

## Ethnobotanical and Pharmacological Uses of Some Plants in the Districts of Karpuzalan and Adıgüzel (Van-Turkey)

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**Abstract:** This study has been carried out in Karpuzalan and Adıgüzel districts of Van province between the years 2006 and 2007. At the beginning, questionnaires have been conducted in order to learn what kind of plants is used for which purpose by the villagers. After this, these plants have been collected from the fields and identified in Yuzuncu Yıl University, Faculty of Science and Letters, Department of Biology and they have been included in herbarium. Later, the villagers defined which of them are consumed for nutritional purposes; which of them are used in herby cheese consumed in the region widespreadly; which of them are used for medical purposes. As a result, the present paper presents new original plants used for drug industry on medical purposes (animal and human health).

**Key words:** Ethnobotanic, Karpuzalan, Adıgüzel, Türkiye

### INTRODUCTION

Eastern Anatolia is a mountainous region and has high altitude plains surrounded by mountains. In spite of the fact that there is continental climate in the region, there is a microclimate showing Mediterranean climate features due to the existence of Van Lake and the other big and small lakes which are surrounded by mountains (Öztürk and Özçelik, 1991). It is estimated that there are nearly 1 000 000 plant species all over the world (Stace, 1980). The number of the species consumed for nutritional purposes is about 20 thousand. Total 600 of them exist in Turkey. The useful plants in natural flora exist mostly in Eastern Anatolian Region. Furthermore, herby cheese is produced in this region unlike the other regions in Turkey. Some plants obtained from natural fauna are used in this cheese. There are approximately 9500 plant species in Turkey (Güner *et al.*, 2000). Total 3500 of these species are endemic. The rate of endemism is high in Eastern Anatolia. According to World Health Organisation, the number of herbal drugs used in the world is 1900 (Baytop, 1984) and this number in Turkey is almost 1000 (Baser, 2003).

Some of these plants are consumed for nutritional purposes and also some of them are consumed as tea or spice. Moreover, some are used in the treatment of people or animals, some are used in painting and some are used in broom, basket or decoration materials' manufacturing. Some of these plants are also cultivated.

The aim of this study, is to define the plants consumed for nutritional purposes as spices or ingredients of meals, for treatment purposes and for painting and decoration materials manufacturing. The present study presents new plants used for pharmacology area, which contribute considerably to improvement of drugs on animal and human health.

### MATERIALS AND METHODS

Questionnaire forms were given before to villagers in Karpuzalan and Adıgüzel villages in the survey visits to these villages in 2006 and 2007. Thanks to these forms necessary data has been acquired from the villagers. The plants mentioned in questionnaire forms have been collected from the fields and the samples have been identified in Yuzuncu Yıl University, Faculty of Science and Letters, Department of Biology and lastly the samples have been included in Herbarium. Taxonomic identifications have been carried out according to herbarium (Davis, 1965, 1988; Güner *et al.*, 2000).

### RESULTS AND DISCUSSION

The 79 species belonging to 27 familia have been identified in the districts in this study. Some of these species are included into a cheese named as herbal cheese consumed in the region commonly. It is aimed to give a kind of aroma to the cheese. Along with these, some

species are consumed for nutritional purposes traditionally as raw vegetables or by cooking. The different names used in different regions for the same plants make it more difficult to study on them. Corresponding names of the regional names of the plants identified in this study have been determined in advance. Subsequently the names used in Turkish have been determined and familia, genus and species have been defined botanically via identification. Many plants are used for medical purposes. The data about these plants in literature in terms of their medical use have been searched and these plants have been explained familia by familia through adding extra data about their usage. The medical use of these plants may be studied in detail in the next researches which will search for their content. In the next studies, volatile oil contents of the lands in the region which have volatile oil should be identified and their antimicrobial features of use should be introduced. This kind of studies will be given priority. The use of identified species can be summarized as follows:

**Plant name-Location- stock number- Turkish name-local name-uses**

**Abbreviations:** 1: Karpuzalan 2: Adıguzel F: Fevzi Özgökçe

**Apiaceae**

*Anethum graveolens* L.1, F 13114, Dereotu

The leaves of the plant are used in cheese and salad. The seeds and leaves are used as painkiller and sedative by means of boiling in water.

*Chaerophyllum macropodium* Boiss. 2, F 13194 Mendo, mendi.

The roots of the plant are used in cheese making.

*Chaerophyllum angelicifolium* M. Bieb.1, F 13105, Gitik.

The roots of the plant are used in cheese making.

*Eryngium billardieri* Delar, 2, F 13106, Tüsü, <sup>a</sup>ekrok

Plant is used as a folk medicine in Van for the treatment of inflammatory diseases. Roots is boiled in water and drunk.

*Falcaria vulgaris* L. 2, F 13107, Kazayağı, Pikask

The leaves of the plant are used in salads. It is also consumed as raw vegetable. It is boiled in water and used for stomachache.

