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Ethnomedicinal studies on the plant resources of east Anatolia, Turkey

Ernaz Altundag\(a\)*, Munir Ozturk\(b\)

\(a\) Departrment of Biology, Faculty of Arts and Sciences. Duzce University, Duzce, Turkey
\(b\) Department of Botany, Faculty of Science, Ege University, Izmir, Turkey

**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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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

* Corresponding author. Tel.: +90-532-2088004
E mail address: ernazaltundag@gmail.com
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, İğdır, Kars, Malatya, Muş, Tunceli and Van (Fig. 1).

![Map showing different regions of Turkey (left) and provinces of East Anatolia (right).](image)

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 Kahramanmaras and then bifurcates into two towards Adana and Iskendurun (Fig. 2).

The distribution range of nearly 400 plant taxa is confined to this diagonal including the monotypic genera Neotchihatchewia (N. isatidea) and Graellsia davisianna. 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 °C in winter and 22.0 °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. Etnobotanical 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 |
|-------------------------------|-------------|------------------------------|-----------------------------|
| Abies nordmanniana (Stev.) Spach (Pinaceae) | Köknar | Tar/Vulnerary | Direct application/External |
| Achillea aleppica DC. (Asteraceae) | Civanperçemi | Herb/Diuretic, carminative, emmenagogue | Decoction/Internal |
| Achillea biebersteinii Afan. (Asteraceae) | Ormaderen | Capitulum/Diuretic, asthma, cardiotonic, stomachic, carminative, orexigenic, tonic | Decoction/Internal Pounded/External |
| Plant Name                        | Part Used       | Mode of Administration | Uses                                                                 |
|----------------------------------|-----------------|------------------------|----------------------------------------------------------------------|
| **Achillea cappadocica**          | Leaf            | Poultice/Exterior      | Astringent, edema, emmenagogue, stomachach                            |
| **Achillea coarctata**            | Herb            | Decoction/Internal     | Herb/Diuretic, carminative, menstrual disorders                      |
| **Achillea millefolium**          | Capitulum       | Decoction/Internal     | Capitulum/Diuretic, carminative, menstrual disorders                 |
| **Achillea millefolium**          | Herb            | Decoction/Internal     | Herb/Vulnerary, astringent, edema, erythema on skin                  |
| **Achillea schischkinii**         | Herb            | Decoction/Internal     | Astringent, edema, emmenagogue, stomachach                            |
| **Achillea setacea**              | Root            | Decoction/Internal     | Root/Vulnerary, anti-inflammatory, skin disorders                    |
| **Adianthum capillus-veneris**    | Herb            | Decoction/Internal     | Astringent, edema, emmenagogue, stomachach                            |
| **Agrimonia eupatoria**           | Root            | Decoction/Internal     | Root/Constipant, diuretic, Herb/Hernia                               |
| **Agrostemma githago**            | Seed            | Decoction/Internal     | Seed/Anthelmintic, diuretic, expectorant                             |
| **Ajuga chamaepitys**             | Herb            | Decoction/Internal     | Herb/Tonic, antipyretic, emmenagogue, antihemorrhoidic diuretic, tonic, vulnerary |
| **Alcea setosa**                  | Leaf            | Decoction/Exterior     | Leaf/Expectorant, diuretic, emollient                                |
| **Alcea stiata**                  | Root            | Decoction/Exterior     | Root/Vulnerary, anti-inflammatory, skin disorders                    |
| **Alchemilla pseudocartalinica**  | Herb            | Decoction/Exterior     | Herb/Tonic, anti-inflammatory, Flowers/Anemia, cough                 |
| **Allagi pseudalhagi**            | Herb            | Decoction/Exterior     | Herb/Tonic                                                           |
| **Alkanna megacarpa**             | Root            | Poultice/Exterior      | Root bark/Vulnerary, burns                                           |
| **Alkanna orientalis**            | Root            | Poultice/Exterior      | Root/Vulnerary                                                       |

- **Colds, nephralgia, gynecologic diseases, women's sterility, emmenagogue, jaundice, expectorant**
- **Herb/Abscess, vulnerary, astringent, edema, erythema on skin**
- **Pounded/External, Decoction, Infusion/Internal**
| Botanical Name | Scientific Name | Habitat | Uses | Preparation |
|----------------|-----------------|---------|------|-------------|
| Allium akaka | S. G. Gmelin | Dana soğanı | Fresh/Internal |
| Allium armenum | Boiss. & Kotschy | Silim soğanı | Leaf/Orexigenic | Fresh/Internal |
| Allium atroviolaceum | Boiss. | Silim soğanı | Leaf/Orexigenic | Fresh/Internal |
| Allium macrochetum | Boiss. et Hausskn. subsp. tuncelianum | Dağ sarımsağı | Bulbil/Hypotension, cancer, anthelmintic | Fresh/Internal |
| Allium scorodoprassum | L. subsp. rotundum | Út soğanı | Bulb/Orexigenic, hypertension, anthelmintic, diuretic, antiseptic |
| Allium sintenisii | Freyn. | Corin | Leaf/Anemia | Fresh/Internal |
| Althaea cannabina | L. | Şah mehlemi | Root/Calcinosis | Pounded/External |
| Althaea officinalis | L. | Hatmi | Herb/Diuretic, kidney stones | Infusion/Internal |
| Alyssum pateri | Nyar subsp. pateri | Gülük | Herb/Vulnerary | Powdered/External |
| Amaranthus retroflexus | L. | Horoz ibiği | Leaf/Sterility | Infusion/Internal |
| Amygdalus commenis | L. | Badem | Seed/Hypercholesterolemia | Decoction/Internal |
| Anchusa azurea | Miller | Sığirdili | Herb/Vulnerary | Decoction/External |
| Anchusa leptophylla | Roemer & Schultes | Sığirdili | Herb/Vulnerary | Decoction/External |
| Anchusa stricta | Labill. | Güriz | Basal leaves/Vulnerary | Decoction/External |
| Androsace villosa | L. (Primulaceae) | Catili | Herb/Abdominal pain | Fresh/Internal |
| Anemone albana | Stav. subsp. armena | Dağ lalesi | Leaf/Respiratory system disorders, headache, sinusitis, tonic, diuretic, expectorant | Infusion/Internal Infusion/Vaporization |
| Anthemis altissima | L. (Asteraceae) | Papatya | Herb/Jaundice | Infusion/Internal |
| Anthemis cotula | L. (Asteraceae) | Hozan çiçeği | Herb/Jaundice, dysentery, intestinal disorders, cough, stomach ache | Capitulum/Hair care Infusion/Internal Decoction/External |
| Anthemis nobilis | L. (Asteraceae) | Sanı papatya | Flower/Diuretic, stomachache pain | Infusion/Internal Decoction/External |
| Anthemis pseudo cotula | Boiss. (Asteraceae) | Papatya | Flower/Stomache pain | Infusion/Internal |
| Anthemis tinctoria | L. var. pallida DC. (Asteraceae) | Papatya | Capitulum/Stomache pain, , cough, intestinal disorders, hair care | Infusion/Internal Decoction/External |
| Anthemis tinctoria | L. var. tinctoria (Asteraceae) | Boyaci papatya | Capitulum/Jaundice, stomachic, anthelmintic, antipyretic, colds | Infusion/Internal Infusion/Gargle |
| Anthemis wiedemannia | Fisch. & Mey. (Asteraceae) | Papatya | Capitulum/Analgesic | Decoction/Internal |
| Anthriscus nemorosa | (Bieb.) Sprengel (Apiaceae) | Gırgımu | Fruit/Carmenative | Decoction/Internal |
| Anthriscus sylvestris (L.) Hoffm. (Apiaceae) | Gırgımu | Fruit/Carmenative | Decoction/Internal |
| Aquilegia olympica | Boiss. (Ranunculaceae) | - | Herb/Diuretic | Decoction/Internal |
| Arctium minus (Hill) Bernh. subsp. minus | Arenes (Asteraceae) | Loşlek | Leaf/Sunstroke | Direct application/External |
| Arctium minus (Hill) Bernh. subsp. pubens | (Asteraceae) | Devetabanı | Flower/Eye diseases | Decoction/Drops Pounded/External |
| Scientific Name                                      | Common Name                      | Part Used               | Uses                                                                 | Preparation  |
|-----------------------------------------------------|----------------------------------|-------------------------|----------------------------------------------------------------------|--------------|
