REPUBLIC OF TURKEY
BİNGÖL UNIVERSITY
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ETHNOBOTANY IN BALLAKAYATI (ERBIL – NORTH IRAQ)

MASTER'S THESIS

AWARA MOHAMMED AMIN MOHAMMED AMIN

DEPARTMENT OF BIOLOGY

SUPERVISOR
Prof. Dr. LÜTFI BEHÇET

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This dissertation, created by Awara Mohammed Amin Mohammed Amin under supervision of Prof. Dr. Lütfi BEHÇET, was accepted as a Master thesis in department Biyoloji by the following committee on 11/03/2019 with the vote unity / number of votes (…/…).

Head of examining committee	:Prof.Dr. Lütfi BEHÇET	*Signature* :
Member	:Doç.Dr. Uğur ÇAKILCIOĞLU	*Signature* :
Member	:Doç.Dr. Rıdvan POLAT	*Signature* :

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Director of the institute

PREFACE

It is through your grace that I have come this far on this incredible journey. A great appreciation and sincere gratitude go to my supervisor, Prof. Dr. Lütfi BEHÇET, whose support, and mentorship have been invaluable to me for the continuous support of my Master study, for his patience, motivation, enthusiasm, and immense knowledge. His guidance helped me in all the time of research and writing of this thesis. And thanks for Faculty of Biology of Bingol University, to the staff of the Biology Department, and for their willingness to help me during my study.

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Awara Mohammed Amin MOHAMMED AMIN
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LIST OF SYMBOLS AND ABBREVIATIONS

Km	: Kilometer
m	: Meter
cm	: Centimeter
°C	: Degrees Celsius
E	: East
W	: West
N	: North
S	: South
NE	: Northeast
NW	: Northwest
SE	: Southeast
SW	: Southwest
Subsp.	: Subspecies
Var.	: Variety
Syn.	: Synonymous
BIN	: Bingol University Faculty of Science and Letters Department of Biology Herbarium
BU	: Bingol University
AMK	: AWARA MOHAMMED AMIN KAWARTY

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BALLAKAYATI (ERBİL - KUZEY IRAK)'NIN ETNOBOTANİĞİ

ÖZET

Bu çalışmada, Ballakayati (Erbil) ilçesi ve ona bağlı 20 köy'de yöre halkı tarafından tıbbi, gıda ve farklı amaçlar için kullanılan bitkiler ve bunların kullanımları 2016 ile 2018 yılları arasında araştırılmıştır.

Araştırma sırasında 118 kişi ile görüşülmüştür. Bitki kullanımı ile ilgili bilgi alınan kişilerin 84'ü erkek ve 36'sı kadındır. Katılımcıların eğitim durumu şöyledir; okuryazar olmayan 43 (%36), ilkokul mezunu 29 (%24), ortaöğretim mezunu 21 (%18), hazırlık mezunu 17 (%14) ve üniversite mezunu 10 (%9). Bilgilerin alındığı kişilerin mesleki dağılımı aşağıdaki gibidir; işçi 36 (%30), ev hanımı 29 (%24), çiftçi 22 (%18), öğretmen 10 (%8), öğrenci 3 (%3), emekli 1 (%1) ve diğer 19 (%16).

Araştırma sonucunda farklı amaçlarla kullanılan 41 familyaya ait toplam 120 bitki taksonu ve bu bitkilerin 280 farklı lokal kullanımı belirlenmiştir. Kullanılan bitkilerin 50'si gıda ve tedavi amaçlı (%41,67), 35'i sadece tedavi (%29,17), 20'si(%16,67) değişik amaçlar (süpürge, el sanatı, korunma-muhafaza, boyama maddesi ve süs olarak) 8'i insan gıdası ve hayvan yemi olarak (%6,67), 4'ü hem tedavi, hem elsanatı ve hem de yakacak (%3,33) olarak ve 3'ü sadece hayvan yemi olarak (%2,5) kullanılmaktadır.

Araştırmada kullanımı belirlenen bitkilerin kullanılan kısımların kullanım oranları aşağıdaki gibidir; toprak üstü kısımlar %36, yaprak %23, çiçek %13, meyve %9, tüm bitki %7, gövde %7, tohum %4 ve yeraltı kısımları %2.

Araştırma alanında kullanımı belirlenen bitkilerin yoğun olarak bulunduğu 5 familya şu şekildedir; *Asteraceae* 20 (%16,7), *Apiaceae* 11 (%9,2), *Rosaceae* 10 (%8,3), *Fabaceae* ve *Lamiaceae'nin* her biri sırasıyla 9 (%7,5) ve *Brassicaceae* 6 (%5).

Anahtar Kelimeler: Etnobotanik, Ballakayati, Erbil, Kuzey Irak.

ETHNOBOTANY IN BALLAKAYATI (ERBIL – NORTH IRAQ)

ABSTRACT

In this study, the plants in the district of Ballakayati (Erbil) and its 20 villages, that are used by local people for medicinal, food and different purposes, used parts of this plants and their usage was researched between 2016 and 2018.

During our researches, it was interviewed (Persons whose information was collected and interviewed) 120 people, The source contacts who are taken knowledge about plant usage consist of 84 male and 36 female. Education status of the participants was; basic 29 (24%), illiteracy and illiterate 43 (36%), Secondary 21(18%), preporatory 17 (14%), and university 10 (9%). Occupational distribution of these persons from whom information was taken is as follows; employee 36 (%30), housewife 29 (24%), farmer 22 (%18), teacher 10 (%8), student 3 (3%), retired 1 (%1) and other 19 (16%).

As a result of the research, a total of 118 plant taxa belonging to 41 families used for different purposes and 280 different local usages of these plants were determined. Of the plants used, 50 for food and treatment purposes (41.67%), 35 for treatment (29.17%), 20 then used (broom, handicraft, defence, dyeing, and ornament) (16.67%), 8 food and fodder (6.67%), 4 treatment, handicraft and fuel (3.33%) and 3 only for fodder purposes (2.50%) were used under the 6 main headings.

Used parts and ratios of the plants whose usage was determined in the study are as follows; Above ground 36%, leaves 23%, flower 13%, fruit 9%, whole plant 7%, stem 7%, seed 4% and underground parts 2%.

The 5 families in which the plants whose usage was determined in the research area were intensely ranged are; *Asteraceae* 20 (16.7%), *Apiaceae* 11 (9.2%), *Rosaceae* 10 (8.3%), *Fabaceae* and *Lamiaceae* each of them are 9 (7.5%), and *Brassicaceae* 6 (5%) respectively.

Keywords: Ethnobotany, Ballakayati, Erbil, North Iraq.

1. INTRODUCTION

The word biodiversity is used to explain the variety of life on Earth and is considered at different levels of biological organization including genes, species, and ecosystems.

In Ballakayati, the mountain areas have a large group and extensive of forests. In this area some of these trees have been burnt because of the ongoing wars.

No doubt, plants have an important role in the ecological balance due to the production of oxygen and absorbing carbon dioxide in the atmosphere from breathing process. People have used plants for the treatment of diseases that emerge while performing their work, and as source of food and economy.

There are a large group of people using plants as a drugs and treatment for diseases, some of these plants are used directly in treatment and others with a form mixed with other foods because their taste are very bitter.

In the world, there are many sciences to study the plant and the surrounding environment. Those science are plant chemistry, plant pathology, plant anatomy, botany environment, plant morphology, plant physiology, plant taxonomy, botany, ecology science, folk medicine and other sciences related with the study of medicinal plants (Ethnobotany).

The science Ethnobotany is the term consists of ("ethnology" a scientific study of culture and "botany" a science study of plants) which is the practically scientific study of the relationships between plant and people. This science is a study of how people of a particular culture and region make use of indigenous plants. As well as their earliest origins, humans have depended on plants for their primary needs, economic, drug and treatment. Other definition can be summed up in four words: people, plants, interactions and uses.

In the History, the first “Ethnobotany” was coinsed in 1896 by the American botanist John Harshberger as the study of plants used by Primitives and indigenous people. It has been defined as the traditional familiarity of aboriginal communities of the surrounding plant diversity and the study of how the people of a particular culture and region make use of indigenous plants. Ethnobotany has its roots in botany (Harshberger 1896).

Botany or plant studies have very important roles beneficial to find plants to help fight the disease. Ethnobotany is the most important process for the study of the natural resources of indigenous peoples management. Herbal medicine and economic plant include all types of relationships between people and plants. The introduction of Ethnobotany can be summed up in four words: plants, people, interactions, and uses.

‘Ethnobotany as an academic discipline has its roots in the numerous observations of explorers, traders, missionaries, naturalists, anthropologists, and botanists concerning the use of plants by the seemingly exotic cultures of the world. For much of Western intellectual history, botany and what we now know as Ethnobotany were synonymous fields of knowledge. Indeed, at its inception, Ethnobotany was less an academic discipline than a point of view, one perspective by which European scholars and plant explorers went about classifying the natural world From the beginning, then, Ethnobotany has been intimately linked to botanical exploration, and its history has run parallel to the evolution of both systematic and economic botany (Davis 1995).

Ethnobotany is the study of plants in the region, and the process which is used traditional knowledge of indigenous peoples and residents. Botanists interestingly care for documentation of customs and traditions that involve the needs and practical uses of native plants for many aspects of life, such as plants, medicines, foods, drug, fuel, smell, dye, crafts, economic and clothing.

This study aims to document the remaining traditional knowledge of the ancient villagers, People of northern Iraq, on drug, food, fuel, smell, crafts, herbal medicine, economic, animal feed, and coloring agents or dying plants. After that, the transmission of traditional medicine knowledge between the ancient popular and the younger generation of apprentices will be assessed.

2. LITERATURE REVIEW

In northern Iraq, traditions around herbal medicine and plant use remain widespread in towns, villages and rural areas today. Apart from a recent study by Mati and de Boer (2010) on natural dye use and knowledge transfer among nomadic tribes in Erbil province, little ethnobotanical research on north Iraq exists. Studies on medicinal plants and their trade conducted in countries in the region, like Iraq (Al-douri 2000; Mati and Boer 2011; Al-Snafi 2013; Ahmad and Askari 2015; Ahmed 2016), and Turkey (Ozhatay 2012; Behçet and Arik 2013; Kaval et al. 2014; Polat et al. 2015; Mükemre et al. 2015; Dogan et al. 2016) provide useful insights into the trade and ubiquitous use of plants in traditional medicine.

Al-Douri (2000) indicates that "A survey of medicinal plants and their traditional uses in Iraq" they 97 record medicinal plants, belong to 43 families from different parts of Iraq. Many are still used, particularly are recommended for internal uses which consist mainly of remedies for the common cold, abdominal pain, digestive disorders and constipation.

Mati and Boer (2011) in their Study "Ethno botany and trade of medicinal plants in the Qaysari Market Kurdish Autonomous Region Iraq", collected 158 samples, corresponding to 82 species of plants, 5 animal products, 8 types of stones, minerals or chemicals, as well as 16 mixtures of plant products. Consensus Analysis of the herbalist interviews shows strong support for a single culture of herbalist plant use.

Ozhatay (2012) indicates that " Wild plants used for medicinal purpose in Andirin, Kahramanmarash" they study about 92 medicinal plants belonging to 41 families having various traditional uses, these plants are mostly folk medicinally used for treatment of kidney stones, cough, colds, flu, analgesic, skin diseases and diabetes diseases.

Al-Snafi (2013) in his study "The pharmaceutical importance of Althaea officinalis and Althaea rosea A review" presented study about two species of the genus Althea

(Malvaceae), Althaea officinalis and Althaea rosea, all of which are grown in Iraq. They researched the structure of these plant. Also, gastric protective effect, antimicrobial, hypotensive and antidiabetic effects were recorded from Anchusa strigosa. They highlight the pharmacological and therapeutic effects of Anchusa italica and Anchusa strigosa.

Behçet and Arık (2013) in their study "An Ethnobotanical Investigation in East Anatolia (Turkey)" describe both edible plants and non-food uses of plants of Korkut town (Muş, East Anatolia-Turkey) and its villages. The study was carried out during 2001-2003 and they collected 121 taxa in 91 genera belonging to 35 families having various traditional uses, including herbal medicine plants, tools, fodder, tanning, gums, and local foods. The beneficial use of 31 taxa is determined for the first time in this region.

Ahmed (2016) in "Ethnopharmacobotanical study on the medicinal plants used by herbalists in Sulaymaniyah Province, Kurdistan, Iraq" found a total of 66 plant species, belonging to 63 genera within 34 plant families, used to treat 99 different types of ailments and diseases. The most important family was Lamiaceae (7 species), followed by Apiaceae, Asteraceae, and Fabaceae (6 species each). The most frequently used parts were leaves (46%), then flowers (15%), and seeds (10%). The most common preparation method was decoction (68%), where as few taxa were consumed as vegetable (13%) or ingested in powder form (10%). The respiratory issues category had the highest ICF value (0.68), followed by inflammations and women's diseases (0.58 and 0.54, respectively).

Kaval et al. (2014) in "Ethnobotanical study on medicinal plant in Geçitli and its surrounding (Hakkari-Turkey)" collected 70 Taxa belong to 28F. various traditional uses.

Kaval et al. (2015) in the study "Survey of wild food plants for human consumption in Geçitli (Hakkari, Turkey)" which is a survey on wild food plants for human consumption, determined 84 taxa belonging to the 30 families of the people used for food purposes in Geçitli and Hakkari villages.

Ahmad and Askari (2015), in their study "Ethnobotany of the Hawraman region of Kurdistan Iraq" collected 64 plants belong to 30 families having various traditional uses, including herbal medicine plants, tools, fodder, tanning, gums, and local foods.

Mükemre et al. (2015), in their study "Ethnobotanical study on medicinal plants in villages of Çatak (Van-Turkey)" have pointed out about 78 plants taxa belong to 22 families in the paper, It is used as a treatment by Turkish citizens for different purposes.

Mükemre et al. (2016), in the study "Survey of wild food plants in Çatak (Van-Turkey)" determined 82 different plants belonging to 28 families which are used for food purposes.

Ahmed (2016), in his study "Ethnopharmacobotanical study on the medicinal plants used by herbalists in Sulaymaniyah Province Kurdistan Iraq" highlights the 66 plant species, belonging to 63 genera within 34 plant families, used to treat 99 different types of ailments and diseases. The most common preparation method was decoction (68%), whereas few taxa were consumed as a vegetable (13%) or ingested in powder form (10%). The respiratory issues category had the highest ICF value (0.68), followed by inflammations and women's diseases.

Dogan et al. (2016), in the study "Pertek (Tunceli) ethnobotanical research in the region", collected the 284 (taxa), 281 of which are wild plants which are grown in the 3 regions. These plants are most respectively used as folk remedies (266 taxa), having various traditional uses, including herbal medicine plants, cleaners, decorations, fencing, fodder, paint, tanning, gums, and local foods.

Hayta et al. (2014), in the study "Traditional uses of medicinal plants in Elazığ (Turkey)" obtained 74 plant taxa used for therapeutic purposes. It was conducted with face-to-face interviews with local people in 2012-2013.

Hussein (2017), in the study "Extraction and Identification of A Flavonoid compound from Oak Plant *Quercus infectoria* Oliv. and study of ıts antibacterial activity in vitro" points out that they obtained a material and some biochemical assays using colour reagents. Also, the extract of oak barks has a good antibacterial growth activity in which gram-positive bacteria are more susceptible to the oaks extract than gram-negative.

3. MATERIALS AND METHODS

The plants used by the local people and especially naturally growing plants form our material. The study was carried out between 2016-2018.

It is possible to get information from the people living in the district of Ballakayati and from their acquaintances and the students of the schools listed below. The questionnaire was formed preparing (2) questionnaires related to "Medicinal plants" and "Food plants". The schools distributed in Ballakayati are: Gardeen Basic School for Boys, Darband Coeducational Preparatory School, Ashibraguiz Coeducational Preparatory School, Rashdur Coeducational Preparatory School, Galala Coeducational Preparatory School, Federally High School for Girls, Ballak High School for Girls and Qasre High School for Boys. About 350 students attending these schools participated in the survey.

They collected information on the plants used in the form of the questionnaire that pay to the students living in this region, filled them with their parents and relatives, and some of these surveys were filled out directly by the students and returned to me. Questionnaires distributed were collected by direct survey technique. After that collecting the Samples of plants used in the light of information taken from questionnaire. Also, the flower and fruiting samples, from sites where these plants were collected for diagnosis. The plants identification process depended on the available floras, specially Flora of Iraq (Towsend and Guest 1966-1985) and neighbouring countries flora books (Rechinger 1965-1997; Davis 1965- 1985; Davis et al. 1988; Zohary 1966-1986). These plants were then transformed into herbarium material.

While the findings are given, the plants used by the local people and the information about these plants is given in the following order: The scientific name of the plant, the local name or names of the plant (the majority of the local names are in Kurdish), locality information, habitat type (steppe, meadow, forest, rocky,…etc.), GPS values, height of the place where the sea is gathered from the sea (m), collection date, collector's nickname

(AMK) and number, collection periods, used part (under-ground, above-ground, organ or parts), intended use (medical, food, etc.), Usage (fresh, raw, cooked, decoction, infusion, mixture is compared with what, with the amount used for plants (pieces, etc.), the number of daily or weekly use, the name of the person giving the information are given. The education statuses and the professions of the persons giving the information are given in Appendix 5 as 'people interviewed within the scope of the study.

2.1. Geographical Structure of Research Area

The soil of this region is a kind of chestnut soil that contains a group of soil with a dark brown surface, usually contains 1-4% of the organic matter and less than 9% lime, topped by brown color, slightly heavier and graded to a light-colored skyline with grayish or grayish-white lime at a depth of 30-50 m. on the roof. Soil occurs in areas with dry hot summers and rainfall is between 400-800 mm. There are an earworm subspecies and biological activity is an important factor in this soil (Guest 1966).

The Northern Iraq (An autonomous region in federal Iraq), is bordered Turkey to the north, Iran to the east and Syria to the west. It is composed of the provinces Erbil, Sulaymaniyah, Dahuk, and Halabja, as well as the province of Kirkuk, which is disputed region with Center federal Iraq. These lands are fertile plains meet the Zagros Mountains and are traversed by the Tigris, big Zab, and small Zab rivers.

Erbil (Hawler) is the capital of the Autonomous region. This Province consists of nine districts (Central Erbil, Dashty Hawler, Makhmur, Koya, Shaqlawa, Merqasur, Rawanduz, Soran and Choman). The site of Erbil is between the latitudes of 35 ° 30 'and 37 ° 15 north and longitude 43 ° 22' and 45 ° 05 Erbil border extends to Iran in the east and to Turkey in the north. They comprise about 41,710 km^2 (16,100 square miles) and has a population of 5.6 million. The total area in Erbil is 15,074 km^2 and the total population in the Erbil province is 1,530,722.

Ballakayati consists of Choman district and four sub-districts (Galala, Qasre, Smelan and Haji omaran), and about 166 villages. This area is one of the most important plant areas in Erbil governorate, as well as in the Irano-Anatolian sub-region. It is located about 145km northeast of Erbil City between latitudes 36°38′14.22 N and longitudes

44°53′20.55″E. Its altitudes range from as low as 1400m to 3,600m, near Soran district, and its highest peak is known as Halgord north of Nawanda Village. Look at Figure 2.2 Ballakayati area in Erbil Governorate /Northern iraq.

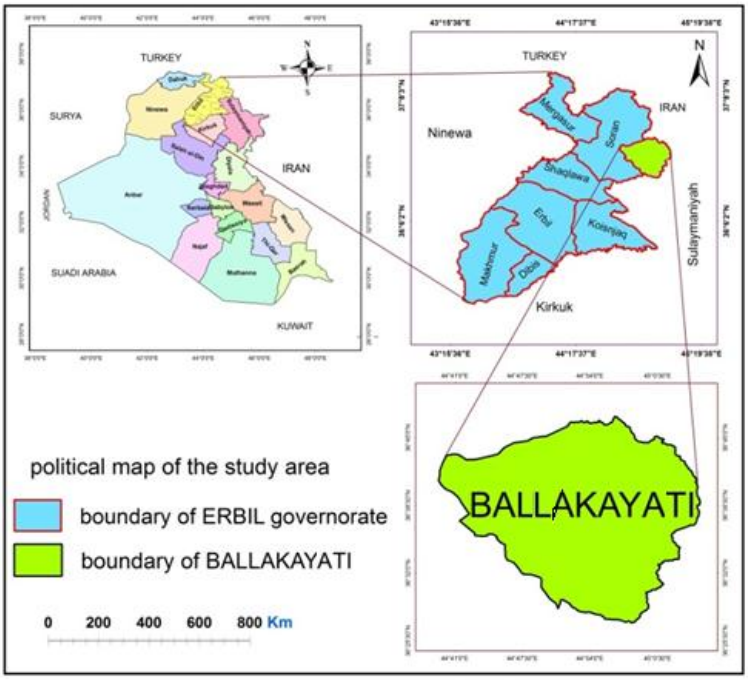


Figure 2.1. Geographic map of the North Iraq (Autonomous region is an independent region in federal Iraq)

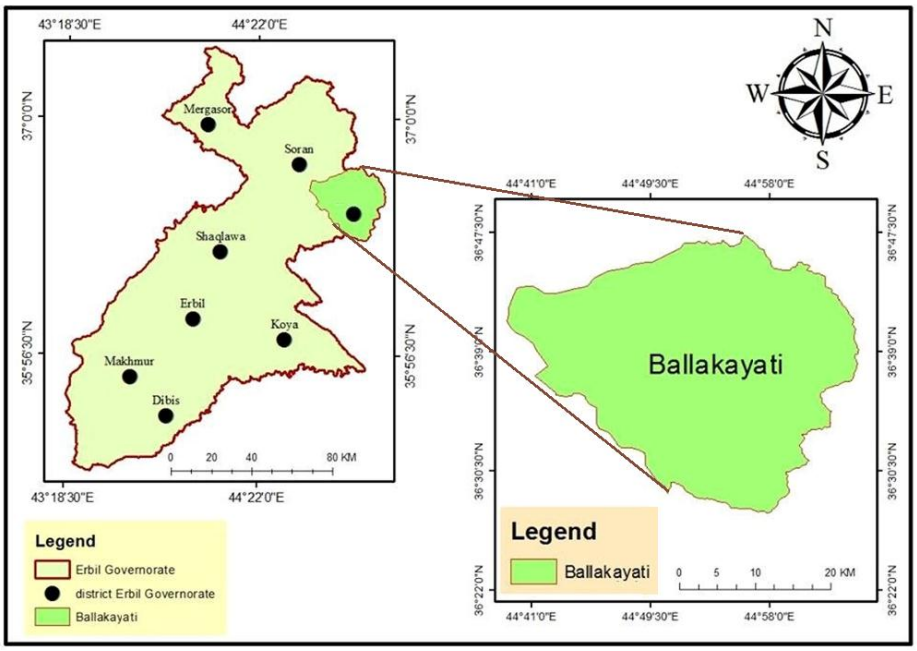


Figure 2.2. Geographic map of Erbil Governorate and Districts.

Ballakayati consists of Choman district and four sub-districts (Galala, Qasre, Smelan and Haji omaran), and about 166 villages. This area is one of the most important plant areas in Erbil governorate, as well as in the Irano-Anatolian sub-region. It is located about 145km northeast of Erbil City between latitudes 36°38′14.22 N and longitudes 44°53′20.55′E. Its altitudes range from as low as 1400m to 3,600m, near Soran district, and its highest peak is known as Halgord north of Nawanda Village. Look at Figure 2.2 Ballakayati area in Erbil Governorate /Northern iraq.

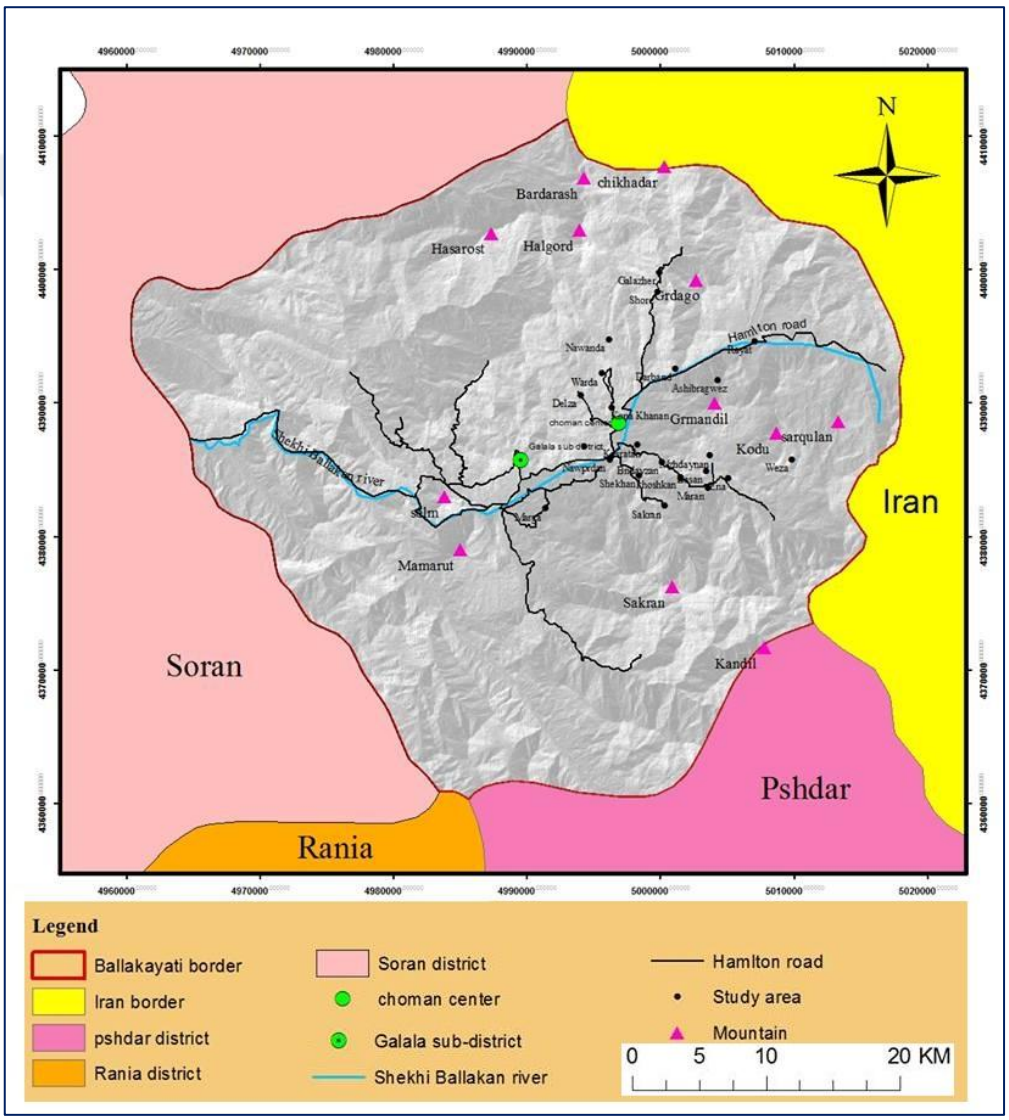


Figure 2.3. Geographic map of Ballakayati

Halgord and Chikhidare Mountains in the Northwest, Haji omaran in Iranian border in the north and Northeast, Soran in the South and west, Pishdar in the southeast and Rania

in the south. The Ballakayati is located at the intersection of the east latitude of 44 degrees 41 minutes and the north latitude of 36 degrees 30 minutes.

The studied area is settled in the Upper Zagros Section of the Iranian Turanian Region and on the northwestern boundary of the Erbil Province, between the Halgord and Sakran Mountains.

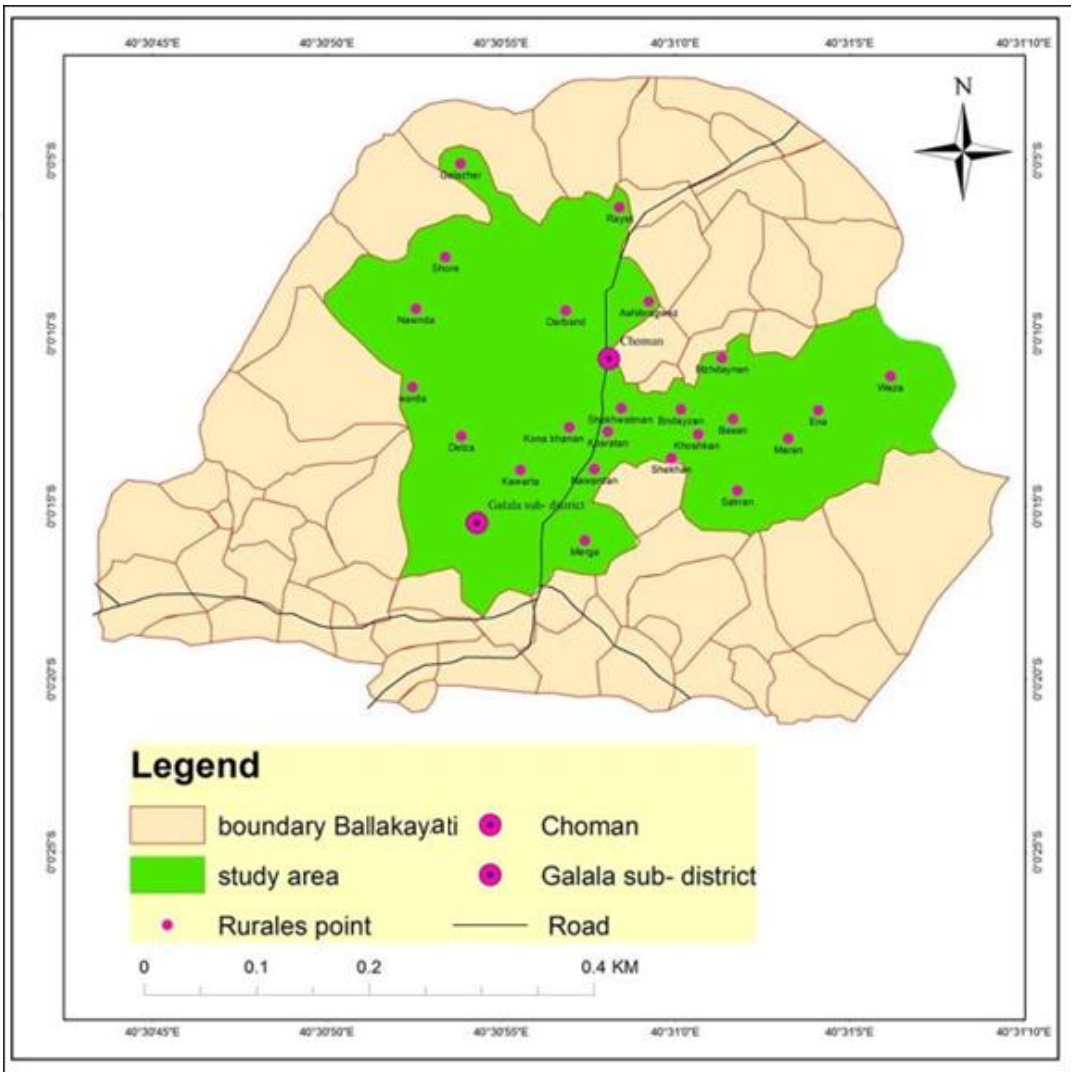


Figure 2.4. Geographic map of the research study area

Ballakayati has a surface area of 113.5 km2 and covers 13.2% of Erbil province (Erbil area 15074 km2). The district is 140 km from Erbil. The height of the town from sea level is 1940 meters. It covers a large area with mountains and rugged plots. The areas are Suitable for agriculture (14.7) km2, Irrigated areas are (10.8) km2, Dima areas are (14.7) km2 and the flatness areas are only around 5.5%.

2.2. Climate characteristics of the research area

The climate of a region is expressed by all of the geographic and biological factors in that region. The climate of our research area was evaluated by calculating the meteorological data obtained from Erbil, Choman (Erbil), Soran (Erbil), Shqlawa (Erbil) and Bastora (Erbil) stations. Current climate information was obtained from the Directorate General of Meteorological Affairs of the Ministry of Agriculture and Water Resources and in World Weather Online (2017).

2.3. Temperature

The temperature is the most effective and limiting factor in the development and spread of living things. Evaluation of the climate was carried out using the temperature values of the nearest stations. The temperature data of the meteorological stations related to the research area and its surroundings are shown in Figure 3.1.

Annual average temperatures; 15.7 ^{o}C in Choman, 19.2 ^{o}C in Soran, 19.1 ^{o}C in Shaqlawa, 20.6 ^{o}C in Bastora and 22.4^{o} C in Erbil.

The average high temperatures are highest in July and August, It ranges from 41.4 ^{o}C to 42.8 ^{o}C. The annual average of these temperatures; It was measured as 22.2 ^{o}C in Choman, 25.9 ^{o}C in Soran, 23.5 ^{o}C in Shaqlawa, 26.4 ^{o}C in Bastora and 27.5 ^{o}C in Erbil. The average low temperatures were measured between 4.7 ^{o}C and 4.9 ^{o}C in December, January, and February. The annual average of these temperatures was measured as 9.7 ^{o}C in Choman, 13.2 ^{o}C in Soran, 14.9 ^{o}C in Shaqlawa, 15.6 ^{o}C in Bastora and 17.2 ^{o}C in Erbil (Table 2.1).

In recent years, the temperature of this region has increased because of the extermination of most of the trees and plants due to the ongoing wars in the former octets era. After the liberation of the region care about people planting forests and fruit trees, this leads to lower grade heat per annum.

Table 2.1. Temperature values of Choman, Soran, Shaqlawa, Bastora and Erbil stations (^{o}C)

	STATION	Time	MONTHS												Annual Temp.		
		Year	1	2	3	4	5	6	7	8	9	10	11	12	Avg.		
Average Temperature	CHOMAN	6	3.7	6.0	8.7	14.5	20.3	26.2	29.7	29.6	25.5	18.6	11.8	6.2	16.7		
	SORAN	12	9.4	12.6	17.2	22.3	28.7	35.8	39.4	39.9	34.6	27.2	18.0	11.9	24.7		
	SHAQLAWA	12	9.8	11.4	15.4	20.8	27.6	35.5	39.2	38.9	34.2	26.2	17.5	12.0	24.0		
	BASTORA	12	12.1	14.4	18.8	24.8	31.4	37.8	42.0	41.8	36.4	28.8	20.3	15.5	27.0		
	ERBIL	9	13.6	15.8	19.6	28.2	33.2	38.7	41.7	41.6	36.6	29.6	21.8	15.9	28.0		
Average High Temperature	CHOMAN	6	7.6	10.5	13.1	19.6	26.1	32.3	36.4	36.5	32.6	24.8	17.5	11.1	22.4		
	SORAN	12	9.4	12.6	17.2	22.3	28.7	35.8	39.4	39.9	34.6	27.2	18.0	11.9	24.7		
	SHAQLAWA	12	9.8	11.4	15.4	20.8	27.6	35.5	39.2	38.9	34.2	26.2	17.5	12.0	24.0		
	BASTORA	12	12.1	14.4	18.8	24.8	31.4	37.8	42.0	41.8	36.4	28.8	20.3	15.5	27.0		
	ERBIL	9	13.6	15.8	19.6	28.2	33.2	38.7	41.7	41.6	36.6	29.6	21.8	15.9	28.0		
Average Low Temperature	CHOMAN	6	0.2	2.0	4.3	14.7	14.3	19.7	22.9	22.6	18.5	12.7	6.6	1.9	11.7		
	SORAN	12	1.0	2.7	6.0	10.5	15.6	20.9	23.5	23.5	18.3	13.6	7.6	3.0	12.2		
	SHAQLAWA	12	1.0	2.7	6.0	10.5	15.6	20.9	23.5	23.5	18.3	13.6	7.6	3.0	12.2		
	BASTORA	12	2.7	4.3	7.9	12.2	17.1	22.9	27.8	26.7	22.1	16.5	9.3	5.7	14.6		
	ERBIL	9	5.4	6.9	10.2	15.3	21.4	26.5	29.4	28.8	24.2	18.1	10.6	6.9	17.0		
															Highest Temp.		
															Avg.	Hi.	Year
Highest Temperature	CHOMAN	6	3.5	5.5	7.4	17.4	22.7	28.9	31.3	31.1	27.4	20.6	13.3	7.0	18.0	31.3	2012
	SORAN	12	10.7	12.6	17.3	23.7	30.8	37.0	42.2	42.3	33.0	29.4	18.9	15.3	26.3	42.3	2017
	SHAQLAWA	12	12.9	13.6	17.1	20.5	27.2	37.5	40.1	39.3	36.6	31.8	20.9	15.4	26.1	40.1	2010
	BASTORA	12	14.5	15.4	20.4	23.5	31.2	40.2	44.3	43.7	38.9	31.5	25.8	18.6	29.0	44.3	2010
	ERBIL	9	13.5	16.1	20.1	42.2	42.3	42.2	42.3	41.6	38.0	29.3	20.1	14.8	30.2	42,3	2015
															Lowest Temp.		
															Avg.	Lo.	Year
Lowest Temperature	CHOMAN	6	-1.5	-2.5	2.0	4.0	11.4	16.9	21.3	20.4	17.9	10.3	5.2	3.4	9.1	-2.5	2017
	SORAN	12	-0.2	1.7	5.9	10.3	14.5	20.5	23.7	23.2	18.4	12.0	3.8	0.1	11.2	-0.2	2011
	SHAQLAWA	12	0.5	0.7	2.0	9.7	13.1	16.1	18.1	17.8	13.2	10.1	8.1	2.5	9.3	0.3	2012
	BASTORA	12	-0.1	3.0	10.9	14.3	15.9	22.6	25.8	27.0	22.5	15.0	9.0	4.2	14.2	-0.1	2008
	ERBIL	9	5.0	6.3	9.7	15.0	20.0	26.3	29.7	28.4	23.6	16.9	7.5	5.5	16.1	5.0	2011

2.4. Precipitation and Relative Humidity

The annual rainfall in the study area has an extremely important effect on the vegetation cover. Beside the annual total amount of precipitation; the monthly distribution of rainfall over the year and the shape of the rainfall (if snow is covered with snow) is important in plant development. By looking at the precipitation regime, we can comment on the presence of dry period and severity of drought.

The average annual precipitation amounts to 653.8 mm in Choman, 640 mm in Soran, 776 mm in Shaqlawa, 412.3 mm in Bastora and 308.5 mm in Erbil. Most rainy months were determined January in Choman (161.9 mm), February in Soran (113.4 mm), January in Shaqlawa (145.7 mm), December in Bastora (93 mm), and January in Erbil (63.8 mm) in (Table 2.2).

Annual average relative humidity values of the stations around the study area; 42.7% in Choman, 43.6% in Soran, 37.3% in Shaqlawa, 38.3% in Bastora and 35.3% in Erbil. Relative humidity is measured during the peak winter months while the lowest is measured during the summer months. The highest relative humidity was measured (61.3%) in Choman, (76.2%) in Soran, (66.8%) in Shaqlawa, (69.4%) in Bastora and (68.9%) in Erbil. And the lowest relative humidity was found (20.8%) in Choman, (15%) in Soran, (13.4%) in Shaqlawa, (12.5%) in Bastora and (13.7%) inErbil in Summer and August (Table 2.2).

Table 2.2. Average rainfall (mm) and relative humidity values(%) of Choman, Soran, Shaqlawa, Bastora and Erbil stations

STATION	Time	MONTHS												Yearly mm Avg..
	(Year)	1	2	3	4	5	6	7	8	9	10	11	12	
CHOMAN	6	161.9	99.3	72.1	52.7	31.2	0.0	0.0	0.5	9.2	26.0	74.9	126.1	653.8
		55	58.5	61	53.5	44.9	30.5	25.4	20.8	28.5	35.3	37.3	61.3	%42.7
SORAN	12	89.7	113.4	101.9	78.5	18.9	19.4	0.0	0.1	7.8	61.9	56.8	91.9	640.3
		76.2	63.8	64.7	54.4	42	24.6	18	15	21.4	29.9	40.2	72.5	%43.6
SHAQLAWA	12	145.7	127.4	119.4	75.3	19.4	0.4	0	0	12.4	66.6	68.5	141.6	776.7
		66.8	58.5	57.4	43.6	31.3	20.9	15.6	13.4	21	26	28.9	64.5	%21.5
BASTORA	12	79.4	45.1	70.6	34.7	12.0	0.2	0.2	0.0	2.3	40.7	33.8	93.0	412.1
		69.4	62.1	62.4	49.1	32.6	18.6	14.1	12.5	19.9	24.2	28.1	66.7	%38.3
ERBİL	9	63.8	42.5	44.9	37.2	8.2	0.0	0.0	0.0	1.8	20.3	29.2	60.6	308.5
		64.6	56.9	52.9	37.8	25.2	16.4	14.1	13.7	19.3	24.9	29.3	68.9	%35.3

2.5. Wind

In Choman, the fastest wind speed and direction is 28.2 m/s to SW at April; the lowest wind speed and direction is blowing with a power of 20.8 m/s at E in June. In Soran, the fastest wind speed and direction is at 28.2 m/s with SE in April; the lowest wind speed and direction are blowing at 9.7 m/s from N in February. In Shaqlawa, the fastest wind speed and direction is at 22.9 m/s with N in September; the lowest wind speed and direction is at 16.5 m/s from NW in March. The fastest wind speed and direction in Bastora is 20.9 m/s to S at February; the lowest wind speed and direction is at 12.2 m/s from NW at April. In Erbil, the fastest wind speed and direction is 25.1 m/s to E in December; with the lowest wind speed and direction is 15.6 m/s to E in the Fourth month (Table 2.3).

Table 2.3. The strongest wind speed and direction (m/s) from Choman, Soran, Shaqlawa, Bastora and Erbil stations

STATION	Time	MONTHS												Yearly
	(Year)	1	2	3	4	5	6	7	8	9	10	11	12	Avg.
CHOMAN	6	W	W	SW	SW	SW	E	W	W	E	NW	W	W	W
		24.5	25	26.6	28.2	27.6	20.8	25.6	25.5	25.1	24.8	24.5	25.1	25.3
SORAN	12	NE	N	SE	SE	NNE	NE	N	NE	NE	NNE	NE	NE	NE
		17.5	9.7	26.6	28.2	27.6	20.8	25.6	25.5	25.1	24.8	24.5	25.1	23.4
SHAQLAWA	12	WN	NW	NW	WN	WS	WN	NE	NE	WS	WN	WN	WN	WN
		16.6	17.8	16.5	18	20.3	17	19.7	20.9	22.9	21.1	18.1	17.1	18.8
BASTORA	12	NW	NW	NW	NW	S	SW	N	N	S	NW	N	N	NW
		14.3	13.6	15.3	12.2	17.9	15.7	18.4	20.9	20.2	15.4	13.3	13.6	15.9
ERBİL	9	E	SE	E	E	E	WE	N	NE	N	E	E	E	E
		17.5	15.9	16.5	15.6	17.9	17.9	18	18.6	17.6	16.6	16.5	25.1	17.8

2.6. Climatic Comment

According to the climate distribution of Coppen, the region is located within the Mediterranean climate (CS) with cold winter and hot and dry summers. Therefore, climate components affecting the region do not separate from each other. In northern Iraq, and the factor of regulation and post-area water bodies remains the factors responsible for climate change in the region.

In the summer season, the north and north-western winds are blowing in the presence of high cover on the Anatolian plateau, facing pressure and sluggishness in the Arabian Gulf, which is a factor in the atmosphere in the region. Winter is affected by the Mediterranean lowlands and the winds coming from the south and south-east, affecting the increase in humidity and rainfall gradually from January to the month in April. The annual rainfall rate is between 800 mm and 1000 mm per year, and rainfall is higher in the mountains than in others. The summer season is not completely over summer and temperatures rise over the summer months to an annual average of 38 ° C, less than 4 ° C in winter and at mountainous slopes up to -10 ° C.

Two climatic phenomena affecting agricultural activity in the region should be mentioned:

1. Local sub-district lands (north-east and north) with local names such as Wizah Wind, Barzin Wind and Darband Wind. Adversely affect agricultural activity because of its speed and sustainability for more than a day or a week.

2. The phenomenon of dust, including Suspend Dust, is brought by southern winds from the southern and southwestern desert of Iraq to the Arabian Peninsula.

The distribution of rainfall by season and precipitation regime types were determined by using data from the meteorological stations in the study area and the surrounding area. According to this, in Choman; Winter, Autumn, Spring, Summer (WASS), Central Mediterranean Rainfall Regime Type 1, Soran, Shaqlawa and Bastora; Spring, Winter, Autumn, Summer (SWAS), Central Mediterranean Rainfall Regime Type, Erbil; Winter, Spring, Autumn, Summer (WSAS), Central Mediterranean Rainfall Regime Type. (Table 2.4).

