG (1)	P (1)	S (1)	T (1)	G (1)	B (1)	0,001	0,046			
<i>Ceratonia siliqua</i> L. [C], HUMPOD 956	⬆⬆⬆⬆⬆⬆⬆⬆ / الخروب / Carob	n° 762	L (2)	E (2)	dec (1)	oral (1)	DP (1)	F (1)	P (1)	W (1)	V (1)	L (1)	A (1)	B (1)	0,17				
					cat (1)	bad (1)	HM (1)	F (1)	P (1)	A (1)	S (1)	T (1)	G (1)	(171)	2				
			R (2)	T (2)	dec (2)	oral (2)	DP (2)	F (2)	C (2)	W (2)	V (2)	L (2)	A (2)						
			X (167)	P (132)	cr (120)	oral (120)	DP (118)	D (118)	C (118)	M (118)	C (118)	L (118)	A(51), G(68)						
					inf (10)	oral (10)	SP (2)	D (2)	C (2)	H (2)	C (2)	S (2)	A (2)						
					pd (2)	oral (2)	DP (10)	D (10)	C (10)	W (10)	V (10)	L (12)	G (12)						
					cr (24)	oral (24)	DP (2)	D (2)	C (2)	M (2)	C (2)								
				T (35)			DP (24)	D (24)	C (19)	A (13)	S (13)	L (6)	A(3), G(3)						
												T(6);L(1)	G (13)						
										M (6)	C (6)	T (6)							
					dec (3)	oral (3)	DP (3)	D (3)	C (3)	W (3)	V (3)	L (3)	A(2)						
					inf (8)	oral (8)	CP (2)	D (2)	P (2)	W (2)	V (2)	S (2)	G(3)						
							EMD (4)	D (4)	P (4)	W (4)	V (4)	T (2),L(2)	A(11)						
							EMD (2)	D (2)	P (2)	W (2)	V (2)	L (2)							
<i>Cicer arietinum</i> L. [C], HUMPOD 957	⬆⬆⬆⬆⬆⬆⬆⬆ / الحمص / Chickpea	n° 696	SE (6)	P (3)	cr (3)	bad (3)	SP (3)	D (3)	C (3)	L (3)	V (3)	S (3)	A (3)	B (6)	0,006				
					inf (3)	oral (3)	DP (3)	D (3)	C (3)	W (3)	V (3)	S (3)	G (3)						
<i>Glycyrrhiza glabra</i> L. * [I], HUMPOD 958	⬆⬆⬆⬆⬆⬆⬆⬆ / عرق السوس / liquorice	n° 305, 1250, 1640, 1536	ST (1)	P (1)	cr (1)	oral (1)	RD (1)	D (1)	C (1)	P (1)	S (1)	L (1)	G (1)	B (1)	0,001				
<i>Glycine max</i> (L.) Merr. * [C], HUMPOD 959	⬆⬆⬆⬆⬆⬆⬆⬆ / الصويا / Soybean	-	SE (5)	P (2)	cr (2)	w (1)	RD (1)	D (1)	P (1)	A (1)	S (1)	T (1)	G (1)	B (5)	0,005				
					cr (3)	oral (3)	MD (1)	D (4)	C (4)	M (4)	C (4)	L (4)	A (4)						
							EMD (3)												
<i>Lens culinaris</i> Medik [C], HUMPOD 960	⬆⬆⬆⬆⬆⬆⬆⬆ / لعدس / Lentil	n° 350, 1518	SE (6)	P (6)	cr (6)	oral (1)	CP (1)	D (1)	V (1)	M (1)	S (1)	L (1)	A (1)	B (6)	0,006				
						bad (2), mas (3)	SP (5)	D (5)	C (5)	H (5)	C (5)	S (5)	G (5)						
<i>Medicago sativa</i> L. * [C], HUMPOD 961	⬆⬆⬆⬆⬆⬆⬆⬆ / الفصا / Alfalfa	n° 78, 1011, 1044, 1684, 1738, 1805, 2231	L (3)	E (3)	cat (3)	mas (3)	SP (3)	F (3)	PG (3)	A (3)	S (3)	S (3)	G (3)	B (3)	0,003				
<i>Ononis angustissima</i> Lam. [W], HUMPOD 962	⬆⬆⬆⬆⬆⬆⬆⬆ / أفرز / Yellow restharrow	-	L (67)	E (32)	cat (27)	bad (27)	EMD (1)	F (1)	PG (1)	W (1)	S (1)	S (1)	A (1)	B (67)	0,068				
							MD (1)	F (1)	PG (1)	W (1)	S (1)	T (1)	G (1)						
							SP (25)	F (25)	PG (25)	A (21)	S (21)	T (21)	G (21)						
					dec (2)	oral (2)	DP (2)	F (2)	C (2)	P (2)	V (2)	L (2)	A (2)						
					jus (3)	mas (3)	HM (3)	F (3)	PG (3)	P (3)	S (3)	T (3)	G (3)						
				T (36)	dec (1)	oral (1)	RD (1)	F (1)	C (1)	W (1)	V (1)	S (1)	G (1)						
					cat (33)	bad (33)	SP (33)	F (33)	PG (33)	A (30)	S (30)	T (30)	G (30)						
					dec (2)	oral (2)	RD (2)	F (2)	C (2)	P (2)	V (2)	T (2)	A (2)						
										H (3)	S (3)	T (3)	A (3)						
<i>Senna alexandrina</i> Mill. [W], HUMPOD 963	⬆⬆⬆⬆⬆⬆⬆⬆ / السنن / Senna	n° 1236	L (9)	T (9)	dec (5)	oral (5)	DP (5)	D (5)	C (5)	W (5)	V (5)	L (3), T (2)	G (5)	B (21)	0,023				
					inf (4)	oral (4)	DP (4)	D (4)	C (4)	W (4)	V (4)	T (4)	A (7)						
			SE (14)	P (2)	inf (2)	oral (2)	DP (2)	D (2)	C (2)	W (2)	V (2)	L (2)							
				T (12)	cr (1)	bad (1)	DP (1)	D (1)	C (1)	W (1)	S (1)	S (1)							
					dec (6)	oral (6)	DP (6)	D (6)	C (6)	W (6)	V (6)	L (1)	A (1)						
												T (5)	G (5)						

<i>Senna italica</i> Mill. [I], HUMPOD 964	سنة العسل / السنة العسل / Italian Senna	-	FL (6), L (1)	T (7)	inf (5) inf (7)	oral (5) oral (7)	<b>DP (5)</b> <b>DP (7)</b>	D (5) D (7)	C (5) C (7)	W (5) W (7)	V (5) V (7)	T (5) T (7)	G (5) G (7)	B (7)	<b>0,00</b> <b>7</b>
<i>Trigonella</i> <i>foenum-graecum</i> L. * [C], HUMPOD 965	ثعلب / الحلبة / رحوربث / Ferugreek	<i>n° 684, 904</i>	L (1) SE (257)	T (1) E (6) P (218)	inf (1) cr (6) cr (153)	oral (1) oral (6) bad (2) mas (2) oral (149)	<b>DP (1)</b> <b>DIA (3),</b> <b>CVHD (3)</b> <b>SP (2)</b> <b>SP (2)</b> <b>RD (6)</b> <b>CVHD (6)</b> <b>DIA (24)</b> <b>DP (67)</b> <b>EMD (12)</b> <b>MD (17)</b> <b>NSD (4)</b> <b>RD (7)</b> <b>RD (6)</b> <b>RD (4)</b> <b>DP (3)</b> <b>DIA (1)</b> <b>DP (22)</b> <b>EMD (10)</b> <b>MD (5)</b> <b>RD (5), RP (5)</b> <b>DP (8)</b> <b>OD (2)</b> <b>RD (2)</b> <b>DP (18)</b> <b>RP (1)</b> <b>SP (4)</b> <b>DP (4), EMD</b> <b>(1), BTP (3)</b> <b>DP (7)</b>	D (1) F (6) D (2) C (2) D (2) C (2) D (6) C (6) D (6) C (24) D (67) D (12) C (12) D (17) C (17) D (4) C (4) D (7) C (7) D (6) C (6) D (4) C (4) D (3) C (3) D (1) C (1) D (22) C (22) D (10) C (10) D (10) C (10) D (8) C (8) D (2) C (2) D (18) C (18) D (1) C (1) D (4) C (4) D (8) C (8) D (7) C (7)	C (1) C (6) C (2) C (2) C (6) C (6) C (6) C (24) C (67) C (12) C (17) C (4) C (7) C (6) C (4) C (3) C (3) C (1) C (22) C (10) C (5) C (10) C (8) C (2) C (2) C (18) C (1) C (4) C (4) C (8) C (7) C (7)	W (1) W (6) H (2) M (2) M (6) M (3), P (3) L (2) V (2) L (2) M (22) C (22) L (2) V (2) M (65) L (6) M (5) P (1) L (2) M (15) M (3), P (1) M (6), P (1) M (6) W (4) V (4) M (3) C (3) W (1) V (1) L (11) V (11) W (11) V (11) L (10) V (10) L (5) V (5) L (10) V (10) M (7) C (7) L (8) P (1) S (1) M (2) C (2) W (2) V (2) L (2) V (2) M (14) C (14) W (2) V (2) L (2) C (1) M (3) C (3) H (1) C (1) W (8) V (8) M (7) C (7)	V (1) V (6) C (2) C (2) C (6) C (6) V (2) V (2) L (22) C (22) L (2) V (2) L (50) L (12) C (5) S (1) V (2) C (15) C (4) C (7) C (6) V (4) V (4) C (3) C (3) V (1) V (1) V (11) V (11) L (10) V (10) V (5) V (10) C (7) C (7) L (8) S (1) C (2) V (2) T (2) T (2) C (14) V (2) C (1) C (3) C (1) V (8) C (7) C (7) L (7)	L (1) L (6) L (2) L (2) T (6) L (6) L (22) L (2) L (2) L (50) L (12) L (2) L (2) L (12) L (2) L (15) L (4) L (7) L (1), T (5) L (1) L (3) L (1) L (1) L (11) L (11) L (10) L (10) L (10) L (10) L (8) L (8) T (2) T (2) T (2) L (14) L (2) L (1) T (3) L (1) T (8) L (7)	A (1) A (6) A (2) A (2) G (6) A (6) A (24) A (2) A (32), G (18) A (2) G (8), A (5) A (12) A (17) A (17) A (17) G (4) A (3) A (1) G (1) A (10) A (5), G (6) A (15) A (10) A (10) G (2) A (2) A (10), G (4) A (2) G (1) G (3) A (1) A (8) A (7)	B (7) B (265)	<b>0,00</b> <b>7</b> <b>0,26</b> <b>6</b> <b>8</b>
<i>Vicia ervilia</i> (L.) Willd * [C], HUMPOD 966	كرسنة / Bitter vetch	<i>n° 1912</i>	ST (7) SE (7) X (1) SE (35)	P (7) P (7) T (1) E (4)	cr (7) cr (7) pd (1) cu (4)	oral (7) oral (7) oral (1) oral (4)	<b>RD (1), DP</b> <b>(6)</b> <b>DP (1)</b> <b>DP (3)</b>	D (7) D (7) D (1) D (3)	C (7) C (7) C (1) C (2)	M (7) M (7) M (1) W (2)	C (7) C (7) C (1) V (2)	L (7) L (7) L (1) L (2)	A (7) A (7) G (1) A (2)	B (8)	<b>0,00</b> <b>8</b>







Xخزامي / French lavender															
FL (55)	P (9)	cr (9)	rin (2)	<b>RP (2)</b>	D (2)	PG (2)	W (2)	T (2)	T (2)		A (2)				
			bad (4)	<b>SP (4)</b>	D (4)	PG (4)	H (4)	S (4)	T (4)		G (4)				
			w (5)	<b>EP (5)</b>	D (5)		H (2)	S (2)	T (2)		A (2)				
	T (46)	cat (3) cu (4)	bad (3)	<b>SP (3)</b>	F (3)	PG (3)	W (3)	S (3)	L (3)		A (7)				
			mas (4)	<b>SP (2)</b>	D (2)	C (2)	H (2)	S (2)	L (2)						
		dec (27)	oral (22)	<b>HM (2)</b>	D (2)	C (2)	H (2)	S (2)	T (2)						
					<b>RD (15)</b>	D (15)	C (15)	W (15)	V (15)	T (15)		A (15)			
				<b>DP (3)</b>	F (3)	C (3)	W (3)	V (3)	T (3)		G (16)				
				<b>RP (4)</b>	D (4)	C (4)	W (4)	V (4)	L (9)						
				<b>RP (5)</b>	D (5)	PG (5)	W (5)	T (5)							
		inf (12)	rin (5)	<b>RD (6)</b>	D (6)	C (6)	W (6)	V (6)	T (6)		G (6)				
			oral (11)		<b>DIA (2)</b>	D (2)	C (2)	W (2)	V (2)	L (2)		A (2)			
				<b>DP (1)</b>	D (1)	C (1)	W (1)	V (1)	T (1)		G (4)				
				<b>RP (2)</b>	D (2)	C (2)	W (2)	V (2)	S (2)						
				<b>SP (1)</b>	F (1)	C (1)	W (1)	V (1)	T (1)						
L (101)	E (1) P (10)	cat (1) cr (6)	rin (1)	<b>HM (1)</b>	F (1)	PG (1)	W (1)	S (1)	T (1)		G (1)				
			bad (1)	<b>RD (2)</b>	D (2)	C (2)	M (2)	C (2)	T (2)		G (10)				
			oral (6)	<b>DP (4)</b>	D (4)	C (4)	M (4)	C (4)	S (2),T (2)						
				<b>RP (1)</b>	D (1)	C (1)	W (1)	V (1)	S (1)		A (1)				
		dec (4)	oral (1)	<b>UTP (3)</b>	D (3)	PG (3)	M (3)	S (3)	L (3)		G (3)				
		bad (3)	bad (3)	<b>RD (11)</b>	D (11)	C (11)	W (11)	V (11)	T (11)		G (11)				
	T (90)	dec (67)	oral (49)	<b>CVHD (1)</b>	D (1)	C (1)	P (1)	V (1)	L (1)		A (24)				
						<b>DIA (1)</b>	D (1)	C (1)	P (1)	V (1)	L (1)				
				<b>DP (14)</b>	D (14)	C (14)	W (14)	V (14)	T (14)						
				<b>IPP (1)</b>	D (1)	C (1)	W (1)	V (1)	T (1)						
				<b>MD (7)</b>	D (7)	C (7)	W (7)	V (7)	S (7)						
				<b>RP (2)</b>	D (2)	C (2)	W (2)	V (2)	L (1), S(1)		G (2)				
				<b>UTP (11)</b>	D (11)	C (11)	W (11)	V (11)	L (11)		G (9), A(2)				
											G (2)				
			rin (18)	<b>DP (2)</b>	D (2)	PG (2)	W (2)	T (2)	L (2)		G (2)				
				<b>RP (14)</b>	D (14)	C (1)	W (1)	V (1)	T (1)		A (1)				
						PG (13)	W (13)	T (13)	L (11)		G (5), A(6)				
											G (2)				
											G (3)				
											G (2)				
											G (3)				
			inf (21)	<b>UTP (2)</b>	D (2)	PG (2)	W (2)	T (2)	T (2)		G (2)				
			oral (20)	<b>RD (10)</b>	F (1) D (9)	C (1) C (9)	W (1) W (9)	V (1) V (9)	T (9)		G (6), A (3)				
											A (3)				
				<b>DIA (3)</b>	D (3)	C (3)	W (3)	V (3)	L (3)		A (3)				
				<b>DP (5)</b>	D (5)	C (5)	W (3)	V (3)	T (3)		A (3)				
							P (2)	V (2)	S (2)		G (2)				
				<b>RP (2)</b>	F (1) D (1)	C (1) C (1)	W (1) W (1)	V (1) V (1)	L (1) L (1)		A (1) G (1)				
				<b>RP (1)</b>	D (1)	PG (1)	W (1)	T (1)	T (1)		A (1)				
			rin (1)	<b>RD (2)</b>	D (2)	C (2)	W (2)	V (2)	T (2)		G (3)				
			w (2)	<b>SP (1)</b>	D (1)	PG (1)	P (1)	S (1)	L (1)						
			bad (1)	<b>RD (1)</b>	D (1)	C (1)	W (1)	V (1)	T (1)		A (1)				
			oral (6)	<b>RP (4)</b>	F (4)	C (4)	A (4)	V (4)	S (4)		X (4)				
				<b>UTP (1)</b>	D (1)	C (1)	W (1)	V (1)	S (1)		A (1)				
				<b>DP (3)</b>	D (3)	C (3)	W (3)	V (3)	T (3)		G (3)				
				<b>UTP (1)</b>	F (1)	C (1)	W (1)	V (1)	S (1)		G (1)				
	W (3)	T (3)	dec (3)	oral (3)											
	X (1)	T (1)	dec (1)	oral (1)											
<i>Lavandula</i>	<i>n° 62,</i>	F (3)	T (3)	inf (3)	oral (3)	<b>DP (3)</b>	F (3)	C (3)	W (3)	V (3)	L (3)	A (3)	B (9)	<b>0,00</b>	
<i>stoechas</i> L. [W],	<i>1437, 1944,</i>	L (5)	T (5)	dec (4)	oral (4)	<b>RD (2)</b>	F (2)	C (2)	W (2)	V (2)	T (2)	A (1), G		<b>9</b>	
HUMPOD 975	<i>2182</i>											(1)			



☚ [W], HUMPOD 978				P (1)	pd (1)	bad (1)	<b>RD (1)</b>	D (1)	PG (1)	H (1)	S (1)	T (1)	G (1)		
				T (12)	cat (1)	bad (1)	<b>MD (1)</b>	F (1)	PG (1)	W (1)	S (1)	T (1)	A (9)		
					dec (6)	oral (5)	<b>RD (1)</b>	F (1)	P (1)	W (1)	V (1)	T (1)			
							<b>DP (4)</b>	F (4)	P (4)	W (1)	V (1)	L (1)			
										P (3)	V (3)	S (3)			
						rin (1)	<b>SP (1)</b>	F (1)	PG (1)	W (1)	T (1)	T (1)			
						w (5)	<b>MD (2)</b>	D (2)	PG (2)	A (2)	S (2)	L (2)			
							<b>ED (3)</b>	D (3)	PG (3)	P (3)	S (3)	T (3)	G (3)		
			ST (12)	E (1)	cat (1)	bad (2)	<b>MD (2)</b>	F (2)	PG (2)	A (2)	S (2)	L (2)	A (2)		
				T (11)	cat (1)										
					dec (10)	oral (10)	<b>RD (3)</b>	D (1)	P (1)	A (1)	S (1)	T (1)	G (1)		
								F (2)	P (2)	W (2)	V (2)	T (2)	A (13)		
							<b>DIA (2)</b>	F (2)	P (2)	W (2)	V (2)	L (2)			
							<b>DP (5)</b>	D (3)	P (3)	W (3)	V (3)	T (9)			
								F (2)	P (2)	A (6)	S (6)				
				W (4)	T (1)	cat (1)	<b>RD (4)</b>	F (4)	PG (4)						
				E (3)	w (3)	w (3)									A (3)
<i>Marrubium</i>	ⲧⲉⲓⲁⲧⲟⲩ ; ⲧⲉⲓⲁⲧⲟⲩ	n° 1316	L (101)	E (71)	cat (67)	bad (56)	<b>RD (6)</b>	F (6)	PG (6)	H (6)	S (14)	T (14)	G (14)	B	<b>0,12</b>
<i>vulgare</i> L. [W], HUMPOD 979	ⲧⲉⲓⲁⲧⲟⲩⲓ / ⲧⲉⲓⲁⲧⲟⲩⲓ ميرورا ؛ مريوت / White horehound	1347, 1674					<b>DP (8)</b>	F (8)	PG (8)	H (6), A (2)				(122)	<b>2</b>
							<b>HM (11)</b>	F (11)	PG (11)	A (5)	S (5)	T (5)	G (5)		
										P (3)	S (3)	T (3)	A (3)		
							<b>RD (4)</b>	F (4)	PG (4)	W (3)	S (3)	T (3)	G (3)		
							<b>SP (27)</b>	F (27)	PG (27)	H (4)	S (4)	T (4)	A (4)		
										A (11),H(9)	S (20)	T (20)	G (20)		
										P (6)	S (6)	S (5)	G (5)		
												L (1)	A (1)		
							<b>DP (3)</b>	F (3)	PG (3)	W (1)	S (1)	L (1)	G (1)		
						mas (6)	<b>SP (3)</b>	F (3)	PG (3)	H (3)	S (3)	S (3)	G (6)		
							<b>EP (5)</b>	F (5)	PG (5)	P (3)	S (3)	T (3)			
										H (2)	S (2)	T (2)	A (2)		
							<b>RP (1)</b>	F (1)	PG (1)	A (3)	S (3)	T (3)	G (3)		
							<b>HM (3)</b>	F (3)	PG (3)	W (1)	T (1)	L (1)	G (4)		
							<b>HM (5)</b>	F (5)	PG (5)	P (3)	S (3)	T (3)			
										W (5)	S (5)	T (5)	G (4), A (1)		
							<b>IPP (3)</b>	F (3)	PG (3)	P (3)	S (3)	S (3)	G (3)		
							<b>SP (3)</b>	F (3)	PG (3)	W (3)	S (3)	T (3)	G (3)		
							<b>SP (5)</b>	F (5)	PG (5)	W (5)	S (5)	T (5)	A (5)		
							<b>DP (1)</b>	F (1)	PG (1)	H (1)	S (1)	S (1)	G (1)		
							<b>RD (3)</b>	F (3)	P (3)	W (3)	V (3)	T (3)	A (12)		
							<b>DP (8)</b>	F (8)	P (8)	W (8)	V (8)	S (3), T (5)			
							<b>DP (1)</b>	F (1)	PG (1)	W (1)	T (1)	S (1)			
							<b>RD (1)</b>	D (1)	PG (1)	W (1)	S (1)	T (1)			
							<b>HM (8)</b>	F (8)	PG (8)	A (8)	S (8)	T (8)	G (1)		
							<b>NSD (1)</b>	F (1)	PG (1)	A (1)	S (1)	T (1)			
							<b>SP (11)</b>	F (11)	PG (11)	H (3), A (8)	S (11)	T (11)			
							<b>RD (1)</b>	F (1)	C (1)	M (1)	V (1)	T (1)			
<i>Ocimum</i>	Ⲓⲉⲓⲁⲧⲟⲩⲓ ;	n° 205,	L (3)	T (3)	inf (1)	oral (1)	<b>UTP (1)</b>	D (1)	C (1)	W (1)	V (1)	L (1)	A (5)	B (5)	<b>0,00</b>
<i>basilicum</i> L. [C], HUMPOD 980	Ⲓⲉⲓⲁⲧⲟⲩⲓⲓ / Ⲓⲉⲓⲁⲧⲟⲩⲓⲓ الريحان الحبق / Basil	223, 511, 589, 593, 704, 726, 892, 897, 1075, 1077, 1268, 1441			dec (2)	oral (2)	<b>RD (2)</b>	D (2)	C (2)	W (2)	V (2)	T (4)			<b>5</b>
							<b>HM (2)</b>	D (2)	C (2)	H (2)	S (2)				