| *Arctium platylepis* (Boiss. & Bal.) Sosn. ex Grossh. (Asteraceae) | Devetabani                       | Root/Edema, inflamed wounds, basal leaf/Calsification (knee), back ache, snakebites | Pounded/External Poultice/External |
| *Arctium tomentosum* Miller var. glabrum (Asteraceae) | Toptelli                         | Leaf, root/Abscess      |                                                                      | Pounded/External |
| *Armeniaca vulgaris* Lam. (Rosaeceae)                 | Kayıssi                          | Fruit/Diuretic          |                                                                      | Fresh/Internal |
| *Arnebia densiflora* (Nordm.) Ledeb. (Boraginaceae)   | Havaciva                         | Root bark/Vulnerary, burns |                                                                      | Pounded/External |
| *Artemisia abrotanum* L. (Asteraceae)                 | Pelin                            | Herb/Stomachic, sedative, anthelmintic, orexigenic, antipyretic, diuretic | Infusion/Internal |
| *Artemisia absinthium* L. (Asteraceae)                | Pelin                            | Herb/Stomachic, sedative, anthelmintic, orexigenic, antipyretic, diuretic, digestive, headache, abdominal pain, asthma, diabetes, tonic | Decoction   |
| *Artemisia austriaca* Jacq. (Asteraceae)              | Yavşan                           | Herb/Abdominal pain, orexigenic, digestive                           | Decoction, Infusion/Internal |
| *Artemisia chamaemellifolia* Vill. (Asteraceae)        | Yavşan                           | Flower, herb/Orexigenic, diabetes, antipyretic, diuretic              | Decoction/Internal |
| *Artemisia spicigera* C.Koch (Asteraceae)             | Yavşan                           | Herb/Tonic, orexigenic, antipyretic, diuretic                        | Infusion/Internal |
| *Arum detruncatum* C.A.Mey. ex Schott var. detruncatum (Aranaceae) | Navic                            | Leaf/Anti-diarrhea, kidney stones, stomachic                        | Infusion/Internal |
| *Asphodeline tenuior* (Fischer) Ledebr. subsp. tenuiflora (K.C.Koch) E.Tuzlac | Yara otu                         | Root/Wound healing       |                                                                      | Pounded/External |
| *Astragalus aureus* Willd. (Fabaceae)                 | Geven                            | Gum/Stomach ache, sore throat Root/Jaundice                          | Chewing Decoction/Internal |
| *Astragalus brachycaulis* Fischer (Fabaceae)          | Geven                            | Shoot/Immunomostimulant Gum/Cancer                                  | Pounded/Internal |
| *Astragalus gummifer* Lab. (Fabaceae)                 | Geven                            | Root/Diabetes            |                                                                      | Decoction/Internal |
| *Asyneuma rigidum* (Wild.) Grosh. (Campanulaceae)     | Nujdan                           | Latex/Vulnerary, burns    |                                                                      | Pounded/External |
| *Ballota nigra* L. subsp. nigra (Lamiaceae)           | Yalançi isrgan                   | Herb/Jaundice            |                                                                      | Decoction/Internal |
| *Barbarea vulgaris* R.Br. (Brassicaceae)              | Su teresi                        | Leaf/Vulnerary, Leaf/Diuretic                                       | Infusion/External Infusion/Internal |
| *Bellis perennis* L. (Asteraceae)                     | Koyungözü                        | Flower/Diuretic, purgative, tonic, cough                            | Infusion/Internal Decoction/Internal |
| *Berberis crataegina* DC. (Berberidaceae)             | Zirinç                           | Fruit/Colds, diabetes. Root/Diarrhoea, anti-hemorrhoidal, diabetes   | Fresh/Internal Decoction/Internal |
| *Berberis vulgaris* L. (Berberidaceae)                | Karamuk                          | Fruit/Colds, diabetes     |                                                                      | Decoction/Internal |
| *Berberis vulgaris* L. x B. crataegina* DC. (Berberidaceae) | Kizambuk                  | Root/Jaundice             |                                                                      | Decoction/Internal |
| *Beta corollifloras* Zosimovic ex Butler (Chenopodiaceae) | Kızılca                       | Root/Anti-hemorrhoidal    |                                                                      | Decoction/Internal |
| *Betula litwinowii* Doluch. (Betulaceae)              | Karaağaç                         | Root/Menstrual pains      |                                                                      | Decoction/Internal |
| *Bongardia chrysogonum* (L.) Schach (Berberidaceae)   | -                                | Herb/Urinary system disorders                                        | Decoction/Internal |
| *Bunias orientalis* L. (Brassicaceae)                 | Galatürpenk                      | Stem/Orexigenic                                      | Fresh/Internal |
| *Caltha palustris* Hochst. ex Lorent (Ranunculaceae)   | Lulpar                           | Petiol/Internal medicine                                           | Poultice/Internal |
| *Campanula glomerata* L. subsp. hispida (Witasiek) Hayek (Campanulaceae) | -                              | Herb/Internal medicine                                                  | Fresh/abdominal pain |
| *Capparis ovata* Desf. var. herbacea (Willd.) Zoh.    | Yilan yemişi                     | Fruit/Anti-rheumatic                                               | Poultice/External |
| Plant Name | Common Name | Use(s) | Part Used |
|------------|-------------|--------|-----------|
| Capparaceae | Keber Fruit/Headache, anti-hemorrhoidal | Decoction/Internal |
| Capparis spinosa | Çubucukası Herb/Kidney stones, antitussive, diuretic, diabetes | Infusion/Internal Pounded/External |
| Cardamine alpinella | Tere, Munzur otu Herb/Orexigenic, cardialgia, gynecological diseases, kidney stones | Pounded, Decoction/Internal |
| Carum carvi | Kimyon Fruit/Kidney stones | Decoction/Internal |
| Capsella bursa-pastoris | Çobançantas Herb/Astringent | Infusion/Internal Pounded/External |
| Cellis tournefortii | Derdoğan Fruit/Diarrhoea | Internal |
| Centaurea balsamita | Kılçootu Leaf/Abscess | Pounded/External |
| Centaurea cheiranthifolia | Perpatyan, Perpatikam Leaf/Mycodermatitis | Poultice/External |
| Centaurea cheiranthifolia | Perpatyan Leaf/Mycodermatitis | Poultice/External |
| Centaurea depressa | Gobyas Herb/Cardiotonic, asthma, expectorant, orexigenic | Decoction/Internal |
| Centaurea glaucescens | Kötango Paran Herb/Astringent Leaf/Mycodermatitis | Poultice/External |
| Centaurea glaucescens | Sar diken Flower/Immunostimulant | Pounded/Internal |
| Centaurea iberica | Çakirdiken Leaf/Vulnerary | Pounded/External |
| Centaurea iberica | Çatırbaşyon Leaf/Vulnerary | Pounded/External |
| Centaurea pataca | Peygamberciği Leaf/Mycodermatitis | Poultice/External |
| Centaurea solstitialis | Belhok Herb/Malaria | Decoction/Internal |
| Chenopodium album | Şaladır Herb/Stomachic | Infusion/Internal Decoction/External |
| Chenopodium album | Ganteper Capitulum/Colds, cough, pulmonic disorders, cardiotonic | Decoction/Internal |
| Chenopodium album | - Flowering brunches/Cancer | Decoction/Internal |
| Chenopodium album | Geyverik Herb/Vulnerary, antiseptic | Latex/External |
| Cerasus hippophaeoides | Dağ kırazı Fruti/Diarhhea | Fresh/Internal |
| Cerasus mahaleb | Mahlep Seed/Aphrodisiac, expectorant, diuretic, asthma, prostat, diabet, kidney stones | Infusion/Internal |
| Ceratocephalus falcatus | - Herb/Antirheumatic | Poultice/External |
| Ceratocephalus testicularis | - Herb/Antirheumatic | Poultice/External |
| Chondrilla juncea | Ağ sakız Latex/Stomach disorders | Chewing |
| Chondrilla juncea | Çengel sakız Latex/Stomach disorders | Chewing |
| Chondrilla spinosa | Çengel sakız Latex/Stomach disorders | Chewing |
| Scientific Name                          | Local Name | Part Used | Condition | Preparation |
|-----------------------------------------|------------|-----------|-----------|-------------|
