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Ethnomedicinal studies on the plant resources of east Anatolia, Turkey

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Abstract

A total of 444 naturally distributed taxa belonging to 62 families are used in the traditional medicine in the East Anatolian region of Turkey. These mainly belong to the families like Asteraceae (93 taxa), Lamiaceae (52 taxa), Rosaceae (30 taxa), Fabaceae (27 taxa), Boraginaceae (20 taxa), Apiaceae (17 taxa), Brassicaceae (16 taxa), Ranunculaceae (16 taxa), Malvaceae (12 taxa), Liliaceae (11 taxa), Polygonaceae (10 taxa), Euphorbiaceae (8 taxa), Scrophulariaceae (7 taxa), Solanaceae (6 taxa), Plantaginaceae (5 taxa), Crassulaceae (5 taxa) and Chenopodiaceae (5 taxa). The dominating genera are *Achillea* (11 taxa), *Centaurea* (11 taxa), *Scorzonera* (9 taxa), *Alcea* (8 taxa), *Euphorbia* (8 taxa), *Salvia* (8 taxa), *Anthemis* (7 taxa), *Taraxacum* (7 taxa), *Tragopogon* (7 taxa), *Allium* (7 taxa), *Artemisia* (6 taxa), *Crataegus* (6 taxa), *Ranunculus* (6 taxa), *Rubus* (6 taxa), *Rumex* (6 taxa), *Thymus* (6 taxa), *Anchusa* (5 taxa), *Plantago* (5 taxa), *Rosa* (5 taxa), *Stachys* (5 taxa), *Tanacetum* (5 taxa) and *Verbascum* (5 taxa). Although this region shows the highest ratio of endemism (25 %) in Turkey, this ratio for medicinal plants lies around 8 percent. Out of 444 taxa evaluated medicinally 82 were observed to be poisonous. Local people in the region generally use herbal remedies for the treatment of gastro-intestinal disorders, respiratory system disorders, rheumatic pain, kidney stones, hemorrhoids and skin troubles such as cut, wounds, burns, and abscess. In this paper an attempt has been made to present the information on the medicinal plants of the region for its availability to the researchers in different fields related to herbal drugs.

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Keywords: East Anatolia; Turkey; herbals; ethnobotany; treatments

1. Introduction

Plants produce an array of chemicals that are known as secondary metabolites. Many secondary metabolites have been utilized by human beings for various purposes, specially for making medicines and as healing agents by people of Homeopathy, Allopathy, Unani - Ayurvedic medicine producers and

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practitioners [1]. As a result of different cultures and customs we come across a great accumulation of knowledge of traditional medicine in Anatolia (Asian part of Turkey) as well [2, 3, 4, 5]. Many ancient civilizations have flourished in the country and domestication of many food and medicinal plants started from this area. First record is the monumental volumes of “Materia Medica” written in 78 A.D. by Dioscorides (1st century A.D.) from Anazarba or Asia minor; the Mediterranean part of Turkey. It included 950 drugs out of which 600 were of plant origin [2]. He used the healing properties of different plants from Anatolia thus establishing it as a science. A recent survey of traditional and folk medicine in Turkey has revealed that most of these plants are still in use by the local inhabitants [5,6,7]. Therefore, Materia Medica may be assumed to be the oldest comprehensive document on Anatolian folk medicine. This knowledge is surviving until now and an array of herb shops are found in the markets of the modern cities.

Ethnobotanical surveys undertaken by us during 1990-2010 and data published by other authors has revealed that a large number of medicinal plants are found in the states of Ağrı, Ardahan, Bingöl, Bitlis, Elazığ, Erzincan, Erzurum, Hakkari, Iğdir, Kars, Malatya, Muş, Tunceli and Van (Fig. 1).

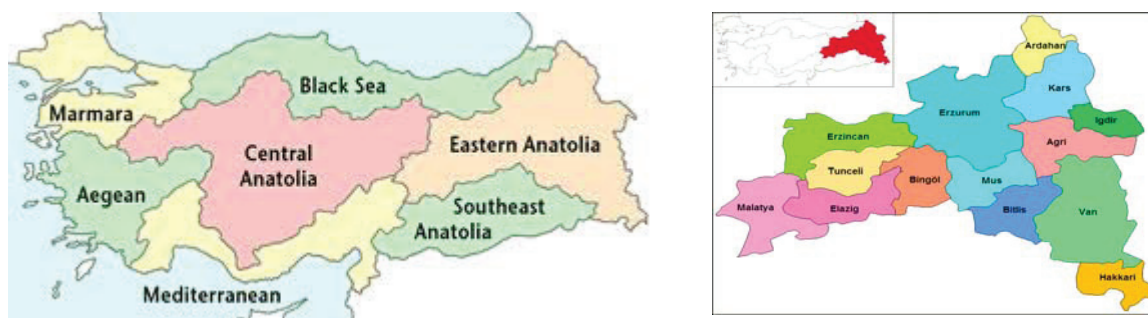


Fig. 1. Map showing different regions of Turkey (left) and provinces of East Anatolia (right).

All these states constitute East Anatolian part of Turkey. The geographical remoteness from medical facilities and the difficulty in transportation during the long, cold winters appear to be the main reasons for widespread use of medicinal plants in the region. On the whole this area has a great potential for naturally occurring medicinal plants. In this study an attempt is made to enlighten the latest information on the medicinally used wild plants from East Anatolia.

2. Study Area

East Anatolia occupies an area of over 170.000 km², which is more than 20 percent of the total area of Turkey. It is the largest of seven geographical divisions of Turkey with 14 provinces, bordering Iraq, Iran, Nakhichevan, Armenia, and Georgia; included in the Irano-Turanian phytogeographical region, covered with deciduous-mixed forests and deciduous tree steppes.

The region is regarded as one of the most important areas of plant biodiversity in Turkey, with over 3,000 vascular plant taxa distributed in the area out of which nearly 800 are endemics [7]. Most important biodiversity centres in the region are Munzur and Anti Taurus Mountains, Elbistan-Darende, Kemaliye, Kesis Mountain, and Harput and Hazar Lake. East Anatolia is divided by a very characteristic line of floral demarcation named as Anatolian Diagonal, starting from Gumushane, which after crossing inner Anatolia reaches Kahramanmaraş and then bifurcates into two towards Adana and Iskenderun (Fig. 2).

The distribution range of nearly 400 plant taxa is confined to this diagonal including the monotypic genera *Neotchihatchewia* (*N. isatidea*) and *Graellsia davisiana*. Many taxa occur either only to the west or to the east of the diagonal [8, 9]. The area is the most uneven region, characterized by high plateaus and rugged landscape. The highest mountains are the famous Ararat (5165 m), Cilo (4135 m) and Suphan (4058 m). A large part of the forest cover has been destroyed by long lasting human interventions all through the history and steppe vegetation has changed a lot except for the “The Munzur Valley National Park” which covers more than 45,000 ha and is an important centre of endemism in Turkey.

The climate is continental type characterised by long severe winters and dry summers. The annual average temperatures are $-3,4\text{ }^{\circ}\text{C}$ in winter and $22.0\text{ }^{\circ}\text{C}$ in summer [10]. Precipitation in the form of snow is a common feature.

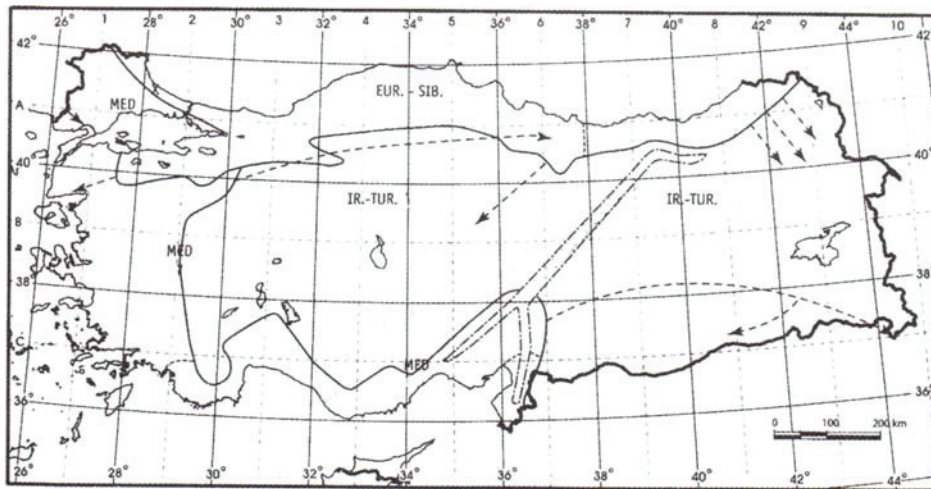


Fig.2. Location of Anatolian diagonal in Turkey (after Davis, 1971).

3. Material and Methods

The material for the information on medicinal plants of East Anatolian Region was collected from earlier published data [6,7,11,12,13,14,15,16,17,18,19]. Ethnobotanical data forms were prepared for different provinces like; Ağrı, Bingöl, Bitlis, Elazığ, Erzincan, Erzurum, Iğdır, Kars, Malatya, Tunceli and Van. These were filled by interviewers as follows;

3.1. Ethnobotanical Data Form

Date: ---- Research area (District/Village):---- Informants name:---- Age: ---- Addresses/Telephone number: ----

1. Local name of plant: ----
2. Part of plant:----
3. Usage purpose of plant:----
4. Dosage: ----
5. How to use it (powder, pulp, tea, etc.) ---- Internal External
6. Usage period of plant: ----
7. Side effect of plant :----

4. Results and Discussion

The plants collected and evaluated by us and other workers are presented in Table 1, together with family name, followed by local name, parts used, medicinal uses, methods of preparation and administration. In all 444 plant taxa belonging to 62 families were found to be used in the traditional medical care, 8 percent were endemics, 82 taxa were observed to be poisonous [20]. During this survey the medicinal use of 49 taxa is reported for the first time in Turkey [7].

Table 1: Plants used in the folk medicine in East Anatolian part of Turkey.

Species & Family	Local names	Parts used/ Ailments treated	Preparation/ administration
<i>Abies nordmanniana</i> (Stev.) Spach (Pinaceae)	Kökнар	Tar/Vulnerary	Direct application/External
<i>Achillea aleppica</i> DC. (Asteraceae)	Civanperçemi	Herb/Diuretic, carminative, emmenagogue	Decoction/Internal
<i>Achillea biebersteinii</i> Afan. (Asteraceae)	Ormaderen	Capitulum/Diuretic, asthma, cardiotonic, stomachic, carminative, orexigenic, tonic,	Decoction/Internal Pounded/External