<i>Origanum majorana</i> L. [C], HUMPOD 981	يربد / الدوش / Majoran	n° 178, 586, 587, 891, 1230, 1598, 2100	L (9)	T (9)	dec (9)	oral (9)	<b>DIA (3), EMD (3)</b> <b>OD (3)</b>	D (6) D (3)	C (6) C (3)	M (6) W (3)	V (6) V (3)	L (6) T (3)	A (9)	B (9)	<b>0,009</b>
<i>Origanum vulgare</i> L. * [I], HUMPOD 982	الأريغافو / Wild Marjoram	-	L (4)	T (4)	dec (4)	oral (4)	<b>RP (4)</b>	F (4)	C (4)	W (4)	V (4)	S (4)	A (4)	B (4)	<b>0,004</b>
<i>Rosmarinus officinalis</i> L. * [W], HUMPOD 983	أزير / أزمران / Rosemary	n° 129	FL (4)	P (1) T (3)	cr (1) dec (2)	oral (1) oral (2)	<b>DP (1)</b> <b>DIA (1), RP (1)</b> <b>HM (1)</b> <b>OD (1)</b> <b>SP (1), HM (1), MD (1)</b> <b>RD (2), DP (1)</b> <b>DP (2)</b> <b>DIA (1)</b> <b>SP (5)</b> <b>DIA (3)</b> <b>SP (1)</b> <b>PP (1)</b> <b>RD (49)</b> <b>DIA (8)</b> <b>DP (85)</b> <b>MD (6)</b> <b>PP (2)</b> <b>RD (3)</b> <b>UTP (2)</b> <b>RD (78)</b> <b>CVHD (7)</b> <b>DIA (7)</b> <b>DP (38)</b> <b>HM (5), X (5)</b> <b>DP (11)</b> <b>RD (5)</b> <b>DP (1)</b> <b>RP (4)</b>	D (1) F (2) D (1) F (1) F (3) F (3) F (2) D (1) D (5) D (3) D (1) D (1) D (1) D (1) D (15) F (34) F (8) D (12) F (73) D (2) F (4) F (2) F (2) F (2) D (40) F (38) D (14) F (38) D (10) D (11) D (3) F (2) F (1) D (4)	C (1) C (2) P (1) C (1) PG (3) C (3) C (2) P (1) C (3) P (1) C (1) C (1) C (15) C (34) C (8) C (12) C (2) C (4) C (2) C (3) C (2) C (40) C (38) C (14) C (38) C (10) C (14) D (3) C (2) C (1) C (4)	M (1) W (2) W (1) H (3) W (3) W (2) H (1) W (4) P (1) W (3) A (1) L (1) W (15) P (3) W (12) P (3) W (70) W (2) P (3) W (2) W (2) W (2) W (40) W (38) W (14) W (38) W (10) W (14) D (3) W (2) W (1) W (4)	C (1) V (2) V (1) S (3) V (3) S (1) S (1) S (1) V (3) S (1) S (1) V (15) V (31) V (8) V (12) V (3) V (70) V (2) V (3) V (1) V (2) V (2) V (40) V (38) V (14) V (38) V (10) V (14) V (14) V (14) V (10) V (14) V (2) V (2) V (1) V (4)	L (3) T (1) T (1) L (3) T (3) T (2) L (1) L (1) L (3) T (1) S (1) T (15) T (31) L (8) T (12) T (3) S (12) T (58) T (2) S (3) T (1) S (2) L (3) S (2) T (40) T (38) L (14) L (11) T (27) T (10) T (14) T (2) T (1) T (1) S (4)	A (3) A (1) G (3) A (3) A (6) A (3) G (1) A (1) A (9), G (6) A (3) G (28), A (3) A (8) A (1), G (11) A (3) G (12) A (14), G (44) A (2) A (3) G (1) G (2) A (5) A (40) A (15), G (23) A (14) A (11) A (15), G (12) A (10) A (14) G (2) G (1) A (4)	<b>0,503</b>	



Benth. [W], HUMPOD 985	L (244)	P (26)	cr (18)	mas (11) oral (7)	DP (10) SP (11) DP (7)	D (10) D (11) D (7)	C (10) C (11) C (7)	W (10) W (11) M (7)	V (10) S (11) C (6) V (1)	T (10) T (11) L (4), S (2) T (1)	G (10) G (11) G (6) A (1)	
inf (168)	oral (168)	DP (19) RP (2) RD (96)	D (19) D (2) D (96)	C (19) C (2) C (96)	P (11) W (2) W (96)	V (11) V (2) V (96)	T (11) L (2), S (2) T (4) S (2) T (96)	A (11) A (4) G (4) A (2) A (55), G (41)				
									w (3) inf (2)	w (3) oral (2)	CP (2) DIA (3) DP (63)	D (2) D (3) D (63)
P (2)	w (3) inf (2)	oral (2)	IPP (2) NSD (2) ED (3) DP (1), RD (1)	D (2) D (2) D (3) D (2)	C (2) C (2) C (3) C (2)	W (2) W (2) P (3) W (2)	V (2) V (2) V (3) V (2)	T (2) T (2) T (3) T (2)				
									ST (175)	P (1) T (174)	cr (1) cr (2) dec (39)	bad (1) oral (2) oral (39)
inf (133)	oral (133)	HM (6), NSD (2), OD (6) RD (90)	D (14) D (90)	C (14) C (90)	W (14) P (17) W (73)	V (14) V (17) C (45) V (28)	T (14) T (17) T (45) T (28)	G (17) G (45) G (10), A (18) A (1)				
									W (3)	T (3)	inf (2) dec (1)	oral (2) oral (1)
L (24)	E (3) P (11)	cat (3) cat (3) cr (6)	bad (3) bad (3) bad (5) mas (1)	IPP (1), RD (1), SP (1) DP (2) RD (1)	D (3) D (2) D (1)	C (3) C (2) C (1)	W (3) W (2) P (1)	V (3) V (2) V (1)				
									Salvia verbenaca L [W], HUMPOD 986	n° 2108	Wild clary	n° 2108
B (57)	0,05 7											

						dec (2)	oral (2)		<b>UTP (2)</b>	F (1)	C (1)	W (1)	V (1)	L (1)	G (1)			
						inf (3)	oral (3)		<b>UTP (3)</b>	D (1)	C (1)	W (1)	V (1)	L (1)	A (1)			
						inf (1)	oral (1)		<b>RD (1)</b>	D (3)	C (3)	W (3)	V (3)	L (3)	G (3)			
			ST (2)	T (1)		dec (1)	oral (1)		<b>UTP (1)</b>	D (1)	C (1)	W (1)	V (1)	T (1)	A (2)			
				P (1)		cr (1), cat (1)	bad (2)		<b>SP (2)</b>	D (1)	C (1)	W (1)	V (1)	L (1)				
			W (31)	E (2)		cr (4)	bad (3)		<b>SP (3)</b>	F (2)	PG (2)	A (2)	S (2)	T (2)	G (2)			
				P (6)			oral (1)		<b>MD (1)</b>	D (3)	C (3)	M (3)	C (3)	T (3)	G (3)			
							oral (2)		<b>UTP (1)</b>	D (1)	C (1)	M (1)	C (1)	L (1)	A (1)			
							dec (2)		<b>SP (3)</b>	D (2)	C (2)	A (2)	S (2)	L (2)	A (2)			
							cat (3)		<b>UTP (20)</b>	F (3)	PG (3)	A (3)	S (3)	L (3)	A (23)			
							dec (9), inf (11)		<b>UTP (20)</b>	D (20)	C (20)	W (20)	V (20)	L (20)				
<b>LAURACEAE</b>	<i>Cinnamomum camphora</i> (L.) J. Presl * [I], HUMPOD 987	<b>الكافور / الكافور</b> / <b>camphor tree</b>	-	SE (2)	HG (2)	cr (2)	w (2)		<b>DP (1)</b>	D (1)	C (1)	A (1)	S (1)	S (1)	A (2)	B (2)	<b>0,00</b>	<b>0,013</b>
									<b>EP (1)</b>	D (1)	C (1)	H (1)	S (1)	T (1)			<b>2</b>	
	<i>Cinnamomum cassia</i> (L.) J. Presl [I], HUMPOD 988	<b>القرفة / Chinese cassia</b>	n° 46, 841, 1205, 2213	BA (30)	P (30)	cr (16)	bad (3)		<b>SP (3)</b>	D (3)	C (3)	H (3)	S (3)	L (3)	G (3)	B (37)	<b>0,03</b>	
							oral (10)		<b>RD (6)</b>	D (6)	C (6)	M (6)	V (6)	T (6)	A (13)		<b>7</b>	
							w (3)		<b>ID (4)</b>	D (4)	C (4)	M (4)	C (4)	L (4)				
							dec (1)		<b>SP (3)</b>	D (3)	C (3)	A (3)	S (3)	T (3)				
							oral (1)		<b>RP (1)</b>	D (1)	C (1)	W (1)	V (1)	L (1)	G (1)			
							inf (13)		<b>DIA (6), DP (2), EMD (5)</b>	D (13)	C (13)	W (13)	V (13)	L (13)	A (13)			
							dec (2)		<b>RD(2)</b>	D (2)	C	W (2)	V (2)	T (2)	G (2)			
							oral (3)		<b>DP (1), HM(2)</b>	D (3)	C (3)	W (3)	V (3)	T (3)	A (3)			
									<b>DP (2)</b>	D (2)	C (2)	M (2)	C (2)	S (2)	A (2)			
									<b>DIA (1)</b>	D (2)	C (2)	M (2)	C (2)	S (2)	A (2)			
	<i>Laurus nobilis</i> L. [W], HUMPOD 989	<b>أرالد : شجرة سيدنا موسى / Bay laurel</b>	n° 922, 965, 1065, 1619	L (1)	E (1)	dec (1)	oral (1)		<b>DP (2)</b>	D (2)	C (2)	M (2)	C (2)	S (2)	A (2)			
									<b>DIA (1)</b>	F (1)	C (1)	W (1)	V (1)	L (1)	A (1)	A (1)	<b>0,00</b>	<b>1</b>
<b>LINACEAE</b>	<i>Linum usitatissimum</i> L. * [C], HUMPOD 990	<b>زريعة الكتان / Flax</b>	n° 279, 933, 1885	SE (25)	P (17)	cr (13)	bad (3)		<b>DP (3)</b>	D (3)	C (3)	M (3)	C (3)	L (3)	A (3)	B (25)	<b>0,02</b>	<b>0,025</b>
							oral (10)		<b>RD (2)</b>	D (2)	C (2)	M (2)	C (2)	T (2)	G (2)		<b>5</b>	
									<b>DP (5)</b>	D (5)	C (5)	M (5)	C (5)	L (5)	A (4), G(1)			
									<b>NSD (2), UTP (1)</b>	D (3)	C (3)	M (3)	C (3)	T (3)	G (3)			
							cu (2)		<b>RD (1), MD (1)</b>	D (2)	C (2)	M (2)	C (2)	T (2)	A (2)			
							inf (2)		<b>RD (2)</b>	D (2)	C (2)	L (2)	V (2)	T (2)	G (2)			
							oral (8)		<b>DP (3), EMD (2)</b>	D (5)	C (5)	L (5)	V (5)	L (5)	A (8)			
									<b>MD (3)</b>	D (3)	C (3)	L (3)	V (3)	S (3)				
<b>LYTHRACEAE</b>	<i>Lawsonia inermis</i> L. [C], HUMPOD 991	<b>الحناء / Henna</b>	n° 719, 899, 1658, 2309	L (179)	E (1)	cat (1)	bad (1)		<b>SP (1)</b>	D (1)	PG (1)	P (1)	S (1)	L (1)	A (1)	B	<b>0,18</b>	<b>0,176</b>
							bad (9)		<b>HM (4)</b>	D (4)	PG (4)	P (4)	S (4)	T (4)	G (4)	(179)		
									<b>MD (2)</b>	D (2)	PG (2)	P (2)	S (2)	S (2)	A (2)			
									<b>SP (3)</b>	D (3)	PG (3)	W (3)	S (3)	L (3)	A (3)			
							mas (3)		<b>SP (3)</b>	D (3)	PG (3)	P (3)	S (3)	L (3)	G (3)			
							bad (146)		<b>HM (3)</b>	D (3)	PG (3)	P (3)	S (3)	T (3)	A (2), G (1)			
									<b>SP (143)</b>	D (143)	PG (143)	H (8)	S (8)	L (8)	A (8)			
												P (32)	S (32)	L (17)	A (10), G (7)			
														S (15)	A (15)			
												W (103)	S (103)	L (99), S(4)	A (103)			
							inf (2)	rin (2)	<b>MD (2)</b>	D (2)	PG (2)	W (2)	T (2)	S (2)	A (2)			



						T (18)	cat (3) cr (13)	bad (3) bad (13)	<b>MD (3)</b> <b>HM (3)</b> <b>SP (10)</b>	D (3) D (3) D (10)	PG (3) PG (3) PG (10)	P (3) P (3) H (2) P (8)	S (3) S (3) S (2) S (8)	L (3) T (3) L (2) L (4)	A (3) A (3) A (2) A (3), G (1) G (3) A (2)			
							dec (2)	oral (2)	<b>DP (2)</b>	D (2)	PG (2)	W (2)	T (1), S (1)	S (3) L (2)	A (2)			
<i>Punica granatum</i> L. [C], HUMPOD 992	الرمان / الرمان / <b>Pomegrante</b>	<i>n° 494, 1048, 1058, 2144</i>	L (5) P (2) SE (2) X (165)	T (3) P (2) E (2) E (10)	dec (3) dec (2) jus (2) jus (10)	bad (3) oral (2) oral (2) oral (10)		<b>SP (3)</b> <b>DP (2)</b> <b>NSD (2)</b> <b>MD (8)</b> <b>RP (2)</b> <b>SP (1)</b> <b>DIA (2), DP (43)</b> <b>DP (6)</b> <b>SP (2)</b> <b>RD (2)</b> <b>DP (15)</b> <b>SP (1)</b> <b>DP (67)</b>	F (3) D (2) F (2) F (8) D (2) D (1) D (43) D (6) D (2) D (2) D (15) D (1) D (67)	C (3) C (2) C (2) C (8) C (2) C (1) C (43) C (6) C (2) C (2) C (15) C (1) C (67)	W (3) M (2) W (2) M (8) A (2) W (1) M (43) M (6) W (2) W (2) M (15) M (1) M (67)	V (3) C (2) C (2) M (8) C (10) V (1) C (43) V (8) C (2) C (2) C (15) C (1) C (67)	L (3) L (2) T (2) S (10) L (44) L (8) L (8) T (2) L (15) S (1) L (48) S (19)	A (61) B (172)	<b>0,173</b>			
							pd (3)	oral (3)	<b>UTP (5)</b> <b>DP (3)</b>	D (5) D (3)	C (5) C (3)	W (5) M (3)	V (5) C (3)	L (8)	A (8)			
<b>MALVACEAE</b>	<i>Corchorus olitorius</i> L. [1], HUMPOD 993	التموخي / <b>Tossa Jute</b>	SE (2)	T (2)	inf (2)	oral (2)		<b>DIA (2)</b>	F (2)	C (2)	W (2)	V (2)	L (2)	A (2)	B (2)	<b>0,002</b>	<b>0,008</b>	
	<i>Malva sylvestris</i> L. [C], HUMPOD 994	التموخي / <b>Mallow</b>	L (13)	E (4) T (9)	cat (4) cu (5)	bad (4) oral (5)		<b>ED (4)</b> <b>DIA (4)</b> <b>EMD (1)</b> <b>DIA (2), DP (2)</b>	F (4) F (4) F (1) F (4)	PG (4) PG (4) PG (1) PG (4)	W (4) H (1) P (3) H (1) P (4)	S (4) S (1) S (3) S (1) S (4)	T (4) S (1) L (3) S (1) L (4)	G (4) A (9)	B (13)	<b>0,013</b>		
<b>MORACEAE</b>	<i>Ficus carica</i> L. [C], HUMPOD 995	التفاح / <b>Fig</b>	L (3)	T (2)	dec (2)	oral (2)		<b>DIA (2)</b> <b>HM (1)</b> <b>RD (1)</b> <b>DP (9)</b> <b>SP (1)</b> <b>UTP (3)</b> <b>RD (1)</b> <b>CP (1)</b> <b>DP (2)</b> <b>CP (2)</b> <b>DP (3)</b>	D (1) F (1) D (1) D (9) D (1) D (3) D (1) D (1) D (2) D (2) D (3)	PG (1) PG (1) PG (1) PG (9) PG (1) PG (3) PG (1) PG (2) PG (2) PG (3)	H (1) W (1) W (1) A (2) H (3) H (3) H (1) H (1) H (2) H (2) H (1)	T (1) S (1) S (1) S (2) S (3) S (4) S (1) S (3) S (2) S (3)	L (2) L (2) T (1) L (2) S (1), L (2) T (4) L (1) S (3) L (2) L (3) T (1) L (1) L (2)	A (2) G (1) A (1) G (1), A (1) A (3) G (4) A (1) G (3) A (2) A (1); G (1) A (8)	B (31)	<b>0,031</b>	<b>0,016</b>	

					cu (3)	oral (3)		<b>DIA (1)</b>	D (1)	PG (1)	P (1)	S (1)	L (1)					
					dec (1)	oral (1)		<b>DP (2)</b>	D (2)	PG (2)	H (2)	S (2)	T (2)					
					cr (1)	mas (1)		<b>DP (1)</b>	D (1)	PG (1)	H (1)	T (1)	T (1)					G (2)
					Y (1)	E (1)		<b>SP (1)</b>	F (1)	C (1)	A (1)	S (1)	S (1)					
	<i>Morus alba</i> L. * [C], HUMPOD 996	•ⲙⲟⲩⲁⲗⲃⲁ / التوت البيري / White mulberry	n° 434, 1679	L (1)	P (1)	cr (1)	bad (1)	<b>SP (1)</b>	D (1)	PG (1)	H (1)	S (1)	L (1)	A (1)	B (1)			<b>0,00</b> <b>1</b>
<b>MUSACEAE</b>	<i>Musa paradisiaca</i> L. [C], HUMPOD 997	•ⲙⲟⲩⲁⲗⲃⲁ / البنان / bananis	-	X (12)	E (8)	cr (8)	mas (8)	<b>DP (4)</b>	F (4)	PG (4)	A (4)	S (4)	L (4)	A (8)	B (12)			<b>0,01</b> <b>2</b>
						T (4)	cu (4)	<b>SP (1)</b>	F (1)	PG (1)	H (1)	S (1)	S (1)	A (1)				
							bad (1)	<b>SP (1)</b>	F (1)	PG (1)	H (1)	S (3)	S (3)	G (3)				
							oral (2)	<b>DP (2)</b>	F (2)	PG (2)	A (2)							
<b>MYRISTICACEAE</b>	<i>Myristica fragrans</i> L. * [I], HUMPOD 998	•ⲙⲓⲣⲓⲥⲏⲥⲁ / الكوزة / Nutmeg	-	X (1)	T (1)	cu (1)	oral (1)	<b>NSD (1)</b>	D (1)	C (1)	W (1)	V (1)	T (1)	A (1)	B (1)			<b>0,00</b> <b>1</b>
<b>MYRTACEAE</b>	<i>Eucalyptus</i> <i>camaldulensis</i> Dehnh. * [C], HUMPOD 999	Ⲙⲓⲣⲏⲥⲁⲗⲃⲁ ; •ⲙⲟⲩⲁⲗⲃⲁ / الصفصاف ؛ كلبتوس / redgum	-	L (78)	E (9)	cat (8)	bad (8)	<b>HM (8)</b>	F (8)	PG (8)	A (8)	S (8)	T (11)	G (11)	B (86)			<b>0,08</b> <b>6</b>
						cr (1)	oral (1)	<b>OD (1)</b>	F (1)	C (1)	A (1)	V (1)						
						T (69)	cat (1)	<b>HM (1)</b>	F (1)	PG (1)	W (1)	S (1)						
							dec (55)	<b>DP (11)</b>	F (11)		W (4)	V (4)	L (4)	A (4)				
								<b>MD (1)</b>	F (1)	P (1)	W (1)	V (1)	T (1)	A (1)				
								<b>OD (19)</b>	D (1)	C (1)	W (1)	V (1)	S (1)	A (19)				
									F (18)	C (18)	P (6), W (12)	V (18)	T (18)					
							rin (14)	<b>MD (9)</b>	F (9)	PG (9)	W (9)	T (9)	L (3)	A (3)				
								<b>SP (5)</b>	F (5)	PG (5)	W (5)	T (5)	S (5)	G (5)				
							w (10)	<b>RD (5)</b>	D (2)	P (2)	W (2)	V (2)	T (2)	A (2)				
									F (3)	PG (3)	W (3)	T (2), S (1)	T (3)	G (3)				
								<b>ED (2)</b>	D (2)	PG (2)	W (2)	T (2)	T (2)	G (2)				
								<b>EP (2)</b>	D (2)	P (2)	A (2)	V (2)	T (2)	A (3)				
								<b>RD (1)</b>	D (1)	P (1)	W (1)	V (1)	L (1)					
						inf (5)	oral (5)	<b>RD (5)</b>	D (5)	C (5)	W (5)	V (5)	T (5)	G (5)				
						w (8)	w (8)	<b>MD (3)</b>	D (3)	PG (3)	P (3)	S (3)	L (3)	A (16)				
								<b>RD (5)</b>	D (5)	P (5)	A (5)	V (5)	T (5)					
								<b>OD (6)</b>	F (6)	P (6)	W (6)	V (6)	T (6)					
								<b>SP (2)</b>	F (2)	PG (2)	P (2)	S (2)	S (2)					
					SE (6)	T (6)	dec (6)	oral (6)										
					X (2)	T (2)	dec (2)	bad (2)										
	<i>Syzygium</i> <i>aromaticum</i> (L.) Merr. & L. M. Perry * [I], HUMPOD 1000	Ⲙⲓⲣⲏⲥⲏⲥⲁⲗⲃⲁ / رقنفل / Clove	n° 1748	BA (15)	E (1)	cr (1)	mas (1)	<b>HM (1)</b>	D (1)	C (1)	A (1)	S (6)	T (6)	A (6)	B (62)			<b>0,06</b> <b>2</b>
						P (14)	cr (5)	<b>OD (5)</b>	D (5)	P (5)	A (5)							
							dec (8)	<b>UTP (8)</b>	D (8)	C (8)	W (8)	V (8)	L (8)	G (8)				
							inf (1)	<b>DP (1)</b>	D (1)	C (1)	W (1)	V (1)	L (1)	A (1)				
						SE (47)	P (16)	<b>SP (3)</b>	D (3)	PG (3)	P (1), W (2)	S (3)	L (4)	A (4)				
							cr (4)	<b>DP (1)</b>	D (1)	C (1)	M (1)	V (1)						
								<b>UTP (8)</b>	D (8)	C (8)	W (8)	V (8)	L (8)	G (8)				
							dec (11)	<b>DP (2)</b>	D (2)	C (2)	W (2)	V (2)	L (2)	A (3)				
								<b>NSD (1)</b>	D (1)	C (1)	L (1)	V (1)	T (1)					
							pd (1)	<b>DP (1)</b>	D (1)	PG (1)	W (1)	S (1)	T (1)	G (1)				
						T (31)	cr (6)	<b>SP (2)</b>	D (2)	PG (2)	H (2)	S (2)	T (2)	A (2)				
								<b>OD (4)</b>	D (4)	C (4)	A (4)	V (4)	T (4)	G (4)				
							cu (4)	<b>HM (4)</b>	D (4)	C (4)	H (4)	S (4)	T (4)	G (4)				
							dec (14)	<b>OD (14)</b>	D (14)	C (14)	W (14)	V (14)	T (14)	A (9), G (5)				
							inf (7)	<b>OD (5)</b>	D (5)	C (5)	W (5)	V (5)	T (5)	A (2), G (3)				





