

Medicinal Plant Diversity of Western Mediterranean Region in Turkey

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ABSTRACT

The present study has been carried out in the western part of the Mediterranean region of Turkey. A field survey of the study area was carried out between 2004 and 2007 to document the medicinal plants and their usage. Ethnobotanical information of medicinal plants was collected through interviewing local informants (herdsmen, men and women working in the field, village headmen, midwives, and people above the age of 50 years). Semi-structured interviews were carried out to acquire information on traditional plant use, particularly on medicinal plants. As a result, a simplified list was created containing information on scientific names, vernacular names and medicinal usage of 187 plant taxa belonging to 135 genera, and 67 families. The dominant families were *Lamiaceae*, *Asteraceae*, and the *Rosaceae*. It was found that *Sideritis* sp., *Verbascum* sp., *Origanum* sp., *Salvia* sp. and *Hypericum* sp. were the most common species. Many of the plants are commonly used for the same purpose in traditional medicine around the Mediterranean area suchlike other regions of Turkey.

Key Words: Ethnomedicinal Plants, Ethnobotany, Western Mediterranean Region, Turkey

INTRODUCTION

During the past several decades, there has been a global trend for the revival of interest in the traditional system of medicine. Simultaneously the need for basic scientific investigation of medicinal plants using indigenous medical systems has become ever more interesting and relevant [1].

Recent ethnobotanical studies reveal that traditional plant knowledge still exists in various areas of the Mediterranean basin, particularly among elder people [2]. A comparison of traditional medicinal plant use in different Mediterranean countries shows that the knowledge of medicinal plants is still well sustained and may lead to the development of new phytochemical drugs [3]. Several studies have been published recently on the ethnobotany of Turkey [4, 5, 6, 7, 8, 9, 10, 11]. Furthermore, Ertuğ [12] and Baytop [13, 14] published intensive researches provided considerable information not only on medicinal plants, but also on edible plants, fodder, fuel, dyes and gums. Many more detailed studies are necessary to obtain a comprehensive picture of plant-human interactions in Turkey. However, the floral potential and remarkable accumulation of traditional usage of plants, there is no previous research reporting the ethnobotany of western part of the Mediterranean region.

The typical climate of the Mediterranean region is characterised by hot and dry summers and rainy winters.

Heavy rains are common in November, December, January and February, while dry period extends from the beginning June until the end of October. The mean annual precipitation in the area is 1052 mm and the driest and hottest months are July and August, with a mean temperature of 28 °C. The mean annual temperature is 18 °C [15]. The main tree species found in this region are *Pinus brutia* Ten. var. *brutia* and *Pinus nigra* J.F.Arn. subsp. *nigra* var. *caramanica*, *Cedrus libani* A. Rich. var. *libani*, *Juniperus excelsa* M. Bieb. subsp. *excelsa*, *Juniperus foetidissima* Willd., *Abies cilicica* (Ant. & Kotschy) Carr. subsp. *isaurica* Coode & Cullen, *Cupressus sempervirens* L. var. *horizontalis*, *Quercus cerris* L. var. *cerris*, *Quercus infectoria* Olivier subsp. *boissieri*, *Quercus libani* Olivier, *Quercus trojana* P.B. Webb., *Quercus vulcanica* (Boiss. & Heldr.) Kotschy, *Acer hyrcanum* Fisch. & Mey. subsp. *sphaerocaryum* Yalt., *A. monspessulanum* L. subsp. *monspessulanum*, *Fraxinus ornus* L. subsp. *cilicica* (Lingels) Yalt. and *Liquidambar orientalis* Miller. The most common shrubs occurring in this region are *Quercus coccifera* L., *Olea europaea* L. var. *sylvestris* (Miller) Lehr., *Ceratonia siliqua* L., *Arbutus andrachne* L., *Cotinus coggygria* Scop., *Rhus coriaria* L., *Pistacia terebinthus* L. subsp. *palaestina* (Boiss.) Engler, *Phillyrea latifolia* L., *Myrtus communis* L. subsp. *communis*, *Nerium oleander* L., *Vitex*

agnus-castus L., *Fontanesia phylliraeoides* Labill. subsp. *phylliraeoides*, *Amelanchier parviflora* Boiss. var. *dentata* Browicz, *Crataegus orientalis* Palas ex Bieb., *Berberis crataegina* DC., *Juniperus oxycedrus* L. subsp. *oxycedrus*.

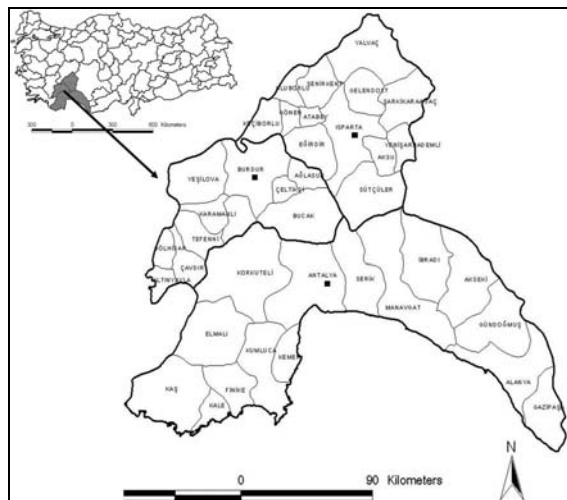


Figure 1. Map of the study area

The aim of present study is to evaluate the traditional uses of local native plants to provide safety and efficacy information for people who can not afford prescription alternatives and to encourage the preservation of culture, tradition, conservation and sustainable utilization of medicinal plant.