Table 2.4. Distribution according to precipitation seasons, percentages, amount & precipitation regime type

STATION	WINTER		SPRING		SUMMER		AUTUMN		ROLLING REGIME	ROLLING REGIME TYPE
	mm	%	mm	%	mm	%	mm	%		
CHOMAN	333.3	51	83.9	12.8	9.7	1.5	227	34.7	WASS	Central Mediterranean Rainfall Regime Type 1
SORAN	304.9	47.6	116.9	18.3	7.9	1.2	210.6	32.9	WASS	Central Mediterranean Rainfall Regime Type 1
SHAQLAWA	392.5	50.5	95.1	12.2	12.4	1.6	276.7	35.6	WASS	Central Mediterranean Rainfall Regime Type 1
BASTORA	195	47.3	46.9	11.4	2.5	0.6	167.6	40.7	WASS	Central Mediterranean Rainfall Regime Type 1
ERBİL	151.2	49	45.4	14.7	1.8	0.6	110.1	35.7	WASS	Central Mediterranean Rainfall Regime Type 1

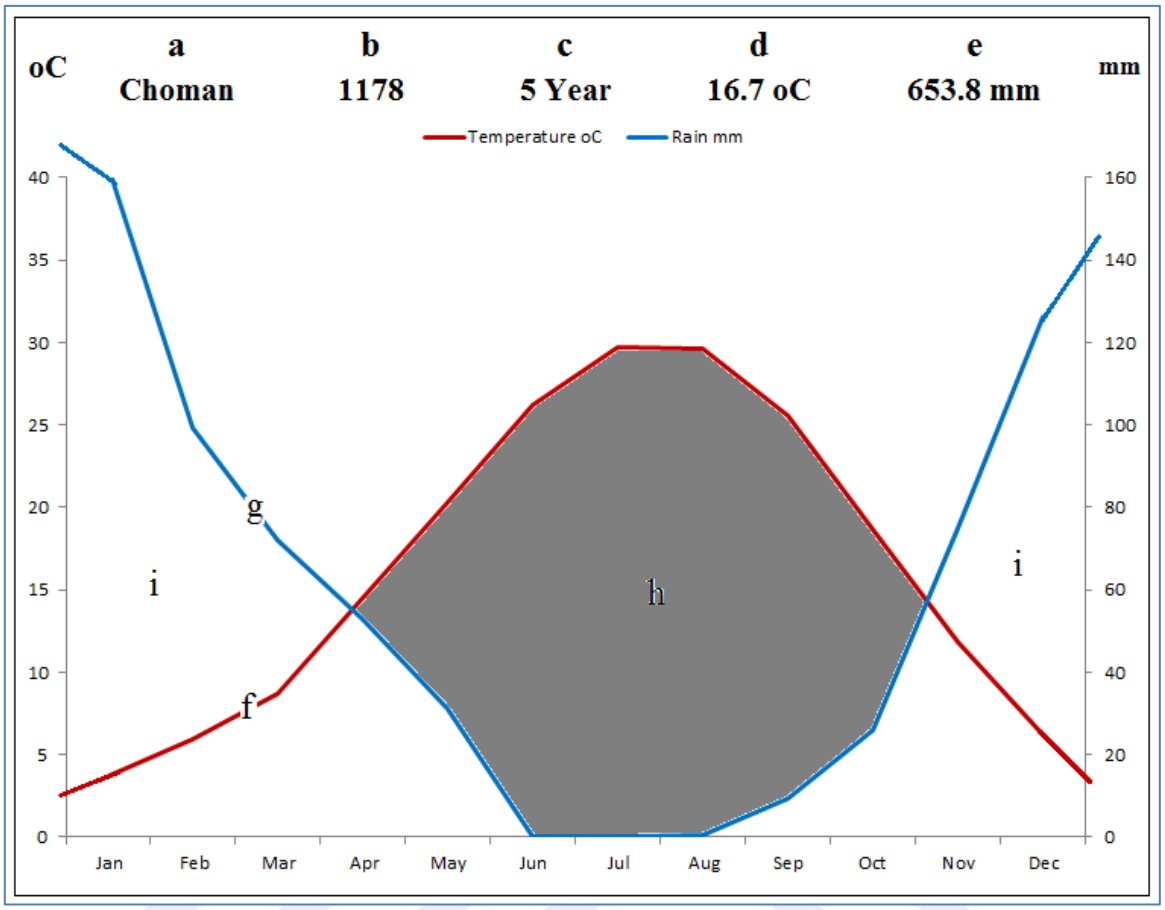


Figure 2.5. Choman district climate diagram

a: Name of the station

b: Height above sea level

c: How many years of observations are the average of temperature and precipitation

d: Average annual temperature (^{o}C)

e: Annual average precipitation (mm)

f: Monthly average temperature curve

g: Monthly average precipitation curve

h: Dry period

i: Precipitated period

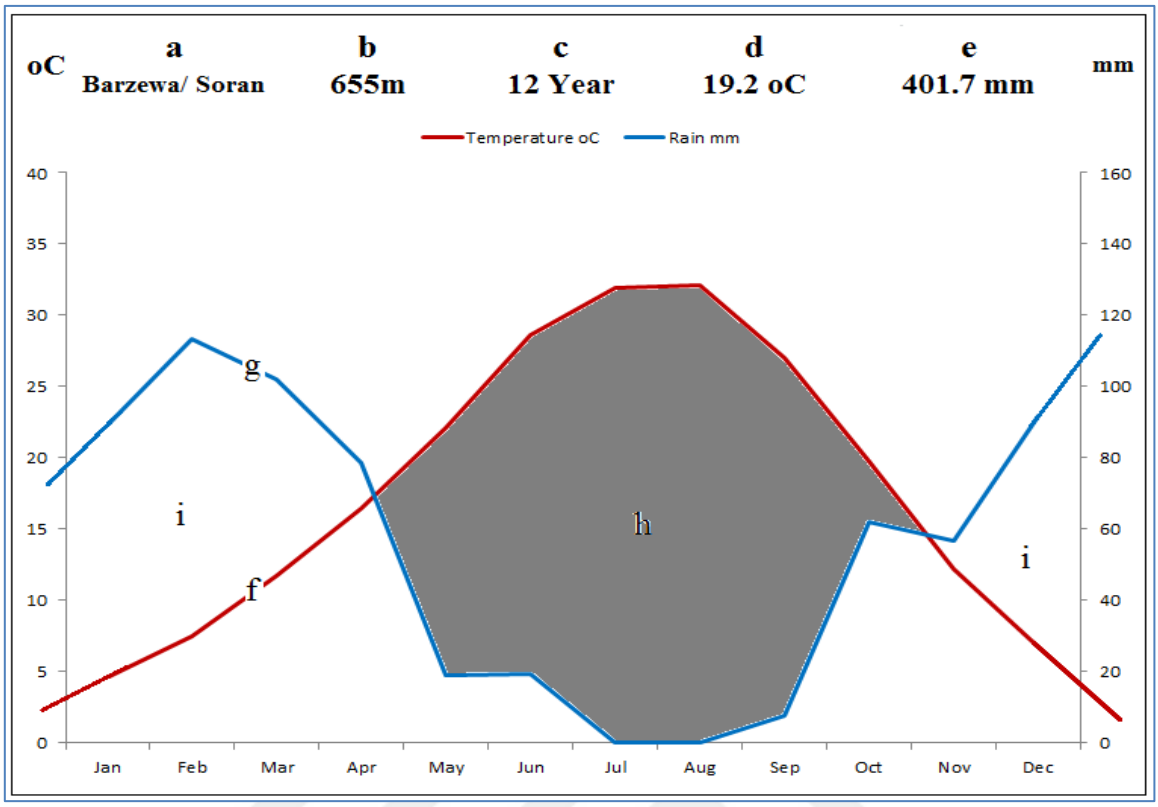


Figure 2.6. Bazewa Soran district climate diagram

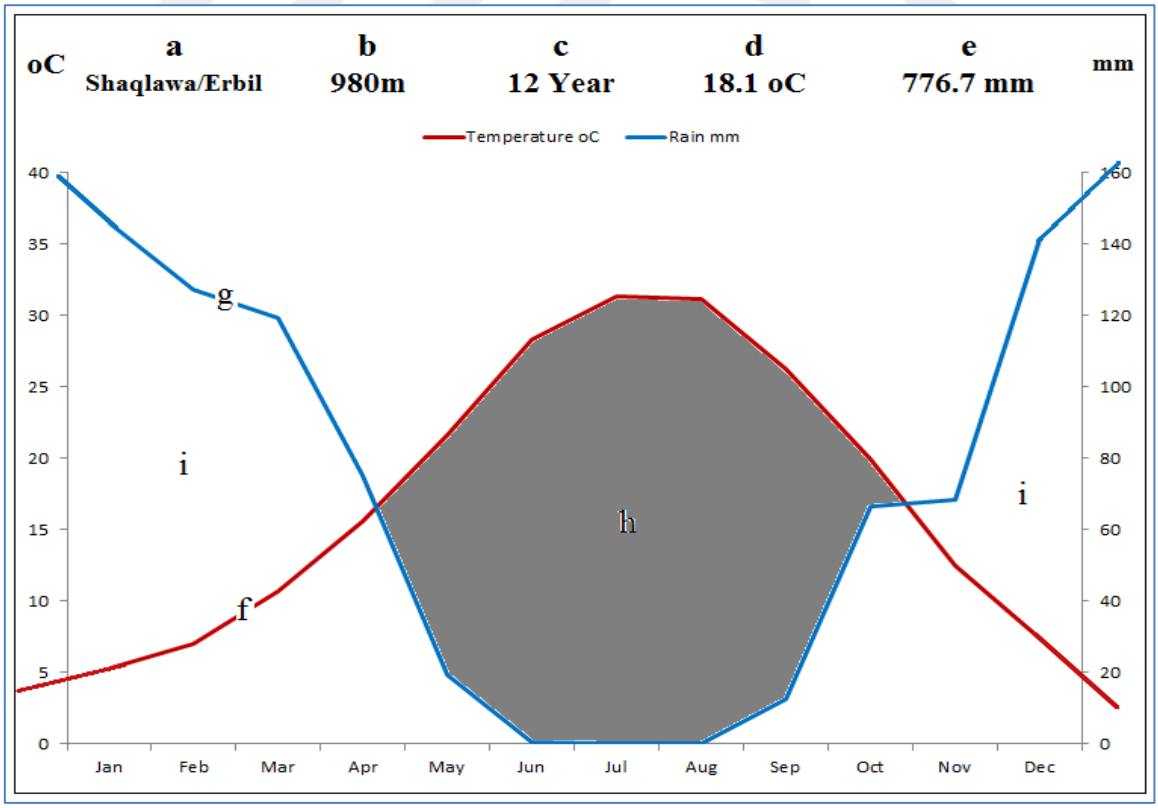


Figure 2.7. Shaqlawa district climate diagram

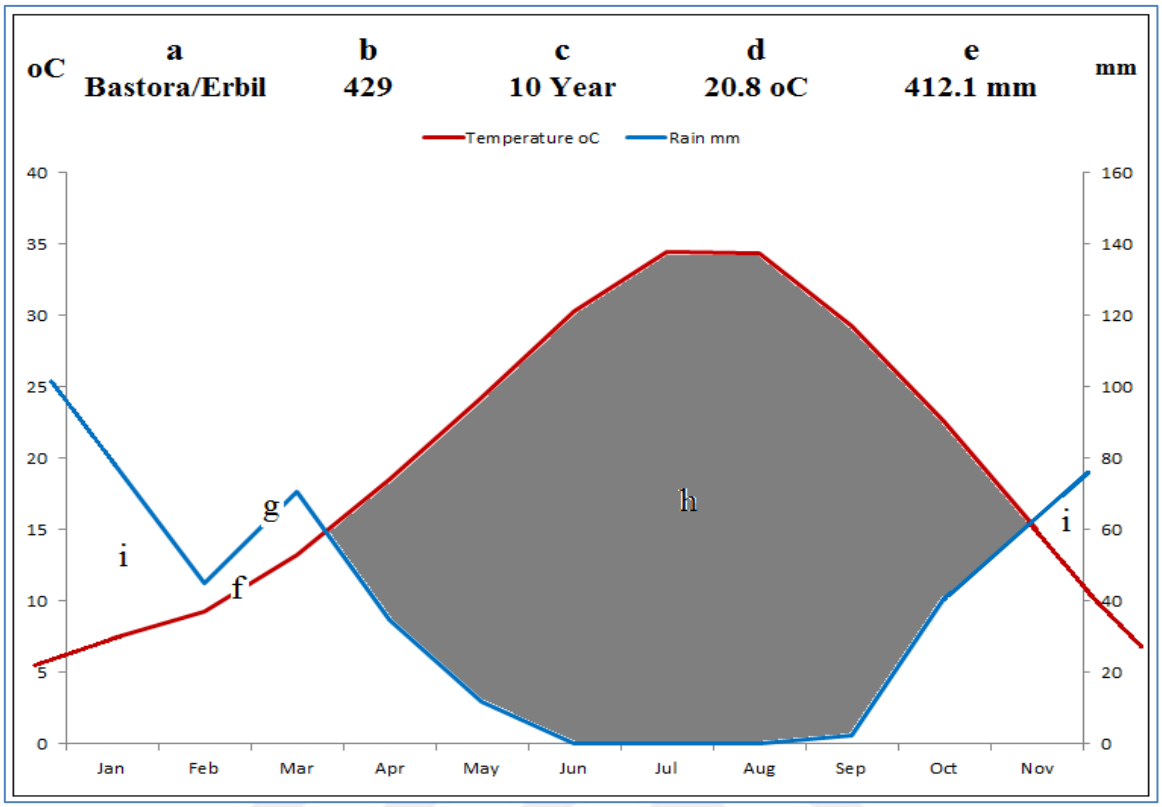


Figure 2.8. Bastora district climate diagram

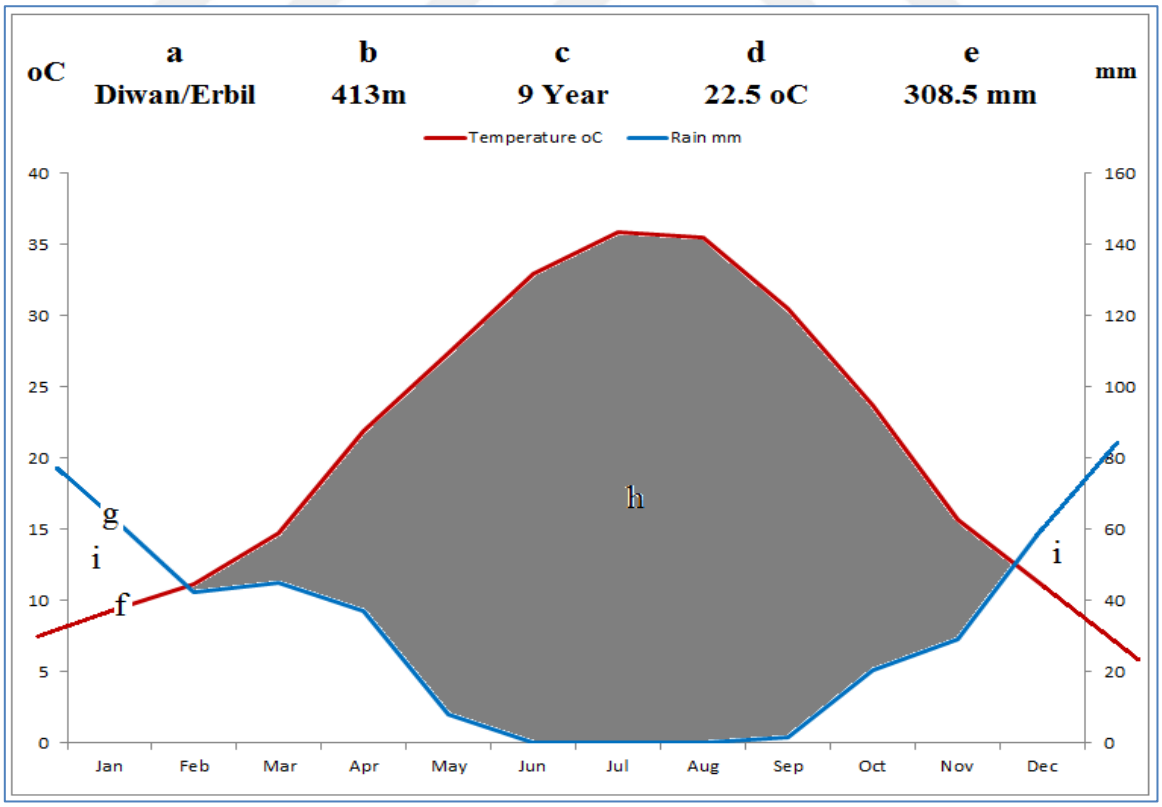


Figure 2.9. Erbil district climate diagram

4. RESULTS

4.1. General Vegetation Structure

Our research area Ballakayati have the phytogeographical characteristics of Irano-Anatolian sub-region. It consists of mountains, steppe, aquatic area, formations are encountered in the research area. The sub-region is rich in physiognomic types: forests various alpine and sub-alpine grassy and herbaceous communities, luxuriant steppes, tragacanthic formations, halophytic and psammophytic vegetation-all may be found there. Though north-east Iraq is the only part of the sub-region within our frontiers it is a extraordinarily rich territory in endemics. The number of Irano-Anatolian species in Iraq as 550, representing 57% of the Irano-Turanian species then known in the country (Guest, 1966).

Phytogeographic sub-divisions of Iraq have three sub-regions; Irano-Anatolian sub-region, Mesopotamian sub-region, and Middle Saharo-Sindian sub-region, respectively from north to the south. According to the characteristic flora and vegetation of Iraq, the Irano-Turanian region divided into four sub-regions, which are Mauritanian steppe sub-region, Mesopotamian sub-region, Irano-Anatolian sub-region, and Turanian sub-region. The characteristic vegetation of the Forest Zone is Quercus forest formation of three main categories (***Quercetum aegilopidis***, ***Quercetum aegilops-infectoriae*** and ***Quercetum infectoriae-libano***) respectively, while in some a restricted mountain district there are a few small isolated areas of a fourth forest formation dominated by ***Pinus halepensis*** var ***brutia.*** Also, ***Quercetum brantii*** (***Q. aegilopidis***) with ***Pistaciae khinjuk***, ***Pinetum brutiae***, ***Pistacia atlanticeae*** (***P. atlantica*** var ***kurdica***, ***P. mutica***), ***Juniperetum oxycedri***, ***Anagyretum foetidae***, ***Loniceretum arboreae***, with abundantly associated with it is ***Crataegus azarolus*** while the other conspicuous shrubs of the community are ***Crataegus meyeri*** and ***Prunus carduchrum*** (Guest and Al-Rawi 1966).

The vegetation of Iraq is divided into three region according to sea level and

characteristic, which are Alpine region (over 2800m), Mountain–Forest region; Thorn–cushion zone (1800-2800m), forest zone (500-1800m), Steppe region; Moist steppe zone, Dry steppe zone and Desert region, Sub–desert region. Northern Iraq has three distinct areas including Alpine region, Mountain–Forest region; Thorn–cushion zone, forest zone, Steppe region; Moist steppe zone.

The Kurdo-Zagrosian steppe-forest mainly consists of deciduous, broad-leaved trees or shrubs with a dense ground cover of steppe vegetation. The dominant species are oak (***Quercus sp***.), pistachio (***Pistacia sp***.) and a few others. In the northern, it is reached to the mountain range, lower altitudes (400 to 500 m) host communities dominated by ***Astragalus sp.***, ***Salvia sp.***, or others while higher up (700 to 800m) forests or forest remnants of ***Quercus brantii*** and/or ***Q. boissieri*** occur up to an altitude of about 1700m. Above the (1900 to 2000 m) a relatively wide zone of sub-alpine vegetation appears (Zohary 1973).

The site is a particularly species-rich example of defined habitat type.
Mountain Forest- Mountain Riverian Forest habitat type

1- The Characteristic species for this habitat are ***Salix acmophylla, S. aegyptiaca, Populus alba, Juglans regia, Platanus orientalis, Fraxinussyriaca, F. rotundifoloia, Rubus sanctus***.

2- Mountain Forest Vegetation-Oak Forest-Medium Zone and Highest Zone and the Characteristic species for the habitat types are ***Quercus aegilops, Quercus infectoria and Quercus libani***, as well as several associated plant species such as ***Pistacia eurycarpa, P. khinjuk, Acer monspessulanum, Crataegus azorolus, Pyrus syriaca, Prunus microcarpa, P. amygdalis, P. orientalis, Anagyris foetida and Galium spp***.

3- The Mountain Forest Vegetation- Thorn- Cushion Vegetation habitat type and the characteristic species are ***Astragalus*** spp., ***Acantholimon*** sp., ***Cousinia*** sp., ***Rumex*** sp***,*** *Ribes* sp. and ***Ferulago sp***.

4- Alpine Zone vegetation Habitat type: A discontinuous zone comprising the higher mountain above altitudes of 2750m. Where aromatic perennial herb, mainly belonging to the family ***Cruciferae***, ***Compositae***, ***Labiatae*** and ***Caryophyllaceae***.

There are several plants which are widespread in the Oak Forest. In the lowest and driest sub-zone of the forest ***Q. aegilops*** subsp. ***brantii*** is the dominant tree, with ***Pistacia atlantica*** *var*. ***kurdica*** abundant. But, in the driest parts of the sub-zone ***Q. aegilops*** is the sole species of oak. Elsewhere there may be a varying admixture of ***Q. infectoria.***, ***Q. aegilops*** subsp. ***persica*** has once or twice been recorded from Iraq subsp. ***brantii***. Also, in the Medium Sub-zone have widespread ***Quercus infectoria*** and ***Q. aegilops*** subsp**.** ***brantii*** are co-dominant in this association, one or other species being often the locally dominant species but the second species of the pair is usually abundant. In its moisture requirements ***Q. infectoria*** is intermediate between ***Q. libani*** and ***Q. aegilops***. ***Quercetum brantii-infectoriae***. The codominant species in the higher parts of the Forest Zone, are ***Quercus libani*** and ***Q. infectoria***. The ***Q. libani*** may be the dominant species. In other parts of the higher Forest Sub-zone ***Quercetum infectoriae*** replaces ***Quercetum libani***, here usually ***Q. infectoria*** is the dominant species, with ***Q. libani*** abundant and ***Q. aegilops*** a frequent associate. Also, they ***Pistacia mutica*** (***P. atlantica*** var. ***kurdica)*** and ***Acer cinerascens*** as the principal associates of ***Q. libani***, among subsidiary species, ***Crataegus azarolus***, ***Acer cinerascens,*** and ***Lonicera*** spp.

Thorn-cushion Zone: Open shrubland with large shrubs of ***Astragalus***, associated with ***Daphne acuminata, Lonicera arborea*** **and** low thorny shrubs of ***Acantholimon, Acanthophyllum*** and ***Cousinia***

In the dry steppe zone which have some species of families, such as; ***Carex stenophylla***, ***Ranunculus asiaticus***, ***Artemisia herb-alba***, ***Achillea conferta***, ***Salvia paleastina***, ***S. compressa***, ***Moltkia angustifolia***, etc. the profusion of ***Ornithogalam ulophyllum***, and other spp., ***Gladiolus segetum***, ***Bellevalia spp.*** and ***Muscari longipes***. Also, Moist-steppe zone; including ***Anemon coronaria*** in spring and early summer grass ***Aegilops speltoides***, and som semi-woody or herbaceouse species of ***Phlomis***, ***Gundelia*** (***G. tournefortii***), ***Cousinia sp.***, ***Hypericium sp.*** (***H. triquetrifolium***) etc. Association of the steppe: ***Pistacietum atlanticae***, ***Artemisietum herba-albae***, ***Haloxyletum articulate***,

Achillietum confertae, ***Phlometum kurdicae***, ***Phlometum bruguieri***, ***Centaurietum behen***, ***Asphodeletum aestivi***, and ***Poetum sinaicae***.

Ballakayati is located in Irano-Anatolian sub-region, it has characteristics and they also have some plants in it such as; ***Aegilops kotschyi, Agropyrum squarrosum, Andropogon lanatum, Artemisia herb-alba, Ephedra foliata, Haloxylon salicornicum, Salsola vermiculata, Torularia torulosa.*** The vegetation has also a lot of species of plants; ***Acantholiman, Anthemis, Astragalus, Cousimia, Onobrychis,*** and ***Salvia.***

4.2. Plants Detected in the Field of Research

1. ACANTHACEAE

1. ***Acanthus dioscoridis*** L. var. ***dioscoridis***

The vernacular name: **Gula pamba**

Locality: Shore village exit outside, steppe, 36°42'07.80"N, 44°54'45.85"E, 1777 m, 07.06.2017, AMK115.

Collection period: Jun

Parts Used: Flower

Purpose: Treatment and Ornamental

Usage:

a) The dried leaves are used as a treatment for against diarrhea (Haji HASAN).

b) It is used as an ornamental and as a gift from lovers. (Amina DARWESH).

Use in the literature: The decoction of dry leaves is used as a treatment for skin diseases. After it is added to the cup and it is drunk this water (Nadiroğlu and Behçet 2017).

2. ADIANTACEAE

2. ***Adiantum capillus-veneris*** L.

The vernacular names: **Khala rasha, Qetrana, Qaytaran** .

Locality: Kawarta village, mountain, waterfalls, 36°37'20.59" N, 44°51'49.39"E, 1174m, 27/06/2017, AMK78.

Collection period: June

Parts Used: Abowve ground

Purpose: Treatment

Usage:

a) The leaves are used as a treatment for kidney pain, by drinking the water after boiling it and purified (Mina KHAN, Bahya NAJIM).

b) This plant powder is mixed with sugar to be used as a treatment for colds, spleen pain, and diarrhea. It also cures snake bites, rabies and other insect bites (Halima ABDULLA, Mayasa ALI, Kurdflora).

Use in the literature: Its leaf decoction is used for fever and cough (Ahmad et al. 2011). The aerial part after decoction is used as a treatment for asthma, dyspnea (Mosaddegh et al. 2012). Aerial parts are used as a treatment for appetitive and diuretic (Kilic and Bagci 2013). The aerial part is used for antitussive, anti-haemorrhoid, and also used as a treatment for sore throat, febrifuge, jaundice, laxative, antichrist and orchitis (Amiri and Joharchi 2013). The herbal tea is used to relieve kidney stones, bladder stones, bronchitis, colds, cough, excessive mucus, flu and respiratory difficulty. Meanwhile, the boiled leaves are used to treat chest, headaches, snoring, colds, coughs, urinary infections and increased sweat. Boiled roots are used for cough, respiratory problems, fever, and abdomen colic (Shahbaz 2013). Leaves are used against anticatarrhal, antitussive, cold, cough, diuretic, emmenagouge, expectorant and fever (Hayta et al. 2014). The front part of it is used as a treatment for Jaundice, antitussive, anti-haemorrhoid, and febrifuge by infusion (Amiri et al. 2014). Leaves are used as a treatment for earache, common cold, and kidney stones expectorant (Dolatkhahi et al. 2014).The decoction leaves and stalks are used for diarrhoea, kidney stones, asthma, cough, carminative, warts, and bladder (Ahmed 2016). The whole plant is used as a diuretic while the decoction of the plant is used as a treatment for asthma and breathing problems (Amri, 2016).

3. AMARYLLIDACEAE

3. ***Ixiolirion tataricum*** (Pall.) Schult. & Schult.f.

The vernacular name: **Kazbara**

Locality: Kawarta village - maydan, Grassland, 36°37'53.75" N, 44°51'49.34" E, 1165 m, 27/06/2017, AMK11.

Collection period: Jun

Parts Used: Flower

Purpose: Ornamental.

Usage: It is a kind of ornaments and the lovers use it as presents to each other. (Amina DARWESH).

Use in the literature: Its usage is not founded in the literature.

4. ANACARDIACEAE

4. ***Pistacia eurycarpa*** Yalt.

The vernacular names: **Darbnawsh, Bnawshila**

Locality: Kawarta village, mountain, 36°37'17.98" N, 44°51'48.97" E, 1159 m, 08/05/2017, AMK28.

Collection period: May

Parts Used: Leaf, stem, and seed (Above ground)

Purpose: Food, treatment, fuel and for economic purposes.

Usage:

A) The immature seeds mixed with ayran and doogh are used for changing the taste and it is also used as a treatment for stomach ache and for economic purposes. At the same time, the plant is used as fuel in winter (Halima DARWESH, Nazdar KHDR).

B) The fruit is eaten freshly. Also, the matured fruit is used to make a coffee bean in the air (Amina DARWESH, Payman TAHA).

C) The resin obtained from the tree body treats skin pain and burning (Halima DARWESH, Shukrya KHDIR).

D) The mastic resin or plant resin which is secreted from the body of the plant is used as a treatment for stomach ache and abdominal pain. Also, it is used to make a gum (Abdulla DOGHA).

Use in the literature: The bark and the gum are used as treatment for joint pains, toothache and wound healing (Mosaddegh et al. 2012). They are used as an appetizer, laxative, tonic, and stimulant. Likewise, it is used as a treatment for digestive system pain, antacid, strengthening of memory, strengthening of teeth gum, anti-halitosis and treatment of anaemia. (Amiri and Joharchi 2013). Tree syrup treats toothache when it is put on the tooth (Delfan et al. 2014). The fruit is used as body reinforcement, joint and muscles pain (Dolatkhahi et al. 2014). The fruit peel and small fruit are grinded and then

a fixed oil is obtained by squeezing. The oil is used to polish the skin and make soap. Also, the secrition fruits and material are eaten freshly but the fruit alone is consumed as coffee (Kaval et al. 2014).

5. ***Pistacia khinjuk*** Stockss

The vernacular names: **Daraban, Dar qazwan, Qaskwan**

Locality: Kawarta village, mountain, 36°37'17.98" N, 44°51'48.97" E, 1159 m, 08/05/2017, AMK11.

Collection period: May

Parts Used: Leaf, stem, fruit, gum and seed

Purpose: Treatment, Food, Gum, Bark, and Fuel economically.

Usage:

A) The immature seeds are mixed with ayran and doogh for having good taste. It is used as a treatment for stomach ache and it is used for the economic purpose. At the same time, the plant is used as fuel in winter (Halima DARWESH, Aysh AHMED).

B) The fruit is eaten freshly but it is used as a coffee bean in some villages after the fruit becomes matured (Amina DARWESH, Hamed BAPIR, Jamal RASUL).

C) The seed oil is used against pain and burning releaf (Halima DARWESH, Karim HAMZA).

D) The excretion of the body is used as a material for making the gum, and it is used as a treatment for stomach pain (Hamin DARWESH, Maghdid WASMAN).

The use of literature: They have the same usage to (***Pistacia eurycarpa*** Yalt.).

6. ***Rhus coriaria*** L.

The vernacular name: **Dar trsh, smaq**

Locality: Kawarta village, Banan mountain and Sarukani, 36°37'28.16" N, 44°51'40.25" E, 1270 m, 10/06/2017, AMK57.

Collection period: June

Parts Used: Fruit, Stem, and Seed

Purpose: Food, Treatment and Handicraft.

Usage:

A) The mature fruit of the plant is used as a food spice after it has been dried and powdered for changing the flavor (Halima DARWESH).

B) Some pregnant women are eager to eat the mature fruit (Amina DARWESH).

C) The resin extracted from the tree body is used as a pain and burning releaf (Halima DARWESH).

D) In the past, the dry seed were used in tanning leather (Abdulla DOGHA)

Use in the literature: Its leaves and barks are used as a tratment for diarrhoea, antipyretic, gingiva and throat inflammations, weeping, antiseptic, skin lesion, and to increase saliva (Fakir et al. 2009). The fruit is used for abdominal pain (Mati 2010). The fruit is eaten as a treatment for stomach ache, diarrhea, lowers the blood pressure and treats the skin burns and oral ulcers (human and animal). Further, it strengthens skin and hair dye (Mati and de Boer 2010). Leaves are used for seasoning and tanning whereas the fruits are prescribed to relieve stomach diseases, fever, dermatitis, as an appetizer, antiseptic, diuretic and bowel complaints (Onkar et al. 2011). The fruit is also used as the abdominal pain treatment (Mati and de Boer 2011). Fruit and seeds are used as a treatment for skin disorders but the leaves are used as an antiseptic after decoction it (Altundag and Öztürk 2011). Fruits are used as a mouth sore treatment after decocting it (Demirci and Özhatay 2012). The fruit is used as a flavoring and it is also used as a treatment for jaundice, diabetes, cholesterol lowering, anti-hypertensive, anti-diarrhea and anti-hemorrhage (Amir and Joharchi 2013). The fruit is also used as a treatment for diarrhea, stomach disease and as antiseptic (Kilic and Bagci 2013). The fruit is used as a treatment for stomachic, anti-diarrheal, tonic, digestive discords and culinary (Ghasemi et al. 2013). Being boiled in water, drinking the leaves and flowers of water treats diabetes. Likewise, the fruit is used as a treatment for arteriosclerosis, laxative and diarrhea (Sağıroğlu et al. 2013). Sumac fruits have diuretic properties and are used locally in intestinal complaints and to reduce fever. An acid drink is used to relieve stomach upset and to clear the digestive tract. The fruits of sumac are particularly useful in healing internal sores, and wounds on the mucous membranes. The bark, in the decoction or syrup form, is found to be used in gonorrhea, hemorrhage, diarrhea, dysentery, frenzied fever, swelling and a plentiful race of debility, and internal mouth ulcers. For the crushing head, the powdered powder root can be cooked in the lard, or it can be used as a supplement to the old ulcers, which is well purified. Infused fruits can be used in diabetes, febrile diseases besides gargling in mouth crevices, and throat ulcers (Shahbaz 2013). The fruit, leaf, and resin of this plant are effective for blood refining (Bahmani et al. 2014). They used as antihypertensive, diabetes, and wound healing (Hayta et al. 2014). The seeds and fruits

are used for flavoring many traditional dishes in Kurdistan and as a spice in Anatolia (Ahmad and Askari 2015). Matured fruit which is eaten freshly are used for making a spice (Kaval et al. 2015). After being dried and decocted, the leaf and fruit are used as a treatment for indigestion, cold, diabetes-urethra, rheumatism, and relaxation (Akgül et al. 2016). Fruit and seed are used as treatments for wound, diabetes and hyperlipidemia (Mosaddegh et al. 2016). The fruit and seeds are also used as a medical product, as a spice, and leather and textiles tanning (Baydoun et al. 2017).

5. APIACEAE (UMBELLIFERAE)

7. ***Anethum graveolens*** L.

The vernacular names: **Doragh, Shwit**.

Locality: Kawarta village, Cultivated, 36°37'15.03" N, 44°51'59.28" E, 1166 m, 22/05/2017, AMK38.

Collection period: March-April

Parts Used: Above ground (Upper Parts)

Purpose of Use: Food and Treatment

Usage:

A) Used as a kind of vegetable with all foods and fresh leaves to give smell and taste to salads and foods (Amina DARWESH).

B) After drying the upper parts of the plant, it is inserted to the buttermilk for changing its flavor (Mustafa QADIR)

C) The top of the fresh plant are eaten as cholesterol treatment after its being boiled in boiled water (Abdulla RASUL).

The use of literature: It is used as an ingredient in gripe water to be given as the pain relief of colic in children and flatulence in adults. The seeds are aromatic, wind-repellent, moderate diuretic, galactic, stimulant and infectious. The essential oil in the seeds relieves intestinal cramps and seizures while the aromatic oil improves appetite, relieves gas and helps digestion. Chewing seeds improves bad breath. Anithum stimulates milk flow in lactating mothers and is often given to rubber for this reason. It also heals urinary complaints, piles and disorders (Jana and Shekhawat 2010). The leaves can be used just like the roots in cooking. The seeds are used in bread, soups, spreads and salad dressings. The seed used as a condiment and in the food industry to flavor for soups, salad

dressings, stews, breads, pastries, teas, alcoholic beverages, meats, vegetables, and fish. Main constituents of the seed oil are similar to dill. Trans-anethole is the dominant component in the essential oil extracted from fennel seeds. The seed oil is also used as a treatment for rheumatism, eye infections, toothaches, and nausea (Ferrie et al. 2011). The plant is used for some gastrointestinal diseases such as flatulence, indigestion, stomach pain, colic, cellular protection, reducing mucosal metabolism and reducing the permeability of blood vessels in the stomach. Fruit has an antispasmodic effect on smooth muscle in the digestive system. It has been used to relieve tiredness of disturbed nights and strengthen the brain. The aerial parts of the plant are often cooked with fish to add flavor to it and stimulate the brain. The extract is highly effective in controlling the worm that cuts tobacco. These extracts were effective in inhibiting the growth of larval larvae but did not inhibit the growth of pupae being developed for adults (Heamalatha et al. 2012). The fruit is used as a treatment for abortion, anti-dysmenorrhea, galactagogue, antihyperlipidemic, and carminative (Amiri and Joharchi 2013). The plant is used as a treatment for stomach-ache, haemorrhoids, insomnia, flatulence, digestive disorders, carminative, diuretic, soporific, galactagogue, flu, cough, cold, and nose bleeds and to heal drunkenness (Sharopov et al. 2013). Dill is an essential component of the subterranean water and is given to relieve colic pain in infants and to grumble in young children aged five years or above. Oil extracted from seeds is very useful in cases of hyperacidity, flatulence, gastric atrophy, indigestion, and improving appetite. It encourages daily consumption of digestion and relieves or prevents constipation. The plant makes a useful addition to a cough, cold, flu, and moderate diuretic. Dill here increases milk production and when the herbs are taken regularly by nursing mothers, it helps their babies avoid colic. Dill is treated as herbal remedy for insomnia while chewing the seeds improves bad breath. The leaves can be used as clogs in cases of boils and sores when combined with sesame oil and can be of help to relieve swelling of the joints (Shahbaz 2013). The whole plant, dried or fresh, is used with food, and it is also used as a treatment for lowering blood pressure (Delfan et al. 2014). The seed and the leaf are used as a treatment for indigestion in children, blood lipid and joint pain (Dolatkhahi et al. 2014). The above ground part of the plant is eaten raw for cholesterol treatment or is being boiled in water to be drunk (Kaval et al. 2014). Mixing the chives with the yoghurt, pepper and vegetable oil helps it's being eaten. The aerial part is eaten with the yoghurt (Mükemre et al. 2015). The dried leaves are crushed and used as a

treatment for analgesic, cough, wound, liver disease and gallbladder disease in addition to insect bites (Akgul et al. 2016). The whole plant is used to reduce blood fat and blood pressure (Ahmadi et al. 2016).

8. ***Apium graveolens*** L.

The vernacular names: **Karawz, Karafs**.

Locality: Kawarta village, Cultivated, 36°37'15.03" N, 44°51'59.28" E, 1166 m, 22/05/2017, AMK39.

Collection period: March-April

Parts Used: Above ground (Upper Parts)

Purpose of Use: Food and Treatment

Usage:

A) Celery is eaten as a green vegetable and added to all dishes (Amina DARWESH).

B) After drying the Upper Parts of the plant, it is added to the foods for changing their flavor (Mustafa QADIR)

C) The top part of fresh plant is eaten for kidney treatment or after it is being boiled in boiled water (Abdulla RASUL).

Use in the literature: Celery has the feature of stimulating diuresis. If both juice and fruit diuretic are taken in large quantities, it is useful for gravel, rheumatism, obesity and the process of urine poisoning. Decoction of the leaves is beneficial for the pharynx and bronchial mass. The juice of its leaves is assumed to act as an antidepressant. It is the most important vegetable that is often used in preparing typical local dishes (Guarino et al. 2008). It is used for digestive depurative, gastralgia, constipation and digestive disorder (Benítez et al. 2010). It treats abdominal pain and prostatitis (Polat and Satıl 2012). It is also used fresh or boiled as a treatment for renal colic, diabetes, hypercholesterolemia, rheumatism, and sexual inadequacy (Sargın et al. 2013). The fruit is used as a treatment for emmenagogue, diuretic, and carminative (Amiri and Joharchi 2013).Whole parts of the plant are used as an appetize, colic gripes, tonic, calming, purgative, vermifugal, antiasthmatic, antirheumatoid, anasarca, homeopathic, antispasmodic, sedative, high blood pressure, kidney problems, anticonvulsant, liver and spleen disorder (Youssef 2013). Celery is used to increase fertility and improve disorders such as hormonal imbalance, impotence, oligospermia and spermatozoa because it has high effective antioxidant properties. It is rich in antioxidants. Leaf and stalks of celery

contain phenols, fructucomarin and lutulin. Abigine is one of the major flavonoids of celery leaves (Kooti et al. 2014). The seeds and leaves are used as a treatment for anemia and colon problems. It is traditionally a kind of folk medicine which is used for rheumatism, arthritis, stimulant, carminative, diuretic, dysmenorrhea and tonic (Ahmed 2016). Leaves are eaten orally raw such as a febrifuge (Footami and Akbarlou 2017).

9. ***Chaerophyllum macropodum*** Boiss.

The vernacular names: **Mandoke, Zre mendok, Bendoka, Zir bandok, Mandi**.

Locality: Kawshan village, step, 36°40'63.16" N, 45°0'25.66" E, 1560 m, 07/05/2017, AMK114. Ir.-Tur. Elm.

Collection period: May-June

Parts Used: Above ground (Upper Parts)

Purpose of Use: Food

Usage:

A) The leaves are mixed with cheese (Mohammed AMIN).

B) The upper part of the plant is eaten after cooked with eggs in oil (Hajar AMIN).

C) The root extract is used as a treatment for promoting urination and relief painful urination.

Use in the literature:

The roots of the plant are mixed with cheese to prepare it for eating (Yıldırım et al. 2008). Likewise, the plant is eaten with rice (Mosaddegh et al. 2012). The root of plant is used as a treatment for promoting urination, painful urination and carminative (Gairola et al. 2014). In some species, the aerial part is eaten freshly. It is also cooked as a stew or egg-vegetable dish and it is used in cheese production (Kaval et al. 2015). These plants can be used as natural antibacterial additives when it is incorporated into cheese and various food products (Durmaz et al. 2016).

10. ***Coriandrum sativum*** L.

The vernacular name: Gzhnizh .

Locality: Kawarta village, step, 36°37'53.75" N, 44°51'49.34" E, 1056 m, 24/04/2017, AMK10.

Collection period: June-July

Parts Used: Leaf, Fruit and Seed

Purpose of Use: Food and Treatment.

Usage: After the seed is pounded and powdered, it is traditionally used as a sprinkling on the cow to attract its calf. In addition, leaves of the plant is mixed with ayran (Halima AHMED)

Use in the literature: The fruits are used as a spice and flavoring agent. Coriander fruits help digestion and affect the digestive system, bad breath, wind repellent, diuretic, tonic, stomach, anti-wear, coolant and aphrodisiac. At the same time, they externally treat ulcers and rheumatism and remove chemical compounds contained in fresh fruits, which cause dizziness (Diederichsen 1996). The leaves and fruits are used as spice and garnishing. They are also used for flatulence, diarrhoea, dysentery, stomach problems, jaundice, cough and vomiting (Khan and Khatoon 2007). Being used as an appetizer, the fruit treats dyspepsia (Fakir et al. 2009). The leaves are used as vegetables and salad whereas the fruit is used as spices and flowering agent. It is an aromatic, bitter, sweet, astringent, and stimulant which is used when it is being vitiated by beta, burning, vomiting, and colic as it increases the secretion of gastric juice which is used as a decoction for meningitis in the bath. It is also beneficial for high blood presure patient and throat infection (Khan et al. 2013). It is used as a carminative (Sargın et al. 2013). The leaf, stem and seed are used for eaten as well (Dolatkhahi et al. 2014). The leaves are used as a treatment for dyspepsia, insomnia, jaundice, and stomach ache while the seeds are used as a treatment for hair fall, headache and jaundice (Gairola et al. 2014). The leaves and seeds are cooked as a stew or rice-vegetable dish anda pie is made from seed (Kaval et al. 2015). Traditionaly, the powder or decoction of the flowers and fruits are used as a treatment for stomachaches. It is also used from the medical perspective for spastic colitis and eructation (Rhafouri et al. 2015). The leaves and seeds are used as a spice, tonic and stomach diseases treatment. The fruit and leaves mash dressing are used against rheumatism. Its decoction is used for menstrual disorders and constipation. The fruit stack is used to treat pimples and freckles. Leaves apply to treat cysts of goats. Bark is used to treat bone disease and hair wash. Plant extract is good for skin diseases and allergies (Abbas et al. 2016). Leaves are used as an analgesic (Farhadi et al. 2016). The aerial part is used as a treatment for abdominal pain (Bulut et al. 2017).

11. *Eryngium bourgatii* Gouan

The vernacular name: **Tesu**.

Locality: Galazher village, step, 36°42'11.81" N, 44°54'36.42" E, 1776 m, 09/06/2017, AMK50.

Collection period: May-June

Parts Used: Stem and Root.

Purpose of Use: Food and Treatment

Usage:

A) The root part of the plant is eaten after peeling (Karim RASUL).

B) The root part of the plant is used as cleaning material like soap (Abdulla RASUL).

C) The plant sap/soap flowing from the root of the plant is put on the body where the fungus is seen (Karim ABDULLA).

D) The immature fresh root and branch parts of the plant are used as raw for bronchitis disease (Karim RASUL).

E) The root part of the plant is boiled in water to be drunk as a treatment for stomach aches (Mohammed AMIN).

Use in the literature: The root and branch are used freshly, as pounded and powdered (Altundag and Öztürk 2011). This palnt is eaten as a treatment for constipation (Mosaddegh et al. 2012). The young stems are striped, salted, and eaten raw (Behçet and Arik 2013). The fruit or the above ground parts are used as a treatment for diuretic, carminative and emmenagogue flavoring (Amir and Joharchi 2013). The plant root is eaten freshly (Kaval et al. 2015). It is also used as treatment for dental, abscesses and gastric cancer (Mükemre et al. 2015). The seeds and leaves are used as a treatment for anemia, colon problems, and is also used as a kind of folk medicine to cure diuretic, dysmenorrhea, rheumatism, arthritis, carminative, tonic, and it is a kind of stimulant (Ahmed 2016).The stem, flower, and leaf of the plant are used as a stomach ache treatment especially if they got infused (Fakir et al. 2016). The cooked root is used as an anti-inflammatory agents. The fresh roots are also eaten as vegetable (Rhattas et al. 2016).

12. *Falcaria vulgaris* Bernh**.**

The vernacular names: **Kazya, Razyanay Kewi**.

Locality: Kawshan village, step, 36°40'06.20" N, 44°49'09.12" E, 2425 m, 05/07/2017, AMK122. Ir.-Tur. Elm.

Collection period: June-July

Parts Used: Above ground (Upper Parts)

Purpose of Use: Food

Usage:

A) Fresh leaves are salted and consumed as a salad (Karim RASUL).

B) The decoction of leaves is used as a treatment for stomach ache (Abdulla DOGHA).

Use in the literature:

Use in literature: The leaf is powdered and topically used for wounds (Naghibi and O'Malley, 2005). The decoction of leaves and fruits are used as a treatment for vitiligo, cuts, wounds, carminative, febrifuge and hemostatic (Amiri and Joharchi 2012). The leaves are used to treat wounds (Amiri et al. 2012). The aerial parts are used as a treatment for nourishment. They are also used as a kind of addition for food and salads, and treatment for stomach disease (Kilic and Bagci 2013). The fresh aerial parts of the plant are eaten (Sağıroğlu et al. 2013). The flower, leaf, and stalk of the plant are useful while it is possible to cook the leaves and eat food but it is preferable to have a glass of infusion once a day. In addition, it is used as lowering blood pressure treatment (Delfan et al. 2014). The young aerial part is cooked and used as a meal (Dogan and Tuzlaci 2015). The Upper Parts of the young shoots of the plant is thrown into the food. At the same time, fresh leaves are salted and serviced as a salad (Kaval et al. 2014). Also, the aerial parts are cooked as a vegetable and the leaves are eaten in salads (Kaval et al. 2015). The aerial parts (leaf, flower, and stem) are used as a treatment for lowering blood pressure (Ahmadi et al. 2016). The upper parts of the plant is orally used as a treatment for wound and stomach pain (Mosaddegh et al. 2016). The flowers, leaf, and stalk are used as a treatment for lowering blood pressure (Pourjabali et al. 2017).

13. ***Foeniculum vulgare*** Mill.

The vernacular name: **Razyana**.

Locality: Kawarta village, meadow area, step, 36°36'56.45" N, 44°51'48.91" E, 1045 m, 24/04/2017, AMK102.

Collection period: April

Parts Used: Leaf and Seed.

Purpose of Use: Food and Treatment.

Usage:

A) The seeds are used for increasing the milk of the lactating (nursing) women, and it is a treatment for stomach ache and headache. It is also used for the economic purpose (Amina DARWESH).

B) It is mixed with the sugar for changing its flavor (Mryam AHMED).

Use in the literature: The seeds are used as a source for foods, medicine, perfumes, and alcoholic drinks (Sabra and Walter 2001). The seed as a powder is used for stomachache, carminative, hypnotic, flavoring, and digestive disorders (Ghorbani 2005). The leaves are used as a stomach ache treatment (Ugurlu and Secmen 2008). The seeds are used as a dwelling and digestive aid, and as a treatment for respiratory patients, aerobic bronchitis, asthma, rhinitis, flu control, abdominal pain, and liver problems. The herbal tea of seeds is used as a treatment for prostate cancer, to increase the milk of a lactating woman, and to stop the secretion of estrogen in order to treat menopause problems (Gharib et al. 2010). The seed powder is used as the treatment for flatulence, appetite stimulant, kidney pain and catarrh (Mati and de Boer 2010). The seed powder is used for infant and colic. It is mixed with other substances to be given to the child (Mati and de Boer 2011). It is used as the diuretic and the kidney infections treatment (Mosaddegh et al. 2012). The fruits may be used as a condiment, carminative, aromatic, stomach disorders, and its decoction is good for eyesight (Awan et al. 2012). The fruit of the plant is used as an appetizer, and as a treatment for an antacid, flatulence, galactagogue, digestive, and bronchitis (Amir and Joharchi 2013). The infusion of seeds is used as an antidiabetic (Durmuşkahya and Öztürk 2013). They are used for diuretics, gas, anti-inflammatory and antiseptic (Moret 2013). After decoction process, the seeds are used as a treatment for joint pain, back pain, nervous weakness, flatulence and painful menstruation (Dolatkhahi et al. 2014). Seeds are used as menstruation facilitative, a source of vitamin A, and lactogenic expectorant (Sağıroğlu et al. 2013). Put the seed of the plant into a powder and mix it with some sugar and put it on a cloth. This cloth is given to the newborn child to relieve the pain of the abdomen after it has been made into a ball like a nipple head. At the same time, the young plant parts of the plant are used as spices in/for meals (Kaval et al. 2014). The seed treats hypotensive activity (Naghibi et al. 2015). The aerial part is used as spice (Kaval et al. 2015). The seeds that are infused are used as an appetizing, increasing the breast milk, and as a treatment for carminative and menstrual regularity (Akgül et al. 2016). The plant seeds are used as spices, strengthen the stomach, remove the gases in the stomach and intestines, and treat gastrointestinal degeneration of the gas. The decoction of leaves is

used as a bowel moisturizer. The herbal tea of the plant is used as a urine conductor and prevents the formation of kidney stone. It is used as a treatment for patients with respiratory distress, influenza, and brain activation. The decoction of leaves is used as an intestinal moisturizer, treatment of obstruction of blood vessels, and lowers the blood pressure. Plant oil is used as a treatment for massaging back pain and arthritis (Amin 2016). The seeds are used as a treatment for gallstones, lactation stimulant, and carminative (Mosaddegh et al. 2016). Young leaves are boiled and mixed with olive oil and salt, or cooked with broad beans to make food (Shipley and Kindscher 2016). It is freshly edible while its cooked leaves, corm and seeds are used as spices (Baydoun et al. 2017).

14. ***Heracleum lasiopetalum*** Boiss.

The vernacular names: **Kashma, Kashm**.