& Link [W], HUMPOD 1009	إوضني / Jersey Thrift		DP (8)	D (1) F (7)	PG (7)	W (7)	T (7)	T (7)	G (5), A(2)								
<b>POACEAE</b>	<i>Cenchrus americanus</i> (L.) Morrone [W], HUMPOD 1010	إيلان ، الجبار / الظمي / Pearl millet	-	SE (9)	P (6)	dec (1) cr (5)	oral (1) mas (1) oral (1) oral (4)	<b>DIA (1)</b> <b>DP (5)</b> <b>MD (4)</b>	D (1) D (5) D (4)	C (1) C (5) C (4)	W (1) M (5) L (4)	V (1) C (5) V (4)	L (1) S (5) T (4)	G (5) A (4)		<b>0,02</b> <b>9</b>	<b>0,009</b>
				X (17)	T (3) P (16)	cu (1) cr (3) cr (16)	oral (4) oral (16)	<b>DP(6), MD(5), RP(5)</b>	D (16)	C (16)	M (16)	C (16)	L (16)	G (16)	A (16)		
					T(1)	inf (1)	oral (1)	<b>RD (1)</b>	D (1)	C (1)	M (1)	C (1)	T (1)	G (1)	B (2)		
	<i>Eremopyrum orientale</i> (L.) Jaub. & Spach [W], HUMPOD 1011	اربيبع نيتيرين / أفقر false wheatgrass	-	W (1)	T (1)	dec (1)	oral (1)	<b>DP (1)</b>	D (1)	V (1)	W (1)	V (1)	T (1)	A (1)	B (1)	<b>0,00</b> <b>1</b>	
	<i>Hordeum vulgare</i> L. [C], HUMPOD 1012	الزرع ؛ الشعير / Barley	n° 1255, 1321	SE (8)	E (2) P (3)	cu (2) cr (3)	oral (2) oral (3)	<b>DP (2)</b> <b>DIA (1)</b> <b>MD (2)</b> <b>MD (2)</b> <b>DIA (1)</b>	D (2) D (1) D (2) D (2) D (1)	P (2) C (1) P (2) C (2) PG (1)	M (2) L (1) P (2) P (2) W (1)	S (2) V (1) S (2) V (2) S (1)	S (2) L (6)	A (8)	B (8)	<b>0,00</b> <b>8</b>	
					T (3)	cr (2) dec (1)	oral (2) bad (1)	<b>DP (1)</b> <b>SP (1)</b> <b>DP (1), UTP (1)</b> <b>DP (4)</b> <b>UTP (1)</b>	D (2) D (1) D (2) F (4) D (1)	C (2) C (1) C (2) C (4) C (1)	M (2) W (2) W (1) M (2)	S (2) V (1) C (2)	S (2) T (1) L (2)	A (3)	A (3)	<b>0,00</b> <b>3</b>	
	<i>Oryza sativa</i> L. [C], HUMPOD 1013	الروز / Asian rice	n° 42	SE (3)	P (3)	cr (2) cu (1)	bad (2) oral (1)	<b>SP (2)</b> <b>DP (1)</b>	D (2) D (1)	PG (2) C (1)	W (2) W (1)	S (2) V (1)	S (2) T (1)	A (3)	A (3)	<b>0,00</b> <b>3</b>	
	<i>Triticum durum</i> Desf. [C], HUMPOD 1014	القمح / Common wheat	-	SE (3)	E (2)	cr (2)	oral (2)	<b>DP (2)</b>	D (2)	C (2)	M (2)	C (2)	L (2)	G (1), A (1)	B (3)	<b>0,00</b> <b>3</b>	
	<i>Zea mays</i> L. [C], HUMPOD 1015	الذرة / Maize	-	L (7)	P (3)	cr (3)	oral (1) bad (1) oral (2)	<b>DP (1)</b> <b>SP (1)</b> <b>DP (1), UTP (1)</b> <b>DP (4)</b> <b>UTP (1)</b>	D (1) D (1) D (2) F (4) D (1)	C (1) C (1) C (2) C (4) C (1)	L (1) W (1) M (2) W (4) A (1)	V (1) V (1) C (2) V (4) S (1)	L (1) L (3) C (2) T (4) L (1)	A (1) A (3)	B (8)	<b>0,00</b> <b>8</b>	
				SE (1)	T (4) E (1)	dec (4) cr (1)	oral (4) oral (1)	<b>DP (4)</b> <b>UTP (1)</b>	F (4) D (1)	C (4) C (1)	W (4) A (1)	V (4) S (1)	T (4) L (1)	G (4) A (1)			
<b>RANUNCULACEAE</b>	<i>Nigella damascena</i> L. [I], HUMPOD 1016	المسناوج / Love-in-a-mist	-	SE (11)	HG (1) P (7)	cr (1) cr (6)	mas (1) mas (1) oral (5)	<b>MD (1)</b> <b>SP (1)</b> <b>RD (1)</b> <b>DIA (1)</b> <b>DP (3)</b> <b>NSD (1)</b> <b>DP (3)</b> <b>DP (1)</b>	D (1) D (1) D (1) D (1) D (3) D (1) D (3) D (1)	C (1) C (1) C (1) C (1) C (3) C (1) C (3) C (1)	W (1) P (1) M (1) M (1) M (3) L (1) H (3) M (1)	S (1) S (1) C (1) C (1) C (3) V (1) S (3) C (1)	S (1) L (1) T (1) L (1) S (1), L (2) T (1) L (4) C (1)	A (1) G (2) A (1) G (3) A (1) G (4)	B (12)	<b>0,01</b> <b>2</b>	<b>0,026</b>
	<i>Nigella sativa</i> L. * [I], HUMPOD 1017	الحبة السوداء / Black-caraway	n° 573, 941, 1351, 1972	SE (40)	E (2) HG (5)	cr (2) cr (3)	oral (2) oral (3)	<b>RD (2)</b> <b>EMD (1), DIA (1), CVHD (1)</b> <b>NSD (1), SP (1)</b> <b>AD (1)</b> <b>DP (5)</b> <b>HM (1)</b> <b>NSD (1)</b> <b>OD (6)</b> <b>RD (9)</b>	D (2) D (3) D (2) D (1) D (5) D (1) D (1) D (6) D (9)	C (2) C (3) C (2) C (2) C (1) C (1) C (3) C (6) C (9)	W (2) A (3)	V (2) S (3)	L (2) L (3)	A (2) A (5)	B (40)	<b>0,04</b>	
						inf (2)	oral (2)	<b>NSD (1), SP (1)</b>	D (2)	C (2)	L (2)	V (2)	T (2)				
					P (33)	cr (29)	oral (29)	<b>AD (1)</b> <b>DP (5)</b> <b>HM (1)</b> <b>NSD (1)</b> <b>OD (6)</b> <b>RD (9)</b>	D (1) D (5) D (1) D (1) D (6) D (9)	C (1) C (5) C (1) C (1) C (6) C (9)	M (1) M (5) M (1) L (1) M (6) M (8)	C (1) C (5) C (1) V (1) C (6) C (8)	T (1) L (5) T (1) T (1) T (6) L (8)	A (6) G (1) A (1) G (6) A (1) A (2), G (6)			
						inf (4)	oral (4)	<b>UTP (6)</b> <b>RD (3)</b> <b>DP (1)</b>	D (6) D (3) D (1)	C (6) C (3) C (1)	M (6) M (3) L (1)	C (6) V (3) V (1)	L (6) T (3) L (1)	G (10)			

<b>RHAMNACEAE</b>	<i>Ziziphus lotus</i> (L.) Lam. [W], HUMPOD 1018	ⲗⲟⲩⲓⲃⲓⲥⲏⲧⲓ ; Ⲓⲟⲩⲓⲃⲓⲥⲏⲧⲓ / ثڤكورت ؛ الصدرة : انبك / Jujube	<i>n° 1116, 1165, 1594</i>	L (16)	E (1) P (8) T (7)	inf (1) cr (8) cr (7)	oral (1) bad (8) bad (6) oral (1) mas (3) oral (16)	<b>DP (1)</b> <b>SP (8)</b> <b>SP (6)</b> <b>NSD (1)</b> <b>SP (3)</b> <b>DIA (3)</b> <b>DP (11)</b>	D (1) D (8) D (6) F (1) F (3) F (3) F (9), D (2)	C (1) PG (8) PG (6) C (1) PG (3) C (3) C (11)	W (1) W (8) P (6) W (1) W (3) W (3) W (11)	V (1) S (8) S (6) V (1) S (3) V (3) V (11)	L (1) L (8) L (6) T (1) S (3) L (3) L (11)	G (1) G (8) A (6) A (1) G (3) A (16)	B (119)	<b>0,11</b> <b>9</b>	<b>0,119</b>		
					R (19)	T (19)	dec (19)												
					SE (17)	P (5) T (12)	cr (5) dec (12)	oral (5) oral (12)	<b>UTP (2)</b> <b>DP (5)</b> <b>DP (12)</b>	D (2) D (5) F (12)	C (2) C (5) C (12)	W (2) M (5) W (12)	V (2) C (5) V (12)	L (2) L (5) L (12)		A (17)			
					X (67)	E (4)	cr (4)	oral (4)	<b>EMD (2), UTP (1), DP (1)</b>	D (4)	PG (4)	A (4)	S (4)	L (4)		A (4)			
						P (8)	cr (4)	bad (2) oral (2)	<b>SP (2)</b> <b>UTP (2)</b>	D (2) D (2)	C (2) C (3)	P (2) M (3)	S (2) C (3)	L (5)		A (5)			
							cu (1) inf (3)	oral (1) oral (3)	<b>DP (1)</b> <b>UTP (3)</b>	D (1) D (3)									
						T (55)	cr (38)	oral (38)	<b>DP (35)</b> <b>MD (2)</b> <b>UTP (1)</b>	D (35) D (2) D (1)	PG (35) P (2) PG (1)	A (35) P (2) A (1)	S (35) S (2) S (1)	L (50)		A (55)			
							dec (12)	oral (12)	<b>DIA (1)</b> <b>DP (9)</b> <b>UTP (2)</b> <b>DP (5)</b>	D (1) F (9) D (2) D (5)	C (1) C (9) C (2) C (5)	W (1) M (9) W (1), P (1) W (5)	V (1) C (9) V (2) V (5)	L (2), T (3)					
		<b>ROSACEAE</b>	<i>Prunus persica</i> (L.) Batsch [C], HUMPOD 1019	ⲡⲣⲏⲩⲟⲩⲓⲃⲓⲥⲏⲧⲓ / الخوخ / Peach	<i>n° 420, 830, 864, 930</i>	X (3)	HG (3)	cr (3)	Mas (3)	<b>SP (3)</b>	D (3)	C (3)	A (3)	S (3)	L (3)	A (3)	A (3)	<b>0,00</b> <b>3</b>	<b>0,006</b>
			<i>Cydonia oblonga</i> Mill [C], HUMPOD 1020	Ⲓⲏⲃⲓⲃⲓⲥⲏⲧⲓ ; Ⲓⲏⲃⲓⲃⲓⲥⲏⲧⲓ / اسفرجل / Quinee	<i>n° 908, 1192</i>	X (3)	E (3)	cr (3)	oral (3)	<b>UTP (3)</b>	F (3)	PG (3)	A (3)	S (3)	L (3)	A (3)	B (3)	<b>0,00</b> <b>3</b>	
			<i>Eriobotrya japonica</i> (Thunb.) Lindl [C], HUMPOD 1021	Ⲓⲏⲃⲓⲃⲓⲥⲏⲧⲓ ; Ⲓⲏⲃⲓⲃⲓⲥⲏⲧⲓ / رمزاح ؛ الزعرور / Loquat	-	L (1)	T (1)	inf (1)	oral (1)	<b>DIA (1)</b>	F (1)	V (1)	W (1)	V (1)	L (1)	A (1)	B (1)	<b>0,00</b> <b>1</b>	
			<i>Fragaria vesca</i> L. [C], HUMPOD 1022	Ⲓⲏⲃⲓⲃⲓⲥⲏⲧⲓ ; Ⲓⲏⲃⲓⲃⲓⲥⲏⲧⲓ / لفرير ؛ فريسيا / Wild Strawberry	-	X (1)	E (1)	dec (1)	oral (1)	<b>DP (1)</b>	F (1)	C (1)	W (1)	V (1)	T (1)	A (1)	B (1)	<b>0,00</b> <b>1</b>	
			<i>Malus pumila</i> Mill [C], HUMPOD 1023	Ⲓⲏⲃⲓⲃⲓⲥⲏⲧⲓ / التفاح / Apple	-	X (1)	E (1)	cr (1)	oral (1)	<b>EMD (1)</b>	F (1)	PG (1)	A (1)	S (1)	L (1)	A (1)	B (1)	<b>0,00</b> <b>1</b>	
			<i>Prunus armeniaca</i> L. [C], HUMPOD 1024	ⲡⲣⲏⲩⲟⲩⲓⲃⲓⲥⲏⲧⲓ / المشمش / Apricot	<i>n° 274, 419, 929, 2136</i>	L (1) SE (7)	T (1) P (7)	dec (1) cr (7)	oral (1) mas (4) oral (3) oral (7)	<b>DP (1)</b> <b>DP (4)</b> <b>DP (3)</b> <b>DP (7)</b>	F (1) D (4) D (3) F (7)	C (1) C (4) C (3) C (7)	A (1) H (4) M (3) A (7)	V (1) C (4) C (3) S (7)	L (1) T (4) L (3) T (7)		A (15) B (15)	<b>0,01</b> <b>5</b>	
			<i>Prunus domestica</i> L. [C], HUMPOD 1025	ⲡⲣⲏⲩⲟⲩⲓⲃⲓⲥⲏⲧⲓ / أربقوق / Wild plum	-	X (2)	T (2)	inf (2)	oral (2)	<b>DP (2)</b>	D (2)	C (2)	W (2)	C (2)	T (2)	G (2)	B (2)	<b>0,00</b> <b>2</b>	
<i>Prunus dulcis</i> (Mill.) D. A. Webb * [C], HUMPOD 1026	ⲡⲣⲏⲩⲟⲩⲓⲃⲓⲥⲏⲧⲓ / اللوز المر / Almond		<i>n° 926, 927, 1412, 2040</i>	SE (7) X (18)	P (7) P (18)	cr (7) cr (18)	oral (7) oral (18)	<b>DIA (7)</b> <b>DIA (12)</b> <b>DP (6)</b>	D (7) D (12) D (6)	C (7) C (12) C (6)	A (4) M (3) M (2) M (6)	S (4) C (3) C (2) C (6)	L (25) C (4), S (6)		A (25) B (25)	<b>0,02</b> <b>5</b>			

	<i>Rosa canina</i> L. [W], HUMPOD 1027	الورد / <b>Dog rose</b>	n° 498, 1579, 2222, 2281	FL (1)	T (1)	inf (1)	oral (1)	<b>NSD (1)</b>	D (1)	C (1)	P (1)	V (1)	T (1)	A (1)	B (1)	<b>0,00 1</b>
	<i>Rubus ulmifolius</i> Schott [W], HUMPOD 1028	توت الزرب / ثيغا / <b>Elmleaf</b> <b>blackberry</b>	-	L (4)	T (4)	dec (4)	oral (4)	<b>RD (2)</b>	F (2)	C (2)	P (2)	V (2)	T (2)	A (2)	A (2)	<b>0,01</b>
				R (6)	T (6)	dec (6)	oral (6)	<b>DP (2)</b>	D (2)	C (2)	P (2)	V (2)	L (2)	A (8)	B (8)	
								<b>DP (3)</b>	D (3)	C (3)	W (3)	V (3)	T (3)			
								<b>MD (3)</b>	D (3)	C (3)	W (3)	V (3)	S (3)			
<b>RUBIACEAE</b>	<i>Coffea arabica</i> L. [I], HUMPOD 1029	القهوة / <b>Coffee</b>	-	SE (56)	P (56)	cr (40)	bad (39) oral (1) oral (7)	<b>SP (39)</b>	D (39)	C (33),P(6)	A (39)	S (39)	T (39)	G (39)	B (57)	<b>0,05 7</b>
						dec (7)	oral (7)	<b>OD (1)</b>	D (1)	P (1)	A (1)	S (1)	T (1)	A (1)		
						inf (9)	oral (9)	<b>RP (2)</b>	D (2)	C (2)	W (2)	V (2)	T (2)	A (7)		
								<b>CVHD (5)</b>	D (5)	C (5)	W (5)	V (5)	L (5)			
								<b>CVHD (1)</b>	D (1)	C (1)	W (1)	V (1)	L (1)	G (1)		
								<b>NSD (4), RP (4)</b>	D (8)	C (8)	W (8)	V (8)	T (8)	A (8)		
								<b>CVHD (1)</b>	D (1)	C (1)	W (1)	V (1)	L (1)	A (1)		
<b>RUTACEAE</b>	<i>Citrus limon</i> (L.) Burm. f. [C], HUMPOD 1030	الليمون ؛ الحامض / <b>lemon</b>	n° 16, 421, 870, 945, 2086	X (369)	E (369)	cr (270)	bad (63)	<b>CP (4)</b>	F (4)	V (4)	A (4)	S (4)	T (4)	G (4)	B (369)	<b>0,37 4</b>
								<b>HM (46)</b>	F (46)	PG (14) V (32)	A (14) A (32)	S (14) S (32)	T (14) T (32)	A (14) A (12), G (20)		
							oral (206)	<b>SP (13)</b>	F (13)	V (13)	A (13)	S (13)	L (13)	A (13)		
								<b>UTP (1)</b>	F (1)	V (1)	A (1)	S (1)	L (1)	A (1)		
								<b>RD (182)</b>	F (182)	V (182)	M (46)	S (46)	T (46)	A (37), G (9)		
											W (136)	S (136)	T (136)	A (136)		
								<b>DIA (2)</b>	F (2)	V (2)	M (2)	S (3)	L (3)	A (4)		
								<b>DP (1)</b>	F (1)	V (1)	W (1)					
								<b>IPP (1)</b>	F (1)	V (1)	M (1)	S (1)	T (1)			
								<b>OD (1)</b>	F (1)	PG (1)	L (1)	V (1)	T (1)	G (1)		
								<b>RD (7)</b>	F (7)	PG (7)	L (7)	V (7)	L (19)	A (19)		
								<b>UTP (12)</b>	F (12)	V (12)	W (12)	S (12)				
						inf (54)	oral (54)	<b>UTP (1)</b>	F (1)	PG (1)	W (1)	V (1)	L (1)	A (1)		
								<b>RD (24)</b>	F (24)	PG (24)	W (24)	V (24)	T (24)	G (24)		
								<b>EMD (6)</b>	F (6)	V (6)	W (6)	S (6)	L (6)	A (6)		
								<b>HM (5)</b>	F (5)	PG (5)	W (5)	V (5)	T (5)	G (5)		
								<b>IPP (8)</b>	F (8)	PG (1)	W (1)	V (1)	T (1)	G (1)		
											V (7)	S (7)	T (7)	A (7)		
								<b>UTP (10)</b>	F (10)	PG (10)	W (10)	V (10)	L (10)	A (10)		
						jus (45)	bad (1) mas (3)	<b>SP (1)</b>	F (1)	V (1)	H (1)	S (1)	L (1)	A (1)		
								<b>SP (3)</b>	F (3)	V (3)	W (1)	S (1)	L (1)	A (1)		
											H (2)	S (2)	S (2)	G (2)		
							oral (38)	<b>RD (24)</b>	F (24)	V (24)	L (2)	S (2)	T (2)	A (2)		
											M (22)	S (22)	T (22)	A (20), G(2)		
								<b>DP (5)</b>	F (5)	V (5)	L (3)	S (3)	T (3)	A (5)		
											M (1)	S (1)	L (1)			
											W (1)	S (1)	T (1)			
								<b>EMD (7)</b>	F (7)	V (7)	W (7)	S (7)	L (7)	A (7)		
								<b>HM (1)</b>	F (1)	V (1)	W (1)	S (1)	T (1)	G (1)		
								<b>UTP (1)</b>	F (1)	V (1)	M (1)	S (4)	L (4)	A (4)		
							rin (3)	<b>SP (3)</b>	F (3)	V (3)	A (3)					
	<i>Citrus sinensis</i> (L.) Osbeck [C], HUMPOD 1031	الليمون ؛ البرتقال / <b>Orange</b>	n° 2204	L (1)	T(1)	inf (1)	oral (1)	<b>RD (1)</b>	F (1)	P (1)	W (1)	V(1)	T (1)	G (1)	B (3)	<b>0,00 3</b>
				X (2)	E (2)	cr (2)	oral (2)	<b>DP (1), RD (1)</b>	F (2)	V (2)	A (2)	S (2)	T (2)	A (2)		
								<b>DP (6)</b>	F (6)	PG (6)	W (6)	T (6)	T (6)	G (6)	B (9)	