*Ferula orientali* 2, F 13108, Siyabo, heliz, çakfır otu.

The roots and body of the plant are consumed. The root is boiled in water and the body is eaten after it is peeled.

It is beneficial for shortness of breath and for heart diseases. Boiled roots are used for hemorrhoid and ambustion. It is also used for snake, spider and bee bites.

*Ferula rigidula* DC., 2, F 13109, Siyabu.

The roots and body of the plant are consumed. The root is boiled in water and the body is eaten after it is peeled. It is beneficial for shortness of breath and for heart diseases. Boiled roots are used for hemorrhoid and ambustion. It is also used for snake, spider and bee bites.

*Heracleum persicum* Desf. 2, F 13110 a, Sov

The tea prepared with its leaves and fruits is used for gastritis and enteritis. It is also used as sedative and for epilepsy.

*Heracleum platytaenium* Boiss., 2, F 13110 b, Sov.

The tea prepared with its leaves and fruits is used for gastritis and enteritis. It is also used as sedative and for epilepsy.

*Petroselinum crispum* L. 2, F 13 111, Maydanoz.

Its roots and leaves are boiled in water and used for diuretic and emmenagogic purposes. Besides, it is consumed as vegetable and spice.

*Prangos ferulacea* (L.) Lindl., 2, F 13112, Helis, çak<sup>o</sup>ur otu.

Whole plant is used in cheese making. It is also consumed as pickles.

**Araceae**

*Arum elongatum Steven subsp. detruncatum* (C.A. Meyer ex Svhatt) H. Reid, 1, F 13113, Gari, Kari.

It is used in herby cheese made in the vicinage commonly.

**Asteraceae**

*Achillea millefolium subsp. millefolium* 1, F 13154, Civanperçemi, Buyucan.

Agrimoy is generally consumed for stomach ache and kidney aches as tea which is prepared by boiling its flowers in water.

*Anthemis chia* 1, F 13153, Papatya

Daisy is used for stomach ache. Tea is made with its flowers.

*Anthemis tinctoria* L. 1., F 13155, Boyacı papatyası

Plant dye obtained from capitulum of plant. The wool yarns treated with the plant dye later become light yellow color.

*Cichorium intybus* L. 1, F 13156, Hindiba, çatlangu°

Tea is made from its dried roots and consumed for ulcer and asthma. Besides, it has sedative and analgesic effects.

*Gundelia tournefortii* L. var. *tournefortii* 2, F 13164,

Kenger.

Bud of plant is eaten.

*Helichrysum arenarium* L.1, F 13163, Herdem taze, Ölmez çiçek, Yayla Çiçeği.

It is good for stomach ache and kidney aches. Its dried branches, leaves and body are consumed after they are boiled. Tea is made from its flowers, leaves and body.

*Scorzonera phaeopappa* (Boiss.) Boiss.1,F 13162, Spink Yemlik.

It is stated that it is beneficial for treatment of headache. Also it is either cooked or consumed as raw vegetables except for root.

*Scorzonera sosnowskyii* Libsc., 1, F 13161, Bivok,

Its newly growing leaves are consumed as vegetables for headache.

*Scorzonera mirabilis* Lipsch. 1, F 13160, Yemlik.

Its newly growing leaves are consumed as vegetables for headache.

*Scorzonera mollis* Biela 1, F 13159, Yemlik.

It is used for diuretic purposes. Boiling its flowers in water and consuming this is effective in kidney stones and diuretic purposes.

*Tragopogon buphthalmoides* (DC) Boiss, 1, F 13158, Spink.

The top and root of the plant is consumed after it is salted. The leaves of the plant are used in salads. Roots of its is eaten for stomach ulcer.

*Tragopogon longirostris* Bisch. ex Schultz Bip. var. *longirostris* 1, F 13157, Yemlik, Sıptng.

The top and root of the plant is consumed after it is salted. The leaves of the plant are used in salads. Roots of its is eaten for stomach ulcer.

#### **Brassicaceae**

*Capsella bursa-pastoris* (L.) Medik 1, F 13115, Çoban çantası.

Plant is eaten except for root. It is one of the best widespread native plants.

*Crambe orientalis* L. 1, F 13116, Kokuluot.

It is used as sedative. Tea is made from its flowers.

*Lepidium latifolium* L. 1, F 13117, Nujdar.

The branches and leaves of the plant are used in salads. The plant is appetizer.

*Nasturtium officinale* R. Br. 1, F 13118. Tuzuk, Tere, Su teresi

The branches and leaves of the plant are used in salads.

*Sinapsis arvensis* L. 1, F 13119, Yabani hardal.

The branches and leaves of the plant are used in salads.