Locality: Warda and Galazher village, Mountain, 36°41'66.80" N, 44°54'57.85" E, 2011 m, 02/05/2017, AMK15.

Collection period: June-July

Parts Used: Above ground (Upper Parts)

Purpose of Use: Food and Treatment

Usage:

A) After being boiled in water, refining from water then got mixed with egg and heating inside fried, the fresh leaves and branches are used to prepare the best quality food (Prince Food). As a result, it will be ready to serve (Halima DARWESH).

B) The villagers add this plant to the cheese for changing its taste and preparing the best food especially for breakfast. Also, it is used as a treatment for a cough (Chato AGHA).

C) The villagers collect this plant in spring and store it in the refrigerator and frozen it to be consumed in winter (Halima AHMED, Aysh KHALND)

Use in literature: There is very few of this type of plant in the literature study and writing but another type which is the same is used in many areas of health and food. The fruit is used as antiseptic, spice and condiment (Pirbalouti 2010). One type of plant like Heracleum Candicans is used as a treatment for a cough and sore throat (Ahmad et al. 2011). The fruit is used as an antiseptic, condiment and spice (Pirbalouti et al. 2012). The whole plant is used as an aphrodisiac and nerve tonic. The root is used for gynecological disorders, joint pain, and leucoderma. Its fruits are used as an aphrodisiac, nerve-tonic

and cicletanine (Gairola et al. 2014). The branches and petiole are mixed with cheese for changing the cheese taste (Kaval et al. 2015). It is used as a kind of food (Kılıç 2016). The flower is used as an antiepileptic (Farhadi et al. 2016).

15. ***Pimpinella anthriscoides*** Boiss. var. ***anthriscoides***

The vernacular names: **Alo, lo**.

Locality: Galala and Kwestan village, step, 36°40'54.82" N, 44°51'06.90" E, 2102 m, 11/05/2017, AMK34. Ir.-Tur. Elm.

Collection period: March-April

Parts Used: Above ground (Upper Parts)

Purpose of Use: Food.

Usage:

A) The young leaves and branches of the plant are eaten after being cooked with eggs and vegetable oils and also mixed with a glass of ayran or dough (Ibrahim AHMED).

B) The dried leaves of the plant are used with salt as a treatment for infections and wounds in the mouth (Chato MAMAND).

The use of literature:

The fresh stems of the plant are straightened after being cooked with eggs in oil. Also, the foods are eaten with ayran (Kaval et al. 2015). The fresh roots are chewed and eaten due to their calming and aphrodisiac effects (Jamil et al. 2012). The dried leaves are milled together with salt and powder to be taken orally as a mouth wound treatment (Abbasi et al. 2013). The leaves are used as spice and cooked as a stew or egg vegetable dish. Also, the plant is eaten cooked with eggs in oil. The top of the soil joins the ayran food. The top of the ground is covered with cheese (Kaval et al. 2015). The fresh stem of the plant are streaked with eggs in oil (Mükemre et al. 2015).

16. ***Pimpinella eriocarpa*** Banks & Sol**.**

The vernacular name: **Zira**.

Locality: Weza village, step, 36°35'23.30" N, 44°59'21.65" E, 1945 m, 10/06/2017, AMK64.

Collection period: May-June

Parts Used: Stem-Root (Upper Parts)

Purpose of Use: Food-Treatment

Usage:

A) Using the immature fresh root and branch parts of the plant as raw for bronchitis disease is recommended (Karim RASUL).

B) The root part of the plant is boiled in water to be drunk as a treatment for stomach aches (Mohammed AMIN).

Use in the literature: The aerial part is eaten as a food (Akan et al. 2013). Whole plant is also edible (Abbas et al. 2016).

17. *Smyrnium cordifolium* Boiss.

The vernacular names: **Qalandor**.

Locality: Kawshan village, step, 36°40'43.16" N, 45°0'15.66" E, 1552 m, 07/05/2017, AMK17.

Collection period: April-May

Parts Used: Stem (Upper Parts)

Purpose of Use: Food and Treatment

Usage: The young fresh body parts of the plant are eaten by people. Further, its steam is used such as a treatment for stomach ache (Karim Rasul).

Use in the literature: The fruit is standing against midwife and shortness of breath but the leaf and the root are urine enhancer while rosette leaves are used by ornamental flowers (Kaval et al. 2015). Aerial part and seeds are used as a treatment for urinary ducts and prostate problems as well as gynecological disease (Mosaddegh et al. 2012). Upper Parts and root, on one hand, are used as a treatment for indigestion, stomachic, gynecological disease, urinary ducts and prostate problems. On the other hand, the seeds have a bitter aromatic, hot effect, tonic, and act as antihelmintic, antipyretic, and anti-worm. Further, the roots and the stems are used as a consumed food regardless of their being raw or cooked (Amiri and Joharchi 2013). The stem is used as a treatment for indigestion and stomach ache (Ghasemi et al. 2013). The whole plant is used as a treatment for fever, inflammation and circulatory system disorders (Shahrokhi et al. 2013). The young stems are peeled and eaten as a kind of fresh vegetable (Okafor et al. 2014). The Seed is used for lowering blood pressure (Ahmadi et al. 2016).

6. ARACEAE

18. ***Arum dioscoridis*** Sm. var. ***syriacum*** Engl.

The vernacular names: **Kardi, Kahri, Kardu**.

Locality: Kawarta village, Maydan, Mountain, 36°37'55.05" N, 44°51'25.34" E, 1067 m, 20/04/2017, AMK7. Ir.-Tur. Elm.

Collection period: April-May

Parts Used: Above ground (Upper Parts)

Purpose of Use: Food and Treatment

Usage:

A) The young stems are collected particularly from the mountain during spring season. After bringing back home, it will be cut then scalded and tasted. It is also possible to dry and put it into ayran and rice dishes. Later on, it will be consumed as winter tasty foods especially during winter (Halima DARWESH).

B) Using foods banned from this plant as a treatment for cancer is advisable (Galawezh QADIR, Chato AGHA).

C) It is economically a source for earning one's living for the villagers when the villagers collect this plant in the mountains and sell it in the grocery market or on a general road to Choman (Sirwan OMAR).

D) Some people buy this plant in the grocery market and store it in the refrigerator and freeze it to be consumed in the winter (Amina DARWESH)

Use in the literature: Arum leaves are used either in the process of preparing Dolma dish wrapping rice (famous Middle Eastern dish) or chopping and mixing with eggs to prepare omelets (Ahmad and Askari, 2015). This edible plant is very important because it has both nutritional and medicinal values and it is acting as antioxidant. Thus, it plays an important role in the prevention of cancer and coronary heart disease. The paper is grounded and topically used for wounds (Jaradat and Abualhasan 2016). The dried leaves are boiled in water and its decoction is to be orally given before meals as a treatment for liver and stomach diseases (Jaradat et al. 2016). Aerial part is used both as food and treatment (Furkan 2016).

7. ASTERACEAE (COMPOSITAE)

19. ***Achillea kotschyi*** Boiss.

The vernacular name: **Bezhan**.

Locality: Weza village, near main road, Wetland, 36°35'21.00" N, 44°59'18.85" E, 1937 m, 10/07/2017, AMK118.
Collection period: June-July
Parts Used: Flower
Purpose of Use: Treatment and Handicraft.
Usage: It is used as an ornamental and used as a gift from lovers. (Amina DARWESH).
Use in literature: being infused, the flower and the leaves are used as treatment for hemorrhoid pain (Fakir et al. 2016).

20. ***Acroptilon repens*** (L.) DC.
The vernacular name: **Ziba**.
Locality: Merga village, near mosque, Grassland and steppe, 36°35'32.59" N, 44°50'14.41" E, 1220 m, 22/06/2017, AMK68.
Collection period: June-July
Parts used: Above ground
Purpose of use: Treatment
Usage: This plant is used as a kind of treatment for the infertility of married couples who are required to inhale in the bathroom then perform the intercourse process (Abdullah Rasool).
Use in the literature: The aerial part of the plant (the upperground part) is used as a treatment for stomach ache, diarrhoea and digestion problems whenever it is orally infused (Pawera et al. 2016).

21. ***Anthemis coelopoda*** Boiss. var. ***bourgaei*** Boiss.
The vernacular names: **Baybun, Gula hacila, Saqit Nacih**.
Locality: Kawarta village, Kroska trsh, steppe, 36°37'08.00" N, 44°51'58.11" E, 1137 m, 16/04/2017, AMK1.
Collection period: April-May
Parts Used: Flower
Purpose of Use: Treatment
Usage:
A) The flowers are used as a material for make-up for women's (Awla BRAYM, Fryad AZAD).

B) The flower of this plant is the best Treatment for human (Anwar AHMED).

C) Used as a treatment for Diarrhea in children (Karim ABDULLA, Gulchin SAID).

Use in the literature: The flowers are used as a treatment for gastralgia, digestive disorder, conjunctivitis, dysmenorrhoea, cold, cough, gases female genital infection, kidney stones and eye infection (Benítez et al. 2010). Flower decoction is used as a treatment for cough tonsillitis dyspnoea, common cold, asthma, polyps, flatulen, abdominal pain, and pharyngitis. It is also used as a kind of removal of black pigments on face, facial, rash, skin burns and hair damage (Mati and de Boer 2011). The flower acts as a treatment for eczema, antitussive, anticatarrhal, hair tonic, colic, and menstrual pains (Amir and Joharchi 2013). Being used for washing hairs, the flower treats hair loss especially whenever it is decocted with Ziziphus leaves (Mosaddegh et al. 2012). The flower decoction or infusion is used as an antipyretic for treating deporvate, cold, anti-rheumatism, and also as a shower for the treatment of colitis, as gargle for the treatment of vaginitis, gingivitis, inflammation of the tongue and inflammation of constellations (Al-douri 2014). After the decoction process is carried out for the leaves and flowers, they are used as a treatment for hypertension, stomach inflammation, blood circulation, kidney stones, intestinal worms, cough, anxiety, diuretic, headache, abdominal pain, hair loss, and sore throat (Ahmed 2016). The herbal tea prepared from plant flowers is used as gastric ulcer treatment, muscle spasms, anemia, inflammation mouth, and teeth. Moreover, it is used against allergies. Likewise, it regulates menstrual cycle in women and decreases pain. Whenever it is mixed with vinegar, it could be drunk so as to increase sexual strength and it could be used as a treatment for dissolving kidney stones. The plant oils are used as ear pain therapy by adding two drop into it (Amin 2016). The flowers are used as a treatment (Moradi et al. 2016). The flower is used as a treatment for lowering blood pressure (Pourjabali et al. 2017).

22. ***Arctium lappa*** L.

The vernacular names: **Zragana, Musaka**.

Locality: Weza village, near main road, Mountain, 36°38'14.76" N, 44°52'54.55" E, 1179 m, 03/06/2017, AMK101.

Collection period: June-July

Parts Used: Seed.

Purpose of Use: Treatment

Usage:

A) Being boiled in water and being purified, the seed part of the soil is ready for drinking as a treatment for shortness of breath and diabetes (Chato AGHA).

B) Whenever the boiled plant flower is purified, the purified water could be taken as a treatment for kidney stones and be reducing pain (Saiid AGHA).

Use in literature: The roots are used as a treatment for an expectorant, antitussive, emollient, diuretic, anti-inflammatory; digestive and renal disorders, cough, bronchitis, wounds, and sores (Thomsen et al. 1996). The root is used as a treatment for menstrual pains, and it acts as depurative and diuretic. It is possible for the raw stem is to be eaten before blooming (Menale et al. 2006). The leaf is used as a treatment for ulcers and fester wounds (Jaric et al. 2007). The roots are used as a treatment for an expectorant, antitussive, emollient, diuretic, anti-inflammatory; digestive and renal disorders, cough, bronchitis, wounds, sores (Tita et al. 2009). The root extract is used as a diuretic, diaphoretic, in gout and skin emotions. The dye of the seeds is used for psoriasis and dental pain (Sharma et al. 2010). The leaves and roots are used as a treatment for depurative, diuretic cholagogue and hypoglycemic (Amiri and Joharchi 2013). The fruit is used as an antidiabetic (Bahmani et al. 2014). The root is used as a treatment for antiphlogistic, depurative, diaphoretic, and diuretic in addition to removing kidney stone (Gairola et al. 2014). The young stems are eaten by children after being peeled (Dolina and Łuczaj 2014). The very young leaves are used as soup. The roots and flowers are also used as a treatment for fever, respiratory infections and blood thinner whenever it is decocted and infused (Bellia and Pieroni 2015). It is used as a treatment for rheumatic disease (Zarei et al. 2017).

23. ***Artemisia absinthium*** L.

The vernacular name: **Gyaband**.

Locality: Weza village, near main road, Mountain, 36°35'20.46" N, 44°59'16.76" E, 1939 m, 10/07/2017, AMK93.

Collection period: June-July

Parts Used: Above ground

Purpose of Use: Treatment

Usage:

A) The Upper Parts of the soil which is boiled in water is to be purified to be ready for drinking as a kind of treatment of shortness of breath and diabetes (Dlawar OMER).
B) The plant flower is boiled in water. Then, the purified water is taken as a treatment for kidney stones and reducing pain (Zrar ABDULLA).
Use in literature: The flowering and leafy branches are used especially as a force giving, appetizing, fever reducing, and urine enhancer. Further, the soil is laid beneath the ground exhibits to protect the houses (Gümüş 1994). Dried flowers are directly used or by boiling them to relieve stomach aches (Duran 1998). Dried flowers and foliage of midi are tonic, appetizing, antipyretic and as an increasing urine treatment. There are also wolf-reducing and menstrual effects (Baytop, 1999). Leaves, flowers and body parts which are boiled with milk are used to deal with the calcined body parts. In addition, it turns into the tea which is made and drunk as an appetizer (Altan et al. 1999). Flowering and leafy branches are used for colds, hemorrhoids, to reduce intestinal worms and tapeworm, intestinal laziness, pour sand from the kidneys and bladder, activate the heart, prevent hair loss, and bile remover which is recommended against cystitis and diabetes (Maly et al. 2004). Leaf is roasted and consumed (Doğan et al. 2004). It treats diabetes. The leaves of the plant are boiled to drink water (Onar 2006). The plant is used for medical purposes (Buy et al. 2006). The aerial parts are turned into maceration and are used with alcohol. Its root bark stripped water is absorbed. The decoction and infusion are prepared to be used against diabetes, hemorrhoids and abdominal pain (Oral 2007). The water of the leaves of the plant which are boiled is to be drunk for diabetes (Uysal et al. 2010). The Upper Parts of the soil is cold and the water is kept for cold and it is drunk after a while. Taking a great deal of it has a poisonous effect. It is known for its loss of appetite, digestive difficulties and biliary incontinence (Bulut et al. 2016).

24. *Carduus pycnocephalus* L.

The vernacular name: **Kangra kara**.
Locality: Kawarta village, Grankan, Grassland and steppe, 36°37'15.03" N, 44°51'59.28" E, 1166 m, 10/06/2017, AMK63.
Collection period: May-June
Parts Used: Above ground (Upper Parts)
Purpose of Use: Fodder
Usage:

A) The Upper Parts of the plant is also possible to be used as fodder for animals (Ahmed MAHMOOD, Ialy MUHAMMED, Faroq ALI).

B) The seed of plant is used as a food (Jawhar SHEKHA, Sharif MALA)

Use in the literature: The stem is consumable as a kind of food and can be eaten freshly after being peeled (Akan et al. 2013; Okafor et al. 2014; Kılıç 2016). Whenever all parts of the plant are pounded and mixed with straw, the animals could use of it as fodder (Korkmaz et al. 2016).

25. ***Centaurea behen*** L.

The vernacular names: **Tali, Talka**.

Locality: Merga village, Kalashinan, near zewala waterfall, Grassland, 36°37'06.88" N, 44°51'47.86" E, 1140 m, 27/06/2017, AMK77.

Collection period: June-July

Parts Used: Leaf

Purpose of Use: Treatment

Usage:

A) The plant is used for stomach colic treatment, by boiling the leaves in water the same as a tea after that drinking a glass of it before the breakfast (Chato AGHA).

B) The whole plant is used as a fuel for fair in the mountain (Ibrahim AHMED).

Use in the literature: The root of this plant is used as an aphrodisiac (Amiri et al. 2012). The root of this plant is used as an aphrodisiac and anti-lithiasis (Amiri and Joharchi 2013).

26. ***Centaurea virgata*** Lam

The vernacular name: **Gralk**.

Locality: Merga village, Kani purakhaj, near main road, Grassland and steppe, 36°35'30.36" N, 44°50'21.12" E, 1215 m, 22/06/2017, AMK70. E.Med.Elm.

Collection period: June-July

Parts Used: whole plant (Above ground)

Purpose of Use: Fodder and Handicraft

Usage: It is used as a broom to clean the house by the villagers. Also, aerial parts of the plant are used as feed for animals and are stored to be used as feed during the winter season (Abdullah RASUL).

Use in the literature: It treats stomach ache whenever it is infused and it is also used for vulnerary, antiallergic and jaundice (Altundag and Öztürk 2011). The whole parts of the plant are used as an animal fodder (Korkmaz et al. 2016).

27. *Cichorium intybus* L.

The vernacular name: **Chaq chaqa**.

Locality: Weza village, near main road, Wetland, 36°35'21.00" N, 44°59'18.85" E, 1937 m, 10/07/2017, AMK118.

Collection period: June-July

Parts Used: Flower

Purpose of Use: Treatment

Usage:

A) Milk water that flows from the roots of the plant is dripped to cut off the resulting sanguis of the abdomen (Halima DARWESH).

B) The upper part of the plant is used as a treatment for the prostate disease and lower blood pressure, by collecting it and drying under the shadow, after that boiling and drinking the water before the breakfast (Abdulla DOGHA).

Use in literature: It is used as a disease treatment and digestive stimulant (Koleva et al. 2015). The decoctions of flowers and roots are used for antipyretic and antiseptic anemia (Al-Aboudi and Afifi 2011). The underground part is grated and roasted as a coffee substitute, and it is used even today in Transylvania for the same purpose (Dénes et al. 2012). The fresh leaves are taken orally after being decocted as a treatment for fever, gas trouble, and body swelling (Abbasi et al. 2013). The decoction of fresh root is used as a treatment for fever (Akhtar et al. 2013). Traditionally, they are used in several countries such as Turkey. The root decoction of this plant is used as a treatment for cancer, kidney stones while the leaf is used as an ointment for wound healing but the tea of the aerial part is used as a treatment for haemorrhoids and urinary disorders. Also in Iran the whole plants are used as a treatment for eupeptic, stomachic, depurative, choleretic, laxative, hypotension, tonic, and antipyretic (Street et al. 2013). The sub-plant parts of the plant are used in intestinal diseases (especially bowel cancer). For the treatment, 2 - 3 roots from a plant are boiled in half a liter of water. Drink filtered water every day. This process is repeated after breakfast every day for 10-20 days (Nadiroğlu and Behçet 2017).It is used as a treatment for the rheumatic disease (Zarei et al. 2017).

28. ***Cynara cardunculus*** L. var. ***scolymus*** L.

The vernacular names: **Qalaghan, Artishu**.

Locality: Kawarta village, Pawan and barikapran, steppe, 36°37'04.98" N, 44°51'31.64" E, 1211 m, 01/08/2017, AMK113. Mediterranean.

Collection period: June-July

Parts Used: Above ground

Purpose of Use: Food-Treatment

Usage:

A) The Upper Parts of this immature plant is used as a salad (Chato AGHA).

B) The upper part of the plant is used as a treatment for kidney stones and pain reduction, after collection, drying under shade, and boiling it can be drunken water before breakfast for two days (Saiid AGHA).

Use in literature: The aerial parts are used as a treatment for fever, kidney malfunction, gall-bladder infection, hypercholesterolemia and liver disease (Benítez et al. 2010). It is used for weight loss (Conde et al. 2014). The roots are used as a treatment for diabetes and stomach pains (Meddour and Meddour-Sahar 2015).

29. ***Echinops orientalis*** L.

The vernacular names: **Sarkatashy, Kartashy**.

Locality: Kawarta village, Barikapran, Grassland and steppe, 36°37'05.98" N, 44°51'31.68" E, 1210 m, 04/06/2017, AMK46. Iran-Turan.

Collection period: May-June

Parts Used: Leaf-Flower

Purpose of Use: Fodder andTreatment

Usage:

A) The fresh fruit of the plant is eaten after peeling (Karim RASUL).

B) The plant is used as a fodder for animal (Amina DARWESH).

Use in literature: The fresh fruit of the plant is used as antitussive, antiasthmatic, pharyngitis and febrifuge (Amir and Joharchi 2013). The flowers on the capitulum are to be removed but the rest is edible (Akan et al. 2013). The floral receptacle is freshly eaten (Kaval et al. 2015). The dried flowers and axis could be eaten (Kılıç 2016).

30. ***Gundelia tournefortii*** L. var. ***tournefurtii***

The vernacular names: **Kangr, Qngir**.

Locality: Kawarta village, Pawan, Grassland and steppe, 36°37'04.92" N, 44°51'31.64" E, 1216 m, 06/06/2017, AMK47. Ir.-Tur. Elm.

Collection period: May-June

Parts Used: Stem, Root, and Seed

Purpose of Use: Food and Treatment.

Usage:

A) In the spring, the villagers go to the mountains and collect this plant, and then sold it in markets and grocery stores. Some villagers collect this plant in spring and store it in the frozen to eat it during winter (Halima DARWESH).

B) Though the root is the best part used as human food, the seed of the plant is also edible Further, whenever it is mixed with yogurt, it participates in preparing the best dinner. Also, it is used as a treatment for diarrhea (Abdulla Rasul).

C) The villagers who search the mountain for this plant are able to collect amount of the plant as well as the seeds and this will enable them to buy them in the grocery markets or on the highway roads (Amina DARWESH).

Use in the literature: The young plants are freshly eaten or boiled or fried with eggs and onions to make the Kurdish food named kinger Masie or kinger kabab. The woody dry fruits are salted and roasted. Their edible seeds and their leaves are used in roasts, salads, and pickles and they are sold in Kurdistan and neighboring countries. The aboveground green parts of the mature plant are cut, dried, and crushed into coarse pieces to be used as fodder for animals. (Dogan et al. 2004; Ahmad and Askari 2014). It is used as a treatment for diarrhea (Cakilcioglu and Turkoglu 2010). The leaves are boiled in water for 20 minutes then settled and placed in bags in the freezer (Hinnawi 2010). It acts as anti-parasite for the digestive system (Mosaddegh et al. 2012). The roots are used as a laxative and emollient after decocting it (Al-Aboudi and Afifi 2011). The latex of the plant is used as a treatment for edema practically. The seed, latex, root, and stem are used as a treatment for colds, catarrh, toothache diabetes, edema kidney pains, vitiligo, orexigenic after decocting them (Altundag and Öztürk 2011). The root is used as a food and gum (Akan et al. 2013). The aerial part is used for the liver tonic and it is a treatment for hepatitis. Also, the young stems, and cleaned of spines are used in most cases especially when it is boiled with legumes or fried (Amir and Joharchi 2013). The fruit portion is

consumed as skin disorders, eczema and hemorrhoids after roasting (Ari et al. 2015). The stem, root, and seeds are used as a treatment for catarrhs and cold, fever, diabetes, kidney pains, and constipation. The latex of this plant is also used as a vitiligo, edema, toothache, and inflammation (Baydoun et al. 2015). The latex used as a gum and the young shoot is eaten freshly after being peeled or cooked as a meal and freshly eaten (Dogan and Tuzlaci 2015). The aerial part is cooked as a stew or egg vegetable dish, and eaten by removing its awns but the obtained gum is chewed (Polat et al. 2015). The leaf is used for reducing blood fat, and the leaves besides the stems are also used as a treatment for diabetes (Ahmadi et al. 2016). All parts are used for memory enhancement (Al-Snafi 2016). The aerial parts and latex are used as a chew and animal feed (Kılıç 2016). The aerial part extraction is used as an oral treatment for hyperlipidemia (Mosaddegh et al. 2016).

31. ***Helichrysum plicatum*** DC.

The vernacular name: **Gularun**.

Locality: Shore village, near main road, Grassland, 36°41'56.60" N, 44°54'37.65" E, 1816 m, 06/07/2017, AMK87.

Collection period: June-July

Parts Used: Above ground

Purpose of Use: Ornamental and Treatment

Usage:

A) This plant is used as an ornamental and putting on the table for decoration. Likewise, it is climbing the roofs, and walls (Chato AGHA).

B) The plant flower is to be boiled in water; the boiled water is to be purified so as to be drunk as a treatment for diarrhea, intestinal disease, kidney stones and reducing pain (Saiid AGHA).

Use in literature: The flowering branches are used as urine, bile extractor, and sand reducer. Above-ground parts of the plant are used especially to relieve kidney sores. Dry branches are preserved as ornamental. Flowers are used in a hemorrhoidal treatment of hands and feet. The plant is boiled and drunk for kidney disorders. Flowers are taken as infections against diarrhea and internal sores. The flowers are blended with barley grain in deaconate for wounding and sprinkled on the wound. Even after drying, it is placed in an empty vase and left in front of the glass since it won't be deformed for a long time. It is used against cholesterol and diabetes to get rid of kidney stones. Decorations and

infusions of flowers are used after being prepared. That is, the prepared infusion is used to pass the genitalia while the prepared decoction is used to reduce the rate of the stones in the kidneys. The prepared decoction is able to be drunk like tea to reduce the rate of sugar (Kaval et al. 2014). The whole plant infusion behaves like tea and could be used as a diuretic to crash kidney stone and against stomach ulcer (Ozudogru et al. 2011). The flower is used as a treatment for intestinal disease, kidney stones, nephralgia, diabetes, diuretic, stomachic, anti-depressant, cough and diarrhea (Altundag and Öztürk 2011). The Capitula is used as an ornament (Behçet and Arik 2013). The flower is used as a treatment for diabetes disease, hepatitis, and kidney stones (Polat et al. 2013). The whole parts of the plant are used as a treatment for stomachaches, and as a digestive, diuretic, appetizing, anti-diarrheal, cardiotonic and anti-moths. It is also used as a treatment for kerato-conjunctivitis affecting sheep (Pieroni et al. 2014). The aerial parts (above ground parts) are used as a treatment for urinary system (Bulut et al. 2017).

32. *Lactuca serriola* L.

The vernacular names: **Talishk, Gya kaw**.

Locality: Kawarta village, Barikapran, Grassland and steppe, 36°37'13.26" N, 44°51'51.50" E, 1155 m, 01/06/2017, AMK43.

Collection period: May-June

Parts Used: Abouve ground.

Purpose of Use: Treatment and Fodder

Usage:

A) The plant secretion and a new leaf are used as a treatment for increasing the milk production from lactating women. Also, the infusion of the plant is used as a treatment for the wound (Abdulla DOGHA).

B) The whole plant is eaten by animals and it is the best fodder for the Partridge (Abdulla RASUL).

Use in the literature: The leaves are consumed as an ingredient of salad, as Basal leaves are consumed and eaten as salad (Dogan et al. 2004). The flower buds of the plant are eaten raw to lower blood pressure (Kaval et al. 2015). The aerial parts are used as a treatment for cold after being infused (Bulut and Tuzlaci 2013). The above ground part of the plant is used as food (Akan et al. 2013). The leaves are consumed as an appetizing and cholagogue (Dolatkhahi et al. 2014).The whole plant is used as a treatment for

expectorant, cough, phthisis, bronchitis and asthma (Kayani et al. 2014). The leaves are used within the salad (Ari et al. 2015; Polat et al. 2015). The leaves are consumed and eaten as a salad (Idolo et al. 2015).

33. ***Senecio vernalis*** Waldst. & Kit.

The vernacular name: **Zarda gul**.

Locality: Merga village, Kani purakhaj, near main road, Grassland and steppe, 36°35'30.36" N, 44°50'21.12" E, 1215 m, 22/06/2017, AMK70.

Collection period: June-July

Parts Used: Whole plant

Purpose of Use: Ornamental and Fodder.

Usage:

A) The plant is used as a kind of ornament. Also, it is used for treatment but not determined (Abdulla RASUL).

B) The plant is used as a fodder for animal, and seed is a food for birds (Haji HASAN).

Use in literature: The plant is a favorite food for rabbits and its seeds are preferable food for birds. It is medically of high value since the plant leaves and juice are depended on in a wide range in different medical conditions (Kakrani and Kalyani 1984). It has been widely used in the field of folk medicine (Fogelfors, 1984). It is a kind of herb that heals and stops bleeding especially during nasal bleeding and during menstruation period. It has anthelmintic, astringent, expectorant and hemostatic properties, and has been used as a useful method for dental treatment (Lesterang, 1977). The leaves, when sealed and strained in milk and sugar, help treating the red gums and the children who are in such trouble. It is useful for jaundice and getting rid of worms (Mitich, 1995). It is used as an anti-inflammatory (Altundag and Öztürk 2011). The fresh leaf and root are cooked as a kind of meal (Gürdal and Kültür 2014). The flowers are used to eliminate intestinal gas whenever it is infused (Kılıç 2016).

34. ***Silybum marianum*** (L.) Gaertn.

The vernacular name: **Drka**.

Locality: Kawarta village, Barikapran, Grassland and steppe, 36°37'05.98" N, 44°51'31.68" E, 1210 m, 04/06/2017, AMK45.

Collection period: May-June

Parts Used: Above ground

Purpose of Use: Treatment and Fodder.

Usage:

A) The whole plant is not eaten by animals (This plant is harmful to cattle and sheep. When the plant is eaten by ruminants, the bacteria in the stomach of these animals break the structure of the chemicals and produce ion nitrate. As a result, ion nitrate converts the hemoglobin into methemoglobin and transcends oxygen transfer. The result of these events is asphyxia or strangulation (The topic is found in Wikipedia).

B) This plant is beneficial for the bee to absorb the liquid flowing from its flowers. Also, the seed powder mixed with the sugar is used as a treatment for stomach ache (Abdulla RASUL).

Use in the literature: The young stems and branches of this plant are eaten by local people as wild vegetable (Ghorbani 2005). The shoot and flower are used as antipyretic, rheumatic pain, painkiller, and to increase ballast (Fakir et al. 2009). The aerial parts are used as a treatment for kidney stone (Amiri et al. 2012). The stem is orally used and the seed powder with sugar is used as a sedative, stomach reflux and galactogenic (Mosaddegh et al. 2012). The young shoot is eaten fresh or cooked with rice after the bark is peeled (Kızılarslan and Özhatay 2012). The seed extract is used for jaundice, febrifuge, anti-hepatitis and liver tonic (Amiri and Joharchi 2013). The seeds have been used for liver diseases. The seed extract and the flower are used to decrease blood pressure after the process of decoction (Dolatkhahi et al. 2014). The fruit and the leaf are used as a treatment for lowering the blood pressure (Ahmadi et al. 2015). The stem, flower and root are also consumble (Ahmadi and Samani, 2016).

35. *Sonchus oleraceus* L.

The vernacular name: **Kalababoka**.

Locality: Kawarta village, Barikapran, Grassland and steppe, 36°37'28.35" N, 44°51'40.28" E, 1707 m, 10/06/2017, AMK62.

Collection period: May-June

Parts Used: Above ground

Purpose of Use: Food and Treatment

Usage: The Upper Parts of the plant is boiled in water, mixed with egg and vegetable oil and grilling inside a fried, after that used as the best food (Amina DARWESH).

Use in literature: The leaves are utilized for preparing roast, meal, pie and salads (Dogan et al. 2004). The leaves that are mixed in salads or cooked are used as diuretic and laxative (Menale et al. 2006). Aerial parts are used as a treatment for haemorrhoid (Benítez et al. 2010). The aerial part is used as an anti-inflammatory, and antigotose. It is also used such as liniment for external vulnerary (Carrio et al. 2012). The whole parts of the plant are used as a fodder given to the cattle in an effort to increase and enhance the production of milk (Khan et al. 2013). Sonchus oleraceus is commonly used as a fodder. It is also used to treat a wide variety of infections. Sonchus oleraceus treats headaches, general pain, diarrhea, menstrual problems, fever, hepatitis, salmonella infection, wars, eye problems, liver infections, infections, inflammation, and rheumatism (Kaval et al. 2014). The leaves and latex are used as a treatment for diabetes, obesity, and eczema (Meddour and Meddour-Sahar 2015).

36. ***Tanacetum argyrophyllum*** (K. Koch) Tzvelev var. ***argyrophyllum***

The vernacular name: **Borzhan**.

Locality: Kawarta and Shore village, Grassland and steppe, 36°41'56.59" N, 44°54'37.66" E, 1820 m, 09/06/2017, AMK51.

Collection period: May-June

Parts Used: Above ground

Purpose of Use: Treatment-Fodder-Craft

Usage:

A) The flower of this plant is used as a treatment when boiled in water and its water is drunk (Abdulla RASUL, Sabrya MINA, Sadradin MUSTAFA).

B) This plant is used for decoration as it is placed on the wall, beautifies the wall, and gives a nice perfume to the cloths whenever it is spread to the cloths (Amina DARWESH, Salam ALI).

Use in literature: The capitulum of this plant is also used as a treatment for pulmonic disorders, anti-inflammatory, colds and antipyretic (Altundag and Öztürk 2011). The Upper Parts of the plant is boiled in water and the water is drunk as a treatment for diabetes. The plant in general is also possible to be used as animal feed. It is also used as part of the treatment of plant scabies (Kaval et al. 2014).

37. ***Tanacetum balsamita*** L. subsp. ***balsamitaides*** (Schult Bip.) Grierson

The vernacular name: **Chawspilka**.

Locality: Weza village, near main road, Wetland, 36°35'21.00" N, 44°59'18.85" E, 1937 m, 10/07/2017, AMK118.

Collection period: June-July

Parts Used: Flower

Purpose of Use: Treatment

Usage: The flower of this plant is used as a treatment for eye pain. It is also used as a medicinal plant, beneficial plant, tea herb and culinary herb (Abdulla RASUL).

Use in literature: Its usage is not mentioned in the literature.

38. ***Tragopogon pratensis*** L. subsp. ***pratensis***

The vernacular names: **Azpung, Azpun**.

Locality: Kawarta village, Kroska trsh, steppe, 36°37'08.00" N, 44°51'58.11" E, 1137 m, 16/04/2017, AMK21.

Collection period: April-May

Parts Used: Whole plant

Purpose: Food and Treatment

Usage:

A) The fresh leaves of the plant are edible whenever they are salted or mixed with the salad. Also, it is used as a treatment for a stomach ache (Abdulla RASUL).

B) The plant is used as a cleaner (Amina DARWESH).

Use in literature: It is freshly eaten as a treatment for a stomach ache (Altundag and Öztürk 2011). The young stalks are eaten as a snack (Kalle and Sõukand 2012). The whole parts of the plant are counted as a vegetable. It is eaten by putting the precipitate between the yukame. The young leaves are used for treating the midwife wounds. It is used externally for wart treatment. Leaves are used as food and animal feed. The young bodies are eaten after leaving their leaves in their fresh state. Leaves are eaten while they are fresh. It is boiled and the fresh flowers which are bloomed are eaten (Kaval et al. 2014). The young leaves are used as soups or boiled to make omelets (Bellia and Pieroni 2015).

8. ASPHODELACEAE

39. ***Asphodelus albus*** Mill.

The vernacular names: **Srelk, Astrelk**.

Locality: Kawshan village, Steppe, 36°40'00.20" N, 44°49'05.11" E, 2422 m, 07/05/2017, AMK26. Ir.-Tur. Elm.

Collection period: April-May

Parts Used: Whole plant

Purpose of Use: Food and Treatment

Usage:

A) The immature plant that is not blooming is used as a food. The process of preparing the plant as a meal starts from the mountain where it is collected then brought home where is cut with a knife. Later on, it is boiled in water through which one gets purified water. Then it is mixed with egg, and put on the fire inside a pan-fried. Thus, it is ready for eating in minutes. Likewise, it is used as treatment for abdominal pain (Halima DARWESH).

B) The villagers collect this plant in spring but store it in the refrigerator to be frozen and consumed in the winter (Halima AHMED)

C) As soon as the villagers collect the new stalk of the plant where they are found in the mountain, they bring to the city or the grocery markets to sell it for an amount of money (Fakhir SHORAY).

D) The root of this plant is used for the preparation and glue industry. That is, an amount of water is to be added to it whenever it gets dried and crushed. Then it is mixed to form the kneading through which it can be used to repair books (Amina DARWESH).

Use in the literature: Its usage is not founded in the literature.

9. BORAGINACEAE

40. ***Anchusa azurea*** Mill. var. ***azurea***

The vernacular names: **Gormza, Golmza**.

Locality: Kawarta village, Kroska trsh, steppe, 36°37'11.29" N, 44°51'54.91" E, 1135 m, 22/04/2017, AMK8. Ir.-Tur. elm.

Collection period: April-May

Parts Used: Above ground (Upper Part)

Purpose of Use: Food, Tea and Treatment

Usage:

A) The flower of this plant is used as a tea (Parwin RASUL, Aysh AHMED).

B) The process of preparing the plant as a meal starts from the mountain where it is collected then brought home where it is cut with knife. Later on, it is boiled in water through which one gets purified water. Then it is mixed with egg, and put on the fire inside a pan-fried. Thus, it is ready for eating in minutes. (Halima DARESH, Fatah ABABAKR).

C) The leaf of this plant is useful for dealing with the diffusion of the toxic for the snake bite (Nabi AZIZ, Amina DARESH).

Use in the literature: The decoction and the infusion of the flower are used as a treatment for sedative and cold (Ghorbani 2005). The flower is a kind of treatment for cough remedy. The fresh young leaves are also used as a treatment for disinfectant of urinary tract and antidiarrheal (Rivera et al. 2005). The flowers are sucked while the basal leaves are stewed for eating (Tardıo et al. 2005). The flowers are used as a treatment for gastralgia, but the root for cold, pain, injury and skin problems. Meanwhile, both the leaf and the root are used for kidney stones and sores (Benítez et al. 2010). The herbal tea which is made of the flower of this plant used as a treatment for diaphoretic, in stomachache, demulcent and diaphoretic (Cakilcioglu and Turkoglu 2010). The root and basal leaves are also used as a kind of treatment for women's sterility and vulnerary (Altundaga and Öztürk, 2011). The plant is also used as a treatment for diuretic and stomach-ache but after being infused (Cakilcioglu et al. 2011; Kilic and Bagci 2013; Kılıç 2016; Fakir et al. 2016). The honey essence contained in the flower is absorbable. In addition, bees benefit from pollen and nectar of the plant for their honey production (Kaval 2011). The aboveground part of the plant is used as a food (Akan et al. 2013). The leaves cure burns and insect bites whenever they got infused (Tetik et al. 2013). The plant is used as the herbal tea but the flower is boiled in water to making a tea which is used as a sedative, analgesic, diuretic, and sudorific (Al-douri 2014). The leaves are used as a treatment for burns and wounds after being infused (Hayta et al. 2014). To be edible, the leaves are cooked as vegetable (Dogan et al. 2004; Polat et al. 2015). The flower and root are used as a treatment for nervous system and asthma after being decocted (Naghibi et al. 2014; Mosaddegh et al. 2015). The fresh flowers are sucked for taste purposes (Kaval et al. 2015). The young aerial part is cooked for meal while the nectar of the flower is sucked (Behçet and Arik 2013; Dogan and Tuzlaci 2015). The fresh leaves of the plant

are boiled and put into dough for being as a food (Arı et al. 2015). The leaves are used as a treatment for cold, flu and stomach ache after being decocted (Mükemre et al. 2015). Both of the aerial and root parts are used as a treatment for antihypertensive, carminative, diabetes disease, digestive, rheumatism; and wound healing whenever it is decocted (Polat et al. 2015). The fresh leaves are eaten as a food after being decocted. The decoction of its leaves is used as a sedative, blood cleaner, kidney cleanser and urinary tract. It also increases the milk of lactating women and increases body immunity. The herbal tea is made from flowers is used to treat poisoning. They due to the presence of alkaloid material; It is harmful to pregnant women and children (Amin 2016).

10. BRASSICACEAE

41. ***Capsella bursa-pastoris*** (L.) Medik.

The vernacular names: **Peqala, Kunda shwana**.

Locality: Kawarta village, Kroska trsh, steppe and grassland, 36°37'05.58" N, 44°51'57.26" E, 1140 m, 16/04/2017, AMK2.

Collection period: April-May

Parts Used: Stem, leaf and Flower (Upper Parts)

Purpose of Use: Food and Treatment

Usage: The immature plant which is not flowered is used as a food. The process of preparing it for eating starts from the mountain where it is collected and brought home where it is cut, boiled, purified from water, mixed with egg and finally put on the fire inside a frying pan. Also, they are used as a treatment for abdominal pain by eating after decoction (Abdulla RASUL).

Use in the literature: The aerial part of the plant is used to stop the hemorrhage when it is put on a wound (Leto et al. 2013). It is used as an appetizer and as a treatment for astringent, and emmenagogue. It is also used as a treatment for liver protection, and muscular pains. The flower of this plant is useful for the herbal tea, and it is taken as an analgesic, sedative, sudorific, and diuretic (Al-douri 2014). The fruit is used as a treatment for urinary tract infection (Jaradat et al. 2016).

42. ***Descurainia Sophia*** (L.)Webb ex Prantl

The vernacular name: **Gula zarda**.

Locality: Warda and Delza village, Kwestan, Mountain and steppe, 36°40'54.82" N, 44°51'06.90" E, 2102 m, 31/07/2017, AMK99.Th.

Collection period: June-July

Parts Used: Above ground (Upper Parts)

Purpose: Ornamental-Presents

Usage:

A) The plant is used for decoration when it is put on the table or attached to the wall or roof (Chato AGHA).

B) The bouquet of the flower of this plant is used as gifts given by friends and lovers give to each other (Karim RASUL).

Use in the literature: The seeds are used as a treatment for fever and gastralgia (Ghorbani 2005). The powder of the young stems and seeds is used for gas problems and bowel disorders. It is a kind of analgesic when it is detected. Freshly collected leaves are taken with milk to reduce the high temperature (Ali and Qaiser 2009). The flowers, leaves, and seeds are used as a treatment for antiscorbutic (Sher et al. 2011). The seeds are used as a treatment for measles, constipation, stomach ache and skin rash. Meanwhile, the seeds are taken with saffron and cow milk or eaten with water and sugar (Mosaddegh et al. 2012). The seed is used as a blood and liver cleanser, febrifuge, jaundice and also as a treatment of laxative, furuncles, and anti-thirst (Amir and Joharchi 2013). In China, it is seen as a good source of proteins, amino acids, fatty acids, cholesterol, actin, flavonoids, heart glycosides, glucosinolates and other phenolic compounds. The seeds of this plant are used to relieve coughs, prevent asthma, reduce edema, promote urination and possess myocardium, antitumor, antipyretic, antioxidant, anti-inflammatory, diuretic, worms and analgesic activities. In addition, the seeds of this plant are a rich source for a variety of volatile oils (Khan et al. 2013). The seed is used as a syrup to cure dysentery and fever (Bibi et al. 2014). The flower, leaf, and seed are used as a treatment for chest complain and cough after being decocted or taking the form of powder (Kayani et al. 2014). The whole plant is used as a treatment for asthma and constipation (Abbas et al. 2016). The leaf is used as a treatment for fever while the seed is used as a treatment for bronchitis, chicken pox, dysentery and expectorant (Gairola et al. 2014). It is used as an anti-cancer (Baloch et al. 2016). The stem and leaves are used to make a broom (Korkmaz et al. 2016).

43. ***Hesperis persica*** Boiss

The vernacular names: **Shawbo, Shabo**.

Locality: Warda and Delza village, Kwestan, Mountain and steppe, 36°40'54.82" N, 44°51'06.90" E, 2102 m, 31/07/2017, AMK98.

Collection period: June-July

Parts Used: Above ground (Upper Parts)

Purpose: Treatment and Ornamental

Usage:

A) The flower has a good smell but spreads only at night, when they smelling it caused the rest and sedative the brain (Jawhar AMIN).

B) This plant is used for decoration and it is put on the table or attached to the wall or roof (Chato AGHA).

D) The bouquet of the flower of this plant is used as present's friends and lovers share (Karim RASUL).

Use in the literature: Its usage is not mentioned in the literature.

44. ***Lepidium sativum*** L.

The vernacular names: **Taratula, Taratiza**.

Locality: Kawarta village, Darade, cultivated, 36°37'13.60" N, 44°51'55.60" E, 1771 m, 26/05/2017, AMK41. Mediterranean region.

Collection period: April-May

Parts Used: Above ground (Upper Parts)

Purpose: Food and Treatment

Usage:

A) There are many ways to use this plant on the daily tables where it can be added to the green authorities and sandwiches and can be added into some varieties of soups and can be used as a daily juice either individually or in addition to other vegetables (Karim RASUL).

B) This plant is a natural treatment that can be used by people who suffer from anorexia or follow dietary diets to gain weight (Jawhar AMIN).

Use in the literature: The seeds are used as a treatment for abdominal pain (Berhanu, Asfaw, and Kelbessa, 2006). The seeds are used in constipation, children abdominal problems and female problems during giving birth. It deals with bleeding, uterine tumors,

menstruation, swelling and eye problems (Khan and Khatoon 2007). The leaves are dried; the powder is used for abdominal problems. Seeds are also used for colic (Ali and Qaiser 2009). The fresh leaves are given orally for liver problems and the seed paste is used for rheumatism (Singh et al. 2012). The seed extracts are used to protect the liver from damage (Kadam et al. 2012). The leaves are stimulant, diuretic, and antibacterial. It is useful for skin diseases, dysentery, diarrhea, semen, asthma and cough. It is also used as sag and beneficial for the treatment of cholera and abdominal pain. It can be administered to bring about an abortion (Khan et al. 2013). The seed of plant is used as appetizer, laxative, anthelmintic and sore throat (Amir and Joharchi 2013). The seeds powder is mixed with honey and one teaspoon of it is to be eaten every morning before breakfast to cure goitre (Sağıroğlu et al. 2013). The aerial part is used as a treatment for gastrointestinal diseases. The seeds are also used as a treatment for nephralgia and kidney stones (Sargın et al. 2013). The seeds powder is mixed with lemon and water to be taken orally to cure constipation and diarrhea. The seed paste is also useful for skin rash especially if it is rubbed on the skin (Amberber et al. 2014). The fruit is laxative and used for colic pain (Khan et al. 2015). The seed juice is for drinking (Kenea, 2015). The seed powder which is mixed with honey is eaten and used for aphrodisiac, diabetes and anemia (Akgül et al. 2016). The aerial part is used as a treatment for diarrhea, dysentery, skin, liver, renal disease, asthma, cough and cold, leukuria, scurvy and many other diseases. It is a diuretic, tonic, abortifacient, aphrodisiac, thermogenic, aminagoge, depurative, and ophthalmic (Raval 2016).

45. ***Nasturtium officinale*** R. Br.

The vernacular names: **Kuzala, Peez, Kozala, Tuzik**.

Locality: Kawarta village, Kani talasew, Aquatic, 36°37'31.47" N, 44°51'37.71" E, 1261 m, 09/05/2017, AMK29.

Collection period: March-April-May

Parts Used: Above ground (Upper Parts)

Purpose: Food and Treatment

Usage:

A) Watercress is used as appetizers before lunches and dinners to give appetite. It is also eaten nearly with all food. In addition, it reduces constipation in the stomach (Shukrya KHDIR, Swara HAMADAMIN, Halima DARWESH).

B) It is used as vegetables to be eaten nearly with all types of foods (Fatima BAWAKR, Amina DARWESH).

Use in the literature: The whole plant is consumed as salad. Being chopped, the leaves are incorporated into fruit and vegetable juice, cocktails, soups, and biscuits. It is also used as a treatment for asthma and tuberculosis, appetizer, laxative, and diuretic. It is believed to increase blood circulation. (Sharma et al. 2010). The entire plant is used as a food in the salad (Hinnawi 2010; Idolo et al. 2010; Shahbaz, 2012; Shad, Shah, and Bakht, 2013; Bellia and Pieroni 2015). The stem is used as a purgative, emetic and vegetables (Sher et al. 2011; Polat et al. 2015). The whole plant is cooked and used as a vegetable soup. It is also used as a treatment for tetanus (Ahmad et al. 2011). The whole plant is used as a vegetable and as a treatment for constipation, and stomachache (Ali et al. 2011). The aerial part is used as a treatment for Jaundice in children and for abortion (Mosaddegh et al. 2012). The young stem is used against constipation and stomachache (Akhtar et al. 2013). The aerial part is used as a treatment for diabetes and dyspepsia (Amiri and Joharchi 2013). The whole plant is used as a treatment for stomach ache and anti-parasite (Ghasemi et al. 2013). The aerial part is used as a treatment for antihypertensive, stomach-ache (Polat et al. 2013). The leaves are used to treat allergic problems, anti-allergic and spices (Ikram et al. 2014). The stem and leaves are used as a treatment for kidney stones by infusion it (Dolatkhahi et al. 2014). The whole plant is used as a treatment for circulatory system disorders and weakness (Shahrokhi et al. 2014). The stem is used as a vegetable and used for body pain and stomachache (Khan et al. 2015). The aerial raw parts are used as a salad added by vinegar and olive oil (Biscotti and Pieroni 2015). The stem and root are used as a treatment for rheumatism and bone diseases if it is decocted (Ahmed 2016). The aerial part is used as a treatment for antiparasitic, warm and wet nature (Mohammadi et al. 2016).