| Chrysanthemum montanum (DC.) Boiss. (Asteraceae) | Nezle otu | Herb | Cough, colds | Infusion/Internal |
| Cichorium glandulosum Boiss. & Huet (Asteraceae) | Çatagus | Latex | Skin disorders | Direct application/External |
| Cichorium intybus L. (Asteraceae) | Hindiba | Root | Herp/Asthma, ulcer | Decoction/Internal |
| Cirsium arvense (L.) Scop. subsp. vestitum (Wimm. & Grab.) Petr. (Asteraceae) | ÇakÕrdikeni | Stem | Cough | Fresh, Decoction/Internal |
| Citrus limonum Risso (Rutaceae) | - | Fruit | Gingival disease | Infusion/Gargle |
| Cuminum cyminum L. (Apiaceae) | Carum | Leaf | Stomachic | Poultice/Internal |
| Cydonia oblonga Miller | - | Leaf | Diarrhoea | Poultice/Internal |
| Crepis foetida L. subsp. rhaedifolia (Bieb.) Celak (Asteraceae) | Yürek otu | Root | Cardiovascular diseases | Decoction/Internal |
| Cynanchum acutum L. subsp. acutum (Asclepiadaceae) | Sülü sarmaşık | Leaf | Vulnerary | Poultice/Internal |
| Cydonia oblonga Miller (Rosaceae) | Ayva | Barks | Cold | Poultice/Internal |
| Cyperus rotundus L. (Cyperaceae) | Topalak | Root | Diuretic | Poultice/Internal |
| Scientific Name                          | Common Name            | Part Used       | Uses                                                                 | Application |
|-----------------------------------------|------------------------|-----------------|----------------------------------------------------------------------|-------------|
| *Daphne oleoides* Schraber (Thymeleaceae) | Mundarça               | Barks           | Abortion, Treat bones                                               | Decoction/External Powdered/External |
| *Datura stamnonium* L. (Solanaceae)     | Deli patpat            | Seed            | Toothache, Leaf, herb/Antipyretic, antirheumatic, sedative          | Decoction/vaporization Decoction/Internal |
| *Daucus carota* L. (Apiaceae)           | Tarakotu               | Fruits          | Kidney stones                                                        | Decoction/Internal |
| *Dipsacus laciniatus* L. (Dipsacaceae)  | Pukiç                  | Stem            | Herb, Vulnerary, astringent, cancer Root/Diabetes                   | Poultice/External Decoction/Internal |
| *Ecballium elaterium* A.Rich. (Cucurbitaceae) | Şeytankeleği          | Fruit           | root/Sinusitis, jaundice, diuretic, diarrhoea, eczema, skin disorders | Poultice/External Decoction/Internal |
| *Echium italicum* L. (Boraginaceae)     | Engerek otu             | Leaf, root      | Wounds, anti-inflammatory                                            | Poultice/External |
| *Ecballium elaterium* A.Rich. (Cucurbitaceae) | Úeytankele÷i          | Fruit, root     | Sinusitis, jaundice, diuretic, diarrhoea, eczema, skin disorders     | Poultice/External Decoction/Internal |
| *Echium russicum* J.F. Gmellin (Boraginaceae) | Havaciva               | Root            | Vulnerary                                                            | Poultice/External |
| *Elaeagnus angustifolia* L. (Elaeagnaceae) | İğde                   | Flower          | Diarrhoea, Constipation Leaf/Sunstroke                              | Infusion/Internal Direct application/External |
| *Ephedra major* Host (Ephedraceae)      | Deniz üzümü            | Shoots          | Cleaning tooth                                                       | Direct application/External Infusion/Internal |
| *Equisetum arvense* L. (Equisetaceae)   | At kuyru               | Herb            | Diuretic                                                            | Infusion/Internal |
| *Equisetum ramissimum* Desf. (Equisetaceae) | Kirkboğum             | Herb            | Vulnerary, urinary system disorders                                  | Infusion/Internal |
| *Eremurus spectabilis* (Bieb.) Fedtsch. (Liliaceae) | Çiriş                   | Leaf/Pains of eyes, fungal infection, eczema | Fresh/Internal Pounded/External |
| *Eryngium billardieri* Delar. (Apiaceae) | Eşekdikeni             | Root            | Sinusitis, vulnerary, abscess                                       | Fresh, pounded/External Powdered/External |
| *Eryngium campestre* L. var. virens Link (Apiaceae) | Boğadikeni             | Root            | Vulnerary, Carminative, jaundice                                    | Poultice/External Decoction/Internal |
| *Euphorbia agraria* Bieb. (Euphorbiaceae) | Sütotu                | Latex           | Vulnerary                                                           | Direct application/External |
| *Euphorbia armena* Prokh. (Euphorbiaceae) | Sütlübiyan             | Latex           | Constipation, Inflamed wounds                                        | Direct application/External |
| *Euphorbia falcata* L. subsp. falcata var. Falcata. (Euphorbiaceae) | Sütleğen              | Latex           | Eczema, fungal infection                                             | External |
| *Euphorbia heteradena* Jaub. & Spach (Euphorbiaceae) | Sütleğen              | Latex           | Conspiration                                                        | Internal |
| *Euphorbia macroclada* Boiss. (Euphorbiaceae) | Sütlükotu             | Latex/Conspiration | Inflamed wounds, scorpion and bee bites, eczema, fungal infection | Internal Direct application/External |
| *Euphorbia nicaensis* All. subsp. lasiocarpa Boiss. (Euphorbiaceae) | Sütlüyen              | Latex           | Purgative, anthelminitic                                             | Internal |
| *Euphorbia seguieriana* Necker subsp. seguieriana (Euphorbiaceae) | Sütlübiyan             | Latex/Conspiration | Inflamed wounds                                         | Direct application/External |
| *Euphorbia virgata* Waldst. & Kit. (Euphorbiaceae) | Sıtcan            | Flower          | Eczema                                                              | Direct application/External |
| *Ferula caspica* Bieb. (Apiaceae)        | Girmüz bolu            | Herb            | Stomach ache, internal medicine, gynecologic diseases, diabetes     | Decoction/Internal |
| *Ferula elaeochrysis* Korovin (Apiaceae) | Çasır                  | Root            | Aphrodisiac                                                         | Powdered/Internal |
| *Ferula orientalis* L. (Apiaceae)        | Heliz, Çaşşır           | Herb            | Immunostimulant, Inflorocescens/Stomachic                           | Decoction/Internal Infusion/Internal |
| *Ferula rigida* DC. subsp. rigida (Apiaceae) | Çasır                  | Herb            | Diabetes, hypercholostolemia                                        | Poultice/Internalpickle |
| *Ficus carica* L. (Moraceae)             | Incir                  | Fruit           | Diarrhoea, ulcer Latex/Inflamed wounds                              | Decoction/Internal Direct application/External |
| *Fragula alnus* Miller subsp. pontica (Boiss.) Davis & Yalt. (Rhamnaceae) | Dağmuşnuşası         | Barks           | Antirheumatic                                                       | Decoction/External |
| Scientific Name                  | Common Name          | Use                                                                 | Preparation      |
|---------------------------------|----------------------|----------------------------------------------------------------------|------------------|
| Fumaria asepal a Boiss. (Fumariaceae) | Şetere               | Herb/Abdominal pain, Herb/Headache, itching antiseptic               | Decoction/Internal, powdered/External |
| Fumaria microcarpa Boiss. ex Hausskn. (Fumariaceae) | Şetere               | Herb/Abdominal pain, Herb/Headache, itching antiseptic               | Decoction/Internal, powdered/External |
| Fumaria officinalis L. (Fumariaceae) | Şahtere              | Herb/Toothache, oral diseases                                        | Decoction/Internal |
| Galium humifusum Bieb. (Rosaceae) | Koşacı               | Herb/Gynecologic diseases                                            | Infusion/Internal |
| Galium tricornutum Dandy (Rubiaceae) | Koşacı               | Herb/Gynecologic diseases                                            | Infusion/Internal |
| Galium versum L. (Rubiaceae)     | Yoğurt otu           | Flower/Treating burns, Flower/Cancer                                  | Powdered/External, Powdered/Internal |