	<i>Citrus × aurantium</i> L. * [C], HUMPOD 1032	•H€I / النيج / Bitter orange						NSD (3)	F (3)	C (3)	W (3)	S (3)	L (3)	A (3)		0,009
	<i>Ruta montana</i> (L.) L. * [C], HUMPOD 1033	•UQ.€ ; •H€IIM / Rue اوريحي	n° 905, 999, 1166, 1413, 1718	L (23)	E (4)	cat (4)	w (3)	EP (3)	F (3)	PG (3)	A (3)	S (3)	T (3)	G (3)	B(36)	0,036
								DP (1)	F (1)	PG (1)	A (1)	S (1)	S (1)	A (1)		
								NSD (1)	F (1)	C (1)	H (1)	C (1)	S (1)	A (1)		
								RD (2)	F (2)	PG (2)	W (2)	T (2)	T (16)	G (16)		
								DP (7)	D (7)	C (7)	W (7)	V (7)				
								X (9)	D (9)	C (7)	A (7)	V (7)	T (7)	A (7)		
										PG (2)	A (2)	S (2)	T (2)	G (2)		
				SE (4)	T (4)	dec (1)	oral (1)	DP (1)	D (1)	C (1)	W (1)	V (1)	S (1)	A (4)		
								OD (3)	F (3)	PG (3)	A (3)	S (3)	T (3)			
				ST (9)	E (6)	cu (6)	w (6)	NSD (6)	F (6)	C (6)	H (6)	S (9)	T (9)	G (9)		
								NSD (3)	D (3)	PG (3)	A (3)					
SAPOTACEAE	<i>Argania spinosa</i> (L.) Skeels [C], HUMPOD 1034	•QX°ا / اركان / Argan	n° 56, 1145, 2041	SE (7)	HG (7)	cr (7)	mas (7)	DP (3)	D (3)	C (3)	A (3)	S (3)	T (3)	G (3)	B (7)	0,007
								MD (2)	D (2)	C (2)	A (2)	S (2)	S (2)	A (4)		7
								SP (2)	D (2)	C (2)	A (2)	S (2)	L (2)			
SOLANACEAE	<i>Solanum linnaeanum</i> Hepper & P.-M. L. Jaeger [W], HUMPOD 1035	QZ€O+ا ; †€•H+€€ القسطان / Devil's apple	-	X (7)	E (7)	cr (7)	Mas (7)	SP (7)	F (7)	PG (7)	A (7)	S (7)	S (7)	G (7)	B (7)	0,007
	<i>Capsicum annuum</i> L. [C], HUMPOD 1036	QH•QH•Q / الفلفل / Pepper	-	X (13)	E (3)	cr (3)	oral (3)	DIA (3)	F (12)	PG (12)	H (12)	S (12)	L (12)	A (12)	B (13)	0,013
								CVHD (8), DIA (1)								
								IPP (1)	F (1)	PG (1)	H (1)	S (1)	T (1)	G (1)		
	<i>Hyoscyamus albus</i> L. * [W], HUMPOD 1037	Θ!•I:€H / بونجونف / White henbane	n° 365, 937, 1262	SE (1)	P (1)	w (1)	w (1)	SP (1)	D (2)	PG (2)	A (2)	S (2)	S (2)	G (2)	B (8)	0,008
				F (7)	E (1)	w (1)	w (1)	ED (1)								
								EP(3), ED(3)	D(6)	PG(6)	A(6)	S(6)	T(6)	A(6)		
	<i>Lycopersicon esculentum</i> Mill [C], HUMPOD 1038	†€•H+€€ / معطشة / Tomato	-	X (14)	E (14)	cr (12)	bad (1)	SP (1)	F (1)	PG (1)	A (1)	S (1)	S (1)	A (14)	B (14)	0,014
								DIA (9)	F (9)	PG (9)	P (9)	S (9)	L (9)			
								DP (2)	F (2)	PG (2)	P (2)	S (4)	T (4)			
								DP (2)	F (2)	PG (2)	A (2)					
	<i>Solanum melongena</i> L. [C], HUMPOD 1039	Θ•+•I•Q / الباذنجان / Aubergine	-	X (6)	E (5)	cu (2)	oral (2)	CVHD (1), DP (1)	F (2)	C (2)	H (2)	V (2)	L (2)	A (2)	B (6)	0,006
								DP (1)	F (1)	C (1)	W (1)	V (1)	T (1)	G (1)		
								EMD (2)	F (2)	C (2)	W (2)	V (2)	L (2)	A (2)		
								DP (1)	F (1)	PG (1)	A (1)	S (1)	S (1)	G (1)		
	<i>Solanum tuberosum</i> L. [C], HUMPOD 1040	Θ•+•+• / البطاطس / Potato	-	B (25)	E (5)	cr (5)	bad (5)	HM (3)	F (3)	PG (3)	A (3)	S (3)	T (3)	G (1), A (2)	B (25)	0,025
								SP (2)	F (2)	PG (2)	A (2)	S (2)	S (2)	A (2)		
								HM (18)	F (18)	PG (18)	A (18)	S (18)	T (18)	A (6), G (12)		
								SP (2)	F (2)	PG (2)	A (2)	S (2)	S (2)	G (2)		
THEACEAE	<i>Camellia sinensis</i> (L.) Kuntze [I], HUMPOD 1041	•+•+• آتاي / Tea Plant	-	L (2)	P (2)	cu (2)	bad (2)	SP (2)	D (2)	C (2)	W (2)	V (2)	S (2)	G (5)	B (5)	0,005
				SE (3)	P (3)	cr (1)	bad (1)	SP (1)	D (1)	C (1)	W	V (3)	T (3)			5
								SP (2)	D (2)	C (2)	H (2)					
THYMELAEACEAE	<i>Aquilaria malaccensis</i> Lam. [I], HUMPOD 1042	•+•H•K•Q€ / عود نفكري / Indian aloewood	-	ST (1)	T (1)	cr (1)	mas (1)	SP (1)	D (1)	P (1)	A (1)	S (1)	L (1)	G (1)	B (1)	0,001
	<i>Daphne gnidium</i> L. * [W], HUMPOD 1043		n° 457, 577, 1390, 1916, 2087	L (11)	E (1)	inf (1)	oral (1)	DP (1)	F (1)	PG (1)	W (1)	T (1)	T (1)	A (1)	B (11)	0,011
								SP (3)	D (3)	PG (3)	P (1)	S (1)	L (1)	G (1)		1
											W (2)	S (2)	L (2)	A (2)		



		أرزاز / Flax-leaved daphne			cr (4) cr (3)	bad (7)	SP (7)	D (7)	PG (7)	P (7)	S (7)	L (7)	A (7)				
<b>URTICACEAE</b>	<i>Urtica dioica</i> L. * [W], HUMPOD 1044	الحريكة / Common nettle	n° 160, 363, 478, 940, 1773	L (22)	E (10)	dec (6)	oral (6)	<b>DIA (2)</b> <b>DP (4)</b>	F (2) F (4)	PG (2) C (2) PG (2)	P (2) W (2) P (2)	V (2) V (4) L (4)	L (2) L (4)	A (12)	B (28)	<b>0,02</b>	<b>0,028</b> <b>8</b>
					P (2)	cat (4) cr (2)	bad (4) oral (2)	<b>MD (4)</b> <b>DIA (2)</b>	F (4) D (2)	PG (4) C (2)	A (4) A (2)	S (4) S (2)	L (4) L (2)				
					T (10)	cu (3) dec (5)	oral (3) oral (5)	<b>DIA (3)</b> <b>RD (2)</b> <b>DIA (1)</b> <b>DP (2)</b>	F (3) F (2) F (1) F (2)	C (3) C (2) C (1) C (2)	W (3) P (2) W (1) A (2)	V (3) V (2) V (1) S (2)	L (3) L (3) L (2)	A (3) A (3)			
						inf (2) dec (6)	oral (2) rin (6)	<b>ID (1), RP (1)</b> <b>MD (6)</b>	F (2) F (6)	C (2) PG (6)	W (2) W (6)	V (2) T (6)	L (2) L (6)	G (2) A (2) A (6)			
<b>VERBENACEAE</b>	<i>Aloysia citrodora</i> Palau * [C], HUMPOD 1045	مالويزا، / Lemon Verbena	-	L (344)	T (344)	dec (9)	oral (9)	<b>DIA (2)</b> <b>DP (2) , NSD</b> <b>(5)</b> <b>RD (42)</b>	D (2) F (7)	PG (2) PG (7)	W (2) W (7)	T (2) T (7)	L (2) T (7)	A (2) G (7)	B (9)	<b>0,34</b>	<b>0,347</b> <b>7</b>
						inf (335)	oral (335)	<b>RD (42)</b>	D (12) F (30)	P (12) PG (5) P (25)	W (12) W (5) W (25)	V (12) T (5) S (14) V (11)	T (12) T (19) T (11)	A (12) G (19) A (4) , G (7)	A (12) B (30)		
								<b>CVHD (59)</b>	D (18)	P (12) PG (5)	W (12) W (5)	V (12) T (5)	L (12) L (5)	A (12) G (5) , A (293)	B (2)		
								<b>DIA (2)</b> <b>DP (61)</b>	F (41) F (2) D (45)	P (41) P (2) P (15) PG (30)	W (41) W (2) W (15) W (30)	V (41) S (2) V (15) T (30)	L (41) L (2) T (9) , L(6) L (7) S (4) T (19)	A (41) A (2) A (15) A (7) G (4) G (4) , A (15)			
								<b>HM (17)</b> <b>MD (1)</b> <b>NSD (145)</b>	F (16) D (12) F (5) F (1) D (54)	P (11) PG (5) C (4) , P(8) P (5) PG (1) C (9) , P(24)	W (11) W (5) W (12) W (5) W (1) W (33)	V (11) T (5) V (12) V (5) T (1) V (33)	T (11) T (5) T (12) T (5) T (1) T (33)	A (8) , G (3) G (5) A (12) G (5) A (1) A (33)			
								<b>UTP (8)</b> <b>NSD (1) ,</b> <b>CVHD (1)</b>	F (91) D (6) F (1) F (1) F (2)	P (83) PG (8) P (6) P (1) PG (1) PG (2)	W (83) W (8) W (6) W (1) W (1) W (2)	V (83) T (8) V (6) V (1) T (1) T (2)	T (83) T (8) L (6) S (2)	A (9) , G (12) A (59) , G (24) A (8) A (8)			
				ST (2)	T (2)	inf (2)	oral (2)							A (2)	A (2)		
<b>VITACEAE</b>	<i>Vitis vinifera</i> L. [C], HUMPOD 1046	الدالية ؛ العنب / Grape	n° 93, 186, 820, 863, 1078, 1084, 1105, 1483, 1571, 1595,	L (5)	E (3)	cat (1) dec (2)	bad (1) oral (2)	<b>SP (1)</b> <b>RD (1),DIA</b> <b>(1)</b> <b>HM (1)</b> <b>DP (1)</b>	F (1) F (2) F (1) F (1)	PG (1) C (2) PG (1) C (1)	W (1) W (2) P (1) W (1)	S (1) V (2) S (1) V (1)	L (1) L (2) T (1) T (1)	G (1) A (2) G (2)	B (6)	<b>0,00</b>	<b>0,006</b> <b>6</b>

			1903, 2143, 2200	X (1)	T (1)	cr (1)	oral (1)	NSD (1)	D (1)	C (1)	A (1)	V (1)	T (1)	A (1)																																																																																							
<b>ZINGIBERACEAE</b>	<i>Curcuma longa</i> L. [I], HUMPOD 1047	•HX•QK•C ; •HX•QZ•C / الخرقوم / Turmerie	n° 1525, 1917, 2254	R (4)	P (3)	cu (1)	mas (1)	<b>EMD (1)</b>	D (1)	C (1)	H (1)	C (1)	L (1)	A (3)	B (4)	<b>0,00</b>	<b>0,06</b>																																																																																				
						T (1)	inf (1)	mas (2)	<b>SP (2)</b>	D (2)	C (2)	H (2)	C (2)	S (2)	G (1)		<b>4</b>																																																																																				
									oral (1)	<b>MD (1)</b>	D (1)	C (1)	W (1)	V (1)	S (1)																																																																																						
	<i>Zingiber officinale</i> Roscoe [I], HUMPOD 1048	•K•I•I•Q / السكين جبير / Ginger	n° 1125	R (115)	E (9)	dec (1)	oral (1)	oral (4)	<b>DP (1)</b>	F (1)	C (1)	M (1)	C (1)	T (1)	G (1)	B (115)	<b>0,11</b>	<b>5</b>																																																																																			
																			P (84)	cat (1)	bad (1)	<b>IPP (4)</b>	F (8)	C (8)	W (8)	V (8)	T (8)	A (8)																																																																									
																													cr (10)	bad (3)	<b>RD (4)</b>	D (1)	C (1)	M (1)	C (1)	T (1)	G (1)																																																																
																																						oral (7)	<b>DP (1)</b>	D (3)	C (3)	H (3)	C (3)	L (3)	G (3)																																																								
																																														<b>SP (3)</b>	D (3)	C (3)	M (2)	C (2)	T (2)	A (2)																																																	
																																																					<b>RD (3)</b>	D (3)	C (3)	L (1)	V (1)	T (1)	G (1)																																										
																																																												dec (8)	oral (8)	<b>HM (2)</b>	D (2)	P (2)	A (2)	S (2)	T (2)	A (2)																																	
<b>MD (2)</b>																																																																					D (2)	C (2)	M (2)	C (2)	L (2)	G (2)																											
																																																																											<b>RD (4)</b>	D (4)	C (4)	W (4)	V (4)	T (4)	G (4)																				
																																																																																		<b>RP (4)</b>	D (4)	C (4)	W (4)	V (4)	L (4)	A (4)													
	inf (43)	oral (43)	<b>RD (24)</b>	D (24)	C (24)	L (10)	V (10)	T (10)	G (10)																																																																																												
										<b>DP (17)</b>	D (17)	C (17)	W (14)	V (14)	T (14)	A (14)																																																																																					
																	pd (22)	oral (22)	<b>EMD (2)</b>	D (2)	C (2)	L (4)	V (4)	T (4)	A (19)																																																																												
																										<b>RD (15)</b>	D (15)	C (15)	P (1)	C (1)	L (1)	L (4), T (8)																																																																					
																																	<b>DP (3)</b>	D (3)	C (3)	W (12)	V (12)	L (2)	G (7)																																																														
																																								<b>RD (3)</b>	D (3)	C (3)	P (2)	V (2)	L (2)	G (5), A (3)																																																							
																																															<b>SP (1)</b>	D (1)	C (1)	L (7)	V (7)	T (7)	G (7)																																																
<b>RD (4), DIA (3), DP (4), RD (1)</b>																																																						D (12)	C (12)	M (8)	C (8)	T (8)	G (7)																																										
																																																												<b>DIA (3)</b>	F (3)	C (3)	W (3)	V (3)	L (3)	A (20)																																			
																																																																			<b>DIA (1)</b>	F (1)	C (1)	W (1)	V (1)	L (1)																													
	<b>DP (2)</b>	D (2)	C (2)	M (3)	C (3)	S (4)																																																																																															
							<b>EMD (1)</b>	F (1)	C (1)	H (1)	C (1)	L (1)																																																																																									
													<b>MD (1)</b>	D (1)	C (1)	M (1)	C (1)	L (1)																																																																																			
																			<b>SP (2)</b>	F (2)	C (2)	H (2)	C (2)	L (2)	G (2)																																																																												
																										jus (2)	bad (2)	<b>DP (1)</b>	F (1)	C (1)	W (1)	V (1)	L (1)	A (1)	A (1)	<b>0,00</b>	<b>0,008</b>																																																																
																																						<b>ZYGOPHYLLACEAE</b>	<i>Balanites aegyptiaca</i> (L.) Delile * [W], HUMPOD 1049	••••• / شمرغا / Desert-date	-	B (1)	T (1)	dec (1)	oral (1)	<b>DP (1)</b>																											F (1)	C (1)	W (1)	V (1)	L (1)	A (1)	A (1)	<b>0,00</b>	<b>0,008</b>																				
																																															<i>Fagonia bruguieri</i> DC. [W], HUMPOD 1050	••••• / ••••• / fagonbushes	-	FL (1)	E (1)	cat (1)	bad (1)																													<b>SP (1)</b>	F (1)	PG (1)	A (1)	S (1)	L (1)	A (2)	B (14)	<b>0,01</b>	<b>4</b>										
L (12)																																																						E (1)	cat (1)	<b>HM (1)</b>	F (1)	PG (1)	A (1)																																	S (1)	T (1)	G (6)							
																																																												P (6)	cu (6)	bad (6)	<b>SP (5)</b>	D (5)	PG (5)	P (5)																													S (5)	L (5)					
																																																																			T (5)	cat (4)	bad (4)	<b>HM (1)</b>	D (1)	PG (1)																									P (1)	S (1)	T (1)	A (5)	
	<b>HM (1), MD (1), SP (2)</b>	F (4)	PG (4)	A (4)	S (4)	T (4)																																																																																															
							dec (1)	rin (1)	<b>SP (1)</b>	F (1)	PG (1)	W (1)																																																																																									T (1)
													W (1)	T (1)	w (1)	w (1)	<b>BTP (1)</b>	D (1)																																																																																			

**Ecological status:** Spontaneous (S), Cultivated (C), Imported (I). **Part used:** Stem (ST), Whole plant (W), Leaves (L), Roots (R), Flowers (F), Bulb (B), Seeds (SE), Flowers and Leaves (FL), Bark (BA), Fruits (X), plant not specified (Y). **Form of use:** tisane (T), Powder (P), Oil (Hg), extract (E), Other (A). **Mode of preparation:** Decoction (Dec), Infusion (inf), Cataplasm (cat), Raw or fresh (cr), Cooked (cu), Juice (jus), Powder (pd), Other « fumigant, smoke and steam » (W). **Mode of administration:** Apply to skin (Bad), Massage (Mas), Oral (Ral),

Bath (Rin), Other « fumigation, inhalation » (W). **Categories of use:** Cancer (CAN), Circulatory Problems (CP), Cardiovascular and Hypertension Diseases (CVHD), Diabetes (DIA), Digestif Problems (DP), Ear Problems (EP), Endocrine and Metabolic Disorders (EMD), Eye Diseases (ED), Immune Diseases (ID), Infectious and Parasitic Problems (IPP), Muscles Diseases (MD), Nervous System Disorders (NSD), Oral Diseases (OD), Pregnancy and Childbirth Problems (PCP), Antidote (AD), Power Problems (PP), Reproductive Pathologies (RP), Respiratory Diseases (RD), Skin Problems (SP), Urinary Tract Problems (UTP), Headaches and Migraine (HM). **Form of plant used:** Fresh (F), Dried (D). **Quantity used of plant:** Pinch (P), Handful (Pg), Spoon (C), Glass (V), Tea-pot (T). **Additives:** Water (W), Other Plant (P), Milk (L), Honey (M), Olive oil (H). **Quantity of additives added:** Pinch (P), Handful (Pg), Spoon (C), Glass (V), Tea-pot (T). **Duration of the treatment:** less than three days (T), between three to seven days (S), More than seven days (L). **Result:** healing (G), amelioration (A), no effect (X). \*: Toxic plant. ♣: Endemic plant - - : Do not exist. **UV:** Use value. **FUV:** Family Use Value.

"Numbers in brackets indicate the number of use reports "

Figure 4 illustrates that the most frequently used species for the treatment of these ailments, in decreasing order, are *Origanum compactum* Benth with 551 citations followed by *Calamintha menthifolia* H (548 citations), followed by *Rosmarinus officinalis* L (501 citations) and *Mentha pulegium* L. (430 citations).

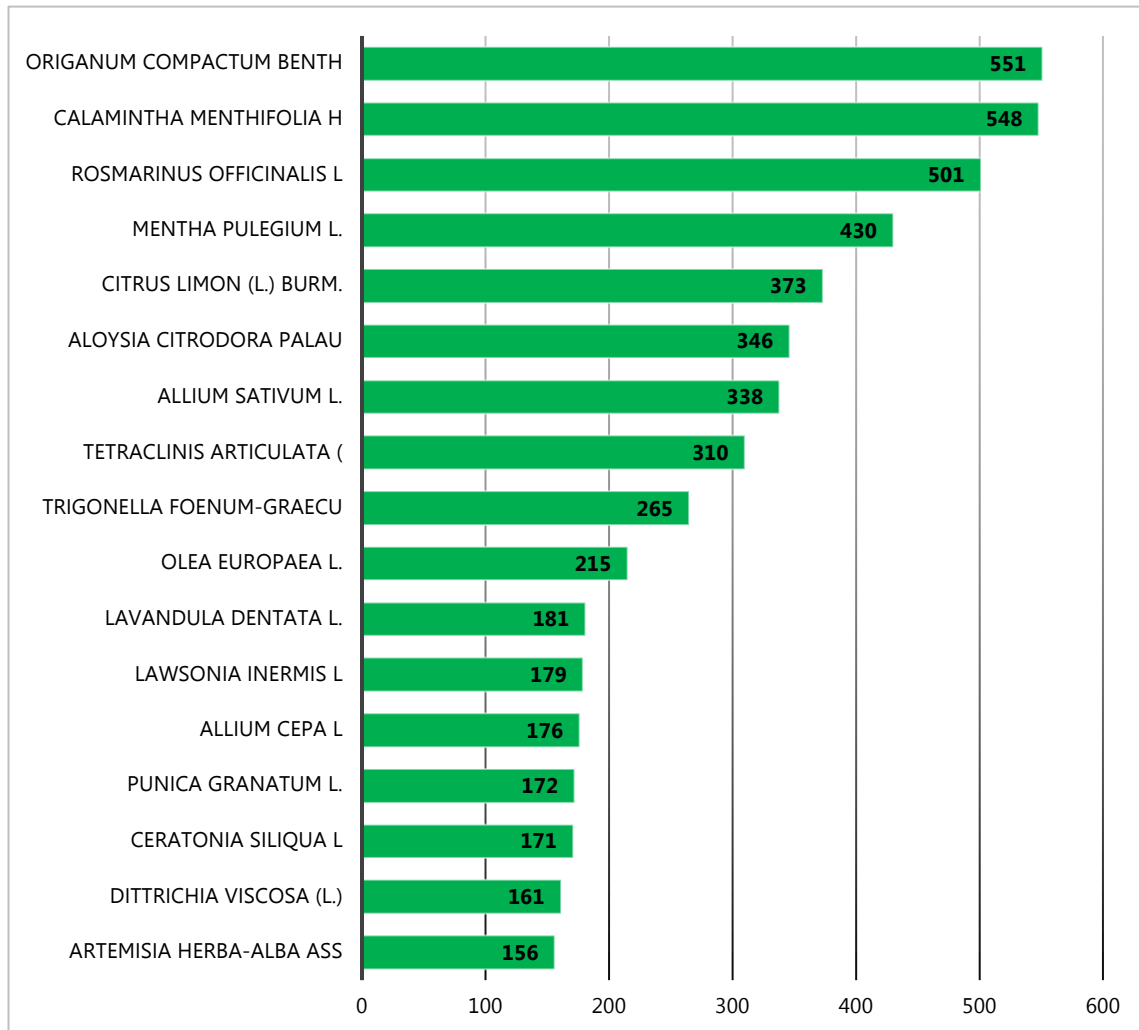


Figure 4. Most reported medicinal plants (150 use reports or more)

### Therapeutic uses

Before starting this paragraph, it is interesting to remind that classification of medicinal plant uses into biomedical categories is problematic due to the local perception of diseases. Moreover, several ailments are not empirically differentiated; hence reported folk ailments do not always correspond to a single biomedical disease category. So, in this respect, we described and analysed local diseases recorded in this work by adopting a standard biomedical diseases classification closer to ethnomedical reality (Staub *et al.* 2015).

Traditionally, the species inventoried in this survey were used to treat a wide range of ailments. A total of 158 plant species and 8033 applications have been used to treat 20 categories of diseases. Often, people used more than one plant for their treatment, either separately or mixed with milk, honey, or water. As indicated in Figure 5, we found that the major categories of diseases which are treated by the population interviewed are digestive problems (2118 citations, 98 plants) followed by respiratory diseases (2126 citations, 65 plants) and skin Problems (1131 citations, 83 plants).

