

## Some Plants and Their Effects Used in Traditional Treatment of Diseases at Çorum Province in Turkey

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**Abstract:** With this study, it was aimed to determine some plants used in the traditional treatment of diseases by local people in Çorum and to determine their purpose of use and how they are used. To determine this, totally 45 people were interviewed face to face Derinöz, Ağaçamı, Şaphane villages at Oğuzlar province, Kuyucak village at Sidings province, Kutluözü village at Iskilip province, Durucasu and Güvercinlik villages at Osmancık province, in Çorum city. The people, who participated in the survey, were asked to show the plants used in traditional treatment of diseases at the territory; for which diseases and how they are used. Field studies includes June-October months of the year 2016. As a result of this study, 14 families and 18 taxa data are summarized. These are; *Elaeagnus angustifolia* (Elaeagnaceae), *Equisetum ramosissimum* (Equisetaceae), *Carlina oligocephala* var. *oligocephala* (Asteraceae), *Chondrilla juncea* (Asteraceae), *Aesculus hippocastanum* (Sapindaceae), *Prunus spinosa* (Rosaceae), *Pyrus elaeagnifolia* (Rosaceae), *Rubus canescens* var. *canescens* (Rosaceae), *Pinus nigra* (Pinaceae), *Brassica oleracea* (Brassicaceae), *Malva sylvestris* (Malvaceae), *Astragalus* sp. (Fabaceae), *Colutea cilicica* (Fabaceae), *Cucumis sativus* (Cucurbitaceae), *Allium cepa* (Amaryllidaceae), *Juglans regia* (Juglandaceae), *Vitis vinifera* (Vitaceae), *Quercus robur* (Fagaceae).

**Keywords:** Ethnobotany, traditional treatment, herb, Çorum

### 1. INTRODUCTION

Application of traditional folk medicine has come out thousands of years ago as a result of our ancestors reactions to natural phenomena and events, situations they perceived, understood and influenced their surroundings and their interactions in their social life. Repeatedly experienced practices and the beliefs rising around them effected the traditional treatment approach [1]. Since healing resources are "natural", this has been the most common reason for preference of traditional medicine. The belief that the cure of each disease can be found in nature, has led to many researches on herbal plants so far and their results have become as a source of modern medicine for drug producing [2].

In many sources, various medicinal plants, which are daily referred frequently, are also classified as folk or natural remedies especially by Anatolian people [2-4]. Most of the folk medicines are plant origin, but not all of them are naturally grown. Naturally grown plants are specially collected, dried and stored to be made medicines. Some plants are collected freshly and used to make medicine. Plants that do not grow in the territory are purchased from herbalists

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[5]. Plants are classified according to their species and their specific use as folk medicine: This classification is generally made as trees, herbs, roots, seeds, flowers, algae and spices [3].

Although traditional methods are not accepted as evidence by the scientific community, nowadays many people prefer these methods. The folk remedies detection has a big importance for pharmacy and it provides necessary data for investigating whether these drugs have an active substance compatible with known effects among the population or not [6-7].

## **2. MATERIAL and METHODS**

### **2.1. Geographical and Topographical Features of Study Area**

Çorum is located between 39° 54'' and 41° 20'' northern latitudes and between 34° 04'' and 35° 28'' eastern longitudes, at the intersection of Black Sea and Middle Anatolia Regions, at the center of Black Sea region. It is surrounded by the cities Amasya from east, Çankırı from west, Yozgat from south, Kırıkkale from southwest, Sinop from north, Samsun from northeast and Kastamonu from northwest.

Natural boundaries of this city are formed by Western parts of Canik Mountains from North and northeast, Yeşilirmak River Basin from east, Bozok Plateau of Yozgat from south, Kızılırmak River Basin from west, eastern parts of Ilgaz Mountains from northwest. Acreage is 12.820 km<sup>2</sup>. Average altitude from sea level is about 801 m [8].