| Glauceum leioscarpum Boiss. (Papaveraceae) | Gelinçik            | Leaf/Headache                                                       | External, Decoction/Internal |
| Globularia trichosantha Fisch. & Mey. (Globulariaceae) | Ahu                 | Leaf/Antiparasitic                                                  | Infusion/External |
| Glycyrrhiza echinata L. (Fabaceae) | Dikenli meyan        | Rhizoma/Bronchitis, asthma, antitussive, stomachic, nephralgia, diuretic, antiseptic | Decoction/Internal |
| Glycyrrhiza glabra L. var. glabra (Fabaceae) | Meyan               | Root/Cough, bronchitis, stomachic, nephralgia, diuretic, antiseptic, episipla, cancer, kidney stones, Leaf/Sunstroke | Decoction/Internal, Direct application/External |
| Gundelia tournefortii L. var. armata Freyn. & Sint. (Asteraceae) | Kenger              | Latex/Edema, Seed/toothache                                         | Direct application/External, Decoction/Internal |
| Gundelia tournefortii L. var. tournefortii (Asteraceae) | Kenger              | Seed, latex, root and stem/Colds, catarrh, toothache diabetes, edema kidney pains, vitiligo, orexigenic | Decoction/Internal, Direct application/External |
| Hedysarum syriacum Boiss. (Fabaceae) | -                   | Fruit/Gingival disease                                              | Infusion/Gargle |
| Helianthus tuberosus L. (Compositae) | Yer elması           | Tuber/Diabetes                                                      | Eaten |
| Helichrysum arenarium (L.) Moench subsp. rubicundum (C. Koch) Davis & Kupicha (Asteraceae) | Yayla çiçeği        | Herb/Diuretic, nephralgia, kidney stones                             | Infusion/Internal |
| Helichrysum palliisii (Sprengel) Ledeb. (Asteraceae) | Altunbaş otu         | Herb/Diuretic, cough, kidney stones, nephralgia                      | Infusion/Internal |
| Helichrysum plicatum DC. subsp. plicatum (Asteraceae) | Herdentaze           | Herb/Kidney stones, nephralgia, diabetes, cough, diarrhoea, diuretic, stomachic, antideppessant | Infusion, Decoction/Innterno |
| Helichrysum plicatum DC. subsp. polyphyllum (Ledeb.) Davis & Kupicha (Asteraceae) | Kaymak çiçeği        | Flower/Diarrhoea, intestinal disease                                 | Decoction/Internal |
| Heliotropium cirknatum Griseb. (Boraginaceae) | Bostan otu           | Flowerin brunch/Cancer                                               | Infusion/Internal |
| Heracleum trachyloama Fisch. & Mey. (Apiaceae) | Baldırgan           | Stem/Galactagogue, stomach ache, cancer                              | Fresh, Decoction/Internal |
| Hesperis schischkinii Tzvelev (Brassicaceae) | -                   | Root/Wound healing                                                  | Pounded/Internal |
| Hippophae rhamnoides L. subsp. caucasica Rouzi (Elaeagnaceae) | Dağ yemişi           | Fruit/Cough                                                         | Decoction/Internal |
| Hordeum vulgare (Poaceae)         | Arpa                 | Fruit/Arthromat, diuretic, Fruit/Maturation abscess, against itching | Pounded/Internal, Decoction/External |
| Hyacinthus orientalis L. subsp. chionophilus Wendelbo (Lilaceae) | Sümbül               | Leaf/Anthemorrhoidal                                               | Pounded/External |
| Hyalocharis telephium (L.) H.Ohba (Crassulaceae) | Camışgulağı          | Leaf/wounds                                                         | Pounded/External |
| Hyoscyamus niger L. (Solanaeace)   | Patpat               | Seed/Toothache, against itching in the eyes, stomatitis            | Inhalation/vaporization |
| Hyoscyamus reticulatus L. (Solanaeace) | Dağdağan             | Root, seed/Toothache                                                | Inhalation/vaporization |
| Plant Name | Common Name | Part(s) Used | Use(s) | Preparation |
|------------|-------------|--------------|--------|-------------|
| Hypericum lydium | Sancı otu | Herb | Menstrual disorders, stomachic | Infusion/Internal |
| Hypericum montbretii | Çay otu | Herb | Kidney stones, stomach disorders, ulcer, antihemorrhoidal | Decoction/Internal |
| Hypericum perforatum | Binbirdelikotu | Herb | Stomache pains, ulcer, antiseptic, vulnerary, sedative, kidney disorders, antihemorrhoidal | Decoction/Internal |
| Hypericum scabrum | Sancı otu | Herb | Constipation, antihemorrhoidal, kidney disorders, stomach disorders, ulcer, jaundice, menstrual disorders, analgesic, sedative | Decoction/Internal |
| Hyssopus officinalis | Çördük | Herb | Purgative | Decoction/Internal |
| Inula oculus-christi | Yol otu | Flower | Kidney Stones, urethra infection | Decoction/Internal |
| Inula heterolepis | Çay otu | Herb | Headache | Infusion/Internal |
| Inula helenium | Andz otu | Herb | Root | Decoction/Internal |
| Juniperus excelsa | Arduç | Fruit | Antihemorrhoidal | Decoction/Internal |
| Juniperus oxycedrus | Dikenli arduç | Fruit | Antirheumatic, antiparasitic, Cough | Decoction/Internal |
| Jurinella moschus | Gazangulpu | Herb | Diabetes, diarrhoea | Decoction/Internal |
| Kochia prostrata | Kokarot | Herb | Urinary system disorders | Decoction/Internal |
| Lathyrus cicera | Gürül | Herb | Edema | Pounded/External |
| Lathyrus rotundifolius | Gülçiçeği | Leaf | Goiter, Goiter | Decoction/Internal |
| Lathyrus sativus | Çuşne | Seed | Analgesic | Pounded/External |
| Leonotis leontopetalum | Kirkbaş otu | Root | Epilepsy | Decoction/Internal |
| Leonurus glauecscens | Öküzuyruğu | Root | Cardiotoxic Herb | Pounded/External |
| Lepidium latifolium | Nujdar | Leaf | Vulnerary | Powdered/External |
| Lotus corniculatus | Gazalboynuzu | Herb | Sedative, antihemorrhoidal, abdominal pain, diuretic, stomach pain, nephralgia | Decoction/Internal |
| Malabaila dasyantha | Dadakpatlatan | Leaf | Flower | Pounded/External |
| Malus sylvestris | Alma | Fruit | Colds, Diabetes | Decoction/Internal |
| Malva neglecta | Ebemkömeci | Fruit, leaf, herb, root | Asthma, abdominal pain, ulcer, colds, stomachic, digestive, sore | Pounded/External |
| Plant Name | Part Used | Condition/Use | Preparations |
|------------|-----------|---------------|--------------|
| Malva sylvestris L. (Malvaceae) | Ebegümeci | Fruit/Sore throat | Decoction/Internal |
| | | Herb/Skin disorders, wounds, maturation abscess, abortive | Poultice, powdered, Pounded/External |
| Marrubium astracanicum Jacq. subsp. astracanicum (Lamiaceae) | Dağ çayı | Herb/Colds, Antipyretic | Infusion/Internal |
| Marrubium parviflorum Fisch. & Mey. subsp. oligodon (Boiss.) Seybold (Lamiaceae) | Dağ çayı | Herb/Colds, Antipyretic | Infusion/Internal |
| Medicago minima (L.) Bart. var. minima (Fabaceae) | Gurnik | Fruit/Cardiac disorders | Infusion/Internal |
| Medicago sativa L. subsp. sativa (Fabaceae) | Karayonca | Herb, leaf/Wounds, hemostatic, astringent | Pounded/External |
| Melilotus officinalis (L.) All. (Fabaceae) | Kokulu yonca | Leaf/Anemia, sedative, constipant | Infusion/Internal, Fresh/External |
| Melissa officinalis L. subsp. officinalis (Lamiaceae) | Kolonya otu | Herb/Asthma | Infusion/Internal, Pounded/External |
| Mentha longifolia (L.) Hudson subsp. typhoides (Briq.) Harley var. typhoides (Lamiaceae) | Yarpuz | Herb/Throat pain, carminative, intestinal disorders | Infusion/Internal |
| Mentha pulegium L. (Lamiaceae) | None | Herb/Vulnerary, gall bladder | Decoction/Internal |
| Mentha spicata L. (Lamiaceae) | Pünk | Herb/Antirheumatic, stomachic, diarrhoea, colds | Decoction/Internal |
| Merendera kurdica Bornm. (Liliaceae) | Gül faki | Cormus/Antirheumatic | Fresh/eaten |
| Merendera trigyna (Steven ex Adam) Staph. (Liliaceae) | Gül falçı | Cormus/Antirheumatic | Fresh/eaten |
| Morus alba L. (Moraceae) | Dut | Fruit/Abcess, stomach disorders, gastric ulcer | Decoction/Internal |
| Morus nigra L. (Moraceae) | Dut | Fruit/Oral wounds | Decoction/External |
| Nepeta cataria L. (Lamiaceae) | Kedinanesi | Herb/Stomachic, stimulant | Decoction/Internal |
| Nigella sativa L. (Ranunculaceae) | Çörekotu | Seed/Anthelmintic | Decoction/Internal |
| Nigella vegetalis Bieb. (Ranunculaceae) | Çörek otu | Seed/Diabetes, ulcer | Decoction/Internal |
| Nonea macroperma Boiss. & Heldr. (Boraginaceae) | Çırmak | Root/Inflamed wounds | Poulticed/External |