		colds, nephralgia, gynecologic diseases, women' sterility, emmenagogue, jaundice, expectorant Herb/Abscess, vulnerary, astringent, edema, erythema on skin	Poultice/External
<i>Achillea cappadocica</i> Hausskn. & Bornm. (Asteraceae)	Buyucan	Leaf/Astringent, edema, emmenagogue, stomachic	Pounded/External Decoction, Infusion/Interna
<i>Achillea coarctata</i> Poir. (Asteraceae)	Civanperçemi	Herb/Diuretic, carminative, menstrual disorders	Decoction/Internal
<i>Achillea millefolium</i> L. subsp. <i>millefolium</i>	Civanperçemi	Capitulum/Diuretic, carminative, menstrual disorders, stomachic, urinary antiseptic, antitussive, tonic, abdominal pain, colds Herb/Vulnerary, astringent	Decoction/Internal Pounded/External
<i>Achillea millefolium</i> L. subsp. <i>pannonica</i> (Asteraceae)	Buyucan	Capitulum/Antitussive	Decoction/Internal
<i>Achillea schischkinii</i> Sosn. (Asteraceae)	Kılıçotu	Capitulum/Carminative	Powdered/Internal
<i>Achillea setacea</i> Waldst. & Kit. (Asteraceae)	Ğirtkesan	Herb/Emmenagogue, stomachic	Infusion, Decoction/Interna
<i>Achillea tenuifolia</i> Lam. (Asteraceae)	Çoban kirpiği	Leaf/Hypercholesterolemia, diabetes, asthma, bronchitis, cough	Infusion/Internal
<i>Achillea vermicularis</i> Trin. (Asteraceae)	Civanperçemi	Herb/Stomachic	Decoction/Internal
<i>Achillea wilhelmsii</i> C.Koch (Asteraceae)	Civanperçemi	Capitulum/Diuretic, abdominal pain, stomachic, emmenagogues, women' sterility Herb/Antihemorrhoidal	Infusion/Internal Decoction/External
<i>Adiantum capillus-veneris</i> L. (Adiantaceae)	Fatmasaçı	Herb, leaf/Kidney stones, tonic, intestinal disorders, orexigenic	Infusion/Internal
<i>Agrimonia eupatoria</i> L. (Rosaceae)	Koyunotu	Roots/Constipant, diuretic Herb/Hernia	Decoction/Internal Pounded/External
<i>Agrostemma githago</i> L. (Caryophyllaceae)	Karamuk	Seed/Anthelmintic, diuretic, expectorant	Infusion/Internal
<i>Ajuga chamaepitys</i> (L.) Schreber subsp. <i>chia</i> (Schreber) Arcangeli var. <i>chia</i> (Lamiaceae)	Mayasilotu	Herb/Tonic, antipyretic, emmenagogue, antihemorrhoidal diuretic, tonic, vulnerary	Decoction/Internal
<i>Alcea apterocarpa</i> (Fenzl) Boiss. (Malvaceae)	Huri	Root, shoots, herb/Vulnerary, anti-inflammatory, skin disorders Herb/Urinary system disorders, kidney stones, pulmonary disorders intestinal disorders, stomach ailments, cough	Decoction, Infusion/Extern Decoction/Internal
<i>Alcea calvertii</i> (Boiss.) Boiss. (Malvaceae)	Hayro	Root, herb/Vulnerary, anti-inflammatory, skin disorders. Herb/Kidney stones, urinary system disorders, pulmonary disorders, stomach disorders	Decoction/External Infusion/Internal
<i>Alcea dissecta</i> (Baker) Zoh. (Malvaceae)	Govık	Leaf/For injuries, asthma	Pounded/External Poultice/External
<i>Alcea excubita</i> Iljin (Malvaceae)	Sarıhatmi	Leaf/Vulnerary Flower & leaf/Expectorant, cold	Decoction/External Infusion/Internal
<i>Alcea fasciculiflora</i> Zohary (Malvaceae)	Hatmi	Root/Kidney stones, abscess, scabies	Decoction/Internal Poultice/External
<i>Alcea flavovirens</i> Iljin (Malvaceae)	Heru	Root/Kidney stones, abscess, scabies	Decoction/Internal Poultice/External
<i>Alcea setosa</i> Alef. (Malvaceae)	Hatmi	Leaf/Expectorant, diuretic, emollient	Infusion/Internal
<i>Alcea striata</i> (DC.) Alef. subsp. <i>rufescens</i> (Boiss.) Cullen (Malvaceae)	Gül çiçek	Leaf/Anti-inflammatory Flowers/Anemia, cough	Decoction/External Infusion/Internal
<i>Alchemilla pseudocartalinica</i> Juz. (Rosaceae)	Yıldıznişanı	Leaf/Constipant, diuretic, tonic	Infusion/Internal
<i>Alhagi pseudalhagi</i> (Bieb.) Desv. (Fabaceae)	Devedişı	Herb/Tonic	Decoction/Internal
<i>Alkanna megacarpa</i> DC. (Boraginaceae)	Havaciva	Root bark/Vulnerary, burns	Poultice/External
<i>Alkanna orientalis</i> (L.) Boiss. var. <i>orientalis</i>	Havacıvaotu	Root/Vulnerary Leaf, flower/Laxative, intestinal disorders	Poultice/External Decoction/Internal

(Boraginaceae)			
<i>Allium akaka</i> S. G. Gmelin (Liliaceae)	Dana soğanı	Bulb/Analgesic	Fresh/Internal
<i>Allium armenum</i> Boiss. & Kotschy (Liliaceae)	Silim soğanı	Leaf/Orexigenic	Fresh/Internal
<i>Allium atroviolaceum</i> Boiss. (Liliaceae)	Silim soğanı	Leaf/Orexigenic	Fresh/Internal
<i>Allium macrochetum</i> Boiss. et Hausskn. subsp. <i>tuncelianum</i> Kollmann (Liliaceae)	Dağ sarımsağı	Bulbil/Hypotension, cancer, anthelmintic	Fresh/Internal
<i>Allium scorodoprassum</i> L. subsp. <i>rotundum</i> (L.) Stearn (Liliaceae)	İt soğanı	Bulb/Orexigenic, hypertension, anthelmintic, diuretic, antiseptic Seed/Goiter	Fresh, dried/Internal Decoction/Internal
<i>Allium sintenisii</i> Freyn. (Liliaceae)	Corin	Leaf/Anemia	Fresh/Internal
<i>Althaea cannabina</i> L. (Malvaceae)	Şah mehlemi	Root/Calcinosis	Pounded/External
<i>Althaea officinalis</i> L. (Malvaceae)	Hatmi	Herb/Diuretic, kidney stones	Infusion/Internal
<i>Alyssum pateri</i> Nyar subsp. <i>pateri</i> (Brassicaceae)	Ğulık	Herb/Vulnerary	Powdered/External
<i>Amaranthus retroflexus</i> L. (Amaranthaceae)	Horoz ibiği	Leaf/Sterility	Infusion/Internal
<i>Amygdalus communis</i> L. (Rosaceae)	Badem	Seed/Hypercholesterolemia	Decoction/Internal
<i>Anchusa azurea</i> Miller (Boraginaceae)	Sığirdili	Herb/Vulnerary Root, basal leaves/women' sterility, vulnerary	Decoction/External
<i>Anchusa leptophylla</i> Roemer & Schultes (Boraginaceae)	Sığirdili	Herb/Vulnerary	Decoction/External
<i>Anchusa stricta</i> Labill. (Boraginaceae)	Güriz	Basal leaves/Vulnerary	Decoction/External
<i>Androsace villosa</i> L. (Primulaceae)	Catili	Herb/Abdominal pain	Fresh/Internal
<i>Anemone albana</i> Stev. subsp. <i>armena</i> (Boiss.) Smirn. (Ranunculaceae)	Dağ lalesi	Leaf/Respiratory system disorders, headache, sinusitis, tonic, diuretic, expectorant	Infusion/Internal Infusion/Vaporization
<i>Anthemis altissima</i> L. (Asteraceae)	Papatya	Herb/Jaundice	Infusion/Internal
<i>Anthemis cotula</i> L. (Asteraceae)	Hozan çiçeği	Herb/Jaundice, dysentery, intestinal disorders, cough, stomach ache Capitulum/Hair care	Infusion/Internal Decoction/External
<i>Anthemis nobilis</i> L. (Asteraceae)	Sarı papatya	Flower/Diuretic, stomach pain	Infusion/Internal
<i>Anthemis pseudocotula</i> Boiss. (Asteraceae)	Papatya	Flower/Stomach pain	Infusion/Internal
<i>Anthemis tinctoria</i> L. var. <i>pallida</i> DC. (Asteraceae)	Papatya	Capitulum/Stomach pain, , cough, intestinal disorders, hair care	Infusion/Internal Decoction/External
<i>Anthemis tinctoria</i> L. var. <i>tinctoria</i> (Asteraceae)	Boyacıpapatyası	Capitulum/Jaundice, stomachic, anthelmintic, antipyretic, colds Capitulum/Throat ache	Infusion/Internal Infusion/Gargle
<i>Anthemis wiedemannia</i> Fisch. & Mey. (Asteraceae)	Papatya	Capitulum/Analgesic	Decoction/Internal
<i>Anthriscus nemorosa</i> (Bieb.) Sprengel (Apiaceae)	Gımıgımı	Fruit/Carminative	Decoction/Internal
<i>Anthriscus sylvestris</i> (L.) Hoffm. (Apiaceae)	Gımıgımı	Fruit/Carminative	Decoction/Internal
<i>Aquilegia olympica</i> Boiss. (Ranunculaceae)	-	Herb/Diuretic	Decoction/Internal
<i>Arctium minus</i> (Hill) Bernh. subsp. <i>minus</i> (Asteraceae)	Loşlek	Leaf/Sunstroke	Direct application/External
<i>Arctium minus</i> (Hill) Bernh. subsp. <i>pubens</i> Arenes (Asteraceae)	Devetabanı	Flower/Eye diseases Leaf, root/Abscess, anti-inflammatory	Decoction/Drops Pounded/External

<i>Arctium platylepis</i> (Boiss. & Bal.) Sosn. ex Grossh. (Asteraceae)	Devetabanı	Root/Edema, inflamed wounds Basal leaf/Calsification (knee), back ache, snakebites	Pounded/External Poultice/External
<i>Arctium tomentosum</i> Miller var. <i>glabrum</i> (Asteraceae)	Toptelli	Leaf, root/Abscess	Pounded/External
<i>Armeniaca vulgaris</i> Lam. (Rosaceae)	Kayısı	Fruit/Diuretic	Fresh/Internal
<i>Arnebia densiflora</i> (Nordm.) Ledeb. (Boraginaceae)	Havaciva	Root bark/Vulnerary, burns	Pounded/External
<i>Artemisia abrotanum</i> L. (Asteraceae)	Pelin	Herb/Stomachic, sedative, anthelmintic, orexigenic, antipyretic, diuretic	Infusion/Internal
<i>Artemisia absinthium</i> L. (Asteraceae)	Pelin	Herb/Stomachic, sedative, anthelmintic, orexigenic, antipyretic, diuretic, digestive, headache, abdominal pain, asthma, diabetes, tonic	Decoction
<i>Artemisia austriaca</i> Jacq. (Asteraceae)	Yavşan	Herb/Abdominal pain, orexigenic, digestive	Decoction, Infusion/Internal
<i>Artemisia chamaemellifolia</i> Vill. (Asteraceae)	Yavşan	Flower, herb/Orexigenic, diabetes, antipyretic, diuretic	Decoction/Internal
<i>Artemisia spicigera</i> C.Koch (Asteraceae)	Yavşan	Herb/Tonic, orexigenic, antipyretic, diuretic	Infusion/Internal
<i>Arum detrunctatum</i> C.A.Mey. ex Schott var. <i>detrunctatum</i> (Araceae)	Navic	Leaf/Anti-diarrhea, kidney stones, stomachic	Infusion/Internal
<i>Arum detrunctatum</i> C.A.Mey. ex Schott var. <i>virescens</i> K.Alpinar & Miller (Araceae)	Karibel	Root/Diabetes	Decoction/Internal
<i>Asphodeline tenuior</i> (Fischer) Ledeb. subsp. <i>tenuiflora</i> (C.Koch) E.Tuzlacı var. <i>tenuiflora</i> (Liliaceae)	Yara otu	Root/Wound healing	Pounded/External
<i>Astragalus aureus</i> Willd. (Fabaceae)	Geven	Gum/Stomach ache, sore throat Root/Jaundice	Chewing Decoction/Internal
<i>Astragalus brachycalyx</i> Fischer (Fabaceae)	Geven	Shoot/Immunostimulant Gum/Cancer	Pounded/Internal
<i>Astragalus gummifer</i> Lab. (Fabaceae)	Geven	Root/Diabetes	Decoction/Internal
<i>Asyneuma rigidum</i> (Willd.) Grosh. (Campanulaceae)	Nujdan	Latex/Vulnerary, burns	Pounded/External
<i>Ballota nigra</i> L. subsp. <i>nigra</i> (Lamiaceae)	Yalancı ısırgan	Herb/Jaundice	Decoction/Internal
<i>Barbarea vulgaris</i> R.Br. (Brassicaceae)	Su teresi	Leaf/Vulnerary Leaf/Diuretic	Infusion/External Infusion/Internal
<i>Bellis perennis</i> L. (Asteraceae)	Koyungözü	Flower/Diuretic, purgative, tonic, cough	Infusion/Internal Decoction/Internal
<i>Berberis crataegina</i> DC. (Berberidaceae)	Zirinç	Fruit/Colds, diabetes. Root/Diarrhoea, anti-hemorrhoidal, diabetes	Fresh/Internal Decoction/Internal
<i>Berberis vulgaris</i> L. (Berberidaceae)	Karamuk	Fruit/Colds, diabetes	Decoction/Internal
<i>Berberis vulgaris</i> L. x <i>B. crataegina</i> DC. (Berberidaceae)	Kızambuk	Root/Jaundice	Decoction/Internal
<i>Beta corolliflora</i> Zosimović ex Butler (Chenopodiaceae)	Kızılca	Root/Anti-hemorrhoidal	Decoction/Internal
<i>Betula litwinowii</i> Doluch. (Betulaceae)	Karaağaç	Root/Menstrual pains	Decoction/Internal
<i>Bongardia chrysogonum</i> (L.) Spach (Berberidaceae)	-	Herb/Urinary system disorders	Decoction/Internal
<i>Bunias orientalis</i> L. (Brassicaceae)	Galatürpenk	Stem/Orexigenic	Fresh/Internal
<i>Caltha polypetala</i> Hochst. ex Lorent (Ranunculaceae)	Lulpar	Petiol/Internal medicine	Poultice/Internal
<i>Campanula glomerata</i> L. subsp. <i>hispida</i> (Witasek) Hayek (Campanulaceae)	-	Herb/Internal medicine	Fresh/abdominal pain
<i>Capparis ovata</i> Desf. var. <i>herbacea</i> (Willd.) Zoh. (Capparidaceae)	Yılan yemişi	Fruit/Anti-rheumatic	Poultice/External