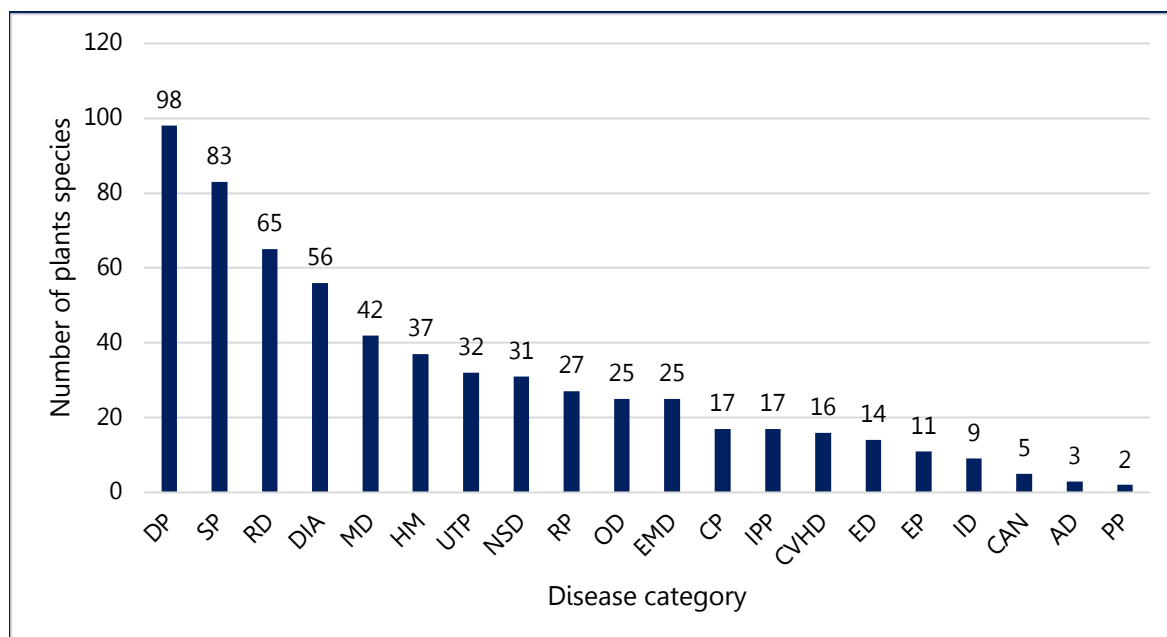


Figure 5. Number of plants species used to treat each category of disease

**Disease Category:** CAN: Cancer ; CP: Circulatory Problems ; CVHD: Cardiovascular and Hypertension Diseases ; DIA: Diabetes ; DP: Digestif Problems ; EP: Ear Problems ; EMD: Endocrine and Metabolic Disorders; ED: Eye Diseases ; ID: Immune Diseases ; IPP: Infectious and Parasitic Problems ; MD: Muscles Diseases ; NSD: Nervous System Disorders ; OD: Oral Diseases; AD: Antidote ; PP: Power Problems; RP: Reproductive Pathologies; RD: Respiratory Diseases ; SP: Skin Problems ; UTP: Urinary Tract Problems ; HM: Headaches and Migraine.

### Parts used, methods of preparation and modes of administration

#### Plant parts used

It is well known that different parts of the plants accumulate various secondary metabolites that can be helpful to treat a variety of health problems (Shah *et al.* 2013, 2014). So, to facilitate the administration of the active principles of the plant, several modes of preparations were employed, including infusion, maceration, decoction, inhalation, fumigation, cataplasm, raw, and cooked. The results (Fig. 6) the current study indicated that the people living in the Driouch area used different parts of medicinal plants to prepare remedies. The leaves' parts were the most widely used for treating various health problems, with a percentage of (47.90 %). The predominance of the use of leaves in traditional remedies has been observed in several studies carried out in the different regions of Morocco (Eddouks *et al.* 2016, El hilah *et al.* 2016, Fakchich & Elachouri 2014), as well as other countries such as Algeria (Miara *et al.* 2018), in Uganda (Asiimwe *et al.* 2013), in Yemen (Al-fatimi 2019), in Pakistan (Adnan *et al.* 2014, Sher *et al.* 2015), in Turkey (F. Güzel *et al.* 2015), in Spain (Parda *et al.* 2009), in Italy (Tuttolomondo *et al.* 2014). The preference of this part of the plant could be explained by the fact that leaves were the principal site of the synthesis of secondary metabolites. Since leaves were the main photosynthetic organ of plants, bioactive phytochemicals were concentrated in this part (Raterta *et al.* 2014, Xavier *et al.* 2015). Additionally, the accessibility and visibility (appearance on the floor) of the leaves during all the plants' lives could be considered a factor justifying the predominance of this part of the plant.

Although the stem's function was transporting raw and elaborate sap, this part of the plant was ranked in the second position with 14.7 %. The visibility and accessibility throughout all the plant life could be accepted as an explanation for such a position. The percentage of uses observed for the fruits (13.1 %), seeds (8.9 %), and bulbs (7 %) could be explained by the fact that these organs accumulated and concentrated the major secondary metabolites produced by the plant. In return, the other parts of the plants, roots, whole plant, flowers, and bark, were fluently used with percentages less than 4 %.

#### Methods of preparation and mode of administration

The Mode of drug preparation in traditional medicines practice is considered a crucial step in treating illnesses. According to these results, the infusion was the most frequent Mode of preparation used with a percentage of 31 %, followed by raw (29 %), decoction (23 %), and cataplasm (8%) (Fig. 7). Similar results were obtained in previous ethnobotanical surveys carried out in Morocco and other parts of the world (Benítez *et al.* 2010, Bibi *et al.* 2014, Boudjelal *et al.* 2013, Güzel *et al.* 2015, Hammiche & Maiza 2006, Fakchich & Elachouri 2014, Parada *et al.* 2009).

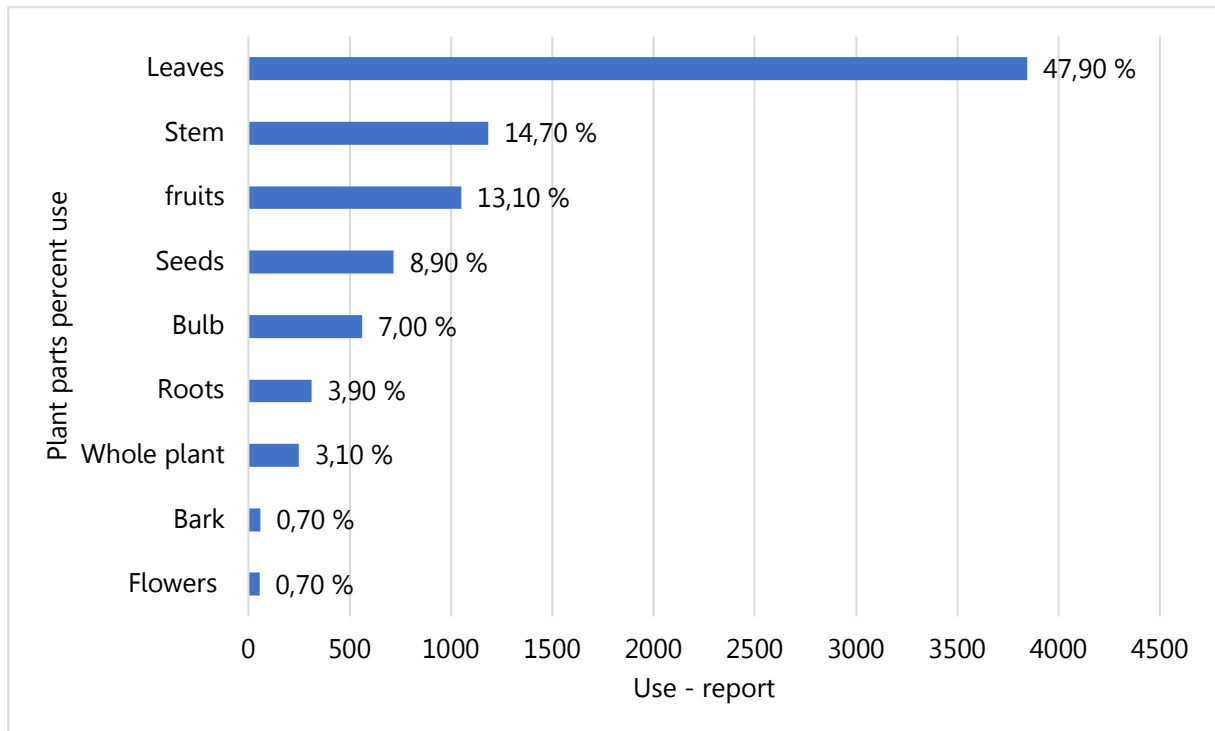


Figure 6. Utilized plant parts and their percentage of use based on the number of use-reports.

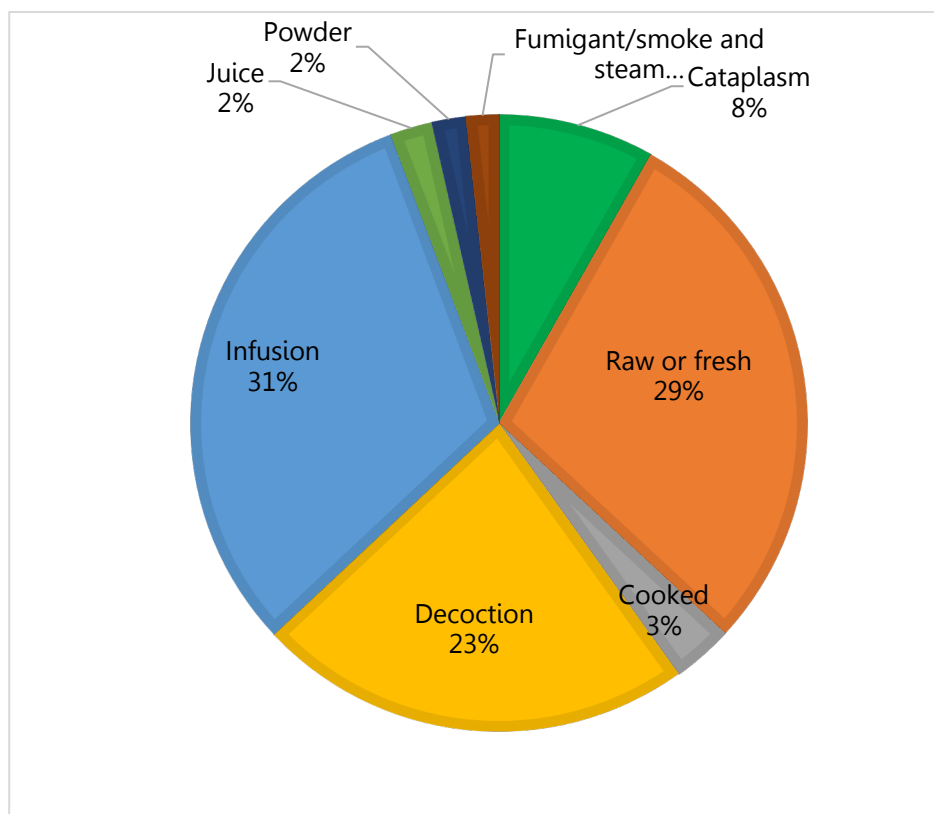


Figure 7. Modes of preparation of medicinal plants (percentage)

These herbs were used either singly or a mixture of more than one species or with some additional ingredients to make a particular remedy (Fig. 8). The use of the mixture for the treatment could be effective, probably due to the synergistic effects (Ekor 2014). In most parts of the preparations, water was used as the preferred solvent, this finding corroborates with other studies carried out in other regions of Morocco (Belhaj *et al.* 2020, El Hachlafi *et al.* 2020, Es-Safi *et al.* 2020). Their frequent use of the water could be explained by the fact that this solvent was easily

available, cheap, and can dissolve most of the active components contained in the plants used in traditional medicine (Bhattarai *et al.* 2010). Other ingredients like honey, olive oil, and milk may be used to treat some diseases. These ingredients, especially olive oil and honey were very popular in the Moroccan Pharmacopeia because they occupied an exceptional place in holistic medicine.

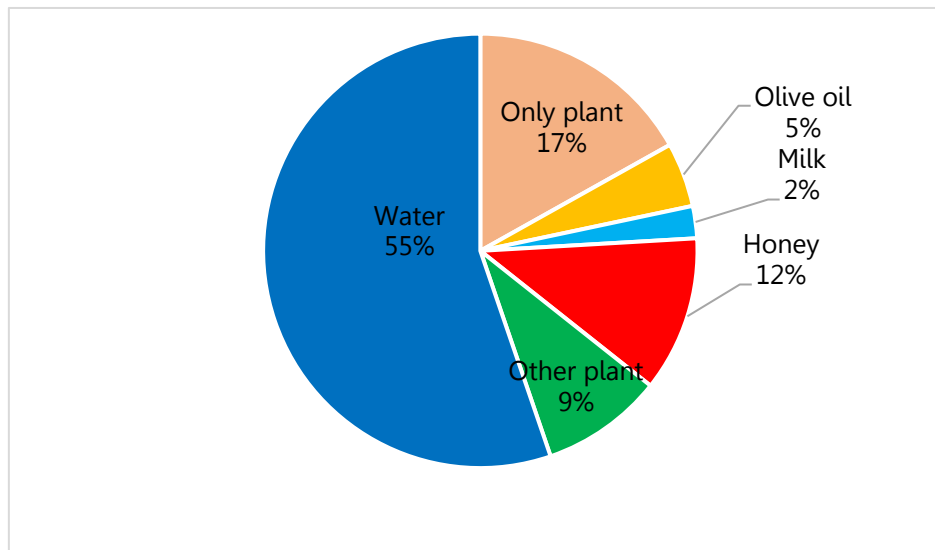


Figure 8. Ingredient added to plants used by locals' peoples to treat disease. (percentage)

Furthermore, the addition of honey makes it easier to ingest plants or its extract that had a bitter taste. For example, *Punica granatum* L. is widely used with honey to treat digestive disorders. On the other hand, olive oil to the plant improves its therapeutic or protective effects against health problems considered. The plant species *Ajuga iva* (L), shrub is frequently used with olive oil to treat skin diseases.

It is well known that the Mode of preparation was linked to the type of use (external or internal), generally for an external; mask, massage, or as suppositories, were used, while for decoction, infusion, and maceration, were internally used. The results presented in Fig. 9 shows that most parts of herbal remedies were administered orally with a high percentage of 73 %, followed by direct application on skin with 17 %.

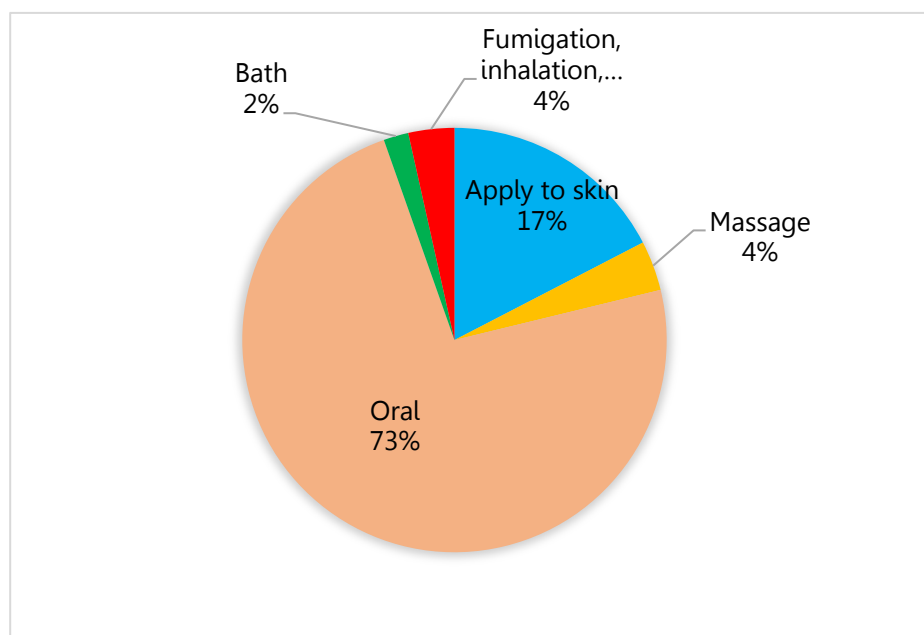


Figure 9. Mode of administration of the plant remedies against different diseases (percentage)

The percentage of the other methods of preparation grouped (fumigation, inhalation, massage) did not exceed 4 %. The predominance of oral and topical administrations, with 73% and 17 % respectively, observed in our study, was in accordance with other findings in various studies (Ahmad *et al.* 2014, Benarba *et al.* 2015, Demie *et al.* 2018, Giovannini 2015, Gumisiriza *et al.* 2019, Mikou *et al.* 2015). The predominance of these two types of administration could be explained by the high incidence of internal and topical ailments in the region. Furthermore, oral and topical administrations permit quick physiological action promoting the power of herbal remedies (Rehman *et al.* 2015).

During this survey, we collected some other information related to the dosages of the medicinal preparation (quantity, doses, frequency, period of use, etc.). Globally, these data were very diverse, based on application, diseases, age, patient's physical health, and illness severity.

### Quantitative analysis

#### Use-value (UV)

Regarding the use-value of reported species (Fig. 10), we found that *Origanum compactum* Benth. It was the most frequently used by local informants, with the highest UV of 0.553 (551 use reports).

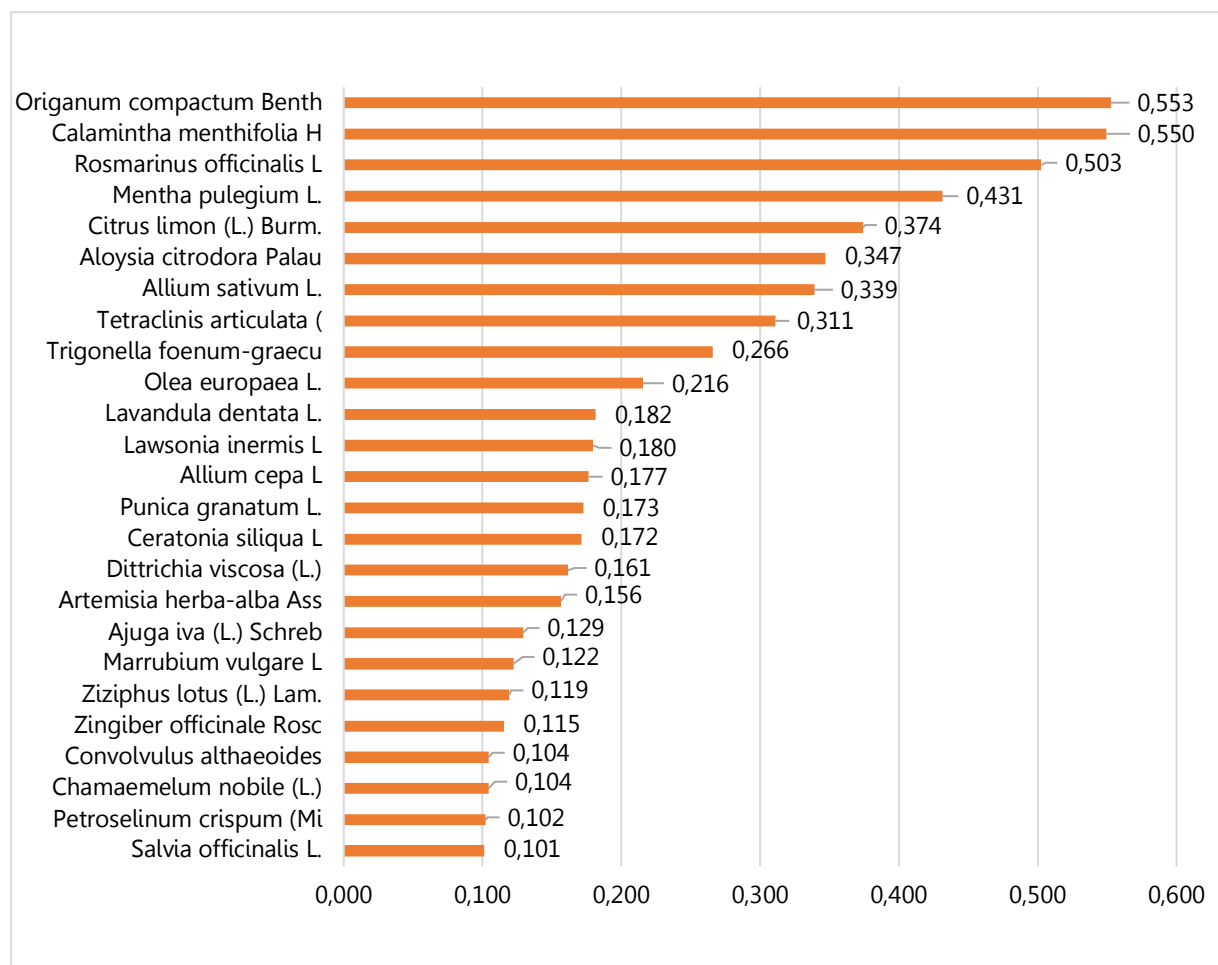


Figure 10. Use value of medicinal plants most cited by informants in the present survey

*Origanum compactum* Benth is an aromatic and medicinal plant known locally by its vernacular names "**zaâtar**" and "**sahthar**". This species has been considered a natural drug in Morocco, and it has been applied against several pathologies with a large spectrum of use which varies between the regions regarding the pathologies, the parts used, and the mode of preparation. For instance, areal parts of *Origanum compactum* Benth are used by the Moroccan population to fight against pulmonary and gastrointestinal infections (Bouyahya *et al.* 2017, Merzouki *et al.* 2000). Moreover, leaves and stems are used against the pathologies of the digestive system, heart diseases, inflammation, hypertension, and diabetes (Hachi *et al.* 2016, Orch *et al.* 2015). Local people use the plant mainly (63 %) to treat different respiratory ailments such as bronchitis, allergy, colds, flu, and cough. This main



ethnomedicinal use has been reported in other ethnopharmacological surveys conducted in different areas of Morocco (Bouyahya *et al.* 2017, Fakchich & Elachouri 2014). Presence of thymol, carvacrol,  $\gamma$  terpinen, and p. cymene (Aboukhalid *et al.* 2016, Bouhdid *et al.* 2008) explain its remedial potential in the plant. However, this plant is known to have antioxidant and antibacterial activities (Bouhdid *et al.* 2008), antiproliferative effect (Chaouki *et al.* 2010), antimutagenic effect (Merzouki *et al.* 2000) and antibacterial activity (Bouyahya *et al.* 2016).

Other elevated Use Values were calculated for the following species *Calamintha menthifolia* H (UV=0.550), *Rosmarinus officinalis* L (UV=0.503), *Mentha pulegium* L. (UV=0.431), and *Citrus limon* (L.) Burm. (UV=0.374) as most frequently cited species.

### Family Use Value (FUV)

The Family Use Value is a quantitative parameter that allows us to understand better the relationship between botanical families and the uses of species belonging to these families in herbal medicine. In this study, 60 families were identified. This means that 40% of the botanical families known from Morocco are cited in this survey, taking into account that the Moroccan flora is divided into 150 families (Hmammouchi 1999). Thus, the panel of medicinal herbs used in Driouch province is very rich and diversified, compared to many recent Moroccan inquiries in which the numbers of families were respectively 57, 56, 41, 29 and 28 (Abouri *et al.* 2012, Fadili *et al.* 2017, Idm'hand *et al.* 2010, Mikou *et al.* 2015, Jaadan *et al.* 2020).

Regarding the Family Use Value of the plants recorded in this paper, the results showed that Verbenaceae (FUV = 0,347), Amaryllidaceae (FUV = 0,258), Lamiaceae (FUV = 0,183), Lythraceae (FUV = 0,176), Cupressaceae (FUV = 0,157), Rhamnaceae (FUV = 0,119), Rutaceae (FUV = 0,106), Convolvulaceae (FUV = 0,104), Oleaceae (FUV = 0,077), Anacardiaceae (FUV = 0,077) were the ten popular families recorded in the present investigation (Fig. 11).