Natural flora of South province of Çorum city is steppe. They become green with the rains of spring and sear in autumn. For eg: daisy, corn poppy, musk thistle, creeping thistle, Sarcopoterium, cottonthistle, velvet plant, speedwell, have found wide area to spread. Willow and Poplar varieties can be found along the riversides. At high points of Alaca, Sungurlu, Ortaköy and Mecitözü oak, juniper and larch trees can be found. Crocus, wild hyacinth, wild tulip flowers can be seen along with the spring. In the northern provinces of the city, oak forests and coniferous forests can be found. At places 1000-1200 m higher than seal level oak, cranberry, wild plum, apple, hawthorn, wild rose can widely be seen. Rarely lime trees can be found around Hacıhamza [8].

### **2.2. Materials and Methods**

This study was conducted to determine some plant species which are used to traditional treatment of diseases by local people in Çorum during from June to September in 2016. The study materials were provided from some provinces and villagers of Çorum province. A questionnaire form applied to 45 informants by face to face interviews was used for getting information about the uses of these plants. The questionnaire contained demographic informations such as age, gender, educational level, jobs, local names, parts used, and ethnobotanical purposes of the plants. During the study are collected from the land, identified and interviews are carried out about their usage areas. For the identification of the plant specimens were used as a main source "Flora of Turkey and the East Aegean Islands" [9-11].

## **3. RESULTS and DISCUSSIONS**

The study consist of a questionnaire performed with 45 informants in some provinces and villagers of Çorum (Table 1). Some demographic information of informants was shown in Table 2. 18 plant taxa from 14 families were determined in the study which is used by the local public.

**Table 1.** Questionnaire totals and study locations

Province	Villager	Number of Informant
Oğuzlar	Derinöz	29
	Ağaççanı	
	Şaphane	
Dodurga	Kuyucak	14
	İskilip	
Osmançık	Durucasu	2
	Güvercinlik	

**Table 2.** Demographic features of informants

Features	Number of informants	Percentage (%)
<i>Gender</i>		
Male	22	49
Female	23	51
<i>Educational level</i>		
Uneducated	6	13
Primary school	15	33
Secondary school	7	16
High school	11	25
University	6	13
<i>Age Groups</i>		
20-40	20	44
41-60	16	36
>60	9	20
<i>Jobs</i>		
Officer	3	7
Worker	9	20
Farmer	4	9
Student	3	7
Retired	4	9
Housewife	21	47
Unemployed	1	2

### 3.1. *Elaeagnus angustifolia* (Elaeagnaceae)

*Local name:* İğde

*Traditional therapeutic used:* It is used for diarrhea and nausea.

*Preparation and usage:* Fruit may be eaten directly. Additionally, flowers can be boiled in water and consumed as tea.

*Side effects:* It can cause constipation if it is eaten too much.

### 3.2. *Equisetum ramosissimum* (Equisetaceae)

*Local name:* Kırkkilit (Çayır) Otu (Gümüş Çayırı)

*Traditional therapeutic used:* It is used for kidney stones, shortness of breath, lumbar puncture and urinary tract infections.

*Preparation and usage:* Kırkkilit otu is boiled in water for 5 minutes, after it gets cold it can be drunk twice a day in the morning and at night.

*Side effects:* In the territory they tell that it may be harmful if you drink more than 2 glasses a day.

### **3.3. *Carlina oligocephala* var. *oligocephala* (Asteraceae)**

*Local name:* Devedikeni

*Traditional therapeutic used:* Cleans the liver.

*Preparation and usage:* The seed is squeezed slightly and boiled in water. After waiting 15 minutes, the tea can be drunk 3 times a day.

*Side effects:* If consumed too much it causes diarrhea

### **3.4. *Aesculus hippocastanum* (Sapindaceae)**

*Local name:* At Kestanesi

*Traditional therapeutic used:* It is useful for knee aches.

*Preparation and usage:* It is ground to be creamy and applied to the places in pain.

*Side effects:* There is no known side effect.

### **3.5. *Prunus spinosa* (Rosaceae)**

*Local name:* Yonaz (Çakal) Eriği

*Traditional therapeutic used:* It is used for diabetes.

*Preparation and usage:* It is boiled and drunk 2 glasses a day. It is also consumed as fruit and made marmalade.

*Side effects:* There is no known side effect.

### **3.6. *Pinus nigra* (Pinaceae)**

*Local name:* Karasakız

*Traditional therapeutic used:* Karasakız is used for wound healing. Pine gum is used to clean the bristles in the bark.