(Capparaceae)			
<i>Capparis spinosa</i> L. (Capparaceae)	Keber	Fruit/Headache, anti-hemorrhoidal	Decoction/Internal
<i>Capsella bursa-pastoris</i> (L.) Medik. (Brassicaceae)	Çobançantası	Herb/Kidney stones, antitussive, diuretic, diabetes Herb/Astringent	Infusion/Internal Pounded/External
<i>Cardamine uliginosa</i> Bieb. (Brassicaceae)	Tere, Munzur otu	Herb/Orexigenic, cardialgia, gynecological diseases, kidney stones	Pounded, Decoction/Internal
<i>Carum carvi</i> L. (Apiaceae)	Kimyon	Fruit/Kidney stones	Decoction/Internal
<i>Celtis tournefortii</i> Lam. (Ulmaceae)	Derdoğan	Fruit/Diarrhoea	Internal
<i>Centaurea balsamita</i> Lam. (Asteraceae)	Kılıçotu	Leaf/Abscess	Pounded/External
<i>Centaurea cheiranthifolia</i> Willd. var. <i>cheiranthifolia</i> (Asteraceae)	Perpatyan, Perpatikanı	Leaf/Mycodermatitis	Poultice/External
<i>Centaurea cheiranthifolia</i> Willd. var. <i>purpurascens</i> (DC.) Wagenitz (Asteraceae)	Perpatyan	Leaf/Mycodermatitis	Poultice/External
<i>Centaurea depressa</i> Bieb. (Asteraceae)	Göybaş	Herb/Cardiotonic, asthma, expectorant, orexigenic	Decoction/Internal
<i>Centaurea glastifolia</i> L. (Asteraceae)	Kötangoparan	Capitulum/Orexigenic Leaf/Astringent	Decoction/Internal Pounded/External
<i>Centaurea hyalolepis</i> Boiss. (Asteraceae)	Sarı diken	Flower/Immunostimulant	Pounded/Internal
<i>Centaurea iberica</i> Trev. (Asteraceae)	Çakırdikeni	Leaf/Vulnerary	Pounded/External
<i>Centaurea pterocaula</i> Trautv. (Asteraceae)	Çoruşbozan	Leaf/Vulnerary	Pounded/External
<i>Centaurea saligna</i> (C.Koch) Wagenitz (Asteraceae)	Peygamber çiçeği	Leaf/Astringent	Pounded/External
<i>Centaurea solstitialis</i> L. subsp. <i>solstitialis</i> (Asteraceae)	Belhok	Herb/Malaria	Decoction/Internal
<i>Centaurea virgata</i> Lam. (Asteraceae)	Şaladır	Herb/Stomachic Herb/Vulnerary, antiallergic, jaundice	Infusion/Internal Decoction/External
<i>Cephalaria procera</i> Fisch. & Lall. (Dipsacaceae)	Ganteper	Capitulum/Colds, cough, pulmonic disorders, cardiotonic	Decoction/Internal
<i>Cephalaria speciosa</i> Boiss et Kotschy (Dipsacaceae)	-	Flowering brunches/Cancer	Decoction/Internal
<i>Cephalaria sparsipilosa</i> Matthews (Dipsacaceae)	Gevrik	Stem/Vulnerary, antiseptic	Latex/External
<i>Cerasus hippophaeoides</i> (Bornm.) Bornm. (Rosaceae)	Dağ kirazı	Fruit/Diarrhea	Fresh/Internal
<i>Cerasus mahaleb</i> (L.) Miller (Rosaceae)	Mahlep	Seed/Aphrodisiac, expectorant, diuretic, asthma, prostrat, diabet, kidney stones	Infusion/Internal
<i>Ceratocephalus falcatus</i> (L.) Pers. (Ranunculaceae)	-	Herb/Antirheumatic	Poultice/External
<i>Ceratocephalus testiculatus</i> (Crantz) Roth (Ranunculaceae)	-	Herb/Antirheumatic	Poultice/External
<i>Chenopodium album</i> L. subsp. <i>album</i> var. <i>album</i> (Chenopodiaceae)	Unluca	Herb/Diuretic Herb/Women' sterility	Decoction/Internal Decoction/Vaporization
<i>Chenopodium murale</i> L. (Chenopodiaceae)	Salmanca	Herb/Women' sterility	Decoction/Vaporization
<i>Chondrilla juncea</i> L. var. <i>acantholepis</i> (Boiss.) Boiss. (Asteraceae)	Ağ sakız	Latex/Stomach disorders	Chewing
<i>Chondrilla juncea</i> L. var. <i>juncea</i> (Asteraceae)	Çengel sakızı	Latex/Stomach disorders	Chewing
<i>Chondrilla spinosa</i> Lamond & Matthews (Asteraceae)	Çengel sakızı	Latex/Stomach disorders	Chewing

<i>Chrysophthalmum montanum</i> (DC.) Boiss. (Asteraceae)	Nezle otu	Herb/Cough, colds	Infusion/Internal
<i>Cichorium glandulosum</i> Boiss. & Huet (Asteraceae)	Çataguş	Latex/Skin disorders Root/Asthma, ulcer	Direct application/External Decoction/Internal
<i>Cichorium intybus</i> L. (Asteraceae)	Hindiba	Root, Herb/Epilepsy, asthma, ulcer Root/Dermatitis, vulnery, herpes labialis, balding	Decoction/Internal Powdered/External
<i>Cirsium arvense</i> (L.) Scop. subsp. <i>vestitum</i> (Wimm. & Grab.) Petr. (Asteraceae)	Çakırdikeni	Stem, root/Orexigenic, tonic, anti- hemorrhoidal, cough, bronchitis	Fresh, Decoction/Internal
<i>Citrus limonum</i> Risso (Rutaceae)	Limon	Fruit/Antipyretic	Poultice/External
<i>Clematis orientalis</i> L. (Ranunculaceae)	Pamukotu	Herb/Antirheumatic, abscess, mycodermatitis	Pounded/External
<i>Cnicus benedictus</i> L. (Asteraceae)	Şevketibostan	Herb/Analgesic	Infusion/Internal
<i>Colutea cilicica</i> Boiss. et. Bal. (Fabaceae)	-	Fruit/Gingival disease	Infusion/Gargle
<i>Convolvulus arvensis</i> L. (Convolvulaceae)	Dolaşkan	Leaf/Stomachic	Poultice/Internal
<i>Convolvulus galaticus</i> Rostan ex Choisy (Convolvulaceae)	Sarmaşık	Flower/Tootache	Poultice/Internal
<i>Convolvulus scammonia</i> L. (Convolvulaceae)	Dolaşkan	Leaf/Stomachic	Poultice/Internal
<i>Coriandrum tordylium</i> (Fenzl) Bormm. (Apiaceae)	Aşotu	Leaf/Orexigenic	Fresh/Internal
<i>Cornus mas</i> L. (Cornaceae)	Kızılıcık	Fruit/Diarrhoea	Decoction/Internal
<i>Coronilla orientalis</i> Miller subsp. <i>orientalis</i> (Fabaceae)	Yonca	Leaf/Nephralgia	Fresh/Internal
<i>Corydalis erdelii</i> Zucc. (Fumariaceae)	Menekşe	Leaf/Sedative	Infusion/Internal
<i>Cotoneaster integerrimus</i> Medik. (Rosaceae)	Dağ muşmulası	Barks/Jaundice, cough	Decoction/Internal
<i>Cotoneaster nummularia</i> Fisch. & Mey. (Rosaceae)	Dağ muşmulası	Fruit/Orexigenic, stomachic, expectorant	Decoction/Internal
<i>Crataegus aronia</i> (L.) Bosc. ex DC. var. <i>aronia</i> (Rosaceae)	Gurmut	Fruit/Embolism, laxative, diabetes	Decoction/Internal
<i>Crataegus meyeri</i> Pojark. (Rosaceae)	Gurmut	Fruit/Embolism, laxative, diabetes Root/Antidiarrhoic, diabetes	Decoction/Internal
<i>Crataegus monogyna</i> Jacq. subsp. <i>monogyna</i> (Rosaceae)	Aliç	Fruit/Sedative, antispasmodic, cardiovascular diseases	Decoction/Internal
<i>Crataegus orientalis</i> Pallas ex Bieb. subsp. <i>obtusata</i> Browicz (Rosaceae)	Aliç	Fruit/tonic, cardi tonic, edema Root/Antihypertensive, antirheumatic, edema	Decoction, Infusion/Interna
<i>Crataegus pontica</i> C.Koch (Rosaceae)	Aliç	Fruit/Tonic, cardi tonic, edema Root/Antihypertensive, Antirheumatic, edema	Decoction, Infusion/Interna
<i>Crataegus pseudoheterophylla</i> Pojark (Rosaceae)	Aliç	Fruit/Tonic, cardi tonic, edema Root/Antihypertensive, antirheumatic, edema	Decoction, Infusion/Interna
<i>Crataegus x bornmuelleri</i> Zabel (Rosaceae)	Aliç	Root, root bark/Antihypertensive, antirheumatic	Infusion/Internal
<i>Crepis foetida</i> L. subsp. <i>rhoeadifolia</i> (Bieb.) Celak (Asteraceae)	Yürek otu	Herb/cardiovascular diseases	Decoction/Internal
<i>Cyanchum acutum</i> L. subsp. <i>acutum</i> (Asclepiadaceae)	Sütlü sarmaşık	Leaf/Vulnerary	Poultice/External
<i>Cydonia oblonga</i> Miller (Rosaceae)	Ayva	Barks/Colds Leaf/Diarrhoea	Decoction/Internal
<i>Cyperus rotundus</i> L. (Cyperaceae)	Topalak	Root/Diuretic	Infusion/Internal

<i>Daphne oleoides</i> Schrabere (Thymeleaceae)	Mundarça	Barks/Abortion Barks/Treat bones	Decoction/Internal Powdered/External
<i>Datura stamonium</i> L. (Solanaceae)	Deli patpat	Seed/Toothache Leaf, herb/Antipyretic, antirheumatic, sedative	Decoction/vaporization Decoction/Internal
<i>Daucus carota</i> L. (Apiaceae)	Tarakotu	Fruits/Kidney stones	Decoction/Internal
<i>Diplotaxis tenuifolia</i> (L.) DC. (Brassicaceae)	Türpenk	Stem/Anti-inflammatory, orexigenic	Decoction/Internal
<i>Dipsacus laciniatus</i> L. (Dipsacaceae)	Pukiç	Stem, herb/Vulnerary, astringent, cancer Root/Diabetes	Poultice/External Decoction/Internal
<i>Ecballium elaterium</i> A.Rich. (Cucurbitaceae)	Şeytankeleş	Fruit, root/Sinusitis, jaundice, diuretic, diarrhea, egzema, skin disorders	Poultice/External Decoction/Internal
<i>Echium italicum</i> L. (Boraginaceae)	Engerek otu	Leaf, root/Wounds, anti-inflammatory	Poultice/External
<i>Echium russicum</i> J.F. Gmelin (Boraginaceae)	Havaciva	Root/Vulnerary	Poultice/External
<i>Echium vulgare</i> L. (Boraginaceae)	Havaciva	Root/Vulnerary	Poultice/External
<i>Elaeagnus angustifolia</i> L. (Elaeagnaceae)	İğde	Flower/Diarrhoea Seed/Constipation Leaf/Sunstroke	Infusion/Internal Direct application/External
<i>Ephedra major</i> Host (Ephedraceae)	Deniz üzümü	Shoots/Cleaning tooth Fruit/Headache	Direct application/External Infusion/Internal
<i>Equisetum arvense</i> L. (Equisetaceae)	At kuyruğu	Herb/Diuretic	Infusion/Internal
<i>Equisetum ramoissimum</i> Desf. (Equisetaceae)	Kırkboğum	Herb/Vulnerary, urinary system disorders	Infusion/Internal
<i>Eremurus spectabilis</i> (Bieb.) Fedtsch. (Liliaceae)	Çiriş	Leaf/Pains of eyes, fungal infection, eczema	Fresh/Internal Pounded/External
<i>Eryngium billardieri</i> Delar. (Apiaceae)	Eşekdikeni	Root/Sinusitis, vulnerary, abscess	Fresh, pounded/External Powdered/External
<i>Eryngium campestre</i> L. var. <i>virens</i> Link (Apiaceae)	Boğadikeni	Root/Vulnerary Leaf/Carminative, jaundice	Powdered/External Decoction/Internal
<i>Euphorbia agraria</i> Bieb. (Euphorbiaceae)	Sütotu	Latex/Vulnerary	Direct application/External
<i>Euphorbia armena</i> Prokh. (Euphorbiaceae)	Sütlübiyan	Latex/Constipation Latex/Inflamed wounds	Direct application/External
<i>Euphorbia falcata</i> L. subsp. <i>falcata</i> var. <i>Falcata</i> . (Euphorbiaceae)	Sütleğen	Latex/Eczema, fungal infection	External
<i>Euphorbia heteradena</i> Jaub. & Spach (Euphorbiaceae)	Sütleğen	Latex/Constipation	Internal
<i>Euphorbia macroclada</i> Boiss. (Euphorbiaceae)	Sütlükotu	Latex/Constipation Herb/Inflamed wounds, scorpion and bee bites, eczema, fungal infection	Internal Direct application/External
<i>Euphorbia nicaensis</i> All. subsp. <i>lasiocarpa</i> Boiss. (Euphorbiaceae)	Sütlüyen	Latex/Purgative, anthelmintic	Internal
<i>Euphorbia seguieriana</i> Necker subsp. <i>seguieriana</i> (Euphorbiaceae)	Sütlübiyan	Latex/Constipation Latex/Inflamed wounds	Direct application/External
<i>Euphorbia virgata</i> Waldst. & Kit. (Euphorbiaceae)	Sütcan	Flower/Eczema	Direct application/External
<i>Ferula caspica</i> Bieb. (Apiaceae)	Gırmızı bolu	Herb/Stomach ache, internal medicine, gynecologic disease, diabetes	Decoction/Internal
<i>Ferula elaeochytris</i> Korovin (Apiaceae)	Çaşır	Root/Aphrodisiac	Powdered/Internal
<i>Ferula orientalis</i> L. (Apiaceae)	Heliz, Çağsır	Herb/Immunostimulant Inflorocescens/Stomachic	Decoction/Internal Infusion/Internal
<i>Ferula rigidula</i> DC. subsp. <i>rigidula</i> (Apiaceae)	Çaşır	Herb/Diabetes, hypercholesterolemia	Poultice/Internal/pickle
<i>Ficus carica</i> L. (Moraceae)	İncir	Fruit/Diarrhoea, ulcer Latex/Inflamed wounds	Decoction/Internal Direct application/External
<i>Frangula alnus</i> Miller subsp. <i>pontica</i> (Boiss.) Davis & Yalt. (Rhamnaceae)	Dağ muşmulası	Barks/Antirheumatic	Decoction/External