MATERIALS AND METHODS

Ethnobotanical information on medicinal plants was collected through interviewing 79 respondents (25 females and 54 males). Fieldwork was conducted in vegetation period from 2004 to 2007. Ethnobotanical information of native medicinal plants was collected through interviewing local informants. The local informations included herdsmen, men and women working in the field, village headmen, midwives, and people above the age of 50 years. Semi-structured interviews were carried out to acquire information on traditional plant use, particularly on medicinal plants. Tape records were made on parts of important interviews and are deposited at the first author.

To determine the accuracy of information collected during the field work, repeated verification of data was done from different informants and different times. Thus, only the specific and reliable information cross-checked with informants has been incorporated in the present study. Semi-structured interviews form was used to collect data on local plant names, uses, parts used and mode of preparation and administration.

Samples of recorded herbs, shrubs and trees were identified with the help of local flora and previous works [16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27].

Plant samples were collected according to the herbarium techniques and identified by using Flora of Turkey and the East Aegean Islands [28, 29, 30]. All plant specimens were preserved at the Süleyman Demirel University herbarium. All taxa in species, genus and family levels were written in alphabetical order.

RESULT AND DISCUSSION

As a result of present study, 187 medicinal plant species belonging to 135 genera and 67 families were found in the western part of the Mediterranean region of Turkey. This medicinal plants are listed in appendix. Four of these taxa were nonflowering vascular plants (of *Pteridophyta*), 10 taxa were *Gymnospermae*, while the remaining 173 were *Angiospermae*.

When the number of taxa is taken into consideration, *Lamiaceae* family ranked first with 45 taxa. This is because *Lamiaceae* is the first largest family of the medicinal Flora of Turkey and includes a large number of genera containing many taxa. Following *Lamiaceae*, the *Asteraceae* family is the second largest family in the Flora of Turkey, having many family members and ecological tolerance and breaking up seeds easily. Following *Asteraceae*, *Rosaceae* is represented by 12 taxa, *Apiaceae* by 9 and *Fabaceae* by 6. The five largest families according to the number of medicinal plant taxa are shown in (Table 1).

Table 1. Medicinal plant taxa totals of the largest families

| Families | Genera | Plant taxa | Plant taxa % |
|-------------------|--------|------------|--------------|
| <i>Lamiaceae</i> | 20 | 45 | 24,10 |
| <i>Asteraceae</i> | 12 | 16 | 8,55 |
| <i>Rosaceae</i> | 7 | 12 | 6,40 |
| <i>Apiaceae</i> | 7 | 9 | 4,81 |
| <i>Fabaceae</i> | 5 | 6 | 3,20 |
| Other | 84 | 99 | 52,94 |
| Families | | | |

The genera with the largest number of medicinal plant taxa in this study area are shown in Figure 2. The genus *Sideritis* had the highest number of taxa. The reason for this can be the suitable ecological factors and habitat for taxa of *Sideritis*. Also, the plant taxa of this genus are used as natural tea in this region.

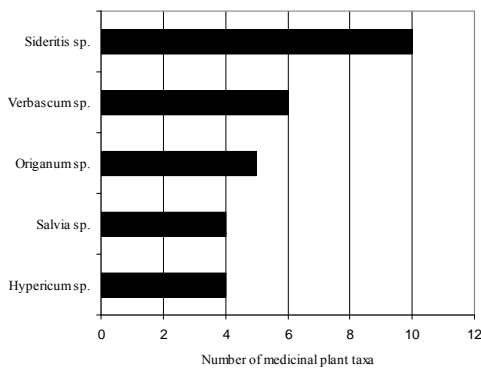


Figure 2. Medicinal plant taxa totals of the largest genera

Medical administration include gargle, infusion, decoction, rubbing/massage by volatile oil and oil, oral administration, paste/applying and poultice. Most of the ailments such as gastrointestinal disorder, maternity ailments, genito-urinary ailments, cardiovascular and circulatory diseases can be cured by oral absorption while most of the skin diseases can be cured by the external application. Some ailments may be cured by both external as well as internal application such as animal bites. In animal bites, gum extract of *Sonchus asper*, is applied locally as well as given orally as antidote. For skin lesion, sunburn and knife cut, volatile oils of *Hypericum perforatum* L. and *Hypericum scabrum* L., are applied. For throat infection, infusion of *Thymus longicaulis* subsp. *cahaubardii* var. *antalyanus*, for prostate disease, infusion of *Crataegus monogyna* subsp. *monogyna*, for diabetes and against blood coagulation, infusion of *Sorbus umbellata* var. *umbellata* are applied successfully in this region.

The most widely treated conditions are cold and flu, appetizing, constipation, stomach pain, diuretic, painkiller, antipyretic, skin lesion, antitussive, gingiva and throat inflammations, expectorant, kidney stone and sand and regularize menstrual disorders (Fig. 3).

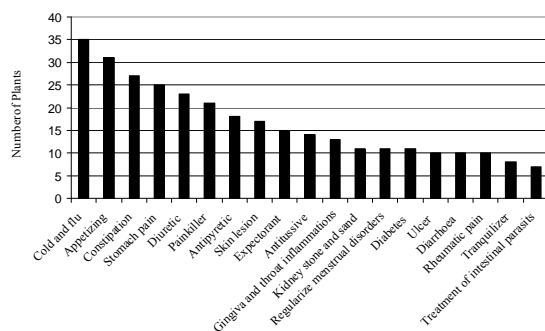


Figure 3. Number of medicinal plants which are used for ailments.