11. CAMPANULACEAE

46. ***Campanula reuterana*** Boiss. & Bal.

The vernacular names: **Gula Zangula, Gula wanawsh**.

Locality: Galazher village, near main road Wetland, 36°41'56.59" N, 44°54'37.64" E, 1876 m, 09/06/2017, AMK56.

Collection period: May-June

Parts Used: Flower

Purpose of Use: Ornamental

Usage: the plant flower is used for decoration and as an ornament when it is put on the table (Chato AGHA).

Use in the literature: in the literature not found the usage.

12. CANNABACEAE

47. ***Celtis tournefortii*** Lam.

The vernacular names: **Tawk, Tawe**.

Locality: Kawarta village, Kroska trsh, steppe and grassland, 36°37'12.48"N, 44°51'01.49"E, 1229 m, 29/07/2017, AMK97.

Collection period: June-July

Parts Used: Above ground (Upper Parts)

Purpose of Use: Food, Treatment and Fuel

Usage:

A) The Plant fruit is used as a food and consumed to make halvah. Also, it is used as a treatment for diarrhea (Amina DARWESH).

B) When the plant dried, they used as fuel in the winter. In some cases, the dried plant burns to prepare the coal (Karim ABDULLA).

Use in the literature: In the species Celtis australis; fruit is edible, also the wood is used in furniture, for timber and used as fuel (Ahmad et al. 2011). The fruit is eaten fresh as a treatment for diarrhea (Altundag and Öztürk 2011). The fruit decoction is used as a treatment for abdominal pain, colds, and flu (Polat et al. 2013). The fruit is eaten raw as constipation, as well as it is a treatment for cold, flu and abdominal pain (Hayta et al. 2014). The fruit is used as a treatment for amenorrhoea, colic complaints, and rheumatism. The seed has used a treat for amenorrhoea (Gairola et al. 2014). The mature fruit is eaten and it is crushed into a kind of halwa called "Poğin" in the region. Fruits are consumed as nuts. The body of the plant is used as a fuel. In addition, it is used for cover the houses, to make shelters for animals and to close the gardens (Kaval et al. 2014). The fruit is eaten fresh (Dogan and Tuzlaci 2015; Polat et al. 2015). The fresh fruits are eaten and consumed to make halvah (Kaval et al. 2015).

13. CYPERACEAE

48. ***Scirpoides holoschoenus*** (L.) Sojak

The vernacular name: **Pizok**.

Locality: Kawarta village, Sartu, Wetland, 36°37'12.47" N, 44°51'55.91" E, 1144 m, 08/05/2017, AMK27.

Collection period: April-May

Parts Used: Whole plant (Above and underground)

Purpose of Use: Treatment, Fodder, and Handicraft

Usage:

A) The above ground part of this plant is used as a connector to bind bouquets wheat, barley, and grass after harvesting. It is a kind of fodder for animals (Mala HASAN).

B) The root is used as a treatment for urinary incontinence particularly, by boiling the root in water and the purifying after that has been drinking (Abdulla RASUL).

C) Drinking the purified water of the boiled roots is enhancing the sterility of men and women (Abdulla DOGHA).

Use in the literature: Its usage is not mentioned in the literature.

14. DIPSACACEAE

49. ***Cephalaria syriaca*** (L.) Schrad. ex Roem. & Schult.

The vernacular names: **Ziwan, Zivane**.

Locality: Kawarta village, Kroska trsh, steppe and grassland, 36°37'13.60" N, 44°51'55.60" E, 1170 m, 26/05/2017, AMK42.

Collection period: April-May

Parts Used: Seed (Upper Parts)

Purpose of Use: Food and Treatment

Usage:

A) It is a harmful grass as it grows in the field of wheat and barley and reduces wheat and barley products (Abdulla Rasul).

B) Its seeds are used as a treatment for diabetes (Abdulla DOGHA).

Use in the literature: The aerial parts are used as a treatment for inflammation when it is infused (Al-Aboudi and Afifi 2011). After the young skin/cortex/peel of the plant is cut

with a sharp knife, it cures the incisions (wound cuts). The top parts of the plant are regarded as animal feed (Kaval et al. 2014). The whole plant is used for making broom (Behçet and Arik 2013). The stem of this plant is used as a treatment for skin hemorrhage wounds if a person drinks the juice extracted from it (Baydoun et al. 2015).

15. EUPHORBIACEAE

50. ***Euphorbia virgata*** Waldst. & Kit.

The vernacular name: **Shirshiroka**.

Locality: Kawarta village, Kroska trsh, steppe and grassland, 36°37'12.86" N, 44°51'55.46" E, 1165 m, 10/05/2017, AMK32.

Collection period: May-June

Parts Used: Above ground and Excretion

Purpose of Use: Treatment

Usage: The body of this plant excretes liquid (like milk) which is used as a treatment for allergy (Parwin RASUL).

Use in the literature: The flowers are used as a treatment for eczema if the affected part is directly covered by it (Altundag and Öztürk 2011). Some spices of this plant are used as a treatment for anthelmintic, toothache, and asthma (Gairola et al. 2014).

16. FABACEAE

51. ***Glycyrrhiza glabra*** L.

The vernacular name: **Memuk**.

Locality: Kawarta village, Barikapran, steppe and grassland, 36°37'13.36" N, 44°51'51.56" E, 1157 m, 23/06/2017, AMK74.

Collection period: May-June

Parts Used: Whole plant (Above and aunderground)

Purpose of Use: Juice and Treatment

Usage:

A) Roots are used to make juice because they contain/provide a very sweet taste. Also, it is used as a treatment for anemia (Ibrahim AHMED).

B) This is a harmful plant grown by farmers in the villages as it causes growth shortages (Amina DARWESH).

Use in the literature: Leaf and Root are used as a treatment for gastralgia, gastric ulcer, haemorrhoids, liver disorders and muscle spasm (Ghorbani 2005). Roots are used to treat constipation and cold (Benitez, Tejero, Mesa, 2010). The root powder is used as a treatment for skin sores and sores in the mouth while the roots juice is used as a treatment for stomach ulcers, and rheumatism. It is also a treatment for bacterial and microbial infections, treatment and controller of hepatitis, and against cancerous nodules and melanomas (Gharib et al. 2010). Roots being decocted are used whenever a pen is felt to cure pneumonia, sour eructations, kidney pain duodenal inflammation and abdominal pain (Mati and de Boer 2011). Leaf and root are used as a treatment for bone pains and dyspnea via putting the leaf on the aching point or through cooking and applying concentrated decoction of root as a liniment to the aching point (Mosaddegh et al. 2012). Roots are used to treat cold and cough after the decoction process (Leto et al. 2013). Roots are used to treat antitussive, antacid, tonic, gastric ulcer, hypotension and anemia (Amir and Joharchi 2013). Roots and leaves being extracted after boiling or turning it into spices are used as a treatment for influenza, bronchitis, respiratory diseases, analgesics, gastrointestinal diseases and smoking addiction (Sargın, Akçicek, Selvi, 2013). The air and root parts of this plant are used as a treatment for peptic ulcer and gastritis by decoction (Bahmani et al. 2014). Roots are used to treat allergy, dyspepsia, peptic ulcer, general tonic, cough, bronchitis, rheumatic disorder, hypoglycemia, laxative and asthma after decoction process (Naqishbandi 2014). It is used as a treatment for a cough, gastric ulcer, liver cirrhosis, abdominal injury, rheumatism and oral herpes (Ahmed 2016). The root of this plant is used as a treatment for enuresis through adding root powder to the water and drinking it five times per day (Jaradat et al. 2016).

52. ***Medicago rigidula*** (L.) All.

The vernacular names: **Wenja, Yunja**.

Locality: Kawarta village, Kroska trsh, steppe and grassland, 36°37'15.86" N, 44°52'47.29" E, 1261 m, 24/05/2017, AMK40a.

Collection period: May-June

Parts Used: Above ground

Purpose of Use: Food and Fodder

Usage:

A) In the spring, the villagers cut off this plant and tied it as bouquet. It is dried under the sun and collected to be stored in order to be used in the winter as animal feed for goats, sheep, and cows (Amina DARWESH).

B) The immature plant which is not blooming yet is used as food for making soup (Halima DARWESH).

D) Besides the forests, some farmers grow it in the house garden. It is collected and dried in the spring season but gives to the animals in the winter as food (Karim ABDULLA).

Use in the literature: Chinese have use this herb to treat digestive problems. It also helps and stimulates appetite. Hindus have used it as a treatment for combat ulcers, arthritis pain and fluid retention. Native American Indians used it to treat jaundice and to promote blood clotting to avoid excessive blood loss. The first settlers used it to treat cancer, arthritis and painful boils. It is also assumed to treat scurvy and urinary tract problems. Old women considered it a means of achieving the menstrual period. Further, it is a tonic that treats anemia, indigestion, loss of appetite, and it is used as an anesthetizer for anemia, and poor absorption of nutrients. In the viewpoint of the old women, it is recommended to be used for stimulating breastfeeding of lactating (nursing) mothers, and the seeds were turned into cmd to treat boiled and insects bites (Jasjeet et al. 2011).

53. ***Medicago sativa*** L. subsp. ***sativa***

The vernacular name: **Winja**.

Locality: Kawarta village, Kroska trsh, steppe and grassland, 36°37'15.86" N, 44°52'47.29" E, 1261 m, 24/05/2017, AMK40b.

Collection period: May-June

Parts Used: Above ground

Purpose of Use: Food and Fodder

Usage:

A) The immature plant which is not blooming yet is used as food for making soup (Halima DARWESH).

B) In the spring, the villagers cut off this plant and tied it as bouquet. It is dried under the sun and collected to be stored in order to be used in the winter as animal feed for goats, sheep, and cows (Amina DARWESH).

C) Some people use the above-ground part of this plant to prepare the soup or the salad while the rest parts are used as a vegetable consumed with the food.
Use in the literature: Its usage is not mentioned in the literature.

54. ***Pisum sativum*** L. subsp. ***elatius*** (M. Bieb.) Asch. & Graebn. var. ***elatius***
The vernacular name: **Kalya khatuna**.
Basla (Arabic name); Nkhud farangi (Persian name), Colhatun, Collik (Turkish name); Pisum, Pea, Matar, Motor, Erbse, Ater, Bezelye, Borso (English name)
Locality: Kawarta village, Sarukani, grassland, 36°37'15.03" N, 44°51'59.28" E, 1166 m, 30/04/2017, AMK40a.
Collection period: April-May
Parts Used: Above ground
Purpose of Use: Food and Fodder
Usage:
A) The Fruit of the plant is eaten by freshly (Hajar AMIN).
B) The Plant is used as animal feed (Amina DARWESH).
Use in the literature: The fruits are edible and used as vegetable without cooking (Khan et al. 2013). The aboveground parts of the plant are consumed as human food and animal fodder (Akan et al. 2013). The seed are consumed as a vegetable whereas the leaves are used as a fooder for the cattle. Likewise, the dry form of the plant is also used as a source of fuel (Khan et al. 2015).

55. ***Pisum sativum*** L. subsp. ***elatius*** (M. Bieb.) Asch. & Graebn. var. ***pamilio*** Meikle
The vernacular name: **Kalya khatunay sur**.
Locality: Kawarta village, Sarukani, grassland, 36°37'15.03" N, 44°51'59.28" E, 1166 m, 30/04/2017, AMK40b.
Collection period: April-May
Parts Used: Above ground
Purpose of Use: Food and Fodder
Usage:
A) The Fruit of plant is eaten freshly (Hajar AMIN).
B) The Plant is used as animal feed (Amina DARWESH).

Use in the literature: It is the same as the ***Pisum sativum*** L. subsp. ***elatius*** (M. Bieb.) Asch. & Graebn. var. ***elatius***

56. ***Trifolium purpureum*** Loisel. var. ***purpureum***

The vernacular names: **Sewara, Separa**.

Locality: Kawarta village, Pawan, steppe and grassland, 36°37'05.95" N, 44°51'32.68" E, 1218 m, 18/06/2017, AMK67.

Collection period: May-June

Parts Used: Above ground

Purpose of Use: Food and Fodder.

Usage: The villagers cut off this plant during spring and use as a bouquet. It is dried under the sun and collected to be stored in order to be used in the winter as animal food for goats, sheep and cows (Amina DARWESH).

Use in the literature: Its usage is not mentioned in the literature.

57. ***Trigonella caelesyriaca*** Boiss.

The vernacular name: **Kner**.

Locality: Kawarta village, Kroska trsh, steppe and grassland, 36°37'12.86" N, 44°51'55.46" E, 1165 m, 10/05/2017, AMK12.

Collection period: May-June

Parts Used: Above ground

Purpose of Use: Ornamental and Fodder.

Usage: the plant is used as an ornamental plant. It is grown in the house garden. Also, it is also collected in the spring season and dried for use in the winter as animal food (Karim ABDULLA)

Use in the literature: The above-grounds are used as a treatment as the relieve of the eye pain. It is also used as a fodder (Altundag and Öztürk 2011).

58. ***Vicia hybrida*** L.

The vernacular name: **Kalya mara**.

Locality: Kawarta village, Barikapran, grassland, 36°37'15.07" N, 44°51'59.33" E, 1172 m, 29/04/2017, AMK13.

Collection period: April-May

Parts Used: Above ground

Purpose of Use: Fodder

Usage: The villagers cut off this plant during spring and used as bouquet. It is dried under the sun and collected to be stored in order to be used in the winter as animal food for goats, sheep and cows (Amina DARWESH).

Use in the literature: Its usage is not mentioned in the literature.

59. ***Vicia narbonensis*** L.

The vernacular name: **Kalya gajota**.

Locality: Kawarta village, Kroska trsh, steppe and grassland, 36°37'12.86" N, 44°51'55.46" E, 1165 m, 10/05/2017, AMK120.

Collection period: May-June

Parts Used: Above ground

Purpose of Use: Food and Fodder

Usage:

A) The children and young people eat the fruit of this plant during spring season (Hajar AMIN).

B) The aerial part is used as animal feed for goats, sheep and cattle (Amina Darwish).

Use in the literature: It should be expanded to dry areas with alkaline soils where grain cultivation systems have not yet been diversified due to lack of legumes suitable for cereals. the raw fruits ar eaten as well (Hinnawi 2010). It is also used as a food (Shipley and Kindscher 2016)

17. FAGACEAE

60. ***Quercus brantii*** Lindl.

The vernacular names: **Barw, Dara sur**.

Locality: Kawarta village, 36°37'16.19" N, 44°51'48.02" E, 1149 m, 08/05/2017, AMK22.

Collection period: April-May-June

Parts Used: Above ground (Upper Parts)

Purpose of Use: Treatment, Food, Fodder, Fuel, and Craft

Usage:

A) The stems and leaves of the plant are used for roofing the houses by the villagers (Jahfar AMIN).

B) The plant leaves are used as feed for goats and cows (Hajar AMIN and Salam AWLA).

C) The wood of plant after drying is used for musical instrument industry such as baglama, saz, violin, and cello (Jawhar AMIN and Nasrulla HASAN).

D) The stems are depended on construction, furniture material, as wood fuel, and charcoal. Also, the mature fruit is eaten as food and treatment for diarrhea, stomach ache and anti-diabetic (Amina DARWESH, Salam AWLA, and Umed MAHMOOD).

Use in the literature:

The fruit of some oak apple (such as Quercus aegilops) is used as abdominal pain treatment (Mati 2010). Some species are used as a treatment for anti hemorrhoids and antidiarrhea (Amir and Joharchi 2013). The decoction of gal is taken for stomach ulcer but the fruit powder is used for making "Kalg" for treating diarrhea (Mosaddegh et al. 2012). Other oak species are the general tonic that treats severe diarrhea, gastritis, constipation, colitis, and hemorrhoid (Naqishbandi 2014). The fruit is eaten freshly (Kaval et al. 2015). The fruit of some oak species is used as a treatment for wounds, gastric ulcer, and catarrhs (Baydoun et al. 2015). The fruit is eaten as a roasted food (Dogan and Tuzlaci 2015). The extract from the oak tree has some anti-diabetic properties in the small intestine of diabetes-induced diabetes mellitus. The biomarkers of diabetic serum such as glycosylated hemoglobin, glucose level, and glycosidase activity are significantly increased in the diabetic group compared to the control group while the insulin level decreased blood markedly. In addition, the mature fruit is eaten as a food (Ozkan et al. 2016).

61. ***Quercus infectoria*** Oliv.

The vernacular names: **Dar maz, Mazu**.

Locality: Kawarta village, Pawan, Mountain, 36°37'16.19" N, 44°51'48.02" E, 1149 m, 08/05/2017, AMK24.

Collection period: May-June-July

Parts Used: Above ground

Purpose of Use: Treatment, Food, Fodder, Fuel, and Craft

Usage:

A) The stems and leaves of the plant are used for roofing the houses by the villagers (Asti HUSEN, Fatima ABDULLA, Jahfar AMIN).

B) The plant leaves are used as food for goats and cows (Hakim AMAD).

C) The dried wood of the plant is used for musical instrument industry such as baglama, saz, violin, and cello (Jawhar AMIN, Muhammed RAMDHAN).

D) The stems are consumed for construction and furniture material and used as a wood fuel, and charcoal (Amina DARWESH).

E) The gal powder is used to treat inflammation and to treat fungal infections between the foot's fingers (Krekar QADIR, Shorsh HAMED).

The fruit (Mazi) is used as a treatment for oral sore and wound in the mouth. Also, It is used together with henna as a treatment for burnings (Halima DARWESH).

Use in the literature: The gall of plant is used for painting, leather, textile dyes, medicine and ink (Naghibi et al. 2005). The fruit is used as a treatment for oral sore and wound when it is chewed in the mouth and washed down with water. It is used together with henna as a treatment for burnings (Mati 2010). It is used as a treatment for wounds whenever it passed the following stages: dry, grind, sieve with fine cloth, apply on it, cover, with egg yolk, put on the wounds. It treats swellings, broken body part, psoriasis, skin burn, and oral ulcers (Mati and de Boer 2010). The stems are consumed for construction, furniture material, as a wood fuel, and charcoal. The stem galls are also used for dying brown color (Uysal et al. 2010). The fruit is used as a treatment for oral sores and wounds (Mati and de Boer 2011). The plants are used as firewood (Shankar and Devalla 2012). The insect gall is used as a treatment for nose-bleed, anti-haemorrhage, uterus ailments mouth wounds, and anti-haemorrhoids (Amir and Joharchi 2013). The galls are traditionally used in the treatment of diarrhea, dysentery, hemorrhoids, pharyngitis, gonorrhea, and vaginal infections, including leukocyte diarrhea. In addition, it has been reported that the extract of water gallbladder has high potential in whitening the skin, so it is used in cosmetics. The bark is also an astringent used to treat nose bleeds, and some chronic skin diseases including eczema, rash, and vitiligo (depigmentation of skin sections). Gall powder in traditional Kurdish medicine is one of the seven treatments (Haft Darmana) used in oral infections, skin diseases (eczema and rashes) and wound infections. The plant halls have been documented for anti-diabetic, anti-fungal, local anesthetic, anti-viral, antibacterial, anti-fungal, insecticide and anti-inflammatory. It is considered as traditional medicines which are used to treat wound

infection after intermittent delivery. In India, they are traditionally employed as dental applications such as those used in the treatment of a toothache or gingivitis (Shabaz, 2013). The dried root branches after becoming powdered are used as a treatment for a toothache, astringent and diabetes disease (Tetik et al. 2013). The leaf is used as a treatment for diabetic disease after being decocted (Hayta et al. 2014). The fruit is used as a fodder and the plant crops are exposed as sheep bait (Ari et al. 2015). The dried fruit powdered is used as a treatment for burns. It is also used as a treatment for oral sores, wounds, diabetes, and toothache (Ahmed 2016). The plant is used as a treatment for prostatic enlargement after drinking the decocted water (Jaradat et al. 2016).

18. GERANICEAE

62. ***Erodium cicutarium*** (L.) L'hér

The vernacular name: **Gya Darzila**.

Locality: Kawarta village, Kroska trsh, steppe and grassland, 36°37'14.24" N, 44°51'50.80" E, 1165 m, 25/04/2017, AMK76.Th.

Collection period: April-May

Parts Used: Above ground (Upper Parts)

Purpose of Use: Food

Usage:

A) The upper part of the plant is eaten after cooked with eggs in oil (Hajar AMIN).

B) The upper part extract is used as a treatment for dysentery, abdominal pain and internal illness (Abdulla DOGHA).

Use in the literature: The aerial parts are used as a treatment for diuretic, anti-inflammatory, urinary and genital disorders by infusion it (Tita et al. 2009). The cooked plant is used as a treatment for dysentery (Moteetee and Van Wyk 2011). The whole plants are used as a treatment for coagulation and constipation (Rajaeia and Mohamadi 2012). The decoction of root is used as a treatment for toothache (Safa et al. 2012). The extraction of aerial parts is used as a tonic (Tetik et al. 2013). Children make use of the fruit for playing (Akan et al. 2013). The whole plant extract are used as a treatment for dysentery and internal illness (Kayani et al. 2015).

19. JUGLANDACEAE

63. ***Juglans regia*** L.

The vernacular names: **Dar gwez, Guiz, Gwez, Jeviz**.

Locality: Kawarta village, Mountain, 36°37'53.75"N, 44°51'49.34" E, 1165 m, 29/06/2017, AMK105.

Collection period: April-May-June

Parts Used: Leaves, Stem, Fruit (Upper Parts)

Purpose of Use: Food-Diy-Treatment-Handicraft

Usage:

A) Being crushed and mixed with honey, the nut is eaten especially during breakfasts and making various cakes. Also, the fruit is used to strengthen the body, which causes body weakness (Mustafa QADIR).

B) Serving the visitors during the long winter nights, the nut and the raisins are combined together to make a food given to the visitors as Shawchara (night food given to visitors) (Amina DARWESH).

C) The dried wood of the plant is used for musical instruments such as baglama, saz, violin, and cello (Jawhar AMIN).

D) The immature fruit is used to color the sutures (Halima DARWESH).

Use in the literature: The Juglans regia with Pinus rox burgh are sources of gums and resins. The leaves are also astringent; eupeptic with a hypoglycemic action. The extracted juglone is an antiseptic and keratinizing (Sabra and Walter 2001). The fruits and leaves are internally taken as a digestive stimulant, constipation (leaves), diarrhea and anemia (crust). It is used for external purposes like cuts, pastures and skin disorders such as eczema, herpes, and volcanic skin complaints (Jaric et al. 2007). The roots are mostly used as toothbrush and immature fruit crust used for blackening hair. Seed oil is used for brain problems and is considered a general tonic. Wood is a source of fuel and is also used for making local materials and handles. Internationally known nut factories are very useful for edible nuts and timber that are heavy and have great value for furniture and gun stock (Khan and Khatoon 2007). The plant is used for various purposes such as medicines, edible fruit, fencing, roofing, furniture, construction, fuelwood and utensils (Ahmad et al. 2009). The fresh basil is added to salad, juices, sauces, and herbal tea. The leaves are eaten as vegetable. Used as a body booster, kill the germ and worm in the digestive system, and as treatment of transmitted diseases and treatment of delayed

menstrual cycle in women. The herbal tea has a sweet taste and also used as a treatment to prevent certain diseases. The oil of the plant is used as a microbicide. Thus, it is used as a treatment for dermatological diseases (Gharib et al. 2010). The oil extracted from the seed kernels is mildly heated and rubbed on swollen legs of pregnant women (Phondani et al. 2010). The leaves together with henna, and fatigue are added to the bathtub with water, and left for 1-2 hours, and a bath is taken (Mati 2010). The fresh leaves are applied on the feet for refreshing (Idolo et al. 2010). It is used as a guideline for checking diarrhea and bleeding as a gargle in sore throat. The dried kernel is an essential ingredient in desserts and ice cream, as a foodstuff. The bark is used as a dye and also to clean the teeth (Sharma et al. 2010; Bibi et al. 2014). The decocted leaves are used as a treatment for skin diseases and diarrhea (Al-Aboudi and Afifi 2011). The fruit and bark are used as a brain tonic, antiseptic and toothbrush (Ali et al. 2011). The fruit and leaves are used as an antidiarrheal and eczema. It is also used for changing hair color (Amiri et al. 2012; Amiri and Joharchi 2013). The dried fruit mixed with coconut and honey is used as tonic and bark of plant for cleaning and sparkling of teeth. The decocted leaves are also used against eczema and intestinal worms (Akhtar et al. 2013). The woulnt is used as cholesterol-lowering means, vasodilator, weight loss medicine, rheumatism, anti-inflammatory, sore throat, cardiac diseases and arthralgia (Sağıroğlu et al. 2013). It is used as alternative, astringent, anthelmintic, laxative, detergent, depurative, antiscrofulous, digestive, cholagogue, and anticancer (Shahbaz 2013). The wooden part of the plant is used for construction, furniture making, veneer etc. The dry bark is locally called as Dandasa and used to clean teeth. Edible fruits, edible seeds are used in desserts, cakes, ice cream, and etc. The drying nuts are an important source of oil. It is used in the manufacture of soap, and paints. The leaves are antipsychotics used to treat constipation, chronic cough, asthma, diarrhea, and treat skin diseases, blood purification, and insect repellent (Ajaib et al. 2014). The fruit and leaves are used as a treatment for anemia (Dolatkhahi et al. 2014). The trunk, fruit, skin, and leaves are used for styptic after decocted them (Bahmani et al. 2014). The fruits are consumed as a food and making various cakes (Pieroni et al. 2014; Benarba 2016). The leaves are used as a treatment for galactagogue, blood sugar, and anti-inflammatory purposes. Likewise, the nucleus has aphrodisiac and vermifuge properties (Singh and Thakur 2014). The dry walnuts, green walnuts, shells, buds, bark, green walnut husks (Epicarb) while the leaves are used in both cosmetic and pharmaceutical industries (Ribeiro et al. 2015). The bark roots are used

externally for dental pain and mouth ulcers (Meddour and Meddour-Sahar 2015). The infused fruit and leaves are used as a treatment for diabetes, hair protects and lipid-lowering through oral and inhalation (Footami and Akbarlou 2017).

20. LAMIACEAE (LABIATAE)

64. ***Eremostachys laciniata*** (L.) Bunge

The vernacular name: **Sandal**.

Locality: Kawarta and Kawshan village, Kwestan, mountain, 36°40'45.18" N, 45°0'16.65" E, 1555 m, 07/05/2017, AMK2.

Collection period: April-May

Parts Used: Flower (Upper Parts)

Purpose of Use: Dye

Usage:

A) The inflorescences of this plant are used to dye the wool which is harvested from the wool of sheep, lambs or goat hair. After collecting the flower of the plant and boiling it in water, add the wool to it for coloring (Halima DARWESH and Mryam AHMED).

B) The nectar and pollen of the flower is a good kind of food for Bees for making honey (Abdulla DOGHA and Haji HASAN).

Use in the literature: theirs using is essential in maintaining pastures programming (Anbari et al. 2014). The plant is possible to act as natural therapy agents. It was found to be a good source of alkaloids, flavonoids, tennins, resins, carbohydrate, starch, proteins, glycosides, coumarin, terponides, steroids and saponins (Rehman et al. 2015).

65. ***Lamium amplexicaule*** L.

The vernacular name: **Rehanay faqyana**.

Locality: Kawarta village, Kroska trsh, Grassland, 36°37'15.55" N, 44°51'38.48" E, 1143 m, 17/04/2017, AMK4.

Collection period: April-May

Parts Used: Abouve ground (Upper Parts)

Purpose of Use: Ornamental and Treatment

Usage: It is used as an ornamental plant (Abdulla RASUL).

Use in the literature: The aboveground parts are used as a meal (Dogan et al. 2004). The aerial part is used as a treatment for fever, malaria, warts, constipation, hair loss, dandruff, rheumatism, hemorrhage, depression, and nerve tonic (Naghibi and O'Malley 2005). The aerial parts are collected, dried and used in the treatment of cold sores in winter (about 10 plants are boiled in one liter of water and a glass of water is drunk each day). Meanwhile, it is used for food but the extracted honey found in the flowers after the plant is collected is consumed without any treatment (Nadiroğlu and Behçet 2017).

66. ***Marrubium parviflorum*** Fisch. & C.A. Mey. subsp. ***parviflorum***

The vernacular name: **Rezyanay Kewilkayi**.

Locality: Kawarta village, Kroska trsh, Grassland and Steppe, 36°37'15.33" N, 44°51'38.21" E, 1142 m, 17/04/2017, AMK44.

Collection period: April-May

Parts Used: Abouve ground (Upper Parts)

Purpose of Use: Ornamental and Treatment

Usage: It is used as an ornamental plant (Abdulla RASUL).

Use in the literature: Its usage is not mentioned in the literature.

67. ***Mentha longifolia*** (L.) L. subsp. ***noeana*** (Briq.) Briq.

The vernacular names: **Pung, Ping**.

Locality: Kawarta and Warda village, kwestan, wetland, 36°37'12.56" N, 44°51'00.55"E, 1130 m, 04/07/2017, AMK85.

Collection period: June-July

Parts Used: Above ground (Upper Parts)

Purpose of Use: Food, Treatment and Herbal tea

Usage:

A) The immature plant is (not have a flower) is used as a vegetable. Sometimes can be mixed with some food for changing the taste (Aysh AHMED and Dwarozh SAIDY).

B) The flower of this plant is used as an herbal tea (Ghurbqat WSU and Jabar MAHMOOD).

C) The Upper Parts (flowers and leaves) are used to treat a headache. After boiling the top, mixed with henna, put on the head and covered with a cloth for an hour, the

headache is removed (Parwin RASUL, Mustafa QADIR, Majid AHMED, and Shukrya KHDR).

The use of literature: The infusion of the leaves are used as a treatment for bladder stone, gallstone, rheumatism, jaundice, diarrhoea, toothache, stomachache, anti-infection, dyspnea, flatulence, gastrodynia, dyspepsia, Sedative, Stomach tonic, constituent and Insect repellent (Naghibi et al. 2005). The aerial parts are used as carminative properties and used as an herbal tea for gastrointestinal ailments (Jaric et al. 2007). It is consumed as herbal tea, cooling medicine and carminative stimulant (Ahmad et al. 2009). The plant is used as a treatment for analgesic pain in muscle contraction and analgesic pain in pregnant women, as well as treatment for the opening of the nose and throat. Also, it is a treatment of bacterial and macular infections and extraction by using it as a sedative, tired, and treatment of gastrointestinal gas, regulating the menstrual period of women (Gharib et al. 2010). The leaves are used as vegetables and eaten raw as a salad; also it is cooked with yogurt and used as an herbal tea as a treatment for opens branches (Hinnawi 2010). The leaves are used as a treatment for antispasmodic, carminative, to relieve abdominal pain and to reduce gastric acidity. Also, the leaves are widely used to flavor local food named Gungrhi (Ahmad et al. 2011). The whole plants are used as a treatment for diarrhea and vomiting (Ali et al. 2011). The aerial parts are consumed as a vegetable, carminative and flavoring (Ghasemi et al. 2013). The herbal tea which is making from the leaf powder are used as a treatment for a headache, cough, Influenza, vomiting, carminative, blood pressure and gastrointestinal diseases (Abbas et al. 2014).The powder drug making from dried leaves taken orally that used as a treatment for joint pain and digestive disorders (Ahmad et al. 2014).The infusion of leaves is used as a treatment for herpes, anthelmintic, antacid, carminative, antidiarrhea and digestive (Amiri and Joharchi 2013). The herbal tea is used as a remedy for fever, headache, colic, indigestion, flatulence and other digestive disorders. The leaf extract is used as a treatment for fever, headache, cold, cough, menstrual disorders, urinary tract infection, pulmonary embolism, indigestion, congestion, abdominal distension, and other digestive disorders, as well as externally used to relieve swelling and to treat minor wounds or wounds. Also, the flower and the leaves are used to relieve nasal or bronchial congestion when added to the boiling water inhaling the vapor. The oil obtained from foliage is used as a flavor in toothpaste, disinfectant, cleanser, and is used in the facial treatment or skin care (Shahbaz 2013). The infusion and decoction of the aerial parts are used as a treatment for stomach

(Bahmani et al. 2014). The whole plants are used as a treatment for gastric, diabetes, obesity, high blood pressure and menstrual problems (Bibi et al. 2014). The mixture of decoction flower and leaves or the dried plant with paste is put on the tooth are used as a treatment for a toothache (Delfan et al. 2014). The aerial parts are used as a treatment for heatstroke, Jaundice by infusion and decoction it (Dolatkhahi et al. 2014). The paste is made from fresh leaves and applied to burst boils for pus removal. The leaves are placed inside seed containers to deter insects and inside catteries to protect them from ticks, mites, and rat fleas (Rani and Rana, 2014). The leaves are used as a treatment for stomach disorders, vomiting, cholera and cough. Also, it is consumed as a Stimulant, carminative (Abbas, 2016). The aerial parts are used as a treatment for menstrual disorders and consumed as a flavoring of dairy (Mohammadi et al. 2016). The infusion and boiling of this plant are used as an anti-inflammatory, hemostatic, and is used to treat wounds, diarrhea, colitis, stomach, teeth, gastritis, dysentery, tuberculosis, respiratory infections. Inflammation of leaves and inflorescences is used as a bile separator and treat gallbladder disease (Mamadalieva et al. 2017). The plant is used as a spice in dried or fresh foods and salads. At the same time, the fresh or dried plant is used in the treatment of colds by making tea with lemon (Nadiroğlu and Behçet 2017).

68. ***Ocimum basilicum*** L.

The vernacular name: **Rehan**.

Locality: Kawarta village cultivated, Grassland, 36°37'10.55"N, 44°51'38.28" E, 1140 m, 17/07/2017, AMK112.

Collection period: June-July

Parts Used: Above ground (Upper Parts)

Purpose of Use: Food, Treatment and Herbal tea

Usage:

A) The immature plant is (not have a flower) is used as a vegetable. Sometimes it can be mixed with some food for changing the taste (Hajar AMIN).

B) The flower of this plant is used as herbal tea (Parwen RASUL).

C) The top parts of the soil are used to give a flavor to spices and salads. Also, the upper parts of the soil are used as a dry spice or fresh to give flavor to the food. Also, it is used as a treatment for a diarrhea (Ibrahim AHMED).

Use in the literature:

The leaves and seeds are used as a treatment for urinary tract infection and chest and lung complaints, diuretic, recontaminate, abdominal distension, nerve tonic, colic ulcer, dyspepsia, inflammation, diarrhea, appetizer, expectorant, galactic and influenza (Naghibi et al. 2005). The oil of the basil is an activist for antibacterial, antifungal, and antiproliferative/anticancer (Marwat et al. 2011). The seeds are used as a carminative and a treatment for aphthous ulcers, antacid, antidiarrhea, antitussive, laxative, digestive and antiseptic (Amiri and Joharchi 2013). The leaves are dried under the shade and making powder from it and using it to treat asthma (Kumar et al. 2013). It gives antibacterial, antifungal and antioxidant properties. In addition, basil oil is used for treating, cough, colds, asthma, fever, sinusitis and rheumatism, as well as accelerating the process of wound healing (Sienkiewicz et al. 2013). The leaves with flowering tops (fresh or dried) are taken in some cases of fever, abdominal cramps, gastroenteritis, constipation, nausea, and dyspepsia. It is believed that herbal tea from leaves protects the heart from stress and lowers blood pressure and cholesterol levels. Eliminates moderate nervous tension, headache, and nausea. The boiled water with basil leaves is taken in the case of a sore throat. Furthermore, the decoction of leaves works as a useful treatment in the treatment of respiratory disorders. Chewing basil leaves on a daily basis can be a great protection against heart and mouth infections. Leaf juice promotes the expulsion of kidney stones and helps to treat delayed menstruation. The cracked leaves are inserted into the dental cavity to treat the teeth, rubbing the skin to treat insect bites and infusion for the treatment of acne. The decoction of seeds is used to reduce postpartum pain and calm cough. Fluid supports to treat gonorrhea, diarrhea, constipation, and hemorrhoids, as well as externally seeds and compresses, they are used for sinuses. The lush and flowering peaks are used in seasonly eaten salads (Shahbaz 2013). The whole plant is consumed as an appetizer (Bahmani et al. 2014). The leaves are used as a treatment for fever, and mouth wound (Dolatkhahi et al. 2014). The whole plants are used as a treatment for conjunctivitis and sickness (Meddour and Meddour-Sahar 2015). It works mainly on the digestive system, nervous system, gastric cramps, colic and indigestion. The leaves and flowering tops are anti-convulsive, wind-repellent, stomach and tonic. It is taken internally to treat fever, indigestion, nausea, migraine, depression, insomnia and abdominal pain. It is used externally to treat acne, insect bite, snake bite and skin infection. It is also used to treat dysentery, diarrhea, ear, rheumatoid, itching, malaria and gingivitis. Also, the leaves and seeds are used as a carminative, tonic and a treatment for

stomachic and antispasmodic (Abbas et al. 2016). The leaves are consumed as a vegetable and used as a treatment for a headache, cold, bad breath, skin, and cancer and quit smoking (Ahmed 2016). The aerial part is eaten fresh with salads and gravy, as well as, the leaves strengthen intestines and stomach, treat skin, mouth infections. The leaves are used to massage the body when bites by a scorpion and an ant to stop the pain. The herbal tea is used as a sedative and treatment for headaches and diarrhea, lack of sleep, airway bronchitis, heart pain, blood circulation, body and kidney disease, and extermination the stone and sand in the urinary tract. The cultivated plant is in front of the windows to prevent the fly enters the house. It also used to produce perfumes (Amin 2016). The leaves and flowers are used as a treatment for skin rashes and clearing scars left after chicken pox. Also, is used as a treatment for bee sting (Jaganathan et al. 2016). It is an anti-inflammatory, a mechanism that is a component interaction between pro-inflammatory prophylaxis and stimulation of anti-inflammatory cytokines. Although it acts as an antioxidant, anti-inflammatory and possible alternative to medical treatment (Güez et al. 2017).

69. *Origanum vulgare* L. subsp. ***gracila*** (K.Koch) Ietsw.

The vernacular name: **Jatra kewilka**.

Locality: Kawarta village, Kwestan, Mountains and Grassland, 36°40'02.11" N, 44°49'00.14" E, 2420 m, 29/06/2017, AMK81.

Collection period: May-June

Parts Used: Above ground (Upper Parts)

Purpose of Use: Ornamental, Treatment and Herbal tea.

Usage:

A) The immature plant that is not blooming is used as a food. The process of preparing the plant as a meal starts from the mountain where it is collected then brough home where it is cut with knife. Later on, it is boiled in water through which one gets purified water. Then it is mixed with egg, and put on the fire inside a pan-fried. (Ahmed MUSTAFA, Amina KHDHR, Hangaw ABDULLA, Muhammed AZIZ).

B) The aerial part is used as a treatment for a toothache after boiling in water (Abdulla DOGHA, Ramadhan NABI, Soran MUHAMMED, Zrar ABDULLA)

Use in the literature: The boiled aerial part is used as a treatment for a toothache, kidney stone and flatulence. It is sometimes mixed with yoghurt bath and used for rheumatism,

headache, sedative, anxiety, or bath or showers to cure diaphoretic, emmenagogue, reconstituent, flavoring agent, diuretic, antiseptic, nerves tonic, vermifuge, asthma, jaundice, spasm, diarrhoea, heart tonic and gastrodynia, and pharmacological activity which is used for inhibition of thrombin, anticancer, radical, scavenging antihyperglycemic, anti-h pylori, and antifungal (Naghibi and O'Malley 2005). The leaves and flowers are used as a treatment for kidney discords, cough, emollient and sore throat (Pirbalouti 2010). The decoction of the flowers is used as a treatment for a toothache, coach, and cold (Leto et al. 2013). The aerial parts are used as a treatment for colic, sinusitis, sedative, cardiac tonic, nerve tonic and dyspnoea (Amiri and Joharchi 2013). The leaves are used as a treatment for a toothache, bronchitis, cough, rheumatism, earache and given as tonic in diarrhoea. Tablet prepared from leaves are given in bone fractures and its oil possesses carminative, stomachic, diuretic, diaphoretic and ammenagogue properties. It is used for flavoring foods (Singh and Thakur 2014). The infusion of aerial parts is used as an appetite stimulants and a treatment for painkillers, cough, pertussis, asthma and nerve pain and convulsion took either orally or via inhalation (Footami and Akbarlou 2017).

70. ***Phlomis lanceolata*** Boiss. & Hohen

The vernacular name: **Bnazarda**.

Locality: Shore Village, wetland, 36°42'08.95"N, 44°54'35.95"E, 1780 m, 09/06/2017, AMK116.

Collection period: June-July

Parts Used: Above ground (Upper Parts)

Purpose of Use: Treatment, Herbal tea and Harmful.

Usage:

A) When this plant grows in wheat and barley fields, it causes a decrease in growth and a decrease in its production (Hasan mala).

B) The flower of this plant is used as herbal tea. Also, the decoction of the flower is used to treat diabetes (Abdulla RASUL).

Use in the literature: The plant medicinally is used to treat various conditions such as diabetes, stomach ulcers, hemorrhoids, infections and wounds (Nasab 2014). This plant has an effect on cancer cell lines (Sarkhail et al. 2017).

71. ***Prunella orientalis*** Bornm.

The vernacular name: **Gula morka**.

Locality: Shore village, Grassland, 36°35'21.10''N, 44°59'28.95''E, 1941 m, 10/07/2017, AMK123.

Collection period: June-July

Parts Used: Above ground (Upper Parts)

Purpose of Use: Ornamental

Usage: The plant is used as an ornamental plant. It is grown in the house garden (Hajar AMIN).

Use in the literature: No use was found in the literature.

72. ***Thymus kotschyanus*** Boiss. & Hohen var. ***kotschyanus***

The vernacular name: **Jatra**.

Locality: Kawarta village, Kwestan, Mountains, 36°37'05.58" N, 44°51'57.26" E, 1140 m, 16/04/2017, AMK82.

Collection period: April-May

Parts Used: Above ground (Upper Parts)

Purpose of Use: Food, Treatment and Herbal tea

Usage:

A) It is used as a vegetable. Also, when dried, the upper part of plant is added into food for changing its taste (Hajar AMIN).

B) The upper part is used as a treatment for cold and headache (Abdulla DOGHA).

Use in the literature:

The aerial parts are used as a treatment for antibacterial, hypotensive and cardiotonic. The boiling aerial part is used as a treatment for gastrodynia, joints pain, and the common cold. Sometimes, the infusion plant is used for flatulence, bone pain, redness eyes, blood depurative, stomach tonic, antiseptic, coughing. The plant powder is used as an appetizer, kidney stones, reconstitution, diuretic, analgesic, high blood pressure uterine pains, headache, vomiting, heartburn, asthma, catarrh, inflammation and irritation of urinary organs, expectorant, emmenagogue, spasm, vermifuge, sedative and diaphoretic. The pharmacological activity is used as antibacterial, hypotensive, and cardiotonic (Naghibi and O'Malley 2005). The decoction and infusion of aerial parts are used as a treatment for backache, diabetes, colds, abdominal ailments, hypertension, anti inflammatory, cancer,

enteralgia and vermifuge (Altundag and Öztürk 2011). The decoction of leaves is used as a treatment for colds, flu and high cholesterol (Cakilcioglu et al. 2011). The decoction of aerial parts is used as a treatment for sedative, colds and flu (Polat et al. 2013). The Infusion of floral branches is used as a treatment for diarrhea, bloat and indigestion (Bahmani et al. 2014). The decoction of aerial parts are used as a treatment for tonsillitis, colds, gastritis, and shortness of breath (Mükemre et al. 2015). The leaves are consumed as an herbal tea and as a spice (Kaval et al. 2015). The aerial parts are consumed as a spice (Dogan and Tuzlaci 2015). The infusion of leaves is used as a treatment for flatulence, expectorant, cough, headaches and nerve stimulation (Footami and Akbarlou 2017).

21. LILIACEAE

73. ***Allium ampeloprasum*** L.

The vernacular names: **Kurada, Tareg**.

Locality: Kawarta village, Zewala, Grassland and Steppe, 36°37'15.03"N, 44°51'59.28"E, 1165 m, 20/05/2017, AMK37.

Collection period: April-May

Parts Used: Whole plant

Purpose of Use: Food, Treatment and Economic

Usage:

A) The new stalk of the plant after collecting by villagers in the mountain, are brought to city or grocery markets to sell it for given money. Also, they can be mixed with local chess for changing taste (Fakhir SHORAY).

B) The Villagers eat the whole plant (leaves, stems and lamps) with all meals at lunch and dinner, as well as leaves and stemsare added and mixed with salad (Amina Darwish).

C) The young stems of the plant are used as a sweetener in meals (Halima DARWESH).

Use in the literature: The bulb and bottom of stems are stewed, eating raw as a snack, seasoning and salads (Tardío et al. 2005). The decoctions of the bulbs are used as a treatment for influenza, antihelminthic and analgesic (Revene et al. 2008). The whole plants are used as a treatment to hemorrhoids. Also, the bulbs are used as a treatment for digestive disorder, Cold, hypertension, inflammation kidney, malfunction, obesity, depurative, hypercholesterolemia, circulatory problems, ulcer, helminthiasis, digestive

disorder, bladder infection, diarrhea, diuretic, Cough, Pain and burns(Benítez et al. 2010). The leaves and bulbs are internally used as a treatment for anti-septic, urine infection, anti-calculus, gastric pain, kidney infection, intestinal problem and culinary (Ghasemi et al. 2013). The plant is used as a treatment for blurred vision and diabetes (Sargın et al. 2013). The bulbs are used to flavor various dishes (Okafor et al. 2014). The bulb and leaf are used as a treatment for rheumatism, insect stings, infections intestinal worms, sciatica and lumbago (Baydoun et al. 2015). The decoction of roots is used to decrease the milk secretion in women (Bellia and Pieroni 2015). The whole plants are pharmacological activities for antidiabetic, hypolipidaemic, antimicrobial, free radical scavenging and anti-inflammatory role (Dey and Khaled 2015). The bulbs are consumed as a food and they are fried with eggs to make a kind of bitter omelette (Biscotti and Pieroni 2015). The leaves are used as a spice (Kaval et al. 2015). The whole plant is used as a treatment for insomnia and constipation (Meddour and Meddour-Sahar 2015). The leaves are eaten freshly in salads and the seeds milled are used as spice whenever added to foods (Polat et al. 2015). The leaves and bulbs are used as a kind of spice and a treatment for anti-rheumatism, intestinal and urinary antiseptic (Mohammadi et al. 2016).

74. ***Allium fedtschenkoi*** Nabelek

The vernacular names: **Lusha, Lushka**.

Locality: Shore village, mountain, 36°42'11.84"N, 44°54'36.43"E, 1800 m, 09/06/2017, AMK49. Nábelek

Collection period: May-June

Parts Used: Above ground (Upper Parts)

Purpose of Use: Food, Treatment and Economic

Usage:

A) The new stalk of the plant after collecting by villagers in the mountain, is brought to city or grocery markets to be sold (Fakhir SHORAY).

B) The new leaves of this plant are used to prepare Dolma; by inserting rice in it, wrapping, boiling and then eating it (Amina DARWESH).

C) The villagers collect this plant in spring and store it in the refrigerator and freeze to be consumed in the winter (Halima AHMED)

Use in the literature: Its usage is not mentioned in the literature.

75. ***Allium macrochaetum*** Boiss. & Hausskn. subsp. ***macrochaetum***

The vernacular name: **Sira Kewilka**.

Locality: Kawarta village, zewala, steppe, 36°35'34.59"N, 44°50'16.41"E, 1213 m, 17/05/2017, AMK36.