<i>Fumaria asepala</i> Boiss. (Fumariaceae)	Şetere	Herb/Abdominal pain Herb/Headache, itching antiseptic	Decoction/Internal powdered/External
<i>Fumaria microcarpa</i> Boiss. ex Hauskn. (Fumariaceae)	Şetere	Herb/Abdominal pain Herb/Headache, itching antiseptic	Decoction/Internal powdered/External
<i>Fumaria officinalis</i> L. (Fumariaceae)	Şahtere	Herb/Toothache, oral diseases	Decoction/gargle
<i>Galium humifusum</i> Bieb. (Rosaceae)	Koşacı	Herb/Gynecologic disease	Infusion/Internal
<i>Galium tricoratum</i> Dandy (Rubiaceae)	Koşacı	Herb/Gynecologic disease	Infusion/Internal
<i>Galium verum</i> L. (Rubiaceae)	Yoğurt otu	Flower/Treating burns Flower/Cancer	Powdered/External Powdered/Internal
<i>Glaucium leiocarpum</i> Boiss. (Papaveraceae)	Gelincik	Leaf/Headache Flower/Diarrhoea	External Decoction/Internal
<i>Globularia trichosantha</i> Fisch. & Mey. (Globulariaceae)	Ahu	Leaf/Antiparasitic	Infusion/External
<i>Glycyrrhiza echinata</i> L. (Fabaceae)	Dikenli meyan	Rhizoma/Bronchitis, asthma, antitussive, stomachic, nephralgia, diuretic, antiseptic	Decoction/Internal
<i>Glycyrrhiza glabra</i> L. var. <i>glabra</i> (Fabaceae)	Meyan	Root/Cough, bronchitis, stomachic, bronchitis, asthma, antitussive, nephralgia, diuretic, epilepsy, cancer, kidney stones Leaf/Sunstroke	Decoction/Internal Direct application/External
<i>Gundelia tournefortii</i> L. var. <i>armata</i> Freyn. & Sint. (Asteraceae)	Kenger	Latex/Edema Seed/toothache	Direct application/External Decoction/Internal
<i>Gundelia tournefortii</i> L. var. <i>tournefortii</i> (Asteraceae)	Kenger	Seed, latex, root and stem/Colds, catarrh, toothache diabetes, edema kidney pains, vitiligo, orexigenic	Decoction/Internal Direct application/External
<i>Hedysarum syriacum</i> Boiss. (Fabaceae)	-	Fruit/Gingival disease	Infusion/Gargle
<i>Helianthus tuberosus</i> L. (Compositae)	Yer elması	Tuber/Diabetes	Eaten
<i>Helichrysum arenarium</i> (L.) Moench subsp. <i>rubicundum</i> (C. Koch) Davis & Kupicha (Asteraceae)	Yayla çiçeği	Herb/Diuretic, nephralgia, kidney stones	Infusion/Internal
<i>Helichrysum pallasi</i> (Sprengel) Ledeb. (Asteraceae)	Altunbaş otu	Herb/Diuretic, cough, kidney stones, nephralgia	Infusion/Internal
<i>Helichrysum plicatum</i> DC. subsp. <i>plicatum</i> (Asteraceae)	Herdemtaze	Herb/Kidney stones, nephralgia, diabetes, cough, diarrhoea, diuretic, stomachic, antidepressant	Infusion, Decoction/Internal
<i>Helichrysum plicatum</i> DC. subsp. <i>polyphyllum</i> (Ledeb.) Davis & Kupicha (Asteraceae)	Kaymak çiçeği	Flower/Diarrhoea, intestinal disease	Decoction/Internal
<i>Heliotropium circinatum</i> Griseb. (Boraginaceae)	Bostan otu	Flowerin brunch/Cancer	Infusion/Internal
<i>Heracleum trachyloma</i> Fisch. & Mey. (Apiaceae)	Baldırgan	Stem/Galactagogue, stomach ache, cancer	Fresh, Decoction/Internal
<i>Hesperis schischkinii</i> Tzvelev (Brassicaceae)	-	Root/Wound healing	Pounded/External
<i>Hippophae rhamnoides</i> L. subsp. <i>caucasica</i> Rousi (Elaeagnaceae)	Dağ yemişi	Fruit/Cough	Decoction/Internal
<i>Hordeum vulgare</i> (Poaceae)	Arpa	Fruit/Antirheumatic, diuretic Fruit/Maturation abscess, against itching	Pounded/Internal Decoction/External
<i>Hyacinthus orientalis</i> L. subsp. <i>chionophilus</i> Wendelbo (Liliaceae)	Sümbül	Leaf/Antihemorrhoidal	Pounded/External
<i>Hylotelephium telephium</i> (L.) H. Ohba (Crassulaceae)	Camışgulağı	Leaf/wounds	Pounded/External
<i>Hyoscyamus niger</i> L. (Solanaceae)	Patpat	Seed/Toothache, against itching in the eyes, stomatitis	inhalation/vaporization
<i>Hyoscyamus reticulatus</i> L. (Solanaceae)	Dağdağan	Root, seed/Toothache	inhalation/vaporization

<i>Hypericum lydiium</i> Boiss. (Hypericaceae)	Sancı otu	Herb/Menstrual disorders, stomachic	Infusion/Internal
<i>Hypericum montbretii</i> Spach (Hypericaceae)	Çay otu	Herb/Kidney stones, stomach disorders, ulcer, antihemorrhoidal	Decoction/Internal
<i>Hypericum perforatum</i> L. (Hypericaceae)	Binbirdelikotu	Herb/Stomache pains, ulcer, antiseptic, vulnerary, sedative, kidney disorders, antihemorrhoidal	Decoction/Internal
<i>Hypericum scabrum</i> L. (Hypericaceae)	Sancı otu	Herb/Constipation, antihemorrhoidal, kidney disorders, stomach disorders, ulcer, jaundice, menstrual disorders, analgesic, sedative	Decoction/Internal
<i>Hyssopus officinalis</i> L. subsp. <i>angustifolius</i> (Bieb.) Arcangeli (Lamiaceae)	Çördük	Herb/Purgative	Decoction/Internal
<i>Inula oculus-christi</i> L. (Asteraceae)	Yol otu	Flower/Kidney Stones, urethra infection	Decoction/Internal
<i>Inula helenium</i> L. <i>pseudohelenium</i> Grierson (Asteraceae)	Andız otu	Herb, root/Diuretic, antitussive, anthelmintic, tonic, backache	Infusion/Internal
<i>Inula heterolepis</i> Boiss. (Asteraceae)	Çay otu	Herb/Headache	Infusion/Internal
<i>Iris caucasica</i> Hoffm. subsp. <i>turcica</i> (Iridaceae)	Sarı nevroz	Herb/Cold	Infusion/Internal
<i>Iris sari</i> Schott ex Baker (Iridaceae)	Bahar çiçeği	Herb/Cold	Infusion/Internal
<i>Isatis tinctoria</i> L. subsp. <i>tomentella</i> (Brassicaceae)	-	Flower/Wound healing Leaf/Arthralgia	Pounded/External
<i>Juglans regia</i> L. (Juglandaceae)	Ceviz	Leaf/Antihemorrhoidal, anthelmintic, women's sterility, fungal infection, eczema Leaf/Sunstroke, hemostatic, vulnerary, abscess	Decoction/vaporization Fresh/External
<i>Juniperus excelsa</i> Bieb. (Cupressaceae)	Ardıç	Fruit/Antihemorrhoidal	Decoction/External
<i>Juniperus oxycedrus</i> L. (Cupressaceae)	Dikenli ardıç	Fruit, tar/Antirheumatic, antiparasitic, Fruit/Cough	Decoction/External Decoction/Internal
<i>Jurinea moschus</i> (Habl.) Bobrov subsp. <i>pinnatisecta</i> (Boiss.) Danin & Davis (Asteraceae)	Gazangulpu	Herb/Diabetes, diarrhoea	Decoction/Internal
<i>Kochia prostrata</i> (L.) Schrad. (Chenopodiaceae)	Kokarot	Herb/Urinary system disorders	Decoction/Internal
<i>Lathyrus cicera</i> L. (Fabaceae)	Gürül	Herb/Edema	Pounded/External
<i>Lathyrus rotundifolius</i> Willd. subsp. <i>miniatus</i> (Bieb. ex Stev.) Davis (Fabaceae)	Gülçiçeği	Leaf/Goiter Herb/Antirheumatic	Decoction/Internal Poultice/External
<i>Lathyrus sativus</i> L. (Fabaceae)	Çuşne	Seed/Analgesic	Pounded/External
<i>Leontice leontopetalum</i> L. subsp. <i>ewersmannii</i> (Bunge) Coode (Berberidaceae)	Kırkbaş otu	Root/Epilepsy	Decoction/Internal
<i>Leonurus glaucescens</i> Bunge (Lamiaceae)	Öküzguyruğu	Root/Cardiotonic Herb/Inflamed wounds	Poultice/External Infusion/Internal
<i>Lepidium latifolium</i> L. (Brassicaceae)	Nujdar	Leaf/Vulnerary	Powdered/External
<i>Lepidium sativum</i> L. subsp. <i>sativum</i> (Brassicaceae)	Tere	Fruit/Goiter	Decoction/Internal
<i>Lotus corniculatus</i> L. subsp. <i>corniculatus</i> (Bieb.) Arc. (Fabaceae)	Gazalboynuzu	Herb/Sedative, antihemorrhoidal, abdominal pain, diuretic, stomach pain, nephralgia	Decoction/Internal
<i>Malabaila dasyantha</i> (C.Koch) Grossh. (Apiaceae)	Dudakpatlatan	Leaf, flower/Analgesic	Poultice/External
<i>Malus sylvestris</i> Miller subsp. <i>orientalis</i> (A. Uglitzkich) Browicz var. <i>orientalis</i> (Rosaceae)	Alma	Fruit/Colds, diabetes	Decoction/Internal
<i>Malva neglecta</i> Wallr. (Malvaceae)	Ebenkömeci	Fruit, leaf, herb, root/Asthma, abdominal pain, ulcer, colds, stomachic, digestive, sore	Decoction/Internal Poultice, powdered,