As commercial medicinal plants; *Pinus pinea*, *Castanea sativa*, *Liquidambar orientalis*, *Ceratoniasiliqua*, *Juglans regia*, *Tilia platyphyllos*, *Glycyrrhiza glabra* var. *glandulifera*, *Laurus nobilis*, *Rosa canina*, *Rhus coriaria*, *Cotinus coggygria*, *Pistacia terebinthus* subsp. *palaestina*, *Foeniculum vulgare*, *Pimpinella anisum*, *Coriandrum sativum*, *Capparis spinosa*, *Gypsophila arrostii* var. *nebulosa*, *Cistus creticus*, *Gentiana lutea*, *Melissa officinalis* subsp. *altissima*, *Origanum minutiflorum*, *Origanum onites*, *Phlomis armeniaca*, *Rosmarinus officinalis*, *Salvia fruticosa*, *Salvia sclarea*, *Salvia tomentosa*, *Sideritis condensata*, *Sideritis libanotica* subsp. *linearis*, *Thymbra spicata* var. *spicata*, *Tribulus terrestris* have been reported from this region. Due to overexploitation, these medicinal plant species become rare and now they have been seen at a few spots only. However, the local people have talked about their wide occurrence in several localities recently. If proper and immediate steps were not taken for their conservation and sustainable utilization, these species would be threatened in near future.

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Appendix (Medicinal Plants of Western Mediterranean Region in Turkey)

Abbreviations: BR, bark; BU, bulb; CP, capsule; CN, cone; EX, extract; GN, gall-nut; FL, flowers; FR, fruits; FRC, cauline of fruit; LE, leaves; PE, pericarp; PU, part of underground; RH, rhizome; RO, root; SD, seeds; SH, shoot; TB, tuberosity; TW, twig; End., Endemic; Vern., Vernacular; Inf., Infusion; Dec., Decoction.

PTERIDOPHYTA

| Family | Species | End. state | Vern. name | Part/s used | Medicinal uses |
|--------------|--|------------|-------------------|-------------------|--|
| Adiantaceae | <i>Adiantum capillus-veneris</i> L. | - | Venüssaçı | Inf. of PU | Antitussive, expectorant |
| Aspidiaceae | <i>Dryopteris filix-mas</i> (L.) Schott. | - | Solucan Eğreltisi | Dec. of RH | Poisonous, treatment of human intestinal parasites |
| Equisetaceae | <i>Equisetum arvense</i> L. | - | | | |
| | <i>Equisetum ramossissimum</i> Desf. | - | Atkuyruğu | Inf. of LE and SH | Poisonous, diuretic, spontaneous kidney stone and sand passage, gum inflammations and tonsillitis (gargle), eczema, rheumatismal pain, atherosclerosis |

SPERMATOPHYTA (GYMNOSPRMAE)

| Family | Species | End. state | Vern. name | Part/s used | Medicinal uses |
|--------------|--|------------|------------------|-----------------------------------|---|
| Cupressaceae | <i>Cupressus sempervirens</i> L. var. <i>horizontalis</i> | - | Servi | Dec. of CN | Constipation, antipyretic, diaphoretic, hemorrhoid, enuresis nocturna |
| | <i>Arceuthos drupacea</i> (Lab.) Ant.&Kotschy | - | Andız | Grape molasses of SD Tar of BR | Aphrodisiac Respiratory and to treat urinary disease |
| | <i>Juniperus oxycedrus</i> L. subsp. <i>oxycedrus</i> | - | Ardıç Katranı | Tar of BR | Skin lesion, manginess treatment, antiseptic |
| Pinaceae | <i>Abies cilicica</i> (Ant. &Kotschy) Carr. subsp. <i>isaurica</i> Coode &Cullen. | E | Gökknar | Gum | Antiseptic, blain treatment |
| | <i>Pinus brutia</i> Ten. var. <i>brutia</i> | - | Kızılçam | Tar of BR | Skin lesion, antiseptic |
| | <i>Pinus nigra</i> J.F.Arn. subsp. <i>nigra</i> var. <i>caramanica</i> (Laudon) Rehder | - | Karaçam | Resin of BR | Respiratory and to treat urinary disease, dyspepsia, antiseptic |
| | <i>Pinus pinea</i> Ten. | - | Çam Fıstığı | FR | Aphrodisiac |
| | <i>Cedrus libani</i> A. Rich. var. <i>libani</i> | - | Sarı Katran | Tar of BR | Skin lesion, topical antifungal for skin, antiseptic |
| Ephedraceae | <i>Ephedra major</i> Host | - | Deniz Üzüümü | Inf. of TW | Rheumatic pain, diaphoretic |
| | <i>Ephedra campylopoda</i> C. A. Meyer | - | | | |

SPERMATOPHYTA (ANGIOSPRMAE/Magnoliopsida)