#### **Boraginaceae**

*Alkanna orientalis* L. Boiss var. *orientalis* 2, F 13143, hevaco, hevajo, havaco, havacıva otu.

The root of the plant is used in the treatment of inflammation, scars, stomach ache, headache, abdominal ache and scalds.

#### **Caryophyllaceae**

*Gypsophilla bicolor* (Freyn and Sint.) Grossh. 2, F 13144, Çöven, Çöğen.

It is mostly used in halvah. Its roots have been collected in Van and have been sold to the provinces having halvah factories. This trade has continued for years.

#### **Chenopodiaceae**

*Spinacia oleracea* L. 2, F 13145, Ispanak

The leaves of the plant are used in meals. It is cooked by boiling.

*Beta vulgaris* var. *saccharifera* L. 1, F 13147, Peker pancarı

The roots and leaves are cooked.

*Beta trigyna* Waldst. and Kit 2, F 13146, pancar pazı

The whole plant is consumed after it is cooked.

#### **Compositae**

*Matricaria chamomilla* L. 1, F 13152, Papatya,

The flowers of the plant are boiled and drunk for heartache, abdominal ache and diabetics. It is also used antipyretic and carmiative purposes.

#### **Elaeagnaceae**

*Elaeagnus angustifolia* L. 1, F 13151, Iğde,

The leaves of the plant is chopped and applied onto the scars. It is also believed that its branches are protective against the evil eye. The branches are cut and kept for houses, cars and valuable real estates.

### **Euphorbiaceae**

**Euphorbia cheiradenia** Boiss. and Hohen 1, 13150, þirker, þirken, stleęen  
The milk of the plant is applied onto scars and it is said that this heals scars.

### **Fabaceae**

**Glycyrrhiza glabra** L. 1, F 13149, Meyan.  
Dried roots are boiled in water and drunk as tea. It has sedative effects and also it is good for heart diseases.

**Trifolium pratense** L. var *pratense* 1, F 13148, darı flfl, dirfil, trfil, ęęl.  
The seeds of the plant is mixed with yolk and drunk. It is good for cough. It is used for halitosis.

### **Gramineae**

**Elymus repens** ssp. *repens* Gould 2, F 13174, Ayrık otu.  
The root of the plant is used in renal impairment and drunk after it is boiled with lemon.

### **Hypericaceae**

**Hypericum perforatum** 2, f 13173, Tura, Kantaron, Binbirdelikotu, Kantarod.  
Tea and spices are made with its leaves

### **Juglandaceae**

**Juglans regia** L. 2, F 13172, Ceviz.  
The extract acquired from its dried leaves is used as germicide and for hair loss.

### **Lamiaceae**

**Lamium album** L., 2, F 13165, Ballıbaba.  
The root of the plant is mixed with honey and it is good for toothache

**Satureja thymbra** 2, F 13166, Daę reyhanı, Keklik otu  
It is boiled in water and it is good for sorethroat. Tea is made with its flowers and leaves.

**Melissa officinalis** L. 2, F 13167, Oęulotu  
It is used for gastrointestinal diseases. The leaves are boiled in water and it is drunk.

**Mentha longifolia** L. 2, F 13168, Reyhan  
It is known as basil. It is used for cancer and tuberculosis. The roots and leaves are boiled in water and drunk. It is also used as painkiller and sedative.

**Mentha longifolia** L. Hudson *subsp. longifolia* 2, F 13169  
It nanesı, nane, pnk

The leaves of the plant is used for common cold after it is boiled with lemon. The leaves of the plant are consumed for headache, cancer and stomache after it is salted.

**Mentha pulegium** L. 2, F 13170, Yarpuz  
It is used for cough, stomach ache and shortness of breath. It is boiled in water and drunk.

**Origanum vulgare** L., 2, F 13171, antır, atır kekik.  
The leaves of the plant is used in cheese and tea is made from it and it is also used as spice in meals. The tea made from dried flowers are used for gastrointestinal diseases and influenza.

**Salvia nemorosa** L. 1, F 13140, Dılagı, Adaayı, Kaþgatenik.  
Tea and spices are made with its leaves.

**Salvia kronenburgii** Rech. 1, F 13141, Dılagı, Adaayı.  
Tea and spices are made with its leaves

**Thymus fallax** Fisc. and C.A.Mey., 1, F 13142, Kekik  
Tea is made from fresh leaves and consumed in this way. It is used as a sedative and for hemeroid.

**Thymus transcaucasicus** 1, F 13139, Kekik  
It is drunk after it is boiled and prevents cough.

### **Liliaceae**

**Allium cepa** L. 1, F 13135, Soęan,  
Fresh ones are mashed and used for healing scars.

**Allium sativum** L. 1, F 13136, Sarımsak  
It is good for diabetics and high blood pressure.

**Allium schoenoprasum** L. 1, F 13137, Sirma, Sirik, Sirim.  
It is added into herby cheese. Its own smell transmits into cheese. It is also used in a special food of the vicinage called "cacık".