*Preparation and usage:* Leaked resin of black pine is filtered and boiled until it transforms to pitch. This fluid is applied to the painful or wounded zone. The pitch is left there until the pain is cured (maximum 1 week). It is also used to remove dirty blood from the body. The chewing gum obtained from the tree is chewed and swallowed 1-2 times a day.

*Side effects:* It may be harmful if chewed more than 1-2 in a day.

### **3.7. *Brassica oleracea* (Brassicaceae)**

*Local name:* Lahana (Kelem)

*Traditional therapeutic used:* It is used to get rid of water retention, burn fat and accelerate the metabolism.

*Preparation and usage:* Cabbage leaf is boiled in water for 5 minutes and can be drunk 2 glasses a day. In addition, boiled cabbage leaves are placed in the painful areas of the body and pain is relieved.

*Side effects:* There is no known side effect

### **3.8. *Pyrus elaeagnifolia* (Rosaceae)**

*Local name:* Ahlat

*Traditional therapeutic used:* It is used to heal poisoning

*Preparation and usage:* The leaves are boiled and drunk 2 glasses in a day. The fruit can also be eaten.

*Side effects:* There is no known side effect.

### **3.9. *Rubus canescens* var. *canescens* (Rosaceae)**

*Local name:* Böğürtlen (Bük Üzüümü)

*Traditional therapeutic used:* It is used for mouth wounds.

*Preparation and usage:* It can be picked and eaten as fresh or marmelated.

*Side effects:* There is no known side effect.

### **3.10. *Chondrilla juncea* (Asteraceae)**

*Local name:* Karaok Otu (Kara Kavuk)

*Traditional therapeutic used:* It is used to get rid of the bowels.

*Preparation and usage:* The root of the plant contains a kind of milk. The roots are cleaned and crushed with stone to remove this milk. After it dries, it is made like a gum and chewed.

*Side effects:* There is no known side effect.

### **3.11. *Malva sylvestris* (Malvaceae)**

*Local name:* Ebegümeçi Otu

*Traditional therapeutic used:* It is used for stomach ulcer, hemorrhoids and as expectorant.

*Preparation and usage:* The leaves are cooked, panned and eaten. Also can be left in cold water for one day, the next day it can be steeped and this water is drunk as 3 tea cups a day.

*Side effects:* There is no known side effect.

### **3.12. *Astragalus* sp. (Fabaceae)**

*Local name:* Geven Dikeni

*Traditional therapeutic used:* It is a power and immunity strengthener. It also makes milk for breastfeeding mothers.

*Preparation and usage:* First, the plant is picked as fresh and thorny parts are removed. The skin of the root is peeled off. The remaining part is beaten and the gum is eaten.

*Side effects:* There is no known side effect.

### **3.13. *Cucumis sativus* (Cucurbitaceae)**

*Local name:* Salatalık

*Traditional therapeutic used:* used to heal the cyst and distension at the throat.

*Preparation and usage:* It is generally used for newborn babies with formation of distension or cysts at the throat. The cucumber is cut and wrapped to the throat for 1 day.

*Side effects:* There is no known side effect.

### **3.14. *Allium cepa* (Amaryllidaceae)**

*Local name:* Soğan

*Traditional therapeutic used:* It is used for sore throat and dyspnea.

*Preparation and usage:* It helps to cure sore throat when wrapped. If placed nearby before go to sleep it helps to breathe

*Side effects:* There is no known side effect.

### **3.15. *Juglans regia* (Juglandaceae)**

*Local name:* Ceviz

*Traditional therapeutic used:* It is used for throat diseases like tonsils.

*Preparation and usage:* For children with tonsils, the immature walnut fruit (in its smallest form) is swallowed.

*Side effects:* There is no known side effect.

### **3.16. *Vitis vinifera* (Vitaceae)**

*Local name:* Asma

*Traditional therapeutic used:* It is used to relief the pain at joints.

*Preparation and usage:* Vine leaves are put into boiled water and left for a while. Then they are placed to the painful areas. This can be repeated every 2-3 days.

*Side effects:* There is no known side effect.

### 3.17. *Colutea cilicica* (Fabaceae)

Local name: Tavşan Çakıldağı

Traditional therapeutic used: It is used at hives allergy.

Preparation and usage: The plant's leafy shoots are cut and boiled in water. This water is used to get shower.