| Nonea pulla (L.) DC. subsp. monticola Rech. (Boraginaceae) | Mjum | Root/Anti-inflammatory | Decoction/Internal |
| Onobrychis stenoctachya Freyn subsp. sosnovskyi (Grossh.) Hedge (Fabaceae) | Körülgen | Herb/Diuretic | Decoction/Internal |
| Onobrychis trancaucaescia Grossh. (Fabaceae) | Gorunga | Herb/Diuretic | Decoction/Internal |
| Ononis spinosa L. subsp. leiosperma (Boiss.) Sirj. (Fabaceae) | Kayışkran | Herb/Diuretic, kidney stones | Decoction/Internal, Decoction/External |
| Name                                      | Part(s) Used                                      | Uses                                                                 | Preparations        |
|-------------------------------------------|--------------------------------------------------|----------------------------------------------------------------------|---------------------|
| **Onopordum bracteatum** Boiss. & Heldr.  | Kangal                                           | Seed/Anti-hemorrhoidal                                             | Internal            |
| **Onopordum tauricum** Willd.             | Kenger                                           | Herb/Diabetes                                                       | Decoction/Internal  |
| **Onosma armenum DC.** (Boraginaceae)     | Yalancı havaciva otu                             | Leaf, root/Edema, inflamed wounds                                  | Decoction/External  |
| **Onosma microcarpum** Steven ex DC.      | Havaciva                                         | Root/Burns                                                         | Decoction/External  |
| **Onosma sericeum** Willd.                | Yalancı havaciva otu                             | Leaf, root bark/Edema, vulnerary                                    | Decoction/External  |
| **Origanum acutidens** (Hand.-mazz.)      | Zemul                                            | Herb/Abdominal pain                                                | Decoction/Internal  |
| **Origanum majorana L.** (Lamiaceae)      | Mercanköşk                                      | Herb/Sedative, diaphoretic, stomachic                               | Fresh/Internal      |
| **Origanum vulgare** L. subsp. gracile (C. Koch) | Eşek kekiği                                    | Herb/Vulnerary, stomach pains, hypotension, epilepsy, headache, internal medicine, asthma, stomachic, toothache, cold | Decoction, Infusion/Internal |
| **Origanum vulgare** L. subsp. viride (Boiss.) Hayek (Lamiaceae) | Cantirik                                         | Herb/Stomachic                                                     | Decoction/Internal  |
| **Papaver acutidens** (Boiss.) Juz. (Rosaceae) | Kulafir, Karanfil                              | Root/Cough, colds                                                  | Infusion/Internal   |
| **Paeonia maceda (L.) Miller subsp. arietina (Anders.) Cullen et Heywood (Paeoniaceae) | Guloğçu                                      | Herb/Diabetes                                                      | Infusion/Internal   |
| **Pantsia spinosa** Christi (Rhamnaceae)   | Karaçal                                         | Fruit/Constipation, diuretic                                       | Decoction/Internal  |
| **Papaver dubium L.** (Papaveraceae)      | Gelincik                                         | Flower/Colds, cough                                                | Infusion/Internal   |
| **Papaver lacerum** Popov (Papaveraceae)   | Haşhaş                                          | Buds/Goiter, internal medicine                                      | Fresh/Internal      |
| **Papaver macrostomum** Boiss. & Huet ex Boiss. (Papaveraceae) | Lala                                         | Flowers/Cough                                                      | Infusion/Internal   |
| **Papaver orientale L. var. orientale**   | Haşhaş                                          | Seed/Laxative                                                      | Infusion/Internal   |
| **Papaver orientale L. var. parviflora** Busch (Papaveraceae) | Haşhaş                                          | Leaf/Asthma                                                        | Infusion/Internal   |
| **Papaver rheaos L.** (Papaveraceae)      | Gelincik                                         | Herb/Sedative                                                      | Decoction/Internal  |
| **Peganum harmala L.** (Zygophyllaceae)    | Uzerlik                                         | Root, seed/Anti-rheumatic, anti-hemorrhoidal                      | Decoction/Internal  |
| **Puceodunum longifolium** Waldst. & Kit. (Apiaceae) | Çasır                                        | Herb/Diabetes, hypercholesterolemia                                | Pickled/Internal    |
| **Philomis armeniaca** Willd. (Lamiaceae) | Çok çayı                                         | Herb/Antipyretic, colds, asthma, bronchitis                        | Infusion/Internal   |
| **Philomis pungens** Willd. (Lamiaceae)   | Şalba                                            | Herb/Cough                                                         | Infusion/Internal   |
| **Picris striosa** Bieb. (Asteraceae)      | Senameki                                         | Root/Anti-hemorrhoidal                                             | Poultice/External   |
| **Pinus sylvestris L.** (Pinaceae)         | Sançam                                          | Tar/Vulnerary, snake bites Tar/Panacea, tuberculosis                | Poultice/External, Decoction/Internal |
| **Pistacia atlantica** Desf. (Anacardiaceae) | Kizvan                                        | Latex/Wound healing                                                | External Chewing/Internal |
| **Pistacia cneycarpa** Yalt. (Anacardiaceae) | Bittim                                        | Fruit/Anti-dandruf                                                | Soup/External       |
| **Pistacia terebinthus** L. (Anacardiaceae) | Menengic                                       | Fruit/Colds, flu, diuretic, urinary system inflammations, cough, diuretic | Decoction/Internal |
| **Plantago atrata** Hoppe (Plantaginaceae) | Dartul otu                                      | Leaf/Astringent, inflamed wounds, vulnerary                        | Dried, fresh/External |
| **Plantago lanceolata** L. (Plantaginaceae) | Sinir otu                                       | Leaf/Abscess, anti-parasitic, vulnerary                            | Dried, fresh/External |
| **Peganum harmala L.** (Zygophyllaceae)    | Uzerlik                                         | Root, seed/Anti-rheumatic, anti-hemorrhoidal                      | Decoction/Internal  |
| **Puceodunum longifolium** Waldst. & Kit. (Apiaceae) | Çasır                                        | Herb/Diabetes, hypercholesterolemia                                | Pickled/Internal    |
| Plantago major L. subsp. intermedia | Bağla yaprağı, Sinirliot | Leaf/Abscess, Vulnerary, anti-inflammatory, Leaf/Stomachic, ulcer, antihemorrhoidal, gynecologic diseases | Dried, fresh/External Decoction/Internal |
|-------------------------------------|-------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------|
| Plantago major L. subsp. major     | Bağla yaprağı, Sinirliot | Leaf/Vulnerary, abscess, inflamed wounds, burns, Leaf/Stomach ailments, antihemorrhoidal     | Dried, fresh/External Decoction/Internal |
| Plantago maritima L.               | Yılan dili               | Leaf/Cancerous uterus                                                                            | Decoction/Internal                   |
| Plantago media L.                  | Kılıçtu                  | Leaf/Astringent, anti-inflammatory                                                               | Dried, fresh/External               |
| Polygonum aviculare L.             | Kuşdili                  | Herb/Cough, antirheumatic, anemia, stomach disorders                                               | Infusion/Internal                    |
| Polygonum bistorta L. subsp. bistorta | Çimen eveli            | Herb/Sore throat, expectorant                                                                     | Infusion/Internal                    |