**Allium vineale** L. 1, F 13138, Sirmo, sirik, sirim.  
It is added into herby cheese. Its own smell transmits into cheese. It is also used in a special food of the vicinage called "cacık".

**Eremurus spectabilis** M. Bieb.1, F 13134, iri° Plant is cooked in egg and eaten.

### **Malvaceae**

**Athaea officinalis** L. 1, F 13133, Hiro, hatmi. The root is boiled and drunk.  
It is good for gastritis.

**Malva sylvestris** L.1, F 13132, hıro, ebegümeçi

The leaves of the plant are boiled in water and drunk. It is good for kidney Stones and prostate. It is used for kidney and stomach aches.

#### **Moraceae**

**Morus alba** L. 1, F 13131, Dut

The leaves of mullberry have diuretic effect. It is believed that when white mullberry is consumed on an empty stomach, it is effective in vermifuge.

#### **Papaveraceae**

**Papaver rhoeas** L.1, F 13130, Gelincik

Dried fruits are drunk after they are boiled in water. It is used for depression, also as a painkiller and sedative.

**Papaver orientale** L. var. *orientale*, 2, F 13129, Ha°ha°, Ha°ha°k

Capsule of plant is eaten and leaves as crude. Children eat leaves of plant.

#### **Plantaginaceae**

**Plantago maritima** L., 2, F 13128, yılan dili.

The leaves of the plant are boiled in water and it is good for stomach ache. It is also used in salads.

#### **Polygonaceae**

**Polygonum cognatum** Maussn., 2, F 13120, (Ku° Yemi, Ku° Memesi).

Plant is eaten pre blossoming.

**Rheum ribes** L. 2, F 13121, Uçkun.

They are eaten as raw vegetables. The roots are boiled in water and drunk. It is known that they are good for diabetics.

**Rumex acetosella** L. 2, F 13122, Tir°o, evelik, efelek.

It is consumed in salads and also it is cooked like spinach. It is known that boiled roots and leaves are good for stomach ache.

**Rumex alpinus** L. 2, F 13123, Tir°o, evelik, efelek.

It is consumed in salads and also it is cooked like spinach. It is known that boiled roots and leaves are good for stomach ache. The whole plant is salted and it is good for tension and stomach. Leaves and stem of plant are salted and eaten as appetizer. Plant is cooked as yoghurt soap. Black plant dye obtained from the plant root.

**Rumex pulcher** L. 2, F 13124, Tir°o, evelik, efelek Tir°o

It is consumed in salads and also it is cooked like spanich.

It is known that boiled roots and leaves are good for stomach.

**Rumex tuberosus** L. subsp. *horizontalis* (C.Koch.) Rech., 2, F 13125, Tırþoya Ga.

Stem of plant is eaten as fresh.

#### **Primulaceae**

**Primula algida** Adams-Sosun 2, 13126, çuha çiçeği, (cowslip).

The roots of the plant are boiled in water and drunk. It is good for asthma, bronchitis and cough. It also helps cleaning the blood.

#### **Ranunculaceae**

**Ranunculus polunii** Davis 1, F 13127, Çönk (çünk)

It is added into herby cheese belonging to vicinage.

#### **Rosaceae**

**Crataegus orientalis** Pallas ex M.Bieb, 2, F 13180, (Givij, Aliç)

Fresh fruits of plant are eaten.

**Cydonia oblonga** 2, F 13179b, Ayva yaprağı.

The leaves of quince are used in urogenital infections. It is effective for natural allergies and common cold. It is also good for insomnia. Besides, it is used as sedative.

**Rosa canina** L., 2, F 13179a, Rosehip, °ilan, jılan.

The fruits of the plant are boiled in water and drunk for sorethroat, headache, common cold. Tea and jam are made from its fruits. It is also used for diabetics and jaundice, to decrease cholestrol and as an aphrodisiac.

**Sarcopoterium spinosum** L. 2, F 13178, abdest bozan otu.

The roots and the body of the plant are good for diabetics and used as antipyretic. It is drunk after it is boiled in water.

#### **Urticaceae**

**Urtica dioica** L. 2, F 13177, Isırgan otu, gazgezk, geznik,

The leaves of the plant are boiled and drunk. It is good for cancer, heart diseases, headache, megrim and scars. Tea is made with dried seeds and this is good for cancer. It is also used as painkiller and sedative.

#### **Verbenaceae**

**Vitex agnus-castus** L. 2, F 13176, beþ parmak otu, hayıt,

The whole plant is mixed with honey and used for stomach ache and throat inflammation.

*Zygophyllaceae*

*Peganum harmala* L. 2, F 13175 (Üzerlik, Uzelik). The fruits of the plant are broiled to fumigation in religious belief.

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