Collection period: April-May

Parts Used: Whole plant

Purpose of Use: Food, Treatment and Economic

Usage:

A) The Upper Parts of the soil are gathered in the spring; they are well dried, and then in the summer season are added into cheese (Hajar AMIN, Mhmood BRAYM).

B) The Villagers eat the whole plant (leaves, stems, and lamps) with all meals at lunch and dinner, as well as leaves and stems are added and mixed with salad (Amina Darwish).

C) The plant is used as a treatment for inflammation for the digestive system (Abdulla RASUL).

Use in the literature: The roots are boiled to drink water, young leaves are used like garlic, and fresh leaves are eaten. The whole plant is removed with the onion. After being thoroughly cleaned, the salad is added as a vegetable such as green onion. The plant's onion and leaves are used instead of garlic. While the leaves of the plant are fresh, they are cooked in hot water and eaten with yogurt. Bees make use of the plant's nectar and pollen (Kaval et al. 2015).

76. ***Fritillaria imperialis*** L.

The vernacular names: **Shler, Sosan gol**.

Locality: Shore village, Mountains and Grassland, 36°40'00.20" N, 44°49'05.11" E, 2422 m, 07/05/2017, AMK107. Ir.-Tur. Elm.

Collection period: May-June

Parts Used: Whole plant

Purpose of Use: Ornamental and Treatment

Usage: The plant is used as an ornament in front of houses and in the garden. Also can be sold by sellers (Abdulla HAMADAMIN).

Use in the literature: The bulb of the plant is used as a treatment for rheumatism, joint pains, digestive problems, stomachache, kidney, and stomach ache (Mosaddegh et al. 2012). The roots of this plant are used as a treatment for joints pain (Amiri and Joharchi

2013). The bulb of this plant is used externally as a treatment for rheumatism and sciatica (Ghasemi et al. 2013). The whole plant is used as a treatment for diuretic and emollient (Gairola et al. 2014). They grow as an ornamental plant. They are used as an ornament in traditional residential gardens in and around the city in some country areas (Kaval et al. 2015). The bulb of this plant is used as a treatment of abscess (Mohammadi et al. 2016). The bulb of this plant is used as a treatment for the rheumatic disease (Zarei et al. 2017).

77. *Muscari neglectum* Guss**.**

The vernacular name: **Susin**.

Locality: Shore village, wetland, 36°42'07.92"N, 44°54'35.86"E, 1774 m, 09/06/2017, AMK54.

Collection period: May-June

Parts Used: Above ground (Upper Parts)

Purpose of Use: Treatment

Usage: The used for preparing a treatment (Halima DARWESH).

Use in the literature: The peduncle of inflorescence is eaten raw as a snack (Tardío et al. 2005). The flowers are rubbed on wart and used as a treatment for rheumatism (Koçyiğit and Özhatay 2006). The decoction of fruits is used as a treatment to rheumatism (Ugurlu and Secmen 2008). The leaves are cooked with vegetables and can be used for plaiting hairs in children's play. Also, the flowers are used for painting the eggs to blue-purple (Kızılarslan and Özhatay 2012). The aerial parts of plant are added of pastry (Akan et al. 2013). Being grown in the gardens, the plant is used as an ornament (Korkmaz et al.2016).

78. *Ornithogalum narbonense* L.

The vernacular name: **Gula merga.**

Locality: Shore village, wetland, 36°40'00.20" N, 44°49'05.11" E, 2422 m, 07/05/2017, AMK107.Med-Ir.-Tur. Elm.

Collection period: May-June

Parts Used: Above ground (Upper Parts)

Purpose of Use: Ornamental

Usage: The plant is used as an ornament in front of houses and in the garden. It is also possible for the sellors to sell it (we are observing ourselves).

Use in the literature: The aboveground parts of this plant are used as a meal (Dogan et al. 2004). The leaves are dried under the sun, cooked to make soups and cracked wheat in the winter (Behçet and Arik 2013). The plant is used as a food (Furkan 2016).

22. MALVACEAE

79. ***Alcea pallida*** Waldst. & Kit.

The vernacular names: **Hero, Harmale**.

Locality: Kawarta village, Barikapran, Grassland, 36°37'28.20"N, 44°51'40.29"E, 1703 m, 10/06/2017, AMK58. Mediterranean.

Collection period: April-May

Parts Used: Flower, Stem, leaf and Root

Purpose of Use: Food and Treatment

Usage:

A) The plant is used as an ornamental (Ali SHEKHA).

B) The decoction of roots, flowers and seeds are used as a treatment for cold and cough (Aysh HAASAN, Khdir OSMAN)

Use in the literature:

The several types of Malva have been used for food, tea and medicine for thousands of years, including the small flowering Mallochia (Michael 2006). The decoction of roots, flowers and seeds are used as a treatment for cold, cough and inflammations of mouth and digestive tract (Ahmad et al. 2009). The infusions of aerial parts of some species are used as a treatment for diuretic, and kidney stones (Altundag and Öztürk 2011). The infusion of flowers is used as a treatment for tonsilitis and stomachache (Polat and Satıl 2012). The decoction and infusion of flower and leaves are used as a treatment for a diuretic, laxative, cold and sore throat (Rajaeia and Mohamadi 2012). The roots are used as a treatment for bruises and dysuria (Amiri and Joharchi 2013). The dried root of this plant is used as a toothbrush or is chewed by teething children. It has a mechanical effect on the gums while also helping to relieve the pain. The root directly used as cosmetics, which helps to soften the skin. Dried roots and powder have been used to bind active ingredients when making pills for medical use (Kumar et al. 2013). The flower leaves and roots are used as a treatment for respiratory tract infections, gastric ulcer, acute gastritis, cystitis, quinsy, anti-inflammatory and diarrhea (Nejad et al. 2013). The boiled seeds and

lowers are applied to control the swelling of the mucous membrane due to its abundant gum. It is said that mucus juice is very sedative in the throat and gastrointestinal tract. Fresh petals or moisturizers are used to soften and soothe the skin, especially for children's eczema. Apply hydration at least once a day. If the skin is too dry, it is recommended to apply moisturizers at least four times daily. The flower extract is taken to induce bowel movements or relieve stool, often taken to treat constipation. The plant decoction is used to stop urination. It can be used to wash the mouth in some cases of bleeding gums. The herbal tea can also be taken to treat a cough, bronchitis or a sore throat. The root is astringent and esophagus. It is crushed and applied as a blemish for the ulcer (Shahbaz 2013). The fruit and leaf are used as a treatment to relieve a migraine (Farhadi et al. 2016). The poultice and decoction of the leaves are used as a treatment for a cough, burns and chest inflammation. The leaf is used as a treatment for a cough and chest inflammation by boiling the leaf and drinks the water. The leaf is used for treat burns by Poultice. Also, in the Folk medicinal reports previously recorded in the Kurdish ethnobotany used for Irritation and inflammation of the mucous membranes (Ahmed 2016). The flower of the plant is used as a skin moisturizer, removing body homogeneity, treating narrow respiratory problems, neck problems, activating blood circulation, regulating the menstrual cycle and diuretic. The root plant is a body moisturizer and prevents the infection of diseases and cough, inflammation and sore throat; it prevents the formation of stone in the kidney, and low body temperature and sugar in the blood, and stomach ulcers (Amin 2016).

80. ***Malva sylvestris*** L.

The vernacular names: **Tolka, Tolaka, Paniroka**.

Locality: Kawarta village, Barikapran, Grassland, 36°37'28.20"N, 44°51'40.29"E, 1703 m, 10/06/2017, AMK91. Mediterranean. Th.

Collection period: April-May

Parts Used: Whole plant

Purpose of Use: Food, Treatment and Economic

Usage:

A) After the collection, the mashes obtained by crushing the fresh leaves of the plant are putting on the wounded area of the body (Yasin MAHMOOD).

B) The plant's upper parts (flower, stem, and leaves) are boiled in the water and the consumed water is used for a stomach ache (Halima DARWESH).

C) The fresh leaves of this plant are used as food; boiling it in the water, and purifying it from the water, mixing it with the eggs, putting it on the fire in the frying pan. After some minutes it is ready, it is consumed as the best spring food (Jawhar AMIN).

D) The young leaves can be boiled in the water and then purifyied, then mixed with bulger and vegetable oil is included for making soup (Marjan ALI).

Use in the literature:

The leaves, in particular, have been reported to have potent anti-inflammatory, antioxidant, anti-complementary, anticancer and skin tissue integrity activity. Additionally, an anti-ulcerogenic effect was recently proven, demonstrating that the aqueous extract was more effective than cimetidine, a potent medicine used to treat gastric ulcers (Gasparetto et al. 2006). The decoction of the root is used for against cold, the decoction of the leaves is used as a treatment for against cold, as a laxative, as emollient of udders and sometimes the fresh leaves are applied the locally against bites. Also, the decoction of the flower is used together with leaves as digestive, antispasmodic and antiacne (Menale et al. 2006). The whole plant is used as a cooling, emollient, febrifuge and used a treatment in urinary bladder problems (Hussain et al. 2008). The infusion or decoction of leaves is used as a treatment for inflammations, eczema, antitussive, bronchitis, respiratory and digestive system, tonsillitis, bee and spider stick (Fakir et al. 2009). The leaves and flowers are externally used as a treatment for burn, cut wound and cough. The fluid extract of tall mallow flowers and leaves are used as a valuable remedy for a cough and inflammatory diseases of mucous membranes (Pirbalouti 2010). The infusion of the flower is used as a treatment for gastralgia, dysmenorrhoea, kidney malfunction and Cold (Benítez et al. 2010). The leaves are used as a treatment for hemophilia, kidney ailments and sore throat (Uysal et al. 2010). The poultice powdered and pounded of aerial part externally is used as a treatment for skin disorders, wounds, and maturation abscess and abortive. Also, the decoction of aerial part internally is used as a treatment for a sore throat (Altundag and Öztürk 2011). The decoction of aerial parts is used as aphthae. Also, the infusion of leaves is used as a treatment for abdominal pain (Polat and Satıl 2012). The infusion of leaves and fruits are used as a treatment for pharyngitis, furuncles, aphthous, ulcers, febrifuge, antitussive, jaundice, laxative, gastric ulcer and treatment of wounds (Amiri and Joharchi 2013). The

dried leaves are mixed with flour water and used to relieve abdominal pain (Bulut and Tuzlaci 2013). The decoction of aerial parts is used as a treatment to against, gastralgia and laxative boiled (Dogan and Ugulu 2013). The plant is used to relieve coughs, bronchitis, sore throat, mouth ulcers, laryngitis and hoarseness (Nouria et al. 2013). The infusion of the flower is used as a treatment for jaundice, pharyngitis, furuncles, aphthous ulcers and antitussive (Amiri et al. 2014). The aerial parts are used as a herbal tea (Dolina and Łuczaj 2014). The powdered of aerial parts are used orally to treat hair loss and the decoction of the leaf is used as constipation by mouth (Naghibi et al. 2014; Mosaddegh et al. 2015). The new leaves are consumed as a food after roasting in the oil (Ahmad et al. 2011; Gürdal and Kültür 2014; Arı et al. 2015). The leaves are consumed as soups and the decoctions of the whole plant are used as a treatment for urinary and genital, tracts inflammations, digestive (Bellia and Pieroni 2015). The leaves are used as a treatment for mumps; mature a button (maturative). Also, the internal leaves and flowers are used as a treatment for cold and stomachache (Meddour and Meddour-Sahar 2015). The leaves and flowers are used as a treatment for a throat infection, rheumatism, eczema, cold, stomach diseases and hemorrhoid treatment (Korkmaz et al. 2016). The infusion of the flower is used as an anti-cough and soothing sore throat (Mohammadi et al. 2016). The whole plant is used as a treatment for intestinal pain. The leaves are used for high blood pressure, lung (chest) aches, cough, rheumatism, treat infertility, lung diseases, urinary incontinence and intestinal aches. The leaf is used to wash in cancer, diabetes, in inflammatory diseases and treating women who can not have children. Also, the plant used as an ointment, by crushing the whole plant and adds it to boiling water and purified, after that apply it to inflamed wounds (Nadiroglu 2017).

23. OLEACEAE

81. ***Fraxinus angustifolia*** Vahl subsp. ***syriaca*** (Boiss.) Yalt.

The vernacular names: **Bnaw**, **Dar bnaw**.

Locality: Kawarta village, zewala, Grassland and Valley, 36°37'24.16" N, 44°51'55.89" E, 1168 m, 27/06/2017, AMK80.

Collection period: May-June

Parts Used: Above ground (Upper Parts)

Purpose of Use: Fuel, Handicraft and Economic

Usage:

A) The plant stem is used to cover the roof of the house by the villagers, and the plant leaf is used to construct the Montazah Resort (Jawhar AMIN).

B) The stem of the plant is used to construct the artificial objects made of handmade wood (Amina DARWESH).

C) In winter, villagers use dry stalks as fuel for heating and sold it to obtain the money.

Use in the literature:

The decoction of the leaves and the root are used as a treatment for rheumatism (Camejo-Rodrigues et al. 2003). The decoction of the leaves is used as a treatment for gastralgia and rheumatism. Also, the infusion of leaves is used as a treatment for kidney stones (Benítez et al. 2010). The infusion of flowering branches is used as a treatment for prostate ailments (Bulut et al. 2011). In Portugal, the leaves are used for making lower levels of cholesterol in the blood, among other effects (Fale et al. 2014). The seeds are internally used as a tonic and antipyretic. Also, the externally used a treatment to relieve the body aches (Meddour and Meddour-Sahar 2015). The infusion of leaves is used as a treatment for allergy (Benarba 2016). The whole plants are used as an ornamental plant and used a roller in construction the home (Furkan 2016). The whole plant and stems are used to making the tools for agricultural practices and the artisanally used to prepare a broom and cane. Also, the timbers are used to manufacturing a boat, wheeled vehicles and furniture (Gras et al. 2016).

24. ONAGRACEAE

82. ***Epilobium sp.(Epilobium parviflorum, Epilobium angustifolium)***

The vernacular name: **Punga kewilka**.

Locality: Kawarta village, zewala, Grassland and Steppe, 36°37'16.64" N, 44°51'47.92"E, 1139 m, 08/05/2017, AMK23.

Collection period: April-May

Parts Used: Whole plant

Purpose of Use: Treatment and Herbal tea

Usage:

A) The extract of the leaf of this plant is used as a treatment for digestive system diseases (Hajar AMIN).

B) The flower of this plant is used as an herbal tea (Amina DARWESH).

The use of literature:

The plant has also been used for preventing rectal bleeding by Native Americans and for treating menstrual disorders by Chinese people. For treating constipate and prostate, the leaves and roots have been used in Anatolia. Moreover, they are used as antifebrile drug. Water extract of this plant revealed significant inhibitory effects on edema of rat paws, although methanol extraction had weaker result (Benay 2012). The decoction and smoking are used as a treatment for common cold (Kujawska et al. 2017).

83. ***Epilobium hirsutum*** L.

The vernacular names: **Bora pung, Zra Pung, Sora pung**.

Locality: Kawarta village, wetland, 36°37'12.50"N, 44°51'00.50" E, 1129 m, 02/07/2017, AMK84.

Collection period: June-July

Parts Used: Above ground (Upper Parts)

Purpose of Use: Treatment

Usage: The above ground parts are used as a treatment for stop bleeding (Amina DARWESH, Halima AHMED).

Use in the literature: The root, the flowers and the whole plant are used as a treatment for invigorate the circulation of blood, menoxenia, amenorrhea, injuries from falls, furuncle, fracture, too much leucorrhea and carbuncle (Li et al. 2006). The aerial parts are used as a treatment for warts; for bathing sick infants (Moteetee and Van Wyk 2011). The inflammation of the air parts is used as a treatment for disruptive, collirticolagogo, clot, anti-inflammatory, antimicrobial, cell inhibition, regeneration, hepatitis, ulcers, hematostatic, enteritis, cirrhosis, urinary disorders (Ciancolini 2012). The medicinal plant, Epilobium hirsutum L. has been used for the treatment of inflammation, adenoma menstrual disorders, constipate, and prostate, as well as prevention of rectal bleeding (Benay 2012). The powder of leaves is used for the inflammations, joint pains and skin allergies (Abbas et al. 2014).The whole parts are used as animal fodder and pounded and mixed with straw (Korkmaz et al. 2016).

25. ORCHIDACEAE

84. ***Dactylorhiza umbrosa*** (Kar. & Kir.) Nevski var. ***longibracteata*** Renz

The vernacular names: **Salma, Salmka**.

Locality: Shore village, near main road, wetland, 36°42'07.90"N, 44°54'35.85"E, 1771 m, 09/06/2017, AMK53.

Collection period: May-June

Parts Used: Whole planr (Upper Parts)

Purpose of Use: Food and Treatment

Usage: The root bulb is used for food and treatment (Amina DARWESH).

Use in the literature: The root internally is used as a treatment of sexual impotency and tonic (Amiri and Joharchi 2013).

26. PAPAVERACEAE

85. ***Fumaria parviflora*** Lam.

The vernacular names: **Shatara, Gya shatara, Gya darmana, Shirin shatara**.

Locality: Kawarta village, bari kapran, steppe and grassland, 36°37'05.79" N, 44°51'57.04" E, 1124 m, 16/04/2017, AMK3. Th.

Collection period: April-May

Parts Used: Above ground (Upper Parts)

Purpose of Use: Fodder and Treatment

Usage:

A) This plant is used as a treatment for animals. After collecting and drying it under the shade, it could be crushed and changing it to the powder and then can be used to treat a wounded skin. (Chato AGHA).

Use in the literature:

In Turkish delight, the leaves are used as a roasted, salad and pie (Dogan et al. 2004). The infusion of aerial part is used as diuretic. The raw latex is also used as a treatment to against warts (Menale et al. 2006).In vivo studies (mice), herb preparations had no effect on normal colourizes but modified bile flow that was artificially increased or increased. An anticonvulsant activity has been reported on smooth muscle. The precursors inhibit the formation of gallbladder computation in animals. Major alkaloid protoproteins have antihistamines, low blood pressure, slow heartbeat and soothing activities in small doses, while larger doses cause excitation and convulsions. Bactericidal activity against Gram-

positive organisms the anthrax bacilli and Staphylococcus aureus have been reported. The use of fumatory use during pregnancy and lactation should be avoided (Barnes et al. 2007). The infusion of aerial part is used as a treatment for activator, diuretic, depurative, borgative, diaphoretic, anti-inflammatory, arrhythmias, urinary tract, heart disorders and digestion (Tita et al. 2009). The decoction of the aerial part is used internally to relieve abdominal pain. Also, the powdered is used externally to relieve headache, itching antiseptic, and the decoction of aerial part is used to treatment for toothache, oral diseases by gargling it(Altundag and Öztürk 2011).The flower is used as a treatment to relieve gastric pain, arrhythmia, anti-inflammatory, heart, depurative, diaphoretic, gastrointestinal tract, diuretic and purgative(Cakilcioglu et al. 2011).The infusion of aerial parts is used as a treat to anti-hypertensive (Polat and Satıl 2012). The infusion of aerial part is used to treat metrorrhagia (Stevanović and Ibraliu 2014). The fresh leaves are eaten (Polat et al. 2015). The powder of the whole plants is externally used to mange. Also, in folk medicine is used as a tonic, diaphoretic, inhibition of painful swelling, stomach pain, insect repelling, blood purification and convulsions, skin discordances, wound, eczema, hemorrhoids, inflammation, spastic and antispasmodic, stomach pain (Ahmed 2016). The infusion of aerial parts is used a treatment for eczema and scabies (Akgül et al. 2016). This plant is used as a diuretic, activating bowel for digestion, and treating eczema. It also affects pregnant and breastfeeding women. When this plant is used in a large amount, it increases the blood pressure and fluid between the tissues of edema (Amin 2016). The whole plant is harvested for selling (Gras et al. 2016). The branches with flowers are used to relieve high blood pressure, stomachache, psoriasis, eczema and hepatoprotective (Korkmaz et al. 2016).

86. ***Papaver rhoeas*** L.

The vernacular name: **Kluka sura**.

Locality: Kawarta village, bari kapran, Grassland, 36°37'09.79" N, 44°51'64.04" E, 1130 m, 17/04/2017, AMK5.

Collection period: April-May

Parts Used: Flower, Leaves, Latex, Oil and Seeds

Purpose of Use: Treatment

Usage:

A) This flower plant is used as a treatment for diseases. After collecting and drying under the shade, then changing it to the powder after that putting it in the capsules so it can be used as a drug (Chato AGHA).

B) Leaf and steam of it are eaten (Amina DARWESH).

Use in the literature: The aboveground part is used as a meal, roasted, pie, salad and cold drink (Dogan et al. 2004). The tender leaves and stems are consumed as a stewed and salads (Tardío et al. 2005). The flower was used sometimes to dye fabric after decoction (Guarrera 2006). The both of latex, raw, seed and flower decoction are used as a children sedative by applying locally against worts (Menale et al. 2006). The infusion aerial parts are used as a treatment for rheumatism (Kultur 2007). The infusion of the flower is used as appeaser an antitussive. Also, the decoction of the capsule is used as painkiller especially teeth pain (Fakir et al. 2009). The infusion of flowers is used as a treatment for anti-inflammatory, antitussive, expectorant, emollient and respiratory disorders(Tita et al. 2009). The infusion of petals is used as a treat to nervousness, the decoction of petals is used as a treatment for baldness. Also, the decoction of the flower is used as a treatment for eyes infection (Benítez et al. 2010). The decoction of plant is used internally as sedative (Altundag and Öztürk 2011). The flowers and capsules are used for slight sedative (Sher et al. 2011). The fresh aerial parts are used to cure red spots on the body of children (Polat and Satıl 2012). The Infusion of the flower is used as a treatment of addiction, sleeplessness, antitussive, antiasthmatic, calmative, sedative and expectorant(Amiri and Joharchi 2013). The cooked roots are eaten as a treatment for heart diseases (Gurdal and Kultur 2013). The infusion of the aerial parts is used internally as an antitussive and sedative (Kilic and Bagci 2013). The decoction and Snuffing of flower is used as a treatment for anti-hemorrhagic by dropping 1-2 drop into the nostrils every day (Sağıroğlu et al. 2013).The seed is used as a treatment for sleep difficulties in babies by added a few seeds and wrapped in a handkerchief and used as a dummy (Okafor et al. 2014).The decoction of seed and capsule is used as a treatment for the antidiabetic (Bahmani et al. 2014). The flowers are consumed as a food by cooking as a stew or egg vegetable dish (Polat et al. 2015). The decoction of flowers are used as against fever, antitussive, against asthma, pectoral, emollient and a treatment for sleep troubles (Rhafouri et al. 2015).

27. PLANTAGINACEAE

87. *Plantago media* L.

The vernacular names: **Rukesh, Gwe barkha**.

Locality: Warda, Delza, and Kawarta village, wetland, 36°37'13.56"N, 44°51'52.02"E, 1155 m, 12/07/2017, AMK95.

Collection period: June-July

Parts Used: Leaf and Stem

Purpose of Use: Treatment

Usage: the leaves are used as a treatment and to stop bleeding, by placing on the wound area (Abdulla RASUL, Hamdya AHMED).

Use in the literature:

The leaves are used as a treatment for cutting, wart, dermal wounds and dermal inflammation (Ghorbani 2005). The leaves are used as antibacterial properties. Externally as a CMD to be applied to wounds, cuts, scaly wounds and ulcers. Internally for diarrhea, convulsions, intestinal ulcers and stomach, anti-cough and sedative (Jaric et al. 2007). The infusion of leaves are used as expectorant treatment, anti-cough, emollient, anti-inflammatory, astringent, antimicrobial, cicatrizing, bronchitis, throat, trachea, diarrhea and wounds(Tita et al. 2009). The leaves are used as a treatment for cutting, wart, dermal wounds and dermal inflammation. The leaves and seeds of some species of plantago are used as a treatment for diseases relating to skin, digestive organs and blood circulation like wounds, inflammation and hypertension. Either whole or crushed leaves have been used to treat for example burns and all kinds of wounds to enhance the healing process, and to stop bleeding. Also it could be used as a treatment for superficial wounds it is sufficient to apply the juice from the leaves (Zubair 2010). The dried or fresh leaves are used externally as an astringent and anti-inflammatory (Altundag and Öztürk 2011).The decoction of fresh leaves is externally used as a treatment for antibacterial, haemostatic and diuretic (Vilma et al. 2014). The leaves are used by the children to make toy baskets. Also, the paste of leaves is used as a treatment for skin diseases, respiratory disorder and hemorrhoid by putting it the location ache (Korkmaz et al. 2016). The new fresh leaves have a fairly mild flavor but with a few bitterness, and leaves used in salads. The flower is sweet that can be absorbed by children. The leaves are used as a treatment for blight on fruit trees, In the case of knife cuts and similar wounds, the fresh green leaf of the plant can be put on the wound and placed and tied up with a piece of cloth. Green and fresh

leaves are collected. Stew together with the egg (Kaval et al. 2015). The boiled leaves are used as a treatment for abscess and liver diseases(Mükemre et al. 2015).

28. PLATANACEAE

88. ***Platanus orientalis*** L.

The vernacular name: **Chnar**.

Locality: Zewala, and Kawarta village, Mountains and Grassland, 36°37'13.56"N, 44°51'52.02"E, 1155 m, 12/07/2017, AMK100.

Collection period: June-July

Parts Used: Above ground (Upper Parts)

Purpose of Use: Fodder, Treatment and Fuel economically

Usage:

A) The stems and the leaves of the plant are used for roofing the houses by the villagers (Jahfar AMIN).

B) The leaves of the plant are used as feed for goats and cows (Hajar AMIN).

C) After drying the wood of the plant it is used for musical instrument industry such as baglama, saz, violin, and cello (Jawhar AMIN).

D) The stems are consumed for construction and furniture material and can be used as a wood fuel, and charcoal (Amina DARWESH).

The use of literature:

The fresh leaves are bruised and applied to the eyes in the treatment of the eyes. The decoction is used to treat dysentery and cream made from the leaves is used to heal wounds and chilblains. The bark is also boiled in vinegar and then used in the treatment of diarrhea, dysentery, hernia and dental pain. Also, in ancient traditional medicine, various tree bark preparation has been used and some are still in use to stop bleeding, the eyes ointment, burns, bite sting bites and inflammation (Shahbaz 2013).

29. POACEAE

89. ***Avena sterilis*** L. subsp. ***ludoviciana*** (Durieu) Gillet & Magne

The vernacular name: **Dulka**.

Locality: Kawarta village, Kroska trsh, Grassland and Aquatic, 36°37'05.58"N, 44°51'57.26"E, 1140 m, 16/04/2017, AMK2.Med.

Collection period: April-May

Parts Used: Stem-leaf-Flower (Upper Parts)

Purpose of Use: Treatment, Food and Fodder.

Usage:

A) The leaf, steam and the bulb of it can be eaten by human. Also, the whole plant is a fodder for animals (Mryam AHMED).

B) The seed is used as a treatment for diabetes and abdominal disorders (Abdulla DOGHA).

The use of literature:

The aboveground is used as a fodder (Akan et al. 2013). The seed, hay and bran are used as a nutrient, diuretic, laxative, sedative, calmative, antispasmodic, and tonic. Water in which the seeds have been boiled is administered orally, to strengthen women after childbirth and to increase milk during breastfeeding. Seeds soaked in water are used as a cosmetic. Oat seeds and hay are soaked in water to prepare a drink for the treatment of genitourinary tract infections, abdominal disorders, constipation, and diabetes, and to increase sexual desire. Oats are used to treat skin diseases, tumors, and cancer. They also act as an antiseptic for the sexual organs of men and women and are used to treat prostate problems (Abu-Rabia, 2015). The flower of this plant is useful, after boiling it in the water and drinking this water, it is used as a treatment for renal insufficiency, diuresis, arthritis, rheumatism and skin diseases (Baydoun et al. 2015).

90. ***Setaria italica*** (L.) P. Beauv.

The vernacular name: **Klka rewi**.

Locality: Konakhanan and Kawarta village, wetland, 36°37'12.51" N, 44°51'00.49" E, 1132 m, 14/07/2017, AMK119.Med.

Collection period: April-May

Parts Used: Above ground (Upper Parts)

Purpose of Use: Food, Fodder and Handicraft

Usage:

A) The whole plant is used as a fodder for the animal (Amina DARWESH).

B) It is used for many purposes main of which is basket making. Also, the seed used as a sweet food in all these ways that use rice, or ground to flour and make it into porridge, cakes, desserts etc (Abdulla RASUL).

Use in the literature: Its usage is not mentioned in the literature.

30. POLYGONACEAE

91. ***Rheum ribes*** L.

The vernacular names: **Rewas, Mam rewas**.

Locality: Kawarta village, Kroska trsh, Mountains and Steppe, 36°40'17.23"N, 44°49'52.82"E, 2435 m, 16/05/2017, AMK35.

Collection period: April-May

Parts Used: Whole plant

Purpose of Use: Food, Treatment and Economical purposes

Usage:

A) The immature stalk of the plant is used to make broth and jam (Fakhir Hasan and Ghazy Ahmed).

B) The young body part and the leaf stalk of the plant can be eaten as a raw.

C) The root of the plant is used as a diabetes treatment after drying the root, crushing it, boiling it in the water and after that could be used as a drink (Abdulla RASUL and Yunis Mohammed).

D) The new stalk of the plant after collecting by villagers in the mountain, bringing to the city or grocery markets to sell (Krekar QADIR, Mohammed Husein, and Mustafa Jamil).

Use in the literature:

The antioxidant activity of chloroform and methanol extract of roots and stems of Rhubarb, which are used for medicinal purposes, and also its fresh stems and petioles are consumed as a vegetable. The antioxidant potential of both extracts of roots and stems were evaluated using different antioxidant tests, namely total antioxidant radical scavenging, superoxide anion radical scavenging, ferric reducing power, and cupric reducing power, and metal chelating activities (Öztürk et al. 2007). The aerial parts are used as a treatment for urinary inflammation (Cakilcioglu and Turkoglu 2010). The decoction and pounded of root and stems are internally used as a treatment for an expectorant, digestive, anti-hemorrhoidal, tonic, stomachic, diabetes, anti-emetic, ulcer,

diarrhea, anthelmintic, constipation, and hypertension (Altundag and Öztürk 2011). The decoction of the aerial part is used as a treatment for raw digestive, diuretic, for constipation, high cholesterol and kidney stones (Cakilcioglu et al. 2011). The infusion of rhizomes is used as a treatment for urinary inflammation and osteoporosis diseases (Demirci and Özhatay 2012). The young aerial part is used as a treatment for diarrhea (Mosaddegh et al. 2012). The fruit and petiole are used as a treatment for a diuretic, depurative, jaundice, urinary antiseptic, liver tonic, antiseptic and hair tonic (Amiri and Joharchi 2013). The young stems are striped and eaten raw. Also, the dried root is boiled to prepare Tea, it is used as a treatment for stomach pains, jaundice and against to diabetes (Behçet and Arik 2013). The Rhubarb acts in small doses as a digestive enhancer for the digestive system, stimulates appetite, and helps digestion. The grass is a mild tonic. Checks diarrhea and improves evacuation. In herbal medicine stem and plant roots are used to treat anemia, loss of appetite, weakness, and anxiety, mild to moderate-severe depression. The roots are traditionally used to treat diabetes, arteriosclerosis, ulcers, as well as diarrhea (Shahbaz 2013). The decoction of aerial part and root is used as a treatment for antidiabetic, antiemetic, diabetes, diabetes disease, hemorrhoids, urinary inflammations, purgative, stomach-ache, ulcer and digestive(Tetik et al. 2013). The fresh fruit is eaten after peeling (Dogan and Tuzlaci 2015). The aerial part is eaten raw as a treatment for a headache. Also, the decoction of root is used as a treat for diabetes disease (Mükemre et al. 2015). The aerial part is a source of vitamins and minerals, it is consumed as a food eaten fresh and cooking as a stew or egg vegetable dish (Kaval et al. 2015; Polat et al. 2015). The decoction of aerial parts are used as a treatment for diabetes (Bulut et al. 2016). The decoction and squash of roots are used as a treatment for diabetes. Also, the plant used as a treatment for hypoglycemic, urinary inflammations, digestive, diuretic, constipation, high cholesterol, kidney stones, diabetes, headache, hypertension, triglyceride, rheumatic pain control, anti-diarrhea, asthma and cardiac disorder (Ahmed 2016). The stem is used to decrease blood pressure (Ahmadi et al. 2016; Ahmedi and Samani 2017). The root is eaten raw as a treatment for inflammatory diseases. Both stem and roots are used as a treatment for diabetes and heart disease (Nadiroğlu and Behçet 2017). It is used in traditional medicine system, and also it is used as antimicrobial agent against different species of bacteria (Obaid et al. 2017).

92. *Rumex tuberosus* L. subsp. ***horizontalis*** (Koch) Rech.

The vernacular name: **Trshoka**.

Locality: Kawarta village, Kroska trsh, Wetland, 36°40'43.13" N, 45°0'15.60" E, 1549 m, 07/05/2017, AMK18.

Collection period: April-May

Parts Used: Leaf (Upper Parts)

Purpose of Use: Food and Treatment

Usage:

A) The fresh leaf of the plant could be eaten as raw (Amina DARWESH).

B) It could be eaten with foods and mixes with salad to give a sour taste to it (Parwin RASUL).

C) The seed of the plant is used as a diabetes treatment after drying it, boiling it in the water and then drinking the purified the water (Abdulla RASUL).

Use in the literature:

The stem and leaves are used as a treatment for tension regulator and kidney stone dropping (Uysal et al. 2010). The infusion of root is internally used as a treatment for diuretic and antipyretic. Also, the fresh leaves can be eaten to orexigenic (Altundag and Öztürk 2011). The decoction of leaves and roots are internal as used as a raw diabetes disease, tuberculosis, antipyretic, constipation, diabetes disease and a diuretic (Tetik et al. 2013). The leaf is eaten directly as a salad to body resistance because of a source of the vitamin (Gürdal and Kültür 2014; Ari et al. 2015). The salad paste is cooked like spinach at the same time. After boiling the leaves and roots in the water can be used in the treatment of sore throats. The whole plant is salted and eaten for blood pressure and abdominal pain. The body and leaves of the plant are eaten with salt for appetite. The plant is put in the yogurt sacks. Black dye is obtained from the roots of the plant. Also, the leaves are used as stuffing leaves from fresh (Kaval et al. 2014; Kaval et al. 2015).

31. PORTULACEAE

93. ***Portulaca oleracea*** L.

The vernacular names: **Plpena, Palpena, Parpena, Pirpar, perpina, Pepinar**.

Locality: Kawarta village, darade, inside garden and grassland, 36°37'05.58"N, 44°51'52.05"E, 1156 m, 05/07/2017, AMK86. Th.

Collection period: April-May

Parts Used: Above ground (Upper parts)

Purpose of Use: Food, Treatment and Economical purposes

Usage:

A) The top part of the fresh plant can be added to cheese or yogurt is thrown. Also, the top part of the fresh plant can be added to salad (Mustafa QADIR).

B) The leaves can be dried for later use. It is used to strengthen the body of farmers and workers which is working under the sun (Amina DARWESH).

C) The immature part of the plant is used as food. After boiling it in the water, mixing with lentils, and putting on the fire, thus it is ready for eaten (Halima DARWESH).

D) The plant is being sold in the grocery market and on main road in Choman (our own observations).

Use in the literature: The leaves are usually widely eaten as soups and salads in the Mediterranean countries (Chan et al. 2000). The stem and leaves are consumed as a stewed and salad (Tardío et al. 2005; Bellia and Pieroni 2015; Biscotti and Pieroni 2015; Dogan and Tuzlaci 2015). Many plants contain several factors known to help protect the human body against common diseases, such as cancer and coronary heart disease. These protective factors are called nutraceutical. Also, the pfneumatic parts of the plant are used as a handle, chiller, and diuretic. The herb pot is also used in salad. Paste or juice is useful in burns, hot infections and headaches. A pile of leaves used in burns, boils, ulcers and wounds. Seeds are used in diarrhea and dysentery. It is used in barbed heat powder. The herb is used in urinary incontinence (Hussain et al. 2008). The infusion of aerial parts is used as a tonic, bitter and a treatment for antitussive, anorexia and cough (Tita et al. 2009). The aerial parts are consumed as a food, cooking and vegetables. Also, it is used as demulcent (Ahmad et al. 2010; Idolo et al. 2010). The infusion of the whole plant is consumed as an antipyretic (Cakilcioglu and Turkoglu 2010). The decoction of aerial parts is used as anorexigenic, antihelmintic, diuretic, stomachic, urethra infection and inflamed wound (Altundag and Öztürk 2011). The leaves are eaten for children's snack. Also, the seeds are famine food (Dénes et al. 2012). The aerial part is consumed orally as a stomach tonic (Mosaddegh et al. 2012; Polat et al. 2015). The leaves and seeds are used as a treatment for antitussive, anti-hemorrhoids, anti-thirst, food digestion, depurative, diuretic and febrifuge (Amiri and Joharchi 2013). The aerial parts are used as a treatment for diuretic and gastrointestinal disorders (Kilic and Bagci 2013). The aerial part used as a treatment for diuretic, slow blood flow (Moret 2013). The fat present in this plant is

essential for life and it is the essential fact that plays a very important role in the human body. It helps the body run smoothly in many ways, helps the brain work well, mobilize the joint, produce energy and also helps the body absorb vitamins, coat the cells with lubrication and thus provide a protective barrier, act as chains in the body and work to regulate steroid hormones. It is used to treat colds, sore throat, diarrhea, wounds and stimulate breastfeeding (Ora1 and E.G., 2013). The roots and stems are consumed as a vegetable and a treatment for anti-parasite (Ghasemi et al. 2013). The aerial parts of plant are used for anorexia and appetizing. Also, it is used a treatment for diabetes, cancer, heatstroke, kidney stones, costiveness and intestinal spasm (Sargın et al. 2013). It is widely used in tropical and subtropical regions of the world where it is consumed as nutritious vegetables and used for its medicinal properties (Shahbaz 2013). The decoction of the aerial part is used as a treatment for constipation, diabetes disease and Cardiac disorder (Tetik et al. 2013). The best use of chips for human consumption as green vegetables is rich in minerals and Omega 3 fatty acids. It may provide protection from cardiovascular diseases, cancers, and a number of chronic diseases and chronic conditions throughout human life. They have more antioxidant enzymes which are involved in maintaining the glutathione balance in tissues (Uddin et al. 2014). The soak of seed is used as a treatment for antitussive, anti-thirst, jaundice, febrifuge and depurative (Amiri et al. 2014). The infusion of aerial parts are used as a treatment for diabetes disease and diuretic (Hayta et al. 2014). The leaf and seed are used against anti-blood lipid, blood purifier and a diuretic (Dolatkhahi et al. 2014; Uzun and Kaya 2016). The aerial parts are eaten in salads. Also, it is used in cheese production (Kaval et al. 2015). The stem is used for the healing of kidney and also used for urinary tract infection (Khan et al. 2015). The aerial part of the plant is consumed to blood purification (Ahmadi et al. 2016). The decoction of aerial parts is used as a treatment for varicosity (Bulut et al. 2016). The leaf is eaten to relieve migraine headaches (Farhadi et al. 2016). The decoction of leaves is used as a treatment for stomachache and regulation the menstrual periods (Tugume et al. 2016). The fresh plant is used to make a juice and given twice daily two drops to treat renal failure (Jaradat et al. 2016).

32. PUNICACEAE

94. ***Punica granatum*** L.

The vernacular name: **Hanar**.

Locality: Nawanda and Kawarta village, darade, cultivated, 36°37'10.55" N, 44°51'57.26"E, 1140 m, 07/07/2017, AMK88.

Collection period: June-July

Parts Used: Fruit

Purpose of Use: Food, Treatment and Economic

Usage:

A) The plant crop used as a fruit (Haji RASUL).

B) The villagers and the owners of the pomegranate forest sell their products in the grocery and customs markets to make money (Hamin FAQE).

C) Pomegranate is used for other trades including jams, jellies and sauces (Shukrya KHDR).

D) In the past, the pomegranate peels were used in tanning leather (Amina DARWESH)

E) The pomegranate peel could be mixed with crushed oak galls and be used as a treatment for a burn and diarrhea treatments. Also, peel pomegranate powder is used as a treatment for oral gums (Amina Darwish).

Use in the literature:

The seeds and fruits are used to treat diarrhea, gastrointestinal problems, male sex, reconstituting power, skin lesions and hemostatic lesions in menstruation (Ghorbani 2005). The fruits are used for liver problems, fever, cough, and increased blood composition. The fruit peel is used in swelling, infections, and uterine problems. Some people use boiled dandruff for sore throat, septic infiltration, as well as bone fractures. Roasted roots are used to treat ringworm and diarrhea (Khan and Khatoon 2007). The fruit is a good source of sugar and vitamin C, and they useful in the affection of the brain, heart tonic, cough, colds, diarrhea, dysentery and stop bleeding from the nose (Sharma et al. 2010). The fruit could be eaten fresh, and the flowers are used to regulation a tension (Uysal et al. 2010). The fruit is used as a treatment in loss of appetite, dysentery and diarrhea. Also, the stem wood paste and leaf is used in skin diseases (Shankar and Devalla 2012). The seeds are eaten raw as a food and as a treatment of diabetes (Polat and Satıl 2012; Kilic and Bagci 2013). The flower and root are used for blood flux, anti-hemorrhage and anthelmintic (Amiri and Joharchi 2013). The fruit is directly eaten or squeezed and its juice is drunk against diarrhea (Dogan and Ugulu 2013). The pericarp of fruit is eaten with water to treat diarrhea (Gurdal and Kultur 2013). The seeds, flowers,

juices of fruit and bark are used as an anti-cancer, anti-diabetic, leprosy, brucellosis, diarrhea, immune, antioxidant, dysentery, bronchitis, hypertension and spasticity (Rehman et al. 2013). The fresh juice is used as an agent for the treatment of anemia, diabetes, low cholesterol, forgetfulness, stomach and bark fruit for diarrhea and boiled roots is a treatment for the fruit of the exterminator. Also, flowers are used to treat heart disease and depression, fresh fruit is used as a treatment and treatment for stomach diseases, diabetes and cough (Sağıroğlu et al. 2013). The fruit is eaten or after decoction used as a treatment for gastrointestinal diseases and diabetes (Sargın et al. 2013). The decoction is used for root bark for tapeworm. The bark of the root tree, to a lesser extent, the fruit shell is lethal and repellent of intestinal worms. Alkalis in the roots cause the tapeworm to loosen its grip on a wall, allowing weak parasites to be easily expelled by another herbal medicine, the panacea. Extracts of bark, leaves, fruit and immature fruits were given as holding syringes to stop diarrhea, dysentery, and bleeding. The pomegranate and root extract extracts have been verbally and intravenously used to prevent fertility and improve various gynecological problems, moreover, the decoction of seeds is used to treat syphilis. The fruit crust is milled in water and is drunk every morning by diabetics. Pomegranate juice is used to treat indigestion and it is useful in leprosy. Dried flower buds are used as a treatment for bronchitis. In Mexico, the decoction of flowers is neglected to relieve the inflammation of the mouth and throat. Seed leaves, roots, and bark have lowered high blood pressure, display antispasmodic activity and initial minutes. In Ayurvedic medicine, pomegranate is used as an antifungal agent, a blood tonic, and a cure for diarrhea and sores (Shahbaz 2013). The dried fruit is used as a treatment to removal of intestinal helminths to make in bolus form (Akhtar 2014). The decoction of the leaf is used as a treatment to remove a tape worm (Amberber et al. 2014). The fruit is used a treat for sore throat (Conde et al. 2014). The fruit is used for appetizing, cholagogue and jaundice (Dolatkhahi et al. 2014). The fruit could be eaten fresh (Gurdal and Kultur, 2014). The fruit shell is a treatment for stomach pain and indigestion (Iminjan et al. 2014). The fruit is anthelmintic, astringent, cardiac tonic, cooling, expectorant, useful in brain affections, cough and cold and bleeding nose. The fruit juice is good source of Vitamin C and also used to make wine. The flowers yield is used to a red dye. The flower buds are used in bronchitis. The rind is used in diarrhoea and dysentery. The bark is used to expel tapeworms (Singh and Thakur 2014). It is often used in herbal tea and other herbal remedies and herbal tea from leaves are used as a very

effective cough medicine. Also, it is used as a treatment for ulcers, diarrhea and gastrointestinal disorders (Abbas, 2016). The flowers are used as a treatment for lower cholesterol and diabetics. Also, used to cleaning blood and digestive (Korkmaz et al. 2016). The seed could be eaten as a treatment for diarrhea (Bulut et al. 2017).

33. RANUNCULACEAE

95. ***Adonis aleppica*** Boiss.

The vernacular name: **Gula khwen**.

Locality: Konakhana and Kawarta village, Kani prdok, grassland, 36°37'13.44"N, 44°51'52.10"E, 1157 m, 19/07/2017, AMK96. Iran-Turan

Collection period: June-July

Parts Used: Flower

Purpose of Use: Ornamental

Usage:

A) The plant is grown as an ornamental plant in front of the houses (Abdulla RASUL).

B) It is used as an ornamental plant (our own observations).

Use in the literature: There is no use/trade information for this species.

96. ***Adonis microcarpa*** DC.

The vernacular names: **Gula sura, Chaw wshtr, Adonis**.

Locality: Kawarta village, Kani prdok, grassland, 36°37'14.61"N, 44°51'09.69"E, 1137 m, 14/07/2017, AMK124.

Collection period: June-July

Parts Used: Flower

Purpose of Use: Ornamental

Usage:

A) The plant is grown as an ornamental plant in front of the houses (Abdulla RASUL).

B) It is used as ornamental plant (our own observations).

Use in the literature: The decoction of the whole plant is used as a treatment for cardiac disorders (Baydoun et al. 2015).

97. ***Ranunculus cornutus*** DC.

The vernacular name: **Gula tika**.

Locality: Merga village, kani Purakhaj, Wetland, 36°35'32.59"N, 44°50'14.41"E, 1210 m, 22/06/2017, AMK72.

Collection period: June-July

Parts Used: Whole plant

Purpose of Use: Ornamental

Usage:

A) The plant is used as an ornamental plant in front of the garden house (Abdulla RASUL).

B) It is used as an ornamental plant (our own observations).

Use in the literature: Its usage is not mentioned in the literature.

98. ***Ranunculus sericeus*** Banks & Sol.

The vernacular name: Chapchapi . selepuk(Turkish name);Chenar kala (Persian name).

Locality: Merga village, aquatic, 36°37'10.50" N, 44°50'16.41" E, 1213 m, 22/06/2017, AMK71.

Collection period: June-July

Parts Used: Above ground (Upper Parts)

Purpose of Use: Treatment

Usage: The leaves of this plant are used as a powerful treatment for skin irritations, infections and skin allergies (Abdulla RASUL).

Use in the literature: The pounded of plant is externally used as a treatment for antirheumatic and inflamed wounds (Altundag and Öztürk 2011). The leaves are used as a therapy for diarrhoea, vomit, and dysentery(Shahrokhi et al. 2014).

99. ***Thalictrum minus*** L. var. ***majus*** (Crante) Creping

The vernacular names: **Gyay mam myran, Mam miran, Gya mamilan**.

Locality: Weza Village, Wetland, 36°35'21.00" N, 44°59'18.85" E, 1937 m, 10/07/2017, AMK94.

Collection period: June-July

Parts Used: Whole plant

Purpose of Use: Treatment

Usage:

A) The plant is grown as an ornamental plant in front of the houses. Also, the plant leaves are used as a bowel treatment (Abdulla RASUL).

B) It is used as an ornamental plant (Hawri SLEMAN).

Use in the literature:

The decoction of the plant is used as a treatment for asthma by vaporization. Also, the poultice of the plant is internally used cardialgia and headache as well as it is externally used as a therapy for eye diseases, diuretic, and abscess (Altundag and Öztürk 2011). The decoction of roots is taken for fever (Moteetee and Van Wyk 2011). The plant used as a treatment for wound healing and it is especially effective (Kozuharova et al. 2012). The leaves are used as a treatment for gout, conjunctivitis, fever, and rheumatism. The root is used for treating conjunctivitis and fever, as well as the stem, is used as a therapy for gout and rheumatism. Also, the whole plant was used as a treatment for conjunctivitis, eye redness, and fever (Gürdal and Kültür 2014). The decoction of leaves, flowering branches are used as a treatment for a cough and mucus (Mohamadi et al. 2015). The leaf and fresh shoots are consumed to make a food Mıhlama after cooking in the form of a born and cooked like spinach (Ajaib et al. 2014). The infusion of leaves and a decoction of the root are used as a treatment for fever. Meadow rue roots are traditionally used in the treatment of inflammations and infectious diseases such as bovine mastitis (Mushtaq et al. 2016).