| Polygonum cognatum Meissn.         | Kuş epeği                | Herb/Abscess, Herb/Emetic, cough, antirheumatic, anemia, stomach disorders                      | Decoction/External Infusion/Internal |
| Populus nigra L.                   | Kavak                   | Leaf, wood/Antirheumatic, hemostatic                                                              | Decoction, powdered/External         |
| Portulaca oleracea L.              | Semizotu                | Herb/Orexigenic, antihelminic, diuretic, stomach, urethra infection                              | Decoction/Internal                  |
| Potentilla reptans L.              | Besparmak otu           | Herb/constipant, antipyretic, tonic                                                               | Decoction/Internal                   |
| Prangos ferulacea (L.) Lindl.      | Çasır                   | Herb/Stimulant                                                                                   | Decoction/Internal                   |
| Prangos pabularia Lindl.           | Çasır                   | Herb/Stimulant                                                                                   | Decoction/Internal                   |
| Prunus aligida Adams               | Tutya                   | Herb/Eye diseases, pulmonary disorders                                                           | Decoction/Internal                   |
| Prunus auriculata Lam.             | Mustafa çiçeği          | Herb/Stomachic                                                                                   | Infusion/Internal                    |
| Prunus vulgaris L. (Lamiaceae)     | -                      | Herb/Expectorant                                                                                 | Infusion/Internal                    |
| Pyrus elaeagnifolia Pallas subsp. elaeagnifolia (Rosaceae) | Yaban armudu         | Fruit/Diuretic                                                                                   | Infusion/Internal                    |
| Pyrus syriaca Boiss. var. syriaca (Rosaceae) | Adi armut            | Fruit/Stomachache, expectorant                                                                   | Infusion/Internal                    |
| Ranunculus arvensis L. (Ranunculaceae) | Yara otu           | Root/Swollen wounds, Herb/Antirheumatic                                                          | Decoction/External Pounded/External   |
| Ranunculus caucasicus Bieberstein. subsp. subleiocarpus (Som. & Lev.) Davis (Ranunculaceae) | Yara otu          | Root/Swollen wounds, Herb/Antirheumatic                                                           | Decoction/External Pounded/External   |
| Ranunculus neopolitanus Ten. (Ranunculaceae) | Mayys çiçeği       | Flower/Antirheumatic, abscess                                                                    | Pounded/External                     |
| Ranunculus orehilus Ledeb.         | Yara otu               | Root/Swollen wounds, Herb/Antirheumatic                                                           | Decoction/External Pounded/External   |
| Ranunculus pinardii (Stev.) Boiss. (Ranunculaceae) | Karaz               | Herb/Antirheumatic, inflamed wounds, Herb/Stomach ache                                             | Pounded/External Infusion/Internal    |
| Ranunculus repens L.               | Mayys çiçeği           | Herb/Antirheumatic, edema                                                                         | Pounded/External                     |
| Ranunculus sericicus Banks & Sol. (Ranunculaceae) | Şelepuk             | Herb/Antirheumatic, inflamed wounds                                                              | Pounded/External                     |
| Raphanus raphanistrum L. (Brassicaceae) | Turp               | Herb/Orexigenic, diuretic                                                                         | Fresh/Internal                      |
| Rapsistrum rugosum (L.) All. (Brassicaceae) | Türpek             | Herb/Orexigenic                                                                                  | Fresh/Internal                      |
| Reichardia glauca Matthews (Asteraceae) | Gara sakguz         | Latex/Stomach disorders                                                                           | Internal                            |
| Reseda lutea L. var. lutea (Resedaceae) | Mubabbet çiçeği     | Root/Stomach disorders                                                                            | Decoction/Internal                   |
| Scientific Name                          | Common Name | Actions                                                                 | Part Used        |
|-----------------------------------------|-------------|-------------------------------------------------------------------------|------------------|
| *Rhamnus catharticus* L.               | Cehri       | Barks/Diarrhea, diuretic                                               | Decoction/Internal |
| *Rheum ribes* L. (Polygonaceae)         | İşğin       | Root, shoots/Ulcer, diarrhoea, anthelmintic, expectorator, digestive, anthemorrhoidal, tonic, stomachic, diabetes, anti-emetic, constipation, hypertension | Decoction, pounded/Internal |
| *Rhus coriaria* L. (Anacardiaceae)      | Sumak       | Fruit, seed/Skin disorders Leaf/Antiseptic                              | Decoction/Internal Decoction /External |
| *Rindera caespitosa* (A.DC.) Bunge      | -           | Root/Anti-inflammatory                                                  | Poultice/External |
| *Rindera lanata* (Lam.) Bunge var. *lanata* (Boraginaceae) | - | Root/Anti-inflammatory                                                  | Poultice/External |
| *Rosa canina* L. (Rosaceae)             | Kuşburnu,   | Fruit, root/Anti-hemorrhoidal, cough, stomachic, constipant, diabetes, tonic, anti-tussive, bronchitis diuretic, asthma, immunostimulant | Decoction/Internal |
| *Rosa hemisphaerica* J. Herrm. (Rosaceae) | Yemişen    | Fruit/Cough                                                             | Decoction/Internal |
| *Rosa montana* Chaix subps. *woronowii* (Lon.) Ö.Nilsson (Rosaceae) | Şilan       | Root/Antiseptic                                                         | Decoction/Internal |
| *Rosa pimpinellifolia* L. (Rosaceae)    | Kuyungörü   | Fruit, root/Colds, stomach pain, cardiotonic, anthemorrhoidal, antiseptic | Decoction/ Internal |
| *Rosa pulverulanta* Bieb. (Rosaceae)    | Gilleca     | Fruit/Colds, cough                                                      | Decoction/Internal |
| *Rubus canescens* DC. var. *glabrescens* (Godron) *Davis & Meikle* (Rosaceae) | Böğürten    | Shoots, roots, fruit/Tonic, diuretic, diabet, hypertension              | Decoction/internal |
| *Rubus hirsutus* Waldst. & Kit. (Rosaceae) | Yabanızümü  | Root/Diabetes                                                           | Decoction/Internal |
| *Rubus idaeus* Waldst. & Kit. (Rosaceae) | Frek üzümü  | Aerial parts/sterility                                                  | Decoction/Internal |
| *Rubus sanctus* Schreber (Rosaceae)     | Böğürten    | Fruit/Colds                                                             | Infusion/Internal |
| *Rumex acetosella* L. (Polygonaceae)    | Ekşikulak   | Leaf/Abscess Herb/Stomachic                                             | Pounded/External Internal |
| *Rumex crispus* L. (Polygonaceae)       | Evelik      | Leaf/Cough, colds, asthma, anti-inflammatory, antihemorrhoidal, gynecologic diseases, antiphlogistic, antirheumatic, Fruit/Goiter | Pounded/External Decoction/Internal |
| *Rumex patientia* L. (Polygonaceae)     | At eveliği   | Leaf/Internal medicine, antihemorrhoidal, asthma, kidney disorders       | Infusion Internal |
| *Rumex scutatus* L. (Polygonaceae)      | Taş turuşu   | Root/Diuretic, antipyretic Leaf/Orexigen                               | Infusion/Internal Fresh/eaten |
| *Rumex tuberosus* L. subsp. *horizontalis* (Koch) *Reich.* (Polygonaceae) | Kome turuşu | Root/Diuretic, antipyretic Leaf/Orexigen                               | Infusion/Internal |
| *Rumex tuberosus* L. subsp. *tuberosus* (Polygonaceae) | Kuzukulağı  | Herb/Constipation                                                       | Fresh/Internal |