| Family | Species | End. state | Vern. name | Part/s used | Medicinal uses |
|------------------|--|------------|-----------------------|---------------------------|--|
| Anacardiaceae | <i>Rhus coriaria</i> L. | - | Derici Sumağı | Inf. of LE and BR | Diarrhoea, antipyretic, gingiva and throat inflammations, weeping, antiseptic, skin lesion, to increase saliva |
| | <i>Cotinus coggygria</i> Scop. | - | Boyacı Sumağı | Inf. of LE | Diarrhoea, antipyretic, gingiva and throat inflammations, weeping |
| | <i>Pistacia terebinthus</i> L. subsp. <i>palaestina</i> (Boiss.) Engler | - | Çitlik, Menengiç | Gum | Expectorant, diuretic |
| Apiaceae | <i>Amni visnaga</i> (L.) Lam. | - | Kürdan Otu Diş Otu | Dec. of FR and FRC | Antitussive, spontaneous kidney stone and sand passage, ear inflammations, asthma |
| | <i>Anethum graveolens</i> L. | - | Dere Otu | Inf. of LE and SH | Appetizing, to increase breast milk, tranquilizer, digestive |
| | <i>Conium maculatum</i> L. | - | Baldıran | Dec. of LE and RO | Poisonous, neural tranquilizer, rheumatismal pain |
| | <i>Echinophora tenuifolia</i> L. subsp. <i>sibthopiana</i> (Guss.) Tutin | - | Çörtük Otu | Inf. of FL, LE and SH | Gastric ulcer |
| | <i>Echinophora tournefortii</i> Jaub.& Spach. | - | Çörtük Otu | | |
| | <i>Eryngium campestre</i> L. | - | Boğa dikeni | Inf. of FL and SH | Appetizing, antitussive |
| | <i>Foeniculum vulgare</i> Miller | - | Rezene | Inf. of FR | To increase breast milk, dyspepsia in children, tachycardia, bronchitis, antitussive, inflammation of skin disease |
| | <i>Pimpinella anisum</i> L. | - | Anason | Inf. of FR | Dyspepsia, to increase breast milk |
| | <i>Coriandrum sativum</i> L. | - | Kişniş | Inf. of FR | Dyspepsia, appetizing |
| Apocynaceae | <i>Nerium oleander</i> L. | - | Zakkum | Mush of LE | Poisonous, antipruritic (relieves itching) |
| Araceae | <i>Acorus calamus</i> L. | - | Eğir Kökü | Inf. of RH | Headache and teeth pain, to increase memory, diaphoretic, tonsillitis, prostate disease |
| Araliaceae | <i>Hedera helix</i> L. | - | Orman Sarmaşığı | Inf. or dec. of LE and FR | Poisonous, neural disease, rheumatic pain, gynaecology, treatment of human intestinal parasites (worm) |
| Aristolochiaceae | <i>Aristolochia hirta</i> L. | - | Acıkök | Infusion of RO | Stomach pain, antidote in scorpion and snake bite |
| Aspleniaceae | <i>Ceterach officinarum</i> D.C. | - | Altın Otu | Infusion of LE and FL | Diuretic, hemorrhoid |
| Asteraceae | <i>Achillea millefolium</i> L. | - | Ayvadana | Inf. of FL, | Diuretic, regularize menstrual |

| | | | | | |
|-----------------|---|--------|---------------------------|--|--|
| | <i>Achillea nobilis</i> L. | - | | LE and SH | disorders, gastric chill, urinary infection, cold |
| | <i>Anthemis cretica</i> L. subsp. <i>leuconthmoides</i> (Boiss.) Griesson | - | Papatya | Inf. of FL | Regularize menstrual disorders, dyspepsia, tranquilizer |
| | <i>Anthemis chia</i> L. | - | Tarla Papatyası | | |
| | <i>Artemisia vulgaris</i> L. | - | Acı Yavşan | Inf. of FL and LE Syrup of FL and LE | Appetizing, antipyretic, regularize menstrual disorders, icterus |
| | <i>Bellis perennis</i> L. | - | Çayır Papatyası | Inf. of FL | Diuretic |
| | <i>Chondrilla juncea</i> L. | - | Çengel Sakızı | Gum of RO | Skin lesion and gastric sickness |
| | <i>Cichorium intybus</i> L. | - | Hindiba | Dec. of FL, LE and RO | Diuretic, constipation, diaphoretic, stomach pain |
| | <i>Helichrysum pamphylicum</i> Davis & Kupicha | E | Altın Otu | Inf. or dec. of FL | Ulcer, diuretic, spontaneous kidney stone and sand passage |
| | <i>Helichrysum arenarium</i> (L.) Moench subsp. <i>aucheri</i> (Boiss.) Davis & Kupicha | E | Altın Otu | | |
| | <i>Inula heterolepis</i> Boiss. | - | Kaya Andızotu | Inf. of LE and SH | Appetizing |
| | <i>Matricaria chamomilla</i> L. | | Papatya | Inf. of FL | Appetizing, headache and stomach pain, depression, antipruritic (relieves itching), sore throat, skin lesion, diuretic, hemorrhoid treatment, insomnia, regularize menstrual disorders |
| | <i>Silybum marianum</i> (L.) Gaertner | - | Deve Dikeni | Inf. of SH and FL | Antipyretic, rheumatismal pain, painkiller, to increase ballast |
| | <i>Sonchus asper</i> (L.) Hill. | - | Eşek Marulu | Latex of SH | Antidote for insect bite |
| | <i>Taraxacum officinalis</i> Web. | - | Köpek Marulu | Inf. of SH, FL and LE Tincture of SH and LE Salad of LE Latex of LE | Diabetes, stomach pain, constipation Eczema Diabetes, ulcer, malaria Callus and verruca |
| | <i>Tussilago farfara</i> L. | - | Öksürük otu | Inf. of LE | Antitussive |
| Berberidaceae | <i>Berberis vulgaris</i> L. <i>Berberis crategina</i> D.C. | - - | Karamuk | Inf. of RO and BR | Antipyretic, astringent, hepatitis, urinary and kidney infection |
| Betulaceae | <i>Alnus orientalis</i> Decne. var. <i>orientalis</i> | - | Kızılağaç | Inf. LE Inf. of BR | Diuretic, ascaris, to increase breast milk, astringent, treatment of human intestinal parasites (tapeworm) Antipyretic, astringent |
| Boraginaceae | <i>Alkanna tinctoria</i> (L.) Tausch <i>Alkanna sieheana</i> Rech. | - E | Havacıva | Inf. of RO | Constipation, skin lesion |
| Brassicaceae | <i>Capsella bursa-pastoris</i> (L.) Medik | | Kuşkuş Otu, Çoban Çantası | Inf. of LE and FL Mush of LE, FL and FR | Treatment of abnormal uterine and hemorrhoid bleeding, enuresis nocturna, dysentery, sore throat (gargle), blood-pressure, peptic pain Skin lesion |
| | <i>Nasturtium officinale</i> R.B. | - | Su Teresi | Inf. of LE, SH and FL | Expectorant, diuretic, diabetes, tranquilizer |
| Capparidaceae | <i>Capparis spinosa</i> L. | - | Kebere | Pickle of bud | Diuretic, painkiller |
| Caprifoliaceae | <i>Sambucus nigra</i> L. | - | Mürver | Dec. or inf. of FL | Diuretic |
| Caryophyllaceae | <i>Gysophila arrostii</i> Guss. var. <i>nebulosa</i> (Boiss.&Heldr.) Bark. | E | Çöven | Inf. of RO | Expectorant |