		throat, constipation, emmenagogue Herb/Anti-inflammatory, abscess, vulnerary, gynecologic disease, women' sterility, edema, analgesic, abortive	Pounded/External
<i>Malva sylvestris</i> L. (Malvaceae)	Ebegümeci	Fruit/Sore throat Herb/Skin disorders, wounds, maturation abscess, abortive	Decoction/Internal Poultice, powdered, Pounded/External
<i>Marrubium astracanicum</i> Jacq. subsp. <i>astracanicum</i> (Lamiaceae)	Dağ çayı	Herb/Colds, Antipyretic	Infusion/Internal
<i>Marrubium parviflorum</i> Fisch. & Mey. subsp. <i>oligodon</i> (Boiss.) Seybold (Lamiaceae)	Dağ çayı	Herb/Colds, Antipyretic	Infusion/Internal
<i>Medicago minima</i> (L.) Bart. var. <i>minima</i> (Fabaceae)	Gurnik	Fruit/Cardiac disorders	Infusion/Internal
<i>Medicago sativa</i> L. subsp. <i>sativa</i> (Fabaceae)	Karayonca	Herb, leaf/Wounds, hemostatic, astringent	Pounded/External
<i>Medicago x varia</i> Martyn (Fabaceae)	Yabani yonca	Leaf/Abscess	Pounded/External
<i>Melilotus officinalis</i> (L.) All. (Fabaceae)	Kokulu yonca	Leaf/Anemia, sedative, constipant Leaf/Antirheumatic	Infusion/Internal Fresh/External
<i>Melissa officinalis</i> L. subsp. <i>officinalis</i> (Lamiaceae)	Kolonya otu	Herb/Asthma Leaf/Disinfectant	Infusion/Internal Pounded/External
<i>Mentha longifolia</i> (L.) Hudson subsp. <i>longifolia</i> (Lamiaceae)	Yarpuz	Herb/Colds, flu, cough, catarrh, disease, abdominal pain, menstrual pain, stomachic, bronchitis, headache, pulmonic disorders, diarrhoea, asthma, antihemorrhoidal, Leaf/Sunstroke, aphta	Infusion, Decoction/Interna Powdered/External
<i>Mentha longifolia</i> (L.) Hudson subsp. <i>typhoides</i> (Briq.) Harley var. <i>typhoides</i> (Lamiaceae)	Yarpuz	Herb/Throat pain, carminative, intestinal disorders	Infusion/Internal
<i>Mentha pulegium</i> L. (Lamiaceae)	Nane	Herb/Vulnerary, gall bladder	Decoction/Internal
<i>Mentha spicata</i> L. (Lamiaceae)	Pünk	Herb/Antirheumatic, stomachic, diarrhea, colds	Decoction/Internal
<i>Merendera kurdica</i> Bornm. (Liliaceae)	Gülfaki	Cormus/Antirheumatic	Fresh/eaten
<i>Merendera trigyna</i> (Steven ex Adam) Staph. (Liliaceae)	Gül falcı	Cormus/Antirheumatic	Fresh/eaten
<i>Morus alba</i> L. (Moraceae)	Dut	Fruit/Abscess, stomach disorders, gastric ulcer	Decoction/Internal
<i>Morus nigra</i> L. (Moraceae)	Dut	Fruit/Oral wounds	Decoction/External
<i>Nepeta cataria</i> L. (Lamiaceae)	Kedinesesi	Herb/Stomachic, stimulant	Decoction/Internal
<i>Nigella sativa</i> L. (Ranunculaceae)	Çörekotu	Seed/Anthelmintic	Decoction/Internal
<i>Nigella segetalis</i> Bieb. (Ranunculaceae)	Çörek otu	Seed/Diabetes, ulcer	Decoction/Internal
<i>Nonea macrosperma</i> Boiss. & Heldr. (Boraginaceae)	Sormuk	Root/Inflamed wounds	Poulticed/External
<i>Nonea pulla</i> (L.) DC. subsp. <i>monticola</i> Rech. (Boraginaceae)	Mıjmiç	Root/Anti-inflammatory	Decoction/Internal
<i>Onobrychis stenostachya</i> Freyn subsp. <i>sosnowskyi</i> (Grossh.) Hedge (Fabaceae)	Körülgen	Herb/Diuretic	Decoction/Internal
<i>Onobrychis transcaucasica</i> Grossh. (Fabaceae)	Gorunga	Herb/Diuretic	Decoction/Internal
<i>Ononis spinosa</i> L. subsp. <i>leiosperma</i> (Boiss.) Sirj. (Fabaceae)	Kayışkıran	Herb/Diuretic, kidney stones Herb/Vulnerary	Decoction/Internal Decoction/External

<i>Onopordum bracteatum</i> Boiss. & Heldr. (Asteraceae)	Kangal	Seed/Antihemorrhoidal	Internal
<i>Onopordum tauricum</i> Willd. (Asteraceae)	Kenger	Herb/Diabetes	Decoction/Internal
<i>Onosma armenum</i> DC. (Boraginaceae)	Yalanci havaciva otu	Leaf, root/Edema, inflamed wounds	Decoction/External
<i>Onosma microcarpum</i> Steven ex DC. (Boraginaceae)	Havaciva	Root/Burns	Decoction/External
<i>Onosma sericeum</i> Willd. (Boraginaceae)	Yalanci havaciva otu	Leaf, root bark/Edema, vulnerary	Decoction/External
<i>Origanum acutidens</i> (Hand.-mazz.) Ietswaart (Lamiaceae)	Zemul	Herb/Abdominal pain	Decoction/Internal
<i>Origanum majorana</i> L. (Lamiaceae)	Mercanköşk	Herb/Sedative, diaphoretic, stomachic	Fresh/Internal
<i>Origanum vulgare</i> L. subsp. <i>gracile</i> (C. Koch) Ietswaart (Lamiaceae)	Eşek kekigi	Herb/Vulnerary, stomache pains, hypertension, epilepsy, headache, internal medicine, asthma, stomachic, toothache, cold	Decoction, Infusion/Intern
<i>Origanum vulgare</i> L. subsp. <i>viride</i> (Boiss.) Hayek (Lamiaceae)	Cantirik	Herb/Stomachic	Decoction/Internal
<i>Orthurus heterocarpus</i> (Boiss.) Juz. (Rosaceae)	Kulafir, Karanfil	Root/Cough, colds	Infusion/Internal
<i>Paeonia mascula</i> (L.) Miller subsp. <i>arietina</i> (Anders.) Cullen et Heywood (Paeoniaceae)	Gulorç	Herb/Diabetes	Infusion/Internal
<i>Paliurus spina-christi</i> Miller (Rhamnaceae)	Karaçalı	Fruit/Constipation, diuretic	Decoction/Internal
<i>Papaver dubium</i> L. (Papaveraceae)	Gelincik	Flower/Colds, cough	Infusion/Internal
<i>Papaver lacerum</i> Popov (Papaveraceae)	Haşhaş	Buds/Goiter, internal medicine	Fresh/Internal
<i>Papaver macrostomum</i> Boiss. & Huet ex Boiss. (Papaveraceae)	Lala	Flowers/Cough	Infusion/Internal
<i>Papaver orientale</i> L. var. <i>orientale</i>	Haşhaş	Seed/Laxative	Infusion/Internal
<i>Papaver orientale</i> L. var. <i>parviflora</i> Busch (Papaveraceae)	Haşhaş	Leaf/Asthma	Infusion/Internal
<i>Papaver rhoeas</i> L. (Papaveraceae)	Gelincik	Herb/Sedative	Decoction/Internal
<i>Peganum harmala</i> L. (Zygophyllaceae)	Üzerlik	Root, seed/Anti-rheumatic, anti-hemorrhoidal	Decoction/Internal
<i>Peucedanum longifolium</i> Waldst. & Kit. (Apiaceae)	Çaşır	Herb/Diabetes, hypercholesterolemia	Pickled/Internal
<i>Phlomis armeniaca</i> Willd. (Lamiaceae)	Çöl çayı	Herb/Antipyretic, colds, asthma, bronchitis	Infusion/Internal
<i>Phlomis pungens</i> Willd. (Lamiaceae)	Şalba	Herb/Cough	Infusion/Internal
<i>Picris strigosa</i> Bieb. (Asteraceae)	Senameki	Root/Antihemorrhoidal	Poultice/External
<i>Pinus sylvestris</i> L. (Pinaceae)	Sarıçam	Tar/Vulnerary, snake bites Tar/Panacea, tuberculosis	Poultice/External Decoction/Internal
<i>Pistacia atlantica</i> Desf. (Anacardiaceae)	Kızvan	Latex/Wound healing Fruit/Mouth diseases	External Chewing/Internal
<i>Pistacia eurycarpa</i> Yalt. (Anacardiaceae)	Bıttım	Fruit/Anti-dandruf	Soap/External
<i>Pistacia terebinthus</i> L. (Anacardiaceae)	Menengiç	Fruit/Colds, flu, diuretic, urinary system inflammations, cough, diuretic	Decoction/Internal
<i>Plantago atrata</i> Hoppe (Plantaginaceae)	Dartul otu	Leaf/Astringent, inflamed wounds, vulnerary	Dried, fresh/External
<i>Plantago lanceolata</i> L. (Plantaginaceae)	Sinir otu	Leaf/Abscess, anti-parasitic, vulnerary, astringent, anti-inflammatory Leaf/Gynecologic disease, stomachic, ulcer	Dried, fresh/External Decoction/Internal, vaporization

<i>Plantago major</i> L. subsp. <i>intermedia</i> (Gilib.) Lange (Plantaginaceae)	Bağa yaprağı,	Leaf/abscess, vulnerary, anti-inflammatory, Leaf/Stomachic, ulcer, antihemorrhoidal, gynecologic diseases	Dried, fresh/External Decoction/Internal
<i>Plantago major</i> L. subsp. <i>major</i> (Plantaginaceae)	Bağa yaprağı, Sinirliot	Leaf/Vulnerary, abscess, inflamed wounds, burns Leaf/Stomach ailments, antihemorrhoidal	Dried, fresh/External Decoction/Internal
<i>Plantago maritima</i> L. (Plantaginaceae)	Yılan dili	Leaf/Cancerous uterus	Decoction/Internal
<i>Plantago media</i> L. (Plantaginaceae)	Kılıçotu	Leaf/Astringent, anti-inflammatory	Dried, fresh/External
<i>Polygonum aviculare</i> L. (Polygonaceae)	Kuşdili	Herb/Cough, antirheumatic, anemia, stomach disorders	Infusion/Internal
<i>Polygonum bistorta</i> L. subsp. <i>bistorta</i> (Polygonaceae)	Çimen evelği	Herb/Sore throat, expectorant	Infusion/Internal
<i>Polygonum cognatum</i> Meissn. (Polygonaceae)	Kuş eppeği	Herb/Abscess Herb/Emetic, cough, antirheumatic, anemia, stomach disorders	Decoction/External Infusion/Internal
<i>Populus nigra</i> L. (Salicaceae)	Kavak	Leaf, wood/Antirheumatic, hemostatic	Decoction, powdered/External
<i>Portulaca oleracea</i> L. (Portulacaceae)	Semizotu	Herb/Orexigenic, antihelmintic, diuretic, stomachic, urethra infection Herb/Inflamed wound	Decoction/Internal External
<i>Potentilla reptans</i> L. (Rosaceae)	Beşparmak otu	Herb/constipant, antipyretic, tonic	Decoction/Internal
<i>Prangos ferulacea</i> (L.) Lindl. (Apiaceae)	Çaşır	Herb/Stimulant	Decoction/Internal
<i>Prangos pabularia</i> Lindl. (Apiaceae)	Çaşır	Herb/Stimulant	Decoction/Internal
<i>Primula algida</i> Adams (Primulaceae)	Tutyta	Herb/Eye diseases, pulmonary disorders	Decoction/Internal
<i>Primula auriculata</i> Lam. (Primulaceae)	Mustafa çiçeği	Herb/Stomachic	Infusion/Internal
<i>Prunella vulgaris</i> L. (Lamiaceae)	-	Herb/Expectorant	Infusion/Internal
<i>Pyrus elaeagnifolia</i> Pallas subsp. <i>elaegnifolia</i> (Rosaceae)	Yaban armudu	Fruit/Diuretic	Infusion/Internal
<i>Pyrus syriaca</i> Boiss. var. <i>syriaca</i> (Rosaceae)	Adi armut	Fruit/Stomachache, expectorant	Infusion/Internal
<i>Ranunculus arvensis</i> L. (Ranunculaceae)	Yara otu	Root/Swollen wounds Herb/Antirheumatic	Decoction/External Pounded/External
<i>Ranunculus caucasicus</i> Bieb. subsp. <i>subleiocarpus</i> (Som. & Lev.) Davis (Ranunculaceae)	Yara otu	Root/Swollen wounds Herb/Antirheumatic	Decoction/External Pounded/External
<i>Ranunculus neopolitanus</i> Ten. (Ranunculaceae)	Mayıs çiçeği	Flower/Antirheumatic, abscess	Pounded/External
<i>Ranunculus orephilus</i> Ledeb. (Ranunculaceae)	Yara otu	Root/Swollen wounds Herb/Antirheumatic	Decoction/External Pounded/External
<i>Ranunculus pinardii</i> (Stev.) Boiss. (Ranunculaceae)	Karaz	Herb/Antirheumatic, inflamed wounds Herb/Stomach ache	Pounded/External Infusion/Internal
<i>Ranunculus repens</i> L. (Ranunculaceae)	Mayıs çiçeği	Herb/Antirheumatic, edema	Pounded/External
<i>Ranunculus sericeus</i> Banks & Sol. (Ranunculaceae)	Şelepuk	Herb/Antirheumatic, inflamed wounds	Pounded/External
<i>Raphanus raphanistrum</i> L. (Brassicaceae)	Turp	Herb/Orexigenic, diuretic	Fresh/Internal
<i>Rapistrum rugosum</i> (L.) All. (Brassicaceae)	Türpek	Herb/Orexigenic	Fresh/Internal
<i>Reichardia glauca</i> Matthews (Asteraceae)	Gara sakgız	Latex/Stomach disorders	Internal
<i>Reseda lutea</i> L. var. <i>lutea</i> (Resedaceae)	Mubabbet çiçeği	Root/Stomach disorders	Decoction/Internal