34. RHAMNACEAE

100. ***Paliurus spina-christi*** Mill**.**

The vernacular names: **Astri, Stri**.

Locality: Kawarta village, Kroska trsh, steppe and grassland, 36°37'05.58"N, 44°51'57.26"E, 1140 m, 16/04/2017, AMK25. Mediterranean

Collection period: April-May

Parts Used: Whole plant

Purpose of Use: Treatment and Defence

Usage:

A) The branches of this plant are burning to excrete fat substance. This substance is applied to the fungus. Also, the decoction of fruits is used as a treatment for abdominal pain, stomach ache and kidney stones (Abdulla DOGHA)

B) It is used as a fence for gardens and forests (Mustafa QADIR).

C) The green leafy state of the plant is used as animal feed (Amina DARWESH)

Use in the literature: The decoction of roots is used as a treatment for cystitis. Also, the decoction of fruits is a treatment for mastitis from animals (Tuzlacı and Aymaz 2001). The plant is used in folk medicine as a hypocholesterolemic agent. Also, the fruit extract on lowering lipid content of serum was investigated, as well as can inhibit the enhancement of cholesterol and triglyceride (Mosaddegh et al. 2015). The fruit and root boil is used as a stimulant and diuretic, as well as for headaches, bronchitis, urethra, toothache, stomach, rheumatism, hemorrhoids, kidney disease and anti-cough (Koçyiğit and Özhatay 2006). The decoction of fruits is a treatment for the stomach ache (Kultur 2007; Ugurlu and Secmen 2008; Dogan and Ugulu 2013; Fakir et al. 2016). The decoction of fruit is used as a treatment for spontaneous kidney stone passage, lung inflammation and hepatitis, as well as the infusion of branches, it is used as a treatment for stomach pain and dysentery (Fakir et al. 2009). The decoction of fruits is internally used as a treatment for constipation and diuretic (Altundag and Öztürk 2011). The infusion of fruits is used as a therapy for a cough (Bulut et al. 2011). The decoction of fruits is used as a treatment for diuretic and kidney stones (Cakilcioglu et al. 2011; Bulut and Tuzlaci 2013; Gurdal and Kultur 2013). The aerial part is used for making fence (Kızılarslan and Özhatay 2012). The decoction of fruits is used as a therapy for stomach ache, asthma, carminative, blood depurative, acne, cold and flu (Polat and Satıl 2012). The fruits are internally used as anti-hypertensive and to reduce cholesterol (Ghasemi et al. 2013). The decoction of fruits is used as a treatment for abdominal pain, diabetes, diuretic, kidney stones and for constipation (Tetik et al. 2013). The branches of the plant are used to make broom (Gürdal and Kültür 2014). The fruit is used as a therapy for bronchitis, sore throat, anti-inflammatory and atherosclerosis (Uzun and Kaya 2016). The decoction of fruits is used to decrease blood pressure (Ahmadi et al. 2016).

101. ***Ziziphus jujuba*** Mill.

The vernacular names: **Snci, Sncu**.

Locality: Warda and Kawarta village, kaniprdok, cultivated, 36°37'10.50" N, 44°52'38.26" E, 1141 m, 08/06/2017, AMK48.

Collection period: June-July

Parts Used: Fruit

Purpose of Use: Food-Treatment

Usage:

A) The plant crop is used as a fruit in summer but the excess products of the fruits of this plant can be dried for later usage in winter (Karim ABDULLA).

B) The decoction of fruits is used as a treatment for a sore throat (Abdulla DOGHA).

Use in the literature: The ethyl acetate extract of jujube bark was evaluated for anti-steroidogenic activity in the adult female mouse. Extract arrests the normal estrus cycle of the adult female mouse at oestrus stage, and reduce the wet weight of ovaries significantly. Cholesterol and ascorbic acid content in ovaries of crude extract-treated mice were significantly elevated (Goyal et al. 2012). The plant is used for scorpion stings, cough, constipation, pneumonia, headache, dysentery, intestinal worms, fever, eye diseases, sore throat and pharynx. The leaves are used to treat chest and stomach problems, to treat snakebite and reduce eye inflammation, bone fractures, uterine bleeding and hair and skin care. The bark is used to treat headaches and also has anti-blood properties. The decoction of bark and fresh fruit is used to promote the healing of fresh wounds and also used as a body wash. The plant is claimed to be a blood purification device, good for treating epilepsy, liver, dermatitis and chest problems. The traditional root bark diversion is used in northern Nigeria as a treatment for stomach pain and other gastrointestinal diseases (Shahbaz 2013). The Roots are gripper, bitter, anti-blood, digestive and antiseptic. They are useful for the treatment of hyperacidity, ischemic infection, and abdominal pain and wound healing. The leaves are also used in treating fever and their fruits are effective in herbal remedies. It helps increase weight and improve muscle strength and endurance and roots are also effective in antibacterial, antifungal (Singh et al. 2014). Root is bitter and cooling cures a cough, headaches. Cortex heals boils which are good for dysentery and diarrhoea. Leaves are used against hypothermia and in reducing obesity. The fruit is cooling, digestion, tonic, and aphrodisiac, burning sensations, thirst, vomiting and also good in the treatment of tuberculosis and blood diseases. The seed could be used as a treatment for eye diseases. It is used to treat common fever and vomiting using seeds with bar buds and sugar. Traditional therapists in the Pasteur area use dried leaves and powdered bark to dress wounds. Fresh leaves are also used for the same purpose. The aqueous paste is applied externally to reduce burning sensation. Roots are used to treat dysentery. They are given with cow's milk until the patient is cured. Older juice is used with buffalo milk to reduce the severity of smallpox. Similarly, in the early days, the use of seeds to treat eye

problems was common. To treat the hoarseness of the throat, traditional healers are advised to keep patients fresh roots of this plant within their mouth. Traditional healers use fresh leaves of this plant with cumin to treat urinary infections. The fruit is used as an antacid for acetate poisoning, abdominal pain during pregnancy and externally in cmd and applications for wounds. The pills increase body and strength and are soothing in activity (Preeti and Tripathi 2014). The fruit of this plant is used as a treatment for antifungal, antibacterial, antiulcer, anti-inflammatory, anti-spastic, hypertensive, cardiotonic and anti-oxidant (Abbas et al. 2016). The decoction of fruits is used as a treatment for sore throat and asthma (Ahmed 2016). The delicious fruits are used as an effective herbal remedy. It increases weight, stamina and improves muscle strength. In Chinese medicine, it is described as a tonic to enhance liver function. It acts as an antidote, diuretic, emollient and antifungal. It has benefits to promote hair growth. Dried fruits are anodyne, anticancer, chest, chillers, painkillers, stomach, sponges, and tonic. Helps in blood purification and helps digestion. It is used internally in the treatment of chronic fatigue, loss of appetite, diarrhea, anemia, irritability, and hysteria. The seeds are hypnotic, anesthetic, sedative, stomach and tonic. It is used internally in the treatment of palpitations, insomnia, nervous exhaustion, night sweats and excessive sweating. Root is used in the treatment of indigestion. The boiling of the root has been used in the treatment of fever. The root is turned into powder and applied to old wounds and ulcers. Leaves are applied as bruises and are helpful in liver, asthma and fever problems. The fruit is very nutritious with potassium, phosphorus, calcium, and manganese and is also a rich source of Vit-C and Vit-B complex and the antioxidant content of fresh fruit is higher than most fruits (Sharma et al. 2017).

35. ROSACEAE

102. ***Amygdalus orabica*** Oliv.

The vernacular name: **Kalashin**.

Locality: Kawarta village, Bari kapran, Mountains and Steppe, 36°37'13.79"N, 44°51'48.68"E, 1132 m, 17/04/2017, AMK6.

Collection period: April-May

Parts Used: Above ground and Seed (Upper Parts)

Purpose of Use: Food, Treatment, Broom and Handicraft

Usage:

A) The seeds of this plant are used as a treatment for stomach acid because it tastes bitter (Rasul MOHAMMED).

B) The above ground of this plant is used as a broom for cleaning (Amina DARWESH).

C) The villagers collect the seeds of this plant in the summer and sell in the markets (Abdulla RASUL)

Use in the literature: There is no use/trade information for this species.

103. ***Cerasus microcarpa*** (C.A Mey.) Boiss. **s**ubsp. ***tortuosa*** (Boiss. & Hausskn.) Browicz

The vernacular names: **Blaluk, Halhaluk, Haluk**.

Locality: Kawarta village, Grankan near kwestan, steppe and mountain highlands, 36°37'28.15" N, 44°51'40.26" E, 1331 m, 10/06/2017, AMK59. Endem

Collection period: May-June

Parts Used: Fruit

Purpose of Use: Food, Treatment and Economic

Usage:

A) The mature fruit is eaten and used to make jams (Halima DARWESH).

B) The fruit is used as a treatment for diarrhea (Ibrahim AHMED).

C) Plant stem is used to make herbal tea, by cutting the trunk and adding it to boiling water and making tea, the best taste and also as a remedy for most internal diseases (Jahfar MAM).

Use in the literature: The raw fruit can be eaten and it is a treatment for the prostate disease (Kaval et al. 2014). The raw fruit can be eaten as well as the decoction of the root is used as a carminative and cure for pains of the digestive system (Mosaddegh et al. 2012; Behzad et al. 2013). The bark and resin are internally used as a sedative, anti-calculus, and anti-fever (Ghasemi et al. 2013). The fruit is eaten raw for blood refining (Bahmani et al. 2014). The fruit is eaten fresh (Dogan and Tuzlaci 2015; Kaval et al. 2015; Furkan 2016). The fruit is used as a treatment for urinary system disorders and diseases (Dogan et al. 2016). Fruit is used as a sedative (Farhadi et al. 2016).

104. ***Crataegus meyeri*** Pojark**.**

The vernacular names: **Gewzh, Goyzha, Goizh**.

Locality: Delza and Kawarta village, Talasew, Mountains and Steppe, 36°37'25.97"N, 44°51'34.49" E, 1283 m, 09/05/2017, AMK30.

Collection period: May-June

Parts Used: Leaf, Stem and Fruit (Upper Parts)

Purpose of Use: Treatment, Food and Economical Purpose

Usage:

A) The mature fruits are eaten raw (Amina Darwish).

B) The flower of this plant is used as a kidney treatment after boiling it in the water, purifying from the water, and then this water is drunk every day in the morning (Ahmed IAYZ).

C) In the autumn, the villagers collect the ripe fruit and bringing it to the grocery market or sell on main street in Ballakayati. Also, the fruit is used to make jam and have a sweet acidic taste, and also produce delicious drinks from it (Zaynab ABDULLA).

D) Afer drying the plant can be used as a fuel in the winter for heating (Idris Mohammadamin, Ahmed IAYZ).

Use in the literature:

The preparations of Howthorn are used in minor forms of coronary heart disease, heart failure, and cardiac arrhythmia. Increasing coronary blood flow, inhibition of platelet aggregation, positive inotropic, antiarrhythmic and hypotensive effects are some properties that have been reported for Crataegus (Garjani et al. 1974). The decoction of fruit is used to remove kidney stones (Tuzlacı and Aymaz 2001). The fruits, leaves, and flowers contain a number of chemical constituents and have main pharmacological activities are primarily cardiovascular. These include cardiotonic, hypolipidemic, hypotensive, antiarrhythmic and antioxidative activities (Chan et al. 2000). The plant fruit is eaten raw by people (Ghorbani 2005; Kaval et al. 2015). The infusion of the flower is used to regulation cardiac disorders (Cakilcioglu and Turkoglu 2010). The decoction of the fruit is a treatment for embolism, laxative, diabetes, sedative, antispasmodic, tonic, cardiotonic, edema and cardiovascular diseases. Also, the infusion of root and root bark is internally used as a treatment for diabetes, antihypertensive, antirheumatic and edema (Altundag and Öztürk 2011). The leaves are used as a fooder, as well as the wood are consumed as a fuel and the fruit is fencing (Sher et al. 2011). The infusion of flower, fruit, and ash leaf mixed with milk is used orally as a treatment for skin fungal infections, heart tonic, hyperlipidemia, sedative, and hypertension (Mosaddegh et al. 2012). The fruit

and leaf are used as a treatment for depurative and repairs blood vessel (Polat and Satıl 2012; Amiri and Joharchi 2013). The roots are boiled and it is bathed in its water and root is boiled to make tea for a therapy for rheumatic pains and against to swelling (Behçet and Arik 2013). The infusion of the flower and fruit are used as a treatment for the diuretic, nervine sedative properties, hypotensive, antispasmodic, cardiotonic, dilate blood vessel, heart disease, blood pressure (Nejad et al. 2013). The fruits and leaves are internally used as a wild fruit, heart tonic, headache and antihypertensive (Ghasemi et al. 2013). The fruit of the plant is used as a treatment for remove antiarrhythmic effect (Khan et al. 2013). The decoction of the leaf and the fruit is eaten raw. It is used as a treatment for diabetes, cardiotonic and vasodilator, arrhythmia (Sargın et al. 2013). The leaves and flowers are used as antioxidant activity and used as anti-diabetes. Also, it is used as a cardiotonic activity, have an antihypertensive effect, and anti-hyperglycemic activities (Shahbaz 2013). The decoction of fruit is a treatment for asthma, hemorrhoids, antidiarrhoeic, diabetes, embolism and laxative (Tetik et al. 2013). The fruit is edible and used as a treatment for insomnia- migraine and cholagogue (Dolatkhahi et al. 2014). Several species of this plant such as Crataegus oxyacantha are commonly used by children and adults with heart diseases worldwide, although excessive doses may cause cardiac effects (Alp et al. 2015). The infusion of flower and fruit are used as a treatment for diarrhea, insomnia, and palpitation, as well as the decoction of them, is a therapy for hypertension and heart diseases, diabetes and cancer (Baydoun et al. 2015). The flower and leaves in some species of this plant are used as a nourishing of the heart, regulating heart rate and blood pressure (Ahmadi et al. 2016). The decoction of leaves is used as a treatment for kidney and bladder inflammation. Also, the berries are used as a treatment for a heart problem and blood pressure (Ahmed 2016). The aerial parts are used as a cardiovascular tonic (Mohammadi et al. 2016). The fruits are consumed as food and treatment for lowering high blood pressure, fever reducers, strengthening, and heart problems and for children with abdominal pain (Nadiroğlu and Behçet 2017).

105. *Cydonia oblonga* Mill**.**

The vernacular names: **Be, Bay, Bahe**.

Locality: Warda and Kawarta village, Barikapran, Grassland and Cultavated, 36°37'15.55"N, 44°51'28.28"E, 1144 m, 07/07/2017, AMK110.

Collection period: May-June

Parts Used: Fruit, Stem and seed (Upper Parts)

Purpose of Use: Food, Treatment and Economical Purpose

Usage:

A) The mature fruit could be eaten (Amina DARWESH, Ayub AZIZ).

B) This fruit is used to make jams and it has a sweet acidic taste, which produces delicious drink (Sharif AZIZ).

C) The Villagers store the mature fruit to be used in the winter (Halima DARWESH, Ayub AZIZ).

D) The seeds of the plant are used as a therapy, boiling in water; purification of water, drinking the water as a treatment for pharyngitis, cough, and lung pain (Ayub AZIZ).

E) In the Autumn, villagers collect the ripe fruit and bring it to the grocery markets or sell in main street in Ballakayati (Amina DARWESH, Sharif AZIZ).

Use in the literature:

The infusion of leaves is internally used as a treatment for cough and sore throat (Tuzlacı and Aymaz 2001; Bulut et al. 2011). The decoction of leaf is used as a treatment for hypertension (Camejo-Rodrigues et al. 2003). The fruit is used as a treatment for astringent (Rivera et al. 2005). The decoction of leaves is used as a therapy for headache, cough, asthma, diuretic and kidney stones. The leaves Infusion is used a treatment for cold, flu, cough, calmative, as well as the seeds decoction is a treatment for diarrhea. The fruits (pericarp) decoction is a treatment for cough. Also, the flowering stems decoction is a therapy for bronchial calmative (Kultur 2007).The cooked fruit is always an important source of pectin for food preservation, and a fragrant addition to jams, juices, pies, and candies (Postman, 2009). The decoction of seeds is used as a therapy for respiratory problems (Benítez et al. 2010). The decoction of barks is internally used as a treatment for colds, as well as the decoction of the leaf is a therapy for diarrhea (Altundag and Öztürk 2011). The decoction of the leaf is used as a tea to treat diarrhea. Likewise, the leaf infusion is used as a treatment for common colds, flu and diarrhea. After collecting fresh leaves in early summer, dried in shade, used in winter by making tea (Rose 2011). The seed of the plant is eaten raw to reduce the kidney stones, as well as the mature fruit is eaten (Kaval et al. 2015). The fruit is eaten fresh or consumed as to making jam, as well as the leaf is used for coloring henna and dying cloth (Kızılarslan and Özhatay 2012). The infusion of leaves is a treatment for diabetes and abdominal ache, as well as the decoction of fruits are a treatment for tonsilitis (Polat and Satıl 2012). The infusion of

seeds and leaves is internally used as a treatment for cardiac diseases, antitussive, sore throat, laxative and febrifuge (Amiri and Joharchi 2013). The infusion of leaves is internally used as a treatment for cough, stomach ailments, diarrhea, diabetes and antitussive (Bulut and Tuzlaci 2013). The leaves are boiled and drunk after they are filtered; the fruit is eaten directly as a diarrheal treatment(Dogan and Ugulu 2013).Fruit, seeds and flower is used as a treatment for lung diseases, sore throat, cough, pneumonia and intestinal discomfort (Rehman et al. 2013).The fruit is eaten raw, the decoction of leaves and the infusion of seeds are used as a treatment for bronchitis, cold, flu, asthma, diuretic and gastrointestinal diseases (Sargın et al. 2013).The fruit and vinegar is eaten fresh as a treatment for digestive, dyspnoea, and cardiac diseases and immunogenic. Also, the decoction of leaves and flowers is used as a treatment for against miscarriage and uterine cancer (Sağıroğlu et al. 2013).The decoction of leaves is used as a treatment for antitussive, antipyretic and respiratory tract problem (Tetik et al. 2013).The fresh fruits are used in the syrup. Also, the decoction of fruit can be used for inhalations or eaten as food, as well as they sweetened with honey and used as a treatment for cold and catarrhs (Okafor et al. 2014).The flower is a treatment for asthma, Cold, Cough, and muscular pain, as well as the boiled leaf, and the root are used a treatment for burns (Gairola et al. 2014). The fruit eaten and consumed to make jam, as well as the boiled fruit, is a remedy for stomach, and the decoction of the seed is a cold treatment of the topical applied to eye infections. Also, young leaves are lightly boiled and then used as a key ingredient in Sarma (Pieroni et al. 2014). The plant is used as an anti-diarrheal, gastric tonic, healing ulcer, and anti-inflammatory, anti-vomiting and astringent agent. The fruit is suitable for uterine bleeding and perforation. They have antimicrobial activity, anti-wrinkle, antioxidant, inhibitory effect on immune reactions Ig, anti-ulcerative, antiproliferative, anti-inflammatory, anti-allergic, lipid reduction, anti-diabetes, healing effects. Also, they have an aphrodisiac activity (Aslam and Sial 2014). The leave is used as disinfectant and antiseptic. The fruit is used as a clutch, disinfectant, hepatoprotective, cicatrizing, and anti-inflammatory to treat diarrhoea, dysentery, liver disorders, leukaemia, hemoptysis, uterine bleeding, and wounds. Sedonia seeds have been traditionally used as a plunge, astringent, diarrhoea, dysentery, cough, sore throat, bronchitis, intestinal colic and constipation (Al-Snafi 2016). The infusion of the leaves and a decoction of the fruit are used as a treatment for abdominal ache (Fakir et al. 2016). The infusion of leaves have flavonoids, triterpene steroids, tannins, alkoloids, reducing

sugars and saponins (Ozkan et al. 2016). The decoction of leaves is used as a treatment for expectorant breath shortness, asthma, bronchitis, cold and flu, diarrhea and anaemia (Uzun and Kaya 2016). The decoction of the Leaves is internally used as a treatment for diarrhea, abdominal pain, cough and antihypertensive (Bulut et al. 2017). The dried fruits are used for making jelly and marmalade. Traditionally the leaves are used for sedative, antipyretic, anti-diarrheic and antitussive properties and for the treatment of various skin diseases. The seeds are used for diarrhoea, dysentery, cough, sore throat, bronchitis, intestinal colic, constipation and also are one of the popular complementary therapies used for allergic rhinitis and asthma. The fruit pulp is used for seasoning, as a food ingredient to flavour confections, curries and sauces, and the fruit pulp is eaten fresh and often made into a juice, infusion or brine (Sharma et al. 2017).

106. ***Potentilla kurdica*** Boiss. & Hohen.

The vernacular name: **Nabil**.

Locality: Weza village, near main road, wetland, 36°35'22.10"N, 44°59'20.55"E, 1940 m, 10/05/2017, AMK33.

Collection period: May-June

Parts Used: Flower

Purpose of Use: Treatment

Usage: The flower of this plant is used to treat reddening of the eyes only by seeing it (Abdulla RASUL).

Use in the literature: Many species and similar species of this plant have significant medicinal benefits to humans. The herbal tea made from the flower of the plant is internally used for diarrhea and externally used for wound rinsing (Jaric et al. 2007). The decoction of the root is a treatment for astringent, anti-inflammatory and antiseptic. Also, the infusion of aerial parts is a treatment for diarrhoea, wounds, burns, enterocolitis and uterine hemorrhages (Tita et al. 2009). The flower and leaves are used as a treatment for antipyretic and diarrhea (Cakilcioglu and Turkoglu 2010). The paste is prepared from the roots and used as an ointment around the infected teeth (Phondani et al. 2010). The decoction of the plant is used as a treatment for constipant, antipyretic and tonic (Altundag and Öztürk 2011). The root could be cooked for making food and it is added into vodka (Kalle and Sõukand 2012). The aerial parts are pounded and applied or mixed with wheat flour and applied the location of boils and wounds (Behçet and Arik 2013).

The decoction of leaves is used as a therapy for blood purifier, wounds and burning of feet (Bibi et al. 2014). The decoction of the root is used as a therapy for fever (Baydoun et al. 2015). The decoction of the whole plant is a treatment for urinary infections, as well as the baths by the whole plant, are used to prevent prostate cancer (Bellia and Pieroni 2015). The infusion of leaves is used as a therapy for stopping bleeding, snake and centipede bite. Also, the extract of the whole plant is a treatment for inflammation of the mouth and throat and diarrhea (Kayani et al. 2015). The infusion of the root is used to make a chew and also it could be used as a therapy for a tonsil, throat and toothache (Fakir et al. 2016). The decoction of the aerial part is used as a therapy for wound healing (Kılıç 2016). The aerial plant is consumed for phenolics, flavonoids, saponins and triterpenoids (Ozkan et al. 2016).

107. *Prunus dulcis* (Mill.) D. A. Webb

The vernacular names: **Badam, Bawi, Chaala, Chaqala, Bawew**.

Locality: Delza and Kawarta village, Talasew, Mountains, 36°37'25.97"N, 44°51'34.49" E, 1283 m, 09/05/2017, AMK83. Fh.

Collection period: May-June

Parts Used: Fruit and Seed

Purpose of Use: Food, Treatment and Economical Purpose

Usage:

A) The raw immature seed could be eaten (Karim RASUL).

B) Almonds are used to dissolve harmful fats in the body or inside blood vessels (Frishta MUHAMMED).

C) In the autumn, villagers collect seeds and move them to the grocery store or sell (Sabrya MUSTAFA).

D) Dried almonds are used after crushing in pastries and desserts (Hadya HUSEN)

Use in the literature:

The fruits are dried and consumed in winter (Tardío et al. 2005; Idolo et al. 2010). The seeds are used as a treatment for heart disease by eating raw (Ugurlu and Secmen 2008). The fruit is used as a treatment for diarrhea (Benítez et al. 2010). The decoction of seeds is used as a treatment for rheumatoid arthritis and hypercholesterolemia, the gum of plant is used to paint for icons (Mati and de Boer 2010). The oil extracted from the seeds of this plant is used as a remedy for skin diseases, alopecia and analgesic, and also as a treat

for coughing, diuretic, stress by drinking it (Sağıroğlu et al. 2013). The decoction of fruits' shells is used as a treatment for cold and taken by orally (Okafor et al. 2014). The seed powder is used as a treatment for hypoglycemia, osteoporosis, topical cramps and joint pains by eaten (Naghibi et al. 2014). The decoction of seeds is used as a treatment for hypercholesterolemia (Baydoun et al. 2015). The seeds are eaten fresh for increasing the milk from lactating women (Bellia and Pieroni 2015). The decoction of roots is internally used as a treatment for kidney disease (Meddour and Meddour-Sahar 2015). The hydrodistilled of the seeds are used as a treatment for hair loss, kidney stones, thoracic inflammation, cough and cold (Ahmed 2016). The pressed of seed is used as a laxative and a treatment for wound (Akgül et al. 2016). The plant is used as the ornamental plant, as well as the stem and the whole plant is used source a timber for manufacturing the agricultural, horticultural, boat, furniture, and musical instrument elaboration cosmetic. Also, it is used as a firewood and charcoal (Gras et al. 2016). The seeds are eaten raw as a treatment for joint pain, osteoporosis, hypoglycemia, and spasm (Kılıç 2016; Mosaddegh et al. 2016).

108. *Rosa dumalis* Bechst. var. ***boissieri*** (Crepin) Ö. Nilsson

The vernacular name: **Shilan, Gula zarda**.

Locality: Delza and Kawarta village, Talasew, steppe and mountain highlands, 36°37'25.97"N, 44°51'34.49" E, 1283 m, 09/05/2017, AMK61.

Collection period: May-June

Parts Used: Flower and Fruit (Upper Parts)

Purpose of Use: Food, Treatment and Economic

Usage:

A) The Petals of the plant's flower are used to make a jam (Parwin RASUL, Hasan AHMED).

B) The plant is grown as an ornamental plant in front of the houses. It is used as a fence for gardens and forests (Hamin DARWESH, Zrar AHMED).

C) After collecting and drying the fruit, it is boiled in water for cold cough and cough treatments (our own observations).

Use in the literature:

The fruit rosehips are used for beverage and flower petals are eaten by children (Karst A., 2010). The dried roots and leaves are used to prepare a herbal tea and taken 2-3 times, as

a treatment for antidiabetic (Durmuşkahya and Öztürk 2013). There are some species like. Rosa Rogosa uses his petals to produce tea, jam, wines and juices (Nowak and Nobis 2013). The fresh fruit can be used as a source of vitamin A by eating it. Also, it is a treatment for gynecological diseases, cancer, diuretic, mouth wounds, mouth ulcers, intestinal diseases, vitamin A deficiency, aphta and alopecia (Sağıroğlu et al. 2013). The hips are used in cases of chest diseases. Fresh hips contain lots of vitamin C, so they are used to prevent and treat colds, flu, various scurvy infections, diarrhea, and cough. The rose hips are used for gastric disorders including gastric cramps, gastric acid deficiency, preventing gastric and ulcers irritation, and as a stomach tonic for intestinal diseases and constipation. Rosacea is also used for gallstones, gallbladder diseases, urinary tract infections, kidney disorders, fluid retention, gout, diabetes, high cholesterol, weight loss, high blood pressure, and fever. In the limbs, increase urine flow and dispel thirst. The distilled water made from the plant was used as a skin lotion. The oils used in topical treatment for skin disorders are used to strengthen weak nails. In addition, the seeds were used as formic. The powders of the hips with or without the seeds may have its role in treating muscular and muscular pain such as back pain and leg. They have also been taken to provide relief to patients with osteoporosis. Steam distillation of rose petals and rose oil is used as a rejuvenating agent for the brain, nervous system conditions, insomnia, menstruation, and perfumes. The rose's water sooth the dry skin. Leaking flowers is used for washing in vaginal discharge and gonorrhea. Infusion is also used to gargle for laryngitis. The decoction of flowers is used for phthisis, hemorrhage, diarrhea, dysentery (Shahbaz 2013). The fruit is a treatment for appetizing, expectorant and diuretic (Dolatkhahi et al. 2014). It contains a variety of antioxidants, carotenoids, flavonoids, polyphenols, leucoanthocyanidins and antioxidants, so hips roses are good cancer prevention. It is also used for the treatment and prevention of many diseases (Alp et al. 2015). The fruit is eaten raw or cooked; it is a good source of vitamin C. The seed is a good source of vitamin E; it can be ground and mixed with flour or can be added to the other foods as a supplement. When using the seed, it should be sure to remove the hairs (Korkmaz and Karakuş, 2015). The wild fruit is used as a tonic (Ghorbani, 2015).

109. ***Rosa heckeliana*** Tratt. var. ***orientalis*** (Dupont) Meikle

The vernacular name: **Gula raz**.

Locality: Kawarta village, Kani prdok, Cultivated, 36°37'40.76"N, 44°51'39.57"E, 1333 m, 05/05/2017, AMK16a.

Collection period: May-June

Parts Used: Flower and above ground

Purpose of Use: Ornamental and Shadaw

Usage:

A) The plant is grown as an ornamental plant in front of the houses (Abdulla RASUL).

B) It is used as a shade tree or it is used as a fence for gardens and forests (our own observations).

C) The flower and dry fruit are used as herbal tea and as a treatment for cold and cough (Abdulla DOGHA).

D) The Petals of the plant's flower are used to make a jam (Parwin RASUL).

Use in the literature: The herbal tea is obtained by boiling the fruit. It is used to soften the cold and the throat (Kaval et al. 2014; Nadiroğlu et al. 2019). The fruit of this plant is dried to make tea. This tea is used in the treatment of colds and coughs (Kaval et al. 2014). The decoction of fruit is used as a treatment for colds and flu (Mükemre et al. 2015).

110. *Rosa gallica* L.

The vernacular name: **Gula Bakh**.

Locality: Kawarta village, Kani prdok, Cultivated, 36°37'40.76"N, 44°51'39.57"E, 1333 m, 05/05/2017, AMK16b.

Collection period: May-June

Parts Used: Flower-Above ground

Purpose of Use: Ornamental

A) The plant is grown as an ornamental plant in front of the houses (Abdulla RASUL).

B) It is used as shade tree or it is used as a fence for gardens and forests (our own observations).

C) The flower and dry fruit are used as herbal tea and as a treatment for cold and cough (Abdulla DOGHA).

D) The Petals of the plant's flower are used to make a jam (Parwin RASUL).

Use in the literature: the fruit of this plant could be dried to make tea. This tea is used in the treatment of colds and coughs (Kaval et al. 2014). The tea obtained by boiling the fruit is used to soften the cold and the throat (Nadiroğlu and Behçet 2017).

111. *Rubus sanctus* Schreb.

The vernacular names**: Drila, Tutrk, Dudrk**.

Locality: Delza and Kawarta village, Talasew, steppe and mountain highlands, 36°37'25.97"N, 44°51'34.49" E, 1283 m, 09/05/2017, AMK60.

Collection period: May-June

Parts Used: Fruit (Upper Parts)

Purpose of Use: Food, Treatment and Economic

Usage:

A) The raw fruit could be eaten to increase the resistance of the diseases (Hajar AMIN).

B) This fruit is used to make jams and it has a sweet acidic taste, economic importance. It also, produces a delicious drink.

C) In the summer, villagers collect the ripe fruit and bring it to the grocery markets or sell on main street in Ballakayati (Amina DARWESH).

Use in the literature:

The boiled roots are used to prepare the tea and drink to remove pains and aches (Ertug, 2000). The boiled leaves are used as an asthma treatment and then ingested daily before breakfast, as well as taking new papers as a treatment for liver diseases. Also, it is used for the dental diseases by boiling and gurgling in the mouth. In addition, it is used as anti-cancer (Genç and Özhatay 2006). The mature fruits are eaten for healthy bone (Koçyiğit and Özhatay 2006). The infusion of fruit is internally used to treat colds (Altundag and Öztürk 2011). The fruit and leaves are used as a treatment for diuretic, constipation, acne, astringent, diabetes mellitus, hemorrhoids, stomach ache and wounds (Cakilcioglu et al. 2011). The young shoots of Rubus types are used to heal wounds, bite infected insects and pimples in folk medicine for ages (Suntar et al. 2011). The decoction of roots is the appetizer and is used as a treatment for pneumonia and prostatitis (Polat and Satıl 2012). The dried roots and leaves are used to prepare herbal tea that has antidiabetic and antidiabetic activity (Durmuşkahya and Öztürk 2013). The infusion of fruit and leaves is used as a treatment for diuretic, constipation, acne, astringent, diabetes mellitus, hemorrhoids, and stomachache (Kilic and Bagci 2013). The decoction of the root is a

treatment for gynecological diseases and cancer, as well as the decoction of dried leaves are used as a diuretic. Also, the fresh fruit is eaten raw as a treatment for mouth ulcers, aphta, intestinal diseases, vitamin A deficiency and alopecia (Sağıroğlu et al. 2013). The infusion of fruit is used as an appetizer, as well as treatment for pneumonia, prostatitis, anemia, and tonsillitis (Hayta et al. 2014). The fresh fruit is eaten as a diuretic, expectorant and appetizing (Dolatkhahi et al. 2014). The fruit is eaten fresh and consumed by making a jam (Uysal et al. 2010; Gürdal and Kültür 2014; Dogan and Tuzlaci 2015). The decoction of the root is used to make a poultice and apply on legs as a treatment for rheumatism (Uzun and Kaya 2016). The fruit is eaten raw and used as a treatment for tonsillitis, against infectious diseases such as constipation, diarrhea, and diabetes, as well as the dried leaf, is crushed being applied to the wound. Also, the root is used in the treatment of hemorrhoids in the form of oxygen and used against opening blood vessels, bloating, inflammatory, and stomach disorders. The roots of dried plants are mentioned and fermented and drunk it (Nadiroğlu and Behçet 2017).

36. SALICACEAE

112. *Populus euphratica* Oliv.

The vernacular name: **Palk**.

Locality: Kawarta village, Shekh balak river, Cultivated, 36°37'14.12" N, 44°51'50.87" E, 1163 m, 27/06/2017, AMK79. Ir.-Tur. Elm.

Collection period: June-July

Parts Used: Above ground (Upper Parts)

Purpose of Use: Handicraft, Fodder and Economic

Usage:

A) It is used on the roof of houses and some wood industries. At the same time, the plant is used as fuel for cooking and heating (Mohammed AMIN).

B) Its leaves are used as feed for sheep and goats.

C) The villagers cultivate this plant to make money (Karim ABDULLA).

Use in the literature:

The wood is used for furniture and young leaves are used for straw roofs. They are also used for making brooms (Ali and Qaiser 2009). The wood is used for woodwork, span construction, animal bait, and firewood (Furkan 2016).

113. *Salix pentandra* L.

The vernacular names: **Bi, Dar bi, Shanga bi**.

Locality: Kawarta village, Kani prdok, Cultivated, 36°37'20.59" N, 44°51'48.38" E, 1146 m, 07/07/2017, AMK89. Ir.-Tur. Elm.

Collection period: July

Parts Used: Above ground (Upper Parts)

Purpose of Use: Handicraft-Fodder-Economic

Usage:

A) It is used in the roof of the houses and some wood industries.The branches are used in the construction of shelters and baskets (Amina DARWESH)

B) Its leaves are used as feed for sheep and goats (Halima DARWESH).

C) The villagers cultivate this plant to make money (Idris MALA).

D) The plant is used as fuel and charcoal (Jawhar AMIN).

Usage: The leaf part is crushed and put on the tooth which is painful in the watery state.

Use in the literature: The bark and leaves of some Salix species are used a treatment for diarrhea and fever (Alexiades 1999). Willow has anti-inflammatory, antirheumatic, antipyretic, antiperspirant, analgesic, antiseptic and clutch properties. Traditionally it has been used for musculoskeletal and arthritic muscles with inflammation and pain, influenza, respiratory infection, gout arthritis, spondylitis, rheumatoid arthritis and systemic connective tissue disorders. The German E Committee approved the internal use of diseases accompanied by fever, rheumatic diseases and headaches (Barnes et al. 2001). The leaves are used externally to relieve pain.Woodis are used for furniture, timber, and as fuel (Ahmad et al. 2011). Some Salix species from other parts of the world have been studied for their analgesic properties or pain relieving. Also, they are used to make baskets (Narayanan et al. 2011). The parts of the plant of some species of Salix are used as a treatment; Bark, used for Anthelmintic, Astringent, Psoriasis, Rheumatism, Teeth cleaning and Tonic. Bud, used for Fever, Knee pain, Hip pain. Flower is used for Nerve tonic and Twing used for Tooth sticks (Gairola et al. 2014).

37. SOLANACEAE

114. *Datura stramonium* L.

The vernacular names: **Musaka, Zragana**.

Locality: Kawarta village, Maydan, Grassland, 36°36'20.59"N, 44°51'48.38"E, 1044 m, 07/07/2017, AMK109.

Collection period: June-July

Parts Used: Seed (Upper Parts)

Purpose of Use: Treatment- Poison

Usage: Plant seeds are used to prevent the formation of the embryo because it causes infertility (Dlawar ENAYI).

Use of literature:

The plant has been used in both human medicine and veterinary medicine as a source of alkalis for pharmaceutical purposes, and it is anesthetized against deception. The ointment is also used for burns or rheumatism and mental contraception. They are also used to improve crops to increase the production of alkaloids (Weaveri and Warwick 1984). The leaf is used as a treatment for asthma as a cigarette, as well as the externally used as a wound healing by putting on the wound (Koçyiğit and Özhatay 2006).The fresh leaves are used as a poultice for inflamed wounds (Kultur 2007). The leaves paste is used and externally extracted for injuries, wounds, bleeding and pain. A small amount of the seed is used in asthma and tonsils problems. Also, the leaf extraction is used for baldness (Khan and Khatoon 2007). The infusion of leaves is used as a treatment for respiratory disorders or asthma (Tita et al. 2009). The seed paste is rubbed on to treat rheumatism (Phondani et al. 2010). The leaves and roots are used as an antipyretic and a remedy for an earache (Ali et al. 2011). The hot leaves are used as bruises and boils, as well as the powder from burnt, crushed branches, rubbed into incisions made on limbs for rheumatism smoked for headaches (Moteetee and Van Wyk 2011). The seed extract is used as a source for atropine alkaloids, scopolamine and diterpenes (Gahukar 2012). The fruit is used as a comb in children's play, as well as the leaf and seed are used as a cigarette (Kızılarslan and Özhatay 2012). The inflammation of the leaves taken by the mouth is a treatment for abdominal pain. Also, inhaling the leaf smoke is an asthma treatment (Maroyi, 2012). The leaf is used as a treatment for asthma as a cigarette; the decoction of the leaf is also used as asthma treatment (Polat and Satıl 2012). The infusion of seed is used as a treatment for sedative, addiction and colic (Amiri and Joharchi 2013). The poultice of flowers applied to wounds to reduce pain, as well as the seeds narcotic in nature (Akhtar 2014). The seed decoction is used as an appetizer, as well as the seed

paste is used as a treatment for antiparasite and sedative by making a poultice (Bahmani et al. 2014). The seed and leaf are used as a treatment for gout and burning wounds (Dolatkhahi et al. 2014). The leaf is used as a treatment for spasm, asthma, boils, bronchitis, ear disease, impotence, insect bite, intestinal worms, jaundice, drugs, respiratory disorders and well-being (Gairola et al. 2014). The decoction of leaves is used as a remedy for asthma, as well as the seed and fruit extraction are used as a treatment for bronchitis (Kayani et al. 2014). The fruits are poisoned. The seed powder is described with cow's milk for fever, as well as the smoke inhalation of burned leaves to cure asthma (Singh and Thakur 2014). Datura is used to relieve asthma, cough, tuberculosis and bronchitis by smoking dried leaves, roots or flowers. Asthma cigarettes were found to be very effective in some cases, but in others, they had little or no effect. Cigarette paper is also used to treat Parkinson's disease. Boiling or pumping of leaves is given as a sedative for mental patients and schizophrenia. The leaves are applied as dressing for the treatment of rheumatic pain, swelling, wounds, gout, burns, sleeping feet - nails, fungal infections, tumors, and ulcers. The dried powder is wiped on the wounds or could be applied after mixing the powder with fat or Vaseline (Mairura, 2014; Setshogo, 2015). The leaves and seeds are used as a treatment for Parkinson disease(Ahmed, 2015). The inhalation of dried powder leaves is a treatment for asthma (Bellia and Pieroni 2015). The aerial parts are used for agrosilvopastoral management, as well as the whole plant is used as the ornamental plant (Gras et al. 2016).

38. TAMARICACEAE

115. ***Tamarix smyrnensis*** Bunge

The vernacular name: **Dara gaz**.

Locality: Maran village, near main road, Wetlands near water, 36°35'12.46"N, 44°58'16.76"E, 1930 m, 10/07/2017, AMK92.

Collection period: May-June

Parts Used: Stem-Stem excretion (Upper Parts)

Purpose of Use: Treatment-Handicraft

Usage:

A) The stem of this plant is used as a treatment for eczema that affects the human skin. After heating, the stem secrete fluid is used as a treatment for this disease such as ointment (Halima DARWESH).

B) The branch of this plant is used for making the broom for cleaning (Amina DARWESH).

Use in the literature: The plant is used as fodder for camel and source of firewood. Another species is used as a source of firewood, fodder for livestock, timber, and firewood (Awan et al. 2012). The plant is very useful and has already found its application in a wide range of drugs for the treatment of leukoderma, spleen stenosis, eye diseases, rheumatism, diarrhoea and gingivitis (Drabu et al. 2012). The bark of the plant is used as a treatment for jaundice (Bibi et al. 2014). The stem is used as a source of fuelwood, as well as the leaves are used against all types of hepatitis (Khan et al. 2015). Some species of Tamarix are used as a treatment for cold, cooling, cough, diarrhoea, dysentery, skin disease, lung, chest and jaundice (Baloch et al. 2016). The whole plant is used in folk oral literature (Gras et al. 2016). The whole plants are used as a treatment for bone pain after mixing the gum with almond. Also, it is used as a fuel, sheltering agriculture tool and furniture purposes (Jan et al. 2016). They are used as ornamental plants, windbreakers or grown for stabilization and afforestation of sand dunes. Galls and bark are used as an astringent. Many species, such as the French Tamarix, also have tonic, diuretic, tonic and gastric function. As they are used for tanning and dyeing purposes, some tamarisks are melliferous and are used as an alternative to sugar (Maldonado et al. 2016).

39. THYMELAEACEAE

116. ***Daphne mucronata*** Royle

The vernacular name: **Teru**.

Locality: Shore and Kawarta village, Kwestan, Steppe and mountain, 36°42'07.94"N, 44°54'35.95"E, 1775 m, 09/06/2017, AMK52.

Collection period: May-June

Parts Used: Above Ground (Upper Parts)

Purpose of Use: Treatment

Usage:

A) The fruit maturity of this plant is used as a guide to the formation of honey in the bee cell inside boxes. Also, the seeds are put on the tooth to decrease a pain toothache (Halima ABDULLA, Rashid AZWAR, Hasan GUNDAJORY).

B) Branches of this plant are used to make a broom for cleaning animal's poultry (Amina DARWESH).

C) The plant is used as a fuel for cooking and heating (Mohammad AMIN).

Use in the literature:

The plant is commonly used for fiber in bindings, and the leaf fiber is used in rope making (Sabra and Walter 2001). It has been traditionally used in the treatment of skin disorders and cancer. Some species have good cytotoxic effects and antimicrobials. Some compounds have been isolated as an anti-cancer activity, possessing heart activity. It has the most cytotoxic activity on breast cancer cell lines. The extract is showed anti-leukemia activity, as well as the control of microbes and fungi (Javidnia et al. 2003). The flowers are ornamental. The fruit is edible, poisonous to animals, their poultice as fuel for sweeping and rheumatism. Meanwhile, it is used as fuel wood for heating and cooking (Hamayun, 2007).It is used as firewood fuel for domestic purposes and making the domestic items (Khan and Khatoon 2007). The plant's branches are crumbled and placed on the aching tooth. The plant is boiled to obtain a paste-like material; this substance is applied to the area where the rheumatic pain is seen.The shell part is used in cough treatment by boiling in water (Kaval et al.2014). The decoction or cooked aerial part, bark, leaves, and branches are used for relieving muscle pains, infectious wounds, women infertility, gynecological, infections, menstruation disorders and constipation (Mosaddegh et al. 2012). The wood is used externally as a treatment for cleaning eyes and eye pain(Ghasemi et al. 2013).The dry leaves in powder form are a good source of antiseptic agent, as well as, the fruit is very effective for eyesight (Abbas et al. 2014). The poultice from fruits and leaves is used as a treatment for against rheumatism (Akhtar et al. 2013). The fruit is eaten and used as a dye for leather. Also, the powder dried root mixed with mustard oil to cure internal pains (Ajaib et al. 2014). The decoction or infusion of aerial parts is used as a treatment for a decrease of gastric acid (Bahmani et al. 2014). The seed and skin are put on the tooth to decrease a pain toothache (Delfan et al. 2014). The powder of leaves and stem are used for healing wound, as well as it is used as a fuel. It is used as a plaster for bones fractured and also used against hepatitis. Also, the powder of leaf is used for body pains, as well as it is used highly praised as a building

material (Khan et al. 2015).The boiled of aerial part and branches could be used as a treatment for rheumatism and toothache, as well as it is used as a remedy for bones diseases, for relieving muscle pains, wounds, gynecological infections, menstruation and women infertility (Mükemre et al. 2015). It is used as a remedy for musculoskeletal problems while the fruit and leaves dressing mash are used for rheumatism. Her ointment is effective in treating infected wounds; the plant material is ground and mixed with water to prepare a paste. Relieve pain when the tired muscles are exposed either directly to smoke branches or steam from the water extract; decoction and cooked leaves are used to treat infertility women, gynecological problems, infections, menstrual disorders and constipation (Zaid et al. 2015). The fruit is used as a treatment for skin diseases, allergies, rheumatism, constipation and pimples (Abbas 2016; Abbas et al. 2016).

40. URTICACEAE

117. *Urtica dioica* L.

The vernacular names: **Gazgazka, Gazna, Dazink, Gazink, Gezne Zerde**.

Locality: Kawarta village, Maydan near the river, grassland, 36°37'20.29"N, 44°51'48.38"E, 1050 m, 07/07/2017, AMK90.

Collection period: June-July

Parts Used: Whole plant

Purpose of Use: Food, Treatment and Economic

Usage:

A) The leaves of this plant are used to prepare the soup and sometimes it could be added to the salad (Karim ABDULLA, Hasan AHMED, Aysh ABDULLA).

B) It is used as a fence for gardens and forests (Mryam AHMED, Mustafa HASAN).