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|----------------|--|---|-----------------------------|--|--|
| | <i>Silene vulgaris</i> (Moench) Garcke var. <i>vulgaris</i> | - | Gıvışgan | Inf. of RO, LE, FL and SH | To treat urinary disease |
| Chenopodiaceae | <i>Chenopodium foliosum</i> L. | - | İt Üzüümü, Yer Üzüümü | Inf. of LE | Diuretic, purgative |
| | <i>Chenopodium album</i> L. | - | Sirken | Inf. of LE, FL and SH | Anaemia, an open sore |
| Cistaceae | <i>Cistus creticus</i> L. | - | Pembe Çiçekli Karağan | Inf. of LE | Constipation, expectorant |
| | <i>Cistus salviifolius</i> L. | - | Beyaz Çiçekli Karağan | | |
| Cornaceae | <i>Cornus mas</i> L. | - | Ergen, Eren | Inf. BR Food of FR | Antipyretic Diarrhoea |
| Convolvulaceae | <i>Convolvulus arvensis</i> L. | - | Tarla Sarmaşığı | Inf. of LE and FL Mush of RO | Weakening, prostate inflammation, Rheumatismal pain |
| Cucurbitaceae | <i>Ecballium elaterium</i> A. Richard | - | Şeytan Keleşi | Sap of FR | Sinusitis treatment, fungal infection |
| Juglandaceae | <i>Juglans regia</i> L. | - | Adi Ceviz | Inf. or dec. of LE and BR | To increase breast milk, whopping- cough (pertussis) |
| Elaeagnaceae | <i>Eleagnus angustifolia</i> L. | - | İğde | Inf. of FL | Cold and flu |
| | <i>Hipophae rhamnoides</i> L. | - | Yalancı İğde | Inf. or syrup of FR | Cold and flu, antiseptic, constipation |
| Ericaceae | <i>Erica manipuliiflora</i> Salisb. | - | Süpürge Çalısı | Inf. of SH, FL and LE | Diuretic |
| Fabaceae | <i>Ceratoniasiliqua</i> L. | - | Keçi Boynuzu | Fresh FR | Diuretic, purgative |
| | <i>Genista tinctoria</i> L. | - | Boyacı Katırtırnağı | Inf. of FL | Diuretic, purgative, diaphoretic. |
| | <i>Glycyrrhiza glabra</i> L. var. <i>glandulifera</i> (Waldst. & Kit.) Boiss. | - | Meyan Kökü | Inf. of RO | Expectorate, pectoral plasticizers, consumption, kidney and stomach disease |
| | <i>Glycyrrhiza asymerica</i> Hub.-Mor. | - | Meyan Kökü | Inf. of RO | Expectorate, pectoral plasticizers, consumption, kidney and stomach disease |
| | <i>Ononis spinosa</i> L. | - | Kayışkıran | Dec. of RO | Spontaneous kidney stone passage, diuretic |
| | <i>Vicia faba</i> L. | - | Bakla | Dec. of FL | Spontaneous kidney stone passage |
| Fagaceae | <i>Castanea sativa</i> Miller | - | Kestane | Inf. of LE | Antipyretic, whooping-cough |
| Gentianaceae | <i>Gentiana lutea</i> L. | - | Censiyan | Inf. of RO | Appetizing, antipyretic, stomach disease |
| Geraniaceae | <i>Pelargonium endlicherianum</i> Fenzl | - | Solucan Otu | Food | Treatment of human intestinal parasites (tapeworm) |
| Hamamelidaceae | <i>Liquidambar orientalis</i> Miller | E | Günlük Ağacı | Balsam of BR | Antiseptic, skin lesion, ulcer, whooping-cough, asthma bronchitis, fungal infection, expectorant, gonorrhoea, psoriasis, hemorrhoid, lung disease, painkiller (especially insect bites) |
| Hypericaceae | <i>Hypericum confertum</i> <i>Choisy</i> var. <i>stenobotrys</i> (Boiss.) Holmboe | - | | Inf. of SH, FL and LE | Stomach and intestine gaseous, peptic pain, cold, diaphoretic, painkiller, depression, enuresis nocturna, gastric ulcer |
| | <i>Hypericum perforatum</i> L. | - | | | |
| | <i>Hypericum scabrum</i> L. | - | Kantaron | Volatile oil of SH, FL and LE | Skin lesion and sunburn, knife cut, antiseptic |
| | <i>Hypericum avicularifolium</i> Jaub. & Spach subsp. <i>depilatum</i> (Freyn & Bornm.) Robson var. <i>depilatum</i> | E | | | |
| Juglandaceae | <i>Juglans regia</i> L. | - | Ceviz | Inf. of LE Oil of FR | Appetizing, astringent, tonic, anthelmintic Purgative |
| Lamiaceae | <i>Ajuga chamaepitys</i> (L.) Schreber subsp. <i>chia</i> (Schreber) Arcangeli | - | Yer Çamı | Inf. of SH, FL and LE | Gynaecology (regularize menstrual disorders), painkiller, astringent, |