<i>Rhamnus catharticus</i> L. (Rhamnaceae)	Cehri	Barks/Diarrhea, diuretic	Decoction/Internal
<i>Rheum ribes</i> L. (Polygonaceae)	Işgın	Root, shoots/Ulcer, diarrhoea, anthelmintic, expectorant, digestive, antihemorrhoidal, tonic, stomachic, diabetes, anti-emetic, constipation, hypertension	Decoction, pounded/Internal
<i>Rhus coriaria</i> L. (Anacardiaceae)	Sumak	Fruit, seed/Skin disorders Leaf/Antiseptic	Decoction/Internal Decoction /External
<i>Rindera caespitosa</i> (A.DC.) Bunge (Boraginaceae)	-	Root/Anti-inflammatory	Poultice/External
<i>Rindera lanata</i> (Lam.) Bunge var. <i>lanata</i> (Boraginaceae)	-	Root/Anti-inflammatory	Poultice/External
<i>Rosa canina</i> L. (Rosaceae)	Kuşburnu,	Fruit, root/Anti-hemorrhoidal, cough, stomachic, constipant, malaria, diabetes, tonic, antitussive, bronchitis diuretic, asthma, immunostimulant Leaf/Colds, tonic, asthma, kidney stones	Decoction/Internal
<i>Rosa hemisphaerica</i> J. Herm. (Rosaceae)	Yemişen	Fruit/Cough	Decoction/Internal
<i>Rosa montana</i> Chaix subsp. <i>woronowii</i> (Lon.) Ö.Nilsson (Rosaceae)	Şilan	Root/Antiseptic	Decoction/Internal
<i>Rosa pimpinellifolia</i> L. (Rosaceae)	Koyungözü	Fruit, root/Colds, stomach pain, cardiogenic, antihemorrhoidal, antiseptic	Decoction/Internal
<i>Rosa pulverulanta</i> Bieb. (Rosaceae)	Gillica	Fruit/Colds, cough	Decoction/Internal
<i>Rubus caesius</i> L. (Rosaceae)	Tütürk	Fruit/Sore throat	Powdered/Gargle
<i>Rubus canescens</i> DC. var. <i>glabrescens</i> (Godron) Davis & Meikle (Rosaceae)	Bögürtlen	Shoots, roots, fruit/Tonic, diuretic, diabet, hypertension	Decoction/intenal
<i>Rubus hirtus</i> Waldst. & Kit. (Rosaceae)	Yabantüzümü	Root/Diabetes	Decoction/Internal
<i>Rubus idaeus</i> L. (Rosaceae)	Frenk üzümü	Aerial parts/sterility	Decoction/Internal
<i>Rubus sanctus</i> Schreber (Rosaceae)	Bögürtlen	Fruit/Colds	Infusion/Internal
<i>Rumex acetosella</i> L. (Polygonaceae)	Ekşikulak	Leaf/Abscess Herb/Stomachic	Pounded/External Internal
<i>Rumex crispus</i> L. (Polygonaceae)	Evelik	Leaf/Cough, colds, asthma, anti-inflammatory, antihemorrhoidal, gynecologic diseases, antiphlogistic, antirheumatic . Fruit/Goiter	Pounded/External Decoction/Internal
<i>Rumex patientia</i> L. (Polygonaceae)	At eveliği	Leaf/Internal medicine, antihemorrhoidal, asthma, kidney disorders	Infusion Internal
<i>Rumex scutatus</i> L. (Polygonaceae)	Taş turşusu	Root/Diuretic, antipyretic Leaf/Orexigenic	Infusion/Internal Fresh/eaten
<i>Rumex tuberosus</i> L. subsp. <i>horizontalis</i> (Koch) Reich. (Polygonaceae)	Köme turşusu	Root/Diuretic, antipyretic Leaf/Orexigenic	Infusion/Internal Fresh/eaten
<i>Rumex tuberosus</i> L. subsp. <i>tuberosus</i> (Polygonaceae)	Kuzukulağı	Herb/Constipation	Fresh/Internal
<i>Salix alba</i> L. (Salicaceae)	Sөгüt	Leaf/Antirheumatic, tonic, antidiarrhea	Decoction, poultice/External
<i>Salvia candidissima</i> Vahl. subsp. <i>candidissima</i> (Lamiaceae)	Galabor	Leaf/Cold	Infusion/Internal
<i>Salvia hydrangea</i> DC. ex Bentham (Lamiaceae)	Koç otu	Herb/Colds, diabetes, stomach disorders, antipyretic, emmenagogue, internal medicine	Infusion
<i>Salvia multicaulis</i> Vahl. (Lamiaceae)	Adaçayı	Herb/Colds, anti-inflammatory	Decoction/Internal
<i>Salvia nemorosa</i> L. (Lamiaceae)	Gemtaş	Herb/Hemostatic Herb/Cold, catarrh	Pounded/External Infusion, decoction/Internal

<i>Salvia sclarea</i> L. (Lamiaceae)	Dağ çayı	Leaf/Cold	Infusion/Internal
<i>Salvia verticillata</i> L. subsp. <i>amasiaca</i> (Freyn. & Bornm.) Bornm. (Lamiaceae)	Karabaş otu	Herb/Laxative, cold, nausea	Infusion, decoction/Internal
<i>Salvia verticillata</i> L. subsp. <i>verticillata</i> (Lamiaceae)	Karabaş otu	Herb/Catarrh, colds, laxative	Decoction/Internal
<i>Sambucus nigra</i> L. (Caprifoliaceae)	Patirik	Leaf/Abscess. Flower/Asthma	Direct application/External Infusion/Internal
<i>Sanguisorba minor</i> Scop. (Rosaceae)	Çayırdüğmesi	Herb/Diuretic, constipant, stomachic, orexigenic	Decoction/Internal
<i>Satureja hortensis</i> L. (Lamiaceae)	Dağ kekiği	Herb/Immunostimulant	Internal
<i>Scabiosa sulfurea</i> Boiss. & Huet (Dipsacaceae)	Puk	Latex/Antiseptic	Decoction/External
<i>Scorzonera cana</i> (C. A. Meyer) var. <i>jacquiniana</i> (W. Koch) Chamberlain (Asteraceae)	Yemlik	Leaf/Orexigenic, galactagogue	Fresh/Internal
<i>Scorzonera cinerea</i> Boiss. (Asteraceae)	Dağsakızı	Latex/Cough Latex/Backache, sterility	Internal Pounded/External
<i>Scorzonera laciniata</i> L. subsp. <i>laciniata</i> (Asteraceae)	Yemlik	Leaf/Orexigenic, galactagogue	Fresh/Internal
<i>Scorzonera latifolia</i> (Fisch & Mey.) DC. (Asteraceae)	Dağsakızı	Root, latex/Backache, sterility	Pounded/External
<i>Scorzonera rigida</i> Aucher (Asteraceae)	Dağsakızı	Latex/Backache, sterility	Pounded/External
<i>Scorzonera semicana</i> DC. (Asteraceae)	Dağsakızı	Root/Sterility	Pounded/External
<i>Scorzonera sosnowskyi</i> Libs. (Asteraceae)	Dağsakızı	Latex/Backache	Pounded/External
<i>Scorzonera suberosa</i> C.Koch subsp. <i>suberosa</i> (Asteraceae)	Yemlik	Root, herb/Orexigenic, galactagogue	Fresh/Internal
<i>Scorzonera tomentosa</i> L. (Asteraceae)	Neraband, Yara sakızı	Root, latex/Women' sterility, vulnerary, stomach ailments	Pounded/External
<i>Scrophularia libatonica</i> Boiss. var. <i>urartuensis</i> R.Mill. (Scrophulariaceae)	Süpürge otu	Leaf/Inflamed wounds	Pounded/External
<i>Scutellaria orientalis</i> L. subsp. <i>orientalis</i> (Lamiaceae)	Kaside	Leaf/abdominal pain, stomache pain	Infusion/Internal
<i>Scutellaria orientalis</i> L. subsp. <i>sosnowskyi</i> (Takht.) Fed. (Lamiaceae)	Sancı otu	Herb/Abdominal pain, nephralgia, carminative	Infusion/Internal
<i>Senecio vernalis</i> Waldst. & Kit. (Asteraceae)	Acı papatya	Herb/Anti-inflammatory	Decoction/Internal
<i>Sideritis libatonica</i> subsp. <i>kurdica</i> (Lamiaceae)	Adaçayı	Leaf/Sedative, colds Leaf/Skin wounds, astringent	Infusion, Decoction/Interna Poultice/External
<i>Sideritis montana</i> (Lamiaceae)	Yaraotu	Herb/Cough	Infusion/Internal
<i>Silene alba</i> (Miller) Krause subsp. <i>divaricata</i> (Reichb.) Walters (Caryophyllaceae)	Garagile	Herb/Eczema	Decoction/External
<i>Silene compacta</i> Fischer (Caryophyllaceae)	Horoz pipiği	Leaf/Vulnerary	Pounded/External
<i>Silene saxalitis</i> Sims. (Caryophyllaceae)	Simotu	Leaf/Vulnerary	Pounded/External
<i>Sobolewsia clavata</i> (Boiss.) Fenzl. (Brassicaceae)	Yel otu	Herb/Antirheumatic	Poultice/External
<i>Solanum dulcamara</i> L. (Solanaceae)	Acı ot	Herb/Burn Herb/Expectorant	Poultice/External Decoction/Internal
<i>Sophora alopecuroides</i> L. var. <i>alopecuroides</i> (Fabaceae)	Acıbiyan	Root/Scabies	Decoction/External
<i>Sorbus domestica</i> L. (Rosaceae)	Üvez	Fruit/Cough, diarrhea Leaf/Burns	Eaten Poultice/External