Side effects: There is no known side effect.

### 3.18. *Quercus robur* (Fagaceae)

Local name: Meşe Palamudu

Traditional therapeutic used: It is used for celiac disease.

Preparation and usage: The acorns are picked and boiled in water. This water can be drunk twice a day as 1 glass.

Side effects: There is no known side effect.

The results of the field survey are presented in Table 3; plants are arranged in alphabetical order of their family names. For each species, the botanical name and family, local names, preparation, ethnomedical uses and recorded literature uses are reported. The study recorded information and experience related with the ethnobotany uses by the local public of wild plants at Çorum province. Through face-to-face interviews, we identified and recorded demographic characteristics of the respondents. We interviewed 45 persons who are over the age of 20.

%51 of the informants were female, %49 were male. Except 2 females, all females who use these plants are housewives whereas %20 of informants are workers and %2 of them are unemployed while others have various occupations. Demographical characteristics of individuals according to the results we obtained in the research are illustrated in Table 2.

The knowhow of the local people and also the experiences were recorded during the interviews. We compared some of the information we obtained with the information from the previous studies. We tried to verify the comments in this way.

*Malva sylvestris* is recorded in our research area for gastric ulcer, expectorant and hemorrhoid. *M. sylvestris* was reported to treat stomach-ache, toothache, colds and flu, urinary diseases, wound healing, hypotension, kidney stone and sand, cough, constipation, eye pain and cyanosis [12-23].

*Chondrilla juncea* is used to get rid of the bowels. Previous studies showed that *C. juncea* is used as stomachic, dermatological (burn, wounds), digestive troubles, for food in early stage and for making broom [12, 21-22, 24-27].

Some species are used for similar purposes in other areas of Turkey. These species are *Equisetum ramosissimum* (for removing kidney stones), *Rubus canescens* var. *canescens* (to treat mouth sore), *Prunus spinosa* (diabetes), *Pyrus elaeagnifolia* (fresh fruits are eaten), *Pinus nigra* (wound healing) and *Chondrilla juncea* (to get rid of the bowels) and *Aesculus hippocastanum* (Anti-rheumatic) [16-18, 21, 28-33].

Whereas the acorns of *Quercus robur* are used for diabetes, diuretic, stomachache and toothache in other areas of Turkey [34-35], the use of the acorns of for the treatment of coeliac disease via infusion was recorded for the first time in this study. Even though *Juglans regia* has some similar uses for throat diseases [36-37], it was determined for the first time in this study that the underripe fruits of *Juglans regia* were swallowed down and used to treat faucial tonsil.

It was not determined in the literature survey carried out that the bulb of *Allium cepa* was used against asthma and sore throat. Previous studies showed that the use of the bulb of *A. cepa* is used for amenorrhoea, abnormal menstruation, furuncle and arteriosclerosis and for inflammatory wound [38-40]. Also the use of *Cucumis sativus* for the treatment of throat swelling and cystoma, *Colutea cilicica* for the treatment of urticaria allergy, *Astragalus* sp. to

power immune-enhancing and increase to breast milk were recorded for the first time in this study. The use of the leaves of *Brassica oleracea* to accelerate the metabolism via infusion was recorded for the first time in this study.

Whereas the leaves of *Astragalus* sp. are used for power immune-enhancing and increase to breast milk in our research area, Yapıcı et al. [41] state that the aerial parts of the same plant are used for the wood fuel and also Satıl et al. [42] state that the aerial parts of the *Pinus nigra* are used for the wood fuel, too. *Vitis vinifera* is recorded in our research area to treat arthralgia. Ertuğ [43] put forth in her study that the fruits or leaves of this taxon are used for food and medicine for both humans and animals.

The plants were mostly used by infusion and external. Local people used different part of the plant species. The most commonly used vegetative or generative organs were aerial parts, leaves and fruits, respectively. Other plant parts used by local people included bulb, seed, acorn, resin and root. As a conclusion, the folk medicinal plants of Çorum and traditional knowledge on these plants were recorded by this research. In this way, a local culture on the folk medicinal plants has been transferred to future generations.