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|--|---|------------------------|----------------------------------|---|
| var. <i>chia</i> | | | Mush of SH, FL and LE | antitussive Skin lesion |
| <i>Calamintha nepeta</i> (L.) Savi subsp. <i>nepeta</i> | - | Taş Nanesi | Inf. of SH, FL and LE | Cold and flu, diarrhoea, indigestion |
| <i>Calamintha betulifolia</i> Boiss. & Bal. | - | Dağ Nanesi | | |
| <i>Calamintha tauricola</i> P.H. Davis | E | Taş Nanesi | | |
| <i>Lavandula stoechas</i> L. | - | Karabaşotu | Inf. of FL | Neural disease, dizziness |
| <i>Marrubium vulgare</i> L. | - | Boz ot, Mayasıl Otu | Inf. of FL, LE and SH | Painkiller, diuretic, pectoral plasticizers |
| <i>Melisa officinalis</i> L. subsp. <i>altissima</i> (Sm.) Arcangeli | - | Limon Otu | Inf. of SH, FL and LE | Intestine gaseous, antipyretic, high tension, diabetes, tranquilizer, stomach pain and cramp |
| <i>Mentha spicata</i> L. subsp. <i>spicata</i> | - | | Inf. of SH and LE | Cold and flu, diarrhoea, indigestion |
| <i>Mentha pulegium</i> L. | - | Nane | | |
| <i>Micromeria fruticosa</i> (L.) Druce subsp. <i>brachycalyx</i> P. H. Davis | - | Taş nanesi, Yarpuz | Inf. of SH and LE | Cold and flu, diarrhoea, indigestion |
| <i>Nepeta italica</i> L. | - | Pisik Otu | Inf. of SH and LE | Cold and flu, stomach cold |
| <i>Origanum minutiflorum</i> O. Schwarz & P. H. Davis | E | Sütçüler Kekiği | Inf. of SH, FL and LE | Cold and flu, throat infection |
| <i>Origanum onites</i> L. | - | Bilyalı Kekik | Volatile oil of SH, FL and LE | Throat infection |
| <i>Origanum saccatum</i> P.H. Davis | E | Kekik | Distilled water of SH, FL and LE | To reduce cholesterol and blood sugar, digestive and respiratory system disease, ulcer and intestines disease, arthrosis and waist pain |
| <i>Origanum vulgare</i> L. | - | Keklik Otu | | |
| <i>Origanum sipyleum</i> L. | E | Bayır Kekiği | | |
| <i>Phlomis armeniaca</i> Willd. | E | Şalba | | |
| <i>Phlomis lunariifolia</i> Sibth. & Sm. | - | Çalba or Şalba | Inf. of LE | Constipation and stomach ache, appetizing, cold and flu |
| <i>Phlomis lycica</i> D. Don | - | Çalba or Şalba | | |
| <i>Phlomis pungens</i> Willd. | - | Ayı Kulağı | | |
| <i>Rosmarinus officinalis</i> L. | - | Biberiye | Inf. of LE Oil of LE and FL | Constipation, cephalalgia, diuretic, diabetes Rheumatic pain |
| <i>Salvia fruticosa</i> Miller | - | Elma Ada Çayı | Volatile oil of SH, FL and LE | Intestine gaseous, diuretic, antiseptic |
| <i>Salvia sclarea</i> L. | - | Misk Ada Çayı | | Sore throat, throat inflammation, antitussive, stomach cold, depression, |
| <i>Salvia tomentosa</i> Miller | - | Büyük Çiçekli Ada | Inf. of SH, FL and LE | gynaecological disease, ulcer and intestines spasm, cold, exhaustion, antitussive |
| <i>Salvia viridis</i> L. | - | Ada Çayı | | |
| <i>Sideritis condensata</i> Boiss. & Heldr. Apud Bentham | E | Dağ Ada Çayı | | |
| <i>Sideritis erythrantha</i> Boiss. & Heldr. var. <i>erythrantha</i> | E | Dağ Ada Çayı | | |
| <i>Sideritis libanotica</i> Labill. subsp. <i>linearis</i> (Bentham) Bornm. | E | Tüylü Dağ Ada Çayı | | |
| <i>Sideritis perfoliata</i> L. | - | Dağ Ada Çayı | Inf. of SH, FL and LE | Constipation and stomach ache, appetizing, stomach pain, painkiller, throat inflammation, neural appeaser, cold |
| <i>Sideritis arguta</i> Boiss. & Heldr. | - | Dağ Çayı | | |
| <i>Sideritis argyrea</i> P.H. Davis | - | Dağ Çayı | | |
| <i>Sideritis congesta</i> P.H. Davis & Hub. Mor | - | Eşek Çayı | | |
| <i>Sideritis perfoliata</i> L. | - | Dağ Çayı | | |
| <i>Sideritis pisidica</i> Boiss. & Heldr. | - | Çalba Çayı | | |
| <i>Sideritis syriaca</i> L. | - | Dağ Çayı | | |
| <i>Stachys aleurites</i> Boiss. & Heldr. apud Bentham | E | Tokalı Çay | Inf. of SH, FL and LE | Cold and flu, stomach pain, painkiller, appetizing |