<i>Stachys annua</i> subsp. <i>annua</i> var. <i>lycaonica</i> (Lamiaceae)	Dağ çayı	Herb/Colds, antipyretic	Decoction/Internal
<i>Stachys cretica</i> L. subsp. <i>mersinaea</i> (Boiss.) Rech. fil. (Lamiaceae)	Dağ çayı	Herb/Colds, stomach ailments	Infusion, Decoction/Interna
<i>Stachys cretica</i> subsp. <i>anatolica</i> (Lamiaceae)	Dağ çayı	Herb/Colds, stomach ailments	Infusion, Decoction/Interna
<i>Stachys iberica</i> Bieb. subsp. <i>georgica</i> Rech. (Lamiaceae)	Dağ çayı	Herb/Colds, antipyretic	Decoction/Internal
<i>Stachys iberica</i> Bieb. subsp. <i>stenostacya</i> (Boiss.) Rech. fil. (Lamiaceae)	Dağ çayı	Herb/Colds, antipyretic, stomach ache	Decoction/Internal
<i>Stachys lavandulifolia</i> Vahl. (Lamiaceae)	Dağçayı	Herb/Antipyretic, cough	Infusion/Internal
<i>Tanacetum argyrophyllum</i> (C. Koch) Tvel. var. <i>argyrophyllum</i> (Asteraceae)	Çeren	Herb/Scabies Capitulum/Pulmonic disorders, colds, antipyretic, anti-inflammatory	Decoction/External Infusion/Internal
<i>Tanacetum balsamita</i> L. (Asteraceae)	Marsuvan otu	Herb/Tonic, stimulant, antipyretic, headache diuretic, stomachic, gall bladder disorders, vulnerary, abscess	Infusion/Internal
<i>Tanacetum chiliophyllum</i> (Fisch. & Meyer) Schultz var. <i>chiliophyllum</i> (Asteraceae)	Çeren	Capitulum/Pulmonic disorders, colds, kidney stones, antipyretic	Decoction/Internal
<i>Tanacetum parthenium</i> (L.) Schultz (Asteraceae)	Marsuvan otu	Herb/Tonic, stimulant, antipyretic, headache, diuretic, stomachic, gall stone	Decoction/Internal
<i>Tanacetum punctatum</i> (Desr.) Grierson (Asteraceae)	Sendel	Herb/Emmenagogue, anti-inflammatory	Infusion/Internal
<i>Taraxacum androssovii</i> Schischkin (Asteraceae)	Zeze	Leaf/Antirheumatic, wounds Lef/Stomach disorders, internal medicine, kidney stones, anti-inflammatory	Poultice/External Infusion/Internal
<i>Taraxacum crepidiforme</i> DC. (Asteraceae)	Karahindiba, Hıdut	Latex/Eye diseases	Dropped
<i>Taraxacum fedtschenkoi</i> Hand.-Mazz. (Asteraceae)	Zeze	Leaf/Antirheumatic, wounds Lef/Stomach disorders, internal medicine, kidney stones, anti-inflammatory	Poultice/External Infusion/Internal
<i>Taraxacum macrolepium</i> Schischkin (Asteraceae)	Zeze	Leaf/Antirheumatic, wounds Lef/Stomach disorders, internal medicine, kidney stones, anti-inflammatory	Poultice/External Infusion/Internal
<i>Tchihatchewia isatidea</i> Boiss. (Brassicaceae)	-	Root/Vulnerary	Pounded/External
<i>Telephium imperati</i> L. subsp. <i>orientale</i> (Boiss.) Nyman (Caryophyllaceae)	Mayasılotu	Herb, leaf/Antihemorrhoidal	Decoction/External
<i>Teucrium chamaedrys</i> L. (Lamiaceae)	Yer meşesi	Herb/Tootache, kidney pain, stomachic, indigestion, heart diseases	Infusion, decoction/Internal
<i>Teucrium parviflorum</i> Schreber (Lamiaceae)	Dağ kekiği	Herb/ Antihemorrhoidal	Decoction/Internal
<i>Teucrium polium</i> L. (Lamiaceae)	Merven	Herb/Stomach, diarrhoea, antihemorrhoidal, internal diseases, diabetes, analgesic, anti-inflammatory, edema, stomach ache, digestive, orexigenic, carminative, tuberculosis, abdominal pain Herb/Sunstroke, hemostatic	Fresh, Decoction/Internal Direct application/External
<i>Thalictrum minus</i> L. var. <i>microphyllum</i> Boiss. (Ranunculaceae)	Kahraman kaytaran	Herb/Asthma Herb/Cardialgia, headache	Decoction/vaporization Poultice/Internal
<i>Thalictrum minus</i> L. var. <i>minus</i> (Ranunculaceae)	Kara katranotu	Herb/Eye diseases, diuretic, abscess	Poultice/External
<i>Thymbra spicata</i> L. (Lamiaceae)	Zahter	Herb/Antiseptic	Decoction/Internal
<i>Thymus fallax</i> Fisch. & Mey. (Lamiaceae)	Kekik	Herb/Backache, hypertension, anti-inflammatory, cancer, enteralgia, vermifuge,	Infusion, Decoction/Interna

			diabetes, colds, abdominal ailments	
<i>Thymus haussknechtii</i> Velen. (Lamiaceae)	Kekik	Herb/Cough	Decoction/Internal	
<i>Thymus kotschyanus</i> Boiss. & Hohen. subsp. <i>glabrescens</i> Boiss. (Lamiaceae)	Kekik, Catri	Herb/Backache, hypertension, anti-inflammatory, cancer, enteralgia, vermifuge, diabetes, colds, abdominal ailments	Infusion, Decoction/Intern	
<i>Thymus migricus</i> Klokov & Des.-Shost. (Lamiaceae)	Kekik	Herb/Backache, hypertension, enteralgia, anti-inflammatory, cancer, vermifuge, cold, kidney stones	Infusion/Internal	
<i>Thymus praecox</i> Opiz. subsp. <i>grossheimii</i> (Ronniger) Jalas var. <i>grossheimii</i> (Lamiaceae)	Kekik	Herb/Hypertension, enteralgia, anti-inflammatory, cancer, vermifuge, colds	Infusion/Internal	
<i>Thymus sipyleus</i> Boiss. subsp. <i>rosulans</i> (Barbar) Jalas (Lamiaceae)	Catri	Herb/Diabetes, colds, abdominal ailments	Infusion, Decoction/Intern	
<i>Thymus transcaucasicus</i> Ronniger (Lamiaceae)	Kekik	Herb/Backache, hypertension, enteralgia, anti-inflammatory, cancer, vermifuge	Infusion/Internal	
<i>Typha latifolia</i> L. (Typhaceae)	-	Flower/Hemostatic	External	
<i>Tragopogon buphtalmoides</i> (DC.) Boiss. var. <i>buphtalmoides</i> (Asteraceae)	Yemlik	Latex, herb/Stomach and intestinal disorders	Fresh/Internal	
<i>Tragopogon coloratus</i> C. A. Meyer (Asteraceae)	At yemliği	Herb/Stomach ache	Fresh/Internal	
<i>Tragopogon dubius</i> Scop. (Asteraceae)	Yemlik	Herb/Stomach ache	Fresh/Internal	
<i>Tragopogon longirostris</i> Haleleyn (Asteraceae)	Sipink	Stem, leaves/Intestinal disorders Latex/Vulnerary	Infusion/Internal External	
<i>Tragopogon pratensis</i> L. subsp. <i>orientalis</i> (L.) Çelak (Asteraceae)	At yemliği	Herb/Stomach ache	Fresh/Internal	
<i>Tragopogon pterocarpus</i> DC. (Asteraceae)	Yemlik	Herb/Stomach ache	Fresh/Internal	
<i>Tragopogon reticulatus</i> Boiss. & Huet (Asteraceae)	At yemliği	Herb/Stomach ache	Fresh/Internal	
<i>Tribulus terrestris</i> L. (Zygophyllaceae)	Deveçökerten	Herb/Expectorant, diuretic diarrhea	Decoction/Internal	
<i>Trifolium ambiguum</i> Bieb. (Fabaceae)	Alma otu	Herb/Galactagogue, antihemorrhoidal, tonic, intestinal disorders	Decoction, fresh/Internal	
<i>Trifolium pratense</i> L. var. <i>pratense</i> (Fabaceae)	Üçkulak	Leaf/Vulnerary	Decoction/External	
<i>Trifolium repens</i> L. var. <i>repens</i> (Fabaceae)	Ak üçgül	Herb/Tonic, antirheumatic	Fresh/Internal	
<i>Trifolium repens</i> L. var. <i>giganteum</i> Lag.- Foss. (Fabaceae)	Giyamembel	Herb/Stomachic	Decoction/Internal	
<i>Trigonella foenum-graceum</i> L. (Fabaceae)	Halbet, Pıltan	Seed/Hypoglycemic	Pounded, Decoction/Intern	
<i>Tripleurospermum monticolum</i> (Boiss. & Huet) Bornm. (Asteraceae)	Kır papatyası	Capitulum/Hair care Capitulum/Colds, cough, antipyretic, stomach ache	Decoction/External Infusion/Internal	
<i>Tripleurospermum parviflorum</i> (Willd.) Pobed. (Asteraceae)	Papatya	Capitulum/Hair care Capitulum/Colds, cough, antipyretic, stomach ache	Decoction/External Infusion/Internal	
<i>Tripleurospermum sevanense</i> (Manden.) Pobed. (Asteraceae)	Papatya	Capitulum/Hair care	Decoction/External	
<i>Tussilago farfara</i> L. (Asteraceae)	Öksürük otu	Herb/Cough, antitussive, expectorant	Decoction/External	
<i>Ulmus carpiniifolia</i> Gleditsch. (Ulmaceae)	Karaağaç	Root, bark/Abscess	Pounded/External	
<i>Ulmus minor</i> Miller subsp. <i>minor</i> (Ulmaceae)	Karaağaç	Root, bark/Anti-inflammatory, wounds Root, barks/Cough, asthma	Pounded/External Decoction/Internal	

<i>Umblicus erectus</i> DC. (Crassulaceae)	-	Root/Women' sterility	Decoction/Internal
<i>Urtica dioica</i> L. (Urticaceae)	Isırgan otu	Herb/Cancer, antirheumatic, diabetes, stomachic, cough, colds, throat diseases, analgesic, edema, sedative, laxative, anti-inflammatory, emmenagogue, asthma, hypertension, kidneystones Leaf/Hair care	Fresh, poultice, Decoction/Internal Decoction/External
<i>Urtica haussknechtii</i> Boiss. (Urticaceae)	Isırgan	Herb/Antirheumatic	Fresh/External
<i>Urtica pilulifera</i> L. (Urticaceae)	Gezgezk	Herb/Abdominal pain, Internal diseases, antirheumatic	Decoction/Internal
<i>Urtica urens</i> L. (Urticaceae)	Isırgan otu	Leaf, herb/Diarrhea, diuretic, antirheumatic	Decoction/Internal
<i>Valeriana alliarifolia</i> Adams (Valerianaceae)	Kedi otu	Root, herb/Sedative, antispasmodic, cardiostimulant	Decoction/Internal
<i>Valeriana officinalis</i> L. (Valerianaceae)	-	Herb/Kidney Stones	Decoction/Internal
<i>Verbascum agrimoniifolium</i> (C. Koch) Hub.-Mor. subsp. <i>agrimoniifolium</i> (Scrophulariaceae)	Sığır guyruğu	Basal leaf/Mycodermatitis	Direct application/External
<i>Verbascum asperuloides</i> Hub.-Mor. (Scrophulariaceae)	Maçyanık	Leaves/Antiparasitic, asthma	Infusion/Internal, External
<i>Verbascum cheiranthifolium</i> Boiss. (Scrophulariaceae)	Sığır kuyruğu	Herb/Women' sterility, Herb/Arthralgia	Infusion/Internal Poude/External
<i>Verbascum oreophilum</i> C.Koch subsp. <i>joannis</i> (Bordz.) Hub.-Mor. (Scrophulariaceae)	Sığırkuyruğu	Leaf/Mycodermatitis, women' sterility	Direct application/External
<i>Verbascum speciosum</i> Schrader (Scrophulariaceae)	Sığırkuyruğu	Basal leaf/Mycodermatitis	Direct application/External
<i>Veronica orientalis</i> Miller (Scrophulariaceae)	Gözmuncuğu çiçeği	Herb/Kidney stones, pulmonic disorders	Infusion/Internal
<i>Viburnum lantana</i> L. (Caprifoliaceae)	Germeşo	Fruit/Diabetes, diarrhoea	Decoction/Internal
<i>Viburnum opulus</i> L. (Caprifoliaceae)	Güleburu	Fruit/Antitussive, nephralgia	Decoction/Internal
<i>Vicia cracca</i> L. subsp. <i>cracca</i> (Fabaceae)	Gürül	Seed/Stomach ache, headache	Fresh/Internal
<i>Vincetoxicum canescens</i> (Willd.) Decne subsp. <i>canescens</i> (Asclepiadaceae)	Zilasur	Herb/Scabies, fungal infection	Pounded/External
<i>Vincetoxicum troleum</i> Boiss. (Asclepiadaceae)	Zilasur	Herb/Scabies	Pounded/External
<i>Viscum album</i> L. subsp. <i>album</i> (Loranthaceae)	Ökse otu	Herb/Headache, diabetes Leaves/Antihemorrhoidal	Decoction/External
<i>Xeranthemum annuum</i> L. (Asteraceae)	Süpürge otu	Leaf/Toothache	Smoke
<i>Ziziphora clinopodioides</i> Lam. (Lamiaceae)	Reyhan	Herb/Stomach ache, carminative, orexigenic, colds	Infusion, decoction/Internal
<i>Ziziphora taurica</i> Bieb. subsp. <i>taurica</i> (Lamiaceae)	Merze	Herb/Carminative, orexigenic, stomach ache, hypertension	Infusion Internal
<i>Zosima absinthifolia</i> Link (Apiaceae)	Bolu	Leaf/Diabetes	Decoction/Internal
<i>Zygophyllum fabago</i> L. (Zygophyllaceae)	İt üzerliği	Herb/Infertility, antirheumatic	Decoction/Vaporization

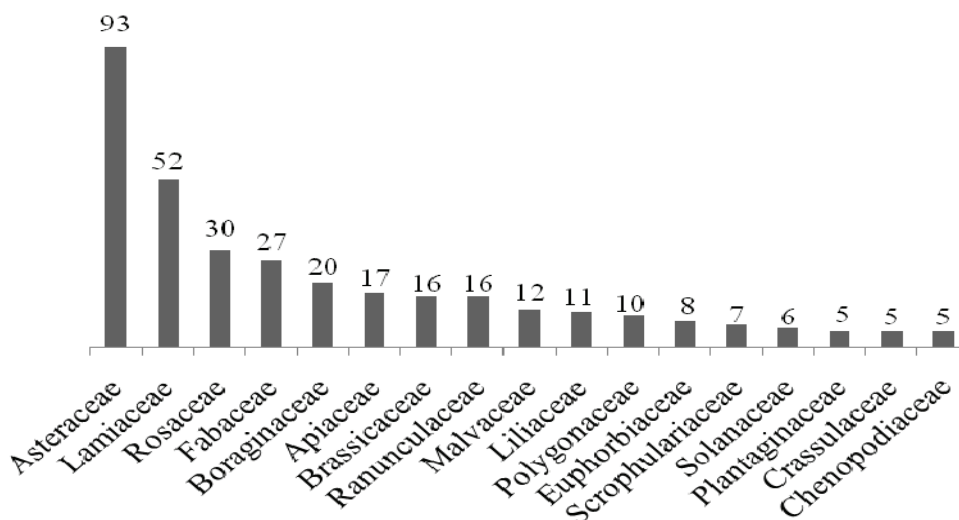


Fig. 3. Most commonly used families in the traditional medical treatments together with number of taxa.