C) The root and leaf are used as a treatment for joint, leg pain and rheumatism, by boiling the root in water then purified from the water, added to the affected area and wrap by a piece of cloth (Halima DARWESH, Tofiq MIOHAMMED, Ramadhan KHDHR)

Use in the literature:

The leaves are used as a treatment for hemostatic by crushing and wrapping it in a cloth after applying on the wounds (Tuzlacı and Aymaz 2001).The roots decoction is a remedy for stomach ache, baldness, nephritis, prostatitis and urea (Kultur 2007).The leaves are used as a treatment for urinary system diseases and rheumatism (Ugurlu and Secmen

2008).The fresh leaves and decoction of leaves are internally or externally used as a treatment for cancer, antirheumatic, diabetes, stomachic, cough, colds, throat diseases, analgesic, edema, sedative, laxative, anti-inflammatory, emmenagogue, asthma, hypertension and kidney stones (Altundag and Öztürk 2011).It is used as a treatment for cold, flu, allergies, asthma, as well as moderate muscle relaxation and joint pain associated with arthritis. It is also used as a suppressor to stop bleeding from wounds or menstrual bleeding, antiseptic for wounds, diuretic and laxative. As for the dietary intake, it is edible and is a major source of food, minerals, fibre and nutrients including iron, vitamin C, magnesium. It is used by boiling or freshly. Some tribes use fibrous tissue from nettle to make fishing nets as well as fibres for making clothes and many other textile materials (Bondy 2011). The leaf decoction and seed infusion are used for losing weight. Likewise, it is a remedy for diabetes disease, rheumatism, colds and flu (Cakilcioglu et al. 2011).The leaves are used for rheumatism, by spread to the area where the pain is seen.The Upper Parts of the soil is eaten raw as a vegetable in the breakfast after the plant is thoroughly washed or boiled in the water and the water can be used as a drink for cold sores. The seeds are used as a cancer treatment; they are mixed with honey and eaten. It can also be eaten in the morning or breakfast after the plant is thoroughly washed (Kaval et al. 2015). The crushed seed is used as an aphrodisiac, and the infusion of aerial parts is used as a remedy for pain in a hernial disk (Demirci and Özhatay 2012).The decoction of the roots and the aerial parts are used as a treatment for cancer and baldness, as well as the boiled leaves are a treatment for hemorrhoids (Polat and Satıl 2012). The herbal tea is making from branches with leaves and flowers are used a remedy against stomachache and all cancerous diseases tissues, as well as the young stem and branches cooked and eaten. Also, the boiled roots as tea are used as a treatment against all cancerous diseases tissues (Behçet and Arik 2013). The infusion of roots cancer, as well as the poultice of leaves, is a rheumatism treatment (Bulut and Tuzlaci 2013). The seed mixed with honey and decoction of aerial parts is used as a treatment for analgesic, arthritis, digestive, diuretic, genital disorders, hemorrhoids, hepatitis, lepidotrichia, and rheumatism (Polat et al. 2013). The decoction and infusion of whole plants are used as a treatment for genital disorders, digestive, diuretic, and hemorrhoids (Tetik et al. 2013). Stinging nettle is an almost perfect herb for those suffering from all types of arthritis, rheumatoid arthritis, and gout. The herbal mixture is traditionally used to stop bleeding. The plant juice was used to improve the appearance of hair and was said to be a treatment

for against fatty hair and dandruff. The herb is one of the best women's tonics because it is used to stop bleeding during childbirth and throughout pregnancy, and has been used dressings soaked in leaf and a shed to stop bleeding wounds. Leaking fresh foliage is soothing to the burned skin and is used to treat smallpox, rashes, and homeopathic remedies. Nettle roots are useful for reducing prostate gland enlargement, stings are sold as a herbal drug for prostate and diuretic diseases, and their juice can relieve the pain of its own bite. The entire plant is used for excessive menstrual bleeding, diarrhea, diabetes, urinary disorders and respiratory problems. The water extract of nettle is widely used to treat high blood pressure (Shahbaz 2013). The aerial parts are eaten fresh after washing thoroughly (Kaval et al. 2015). The plant is used as a cancer treatment; the seeds of the plant are mixed with the honey. The Upper Parts of the soil is boiled in the water and the water is drunk for cold sores. Due to the leaf burning feature, rheumatism is spread to the region where it is seen. The top parts of the soil are boiled and drunk against cancer, sugar, stomach and internal diseases. The roots are boiled in the wet or after being dried and are drunk on an empty stomach in the morning against cancer. Also, the decoction and infusion of aerial parts and leaves are used as a treatment for cancers, diabetes disease, rheumatism, stomachache, colds, and flu (Mükemre et al. 2015). The decoction of the leaves are used as a treatment for anemia. Also, it is used a remedy for arthritis, colds, flu, diabetes, sore throat, painkillers, blood sugar, rheumatism, weight loss, bronchitis, cardiovascular disease, cough, respiratory diseases, tonsillitis, colds, cancers, stomach pain, painkillers, arthritis, gastrointestinal tract, diuretics, Hepatitis, lepidotrichia, gastrointestinal tract, diuretic, genital disorders, hemorrhoids, urinary tract, ulcers and constipation(Ahmed 2016). The plant juice is used to strengthen the hair, prevent hair loss, and increase hair growth in the areas of hair removal, and also could be mixed with shampoo to soften hair and shine. The leaves increase the bowel movement to digestion to help digestion, increase the process of sexuality, stop hemorrhage, and maintenance of blood pressure and is a cure for skin diseases and narrow respiratory. The herbal tea is a treatment for diabetes (Amin 2016).

41. ZYGOPHYLLCEAE

118. ***Tribulus terrestris*** L.

The vernacular names: **Qunjraka, Kunjraka, Sesw, Peikwl**.

Locality: Kawarta village, Maydan near Hamilton main road, grassland, 36°37'20.39"N, 44°51'48.38"E, 1050 m, 09/07/2017, AMK108.

Collection period: June-July

Parts Used: Whole plant

Purpose of Use: Treatment

Usage:

A) The seeds are used as a treatment for stomach pain and removal of kidney stones. It is used as a fence for gardens and forests (Abdullah RASUL).

B) The leaves of this plant are used to prepare the soup and sometimes it can be added to the salad (Amina DARWESH).

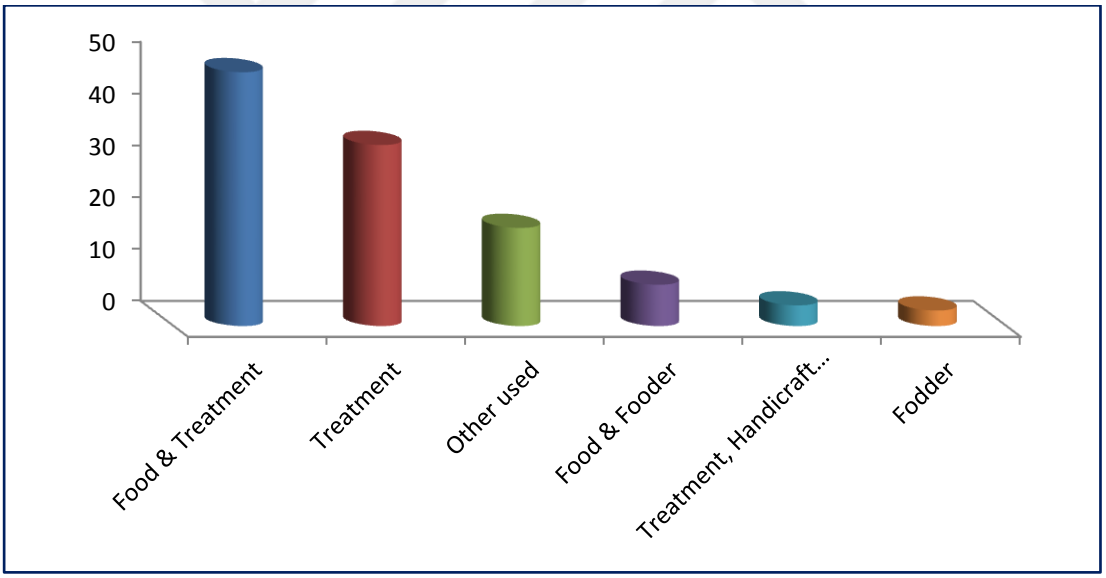
Use in the literature: The concentrated decoction of the whole plant is used as a treatment for kidney stone, constipation, diuretic, hemorrhoids and joint inflammation (Ghorbani 2005). The herbal tea which is made by a decoction of fruit is used as a cardiotonic, and a treat for vitiligo and kidney stones prostatitis (Koçyiğit and Özhatay 2006).The decoction of aerial part is used as a treatment for diuretic and cholesterosis (Kultur 2007).The aerial part is used as a treatment for arteriosclerosis (Ugurlu and Secmen 2008).The infusion of leaf and fruit is an aphrodisiac, as well as a treat for spontaneous kidney stone passage and hemorrhoid (Fakir et al. 2009).). The aboveground is used as a remedy for kidney stone dropping and tension (Uysal et al. 2010). The seed is used as general tonic, as well as it is used as a treatment for urinary disorders and impotency (Ahmad et al. 2011). The decoction of aerial part is internally used as a remedy for diuretic and diarrhea (Altundag and Öztürk 2011; Cakilcioglu et al. 2011).The seeds of the plant are used as cancer treatment and mixed with honey and eaten. In addition, the plant is thoroughly washed and then eaten in the morning or breakfast. The Upper Parts of the soil is boiled in water and the water is drunk for cold sores. Because of its leaf burning feature, rheumatism is spread to the area where the pain is seen (Kaval et al. 2014). The fruits and roots are used as a treatment for urinary disorders (Sher et al. 2011). The plant is used as feed. Also, the plants were made into a paste and could be mixed with the water and also can be used as a tonic and refrigeration medicine (Awan et al. 2012). The decoction of the plant is given orally, that is used as a treatment for urinogenital tract infection (Singh et al. 2012). The infusion of aerial parts is a treatment for kidney stones (Polat and Satıl 2012; Bulut and Tuzlaci 2013). The decoction of fruit is internally used as a treatment for diarrhea and kidney stones (Kilic and Bagci 2013). The plant is used in kidney problems, including

kidney stones, painful feeling, renal disorder called "Bright" (chronic nephritis), a water drink if increased urination. It is often used to treat infertility, erectile dysfunction, and decreased libido. In the past decade, it has become popular to improve athletic performance. The herb can also be used for digestion problems, including colic, intestinal gas swelling, constipation, and the expulsion of intestinal parasitic worms. For pain and swelling of the lining of the mouth tissue and sore throat. The plant uses the tone before birth for abortion, and to stimulate milk flow. The herb is useful for skin disorders, including eczema, psoriasis and scabies. This herb has been used for centuries in the treatment of dizziness, liver, premature ejaculation and headaches. The Greeks are used as a diuretic and mood enhancer (Shahbaz 2013). The whole plant is used as a treatment for kidneys pain and bladder inflammation (Bibi et al. 2014). The decoction of the aerial part is used as an antihypertensive (Hayta et al. 2014). The aerial part is used as a tonic, and a treatment for diuretic, kidney stone, prostate hypertrophy, anthelmintic, jaundice, flooding, dysuria and urinary antiseptic (Amiri and Joharchi 2013). Whole plant is used as a treatment for kidney stones by Infusion it (Dolatkhahi et al. 2014). The flower is used for nausea treatment, and fruit is used as a treatment for kidney stone, urinary tract infection, urinary infection, diuretic, jaundice, kidney complaints, cold, control surination, cough, uterine, gynecological, inflammation and bleeding of kidney, lithontriptic, micturation and urinary disorder (Gairola et al. 2014). The seeds are used for removal of kidney stones, and a treatment for stomach pain and back pain (Ahmed, 2015). Leaf and root decoction is a treatment for kidney sand whereas the flower oil is applicable for hemorrhoids (Ari et al. 2015; Bulut et al. 2017). Seed is a purgative while the powder of leaves and roots are used as a treatment for kidney stones and tuberculosis. Meanwhile, it is given to relief pain of the menstrual cycle (Khan et al. 2015). The fresh or infusion of the aerial part is used as a treatment for skin allergy and inflammations (Pawera et al. 2016). The decoction of the whole plant is internally used as a treatment for kidney, urinary problems and enhance sexual performance (Ahmed 2016). The crushed fruit could be mixed with butter so as to be used for a kidney stone. It is also used in powder form for thetreatment of infertility in both men and women (Jan et al. 2016). The thorns powders besides the root which are given by mouth are used as a treatment for kidney stones (Jaganathan et al. 2016).

5. DISCUSSION AND CONCLUSION

As a result of the research, in Ballakayati, 118 local taxa belonging to 41 families were identified and their names, usage patterns, and usage figures were revealed. Of the plants used, 49 of them were for food and treatment purposes (41,5%), 35 were for treatment (29,7%), 19 were for (Broom, Handicraft, Defence, Dyeing, Ornament and Treatment) (16.1%), 8 were for Food and fodder (6.8%), 4 were for Treatment, Handicraft and Fuel (3.4%) and only 3 were for fodder purposes (2.5%) all of which are listed under the 6 main headings (Figure 5.1).

Figure 5.1. Distribution ratios of plants used according to their intended use

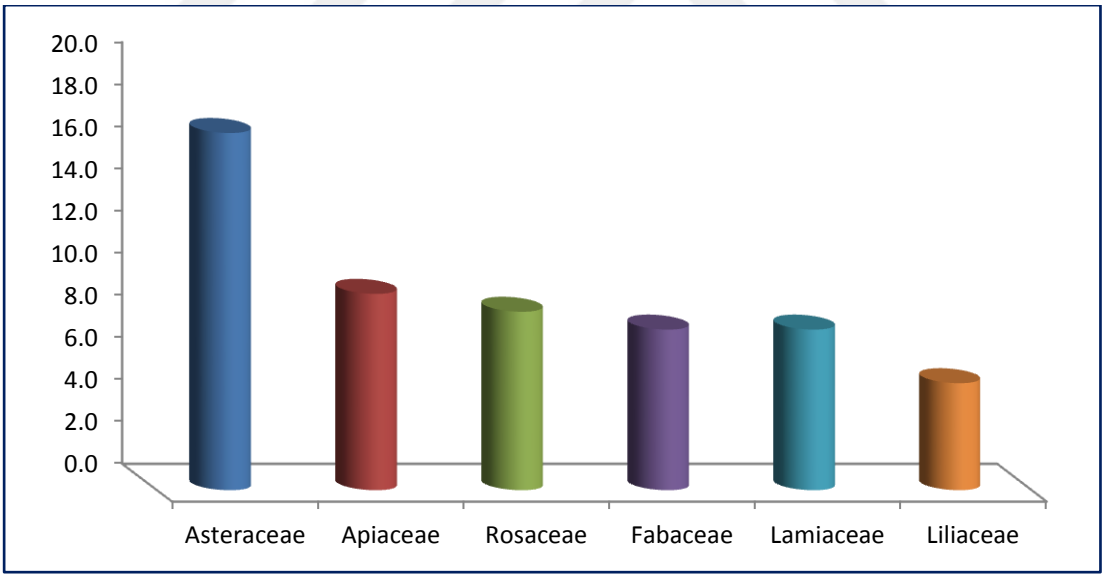


When we look at the results obtained from our research, the top 10 taxa that are the most used by the local people in our area are ***Adiantum capillus-veneris*** L. (**Khalarasha**; Treatment), ***Pistacia khinjuk Stocks*** (**Qazwan**; Food, Treatment), ***Rhus coriaria*** L. (**Trsh, smaq**; Food, Treatment), ***Foeniculum vulgare*** R. Mill. (**Razyana**; Food, Treatment), ***Heracleum lasiopetalum*** Boiss. (**Kashma**; Food), ***Pimpinella anthriscoides*** Boiss var. *anthriscoides* (**Alo**; Food), ***Apium graveolens*** (**Karawz**; Food, Treatment), ***Gundelia tournefortii L. var. Tournefurtii*** (**Kangr**; Food, Treatment), ***Artemisia absinthium*** L. (**Gyaband**; Treatment), ***Anchusa azurea*** miller var. ***azureus*** (**Gormza**;

Food), ***Mentha longifolia*** L. subsp. ***typhoides*** (Briq.) Harley (**Pung,**; Food, Treatment), ***Arum dioscoridis Sm*** var. ***syriacum*** (**Kari, Kardi**; Food, Treatment), ***Rosa canina*** L (**Shilan**; Food, Treatment), ***Anthemis coelopoda*** Boiss. var. ***bourgaei*** Boiss. (**Gula hajila, Baybun**; Treatment), ***Urtica dioica*** L. (**Gezgezka**; Treatment). These taxa whose usage is determined the most in the region are firstly for treatment purposes, then for food purposes. In most of the studies carried out in Iraq in ethnobotany these taxa are used for similar purposes. These plants have variability in local names; Therefore, we think that there is a high probability that it will cause confusion and misunderstanding in terms of science.

The first 5 family lines containing the highest number of taxa from the plants identified for use in the research area are 20 from Asteraceae (16.9%), 11 from Apiaceae (9.3%), 10 from Rosaceae (8.5%), 9 from Fabaceae and Lamiaceae each of them are (7.6%) and 6 from Liliaceae (5.1%), respectively (Figure 5.2).

Figure 5. 2. Families with the highest number of taxa in the study area

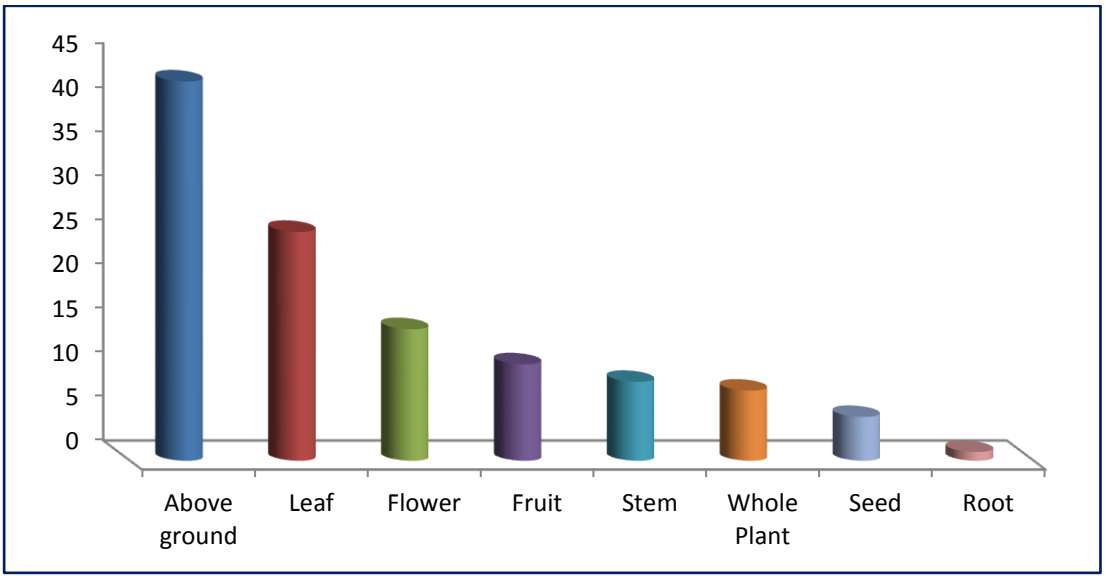


Here, in terms of the number of species, the presence of Asteraceae, which is the richest family of the world and our country, may be the reason for having more taxa in terms of usage. Because the members of this family, which have tens of thousands of taxa, have been influenced by the fact that chemical structure changes very much in terms of morphological properties. Similar it is the case in most of ethnobotanical studies related to Turkey. In the second place of Rosaceae, the influence of fruit characteristics (plum, grape, etc.) besides other properties is important. Most of the members of Apiaceae and

Lamiaceae which are rich in essential oils have lived and lived in the region and encouraged their use by the members of this family more than those of other plants. In many other ethnobotanical studies, even if the sequence changes, similar results are concerned. The fact that this family has a rich diversity in the fifth place of Fabaceae can be attributed to the formation of a member that develops in very different habitats and the effect of a rich diversity in our region. Especially in Turkey and Iraq, most commonly used for taste and flavor additive for dairy products, the Liliaceae participating member take place in the first half in terms of number of plants; over-ground and under-ground areas can be used for food or therapeutic purposes and can be based on rich taxon diversity in the region.

The most commonly used parts of the plants identified for use by the locals in the research area are given in Figure 5.3. Among the usage rates of used parts; Above ground was 36.4 %, leaves were 22%, flower was 12.7%, fruit was 9.3%, stem was 7.6%, whole plant was 6.8%, seed was 4.2% and root was 0.8%. As can be seen, the plant part with the highest usage rate is the whole plant usage on the ground; leaf, underground parts, fruit, flower, whole plant parts (including underground), body, seed. Sometimes different parts of the same taxon can be used in different purposes and figures.

Figure 5.3. Parts of plants purposes used for research area.



As a result of the research; it has been determined that the use of the plant for treatment is more common and that the plants used for this purpose (most of the leaves, flowers, fruits

and all parts above the ground are used together) are the most used forms of powder, infusion and decoction.

The plants that we identified during their working period were evaluated in the literature. The uses we have identified and the comparison of the literature are presented below.

Plant is Used for Therapeutic Purposes

The medicinal plants are the second highest rate in our research. These plants are used as a treatment for many diseases mostly for the treatment of colds, shortness of breath, heart disease and gastrointestinal diseases. Also, during research it was focused on the plants used to treat gynecological diseases, skin problems, cancer treatment and many treatments of harassment. It has been determined that these factories, which we identified in the research process, were used directly or used as infusion/ decoction. They have identified 35 taxa. The following is a comparison of predetermined taxonomic uses for each species and uses in other research.

ACANTHACEAE

Acanthus dioscoridis L. var ***dioscoridis***, The decoction of dried leaves of this plant is used as a treatment for against diarrhea. In literature, no similar use is found.

ADIANTACEAE

Adiantum capillus-veneris L., It is used as a treatment for kidney pain by boiling the leaves in the water after drinking it .Also, the plant powder is mixed with sugar to be used as a treatment for colds, spleen pain and diarrhea. It also cures snake bites, rabies and other insect bites. In the literature scans showed that the plant was used for different purposes similar to this, Aerial parts are used as a treatment for appetitive and diuretic (Kilic and Bagci 2013). The herbal tea is used to relieve kidney stones, bladder stones, bronchitis, colds, cough, excessive mucus, flu and respiratory difficulty. Meanwhile, the boiled leaves are used to treat chest, headaches, snoring, colds, coughs, urinary infections and increased sweat. Boiled roots are used for cough, respiratory problems, fever, and

abdomen colic (Shahbaz 2013). The decoction and infusion of leaves are used for laxative, antichrist, orchitis, diuretic, anticatarrhal, antitussive, cold, cough, emmenagouge, expectorant and fever Jaundice, anti-haemorrhoid, earache, common cold, kidney stones expectorant, diarrhoea, kidney stones, carminative, warts, bladder, asthma, breathing problems and febrifuge (Ahmad et al. 2011; Amiri and Joharchi 2013; Amiri et al. 2014; Dolatkhahi et al. 2014; Hayta et al. 2014; Ahmed 2016).

ANACARDIACEAE

Pistacia eurycarpa Yalt., The fruit is eaten raw, consumed to make a coffee, added into Ayran to change its taste. As well as, the body of the tree is used as a fuel and charcoal. In addition, the resin obtained from the body is used to treat stomach ache, abdominal pain and consumed to make a gum. Also, the oil which is the extract from the seed is used as a treatment for skin pain and burning. In the literature, the similar use is also found in the studies of Amiri and Joharchi (2013), Delfan et al (2014), Dolatkhahi et al. (2014), and Kaval et al. (2014).

Pistacia khinjuk Stocks, The same use like (***Pistacia eurycarpa*** Yalt.)

ASTERACEAE

Acroptilon repens (L.) DC., This plant is used as a kind of treatment for the infertility of married couples who are required to inhale in the bathroom then perform the intercourse process this process is continued for two times in 2 days. Pawera et al. (2016) in their study indicated that the aerial part of the plant is used in the treatment of stomach ache, diarrhea, and digestion problems by orally infused.

Anthemis codopodai Boiss. - var. ***boragaei*** Boiss., The flower of this plant is the best treatment for human. It is used as a material for make-up by required to inhaled in the glass and Cover with a piece of cloth. Also, it is used as a treatment for diarrhea in children by steeping. A handful of the dried or fresh flower is drunk in a glass of water and drank a glass a day. This process is continued for 3-4 days. In the literature, scans showed that the plant is used for different purposes, but no similar use. The decoction and

infusion of flower is used as a treatment for different purposes such as gastralgia, digestive disorder, conjunctivitis, dysmenorrhoea, cold, cough, gases female genital infection, kidney stones, eye infection, gastric ulcer treatment, eczema, antitussive, anticatarrhal, hair tonic, colic, menstrual pains, muscle spasms, anemia, inflammation mouth, and teeth. Moreover, it is against allergies. Likewise, it could be drunk so as to increase sexual strength and it could be used as a treatment for dissolving kidney stones and lowering blood pressure (Benítez, González-Tejero, and Molero-Mesa, 2010; Mati and de Boer 2011; Amir and Joharchi, 2013; Moradi et al. 2016; Amin 2016; Pourjabali et al. 2017). Also, it is used for washing hairs; the flower treats hair loss especially whenever it is decocted with Ziziphus leaves (Mosaddegh et al. 2012).

Arctium lappa L., The seeds part of the plant after boiled and purified the water from it will be ready for drinking as a treatment for shortness of breath and diabetes, drinking a glass a day. This process is continued for 3-4 days. Whenever the boiled plant flower is purified, the purified water could be taken as a treatment for kidney stones and drunk a glass a day to reduce pain. This process is continued for 7 days. In the literature scans showed that the plant was used for different purposes, but no similar use. The roots are used as a treatment for an expectorant, antitussive, emollient, diuretic, anti-inflammatory; digestive and renal disorders, cough, bronchitis, wounds, sores, menstrual pains, and it acts as depurative and diuretic. It is possible for the raw stem to be eaten before blooming (Thomsen et al. 1996; Menale et al. 2006). The root extract is used as a diuretic, diaphoretic, in gout and skin emotions. The dye of the seeds is used for psoriasis and dental pain (Sharma et al. 2010). The leaf is used as a treatment for ulcers, depurative, diuretic cholagogue and hypoglycemic and fester wounds (Jaric et al. 2007; Amiri and Joharchi 2013). The fruit is used as an antidiabetic (Bahmani et al. 2014). The root is used as a treatment for antiphlogistic, depurative, diaphoretic, and diuretic in addition to removing kidney stone (Gairola et al. 2014).The very young leaves are used as soup. The roots and flowers are also used as a treatment for fever, rheumatic disease, respiratory infections and blood thinner whenever it is decocted and infused (Bellia and Pieroni 2015; Zarei et al. 2017).

Artemisia absinthium L., The upper parts are used as a breathless treatment and diabetes, after boiling and purifying, and then 1 cup of this water is consumed before breakfast for

7 days. Similarly, plant flower is used as a treatment for kidney stones and pain reduction prepared and used in the same way. In the literature, the survey showed that the plant was used for different purposes, similar use; Baytop (1999), Malyer et al (2004).

Centaurea behen L., The plant is used as a treatment for stomach colic, by boiling the leaves in water the same as making a tea, after that drinking a glass of it before the breakfast. In the literature, no similar use is found.

Cichorium intybus L., The upper part of the plant is used as a treatment for the prostate disease and lower blood pressure, by collecting it and drying under the shadow, after that boiling and drinking the water before the breakfast. In the literature, no similar use is found.

Cynara cardunculus var. ***scolymus*** L., The upper part of the plant is used as a treatment for kidney stones and pain reduction, after collection, drying under shade, and after boiling, its water can be drunk before breakfast for two days. In the literature, the similar use is found in the studies of Benitez, Tejero and Mesa (2010).

Helichrysum plicatum DC., This plant is used as an ornamental and putting on the table for decoration. Likewise, it is unrolled on the roofs, and hanged on walls. In addition, the flower is used as a treatment for diarrhea, intestinal disease, kidney stones and reducing pain; after boiling in the water, purified it, so as to be drunk. In literature, the similar use is found in Behçet and Arik (2013), and Bulut et al (2017).

Lactuca scarioloides Boiss, The new fresh leaf is eaten raw as a treatment for increasing the milk in lactating women, as well as the latex which secrete from the leaf is used as a treatment for wounds.

Silybum marianum (L.)Gaertn., the seed powder mixed with the sugar is used as a treatment for stomach ache. In literature, the similar use is found in the studies of Mosaddegh et al (2012)

CYPERACEAE

Scorpioides holoschoenus L. Sojak, the purified water of the boiled roots is used as a treatment for urinary incontinence particularly, by drinking for 2 times in one day.likewise, it causes to enhance the sterility of men and women. Its usage is not mentioned in the literature.

EUPHORBIACEAE

Euphorbia virgata Waldst. & Kit, the body of this plant excretes liquid (like milk) which is used as a treatment for allergy. Adding liquid to areas where sensitive, this process is continued for 2-3 times from one day. Similar use is also available in Altundag and Öztürk (2011)'s that say the flowers are used as a treatment for eczema if the affected part is directly covered by it. Also, Gairola et al (2014) point out that some spices of this plant are used as a treatment for anthelmintic, toothache, and asthma. Other uses have been identified in the literature, but no similar use is found.

FAGACEAE

Quercus brantii Lindl, the leaf is a fodder for animal and the stem or the body is used for making a lot of instrument. In addition, the mature fruit or seed is eaten as a food and a treatment for diarrhea, stomach ache and diabetic. In the literature, the similar use is also found in the studies of Mati (2010), Dogan and Tuzlaci (2015) and Ozkan et al (2016)**.**

Quercus infectoria Oliv., The gall powder is used to treat inflammation and to treat fungal infections between the foot's fingers. likewise, the fruit (Mazi) powder is used as a treatment for sore and wound in the mouth. Also, It is used together with henna as a treatment for burnings. In the literature, the similar use is also found in the studies of Mati (2010), Uysal et al (2010), Shankar and Devalla (2012), Shabaz (2013), Tetik et al (2013), Ari et al (2015), and Ahmed (2016).

LILIACEAE

Muscari neglectum Guss., The plant is used in the preparation of treatment as a helper agent. Other uses have been identified in the literature, but no similar. Koçyiğit and

Özhatay in (2006) indicate that the flowers are rubbed on the wart and used as a treatment for rheumatism. Ugurlu and Secmen in (2008) show that the decoction of fruits is used as a treatment to rheumatism. Kızılarslan and Özhatay in (2012) point out that the leaves are cooked with vegetables and can be used for plaiting hairs in children's play. Akan et al in (2013) said the flowers are used for painting the eggs to blue-purple. The aerial parts of the plant are added to pastry. Korkmaz et al. (2016) demonstrate being grown in the gardens, the plant is used as an ornament.

MALVACEAE

Alcea pallida Waldst and Kit. **-** ***Althaea officinalis - Alcea kurdica***, the plant is used as an ornamental. In the literature, scans showed that the plant is used for different purposes, but no similar use.

ONAGRACEAE

Epilobium sp. (Epilobium parviflorum, Epilobium angustifolium), The extract of the leaf of this plant is used as a treatment for digestive system diseases by boiled the upper part of the plant and purified from the water after that it is drunk 2-3 times only in the morning. The flower of this plant is used as a herbal tea. In the literature no similar use is found.

Epilobium hirsutum L., The ground parts are used as a treatment and to stop the bleeding by placing the paper on the area of the wound. In the literature no similar use is found.

PAPAVERACEAE

Fumaria parviflora Lam., This plant is used as a treatment for animals. After collecting and drying it under the shade, it could be crushed and changing it to the powder and then spread powder over the area on the wounds. In the literature the plant was used for different purposes, but no similar use.

Papaver rhoeas L., This flowering plant is used as a treatment for diseases. After collecting and drying under the shade, then changing it to the powder after that putting it in the capsules so it can be used as a drug. Also, the leaf and steam of it can be eaten. In the literature, scans showed that the plant was used for different purposes of treatment, but no similar use.

PLANTAGINACEAE

Plantago media L., the leaves are used as a treatment and to stop bleeding, by placing on the wound area. Ghorbani in (2005), Altundag and Öztürk in(2011) indicates the leaves are used as a treatment for cutting, wart, dermal wounds and dermal inflammation. Jaric et al in (2007) demonstrates the leaves are used as antibacterial properties to be applied to wounds, cuts, scaly wounds and ulcers, internally for diarrhea, convulsions, intestinal ulcers and stomach, anti-cough and sedative.

POACEAE

Avena sterilis L. subsp. ***ludoviciana*** (Durieu) Gillet & Magne, The seed is used as a treatment for diabetes and abdominal disorders. In literature, the similar used is found in the studies of Abu-Rabia (2015).

RANUNCULACEAE

Paliurus spina-christi Miller., The branches of this plant are burning to excrete fat substance. This substance is applied to the fungus. Also, the decoction of fruits is used as a treatment for abdominal pain, stomach ache, and kidney stones. In addition, it is used as a fence for gardens and forest and used as animal feed. In literature, the similar uses have been identified in other studies; Koçyiğit and Özhatay (2006), Kultur (2007) Ugurlu and Secmen (2008), Fakir et al (2009), Cakilcioglu et al (2011), Kızılarslan and Özhatay (2012), Polat and Satıl (2012), Bulut and Tuzlaci (2013), Gurdal and Kultur (2013), Fakir et al (2016).

Ranunculus sericeus Banks and Sol., The leaves of this plant are used as a powerful treatment for skin irritations, infections, and skin allergies, by putting the leaf on the affected skin. In the literature, the plant is used for different purposes as Altundag and Öztürk in (2011) indicated the pounded of plant is externally used as a treatment for antirheumatic and inflamed wounds. Also, Shahrokhi et al. (2014) point out the leaves are used as a therapy for diarrhoea, vomit, and dysentery..

Thalictrum minus L. var. ***majus*** (Crante) Creping, The plant is grown as an ornamental plant in front of the houses. Also, the plant leaves are used as a bowel treatment. It is used as an ornamental plant. In the literature, the plant was used for different purposes as Altundag and Öztürk (2011) said it is used as a treatment for asthma by vaporization. Also, the poultice of the plant is internally used for cardialgia and headache as well as it is externally used as a therapy for eye diseases, diuretic, and abscess. Moteetee and Van Wyk in (2011) said the decoction of roots is taken for fever.

ROSACEAE

Crataegus meyeri Pojark., The fruit is eaten raw and consumed to make a cam. As well as, the body of the tree is used as a fuel and charcoal. In addition, the flower is used to treat kidney pain and urinary system pain, after boiling it in the water, purifying from the water, and then this water is drunk every day in the morning for one week. In the literature, the similar use is also found in the studies of Ghorbani (2005) and Kaval et al. (2014). The other uses have been identified in the literature for various medical purposes, but not similar.

Potentilla kurdica Boiss. and Hohen., The flower of this plant is used to treat reddening of the eyes only by seeing it. Other uses have been identified in the literature, but no similar use has been founded.

SOLANACEAE

Datura stramonium L., The Plant seeds are used to prevent the formation of the embryo because it causes infertility. Other uses have been identified in the literature, but no similar use has been found.

TAMARICACEAE

Tamarix smyrnensis Bunge, The stem is used as a treatment for eczema that affects the human skin. After heating the stem secrete fluid that is used as a treatment for this disease such as ointment. Also, the branch of this plant is used for making the broom for cleaning. In the literature scans showed that the plant was used for different purposes, but no similar use, such as; Drabu et al. (2012) show that the plant is very useful and its application has already beenfound in a wide range of drugs for the treatment of leukoderma, spleen stenosis, eye diseases, rheumatism, diarrhea, and gingivitis. Bibi et al (2014) state the bark of the plant is used as a treatment for jaundice. Khan et al. in (2015) the stem is used as a source of fuelwood, as well as the leaves are used against all types of hepatitis.

THYMELAEACEAE

Daphne mucronata Royle, The seed is put on the tooth to decrease a pain toothache this process 2-3 times in the day. Also, fruit maturity of this plant is used as a guide to the formation of honey in the bee cell inside boxes. Branches of this plant are used to make a broom for cleaning animal's poultry. The plant is used as a fuel for cooking and heating In the literature, it is showed that the plant was used for different purposes, as Hamayun (2007) indicate, it is used as fuelwood for heating and cooking, and Delfan et al (2014) said the seed and skin are put on the tooth to decrease a pain toothache.The other uses are not similar.

ZYGOPHYLLACEAE

Tribulus terrestris L. var. ***bicornutus***, The seeds are used as a treatment for stomach pain and removal of kidney stones. It is used as a fence for gardens and forests. Also, the leaves of this plant are used to prepare the soup and sometimes it can be added to the

salad. In the literature it is found the same as Ahmed (2015) said the seeds have used a treatment for removal of kidney stones and relieve stomach pain and back pain. Other uses are not similar but used for different purposes.

Plants Use For Treatment and Food

The plants used for medical purposes and food are the highest rate in our research. These herbs are used as food, eaten directly or prepared by boiling in water and mixed with eggs and oil. These Plants are also used as a treatment for many diseases mostly for the treatment of colds, shortness of breath, heart disease and gastrointestinal diseases. It is also worth mentioning that the concentration of plants used to treat cancer, treat female diseases and treat skin problems. It has been determined that these plants, which we identified in the research process, were used directly or used as an infusion/decoction. In addition, the plant hich is used for treatment can sometimes be used for many discomforts. They are 49 taxa used for medical and food purposes. A comparison of the pre-determined uses of taxa with this type of use, which we have identified in our study, is given below.

ANACARDIACEAE

Rhus coriaria L., The mature fruit of the plant is used as a food spice after it has been dried and powdered for changing the flavor. Some pregnant women are eager to eat the mature fruit. The resin extracted from the tree body is used as a pain and burning relief. In other studies, food use and various medical purposes were encountered; Kaval et al. (2015) indicate that the matured fruit which is eaten freshly are used for making a spice. Also it is used for diffirent purposes.

APIACEAE

Anethum graveolens L., It is eaten freshly as a vegetable and added into salads and foods. it is inserted to the buttermilk for changing its flavor. It is also used as a treatment to reduce blood cholesterol by decoction, filtered water and drink a cup before breakfast

every day for one week. Kaval et al (2015) said they used the same as, and in other studies used for various purposes for a treatment.

Apium graveolens L., It is used as spices and spices to change the taste of food, as well as used as a treatment for pain and inflammation of the kidney through the glands and filtered and drinking water. In other studies and literature, it is used for food and for various medical purposes, but no similar use is found.

Chaerophyllum macropodum Boiss., the leaves are mixed with cheese and it is eaten after cooked with eggs in oil. In addition, the root extract is used as a treatment for relief painful urination and promoting urination. In the literature, the similar use is also found in the studies of Yıldırım et al (2008), Mosaddegh et al (2012), Kaval et al (2015) and Durmaz et al (2016).

Coriandrum sativum L., After the seed is pounded and powdered, it is as a tradtion sprinkled on the cow to attract its calf. In addition, leaves of the plant are mixed with ayran. Other uses have been identified in the literature, but no similar use is found.

Eryngium bourgatii Gouan, The root is eaten after peeling and used as a cleaning material like soap. Also, it is used as a treatment by putting on the body, for the fungus when is seen. The root part of the plant is boiled in water to be drunk as a treatment for stomach aches and bronchitis disease.

Falcaria vulgaris Bernh., The leaves are mixed with cheese to change its taste. In addition, the leaf is used as a treatment for stomach ache, by decoction it. The same use is found in the literature by Yıldırım et al (2008), Mosaddegh et al (2012), Kaval et al (2015) and Durmaz et al (2016).

Foeniculum vulgare Mill., The seeds are used for increasing the milk of the lactating (nursing) women, and it is a treatment for stomach ache and headache. It is also used for the economic purpose. It is mixed with the sugar for changing its flavor. In other literature, its use for various medical purposes such as; Sabra and Walter (2001), were the first to be used in as a food and the treatment of stomach ache.

Heracleum lasiopetalum Boiss., The plant is used as a food and added into a cheese for changing its taste. Also, it is a treatment for a cough. As well as, it is used for an economic purpose. In literature, researchers indicate that from some taxa of this plant are used as food and as a treatment but are not similar to these purposes; Pirbalouti (2010) said it is used for health and food.

Pimpinella anthriscoides Boiss var. ***anthriscoides***, the top part of the plant is boiled in water, purified from water, and then roasted in oil with the egg. In addition, the dried leaf changes to a powder and used as a treatment for infections and wounds in the mouth. in the literature, the similar use was also found in; Abbasi et al (2013), Kaval et al (2014), Kaval et al (2015) and Mükemre et al (2015).

Pimpinella eriocarpa Banks and Sol., the leaves are eaten with egg and with the dough. Also, the dried leaves with salt are used as a treatment for infections of the mouth. In the literature Abbasi et al (2013), Kaval et al (2015) and Mükemre et al (2015) showed that all of these indicates are in the same use, but Jamil et al (2012) said the fresh roots are chewed and eaten due to their calming and aphrodisiac effects.

Smyrnium cordifolium Boiss, The stem is eaten after peeling and used as a treatment for stomach ache. In the literature, same use is found in the studies of Amiri and Joharchi (2012), Pirbalouti, Momeni, and Bahmani (2013), Okafor, Mary B., and Abu (2014), and Ahmadi et al (2016). Other uses have been identified in the literature, but no similar use is found**.**

ARACEAE

Arum dioscoridis Sm var. syriacum (Blume) Engl., The plant is used as a food, treatment for cancer, and economic purposes. In the literature, same use of it is found in the studies Jaradat, Abualhasan (2016).

ASTERACEAE

Gundelia tournefortii L. Var. ***Tournefurtii***, The stem is eaten after boiling and used as a treatment for diarrhea. found it in the literature by Cakilcioglu, Turkoglu (2010) and Amir and Joharchi (2013). Other users have been identified in the literature, but no similar use is found**.**

Tragopogon pratensis* -** Subsp. ***Pratensis, The plant is used as a food, cleaner and a treatment for a stomach ache. In the literature, the similar use is found in the studies of Altundag and Öztürk (2011) it is the same use for a treatment.

ASPHODELACEAE

Asphodelus albus Mill., The immature plant is used as food, after boiling in water, purified from water and mixed with eggs and oil to prepare a meal. Similarly, it is used as a treatment for abdominal pain. Villagers are transported from a mountain and are stored in frozen for use in the winter or sold on the market for the money. The root of the plant is used in preparing the glue industry, by crushing the dry root and boiling in water until the water evaporates, then this glue is used to repair the book. In literature, its use is not mentioned.

BORAGINACEAE

Anchusa azurea Miller - var. ***azureus***, The plant is used as a food after boiling with egg and used as a herbal tea by adding the flowering plant to warm water. Also, the plant leaf is used to treat the snake's bite by eating raw the fresh leaf or adding it to the sting area. In the literature, found in the same uses for food, but for uses in the field of medicine and treatment have many uses but not similar.

BRASSICACEAE

Capsella bursa-pastoris (L.) Medik, The plant is used as a food after boiling with egg and used as a herbal tea by adding the flowering plant to warm water. Also, the plant leaf is used to treat the abdominal pain by eating the leaf after decoction. In the literature, other uses have been identified, but no similar use is found**.**

Lepidium sativum L., The plant is used as a food by eaten raw as a vegetable or adding to salads. Also, the seed is used to treat the abdominal pain and to gain weight, by add to the warm water after purifying water and drinking it. In the literature, other users have been identified, but no similar use has been founded.

Nasturtium officinale R. Br., The plant is used as a food by eaten raw as a vegetable or adding to salads. Also, it is used to give appetite and to treat the constipation in the stomach. In the literature, it has been identified they are used for food and various medical purposes; Sharma et al (2010), Sher et al. (2011), Polat, Cakilcioglu, and Satıl (2013), Polat et al (2015) were is used as a food and a treatment of stomach and to give appetite.

CANNABACEAE

Celtis tournefortii Lam., The fruit is eaten raw and used to treat diarrhea. In the literature, it has been identified they are used for food and various medical purposes. According to Altundag and Öztürk (2011) Hayta et al (2014), Kaval et al (2015), it is used as a food and a treatment for diarrhea.

DIPSACACEAE

Cephalaria syriaca (L.) Schroeder, It is a harmful grass as it grows in the field of wheat and barley and reduces wheat and barley products, but the seed is used to treat diabetes. In the literature, It has been identified but no similar use is found.

FABACEAE

Glycyrrhiza glabra L., the root is used to make juice and a treatment for anemia. In the literature, Amir and Joharchi (2013) indicated that it is used the same. Other uses have been identified, but no similar use is found.

GERANIACEAE

Erodium cicutarium (L.) L'Hér., The upper part of the plant is eaten after cooked with eggs in oil. In addition, the upper part extract is used as a treatment for dysentery, abdominal pain and internal illness. In the literature, the similar use is also found in the studies of Moteetee and Van Wyk (2011) and Kayani et al (2015)**.**

JUGLANDACEAE

Juglans regia L., The fruit is used as a food and consumed for making a cake. Also, it is very important for the treatment of weakness body. Likewise, it is used for handicraft, musical instruments, and furniture. In the literature, similar use is detected in Pieroni et al (2014).

LAMIACEAE

Mentha longifolia (L.) Huds - Subsp. ***Noeana*** (Boiss ex Briq) Briq, It is used as a vegetable, spice, and herbal tea. Also, it is used as a treatment for a headache, 5-6 leaves with 2 glasses of water together with boiling water or the leaves are eaten raw. In the literature, similar uses are found in the studies of Ahmad et al (2009), Hinnawi (2010) and Abbas et al (2014).

Ocimum basilicum L., It is used as a vegetable, spice, and herbal tea. Also, it is used as a treatment for a headache and lost appetite, by eating the leaves rawly. In the literature, similar uses are found in the studies of Naghibi et al (2005).

Origanum vulgare L. Subsp. ***Gracila*** (K.koch) Letsw., It is used as a spice and vegetable. Also, it is used as a treatment for a toothache, by add the leaf to warm water and drinking it. In the literature, similar uses have been found of; Naghibi et al (2005) and Singh and Thakur (2014).

Phlomis lanceolata Boiss and Hohen, The decoction of the flower is used to treat diabetes. In addition, the plant is harmful when grows in wheat and barley fields, it causes a decrease in growth and production. In literature, similar use is found as a treatment in the study of Naseeb et al. (2014).

Thymus kotschyanus Boiss and Hoken var. ***katschyanus***, It is used as a spice and vegetable. Also, it is used as a treatment for a headache and cold, by adding the leaf to warm water and drinking it. In the literature, similar uses are found in the studies of Naghibi et al (2005) Altundag and Öztürk (2011) and Kaval et al. (2015).

LILIACEAE

Allium ampeloprasum L., The young leaves after collecting, scalded and roasted in various forms as food are consumed. In addition, foods made with plants are used in the treatment of inflammatory diseases. The use of the plant for food was encountered in the studies of Kaval et al (2015) and Polat et al (2015).

Allium fedtschenkoi nabis, The leaves are consumed for various forms from a food. In addition, it is used in the treatment of inflammatory diseases. Its usage is not mentioned in the literature.

Allium macrochaetum Boiss. & Hausskn. subsp. ***macrochaetum*** The plant is eaten raw, added into salad and cheese. Also, it is a treatment for inflammation of the digestive system. In literature, similar use is found in the studies of Kaval et al (2014).

MALVACEAE

Malva sylvestris L., The whole plant is boiled in water and drink a glass of water a day, it is used as a treatment for stomach pain. The fresh leaf is used as a treatment for wound and stop blooding by puting on the wounded area. The plant is used as a food; the top parts of the soil are mixed with the bulgur and oil after that boiling it for preparing soup. Likewise, it is boiling in water, purified from water, mixed with egg and oil, put on the fire for making a food. The similar uses have been identified in other studies of Pirbalouti 2010), Ahmad et al (2011), Polat and Satıl (2012), Amiri and Joharchi (2013), Bulut and Tuzlaci (2013), Gürdal and Kültür (2014), Arı et al (2015), Meddour and Meddour-Sahar 2015, Korkmaz et al (2016) and Nadiroglu (2017).

ORCHIDACEAE

Dactylorhiza umbrosa (Kar. & Kir.) Nevski var. ***longibracteata*** Renz The root of the plant is used as a treatment of sexual impotency and tonic. In literature, similar use is found in the studies of Amiri and Joharchi (2013).

POLYGONACEAE

Rheum ribes L., The plant is used as a vegetable, consumed to make a jam and for economic purposes. In addition, the root is used as a treatment for diabetes after drying the root, crushing and boiling it in the water, purified then drinking it. In literature, similar use is found in the studies of Behçet and Arik (2013), Dogan and Tuzlaci (2015), Kaval et al. (2015), Mükemre et al. (2015) and Polat et al. 2015.

Rumex tuberosus L. subsp. ***horizontalis*** (Koch) Rech., The plant is used as a spice and for economic purposes. In addition, the seed is used as a treatment for diabetes after drying, boiling it in the water, purified then drinking it. In literature, similar use is found in the studies of Tetik, Civelek, and Cakilcioglu (2013).

PORTULACACEAE

Portulaca oleracea L., The plant is used as a vegetable, spice, added to cheese or yogurt and is used for economic purposes. In addition, It is used to strengthen the body of farmers and workers which is working under the sun. In literature, food use and various medical purposes are encountered, but no similar use is found.

PUNICACEAE

Punica granatum L., The plant is used as a fruit, consumed to make jams, jellies, and sauces. In addition, the pomegranate peels were used in tanning leather. Also, the peel is used as a treatment for diarrhea and oral's gum. Similar use is found in the literature by Khan and Khatoon (2007), Uysal et al (2010), Gurdal and Kultur (2013), Shahbaz (2013) and Bulut et al (2017). Other uses have been identified in the literature for various medical purposes.