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| | <i>Teucrium chamaedrys</i> L. | - | Kısamah- mut Otu | Inf. of FL | Gastric pain, diabetes, appetizing |
| | <i>Thymbra spicata</i> L.var. <i>spicata</i> | - | Eşek Kekığı | Inf. of SH, FL and LE | Cold and flu, throat infection |
| | <i>Thymus longicaulis</i> C.Persl subsp. <i>cahaubardii</i> (Boiss. &Heldr. ex <i>eichb. Fil.) Jalas . var. antalyanus</i> (Klokov) <i>Jalas</i> | E | Antalya Kekığı | Inf. of SH, FL and LE | Cold and flu, throat infection |
| | <i>Thymus revolutus</i> Celak | E | Kekik | | |
| | <i>Thymus zygoides</i> Griseb. subsp. <i>lycaonicus</i> (Celak.) Ronniger | E | Kekik | | |
| | <i>Teucrium polium</i> L. | - | Acı Yavşan | Inf. of SH, FL and LE | Cold, sore throat, because of exhaustion waist and foot pain, stomach cold, toothache |
| | <i>Ziziphora taurica</i> Bieb. subsp. <i>taurica</i> | - | Nane Ruhü | Inf. of FL, LE and SH | Stomach ache |
| Lauraceae | <i>Laurus nobilis</i> L. | - | Defne- Tehnel | Inf. of LE and FR Oil of FR | Appetizing, indigestion, digestive system disease, diaphoretic Rheumatic pain |
| Loranthaceae | <i>Viscum album</i> L. subsp. <i>album</i> | - | Gövelek | Inf. or dec. of LE and SH Blister of FR | Hypertension, diuretic, emetic, arteriosclerosis, nosebleed Rheumatismal pain and to suppurate blain |
| Malvaceae | <i>Malva sylvestris</i> L. | - | Ebe Gümeçi | Inf. or dec. of LE Mush of LE | Respiratory and digestive system inflammations, eczema, antitussive, bronchitis, tonsillitis, bee and spider stick To mature blain, lesion pain, an open sore, burn |
| | <i>Athaea officinalis</i> L. | - | Hatmi Çiçeği | Dec. of LE FL | Gastric ulcer, respiratory disease, to antitussive |
| Moraceae | <i>Morus nigra</i> L. | - | Kara Dut | Inf. of LE and BR Syrup of FR Inf. of BR | Antipyretic, taenia Mouth and throat disease or lesion Treatment of human intestinal parasites (tapeworm) |
| Myrtaceae | <i>Myrtus communis</i> L. subsp. <i>communis</i> | - | Mersin, Murt | Inf. of SH, FL and LE | Diuretic, wreath, appetizing, diarrhoea |
| Oleaceae | <i>Olea europae</i> L. var. <i>sylvestris</i> (Miller) Lehr. | - | Yabani Zeytin | Inf. of LE | Hypertension, antipyretic, constipation, appetizing, diabetes, arteriosclerosis |
| | <i>Fraxinus ornus</i> L. subsp. <i>cilicica</i> (Lingelsh.) Yalt. | E | Çiçekli Dişbudak | Inf. of LE | Constipation |
| Paoniaceae | <i>Paeonia mascula</i> (L.) Miller subsp. <i>mascula</i> | - | Ayıgülü | Inf. of RO | Tranquilizer, appeaser, antitussive, epilepsy |
| Papaveraceae | <i>Glaucium corniculatum</i> (L.) Rud. | - | Boynuzlu Gelincik | Inf. of FL | Appeaser, antitussive |
| | <i>Papaver rhoeas</i> L. | - | Gelincik | Inf. of FL | Appeaser, antitussive |
| | <i>Papaver somniferum</i> L. | - | Haşhaş | Dec. of CP | Painkiller (especially teeth pain) |
| Plantaginaceae | <i>Plantago major</i> L. | - | Sinir Otu | Inf. of LE and SH | Expectorant, insect bite, diuretic, neural disease, atherosclerosis, pimple treatment, pectoral plasticizers |
| Platanaceae | <i>Platanus orientalis</i> L. | - | Çınar | Dec. of BR | Antipyretic, skin burn |
| Polygononaceae | <i>Rumex acetosella</i> L. | - | Ekşi Kulak | Inf. of LE | Constipation, intestine gaseous, treatment of human intestinal parasites (worm), to increase ballast |
| Portulacaceae | <i>Portulaca oleraceae</i> L. | - | Semiz Otu | Inf. of LE, FL, SH | Blood purifier, dysentery, to dry inflammation of intestines |
| Primulaceae | <i>Cyclamen cilicium</i> Boiss. &Heldr. var. <i>cilicium</i> | E | Siklamen | Inf. of TB | Purgative |
| Ranunculaceae | <i>Adonis aestivalis</i> L. | - | Keklik gözü | Inf. of FL | Increase potency in men |
| | <i>Clematis vitalba</i> L. | - | Ak Asma | Inf. of LE | Poisonous, neural disease |
| | <i>Nigella sativa</i> L. | - | Çörek otu | Inf. of FR | Cold and flu, appetizing, to increase |