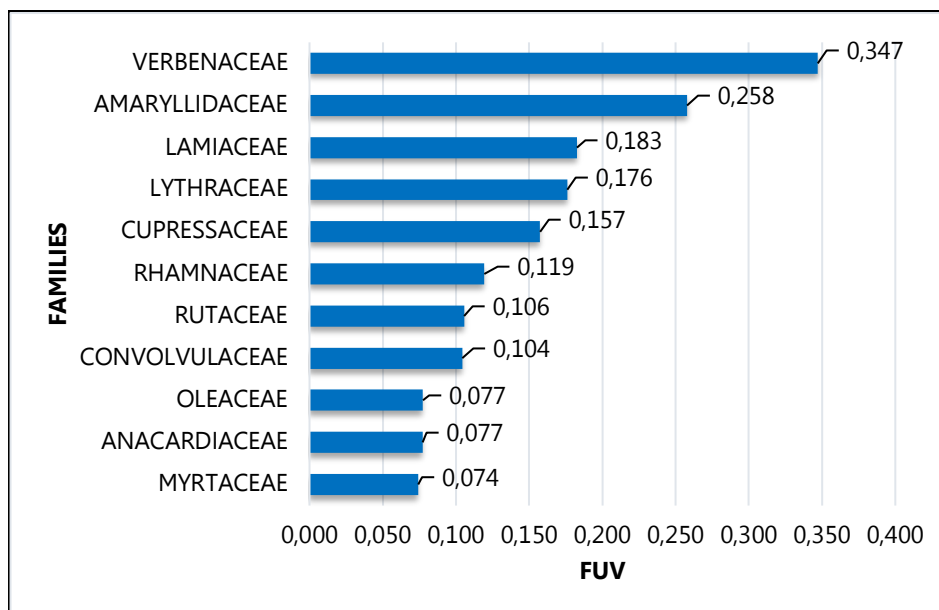


Figure 11. Family Use Value (FUV) of ten most popular families recorded in this study

Whereas Aristolochiaceae, Equisetaceae, Euphorbiaceae, Papaveraceae, Iridaceae, Myricaceae, had the lowest values of FUV (FUV = 0,001) among the recorded families. The Highest value of FUV (FUV = 0,347), calculated for the family of Verbenaceae, could be explained by the fact that the only species represented in this family "*Aloysia citrodora* Palau" (Lemon verbena) which is widely distributed in nature (it is grown in gardens) and mainly used for medicinal purposes such as cold and fever, influenza, nerve problem, acne, and as an insecticide, bactericide, tonic, and antispasmodic. Pharmacological activities of *A. citrodora* have been validated by various experimental studies as antimicrobial and insecticidal effects (Oukerrou *et al.* 2017), neuropsychological effects (Abuhamdaha *et al.* 2015, Ragone *et al.* 2010), gastrointestinal effects (Ragone *et al.* 2007), antioxidant and cytoprotective effects (Portmann *et al.* 2012, Quirantes-piné *et al.* 2013), metabolic effects (Herran-lópez *et al.* 2015) and Cardiovascular effects (Ragone *et al.* 2010).

The family of Amaryllidaceae occupied the second position regarding the FUV (FUV = 0,257). Species grouped in this family with only two species *Allium cepa* L and *Allium sativum* L. These species are daily used by inhabitants of Driouch not only in traditional medicine but also to prepare food. Additionally, the high value of FUV for this botanical family can be explained by the fact that garlic and onion were considered one of the most important cultivated crops of genus *Allium* (Devi et al. 2014).

### Informant consensus factor (ICF)

In Table (3), we regrouped the values of informant consensus factor calculated for 20 ailments categories reported by informants. The ICF values for each ailment category ranged from 0.50 to 0.97. ICF value above 0.5 signify informant's agreement about the use of Medicinal plants to treat ailments. Conversely, ICF values below 0.5 indicated poor interactions between people in sharing their knowledge on medicinal practices. The highest ICF (0.97) was reported for the respiratory disease's category with 65 species, and 2126 uses citations, followed by the digestif problems category (0.95) with 98 species and 2118 uses citations and cardiovascular and hypertension diseases (0.95), with 16 species, and 314 uses citations. The high ICF values indicated that the population has a high homogeneous knowledge for selecting and using plants to treat these categories of ailments. The high ICF of respiratory diseases might be due to the climatic conditions in the province, and it can also be explained by the fact that relative clinical signs are common and are more easily identified by the local inhabitants. On the other hand, the high number of the use-reports and medicinal plant taxa used to treat digestive problems category (with 98 plant taxa and 2118 use-report) could be due to the higher reported cases of diarrhea, gastritis, and stomachic indicating the higher prevalence of these disease in the study area.

In third position, we found the skin problems category (with 83 plant taxa and 1131 use-report). The higher number of use reports and medicinal plants used in skin problems could be attributed to the reported injuries like cuts and wounds, acne, hair loss, and baldness. This may be influenced by hard, laborious lifestyles, as the farmers engaged in shifting cultivation, firewood, other materials collections, and the unhygienic lifestyle and use of contaminated water.

Table 3: Informant Consensus Factor (ICF) of ailments categories and number of medicinal uses for each species used to treat each category of ailment in Driouch province.

Ailment categories	Plants	Nut	Nur	ICF
<b>Respiratory Diseases</b>	<i>Calamintha menthifolia</i> H (461); <i>Mentha pulegium</i> L (360); <i>Origanum compactum</i> Benth (349); <i>Citrus limon</i> (L.) Burm. (237); <i>Rosmarinus officinalis</i> L (202); <i>Zingiber officinale</i> Rosc (58); <i>Lavandula dentata</i> L. (50); <i>Artemisia absinthium</i> L. (43); <i>Aloysia citrodora</i> Palau (42); <i>Trigonella foenum-graecu</i> (27); <i>Tetraclinis articulata</i> (25); <i>Artemisia herba-alba</i> Ass (23); <i>Ajuga iva</i> (L.) Schreb (16); <i>Peganum harmala</i> L. (16); <i>Marrubium vulgare</i> L. (15); <i>Eucalyptus camaldulensis</i> (16); <i>Nigella sativa</i> L. (14); <i>Chamaemelum nobile</i> (L.) (11); <i>Petroselinum crispum</i> (Mi) (10); <i>Apium graveolens</i> L. (10); <i>Mentha suaveolens</i> Ehrh (9); <i>Vicia faba</i> L. (9); <i>Allium sativum</i> L. (11); <i>Cinnamomum verum</i> J. Pres (8); <i>Ammoides pusilla</i> (Brot.) (6); <i>Allium cepa</i> L. (5); <i>Linum usitatissimum</i> L. (5); <i>Atractylis cancellata</i> L. (4); <i>Nerium oleander</i> L. (4); <i>Salvia officinalis</i> L. (4); <i>Globularia alypum</i> L. (4); <i>Allium cepa</i> L. (3); <i>Brassica rapa</i> L. (3); <i>Ononis angustissima</i> Lam (3); <i>Pistacia lentiscus</i> L. (3); <i>Foeniculum vulgare</i> Mill. (3); <i>Armeria alliacea</i> (Cav.) (2); <i>Asparagus acutifolius</i> L. (2); <i>Syzygium aromaticum</i> (L.) (2); <i>Pinus pinaster</i> Aiton (2); <i>Punica granatum</i> L. (2); <i>Rubus ulmifolius</i> Schott (2); <i>Ruta montana</i> (L.) L. (2); <i>Cistus salvifolius</i> L. (2); <i>Citrus sinensis</i> (L.) Osb (2); <i>Ocimum basilicum</i> L. (2); <i>Cenchrus americanus</i> (L.) (2); <i>Ficus carica</i> L. (2); <i>Lavandula stoechas</i> L. (2); <i>Brassica juncea</i> (L.) Cze (1); <i>Chenopodium ambrosioides</i> (1); <i>Fagonia bruguieri</i> DC. (1); <i>Glycine max</i> (L.) Merr (1); <i>Matricaria chamomilla</i> L. (1); <i>Nigella damascena</i> L. (1); <i>Olea europaea</i> L. (1); <i>Salvia verbenaca</i> L. (1); <i>Vitis vinifera</i> L. (1); <i>Vicia ervilia</i> (L.) Willd (1); <i>Citrullus lanatus</i> Thunb (1); <i>Dittrichia viscosa</i> L. (1);	65	2126	0.97

	<i>Glycyrrhiza glabra</i> L. (1); <i>Juglans regia</i> L. (1); <i>Lepidium sativum</i> L. (1).			
<b>Digestive Problems</b>	<i>Rosmarinus officinalis</i> L. (194); <i>Ceratonia siliqua</i> L. (164); <i>Origanum compactum</i> Benth (153); <i>Punica granatum</i> L. (143); <i>Trigonella foenum-graecu</i> (130); <i>Artemisia herba-alba</i> Ass (104); <i>Ziziphus lotus</i> (L.) Lam. (80); <i>Calamintha menthifolia</i> H (76); <i>Aloysia citrodora</i> Palau (63); <i>Tetraclinis articulata</i> (59); <i>Mentha pulegium</i> L. (54); <i>Ammoides pusilla</i> (Brot.) (53); <i>Globularia alypum</i> L. (43); <i>Chamaemelum nobile</i> (L.) (42); <i>Phillyrea latifolia</i> L. (38); <i>Allium sativum</i> L. (37); <i>Olea europaea</i> L. (36); <i>Lavandula dentata</i> L. (32); <i>Dittrichia viscosa</i> (L.) (29); <i>Mentha spicata</i> L. (29); <i>Zingiber officinale</i> Rosc (28); <i>Quercus suber</i> L. (27); <i>Salvia officinalis</i> L. (27); <i>Opuntia ficus-indica</i> (L. (24); <i>Senna alexandrina</i> Mill (23); <i>Marrubium vulgare</i> L. (21); <i>Petroselinum crispum</i> (Mi (20); <i>Cuminum cyminum</i> L. (20); <i>Pistacia lentiscus</i> L. (18); <i>Ficus carica</i> L. (17); <i>Prunus armeniaca</i> L. (15); <i>Artemisia absinthium</i> L. (14); <i>Foeniculum vulgare</i> Mill. (14); <i>Vicia faba</i> L. (12); <i>Linum usitatissimum</i> L. (11); <i>Eucalyptus camaldulensis</i> (11); <i>Chenopodium ambrosioides</i> (10); <i>Arbutus unedo</i> L. (10); <i>Armeria alliacea</i> (Cav.) (9); <i>Mentha suaveolens</i> Ehrh (9); <i>Ajuga iva</i> (L.) Schreb (9); <i>Cynara scolymus</i> L. (9); <i>Ruta montana</i> (L.) L. (9); <i>Apium graveolens</i> L. (7); <i>Lavandula stoechas</i> L. (7); <i>Nerium oleander</i> L. (7); <i>Nigella damascena</i> L. (7); <i>Senna italica</i> Mill. (7); <i>Jasminum officinale</i> L. (7); <i>Vicia ervilia</i> (L.) Willd (7); <i>Cenchrus americanus</i> (L.) (6); <i>Cistus salvifolius</i> L. (6); <i>Citrus limon</i> (L.) Burm. (6); <i>Cistus ladanifer</i> L. (6); <i>Citrus × aurantium</i> L. (6); <i>Daucus carota</i> L. (6); <i>Musa paradisiaca</i> L. (6); <i>Nigella sativa</i> L. (6); <i>Peganum harmala</i> L. (6); <i>Prunus dulcis</i> (Mill.) D. (6); <i>Urtica dioica</i> L. (6); <i>Cinnamomum verum</i> J. Pres (5); <i>Syzygium aromaticum</i> (L.) (5); <i>Rubus ulmifolius</i> Schott (5); <i>Zea mays</i> L. (5); <i>Pinus pinaster</i> Aiton (4); <i>Lycopersicon esculentum</i> (4); <i>Olea europaea subsp. Lap</i> (3); <i>Triticum durum</i> Desf. (3); <i>Allium cepa</i> L. (3); <i>Argania spinosa</i> (L.) Ske (3); <i>Salvia verbenaca</i> L. (3); <i>Juglans regia</i> L. (3); <i>Silene vulgaris</i> (Moench) (3); <i>Solanum melongena</i> L. (3); <i>Convolvulus althaeoides</i> (2); <i>Coriandrum sativum</i> L. (2); <i>Ononis angustissima</i> Lam (2); <i>Prunus domestica</i> L. (2); <i>Malva sylvestris</i> L. (2); <i>Hordeum vulgare</i> L. (2); <i>Lawsonia inermis</i> L. (2); <i>Matricaria chamomilla</i> L. (2); <i>Asparagus acutifolius</i> L. (1); <i>Oryza sativa</i> L. (1); <i>Phoenix dactylifera</i> L. (1); <i>Aristolochia paucinervis</i> (1); <i>Daphne gnidium</i> L. (1); <i>Eremopyrum orientale</i> (L. (1); <i>Fragaria vesca</i> L. (1); <i>Juncus maritimus</i> Lam. (1); <i>Lepidium sativum</i> L. (1); <i>Vitis vinifera</i> L. (1); <i>Cinnamomum camphora</i> (L.) (1); <i>Citrus sinensis</i> (L.) Osb (1).	98	2118	0.95
<b>Cardiovascular diseases and hypertension</b>	<i>Allium sativum</i> L. (196); <i>Aloysia citrodora</i> Palau (60); <i>Olea europaea</i> L. (11); <i>Trigonella foenum-graecu</i> (9); <i>Capsicum annum</i> L. (8); <i>Coffea arabica</i> L. (7); <i>Rosmarinus officinalis</i> L. (7); <i>Petroselinum crispum</i> (Mi) (5); <i>Allium cepa</i> L. (2); <i>Apium graveolens</i> L. (2); <i>Dittrichia viscosa</i> (L.) (2); <i>Calamintha menthifolia</i> H (1); <i>Lavandula dentata</i> L. (1); <i>Nigella sativa</i> L. (1); <i>Opuntia ficus-indica</i> (L.) (1); <i>Solanum melongena</i> L. (1).	16	314	0.95
<b>Skin Problems</b>	<i>Lawsonia inermis</i> L. (160); <i>Convolvulus althaeoides</i> (100); <i>Dittrichia viscosa</i> (L.) (89); <i>Ajuga iva</i> (L.) Schreb (72); <i>Allium sativum</i> L. (63); <i>Ononis angustissima</i> Lam (58); <i>Tetraclinis articulata</i> (57); <i>Marrubium vulgare</i> L. (49); <i>Coffea arabica</i> L. (39); <i>Allium cepa</i> L. (35); <i>Olea europaea</i> L. (26); <i>Citrus limon</i> (L.) Burm. (24); <i>Pistacia lentiscus</i> L. (20); <i>Lavandula dentata</i> L. (19); <i>Salvia verbenaca</i> L. (19); <i>Ziziphus lotus</i> (L.) Lam. (19); <i>Origanum compactum</i> Benth (15); <i>Opuntia ficus-indica</i> (L. (14); <i>Rosmarinus</i>	83	1131	0.92

	<i>officinalis</i> L. (14); <i>Nerium oleander</i> L. (13); <i>Cistus salviifolius</i> L. (12); <i>Capparis spinosa</i> L. (11); <i>Daphne gnidium</i> L. (10); <i>Artemisia herba-alba</i> Ass (9); <i>Fagonia bruguieri</i> DC. (9); <i>Trigonella foenum-graecu</i> (8); <i>Cannabis sativa</i> L. (7); <i>Chenopodium ambrosioides</i> (7); <i>Eucalyptus camaldulensis</i> (7); <i>Punica granatum</i> L. (7); <i>Solanum linnaeanum</i> Hepp (7); <i>Cinnamomum verum</i> J. Pres (6); <i>Mentha spicata</i> L. (6); <i>Musa paradisiaca</i> L. (6); <i>Zingiber officinale</i> Rosc (6); <i>Agave americana</i> L. (5); <i>Camellia sinensis</i> (L.)K (5); <i>Globularia alypum</i> L. (5); <i>Lens culinaris</i> Medik (5); <i>Peganum harmala</i> L. (5); <i>Syzygium aromaticum</i> (L.) (5); <i>Vicia faba</i> L. (5); <i>Solanum tuberosum</i> L. (4); <i>Beta vulgaris</i> L. (3); <i>Carpobrotus edulis</i> (L.) (3); <i>Cicer arietinum</i> L. (3); <i>Cistus ladanifer</i> L. (3); <i>Medicago sativa</i> L. (3); <i>Pinus pinaster</i> Aiton (3); <i>Prunus persica</i> (L.)Bats (3); <i>Ammoides pusilla</i> (Brot.) (2); <i>Argania spinosa</i> (L.)Ske (2); <i>Cenchrus americanus</i> (L.) (2); <i>Centella asiatica</i> (L.)U (2); <i>Ceratonia siliqua</i> L. (2); <i>Cucumis sativus</i> L. (2); <i>Curcuma longa</i> L. (2); <i>Cynara scolymus</i> L. (2); <i>Ficus carica</i> L. (2); <i>Launaea arborescens</i> (Bat) (2); <i>Lepidium sativum</i> L. (2); <i>Mentha suaveolens</i> Ehrh (2); <i>Olea europaea</i> subsp. <i>Lap</i> (2); <i>Oryza sativa</i> L. (2); <i>Petroselinum crispum</i> (Mi) (2); <i>Anchusa italica</i> Retz. (1); <i>Aquilaria malaccensis</i> La (1); <i>Artemisia absinthium</i> L. (1); <i>Daucus carota</i> L. (1); <i>Eruca vesicaria</i> subsp. <i>S</i> (1); <i>Ferula communis</i> L. (1); <i>Hyoscyamus albus</i> L. (1); <i>Juglans regia</i> L. (1); <i>Lycopersicon esculentum</i> (1); <i>Morus alba</i> L. (1); <i>Nigella damascena</i> L. (1); <i>Nigella sativa</i> L. (1); <i>Papaver rhoeas</i> L. (1); <i>Phoenix dactylifera</i> L. (1); <i>Silene vulgaris</i> (Moench) (1); <i>Sonchus tenerrimus</i> L. (1); <i>Vitis vinifera</i> L. (1); <i>Zea mays</i> L. (1).			
<b>Urinary Tract Problems</b>	<i>Herniaria cinerea</i> DC (68); <i>Petroselinum crispum</i> (Mi) (45); <i>Salvia verbenaca</i> L. (32); <i>Allium cepa</i> L. (29); <i>Citrus limon</i> (L.) <i>Burm.</i> (25); <i>Lavandula dentata</i> L. (18); <i>Syzygium aromaticum</i> (L.) (16); <i>Ziziphus lotus</i> (L.)Lam. (11); <i>Aloysia citrodora</i> Palau (8); <i>Apium graveolens</i> L. (8); <i>Coriandrum sativum</i> L. (7); <i>Nigella sativa</i> L. (6); <i>Quercus suber</i> L. (6); <i>Punica granatum</i> L. (5); <i>Opuntia ficus-indica</i> (L.) (4); <i>Cydonia oblonga</i> Mill (3); <i>Ficus carica</i> L. (3); <i>Ajuga iva</i> (L.)Schreb (2); <i>Atractylis cancellata</i> L. (2); <i>Calamintha menthifolia</i> H (2); <i>Cucurbita maxima</i> Duchesn (2); <i>Rosmarinus officinalis</i> L. (2); <i>Vicia faba</i> L. (2); <i>Zea mays</i> L. (2); <i>Chamaemelum nobile</i> (L.) (1); <i>Cynara scolymus</i> L. (1); <i>Juncus maritimus</i> Lam. (1); <i>Linum usitatissimum</i> L. (1); <i>Ocimum basilicum</i> L. (1); <i>Olea europaea</i> L. (1); <i>Tetraclinis articulata</i> (1); <i>Tetraclinis articulata</i> (1).	32	316	0.90
<b>Headaches and Migraine</b>	<i>Citrus limon</i> (L.) <i>Burm.</i> (51); <i>Tetraclinis articulata</i> (33); <i>Marrubium vulgare</i> L. (27); <i>Solanum tuberosum</i> L. (21); <i>Allium cepa</i> L. (20); <i>Ajuga iva</i> (L.)Schreb (17); <i>Chenopodium ambrosioides</i> (17); <i>Aloysia citrodora</i> Palau (17); <i>Dittrichia viscosa</i> (L.) (16); <i>Brassica rapa</i> L. (12); <i>Lawsonia inermis</i> L. (10); <i>Eucalyptus camaldulensis</i> (9); <i>Pistacia lentiscus</i> L. (8); <i>Lavandula dentata</i> L. (8); <i>Rosmarinus officinalis</i> L. (7); <i>Nerium oleander</i> L. (7); <i>Origanum compactum</i> Benth (6); <i>Syzygium aromaticum</i> (L.) (5); <i>Opuntia ficus-indica</i> (L.) (4); <i>Ononis angustissima</i> Lam (3); <i>Fagonia bruguieri</i> DC. (3); <i>Cistus salviifolius</i> L. (3); <i>Cucumis sativus</i> L. (2); <i>Petroselinum crispum</i> (2); <i>Zingiber officinale</i> Rosc (2); <i>Cinnamomum verum</i> J. Pres (2); <i>Anagyris foetida</i> L. (1); <i>Allium sativum</i> L. (1); <i>Nigella sativa</i> L. (1); <i>Ocimum basilicum</i> L. (1); <i>Olea europaea</i> L. (1); <i>Salvia officinalis</i> L. (1); <i>Ficus carica</i> L. (1); <i>Ceratonia siliqua</i> L. (1); <i>Mentha suaveolens</i> Ehrh (1); <i>Peganum harmala</i> L. (1); <i>Vitis vinifera</i> L. (1).	37	324	0.89
<b>Oral Diseases</b>	<i>Syzygium aromaticum</i> (L.) (28); <i>Eucalyptus camaldulensis</i> (26); <i>Olea europaea</i> L. (25); <i>Olea europaea</i> subsp. <i>Lap</i> (24); <i>Juglans</i>	25	195	0.87