Maximum number of taxa is reported in the books published by Altundag (7) followed by Ozturk and Ozcelik [5] and paper published by Sezik et al. (13), however, the number of families recorded by Sezik et al.(13) are the highest. The plant taxa reported in common in different works are; *Achillea biebersteinii*, *Achillea millefolium*, *Achillea wilhelmsii*, *Alkanna orientalis*, *Anthemis tinctoria*, *Arctium minus*, *Bellis perennis*, *Berberis vulgaris*, *Cichorium intybus*, *Echium italicum*, *Eryngium billardieri*, *Eryngium campestre* var. *virens*, *Euphorbia macroclada*, *Ficus carica*, *Fumaria microcarpa*, *Glycyrrhiza glabra*, *Gundelia tournefortii*, *Helichrysum plicatum*, *Hyoscyamus niger*, *Hyoscyamus reticulatus*, *Hypericum perforatum*, *Hypericum scabrum*, *Juglans regia*, *Lepidium latifolium*, *Malva neglecta*, *Mentha longifolia*, *Mentha spicata*, *Origanum vulgare* subsp. *gracile*, *Peganum harmala*, *Pistacia terebinthus*, *Plantago lanceolata*, *Plantago major*, *Rheum ribes*, *Rhus coriaria*, *Rosa canina*, *Rumex tuberosus* ssp. *horizontalis*, *Salvia verticillata* ssp. *verticillata*, *Scorzonera tomentosa*, *Stachys iberica*, *Teucrium polium*, *Tussilago farfara*, *Urtica dioica*, *Urtica urens*.

Table 2: Number of families and taxa reported by different workers.

Literature	Family number	Taxa number (Wild & Cultivated)
Altundag (2010)	33	163 (163+0)
Ozturk & Ozcelik (1991)	33	126 (126+0)
Sezik et al. (1997)	37	86 (86+0)
Tuzlaci & Dogan (2010)	29	67 (65+2)
Ozgoke & Ozcelik (2004)	34	65 (64+1)
Yesil and Akalin (2009)	19	47 (43+4)
Tabata et al. (1994)	21	41 (38+3)
Cakilcioglu et al. (2010)	17	41 (38+3)
Gumus (1994)	14	35 (35+0)

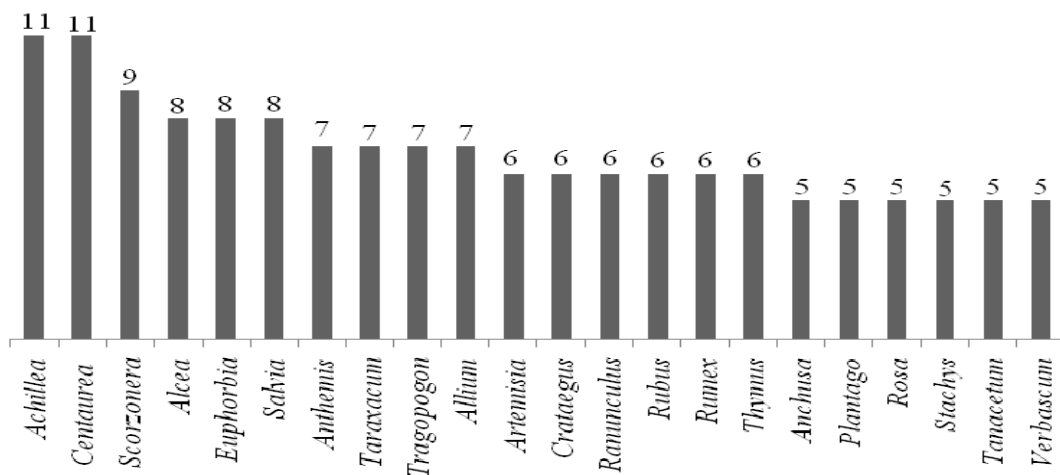


Fig. 4. Most commonly used genera in the traditional medical treatments together with number of taxa.

Local people in the region generally use herbal remedies for the treatment of gastro-intestinal disorders, respiratory system disorders, rheumatic pain, kidney stones, hemorrhoids and skin troubles such as cut, wounds, burns, abscess etc. The region on the whole has a great potential for naturally occurring medicinal plants [7].

Most important endemics used in the traditional medical treatments are; *Achillea cappadocica*, *Alcea apterocarpa*, *A. fasciculiflora*, *Allium armenum*, *A. macrochetum* subsp. *tuncelianum*, *A. sintenisii*, *Alyssum pateri* ssp. *pateri*, *Anthemis wiedemannia*, *Centaurea saligna*, *Cephalaria speciosa*, *Cerasus hippophaeoides*, *Convolvulus galaticus*, *Corydalis erdelii*, *Crataegus orientalis* ssp. *obtusata*, *Frangula alnus* ssp. *pontica*, *Hesperis schischkinii*, *Hyacinthus orientalis* ssp. *chionophilus*, *Iris sari*, *Marrubium parviflorum* ssp. *oligodon*, *Nonea macrosperma*, *N. pulla* ssp. *monticola*, *Onobrychis stenostachya* ssp. *sosnowskyi*, *Onosma armenum*, *Origanum acutidens*, *Phlomis armeniaca*, *Scabiosa sulfurea*, *Scorzonera semicana*, *S. tomentosa*, *Sideritis libatonica* ssp. *kurdica*, *Stachys cretica* ssp. *anatolica*, *S. cretica* ssp. *mersinaea*, *Thymus haussknechtii*, *T. sipyleus* ssp. *rosulans*, *Tripleurospermum monticolum*, *Verbascum asperuloides*.

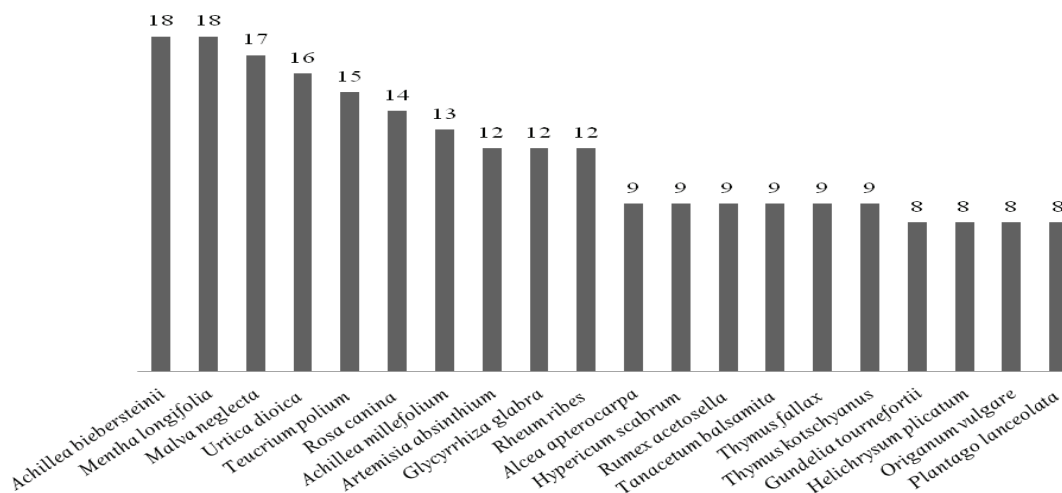


Fig. 5. The taxa used mostly in the traditional medicine together with number of treatment.

References

- [1] Singh R. *Genetic Resources*, Chromosome Engineering and Crop Improvement: Medicinal Crops, Chapter 8, Vol. 6, CRC Press, LLC, Taylor & Francis, Ram Singh, Editor. (In Press). 2011.
- [2] Baytop T. *Türkiye'de Bitkiler ile Tedavi*. Nobel Tıp Kitabevleri; Bitkibilim, Sıfalı Bitkiler vd.; 480 pp, 1999, İstanbul.
- [3] Baser, K.H.C., (2009), Most Widely Traded Plant Drugs of Turkey. In: Traditional and Alternative Medicine-Research & Policy Perspectives (Eds.: Tuley De Silva et al.), Chapter 46, 443-454, NAM-Daya Publ. House, Delhi-India.
- [4] Ozturk M. *Ethnobotany-Time for a New Relationship-Case Study from Turkey*. 11th National Meeting of Plant Scientists (NMPS) and 2nd Intern. Conf. of Plant Scientists (ICPS-2011), 22-24 Feb., 2011, GC University Lahore-Pakistan.
- [5] Ozturk M, Gucl S, Altundag E, Gork C, Mert T, Gork G, Akcicek E. An Overview of the Medicinal Plants of Turkey. In: *Genetic Resources*, Chromosome Engineering and Crop Improvement: Medicinal Crops, Chapter 8, Vol. 6, CRC Press, LLC, Taylor & Francis, Ram Singh, Editor. (In Press). 2011.
- [6] Ozturk M, Ozcelik H. Useful Plants of East Anatolia. 1991, 200 pp., Semih Ofset, Ankara.
- [7] Altundag E. Useful and Poisonous Plants of Iğdir. Iğdir Governorship, 2010, 188 pp, Iğdir.
- [8] Davis PH. *Distribution Patterns in Anatolia with Particular Reference to Endemism*, H. Davis & Hedge. (Ed.), Plant Life of South-West Asia. 15-27, U.K: Bot. Society of Edinburgh. 1971.
- [9] Ekim T. and Guner A. *The Anatolian Diagonal: fact or fiction?* Proceedings of the Royal Society of Edinburgh, 89B, 1986, 69-77.
- [10] <http://www.dmi.gov.tr>, 21.03.2011.
- [11] Ozcelik H, Ay G, Ozturk M. Morphology, Anatomy and Ecology of *Ankyroptalum gypsophiloides* Fenzl. (Caryophyllaceae). XI. Nation. Biology Congress, Elazig, 1992, 233-248.
- [12] Tabata M, Sezik E, Honda G, Yesilada E, Fukui H, Goto K, Ikeshiro Y. Traditional Medicine in Turkey III. Folk Medicine in East Anatolia, Van and Bitlis Provinces. *Pharmaceutical Biology*. 1994, 32(1): 3-12.
- [13] Gumus I. Agri Yoresinde Yetisen Bazi Faydalı Bitkilerin Yerel Adlari ve Kullanilislari. *Turkish Journal of Botany*. 1994, 18: 107-112.
- [14] Sezik E, Yesilada E, Tabata M, Honda G, Takaishi Y, Fujita T. Traditional Medicine in Turkey VIII. Folk Medicine in East Anatolia; Erzurum, Erzincan, Agri, Kars, Iğdir Provinces. *Economic Botany*. 1997, 51(3): 195-211.
- [15] Sürmeli B, Sakcali S, Ozturk M, Serin M. *Preliminary Studies on the Medicinal Plants of Kilis*. XIII. Plant Raw Materials Meeting (Eds. Gurkan and Tuzlaci), Marmara Univ. İstanbul, 2001, pp: 211-220.
- [16] Ozgokce F, Ozcelik H. Ethnobotanical Aspects of Some Taxa in East Anatolia, Turkey I, *Economic Botany*, 2004, 58(4): 697-704.
- [17] Yesil Y, Akalin E. Folk Medicinal Plants in Kurecik Area (Akcadag/Malatya-Turkey), *Turkish Journal of Pharmaceutical Sciences*, 2009, 6 (3), 207-220, İstanbul.
- [18] Cakilcioglu U, Sengun MT, Turkoglu I. An ethnobotanical survey of medicinal plants of Yazikonak and Yurtbasi districts of Elazığ province, Turkey, *Journal of Medicinal Plants Research*, 2010, 4(7): 567-572.
- [19] Tuzlacı E, Dogan A. *Turkish Folk Medicinal Plants, IX: Ovacik (Tunceli)*. Marmara Pharmaceutical Journal, 2010, 14: 136-143, İstanbul.
- [20] Baytop T, Baytop A, Mat A, Sun S. *Poisonous Plants in Turkey, Plant Poisoning and Treatment Methods*, İstanbul University Publications, No: 3560. 1989, İstanbul.