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| | | | | and SD | breast milk, regularize menstrual disorders |
| Rhamnaceae | <i>Rhamnus nitidus</i> Davis | -E | Boyacı Diken | Inf. of BR | Emetic |
| | <i>Paliurus spina-christii</i> Miller | - | Karaçalı | Dec. of FR Inf. of BR | Spontaneous kidney stone passage, hepatitis, lung inflammation Stomach pain, dysentery |
| Rosaceae | <i>Amygdalus communis</i> L. <i>Amygdalus orientalis</i> Miller | - - | Badem | Oil of FR | Skin lesion and burn |
| | <i>Crataegus monogyna</i> Jacq. subsp. <i>monogyna</i> <i>Crataegus orientalis</i> Pallas ex Bieb. var. <i>orientalis</i> | - - | Kırmızı Alıç, Sarı Alıç | Inf. of LE and FL | Hypertension, prostate disease, tranquilizer |
| | <i>Fragaria vesca</i> L. <i>Geum urbanum</i> L. | - - | Dağ Çileği Su Karanfil | Inf. of RO Inf. of RO | Appetizing, pimple Peptic pain, antipyretic, antiseptic |
| | <i>Rosa canina</i> L. <i>Rosa dumalis</i> Bechst. var. <i>antalyensis</i> <i>Rosa pulverulanta</i> M. Bieb. | - E - | İt Burnu İt Burnu Bodur İt Burnu | Inf. of FR | Cold and flu |
| | <i>Rubus sanctus</i> Schreber | - | Böğürtleğen | Inf. of LE and SH | Constipation, diabetes, birthmark |
| | <i>Sorbus umbellata</i> (Desf.) Fritsch var. <i>umbellata</i> - <i>Sorbus umbellata</i> (Desf.) Fritsch var. <i>cretica</i> (Lindley) Schneider | - - | Geyik Elması | Inf. of LE and FR | Diabetes, against blood coagulation |
| Salicaceae | <i>Salix alba</i> L. | - | Ak Söğüt | Dec. of BR | Painkiller for rheumatism, antipyretic |
| Scrophulariaceae | <i>Digitalis ferruginea</i> L. | - | Yüksük Otu | Dec. of BR | Poisonous, heart disease |
| | <i>Verbascum orgyale</i> Boiss. & Heldr. <i>Verbascum leptocladum</i> Boiss. & Heldr. <i>Verbascum nudatum</i> Murb. var. <i>nudatum</i> <i>Verbascum oocarpum</i> Murb. <i>Verbascum olympicum</i> Boiss. <i>Verbascum elegantulum</i> Hub.-Mor. | E E E E E | Sığır Kuyruğu | Inf. of FL and LE | Expectorant |
| Solanaceae | <i>Mandragora autumnalis</i> Bertol. <i>Solanum nigrum</i> L. | - - | Adam Otu İt Üzümlü | Inf. of RO Inf. of LE, FL and SH | Poisonous, painkiller Poisonous, painkiller, hemorrhoid treatment |
| | <i>Hyoscyamus niger</i> L. | - | Çanak Çömlek Otu | Inf. of LE and SH | Poisonous, painkiller, ear and nose inflammations |
| Tiliaceae | <i>Tilia platyphyllos</i> Scop. | - | Sütçüler İhlamuru | Inf. of FL Inf. of BR | Consumption, diuretic, lungs disease, cold and flu, insomnia Liver and gallbladder disease |
| Ulmaceae | <i>Celtis glabrata</i> Steven ex Planchon | - | Doğancık | Dec. of FR | Astringent, constipation and indigestion, diarrhoea |
| Urtiaceae | <i>Urtica dioica</i> L. | - | Isırgan Otu | Inf. of LE and SH | Antipyretic, painkiller, high tension, diuretic, dyspnea |
| Valerianaceae | <i>Valeriana officinalis</i> L. | - | Kediotu | Inf. of RO | Neural disease, tranquilizer |
| Verbanaceae | <i>Vitex agnus-castus</i> L. | - | Hayıt | Inf. of FR | Carminative (intestines and stomach) |
| Zygophyllaceae | <i>Tribulus terrestris</i> L. | - | Demir-diken | Inf. of LE and FR | Aphrodisiac, spontaneous kidney stone passage, hemorrhoid treatment |

SPERMATOPHYTA (ANGIOSPRMAE/Liliopsida)

| Family | Species | End. state | Vern. name | Part/s used | Medicinal uses |
|------------|---|------------|---------------|---------------------------|--|
| Araceae | <i>Acorus calamus</i> L. | - | Eğir Kökü | Inf. of RO | Prostate disease |
| Araceae | <i>Arum italicum</i> Miller | - | Yılan Yastığı | Inf. of TB | Poisonous, hemorrhoid, expectorant |
| Liliaceae | <i>Asparagus acutifolius</i> L. | - | Kuşkonmaz | Inf. or dec. of RO and FR | Diabetes, diuretic, painkiller, to dry inflammation of kidney, antipyretic |
| | <i>Ruscus aculeatus</i> L. var. <i>angustifolius</i> Boiss. | - | Tavşan memesi | Dec. of RO | Diuretic, spontaneous kidney stone passage, appetizing |
| Poaceae | <i>Agropyron repens</i> (L.) Beauv. | - | Ayrık | Dec. of PU | Spontaneous kidney stone passage, |
| | <i>Avena barbata</i> Pott ex Link | - | Yabani Yulaf | Inf. of LE and SH | Diabetes, asthma, bronchitis, against cellulite |
| Cyperaceae | <i>Cyperus rotundus</i> L. | - | Karatopalak | Inf. of RH | Carminative, regularize menstrual disorders |