	<i>regia</i> L. (15); <i>Pistacia lentiscus</i> L. (12); <i>Salvia officinalis</i> L. (9); <i>Allium sativum</i> L. (7); <i>Nerium oleander</i> L. (6); <i>Nigella sativa</i> L. (6); <i>Origanum compactum</i> Benth (6); <i>Foeniculum vulgare</i> Mill. (5); <i>Cupressus sempervirens</i> L. (4); <i>Allium cepa</i> L. (4); <i>Origanum majorana</i> L. (3); <i>Ruta montana</i> (L.) L. (3); <i>Trigonella foenum-graecu</i> (2); <i>Ajuga iva</i> (L.) Schreb (2); <i>Artemisia absinthium</i> L. (2); <i>Artemisia herba-alba</i> Ass (1); <i>Citrus limon</i> (L.) Burm. (1); <i>Coffea arabica</i> L. (1); <i>Matricaria chamomilla</i> L. (1); <i>Mentha suaveolens Ehrh</i> (1); <i>Rosmarinus officinalis</i> L. (1).			
<b>Muscles Diseases</b>	<i>Tetraclinis articulata</i> (94); <i>Trigonella foenum-graecu</i> (22); <i>Olea europaea</i> L. (16); <i>Eucalyptus camaldulensis</i> (13); <i>Cenchrus americanus</i> (L.) (13); <i>Dittrichia viscosa</i> L. (10); <i>Rosmarinus officinalis</i> L. (10); <i>Urtica dioica</i> L. (10); <i>Anchusa italica</i> Retz. (8); <i>Punica granatum</i> L. (8); <i>Lavandula dentata</i> L. (7); <i>Lawsonia inermis</i> L. (7); <i>Mentha pulegium</i> L. (7); <i>Mentha suaveolens Ehrh</i> (7); <i>Mentha spicata</i> L. (5); <i>Nerium oleander</i> L. (4); <i>Apium graveolens</i> L. (4); <i>Lepidium sativum</i> L. (4); <i>Linum usitatissimum</i> L.(4); <i>Hordeum vulgare</i> L. (4); <i>Opuntia ficus-indica</i> (L. (3); <i>Rubus ulmifolius</i> Schott (3); <i>Ajuga iva</i> (L.)Schreb (3); <i>Allium cepa</i> L. (3); <i>Allium sativum</i> L. (3); <i>Zingiber officinale</i> Rosc (3); <i>Cyperus esculentus</i> L. (3); <i>Argania spinosa</i> (L.)Ske (2); <i>Ziziphus lotus</i> (L.)Lam. (2); <i>Peganum harmala</i> L. (2); <i>Pistacia lentiscus</i> L. (2); <i>Ricinus communis</i> L. (1); <i>Aloysia citrodora</i> Palau (1); <i>Cistus salvifolius</i> L. (1); <i>Citrus limon</i> (L.)Burm. (1); <i>Coriandrum sativum</i> L. (1); <i>Curcuma longa</i> L. (1); <i>Fagonia bruguieri</i> DC. (1); <i>Glycine max</i> (L.) Merr (1); <i>Nigella damascena</i> L. (1); <i>Ononis angustissima</i> Lam (1); <i>Salvia verbenaca</i> L. (1).	42	297	0.86
<b>Nervous System Disorders</b>	<i>Aloysia citrodora</i> Palau (151); <i>Ruta montana</i> (L.)L. (10); <i>Mentha pulegium</i> L. (7); <i>Tetraclinis articulata</i> (6); <i>Coffea arabica</i> L. (4); <i>Origanum compactum</i> Benth (4); <i>Trigonella foenum-graecu</i> (4); <i>Peganum harmala</i> L. (3); <i>Matricaria chamomilla</i> L. (3); <i>Citrus x aurantium</i> L. (3); <i>Rosmarinus officinalis</i> L. (2); <i>Allium cepa</i> L. (2); <i>Allium sativum</i> L. (2); <i>Coriandrum sativum</i> L. (2); <i>Linum usitatissimum</i> L. (2); <i>Nigella sativa</i> L. (2); <i>Punica granatum</i> L. (2); <i>Mentha spicata</i> L. (2); <i>Marrubium vulgare</i> L. (1); <i>Ammodaucus leucotrichus</i> (1); <i>Ammoides pusilla</i> (Brot.) (1); <i>Apium graveolens</i> L. (1); <i>Calamintha menthifolia</i> H (1); <i>Carum carvi</i> L. (1); <i>Vitis vinifera</i> L. (1); <i>Ziziphus lotus</i> (L.) Lam. (1); <i>Myristica fragrans</i> (1); <i>Nigella damascena</i> L. (1); <i>Rorippa nasturtium-aquaticum</i> (1); <i>Rosa canina</i> L. (1); <i>Syzygium aromaticum</i> L. (1).	31	224	0.86
<b>Diabetes</b>	<i>Olea europaea</i> L. (93); <i>Salvia officinalis</i> L. (51); <i>Rosmarinus officinalis</i> L. (33); <i>Trigonella foenum-graecu</i> (28); <i>Prunus dulcis</i> (Mill.) D. (19); <i>Allium cepa</i> L. (11); <i>Tetraclinis articulata</i> (9); <i>Lycopersicon esculentum</i> (9); <i>Nerium oleander</i> L. (8); <i>Olea europaea</i> subsp. <i>Lap</i> (8); <i>Urtica dioica</i> L. (8); <i>Zingiber officinale</i> Rosc (7); <i>Cinnamomum verum</i> J. Pres (6); <i>Lavandula dentata</i> L. (6); <i>Malva sylvestris</i> L. (6); <i>Artemisia herba-alba</i> Ass (5); <i>Asparagus acutifolius</i> L. (4); <i>Aloysia citrodora</i> Palau (4); <i>Capsicum annuum</i> L. (4); <i>Lactuca sativa</i> L. (4); <i>Origanum compactum</i> Benth (4); <i>Petroselinum crispum</i> (Mi (4); <i>Taraxacum obovatum</i> (Will (4); <i>Ziziphus lotus</i> (L.)Lam. (4); <i>Arisarum vulgare</i> O. Targ (3); <i>Origanum majorana</i> L. (3); <i>Peganum harmala</i> L. (3); <i>Opuntia ficus-indica</i> (L. (3); <i>Pistacia lentiscus</i> L. (3); <i>Ficus carica</i> L. (3); <i>Apium graveolens</i> L. (3); <i>Ajuga iva</i> (L.)Schreb (2); <i>Apteranthes europaea</i> sub (2); <i>Globularia alypum</i> L. (2); <i>Hordeum vulgare</i> L. (2); <i>Citrus limon</i> (L.)Burm. (2); <i>Convolvulus althaeoides</i> (2); <i>Corchorus olitorius</i> L. (2); <i>Cucumis sativus</i> L. (2);	56	395	0.86

	<i>Punica granatum</i> L. (2); <i>Mentha suaveolens</i> Ehrh (2); <i>Stevia rebaudiana</i> (Berto) (1); <i>Vicia faba</i> L. (1); <i>Vitis vinifera</i> L. (1); <i>Cynara scolymus</i> L. (1); <i>Equisetum arvense</i> L. (1); <i>Eriobotrya japonica</i> (Thu) (1); <i>Eruca vesicaria</i> subsp. <i>S</i> (1); <i>Laurus nobilis</i> L. (1); <i>Lepidium sativum</i> L. (1); <i>Mentha pulegium</i> L. (1); <i>Nigella damascena</i> L. (1); <i>Nigella sativa</i> L. (1); <i>Allium sativum</i> L. (1); <i>Calamintha menthifolia</i> H (1); <i>Cenchrus americanus</i> (L.) (1).			
<b>Reproductive Pathologies</b>	<i>Lavandula dentata</i> L. (37); <i>Origanum vulgare</i> L. (14); <i>Trigonella foenum-graecu</i> (12); <i>Rosmarinus officinalis</i> L. (9); <i>Salvia officinalis</i> L. (8); <i>Tetraclinis articulata</i> (7); <i>Calamintha menthifolia</i> H (6); <i>Coffea arabica</i> L. (6); <i>Origanum compactum</i> Benth (6); <i>Cenchrus americanus</i> (L.) (5); <i>Mentha spicata</i> L. (5); <i>Allium cepa</i> L. (4); <i>Petroselinum crispum</i> (Mi) (4); <i>Zingiber officinale</i> Rosc (4); <i>Ajuga iva</i> (L.) Schreb (3); <i>Pistacia lentiscus</i> L. (3); <i>Punica granatum</i> L. (3); <i>Ammoides pusilla</i> (Brot.) (2); <i>Artemisia herba-alba</i> Ass (2); <i>Dittrichia viscosa</i> (L.) (2); <i>Foeniculum vulgare</i> Mill. (1); <i>Lactuca sativa</i> L. (1); <i>Marrubium vulgare</i> L. (1); <i>Phoenix dactylifera</i> L. (1); <i>Cinnamomum verum</i> J. Pres (1); <i>Opuntia ficus-indica</i> (L.) (1); <i>Urtica dioica</i> L. (1).	27	139	0.81
<b>Ear Problems</b>	<i>Allium cepa</i> L. (27); <i>Marrubium vulgare</i> L. (5); <i>Peganum harmala</i> L. (3); <i>Ruta montana</i> (L.) L. (3); <i>Hyoscyamus albus</i> L. (2); <i>Lavandula dentata</i> L. (2); <i>Eucalyptus camaldulensis</i> (2); <i>Cinnamomum camphora</i> (L.) (1); <i>Dittrichia viscosa</i> (L.) (1); <i>Mentha spicata</i> L. (1); <i>Olea europaea</i> L. (1).	11	48	0.79
<b>Power Problems</b>	<i>Rosmarinus officinalis</i> L. (3); <i>Coriandrum sativum</i> L. (2).	02	05	0.75
<b>Circulatory Problems</b>	<i>Beta vulgaris</i> L. (19); <i>Phillyrea latifolia</i> L. (8); <i>Citrus limon</i> (L.) Burm. (4); <i>Daucus carota</i> L. (4); <i>Petroselinum crispum</i> (Mi) (4); <i>Ficus carica</i> L. (3); <i>Olea europaea</i> subsp. <i>Lap</i> (3); <i>Rosmarinus officinalis</i> L. (3); <i>Allium sativum</i> L. (3); <i>Ceratonia siliqua</i> L. (2); <i>Arbutus unedo</i> L. (2); <i>Taraxacum obovatum</i> (Will) (2); <i>Artemisia absinthium</i> L. (2); <i>Dittrichia viscosa</i> (L.) (2); <i>Origanum compactum</i> Benth (2); <i>Spinacia oleracea</i> L. (1); <i>Lens culinaris</i> Medik (1).	17	63	0.74
<b>Cancer</b>	<i>Allium cepa</i> L. (1); <i>Crocus sativus</i> L. (1); <i>Peganum harmala</i> L. (10); <i>Taraxacum obovatum</i> Will (3); <i>Quercus suber</i> L. (1).	05	16	0.73
<b>Infectious and Parasitic Problems</b>	<i>Citrus limon</i> (L.) Burm. (9); <i>Allium sativum</i> L. (8); <i>Allium cepa</i> L. (5); <i>Pistacia lentiscus</i> L. (5); <i>Cuminum cyminum</i> L. (5); <i>Chamaemelum nobile</i> (L.) (4); <i>Dittrichia viscosa</i> (L.) (3); <i>Artemisia absinthium</i> L. (3); <i>Marrubium vulgare</i> L. (3); <i>Origanum compactum</i> Benth (3); <i>Ajuga iva</i> (L.) Schreb (2); <i>Vicia faba</i> L. (1); <i>Zingiber officinale</i> Rosc (1); <i>Capsicum annum</i> L. (1); <i>Lavandula dentata</i> L. (1); <i>Mentha pulegium</i> L. (1); <i>Olea europaea</i> subsp. <i>Lap</i> (1).	17	59	0.72
<b>Endocrine and Metabolic Disorders</b>	<i>Trigonella foenum-graecu</i> (23); <i>Citrus limon</i> (L.) Burm. (13); <i>Petroselinum crispum</i> (Mi) (7); <i>Visnaga daucoides</i> Gaertn (6); <i>Cinnamomum verum</i> J. Pres (5); <i>Zingiber officinale</i> Rosc (3); <i>Olea europaea</i> L. (4); <i>Glycine max</i> (L.) Merr (3); <i>Origanum majorana</i> L. (3); <i>Pistacia lentiscus</i> L. (2); <i>Ceratonia siliqua</i> L. (2); <i>Linum usitatissimum</i> L. (2); <i>Opuntia ficus-indica</i> (L.) (2); <i>Solanum melongena</i> L. (2); <i>Ziziphus lotus</i> (L.) Lam. (2); <i>Allium cepa</i> L. (1); <i>Carthamus tinctorius</i> L. (1); <i>Malus pumila</i> Mill (1); <i>Malva sylvestris</i> L. (1); <i>Mentha spicata</i> L. (1); <i>Nigella sativa</i> L. (1); <i>Salvia officinalis</i> L. (1); <i>Curcuma longa</i> L. (1); <i>Cynara scolymus</i> L. (1); <i>Ononis angustissima</i> Lam (1).	25	89	0.72
<b>Immune Diseases</b>	<i>Artemisia herba-alba</i> Ass (12); <i>Cinnamomum cassia</i> (L.) (4); <i>Allium sativum</i> L. (3); <i>Allium cepa</i> L. (2); <i>Dittrichia viscosa</i> (L.) (1);	09	26	0.68

<b>Eye Diseases</b>	<i>Opuntia ficus-indica</i> L. (1); <i>Phoenix dactylifera</i> L. (1); <i>Pistacia lentiscus</i> L. (1); <i>Urtica dioica</i> L. (1).			
	<i>Daucus carota</i> L. (9); <i>Hyoscyamus albus</i> L. (5); <i>Malva sylvestris</i> L. (4); <i>Allium cepa</i> L. (4); <i>Origanum compactum</i> Benth (3); <i>Mentha suaveolens</i> Ehrh (3); <i>Eucalyptus camaldulensis</i> (2); <i>Matricaria chamomilla</i> L. (2); <i>Rosmarinus officinalis</i> L. (2); <i>Mentha spicata</i> L. (1); <i>Nerium oleander</i> L. (1); <i>Peganum harmala</i> L. (1); <i>Tetraclinis articulata</i> (1); <i>Chamaemelum nobile</i> (L.) (1).	14	39	0.65
<b>Antidote</b>	<i>Allium sativum</i> L. (2); <i>Ajuga iva</i> (L.) Schreb (1); <i>Nigella sativa</i> L. (1).	03	05	0.50

**ICF:** informant consensus factor. **Nur:** number of use-reports for a particular ailment category. **Nut:** number of taxa used for an ailment category by all informants.

### Performance Index of medicinal plants

The performance index of all medicinal plants cited by informants was calculated. The results regrouped in Table 4 showed the number of plant species frequently used (IP > 0) by the local people in Driouch province to treat various diseases in the study area.

Table 4. Performance Index of Medicinal Plants

Diseases	Number of plants rejected IP=0	Number of plants with IP= 1	Number of plants with IP= 2	Number of plants with IP= 3
<b>AD</b>	155	3	0	0
<b>RD</b>	125	23	7	3
<b>CAN</b>	153	4	0	1
<b>CP</b>	143	13	0	2
<b>CVHD</b>	152	6	2	0
<b>DIA</b>	122	20	7	9
<b>DP</b>	103	27	17	11
<b>ED</b>	146	10	2	0
<b>EMD</b>	135	19	1	3
<b>EP</b>	150	7	1	0
<b>HM</b>	133	20	2	3
<b>ID</b>	150	8	0	0
<b>IPP</b>	145	13	0	0
<b>MD</b>	128	24	3	3
<b>NSD</b>	141	12	1	4
<b>OD</b>	143	10	3	2
<b>PP</b>	156	2	0	0
<b>RP</b>	136	21	0	1
<b>SP</b>	106	22	10	20
<b>UTP</b>	135	16	3	4

**Diseases:** **CAN:** Cancer ; **CP:** Circulatory Problems ; **CVHD:** Cardiovascular and Hypertension Diseases ; **DIA:** Diabetes ; **DP:** Digestif Problems ; **EP:** Ear Problems ; **EMD:** Endocrine and Metabolic Disorders; **ED:** Eye Diseases ; **ID:** Immune Diseases ; **IPP:** Infectious and Parasitic Problems ; **MD:** Muscles Diseases ; **NSD:** Nervous System Disorders ; **OD:** Oral Diseases; **AD:** Antidote ; **PP:** Power Problems; **RP:** Reproductive Pathologies; **RD:** Respiratory Diseases ; **SP:** Skin Problems ; **UTP:** Urinary Tract Problems ; **HM:** Headaches and Migraine.

In this part, we noted some examples of plant species with IP= 3, which were specific for some disease categories, for example:

- *Lawsonia inermis* L: this plant species was reported to be effective for the treatment of skin problems. Similar finding by (Akbli *et al.* 2016, Eddouks *et al.* 2016, El hilah *et al.* 2016, Fatima-zahra *et al.* 2017).
- *Herniaria cinerea* DC: this plant was mentioned for use against kidney problems. This finding agrees with other works conducted in some regions in Morocco (Eddouks *et al.* 2016, El hilah *et al.* 2016, Fatima-zahra *et al.* 2017).
- *Ceratonia siliqua* L: this plant was reported for use against digestive problems (stomachache, diarrhea). This finding is in line with several studies conducted in other regions in Morocco (Bouyahya *et al.* 2017, El Alami *et al.* 2016, Nassiri *et al.* 2016, Rhattas *et al.* 2016, Slimani *et al.* 2016, Youssef *et al.* 2016).

- *Prunus dulcis* (Mill.) D.: this plant was mentioned for use as an antidiabetic. Similar finding by (Abderrahmane *et al.* 2017, Barkaoui *et al.* 2017, Laadim *et al.* 2017).

### Comparative analysis

Globally, in ethnobotanical field works, most parts of studies on medicinal plants focused on the role of these plants within one culture or ethnic group. Although there are still some works that have focused their attention on such cross-cultural analysis between plants used in various cultures in different areas (Heinrich *et al.* 1998, Lardos & Heinrich 2013, Alami Merrouni & Elachouri 2020), in this context, such studies are still lacking in remote mountain region "The Rif," located in the North-east of Morocco. Therefore, we still do not know how similarity or dissimilarity, regarding medicinal plants and their uses by the local population, with other areas. Nevertheless, such comparison is handy because it leads to the enrichment of traditional medicinal knowledge and performs an explicit cross-cultural analysis between this study and others geographically and culturally distant. To this end, we chose four regions, Talassemtane National Park (Rhattas *et al.* 2016), Errachidia Province (Eddouks *et al.* 2016), Imegdale High Atlas (Teixidor-toneau *et al.* 2016) and Tarfaya Province (Bouyahya *et al.* 2017) and we took into account, for comparison, three essential parameters: plants species inventoried in this work, vernacular names recorded, and the use of the plants selected for this purpose. By this approach, we opted for investigating the divergences and convergences of our ethnobotanical data versus plant species recorded in other works conducted in other regions in Morocco. The selection of the works considered for comparison is based on some special features like "communities living in remote areas and speaking Berber languages, including different dialects such as Tamazirt, Tashelhit and/or Tarifit." With such an approach, it is possible to get a more accurate understanding of ethnobotanical data.

### Similarity and dissimilarity of plant species "Jaccard Index" (JI)

By using Jaccard Index of similarity (JI), as formula, we attempt to assess the degree of similarity between the plant species recorded in this study with other works carried out in other special regions of Morocco, located in remote areas and speaking Berber language. The results regrouped in Table 5, indicated the high value of JI = 32.33 was assigned to Errachidia province, followed by Imegdale High Atlas, Tarfaya Province (Moroccan Center South) and Talassemtane National Park (Occidental Rif) with JI respectively 23.34, 22.55 and 13.97. These results indicated that these communities, living in remote areas and having, relatively, similar Berber languages, use a large number of similar plants to cure some diseases. These observations could be used to explain the similarities in their cultures, regarding the traditional use of plant to treat various diseases. With these socio-cultural, lifestyle and ethnic resemblance, it is normal to find this similarity in taxa used for medicinal purposes in both regions.

Table 5. Jaccard similarity index for Driouch and the other regions of Morocco.

Region of similarity	Area of study	Indices	JI	References
Morocco	Province of Errachidia (Daraa - Tafilalet region)	A= 158	32.33	(Eddouks <i>et al.</i> 2016)
		B= 194		
		C= 86		
	Imegdale High Atlas	A= 158	23.34	(Teixidor-toneau <i>et al.</i> 2016)
		B= 159		
		C= 60		
	Tarfaya Province (Moroccan Center South)	A= 158	22.55	(Bouyahya <i>et al.</i> 2017)
		B= 130		
		C= 53		
	Talassemtane National Park (Occidental Rif)	A = 158	13.97	(Rhattas <i>et al.</i> 2016)
		B = 103		
		C = 32		

**Jl: Jaccard index.** **A:** the number of species in our area of study. **B:** the number of species of the area of similarity (in Morocco). **C:** the number of species commune to both our area of study and the other areas of study.



### Vernacular name issues

Folk plant taxonomy or vernacular nomenclature is considered a not-trained scientific classification of animal or vegetable species (Brown *et al.* 1985). Such a method, which involves the classification of plants by local people, deals with the linguistic description of plant names. Therefore, the use of local linguistic description is an important way through which the traditional taxonomy is studied. As defined by Leyew in his book (2011), *the systematic study of nomenclature describes the linguistic principles underlying the naming of plants and the conceptually recognized classes of plants in a particular society*. Vernacular plant names may well hold essential information on traditional botanical knowledge, material, and nonmaterial use of plants (Leyew 2011). That is why the meaning of vernacular plant names could be considered an essential element to understand the traditional botanical knowledge of the local people. People give a name to what they found useful and necessary in their natural and social environment (Muluwa & Bostoen 2003). So, vernacular names could help us to know about the perception of plants by indigenous people concerning their environment and culture (Leyew 2011).

In this section of the text, we present some information about the vernacular names and the problems related to this folkloric taxonomy. In Table 2, we listed 245 vernacular names corresponding to 158 scientific names of the plant species recorded. It means that some plants have more than one vernacular name. This observation justified the lack of precision in this traditional nomenclature. For comparison of vernacular names recorded in this study with some areas in Morocco, which have similar features like Tamazight language, poor regions, remote areas, and lack of adequate sanitary infrastructure, we selected four regions: Talassemtane National Park (Rhattas *et al.* 2016), Errachidia Province (Eddouks *et al.* 2017), Imegdale High Atlas (Teixidor-toneau *et al.* 2016), and Tarfaya Province (Bouyahya *et al.* 2017). To this end, we chose 18 plant species commonly used in traditional medicine by local people living in Driouch province. As indicated in Table 6, we found some examples with different vernacular names according to the region considered. As a matter of fact: *Marrubium vulgare* L. has different local name: "myaro", "myaro mazague" and "marriwat" in Driouch, "mchichtra" and "tafergana" in Talassemtane National Park, "mriwate" in Tarfaya, "ifzi" and "farqzot" in Imegdale High Atlas and "ifanzi" in Errachidia. Furthermore, in many cases, different vernacular names are given to the same plant within a small area, which does not exceed 60 km of radius. For example, the plant species named *Rosmarinus officinalis* L. (belonging to the family: Lamiaceae) has different local names "azir", "azmaraz", "aziy", "inachri". Moreover, it is pertinent to point out here that many plants have the same vernacular name despite the change of area and cultures, for example, the vernacular name "chih" is attributed to *Artemisia herba-alba* Asso in all regions compared.

Table 6. Comparison of vernacular names (eighteen medicinal plants most cited) between Driouch and the other regions of Morocco.