| *Salix alba* L. (Salicaceae)            | Söğüt       | Leaf/Antirheumatic, tonic, antidiarrhea                                  | Decoction, poultice/Exteri |
| *Salvia candidissima* Vahl. subsp. *candidissima* (Lamiaceae) | Galabor     | Leaf/Cold                                                               | Infusion/Internal |
| *Salvia hydropa* DC. ex Bentham (Lamiaceae) | Koç otu     | Herb/Colds, diabetes, stomach disorders, antipyretic, enmenagogue, internal medicine | Infusion |
| *Salvia multicaulis* Vahl. (Lamiaceae)   | Adçaçayı    | Herb/Colds, anti-inflammatory                                           | Decoction/Internal |
| *Salvia nemorosa* L. (Lamiaceae)         | Gemtaş       | Herb/Hemostatic Herb/Cold, catarrh                                      | Pounded/External Infusion, decoction/Internal |
| Plant Name                                      | Common Name  | Part/Preparation          | Use                  |
|------------------------------------------------|--------------|---------------------------|----------------------|
| **Salvia sclarea L.** (Lamiaceae)              | Dağ çayı     | Leaf/Cold                 | Infusion/Internal    |
| **Salvia verticillata L. subsp. amasiaca**     | Karabaş otu  | Herb/Laxative, cold, nausea | Infusion, decoction/Internal |
| (Freyn. & Bornm.) Bornm. (Lamiaceae)           |              |                           |                      |
| **Salvia verticillata L. subsp. verticillata** | Karabaş otu  | Herb/Catarrah, colds, laxative | Decoction/Internal |
| (Lamiaceae)                                    |              |                           |                      |
| **Sambucus nigra L.** (Caprifoliaceae)         | Patrık       | Leaf/Abcess. Flower/Asthma | Direct application/External Infusion/Internal |
| **Sanguisorba minor Scop.** (Rosaceae)         | Çay القادم     | Herb/Diuretic, constipant, stomachic, orexigenic | Decoction/Internal |
| **Satureja hortensis L.** (Lamiaceae)          | Dağ keğiği   | Herb/Immunostimulant      | Internal             |
| **Scabiosa sulfurea Boiss. & Huet**            | Puk          | Latex/Antiseptic         | Decoction/External   |
| **Scorzonera cana** (C. A. Meyer) var. **jacquiniana** (W. Koch) Chamberlain (Asteraceae) | Yemlik       | Leaf/Orexigenic, galactagogue | Fresh/Internal |
| **Scorzonera cinerea Boiss.** (Asteraceae)     | Dağsakızı    | Latex/Cough               | Internal             |
| **Scorzonera latifolia** (Fisch & Mey.) DC.  (Asteraceae) | Dağsakızı    | Root, latex/Backache, sterility | Pounded/External |
| **Scorzonera rigida Aucher** (Asteraceae)      | Dağsakızı    | Latex/Backache, sterility | Pounded/External |
| **Scorzonera semicana DC.** (Asteraceae)       | Dağsakızı    | Root/Sterility            | Pounded/External     |
| **Scorzonera sosnowskii Libs.** (Asteraceae)   | Dağsakızı    | Latex/Backache            | Pounded/External     |
| **Scorzonera suberosa** C.Koch subsp. suberosa (Asteraceae) | Yemlik       | Root, herb/Orexigenic, galactagogue | Fresh/Internal |
| **Scrophularia libatonica Boiss. var. urartuensis** R.Mill. (Scrophulariaceae) | Süpürge otu | Leaf/Inflammed wounds    | Pounded/External     |
| **Scutellaria orientalis L. subsp. orientalis** (Lamiaceae) | Kaside       | Leaf/abdominal pain, stomache pain | Infusion/Internal     |
| **Scutellaria orientalis L. subsp. sosnowskyi** (Takht.) Fed. (Lamiaceae) | Sancı otu    | Herb/Abdominal pain, nephralgia, carminative | Infusion/Internal   |
| **Senecio vernalis Waldst. & Kit.** (Asteraceae) | Açı papatya | Herb/Anti-inflammatory     | Decoction/Internal   |
| **Sideritis libanonica subsp. kurdica** (Lamiaceae) | Adaçayı      | Leaf/Sedative, colds      | Infusion, Decoction/Internal Poultice/External |
| **Sideritis montana** (Lamiaceae)              | Yaraotu      | Herb/Cough                | Infusion/Internal    |
| **Silene alba** (Miller) Krause subsp. **divaricata** (Reichb.) Walters (Caryophyllaceae) | Garagile     | Herb/Eczema               | Decoction/External   |
| **Silene compacta** Fischer (Caryophyllaceae)  | Horoz pipği | Leaf/Vulnerary            | Pounded/External     |
| **Silene saxatilis** Sims. (Caryophyllaceae)   | Simotu       | Leaf/Vulnerary            | Pounded/External     |
| **Sobolewskaia clavata** (Boiss.) Fenzl. (Brassicaceae) | Yel otu      | Herb/Antirheumatic        | Poultice/External    |
| **Solanum dulcamara L.** (Solanaceae)          | Açı ot       | Herb/Burn                 | Poultice/External    |
| **Sophora alopecuroides** L. var. **alopecuroides** (Fabaceae) | Acibiyani    | Root/Scabies              | Decoction/External   |
| **Sorbus domestica L.** (Rosaceae)             | Üvez         | Fruit/Cough, diarrhea     | Eaten                |
|                                                |              | Leaf/Burns                | Poultice/External    |
| Scientific Name | Common Name | Uses |
|-----------------|-------------|------|
| *Stachys annua* subsp. *annua* var. *lycaonica* (Lamiaceae) | Dağ çayı | Herb/Colds, antipyretic Decoction/Internal |
| *Stachys cretica* L. subsp. *mersinaea* (Boiss.) Rech. fil. (Lamiaceae) | Dağ çayı | Herb/Colds, stomach ailments Infusion, Decoction/Internal |
| *Stachys cretica* subsp. *anatolica* (Lamiaceae) | Dağ çayı | Herb/Colds, stomach ailments Infusion, Decoction/Internal |
| *Stachys iberica* Bieb. subsp. *georgica* Rech. (Lamiaceae) | Dağ çayı | Herb/Colds, antipyretic Decoction/Internal |
| *Stachys iberica* Bieb. subsp. *stenostacya* (Boiss.) Rech. fil. (Lamiaceae) | Dağ çayı | Herb/Colds, antipyretic, stomach ache Decoction/Internal |
| *Stachys lavandulifolia* Vahl. (Lamiaceae) | Dağçayı | Herb/Antipyretic, cough Infusion/Internal |
| *Tanacetum argrophyllum* (C. Koch) Tzvel. var. *argrophyllum* (Asteraceae) | Çeren | Herb/Scabies Capitulum/Pulmonic disorders, colds, antipyretic, anti-inflammatory Decoction/External Infusion/Internal |
| *Tanacetum balsamita* L. (Asteraceae) | Marsuvan otu | Herb/Tonic, stimulant, antipyretic, headache diuretic, stomachic gall bladder disorders, vulnerary, abscess Infusion/Internal |
| *Tanacetum chilophyllum* (Fisch. & Meyer) Schultz var. *chilophyllum* (Asteraceae) | Çeren | Capitulum/Pulmonic disorders, colds, kidney stones, antipyretic Decoction/Internal |
| *Tanacetum parthenium* (L.) Schultz (Asteraceae) | Marsuvan otu | Herb/Tonic, stimulant, antipyretic, headache diuretic, stomachic gall stone Decoction/Internal |
| *Tanacetum punctatum* (Desr.) Grierson (Asteraceae) | Sendel | Herb/Emmenagogue, anti-inflammatory Infusion/Internal |
| *Taraxacum androssovii* Schischkin (Asteraceae) | Zeze | Leaf/Antirheumatic, wounds Lef/Stomach disorders, internal medicine, kidney stones, anti-inflammatory Poultice/External Infusion/Internal |
| *Taraxacum crepidiforme* DC. (Asteraceae) | Karahindiba, Hidut | Latex/Eye diseases Dropped |
| *Taraxacum fedtschenkoi* Hand.-Mazz. (Asteraceae) | Zeze | Leaf/Antirheumatic, wounds Lef/Stomach disorders, internal medicine, kidney stones, anti-inflammatory Poultice/External Infusion/Internal |
| *Taraxacum macrolepium* Schischkin (Asteraceae) | Zeze | Leaf/Antirheumatic, wounds Lef/Stomach disorders, internal medicine, kidney stones, anti-inflammatory Poultice/External Infusion/Internal |
| *Tchihatchewia isatidea* Boiss. (Brassicaceae) | - | Root/Vulnerary Pounded/External |
| *Telephium imperati* L. subsp. *orientale* (Boiss.) Nyman (Caryophyllaceae) | Mayasslotu | Herb, leaf/Antihaemorrhoidal Decoction/External |
| *Teucrium chamaedrys* L. (Lamiaceae) | Yer meşesi | Herb/Toothache, kidney pain, stomachic, indigestion, heart diseases Infusion, decoction/Internal |
| *Teucrium parviflorum* Schreber (Lamiaceae) | Dağ kekiği | Herb/Antihaemorrhoidal Decoction/Internal |
| *Teucrium polium* L. (Lamiaceae) | Merven | Herb/Stomach, diarrhoea, antihaemorrhoidal, internal diseases, diabetes, analgesic, anti-inflammatory, edema, stomach ache, digestive, orexigenic, carminative, tuberculosis, abdominal pain Herb/Sunstroke, hemostatic Fresh, Decoction/Internal Direct application/External |
| *Thalictrum minus* L. var. *microphyllum* Boiss. (Ranunculaceae) | Kahraman kaytaran | Herb/Asthma Herb/Cardialgia, headache Decoction/vaporization Poultice/Internal |