**Table 3.** Traditional usage of wild plants in the study area.

Family	Botanical name	Local name	Plant part used	Preparation	Ethnomedical uses	Recorded literature uses
Amaryllidaceae	<i>Allium cepa</i>	Soğan	Bulb	External	Asthma, sore throat	1,4,6,10
Asteraceae	<i>Carlina oligocephala</i> var. <i>oligocephala</i>	Devedikeni	Seed	Infusion	Liver diseases	16
Asteraceae	<i>Chondrilla juncea</i>	Karaok Otu, Kara Tavuk	Root	External	Get rid of the bowels	6,17-20, 41,43
Brassicaceae	<i>Brassica oleracea</i>	Lahana, Kelem	Leaves	Infusion	Get rid of water retention, burn fat, accelerate the metabolism.	4,21
Cucurbitaceae	<i>Cucumis sativus</i>	Salatalık	Aerial parts	External	Throat swelling, cystoma	19,22,23
Equisetaceae	<i>Equisetum ramosissimum</i>	Kırkkilit (Çayır) Otu, Gümüş Çayırı	Aerial parts	Infusion	Kidney stones, urinary tract diseases, asthma, slipped disc	17,22,24
Elaeagnaceae	<i>Elaeagnus angustifolia</i>	İğde	Fruit, Flower	Fresh infusion	Diarrhea, queasiness	19,25
Fabaceae	<i>Astragalus</i> sp.	Gevendikeni	Aerial parts	External	power immune-enhancing, increase to breast milk	6,26
Fabaceae	<i>Colutea cilicica</i>	Tavşan Çakıldağı	Shoots with leaves	Infusion	Urticaria allergy	10,22,43
Fagaceae	<i>Quercus robur</i>	Meşe Palamudu	Acorn	Infusion	Gluten-sensitive enteropathy	27,28
Juglandaceae	<i>Juglans regia</i>	Ceviz	Fruit	External	Tonsil sore throat	4,16,18,21,23, 25,29, 30,31
Malvaceae	<i>Malva sylvestris</i>	Ebegümeçi Otu	Leaves	Cooked, decoction	Gastric ulcer, hemorrhoid, expectorant	16-19,21, 23,25, 29,32-35
Pinaceae	<i>Pinus nigra</i>	Karasakız	Resin	Oil	Wound healing, oxyuride healing	23,36,37
Rosaceae	<i>Pyrus elaeagnifolia</i>	Ahlat	Leaves, fruits	Infusion	After poisoning, food	18,20,22
Rosaceae	<i>Rubus canescens</i> var. <i>canescens</i>	Böğürtlen, Bük Üzümü	Aerial parts	External	Mouth sore, food	18,21,38
Rosaceae	<i>Prunus spinosa</i>	Yonaz (Çakal) Eriği	Fruit	Infusion	Diabetes, food	21,23,24, 35,39
Sapindaceae	<i>Aesculus hippocastanum</i>	At Kestanesi	Fruit	Balm	Knee pain	10,23,40
Vitaceae	<i>Vitis vinifera</i>	Asma	Leaves	External	Arthralgia	18,21,23, 25,42

1.Patel and Shet,2010; 4.Yeşilada et al.,1999; 6.Özgen et al.,2004; 10.Ezer et al.,2006; 16.Birinci,2006; 17.Koçyiğit and Özhatay,2006; 18.Sargin et al.,2015; 19.Özçelik and Balabanlı,2005; 20.Tugay et al.,2012; 21.Kızıllarslan,2008; 22.Güneş,2010; 23.Sarı et al.,2012; 24.Ecevit and Özhatay, 2006; 25.Tuzlacı and Erol,1998; 26. Yapıcı et al., 2009; 27. Şiğva and Seçmen,2009; 28.Aktan,2011; 29.Gürdal and Kültür,2013; 30.Türkan et al.,2006; 31.Elçi and Erik,2006; 32.Gül,2014; 33.Bayrak et al.,2006; 34.Akaydın et al.,2013; 35.Tuzlacı et al., 2010; 36.Satıl et al.,2006; 37. Sağıroğlu et al.,2013; 38.Onar, 2006; 39.Tuzlacı and Tolon, 2000; 40.Mustafa et al.,2012; 41.Özdemir,2005; 42.Ertuğ, 2000; 43.Doğan,2014;44.

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### Conflict of Interests

Authors declare that there is no conflict of interests.

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