RHAMANACEAE

Ziziphus jujuba Miller, The fruit is eaten raw, consumed to make jams. In addition, the decoction of fruit is used as a treatment for a sore throat. Similar use is found in the literature by Ahmed (2016) and Sharma et al (2017). Other uses have been identified in the literature for various medical purposes, but not similar.

ROSACEAE

Amygdalus orabica Oliv., The seed is eaten raw, as a treatment for the stomach acid. In addition, the upper part is used to make a broom. Its usage is not mentioned in the literature.

Cerasus microcarpa (C.A Mey) Boiss. - Subsp. ***tortuosa*** (Boiss. and Hausskn.) Browicz, The fruit is eaten raw and it is used as a treatment for diarrhea. The similar use for eaten was found in the literature; Ahmed (2016) and Sharma et al (2017). Other users have been identified for various medical purposes, but not similar.

Cydonia oblonga Mill., The fruit is eaten raw, consumed to make jams and produces the delicious drink. In addition, the fruits is boiled with water to drink a glass of water a day for the treatment of pharyngitis, cough, and lung pain. The similar use is also found in the literature; Tuzlacı and Aymaz (2001), Bulut (2011), Sargın, Akçicek, and Selvi (2013) and Uzun and Kaya (2016).

Prunus lycioides (Spach) C.K.Schneid., The grip fruit and the seeds are eaten raw, consumed to make a cake, pastries and desserts. The seed is used to dissolve harmful fats in the body or inside blood vessels.

Rosa dumalis Bechst var. ***boissieri***, The Petals of the flower are used to make a jam. In addition, the fruit is used as a treatment for a cold and cough, by drying it and adding into boiled water, after drinking it for 3 times in one day. In literature, Similar use is found in Shahbaz (2013).

Rosa heckeliana Tratt. var. ***orientalis*** (Dupont) Meikle, The Petals of the flower are used to make a jam. In addition, the fruit is used as a treatment for a cold and cough, by drying it and adding into boiled water, after that it is drunk. In literature, Similar use is found in the studies of (Kaval et al. 2014), Mükemre et al. (2015) and Nadiroğlu et al (2019).

Rosa gallica L., The Petals of the flower are used to make a jam. In addition, the fruit is used as a treatment for a cold and cough, by drying it and adding into boiled water, after that it is drunk. In literature, Similar use is found in the studies of Kaval et al. (2015) and Nadiroğlu et al (2019).

Rubus sanctus Schreb, The fruit is eaten raw and consumed to make a jam and delicious drink. In addition, the fruit is used to increase the resistance of the diseases. In literature, it is found for various medical purposes, but not similar.

URTICACEAE

Urtica dioica L., The leaf is used to make soup. In addition, the leaf and root are used as a treatment for joint, leg pain and rheumatism, by boiling the root in water after that purified from the water, added to the affected area and wrapped by a piece of cloth. In literature, the similar uses of plants have been identified in many studies of Ugurlu and Secmen (2008), Cakilcioglu et al (2011), Demirci and Özhatay (2012), Bulut and Tuzlaci (2013) and Mükemre et al. (2015)**.**

Plants Used for Food and Fodder Purposes

There are 8 taxa found in our research area and they are used only for food and fodder purposes. These plants are usually boiled and raw, and they are consumed as spices, vegetables or a side dish. In addition to these, it has also been identified that plants get dried or shoehorned and stored for use during other seasons of the year.

ASTERACEAE

Sonchus oleraceus L., The plant is eaten cooked with eggs in oil. In the literature, the similar use is also found in the studies of Dogan et al (2004) and Kaval et al (2014).

Echinops orientalis L., The fresh fruit and capitulum of the flower are eaten after peeling and it is used as a fodder for animals. In the literature, the similar use is also found in the studies of Akan et al (2013), Kaval et al. (2015) and Kılıç (2016).

FABACEAE

Medicago rigidula (L.) All, The new upper part is used as food for making soup. In literature, no similar use is found.

Medicago sativa L. - Subsp. ***Sativa***, The new upper part is used as food for preparing soup. In literature, no similar use is found.

Pisum sativum L. subsp. ***elatius*** (M. Bieb.) Asch. & Graebn. var. ***elatius*** , The fruits are edible and are used as vegetable without cooking. Similar uses of plants have been identified in many studies of Khan et al. 2013, Akan et al (2013), and Khan et al (2015).

Pisum sativum L. subsp. ***elatius*** (M. Bieb.) Asch. & Graebn. var. ***pamilio*** Meikle, the same use like ***Pisum sativum*** L. subsp. ***elatius*** (M. Bieb.) Asch. & Graebn. var. ***elatius***

Vicia narbonensis L., The fruits are edible and used as vegetable without cooking. Similar uses of plants have been identified in the study of Hinnawi (2010).

POACEAE

Setaria italica (L.) P. Beauv., The seed is used as a sweet food. Also, the whole plant is used as a fodder for the animal. In addition, it is used for many purposes mainly for is basket making. Its usage is not found in the literature.

Plants Used to Animal Feed for forsing it

There are 3 taxa in the field of research, using plants used by local people to feed animals, and harvesting of these plants, drying and storing for use during the fall and winter of the year. Such as:

ASTERACEAE

Carduus pycnocephalus L., the upper part is eaten after peeling and it is used as a fodder for the animal. the similar use is found in the literature by Akan et al (2013), Okafor et al (2014), Kılıç (2016) and Korkmaz et al (2016).

FABACEAE

Trifolium purpureum Lois var. ***purpureum***, the upper part is used as a fodder for the animal and some people eat it. Its usage is not found in the literature.

Vicia hybrida L., the upper part is used as a fodder for the animal and some people eat. Its usage is not found in the literature.

Plants Used to Treatment, Handicraft, and Fuel economically

There are 4 taxa in the field of research, using plants used by local people in the production of furniture and artificial objects and handicraft. In addition, these plants are harvested, dried and stored for use during the fall and winter of the year for fuel and economically purposes.

OLEACEAE

Fraxinus angustifolia Vahl - Subsp. ***Syriaca*** (Boiss) Yalt. The stem is used to cover the roof of the house, wheeled vehicles and furniture and artificial objects, as well as, the plant leaf is used to construct the resort. As well as, the body of the tree is used as a fuel, charcoal and economic purpose. In the literature, the similar use is also found in the studies of Gras et al. (2016) and Furkan (2016).

FAGACEAE

Plantanus orientais L., The whole plant is used to make the musical instrument, furniture, artificial objects and covering the roof of the houses, as well as, the plant leaves are used to construct the Montazah Resort. Also, the body of the tree is used as a fuel, charcoal and economic purpose. In the literature, the similar use is not found.

SALICACEAE

Populus euphratica Oliv., The whole plant is used to make wood industries, furniture, baskets, artificial objects and covering the roof of the houses. Also, the body of the tree is used as a fuel, charcoal and economic purpose. In the literature, the similar use is found in the studies of Ali and Qaiser (2009) and Furkan (2016).

Salix pentandra L., The whole plant is used to make the musical instrument, furniture, baskets, artificial objects and cover the roof of the house. Also, the body of the tree is used as a fuel, charcoal and economic purpose. In the literature, the similar use is found in the studies of Ahmad et al (2011) and Narayanan et al (2011)**.**

Other Purpose Uses (Ornament, Craft, Lacquer, Broom Making etc.)

Animal husbandry in our research area constitutes an important source of people's livelihood. In addition, due to climate conditions, transportation is difficult; therefore, food and some other needs stand outside the treatment. These usage figures we have specified are given below in comparison with the known ones.

AMARYLLIDACEAE

Ixiolirion tataricum (Pall.) Herbert., It is a kind of ornaments and the lovers use it as presents to each other. Its usage is not mentioned in the literature.

ASTERACEAE

Achillea kotschyi Boiss., It is used as an ornamental and used as a gift from lovers. In literature, but no similar use is found.

Centaurea virgata Lam., It is used as a broom to clean the house by the villagers. Also, aerial parts of the plant are used as feed for animals. In literature, but no similar use is found.

Senecio vernalis Waldst and Kit, The plant is used as an ornamental by putting on the table. In addition, the plant is used as a fodder for the animal, and seed is a food for birds. In literature, the similar used is found in the studies of Kakrani and Kalyani (1984).

Tanacetum argyrophyllum (C. Koch) var. ***Argyrophyllum***

Tanacetum balsamita - Subsp. ***Balsamitaides*** (Schult Bip.) Griersoz

BRASSICACEAE

Descurainia Sophia (L.) Webb ex Prantl, In the literature scans showed that the plant is used for different purposes, but no similar use is found.

Hesperis persica Boiss., The flower is sedative to the brain because of having a good smell. Likewise, it is used for decoration and the lovers present themselves. Its usage is not mentioned in the literature.

CAMPANULACEAE

Campanula reuterana Boiss. & Bal., The plant flower is used for decoration and as an ornament when it is put on the table. Its usage is not mentioned in the literature.

FABACEAE

Trigonella coelesyriaca Boiss, the plant is used as an ornamental plant. It is grown in the house garden. Also, It is also collected in the spring season and dried for use in the winter as animal food. Altundag and Öztürk (2011)**.**

LAMIACEAE

Eremostachys laciniata (L.) Bunge, the plant is used for dyeing, it is used to obtain yellow color in the dyeing of wool yarns. The inflorescences of this plant are used to dye the wool which is harvested from the wool of sheep, lambs or goat hair. After collecting the flower of the plant and boiling it in water, add the wool to it for coloring. In literature, no similar use is found.

Lamium amplexicaule L., The plant is used as an ornamental it is grow in front of houses and in the garden. In literature, no similar use is found.

Marrubium parviflorum Fisch. and C.A. Mey. - Subsp. ***Parviflorum***, The plant is used as an ornamental it is grown in front of houses and in the garden. In literature, no similar use is found.

Prunella orientalis Borna, The plant is used as an ornamental plant. It is grown in the house garden. Its usage is not mentioned in the literature.

LILIACEAE

Fritillaria imperialis L., The plant is used as an ornament in front of houses and in the garden. It can also be sold by sellers. In literature, no similar use is found.

Ornithogalum narbonense L., The plant is used as an ornament in front of houses and in the garden. It is also possible to sell it. In literature, no similar use is found.

RANUNCULACEAE

Adonis aleppica Boiss**.**, It is used as an ornamental plant (our own observations). Its

usage is not found in the literature.

Adonis microcarpa DC., The plant is grown as an ornamental plant in front of the houses. Its usage is not found in the literature.

Ranunculus cornutus DC., The plant is grown as an ornamental plant in front of the houses. Its usage is not found in the literature.

Factors that threaten the vegetative structure of the research area

During the study, it was observed that the large threat to the vegetation structure of the area was excessive and early care. However, in the winter the villagers and the people of this area cut down the trees and use them as fuel for heat and food preparation. This is due to the lack of financial resources of the people of the region and the lack of distribution of fuel by the local government. Also in the spring, villagers go to the mountains, collect this plant, cut the plants from their roots, and collect the seeds of some plants. This poses a major threat to plants, leading to the extermination and disassembly of some plant varieties. Therefore, the government should take an increasingly unskilled and uncontrolled view of these factors in the region to take protection measures.

Some of the characteristics of our research area (geographical structure, inadequacy of health and transportation facilities in the past, inhabitants of the region in general, livelihoods, and continuing their nomadic life) have required indigenous people to benefit from wild plants. These plants which are used as treatment, food, spice, ornament and cleaner are collected.

The residents of the Ballakayati villages of Erbil were suffering from transportation till recently as a result of rugged geography. The transportation constraints, the long winter zone of the region and the socioeconomic situation of the people were very limited in reaching the facilities in the cities. This situation has increased the local residents' cultural heritage.

All people living in Ballakayati county and surrounding villages that make up our study area speak Kurdish language. Also, some people have the ability to speak in neighboring countries, such as Arabic and Persian.

Due to the increasing migration from the villages to the Town and increasing opportunities in urban settlements, information about the culture of plant use is forgotten and lost in a quick figure. Use of plants in the villages on the Erbil-Ballakayati highway in our study is very low, however the use in remote villages is more intense.

This culture is predominantly possessed by elderly inhabitants and disappears as the day passes. Therefore, such a study is of great importance in terms of recording, preserving and benefiting from this accumulation of this cultured form which has been exhibited for centuries only.

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APPENDIX

App. 1. Plants and Uses Determined in the Field of Research area.

S	Family, Scientific Name	Local name	No	Purpose Use
•	***ACANTHACEAE***			
1.	***Acanthus dioscoridis*** L. var ***dioscoridis***	Gula Pamba	AMK 115	Treatment, Ornamental
•	***ADIANTACEAE***			
2.	***Adiantum capillus-veneris*** L.	Khala rasha	AMK 78	Treatment
•	***AMARYLLIDACEAE***			
3.	***Ixiolirion tataricum*** (Pall.) Schult. & Schult.f.	Kazbara	AMK 86	Ornamental/ Craft
•	***ANACARDIACEAE***			
4.	***Pistacia eurycarpa*** Yalt.	Darbnawsh, Bnawshila	AMK 28	Treatment
5.	***Pistacia khinjuk*** Stocks	Dar qazwan, Daraban	AMK 20	Treatment
6.	***Rhus coriaria*** L.	Dar trsh, smaq	AMK 15	Food, Treatment and craft
•	***APIACEAE (UMBELLIFERAE)***			
7.	***Anethum graveolens*** L.	Doragh, Shwit	AMK 38	Food and Treatment
8.	***Apium graveolens*** L.	Karawz, Karafs	AMK 39	Food and Treatment
9.	***Chaerophyllum macropodum*** Boiss.	Mandoke, Zre Mendok,	AMK 114	Food and Treatment
10.	***Coriandrum sativum*** L.	Gzhnizh	AMK 10	Food and Treatment
11.	***Eryngium bourgatii*** Gouan	Tesu	AMK 50	Food and Treatment
12.	***Falcaria vulgaris*** Bernh.	Kazya	AMK 122	Food and Treatment
13.	***Foeniculum vulgare*** Mill.	Razyana	AMK 102	Food, Treatment and Economic
14.	***Heracleum lasiopetalum*** Boiss.	Kashma, Kashm	AMK 15	Food and Treatment
15.	***Pimpinella anthriscoides*** Boiss. var. ***anthriscoides***	Alo, lo	AMK 34	Food and Treatment
16.	***Pimpinella eriocarpa*** Banks & Sol.	Zira	AMK 64	Food and Treatment
17.	***Smyrnium cordifolium*** Boiss.	Qalandor	AMK 17	Food and Treatment
•	***ARACEAE***			
18.	***Arum dioscoridis*** Sm. var. ***syriacum*** Engl.	Kardi, Kahri, Kardu	AMK 7	Food and Treatment
•	***ASPHODELACEAE***			
19.	***Asphodelus albus*** Mill.	Strelk	AMK26	Food and Treatment
•	***ASTERACEAE (COMPOSITAE)***			
20.	***Achillea kotschyi*** Boiss.	Bezhan	AMK 125	Other used
21.	***Acroptilon repens*** (L.) DC.	Ziba	AMK 68	Treatment
22.	***Anthemis coelopoda*** Boiss. var. ***bourgaei*** Boiss.	Baybun, Gula hacila,	AMK 1	Treatment
23.	***Arctium lappa*** L.	Zragana	AMK 101	Treatment
24.	***Artemisia absinthium*** L.	Gyaband	AMK 93	Treatment
25.	***Carduus pycnocephalus*** L.	Kangra Kara	AMK 63	Fodder
26.	***Centaurea behen*** L.	Tali, Talka	AMK 77	Treatment:
27.	***Centaurea virgata*** Lam.	Gralk	AMK 70	Other used
28.	***Cichorium intybus*** L.	Chaq Chaqa	AMK 121	Treatment
29.	***Cynara cardunculus*** L. var. ***scolymus*** L.	Qalghan	AMK 113	Treatment:
30.	***Echinops orientalis*** L.	Sarkatashy, Kartashy	AMK 46	Food and Fooder
31.	***Gundelia tournefortii*** L. var. ***tournefurtii***	Kangr, Qngir	AMK 47	Food and Treatment
32.	***Helichrysum plicatum*** DC.	Gula run	AMK 87	Treatment and Handicraft
33.	***Lactuca serriola*** L.	Talishk, Gya kaw	AMK 43	Treatment
34.	***Senecio vernalis*** Waldst & Kit.	Zarda gul	AMK 73	Other used

App. 1. contınue

35.	***Silybum marianum*** (L.) Gaertn.	Drka	AMK 45	Treatment
36.	***Sonchus oleraceus*** L.	Kalababoka	AMK 62	Food and Fooder
37.	***Tanacetum argyrophyllum*** (K. Koch) Tzvelve var. ***argyrophyllum***	Borzhan	AMK 51	Other used
38.	***Tanacetum balsamita*** L. subsp. ***balsamitoides*** (Schult Bip.) Grierson	Chaw spila	AMK 118	Other used
39.	***Tragopogon pratensis*** L. subsp. ***pratensis***	Azpung, Azpun	AMK 21	Food and Treatment
•	***BORAGINACEAE***			
40.	***Anchusa azurea*** Mill. var. ***azurea***	Gormza, Golmza	AMK 8	Food and Treatment
•	***BRASSICACEAE***			
41.	***Capsella bursa-pastoris*** (L.) Medik	Peqala	AMK 2	Food and Treatment
42.	***Descurainia Sophia*** (L.) Webb ex Prantl	Gula zarda	AMK 99	Other used
43.	***Hesperis persica*** Boiss.	Shawbo	AMK 98	Other used
44.	***Lepidium sativum*** L.	Taratula, Taratiza	AMK 41	Food and Treatment
45.	***Nasturtium officinale*** R. Br.	Kuzala	AMK 29	Food and Treatment
•	***CAMPANULACEAE***			
46.	***Campanula reuterana*** Boiss. & Bal.	Gula Zangula	AMK 56	Other used
•	***CANNABACEAE***			
47.	***Celtis tournefortii*** Lam.	Tawk	AMK 97	Food and Treatment
•	***CYPERACEAE***			
48.	***Scirpoides holoschoenus*** (L.) Sojak	Pizok	AMK 27	Treatment and Craft
•	***DIPSACACEAE***			
49.	***Cephalaria syriaca*** (L.) Schrad. ex Roem. & Schult.	Ziwan	AMK 42	Food and Treatment
•	***EUPHORBIACEAE***			
50.	***Euphorbia virgata*** Waldst. & Kit.	Shirshiroke	AMK 32	Treatment
•	***FABACEAE***			
51.	***Glycyrrhiza glabra*** L.	Memuk	AMK 74	Juice and Treatment
52.	***Medicago rigidula*** (L.) All.	Wenja, Yunja	AMK 40a	Food and Fodder
53.	***Medicago sativa*** L. subsp. ***sativa***	Wenja	AMK 40b	Food and Fodder
54.	***Pisum sativum*** L. subsp. ***elatius*** (M. Bieb.) Asch. & Graebn. var. ***elatius***	Kalya Khatuna	AMK 14a	Food and Fodder
55.	***Pisum sativum*** L. subsp. ***elatius*** (M. Bieb.) Asch. & Graebn. var. ***pamilio*** Meikle	Kalya Khatuna sur	AMK 14b	Food and Fodder
56.	***Trifolium purpureum*** Loisel. var. ***purpureum***	Sewara, Separa	AMK 67	Fodder
57.	***Trigonella coelesyriaca*** Boiss.	Kner	AMK 12	Other used
58.	***Vicia hybrida*** L.	Kalya Mara	AMK 13	Food and Fodder
59.	***Vicia narbonensis*** L.	Kalya Gajuta	AMK 120	Food and Fodder
•	***FAGACEAE***			
60.	***Quercus brantii*** Lindl.	Baru	AMK 22	Food, Fodder, Fuel, Treatment and Craft
61.	***Quercus infectoria*** Oliv.	Mazi, Dar maz, Mazu	AMK 24	Food, Fodder, Fuel, Treatment and Craft
•	***GERANIACEAE***			
62.	***Erodium cicutarium*** (L.) L'hér	Gya Darzila	AMK 76	Food and Treatment
•	***JUGLANDACEAE***			
63.	***Juglans regia*** L.	Gwez	AMK 105	Food, Treatment , Diy and Handicraft
•	***LAMIACEAE (LABIATAE)***			
64.	***Eremostachys laciniata*** (L.) Bunge	Sandal	AMK 19	Dyi
65.	***Lamium amplexicaule*** L.	Rehanay faqyana	AMK 4	Ornamental and Treatment
66.	***Marrubium parviflorum*** Fisch. & C.A. Mey. subsp. ***parviflorum***	Rihana Kewila	AMK 44	Food, Treatment, Fodder

App. 1. contınue

67.	***Mentha longifolia (***L.) Huds subsp. ***noeana*** (Briq) Briq**.**	Pung, Ping	AMK 85	Food, Treatment and Herbal tea
68.	***Ocimum basilicum*** L.	Rehana	AMK 112	Food, Treatment and Herbal tea
69.	***Origanum vulgare*** L. subsp. ***gracila*** (K.Koch) Letsw.	Jatra kewilka	AMK 81	Food, Treatment, Herbal tea and Ornamental
70.	***Phlomis lanceolata*** Boiss. & Hohen	Bna zarda	AMK 116	Food, Treatment, Herbal tea and Ornamental
71.	***Prunella orientalis*** Bornm.	Gula Morka	AMK 123	Other used
72.	***Thymus kotschyanus*** Boiss. & Hohen. var. ***katschyanus***	Jatra	AMK 82	Food, Treatment, Herbal tea and Ornamental
•	***LILIACEAE***			
73.	***Allium ampeloprasum*** L.	Kurada, Tareg	AMK 37	Food and Treatment
74.	***Allium fedtschenkoi*** Nabelek	Lusha, Lushka	AMK 49	Food and Treatment
75.	***Allium macrochaetum*** Boiss. & Hausskn. subsp. ***macrochaetum***	Sira Kewilka	AMK 36	Food and Treatment
76.	***Fritillaria imperialis*** L.	Shler, Sosan gol	AMK 107	Other used
77.	***Muscari neglectum*** Guss.	Susin	AMK 54	Treatment:
78.	***Ornithogalum narbonense*** L.	Gula Merg	AMK 117	Other used/ Ornamental
•	***MALVACEAE***			
79.	***Alcea pallida*** Waldst. & Kit.	Hero, Harmale	AMK 58	Treatment:
80.	***Malva sylvestris*** L.	Tolka, Tolaka, Paniroka	AMK 91	Food and Treatment
•	***OLEACEAE***			
81.	***Fraxinus angustifolia*** Vahl subsp. ***syriaca*** (Boiss.) Yalt.	Bnaw, Dar bnaw	AMK 80	Treatment, Handicraft and Fuel economically
•	***ONAGRACEAE***			
82.	***Epilobium*** sp.	Punga kewilka	AMK 23	Treatment
83.	***Epilobium hirsutum*** L.	Bora pung, Zra Pung, Sora pung	AMK 84	Treatment:
•	***ORCHIDACEAE***			
84.	***Dactylorhiza umbrosa*** (Kar. & Kir.) Nevski var. ***longibracteata*** Renz	Salma, Salmaka	AMK 53	Food and Treatment
•	***PAPAVERACEAE***			
85.	***Fumaria officinalis*** Lam.	Shatara, Gya darmana, Shirin shatara	AMK 3	Treatment and Fodder
86.	***Papaver rhoeas*** L.	Kluk Bukala, Kluka sura	AMK 5	Treatment
•	***PLANTAGINACEAE***			
87.	***Plantago media*** L.	Rukesh, Gwê berxe	AMK 95	Treatment
•	***PLATANACEAE***			
88.	***Platanus orientalis*** L.	Chnar	AMK 100	Economic, Handicraft, Comerical and Fooder
•	***POACEAE***			
89.	***Avena sterilis*** L. subsp. ***ludoviciana*** (Durieu) Gillet & Magne	Dulka	AMK 31	Food and Treatment
90.	***Setaria italica*** (L.) P. Beauv.	Klka rewi, Klka pshila	AMK 119	Treatment, Handicraft and Fodder.
•	***POLYGONACEAE***			
91.	***Rheum ribes*** L.	Rewas, Mam rewas	AMK 35	Food, Treatment and Economical
92.	***Rumex tuberosus*** L. subsp. ***horizontalis*** (Koch) Rech.	Trshoka	AMK 18	Food and Treatment

App. 1. contınue

•	***PORTULACACEAE***			
93.	***Portulaca oleracea*** L.	Plpena, Palpena, Parpena, Pirpar	AMK 86	Food, Treatment and Economical
•	***LYTHRACEAE (PUNICACEAE)***			
94.	***Punica granatum*** L.	Hanar, Nar	AMK 88	Food, Treatment and Eco.
•	***RANUNCULACEAE***			
95.	***Adonis aleppica*** Boiss.	Gula Khwen	AMK 96	Ornamental
96.	***Adonis microcorpa*** DC.	Gula sura	AMK 124	Food, Craft
97.	***Ranunculus cornutus*** DC.	Gula Zarda, (Tik), Gula tika	AMK 72	Ornamental
98.	***Ranunculus sericeus*** Banks & Sol.	Chap Chapi	AMK 71	Treatment
99.	***Thalictrum minus*** L. var. ***majus*** (Crantz) Crepin	Gyamiran	AMK 94	Treatment
•	***RHAMNACEAE***			
100	***Paliurus spina-christi*** Mill.	Astri, Stri	AMK 25	Defence and Handicraft
101	***Ziziphus jujuba*** Mill.	Snji, Snju	AMK 48	Food and Treatment
•	***ROSACEAE***			
102	***Amygdalus arabica*** Oliv.	Kalashin	AMK 6	Food, Treatment and Economical
103	***Cerasus microcarpa*** (C.A Mey.) Boiss. - subsp. ***tortuosa*** (Boiss. & Hausskn.) Browicz	Blaluk, Halhaluk, Haluk	AMK 59	Food, Treatment and Economic
104	***Crataegus meyeri*** Pojark.	Gewzh, Goyzha, Goizh	AMK 30	Food, Treatment and Economical
105	***Cydonia oblonga*** Mill.	Be, Bay, Bahe	AMK 110	Food, Treatment and Economic
106	***Potentilla kurdica*** Boiss. & Hohen.	Nabil	AMK 33	Treatment: reddening of the eyes each
107	***Prunus dulcis*** (Mill.) D. A. Webb	Badam, Bawi, Bawew, Chaqala,	AMK 83	Food, Treatment and Economic
108	***Rosa dumalis*** Bechst. var. ***boissieri*** (Crepin) Ö. Nilsson	Shilan, Gula zarda	AMK 61	Food, Treatment and Economic
109	***Rosa gallica*** L.	Gula Razi cha	AMK 16b	Food, Treatment
110	***Rosa heckeliana*** Tratt. var. ***orientalis*** (Dupont) Meikle	Gula Raz	AMK 16a	Ornamental and Shadaw
111	***Rubus sanctus*** Schreb	Drila, Tutrk, Dudrk, Tre znjira	AMK 60	Food, Treatment and Economic
•	***SALICACEAE***			
112	***Populus euphratica*** Oliv.	Palk	AMK 79	Handicraft, Fodder and Economic
113	***Salix pentandra*** L.	Bi, Dar bi, Shanga bi	AMK 89	Handicraft, Fodder and Economic
•	***SOLANACEAE***			
114	***Datura stramonium*** L.	Musaka, Zragana	AMK 109	Treatment and Poison
•	***TAMARICACEAE***			
115	***Tamarix smyrnensis*** Bunge	Daragaz	AMK 92	Treatment and Handicraft
•	***THYMELAEACEAE***			
116	***Daphne mucronata*** Royle	Teru	AMK 52	Food and Treatment
•	***URTICACEAE***			
117	***Urtica dioica*** L.	Gazgazka, Gazna, Dazink,	AMK 90	Food, Treatment and Economic
•	***ZYGOPHYLLCEAE***			
118	***Tribulus terrestris*** L.	Qunjraka, Sesw Kunjraka, Peikwl	AMK 108	Treatment

Other used=(Broom, Handicraft, Defence, Dyeing, Ornament and Treatment)

App 2. Plants are determined as a treatment and how to used

S	Family, Scientific Name	Local name	No	Part Used	Usage	Purpose Use
•	***ADIANTACEAE***					
1.	***Adiantum capillus-veneris*** L.	Khala rasha	AMK 78	Aerial parts, leaves	Powder, Decoction	kidney pain, spleen pain, colds, fever, chest, snoring, diarrhea, coughs, urinary infections, increased sweat and Stone reduction
•	***ANACARDIACEAE***					
2.	***Pistacia eurycarpa*** Yalt**.**	Darbnawsh, Bnawshila	AMK 28	Leaf fruit, seed and Gum	Decoction the leaves Directly applied the tooth Eating the Gum directly after breakfast	Relieve stomach ache Relieve toothache when it is put on the tooth, body reinforcement, joint and muscles pain, digestive system pain, antacid, strengthening of memory, anaemia strengthening of teeth gum and anti-halitosis
3.	***Pistacia khinjuk*** Stocks	Dar qazwan Qazwan, Daraban	AMK 20	Leaf, fruit, and Gum seed oil	Decoction the leaves Directly applied the tooth Eating the Gum directly after breakfast	Relieve stomach ache Relieve toothache when it is put on the tooth, body reinforcement, joint and muscles pain, digestive system pain, antacid, strengthening of memory, anaemia strengthening of teeth gum and anti-halitosis
•	***ASTERACEAE***					
4.	***Acroptilon repens*** (L.) DC.	Ziba	AMK 68	Flower	Boiled in water in bathroom	infertility of married couples
5.	***Anthemis coelopoda*** Boiss. var. ***bourgaei*** Boiss.	Baybun, Gula hacila,	AMK 1	Flower, Arial Part	Decoction	Diarrhea, gastralgia, cold, digestive disorder, cough, conjunctivitis,gases female genital infection, kidney stones, dysmenorrhoea, and eye infection, Bronchitis, Asthma
6.	***Arctium lappa*** L.	Zragana	AMK 101	Seed	Decoction, boiled in water and drinking water	Shortness of breath, diabetes, kidney stones and pain reducing
7.	***Artemisia absinthium*** L.	Gyaband	AMK 93	Aerial parts, leaves	Decoction, Herbal tea	Cold, reducing pain from kidney, removing stones, and relieve stomach aches

App 2. contınue

8.	***Centaurea behen*** L.	Tali, Talka	AMK 77	Leaf Root	Decoction, Herbal tea (drinking a glass of it before the breakfast for 1 week)	Stomach colic treatment an aphrodisiac and anti-lithiasis
9.	***Cichorium intybus*** L.	Chaq Chaqa	AMK 121	Milk water Leaf	Directly applied the abdomen Decoction, Herbal tea (after that boiling and drinking the water before the breakfast)	sanguis of the abdomen prostate disease,lower blood pressure, antipyretic, antiseptic anemia, fever, gas trouble, and body swelling
10.	***Cynara cardunculus*** L. var. ***scolymus*** L.	Qalghan	AMK 113	Aerial parts	Decoction, after drying under shade, and boiling, be drunken water before breakfast for two days	kidney stones and pain reduction fever, kidney malfunction, gall-bladder infection, liver disease and hypercholesterolemia. Also for diabetes and stomach pains
11.	***Lactuca serriola*** L.	Talishk, Gya kaw	AMK 43	Leaf Secretion Leaf Aerial parts	Directly drinking secretion and eating the leaf infusion	increasing the milk production from lactating women expectorant, cold cough, phthisis, bronchitis and asthma
12.	***Silybum marianum*** (L.) Gaertn.	Drka	AMK 45	Seed Stems Flower	mixed with the sugar or oil of seeds	stomach ache Antipyretic, rheumatic pain, painkiller, to increase ballast and galactogenic.
13.	***Euphorbia virgata*** Waldst. & Kit.	Shirshiroke	AMK 32	Milk water Leaf Flower	Directly applied Directly covered by it	Allergy eczema, asthma, anthelmintic and toothache
•	***LILIACEAE***					
14.	***Muscari neglectum*** Guss.	Susin	AMK 54	Flower Fruit	preparing a treatment Decoction	eaten raw as a snack Rheumatism.
•	***MALVACEAE***					
15.	***Alcea pallida*** Waldst. & Kit.	Hero, Harmale	AMK 58	Roots, flowers and seeds	Decoction	Cold, cough, diuretic, kidney stones, infections, gastric ulcer, acute gastritis, cystitis, quinsy, anti-inflammatory and diarrhea
•	***ONAGRACEAE***					
16.	***Epilobium*** sp.	Punga kewilka	AMK 23	Leaf Leaf extract	decoction and smoking	Digestive system diseases and common cold.

App 2. contınue

17.	***Epilobium hirsutum*** L.	Bora pung, Zra Pung, Sora pung	AMK 84	Aerial parts whole plant	Decoction Infusion	Stop bleeding disruptive, collirticolagogo, clot, anti-inflammatory, cell inhibition, antimicrobial, regeneration, hepatitis, ulcers, hematostatic, enteritis, cirrhosis, urinary disorders
•	***PAPAVERACEAE***					
18.	***Papaver rhoeas*** L.	Kluk Bukala, Kluka sura	AMK 5	Aerial parts whole plant	Decoction Infusion	Against worts Rheumatism, anti-inflammatory, heart diseases & antitussive.
•	***PLANTAGINACEAE***					
19.	***Plantago media*** L.	Rukesh, Gwê berxe	AMK 95	Aerial parts Leaf and Stem	Directly applied place on the wound area or cream is made by cutting off and crushing it.	Stop bleeding Dermal wounds and inflammation Astringent and anti-inflammatory, abscess and liver diseases
•	***RANUNCULACEAE***					
20.	***Ranunculus sericeus*** Banks & Sol.	Chap Chapi	AMK 71	Aerial parts whole plant	Making a cream by cutting off and crushing it.	skin irritations, infections, skin allergies, inflamed wounds Anti-rheumatic, diarrhoea, vomit, and dysentery
21.	***Thalictrum minus*** L. var. ***majus*** (Crantz) Crepin	Gyamiran	AMK 94	Aerial parts whole plant	Drying under shade, and making a capsule Decoction, drunken water before breakfast for two days infusion	bowel treatment Asthma, eye diseases, diuretic, inflammations and infectious diseases
•	***ZYGOPHYLLCEAE***					
22.	***Tribulus terrestris*** L.	Qunjraka, Sesw Kunjraka, Peikwl	AMK 108	whole plant	Decoction, drunken water before breakfast	stomach pain, removal of kidney stones, diuretic, constipation, urinary disorders, haemorrhoids and joint inflammation

App 3. Survey form for medicinal plants given to students

The name of the student who recorded the Information:
.....
Class:..... History:.....
Name and surname of spoken person: .....
Age: (....). Place of residence:..... Address:.....
Proximity to the spoken person: (grandmother, grandfather, neighbor)
…….....….

INFORMATION ABOUT PLANT

Plant name:	Part Used	Which disease is used?	How to applied?

App 4. Survey form for food plants given to students

The name of the student who recorded the Information:
.....
Class:..... History:.....
Name and surname of spoken person: .....
Age: (....). Place of residence:..... Address:.....
Proximity to the spoken person: (grandmother, grandfather, neighbor)
…….....….
Proximity to the spoken person: (grandmother, grandfather, neighbor)
…….....….

INFORMATION ABOUT PLANT

Plant name:	What is the used part? (Pastry, roast)	How to used?	What's in it?

App 5. Interviewed persons (Persons whose information was collected and interviewed)

Name-Surname	Gender	Age	Education status	Occupation
Abdulla HAMADAMIN	Male	41	Basic	Farmer
Abdulla RASUL	Male	70	Illiterate	Tired
Abdulla RASUL	Male	80	Basic	Farmer
Ahmed IAYZ	Male	56	Secondary	Employee
Ahmed MAHMOOD	Male	75	Illiterate	Other
Ahmed MUSTAFA	Male	45	Illiterate	Farmer
Ali AHMED	Male	65	Illiterate	Employee
Ali NABI	Male	90	Illiterate	Other
Ali SHEKHA	Male	60	Secondary	Employee
Amina DARWESH	Female	65	Illiteracy	Other
Amina KHDHR	Female	76	Illiteracy	Housewife
Anwar AHMED	Male	34	University	Teacher
Asti HUSEN	Female	89	Illiteracy	Housewife
Awla BRAYM	Male	49	Basic	Other
Aysh ABDULLA	Female	60	Illiteracy	Employee
Aysh AHMED	Female	95	Illiteracy	Housewife
Aysh AHMED	Female	90	Illiteracy	Housewife
Aysh AHMED	Male	53	Illiterate	Farmer
Aysh ALLİ	Female	57	Illiteracy	Housewife
Aysh HAASAN	Female	47	Illiteracy	Housewife
Aysh KHALND	Female	70	Illiteracy	Housewife
Ayub AZIZ	Male	50	Basic	Employee
Aziz HASAN	Male	55	Basic	Employee
Bahya NAJIM	Female	42	Illiterate	Housewife
Bakhtyar AWLA	Male	42	Secondary	Employee
Braym MALA	Male	65	Illiterate	Farmer
Chato AHMED	Male	70	Basic	Farmer
Chiman MUSTAFA	Female	40	Secondary	Housewife
Dlawar OMER	Male	64	Secondary	Driver
Dwarozh SAIDY	Male	19	Preportary	Other
Fakhir HASAN	Male	22	University	Other
Faroq ALI	Male	45	Preportary	Teacher
Fatah ABABAKR	Male	50	Secondary	Farmer
Fatima ABDULLA	Male	64	Illiterate	Farmer
Fatima BAWAKR	Female	75	Illiteracy	Housewife
Fatima NABI	Male	61	Illiterate	Employee
Fatm ABDULLA	Female	45	Illiteracy	Housewife
Frishta MUHAMMED	Female	38	University	Housewife
Fryad AZAD	Male	17	Preportary	Other

App 5. contınue

Galawezh QADIR	Female	70	Illiteracy	Housewife
Ghazy AHMED	Male	45	Secondary	Other
Ghurbqat WSU	Female	72	Illiteracy	Housewife
Gulchin SAID	Female	71	Illiteracy	Housewife
Hadya HUSEN	Female	34	Institute	Teacher
Hajar MUHAMMAD	Female	42	Basic	Other
Haji RASUL	Male	70	Basic	Farmer
Hakim AMAD	Male	50	Secondary	Farmer
Halgord SDIQ	Male	26	Preportary	Employee
Halima ABDULLA	Female	60	Illiteracy	Housewife
Halima AHMED	Female	60	Illiteracy	Housewife
Halima DARWESH	Female	70	Illiteracy	Housewife
Hamadamin KHDHR	Male	49	Preportary	Employee
Hamdya AHMED	Female	49	Basic	Housewife
Hamed BAPIR	Male	46	Secondary	Other
Hamin FAQE	Female	67	Illiteracy	Housewife
Hangaw ABDULLA	Male	52	University	Employee
Hasan AHMED	Male	50	Basic	Other
Hasan AHMED	Male	39	Basic	Employee
Hasan HAMED	Male	43	Illiterate	Other
Hawri SLEMAN	Female	75	Illiteracy	Housewife
Ialy MUHAMMED	Male	72	Illiterate	Employee
Ibrahim AHMED	Male	48	Preportary	Employee
Jabar AHMED	Male	45	Basic	Employee
Jabar MAHMOOD	Male	40	Secondary	Other
Jamal RASUL	Male	47	Preportary	Employee
Jawhar SHEKHA	Male	44	Basic	Other
Kaban MOHAMED	Male	43	Illiterate	Housewife
Karim ABDULLA	Male	49	Basic	Employee
Karim HAMZA	Male	29	Basic	Employee
Karwan MINA	Male	30	University	Teacher
Khdir OSMAN	Male	43	Secondary	Employee
Krekar QADIR	Male	34	Preportary	Employee
Madina AHMED	Female	27	Illiterate	Other
Maghdid WASMAN	Male	42	Secondary	Other
Majid AHMED	Male	40	Basic	Other
Marjan ALI	Female	45	Basic	Housewife
Mayasa ALI	Male	39	Basic	Housewife
Mhmood BRAYM	Male	69	Illiterate	Farmer
Mina KHAN	Male	74	Basic	Farmer

App 5. contınue

Mohammed HUSEIN	Male	44	Basic	Employee
Mohammed RASUL	Male	67	Basic	Employee
Muhammed AZIZ	Male	42	Secondary	Employee
Muhammed RAMDHAN	Male	51	Basic	Employee
Muhammed WSU	Male	47	Secondary	Employee
Muslim SLEMAN	Male	45	Illiterate	Farmer
Mustafa HAMADAMIN	Male	61	Basic	Employee
Mustafa HASAN	Male	45	Basic	Farmer
Mustafa JAMIL	Male	45	Preportary	Teacher
Mustafa QADIR	Male	67	Preportary	Employee
Nabi AZIZ	Male	75	Secondary	Farmer
Nasrulla HASAN	Male	45	Preportary	Farmer
Nawshirwan OSMAN	Male	19	Preportary	Other
Nazdar KHDR	Female	44	Secondary	Housewife
Parwin RASUL	Female	40	Secondary	Housewife
Pary OMER	Female	66	Illiteracy	Farmer
Payman TAHA	Female	25	University	Teacher
Ramadhan KHDHR	Male	51	Secondary	Employee
Ramadhan NABI	Male	48	University	Teacher
Rashid AZWAR	Male	29	Preportary	Other
Rasul MUHAMMED	Male	65	Preportary	Employee
Sabrya MINA	Female	50	Basic	Housewife
Sabrya MUSTAFA	Female	73	Illiteracy	Housewife
Sadradin MUSTAFA	Male	73	Illiterate	Farmer
Salam ALI	Male	50	Preportary	Employee
Salam AWLA	Male	48	University	Teacher
Sharif AZIZ	Male	45	Preportary	Teacher
Sharif MALA	Male	51	Illiterate	Farmer
Shorsh HAMED	Male	48	Secondary	Other
Shukrya KHDIR	Female	55	Illiteracy	Employee
Shukrya KHDR	Female	50	Basic	Housewife
Soran MUHAMMED	Male	21	Preportary	Other
Swara HAMADAMIN	Male	68	Basic	Employee
Tofiq MUHAMMED	Male	60	Basic	Employee
Umed MAHMOOD	Male	47	Basic	Other
Yasin HASAN	Male	40	University	Teacher
Yasin MAHMOOD	Male	53	Secondary	Employee
Yunis MOHAMMED	Male	38	Secondary	Employee
Zaynab ABDULLA	Female	71	Illiteracy	Farmer

App 6. Working Villages (study area)

1. Ashibragwez Village
2. Basan Village
3. Darband Village
4. Delza Village
5. Ena Village
6. Galala Village
7. Galazher Village
8. Kawarta Village
9. Khoshkan Village
10. Kona khanan Village
11. Kosratan Village
12. Maran Village
13. Merga Village
14. Nawanda Village
15. Nawprdan Village
16. Rayat Village
17. Sakran Village
18. Shore Village
19. Warda Village
20. Weza Village

App 7. Some photographs were taken in the research area

Ballakayati, Choman District, Erbil, Northern Iraq

Kawarta Village, Choman District, Erbil, Northern Iraq

Nasturtium officinale R. Br (Kuzala – Used as a food)

Heracleum lasiopetalum Boiss. **(**Kashma – Used as a food)

Adiantum capillus-veneris L. **(**Khala rasha – Used as a Treatment)

Plantago media L. **(**Rukesh – Used as a Treatment**)**

Fumaria officinalis L. **(**Shatara – Used as a Treatment)

Artemisia absinthium L. **(**Gyaband – Used as a Treatment)

Alcea kurdica. **(**Hero – Used as a Treatment)

Malva sylvestris L. **(**Tolka – Used as a Food and Treatment)

Anchusa azurea miller var. ***azurea*** **(**Golmza – Used as a Food and Treatment)

Centaurea behen L. **(**Tali – Used as a Treatment**)**

Smyrnium cordifolium Boiss. ***smyrnium*** **(**Qalandor – Used as a Food and Treatment)

Euphorbia virgata Waldst. & Kit. (Shirshiroka – Used as a Treatment)

Paliurus spina-christi Mill. **(**Astri or Stri – Used as a Treatment)

Fritillaria imperialis L. **(**Shler – Used as a Ornament and Treatment**)**

Anthemis coelopoda Boiss. var. ***bourgaei*** Boiss. (Baybun – Used as a Treatment)

Anthemis coelopoda Boiss. var. ***bourgaei*** Boiss. **(**Making a dicoration)

Rhus coriaria L. **(**Trsh or Smaq – Used as a Food and Treatment, Villagers are Collecting)

Rhus coriaria L. **(**Trsh or Smaq – Used as a Food and Treatment, My mother is Collecting it)

Punica granatum L. **(**Hanar – Used as a Food and Treatment)

Juglans regia L. **(**Gwez – Used as a Food and Treatment)

Allium fedtschenkoi Nabelek (Lushka – Used as a food)
(a- The overall appearance of the plant. b- Inflorecenses. c- Seed of plant)

Portulaca oleracea L. (Plpena – Used as a food)
(a- The overall appearance of the plant. b- Flower of plant. c- coocked and used as a food)

Arum dioscoridis Sm. var. ***syriacum*** Engl. (Kardi – Used as a food)
(a- The overall appearance of the plant. b- Leaf of plant. c- coocked and used as a food)

Gundelia tournefortii L. var. ***tournefortii*** .(Kangr – Used as a food)
(a- The Collecting of the plant. b- The Inflorecenses. c- coocked and used as a food)

Cerasus microcarpa (C.A Mey.) Boiss. subsp. ***tortuosa*** (Boiss. & Hausskn.) Browicz
(Blaluk – Used as a Food and Treatment)

Rheum ribes L.(Rewas – Used as a food and a treatment)
(a- The overall appearance of the plant. b- Villagers collected the plant and bought in the street)

Arum dioscoridis **(**Fresh leaves and stems gathered to sell on the market)

Rheum ribes L., ***Gundelia tournefortii*** L. (Fresh leaves, stems and Roots are gathered to sell on the market)

Pistacia khinjuk Stocks- *Pistacia khinjuk* **(Qazwan – Used as a Food, Treatment, Handi-craft)**

Pistacia khinjuk Stocks- ***Pistacia khinjuk*** (Qazwan – Used as a Food, Treatment, Handi-craft)
(a- The overall appearance of the plant. b- User who collected the plant)

Pistacia khinjuk Stocks- ***Pistacia khinjuk*** (Qazwan – Used as a Food, Treatment, Handi-craft)
(a- , b- The plant secrition and used to make a Gum. c- The Seed of plant)

Helichrysum plicatum DC. **(**Gula Run – Used for Dicoration)

Platanus orientais L. (Chnar – Used for Bulding and Handi-craft)
(a- The overall appearance of the plant. b- User who collected the plant)

Quercus infectoria Oliv. (Mazi – Used as a Bulding and Handi-craft)

Abdulla Rasul DOGHA/ Villagers collect the plant to use as a treatment

Halima DARWESH KAWARTY/ Villagers used a plant as a treatment and food, recording the information a bout some plants.

Mala Hasan GUDAZHORY/ Villagers used a plant as a treatment and food, recording the information about some plants.

A look with students participating in the survey (Darband Coeducatıonal Preporatory School).

RESUM_CURRICULUM VITAE

PERSONAL IDENTITY

Name, Surname	: Awara Mohammed amin Mohammed amin KAWARTY
Nationality	: Iraqi/ Kurdish
Date and place of Birth	: 20.06.1979, Erbil
Marital status	: Married (Hadya), have two children (Aydya and Aynda)
Mobile (Iraqi)	: 00964 750 470 8011 - 00964 782 470 8011
Mobile (Turky)	: 00900 531 773 1579
E-mail	: a.kawarty79@gmail.com
Address	: Iraq/ Erbil/ Ballakayati, Choman District/ Kawarta Village

EDUCATION

Background Degree	Place of Education	Data of Graduate
Basic School	Pirzin Modern School for Boys	1985-1990
Secondary School	Pirzin Coeducational Secondary School	1990-1992
High School	Choman Coeducational Secondary School	1992-1998
Baccalaureate	Salahaddin University - College of Education / Biology	2001-2002

LANGUAGE

S	Language	: (Listening, Speaking , Reading and Writing)
1-	Kurdish	: Native
2-	English	: Good
3-	Arabic	: Good

COMPUTER SKILL

S	Program Name	State Using
1-	Information Technology	Fair
2-	Microsoft Office	Good
3-	Internet and Email	Good

GOOD LUCKS