| *Thalictrum minus* L. var. *minus* (Ranunculaceae) | Kara katranotu | Herb/Eye diseases, diuretic, abscess Poultice/External |
| *Thymbra spicata* L. (Lamiaceae) | Zahter | Herb/Antihaemorrhoidal Decoction/External |
| *Thymus fallax* Fisch. & Mey. (Lamiaceae) | Kekik | Herb/Backache, hypertension, anti-inflammatory, cancer, enteralgia, vermifuge Infusion, Decoction/Internal |
| Plant Name | Part Used | Common Uses |
|-----------|-----------|-------------|
| Thymus haussknechtii Velen. (Lamiaceae) | Kekik, Herb | Cough, diabetes, colds, abdominal ailments |
| Thymus kotschyanus Boiss. & Hohen. subsp. glabrescens Boiss. (Lamiaceae) | Kekik, Catri, Herb | Backache, hypertension, anti-inflammatory, cancer, enteralgia, vermifuge, diabetes, colds, abdominal ailments |
| Thymus kotschyanus Boiss. & Hohen. subsp. glabrescens Boiss. (Lamiaceae) | Kekik, Herb | Backache, hypertension, enteralgia, anti-inflammatory, cancer, vermifuge, cold, kidney stones |
| Thymus praecox Opiz. subsp. grossheimii (Ronniger) Jalas var. grossheimii (Lamiaceae) | Kekik, Herb | Hypertension, enteralgia, anti-inflammatory, cancer, vermifuge, colds |
| Thymus sipyleus Boiss. subsp. rosulans (Barbar) Jalas (Lamiaceae) | Catri, Herb | Diabetes, colds, abdominal ailments |
| Thymus transcaucasicus Klokov & Des.-Shost. (Lamiaceae) | Kekik, Herb | Backache, hypertension, enteralgia, anti-inflammatory, cancer, vermifuge |
| Typha latifolia L. (Typhaceae) | - Flower | Hemostatic |
| Tragopogon buphtalmoides (DC.) Boiss. var. buphtalmoides (Asteraceae) | Yemlik, Latex | Herb, Stomach and intestinal disorders |
| Tragopogon coloratus C. A. Meyer (Asteraceae) | - | Stomach ache |
| Tragopogon dubius Scop. (Asteraceae) | Yemlik, Herb | Stomach ache |
| Tragopogon longirostris Haleelyn (Asteraceae) | Sipink, Stem, leaves | Intestinal disorders, Latex, Vulnerary |
| Tragopogon pratensis L. subsp. orientalis (L.) Celak (Asteraceae) | At yemliği, Herb | Stomach ache |
| Tragopogon pterocarpus DC. (Asteraceae) | Yemlik, Herb | Stomach ache |
| Tragopogon reticulatus Boiss. & Huet (Asteraceae) | At yemliği, Herb | Stomach ache |
| Tribulus terrestris L. (Zygophyllaceae) | Deveçökerten, Herb | Expectorant, diuretic diarrhea, Stomach ache |
| Trifolium ambiguum Bieb. (Fabaceae) | Alma otu, Herb | Galactagogue, antihemorrhoidal, tonic, intestinal disorders |
| Trifolium pratense L. var. pratense (Fabaceae) | Üçkulak, Leaf | Vulnerary |
| Trifolium repens L. var. repens (Fabaceae) | Ak üçgül, Herb | Tonic, antirheumatic |
| Trifolium repens L. var. giganteum Lag.-Foss. (Fabaceae) | Giyamembel, Herb | Stomachic |
| Trigonella foenum-graceum L. (Fabaceae) | Halbet, Piltan, Seed | Hypoglycemic |
| Tripleurospermum monticolum (Boiss. & Huet) Bormm. (Asteraceae) | Kır papatya, Capitulum | Hair care, Colds, cough, antipyretic, stomach ache |
| Tripleurospermum parviflorum (Willd.) Pobed. (Asteraceae) | Papata, Capitulum | Hair care, Colds, cough, antipyretic, stomach ache |
| Tripleurospermum sevanense (Manden.) Pobed. (Asteraceae) | Papata, Capitulum | Hair care |
| Tussilago farfara L. (Asteraceae) | Öksürük otu, Herb | Cough, expectorant |
| Ulmus carpinifolia Gleditsch. (Ulmaceae) | Karaağaç, Root | Bark, Abscess |
| Ulmus minor Miller subsp. minor (Ulmaceae) | Karaağaç, Root | Bark, Anti-inflammatory, wounds |

Infusion, Decoction/Intern | Infusion, Decoction/Internal |

Pounded, Decoction/Intern | Pounded/External |

Decoction, Decoction/Internal | Pounded/External |

Infusion, Decoction/Internal | Pounded/External |

Decoction, Decoction/Internal | Pounded/External |

Decoction, Decoction/Internal | Pounded/External |
| Plant Name                          | Part Used | Uses                                                                 |
|------------------------------------|-----------|----------------------------------------------------------------------|
| *Umbilicus erectus* DC. (Crassulaceae) | -         | Root/Women’s sterility  Decoction/Internal                            |
| *Urtica dioica* L. (Urticaceae)     | Isrgan otu | Herb/Cancer, antirheumatic, diabetes, stomachic, cough, colds, throat diseases, analgesic, edema, sedative, laxative, anti-inflammatory, emmenagogue, asthma, hypertension, kidneystones Leaf/Hair care |
| *Urtica dioica* L. (Urticaceae)     | Isrgan     | Herb/Antirheumatic                                                                                               |
| *Valeriana officinalis* L. (Valerianaceae) | -         | Herb/Kidney Stones  Decoction/Internal                                                                         |
| *Verbascum speicium* Schrader (Scrophulariaceae) | Siğır guyruğu | Basal leaf/Myocodermatitis  Direct application/External                                                        |
| *Veronica orientalis* Miller (Scrophulariaceae) | Gozmuncu çiçeği | Herb/Kidney stones, pulmonic disorders  Infusion/Internal                                                        |
| *Viburnum lantana* L. (Caprifoliaceae) | Gürmelço | Fruit/Diabetes, diarrhoea  Decoction/Internal                                                                   |
| *Viburnum opulus* L. (Caprifoliaceae) | Güllebutu | Fruit/Antitussive, nephralgia  Decoction/Internal                                                                |
| *Ziziphora clinopodioides* Lam. (Lamiaceae) | Reyhan | Herb/Stomach ache, carminative, orexigenic, colds  Infusion, decoction/Internal                                      |
| *Ziziphora taurica* Bieb. subsp. taurica (Lamiaceae) | Merze | Herb/Carminative, orexigenic, stomach ache, hypertension  Infusion Internal                                         |
| *Zosima absinthifolia* Link (Apiaceae) | Bolu | Leaf/Diabetes  Decoction/Internal                                                                                  |
| *Zygophyllum fabago* L. (Zygophyllaceae) | İt überliği | Herb/Infertility, antirheumatic  Decoction/Vaporization                                                          |
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)                       |
| Ozgokce & Ozcelik (2004)    | 34            | 65 (64+1)                       |
| Yesil and Akalin (2009)     | 19            | 47 (43+4)                       |
| Tabata et al. (1994)        | 21            | 41 (38+3)                       |
| Cakilcioğlu et al. (2010)   | 17            | 41 (38+3)                       |
| Gumus (1994)                | 14            | 35 (35+0)                       |
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 apertocarpa*, *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 macroperma*, *N. pulla* ssp. *monticola*, *Onobrychis stenostachya* ssp. *sosnowskyi*, *Onosma armenum*, *Origanum acutidens*, *Phlomis armeniaca*, *Scabiosa sulfurea*, *Sorzonera semicana*, *S. tomentosa*, *Sideritis libatonia* ssp. *kurdica*, *Stachys cretica* ssp. *anatolica*, *S. cretica* ssp. *mersinaea*, *Thymus haussknechtii*, *T.sipyleus* ssp. *rosulans*, *Tripleurospermum monicolum*, *Verbascum asperuloides*. 
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. Turkey'de Bitkiler ile Tedavi. Nobel Tip Kitabevleri; Bitkibilim, Sifahi Bitkiler vd.; 480 pp, 1999, Istanbul.
[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, Guce 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 Igdir. Igdir Governorship, 2010, 188 pp, Igdir.
[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 Ankyropetalum gypsophiloide 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, Igdir Provinces. Economic Botany. 1997, 51(3): 195-211.
[15] Surmeli 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. Istanbul, 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, Istanbul.
[18] Cakilcioglu U, Sengun MT, Turkoglu I. An ethnobotanical survey of medicinal plants of Yazikonak and Yurbsi districts of Elazig province, Turkey, Journal of Medicinal Plants Research, 2010, 4(7): 567-572.
[19] Tuzlaci E, Dogan A. Turkish Folk Medicinal Plants, IX: Ovacik (Tunceli). Marmara Pharmaceutical Journal, 2010, 14: 136-143, Istanbul.
[20] Baytop T, Baytop A, Mat A, Sun S. Poisonous Plants in Turkey, Plant Poisoning and Treatment Methods, Istanbul University Publications, No: 3560. 1989, Istanbul.