Plants species	Driouch Province	Talassemtane National Park	Tarfaya Province	Imegdale High Atlas	Errachidia Province
<i>Ajuga iva</i> (L.) Schreb	chandgorra (شندكوزا)	chandgorra (شندكوزا)	chandgorra (شندكوزا)	-	chandgorra (شندكوزا)
	-	tadjicht (تدجيشت)	-	-	-
	-	toute bari (التوت البري)	-	tiba (تيبا)	thof (ثوف الطلبة)
	-	-	-	-	talba
<i>Allium cepa</i> L.	albasla (البصلة)	albasla (البصلة)	albasla (البصلة)	-	albasla (البصلة)
	-	-	-	azalim (أزاليم)	azalim (أزاليم)
	thabsatch (ثَبْسَطْشَن)	-	-	-	-
	rabssare (رَبْسَر)	-	-	-	-
<i>Allium sativum</i> L.	thouma (الثومة)	thouma (الثومة)	thouma (الثومة)	thouma (الثومة)	thouma (الثومة)
	thichath (ثِشْث)	-	-	-	-
<i>Aloysia citrodora</i> Palau	lwiza (لويزا)	-	lwiza (لويزا)	lwiza (لويزا)	-
	malwiza (ملويزا)	-	-	-	-
<i>Artemisia herba-alba</i> Asso	chih (الشبيح)	chih (الشبيح)	chih (الشبيح)	chih (الشبيح)	chih (الشبيح)
	izri (إزري)	-	-	-	izri (إزري)
<i>Ceratonía siliqua</i> L.	lkharoub (الخروب)	lkharoub (الخروب)	lkharoub (الخروب)	lkharoub (الخروب)	lkharoub (الخروب)
	-	-	-	-	-
	thassrirwa (ثَسْرَغُوا)	-	-	tageda (تيفدا)	-
	-	-	-	-	-

<i>Citrus limon</i> (L.) Burm. f.	lhamed (الحامض) (اللَّيْمُونُ)	lhamed (الحامض)	lhamed (الحامض)	-	lhamed (الحامض)
	alaymone	-	-	-	-
<i>Dittrichia viscosa</i> (L.) Greuter subsp. viscosa	mayhramane (مَيْهْرَمَنْ) akhrof (أَخْرُوف)	-	-	-	-
	-	-	-	tlirin (تليرين)	-
<i>Lavandula dentata</i> L.	lakhzama (الخزامي) khzamath (خَزَامَتْ)	lakhzama (الخزامي)	-	-	lakhzama (الخزامي)
	-	lhalhal (الحلحال)	-	-	-
	-	-	lokzama baldiya (الخزامي البلدية)	-	-
	-	-	-	timzuri (تيمزوري)	-
	-	-	-	imzurria (ايمزوري)	-
<i>Lawsonia inermis</i> L.	lhenna (الحنّة) rhani (رَحْنِي)	lhenna (الحنّة)	lhenna (الحنّة)	lhenna (الحنّة)	lhenna (الحنّة)
<i>Marrubium vulgare</i> L.	myaro (مَيْرُوا) myaro mazague (ميروا مزاك) mriwate (مريوت)	-	-	mriwate (مريوت)	mriwate (مريوت)
	-	-	-	-	-
	-	mchichtra (مشيشيترا)	-	-	-
	-	tafergana (تفيرغانا)	-	ifzi (إفزي)	ifanzi (إفزي)
	-	-	-	frqezot (فرجزوت)	-
<i>Mentha pulegium</i> L.	fliyo (فليو) friyo (فْرِيُوا)	fliyo (فليو)	fliyo (فليو)	fliyo (فليو)	fliyo (فليو)
	-	naânaâ (النعناع)	-	-	-
	-	mentha (منثا)	-	-	-
<i>Olea europaea</i> L.	azitone (الزَيْتُونُ)	-	azitone (الزَيْتُونُ)	-	azitone (الزَيْتُونُ)
	-	zayton bari (زيتون البري)	-	-	-
	-	-	-	zeet l3ud (زيت العود)	-
<i>Punica granatum</i> L.	aramane (أَرْمَانُ)	aramane (أَرْمَانُ)	aramane (أَرْمَانُ)	aramane (أَرْمَانُ)	raman (الرمان)
<i>Rosmarinus officinalis</i> L.	azir (أزير) azmaraz (أَزْمَرَاز) azy (أَزِي) inachri (إِنشْرِي)	azir (أزير)	azir (أزير)	azir (أزير)	azir (أزير)
	-	-	-	-	-
	-	-	-	-	-
<i>Tetraclinis articulata</i> (Vahl) Mast	el arâar (العَرَعَرُ) amarzi (أَمْرَزِي)	el arâar (العَرَعَرُ)	el arâar (العَرَعَرُ)	el arâar (العَرَعَرُ)	el arâar (العَرَعَرُ)
	-	azougâa (أزوكا)	-	-	-
	-	-	-	azougâa (أزوكا)	-
<i>Trigonella foenum-graecum</i> L.	lhalba (الحَلْبَة) rhorbathe (زحورْبَتْ)	-	lhalba (الحَلْبَة)	lhalba (الحَلْبَة)	lhalba (الحَلْبَة)
	-	-	-	tefedas (تيفيداس)	-
	-	-	-	ary (أريي)	-
<i>Ziziphus lotus</i> (L.) Lam.	thazagoth (تَزَكُوْثُ). nbage (انبك)	-	-	-	-
	-	-	ssder (سدر)	nbage (انبك)	nbage (انبك)
	-	-	-	-	-
	-	-	-	azugar (أزكور)	-
	-	-	-	ary (أري)	wari (واري)

The diversity of vernacular names indicated that the identification of plant species is not precise and not precisely suitable for the final identification of the plant species. So, this variability in taxonomy, which is linked to geographical and historical context, could negatively impact the users.

Taxonomically different species are regarded as the same species by healers, traders, or consumers, especially those with similar morphological features, like the roots with tuber forms of *Aristolochia longa* and *Bryonia dioica* Jacq. In this case, our team in an ethnobotanical published work (Yammani et al. 2015), revealed toxicological problems, in Oriental Morocco, due to the misleading names associated with the confusion between the roots of *Aristolochia baetica*, which is mainly known in the market by its vernacular name "brraztam" and the root of *Bryonia dioica* Jacq.

This example indicated that if we do not know the vernacular and botanical names of the plants, it is challenging to attempt the exact name, achieve scientific rigor, and avoid ambiguity and error leading to toxic problems.

Finally, we can say that the misidentification of a plant can lead to serious problems, significantly reducing the credibility of the work, hinder the scientific process of researchers, and become a permanent source of confusion for future research and databases.

### Comparison of therapeutic uses

It is well known that the use of plants for traditional medication covers a wide variety of therapies and practices, which vary from region to another region. The evaluation of different botanical uses in different communities, with particular geographical and cultural context, is important in order to facilitate an intercultural comparative analysis of quantitative ethnobotanical data. In order to perform an explicit cross-cultural analysis between our study and other regions selected, according to their specific geographical and cultural features, we attempt to compare the uses of 20 plants selected for comparison, which were already known for their medical benefits and therapeutic diversity, with other uses in specific poor communities, living in remote areas, and speaking Berber dialects such as Tashelhit or Tamazight.

For this purpose, we created a table with double entries, horizontal columns (containing regions considered for the comparison) and vertical columns (containing plant species selected for comparison). To make this table more comprehensible, we used signs indicating presence or absence of the use of each plant for each ailment, and the different colors indicating the degree of uses. The dark blue color indicated the presence of a specific plant species and the high use for a specific disease in the majority region in Morocco. The degradation of the blue color indicated the limited therapeutic uses and citation in the region of comparison. The green color indicates specific uses for our region of study.

The results of this comparison showed that there were many popular uses for multiple plant species in different regions inside Morocco. For instance, we found a big consensus about the use of *Ajuga reptans* (L.) Schreb, *Artemisia herba-alba* Asso and *Rosmarinus officinalis* L. to treat digestive problems. *Tetraclinis articulata* (Vahl) Mast. and *Marrubium vulgare* L. are widely used to treat respiratory disease. *Lavandula dentata* L. and *Lawsonia inermis* L. to treat skin problems. Moreover, we noticed the presence of moderate consensus on the use of *Ajuga reptans* (L.) Schreb and *Artemisia herba-alba* Asso, to treat respiratory disease and skin problems on one side and the use of *Rosmarinus officinalis* L. and *Ziziphus lotus* (L.) Lam. to treat urinary tract problems and digestive problems on the other side.

Furthermore, this is the first ethnobotanical study in Driouch province, and we found that 19 specific uses of some plants, (most-cited in our region of study) have not reported in others study (green color). These medicinal plants and their uses including: *Allium cepa* L. for treating headaches and migraine, nervous system disorders and diabetes, *Aloysia citrodora* Palau used to treat urinary tract problems, headaches and migraine and muscles diseases, *Calamintha menthifolia* Host is used to treat cardiovascular diseases as well as diabetes, *Diurichia viscosa* (L.) Greuter subsp. *viscosa* is used to treat skin problems and muscles diseases, *Allium sativum* L. to treat muscles diseases and nervous system disorders, *Lavandula dentata* L. is used in our region to treat diabetes, *Marrubium vulgare* L. to treat Nervous System Disorders, *Citrus limon* (L.) Burm. f., *Ceratonia siliqua* L. and *Olea europaea* L. are used to treat headaches and migraine, finally both *Tetraclinis articulata* (Vahl) Mast. and *Punica granatum* L. are cited in our study to be used to treat muscles diseases. This result provided a relevant contribution of novelty to the knowledge of medicinal plants in Driouch province. It also demonstrated the importance of collecting new ethnobotanical information, even on well-known medicinal plants. Overall, Table 7 regroup all the comparison for twenty most plant species cited in our study. In the end, and in addition to the use of each plant species to treat a large range of diseases, the part of plant species, the mode of administration and the mode of preparation used to treat a specific disease can be different between regions.

These results showed that the large spectrum of therapeutic effects of this species indicates that each community has its own culture and traditional knowledge about these herbs.

These observations confirm the fact that the traditional phyto-therapeutic practices were well diversified. The use of each plant varies from place to place as it depends on geographical position, the bioclimatic conditions, cultural characteristics as well as the personal attitudes of the users (Togola *et al.* 2008).

## Conclusions

The present paper indicated that traditional medicine is still playing a significant role in meeting the primary health care need of Berber community, speaking Tarifit and living in impoverished Mountainous region (Driouch province). However, the subsequent loss of these herbs and their associated know-how remained at stake. Furthermore, these ancestral phytomedical practices were increasingly under threat from habitat destruction caused by overexploitation, agricultural, industrial, climate change, rising urbanization, and the lack of communication between the holders of knowledge (elders) and the younger generations.

Furthermore, we know that the sector of traditional phytotherapy, which is not regulated nor controlled, is excluded from the national health system. In such a situation, and with all these negative parameters, traditional medicine in this Berber community could be threatened with extinction. So, as a scientific community, we have to contribute to protecting and preserving this healthy heritage from the threatening and endangering factors.

Finally, it is worth noting that the information regrouped in this paper could serve as a database for further phytochemical and pharmacological investigations and pharmaceutical screening to cross-check the local traditional practices.

## Declarations

**Ethics approval and consent to participate:** The data were collected with respect to confidentiality, anonymity and consent. All respondents were informed about the aim of this study. No further ethics approval was required.

**List of abbreviation:** Spontaneous (S); Cultivated (C); Imported (I); Stem (ST); Whole plant (W); Leaves (L); Roots (R); Flowers (F); Bulb (B); Seeds (SE); Flowers and Leaves (FL); Bark (BA); Fruits (X); tisane (T); Powder (P); Oil (Hg); extract (E); Other (A); Decoction (Dec); Infusion (inf); Cataplasm (cat); Raw or fresh (cr); Cooked (cu); Juice (jus); Powder (pd); Cancer (CAN); Circulatory Problems (CP); Cardiovascular and Hypertension Diseases (CVHD); Diabetes (DIA); Digestif Problems (DP); Ear Problems (EP); Endocrin and Metabolic Disorders (EMD); Eye Diseases (ED); Immune Diseases (ID); Infectious and Parasitic Problems (IPP); Muscles Diseases (MD); Nervous System Disorders (NSD); Oral Diseases (OD); Pregnancy and Childbirth Problems (PCP); Antidote (AD); Power Problems (PP); Reproductive Pathologies (RP); Respiratory Diseases (RD); Skin Problems (SP); Urinary Tract Problems (UTP); Headaches and Migraine (HM); Fresh (F); Dried (D); UV: Use value; FUV: Family Use Value; ICF: the informant consensus factor.; Nur: the number of use-reports for a particular ailment category; Nut: the number of taxa used for an ailment category by all informants; TNP: Talassemtane National Park; EP: Errachidia Province; IHA: Imegdale High Atlas; TP: Tarfaya Province; DP: Driouch province

**Competing interest:** The authors declare that they have no competing interests.

**Consent for publication:** Not applicable in this section.

**Authors' contribution:** Ajjoun Mohammed: contributed to the ethnobotanical survey, the data analysis, collect of plants and the writing of the manuscript; Fakchich Jamila: contributed to the data analysis; Elachouri Mostafa designe and supervise the study, contributed to the writing of the manuscript.

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Table 7. Comparison of therapeutic uses between regions inside Morocco for the 20 plant species most cited in our study.

		DP	TP	PNT	IHA	EP
<i>Ajuga iva</i> (L.) Schreb	RD	+	-	+	+	+
	DP	+	+	+	+	+
	CVHD	-	-	-	-	-
	SP	+	+	+	-	+
	UTP	-	-	-	-	-
	HM	+	+	-	-	-
	MD	+	+	-	-	+
	NSD	-	-	-	-	-
	DIA	+	+	-	-	+

<i>Allium cepa</i> L.		DP	TP	PNT	IHA	EP
	RD	+	+	-	-	-
	DP	+	-	-	+	+
	CVHD	+	-	-	-	+
	SP	+	-	-	-	+
	UTP	+	-	-	-	+
	HM	+	-	-	-	-
	MD	+	-	-	-	+
	NSD	+	-	-	-	-
	DIA	+	-	-	-	-

<i>Allium sativum</i> L.		DP	TP	PNT	IHA	EP
	RD	+	-	-	+	+
	DP	+	+	-	-	+
	CVHD	+	+	-	-	+
	SP	+	-	-	+	+
	UTP	-	-	-	-	+
	HM	+	-	-	-	+
	MD	+	-	-	-	-
	NSD	+	-	-	-	-
	DIA	+	-	-	-	+

<i>Artemisia herba-alba</i> Asso		DP	TP	PNT	IHA	EP
	RD	+	-	-	+	+
	DP	+	+	+	+	+
	CVHD	-	-	-	+	+
	SP	+	+	-	+	+
	UTP	-	-	-	+	+
	HM	-	-	-	+	+
	MD	-	+	-	-	+
	NSD	-	-	+	-	-
	DIA	+	-	-	-	+

<i>Aloysia citrodora</i> Palau		DP	TP	PNT	IHA	EP
	RD	+	+	-	+	-
	DP	+	-	-	+	-
	CVHD	+	+	-	-	-
	SP	-	-	-	-	-
	UTP	+	-	-	-	-
	HM	+	-	-	-	-
	MD	+	-	-	-	-
	NSD	+	+	-	-	-
	DIA	+	-	-	-	-

<i>Calamintha menthifolia</i> Host		DP	TP	PNT	IHA	EP
	RD	+	-	+	-	-
	DP	+	-	+	-	-
	CVHD	+	-	-	-	-
	SP	-	-	+	-	-
	UTP	+	-	+	-	-
	HM	-	-	-	-	-
	MD	-	-	-	-	-
	NSD	-	-	-	-	-
	DIA	+	-	-	-	-

<i>Ceratonia siliqua</i> L.		DP	TP	PNT	IHA	EP
RD	-	-	-	-	+	+
DP	+	-	+	+	+	+
CVHD	-	-	-	-	+	-
SP	+	-	-	-	-	+
UTP	-	-	-	-	-	+
HM	+	-	-	-	-	-
MD	-	-	-	-	-	-
NSD	-	-	-	-	-	-
DIA	-	-	-	-	-	-

<i>Lavandula dentata</i> L.		DP	TP	PNT	IHA	EP
RD	+	-	-	-	+	+
DP	+	-	-	-	-	+
CVHD	+	-	-	-	+	-
SP	+	-	+	+	+	+
UTP	+	-	+	+	+	-
HM	+	-	-	-	-	+
MD	+	-	+	+	+	+
NSD	-	-	-	-	-	-
DIA	+	-	-	-	-	-

<i>Dittrichia viscosa</i> (L.) Greuter subsp. viscosa		DP	TP	PNT	IHA	EP
RD	+	-	-	-	+	-
DP	+	-	-	-	+	-
CVHD	+	-	-	-	+	-
SP	+	-	-	-	-	-
UTP	-	-	-	-	-	-
HM	+	-	-	-	+	-
MD	+	-	-	-	-	-
NSD	-	-	-	-	-	-
DIA	-	-	-	-	-	-

<i>Lawsonia inermis</i> L.		DP	TP	PNT	IHA	EP
RD	-	-	-	-	+	-
DP	+	-	-	-	+	+
CVHD	-	-	-	-	+	-
SP	+	+	-	-	+	+
UTP	-	-	-	-	-	-
HM	+	-	-	-	-	+
MD	+	-	-	-	-	+
NSD	-	-	-	-	-	-
DIA	-	-	-	-	-	+

<i>Citrus limon</i> (L.) Burm. f.		DP	TP	PNT	IHA	EP
RD	+	+	-	-	-	-
DP	+	-	-	-	-	+
CVHD	-	-	-	-	-	-
SP	+	-	-	-	-	+
UTP	+	+	-	-	-	-
HM	+	-	-	-	-	-
MD	-	-	-	-	-	-
NSD	-	-	-	-	-	-
DIA	+	-	-	-	-	+

<i>Marrubium vulgare</i> L.		DP	TP	PNT	IHA	EP
RD	+	+	+	+	+	+
DP	+	-	+	+	+	+
CVHD	-	-	-	-	+	+
SP	+	+	-	-	-	-
UTP	-	-	-	-	+	+
HM	+	+	-	-	+	+
MD	-	-	-	-	+	+
NSD	+	-	-	-	-	-
DIA	-	-	-	-	-	+

<i>Mentha pulegium</i> L.		DP	TP	PNT	IHA	EP
	RD	+	+	-	+	+
	DP	+	+	-	+	+
	CVHD	-	-	-	-	+
	SP	-	-	-	-	-
	UTP	-	-	-	-	+
	HM	-	+	-	-	+
	MD	-	-	-	-	+
	NSD	+	-	-	-	+
	DIA	+	-	-	-	+

<i>Olea europaea</i> L.		DP	TP	PNT	IHA	EP
	RD	+	-	+	+	+
	DP	+	-	+	-	+
	CVHD	+	-	-	+	+
	SP	+	-	-	+	+
	UTP	+	-	-	+	-
	HM	+	-	-	-	-
	MD	+	-	-	-	+
	NSD	-	-	-	-	-
	DIA	+	+	+	-	+

<i>Tetraclinis articulata</i> (Vahl) Mast.		DP	TP	PNT	IHA	EP
	RD	+	+	+	+	+
	DP	+	-	-	+	+
	CVHD	+	-	-	-	-
	SP	+	+	-	-	-
	UTP	+	-	-	+	-
	HM	+	+	-	-	+
	MD	+	-	-	-	-
	NSD	+	-	+	-	+
	DIA	+	+	-	-	+

<i>Punica granatum</i> L.		DP	TP	PNT	IHA	EP
	RD	-	-	-	-	+
	DP	+	+	-	+	+
	CVHD	-	-	-	-	+
	SP	+	+	-	+	-
	UTP	+	-	-	-	+
	HM	-	-	-	-	-
	MD	+	-	-	-	-
	NSD	+	-	-	-	+
	DIA	+	-	-	-	+

<i>Rosmarinus officinalis</i> L.		DP	TP	PNT	IHA	EP
	RD	+	+	-	+	+
	DP	+	+	+	+	+
	CVHD	+	-	-	+	+
	SP	+	-	-	-	+
	UTP	+	+	-	+	+
	HM	+	-	-	-	+
	MD	+	+	-	-	+
	NSD	+	-	+	-	+
	DIA	+	-	-	-	+

<i>Origanum compactum</i> Benth		DP	TP	PNT	IHA	EP
	RD	+	+	-	-	+
	DP	+	+	-	-	+
	CVHD	-	-	-	-	+
	SP	+	-	-	-	-
	UTP	-	-	-	-	+
	HM	+	-	-	-	+
	MD	-	-	-	-	+
	NSD	+	-	-	-	+
	DIA	+	-	-	-	+

<i>Trigonella foenum-graecum</i> L.		DP	TP	PNT	IHA	EP
	RD	+	-	-	+	+
	DP	+	+	-	+	+
	CVHD	+	+	-	+	+
	SP	+	-	-	-	+
	UTP	-	-	-	+	-
	HM	-	-	-	-	+
	MD	+	+	-	-	-
	NSD	+	-	-	-	+
	DIA	+	-	-	-	+

<i>Ziziphus lotus</i> (L.) Lam.		DP	TP	PNT	IHA	EP
	RD	-	+	-	-	-
	DP	+	+	-	+	+
	CVHD	-	+	-	-	-
	SP	+	+	-	-	-
	UTP	+	+	-	+	+
	HM	-	+	-	-	-
	MD	+	-	-	-	+
	NSD	+	-	-	-	+
	DIA	+	+	-	-	-

**Regions:** "TNP" Talassemtane National Park (Rhatts *et al.* 2016), "EP" Errachidia Province (Eddouks *et al.* 2016), "IHA" Imegdale High Atlas (Teixidor-toneau *et al.* 2016), "TP" Tarfaya Province (Bouyahya *et al.* 2017) and "DP" Driouch province.

**Diseases:** **CAN:** Cancer; **CVHD:** Cardiovascular and Hypertention Diseases; **DIA:** Diabetes; **DP:** Digestif Problems; **MD:** Muscles Diseases; **NSD:** Nervous System Disorders **RD:** Respiratory Diseases; **SP:** Skin Problems; **UTP:** Urinary Tract Problems; **HM:** Headaches and Migraine.



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## Appendix A : Questionnaire

Mohammed First University  
Faculty of Sciences - Oujda

Date:  
Locality:

Region:  
Order number:

**QUESTIONNAIRE*****Ethnobotanical survey of medicinal plants used by Amazigh ethnic people living in Driouch province***➤ **Socio-demographic data:**

- Gender:..... • Age :..... • Level of education : .....
- Marital status :..... • employment status : ..... • habitat: .....

➤ **Therapeutic practice preferred :**

- 🚩 Modern medicine  **Why** .....
- Effective  less expensive  others
- 🚩 Traditional medicine  **why** :.....
- Effective  less expensive  others

\*\*\*\*\*

➤ **Botanical data:**

- ❖ **Scientific name** :.....      ⑩ **Vernacular name** :.....
- ❖ **Ecological status** :      Spontaneous       Cultivated       Imported
- ❖ **Form of plant used** :      Fresh       Dried
- ❖ **Ingredient added to plant:** Other plants  Water  Milk  Honey  Olive oil  Other
- ❖ **Plants uses:** Therapeutic  Cosmetic  other .....
- ❖ **Part used:** Whole plant  Stem  Leaves  Roots  Flowers   
Seeds  Bulb  Bark  Other part of plant .....
- ❖ **Form of use** : Tisane  Powder  Oil  Extract  Other .....
- ❖ **Mode of preparation:** Infusion  Decoction  Cataplasma  Raw or fresh  Cooked  Juice  Powder  Other: .....
- ❖ **Dose used** : Pinch  Handful  Spoon  Glass  Tea-pot
- ❖ **Mode of administration:** Oral  Massage  Apply to skin  Bath  Other .....
- ❖ **Duration of the treatment:** .....

➤ **Utilization**

- **Diseases categories:**.....
- **Diagnosed by** : Personally  Doctor  herbalist  family members .....
- **Result** : Healing  Amelioration  no effect
- **Side effect:**.....
- **Toxicity** :.....
- 🚩 **Other information about plant used** :.....