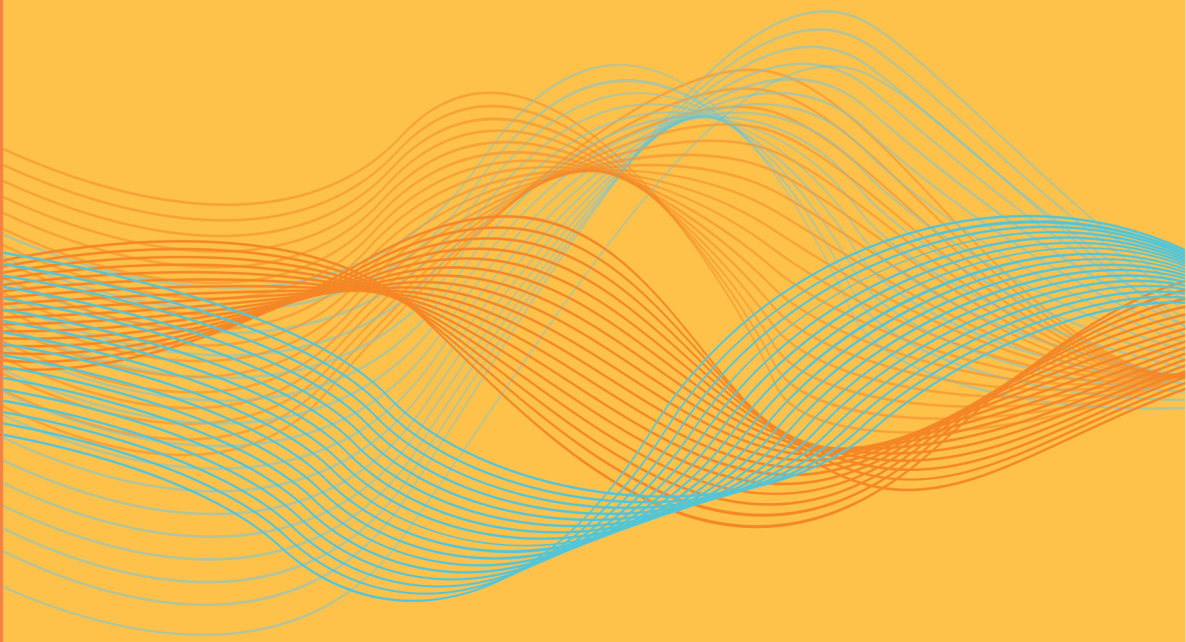


# Recent Advances in Health Sciences



**Editors:** A. Adil Çamlı, Bilal Ak  
Ramiz Arabacı, Recep Efe

St. Kliment Ohridski University Press, Sofia

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## Editors

A. Adil Çamlı  
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Recep Efe

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## Chapter 51

# Some Wild Plants Commonly Used in Folk Medicine in Turkey

Sefa AKBULUT\*, Mustafa KARAKÖSE\*\*

### INTRODUCTION

It is well-known that Anatolia is a cradle of civilisations. The cultural legacy which began with the Hittites around 1900 B.C. was further enriched by Phrygians, the Urartu, Lydians and many other civilisations (Karakuzulu, 2012). The Turkification of Anatolia began with the rise of the Great Seljuq Empire, which was later followed by the Ottoman Empire, another Turkish state that left a significant mark in history, and under which Anatolia experienced its most glorious period (Gümüş, 2013). With the Republic of Turkey founded in 1923, Turks continue to rule Anatolia. Anatolia, which has been a community of civilisations for 5000 years, has seen countless traditions, customs and cultures, many of which can be experienced today in their original or their inter-mingled forms. An important component of this cross-cultural synthesis is folk medicine and the herbal medications used for treatment.

Folk medicine can be defined as the set of beliefs, attitudes and behaviors a community shares regarding diseases and health, or the set of beliefs, traditions and system of values that guides their medical practices. Certain anthropologists also call folk medicine as “home remedies” (Şar, 2008; Türkdoğan, 1991). Most folk medications are based on herbs, which are collected from nature, and then dried and stored for preparing remedies. These plants may be consumed raw, or as teas, pills, pastes, syrups or powders. These remedies may also be applied topically in raw form or as ointments, incense, oils, plaster or pastes (Şar, 1982). Folk medicine is often viewed not as complement to modern medicine, but rather as its alternative. For this reason, treatment methods based on folk medicine are often referred to as “alternative medicine”. Nowadays, alternative medicine is used as a recourse by people with limited financial means, or for conditions for which modern medicine has no remedy; others use alternative medicine out of belief. In certain cases, treatment through alternative medicine is sought before modern medicine. What sets alternative medicine apart from modern medicine is that in addition to providing treatment, it can also be used for prophylaxis (Uyar, 2013).

Although there are no clear or strict distinctions between them, folk medicine in Turkey can be evaluated in three different groups as “pre-Islamic folk medicine practices,” “Islamic folk medicine practices,” and “folk medicine practices in modern Turkey” (Uyar, 2013). This mosaic and diversity of folk medicines is not just due to the existence of different cultures. It also has to do with the diversity of ecological

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conditions, types of climates, geological cycles and geographic features in the country, which in turn leads to a great diversity of plant sources available for use. A numerical illustration of this is the fact that Turkey's flora includes a total of 11,707 registered taxa belonging to the Pteridosperm, Angiosperm and Gymnosperm families, 3,649 (31.82%) of which are endemic (Güner, Aslan, Ekim, Vural & Babaç, 2012). The use of these plants for medicinal purposes by Anatolian people is known from Hittite period cuneiform tables (Kendir & Güvenç, 2010). Many ethnobotanical studies in Turkey report the use of medications or medicinal mixtures obtained from natural and cultivated plants in the treatment of diseases, especially in rural areas (Polat, Cakilcioglu, Kaltalioglu, Uluşan & Türkmen, 2015; Mükemre, Behçet & Cakilcioglu, 2015; Akbulut & Ozkan, 2014; Akyol & Altan, 2013; Polat, Cakilcioglu & Satıl, 2013; Çakilcioglu, Şengün & Türkoğlu, 2010; Yeşil & Akalın, 2009). Some of these are even traded and exported in raw or semi-processed form, under the designation of "non-wood forest products" (Özkan & Akbulut, 2012). In folk medicine, drug treatment is usually used as last resort. Many of these folk medicines, known colloquially as "homemade medicines" or "old woman's medicines," are the products of empirical practices that have come to our day. Folk medications have a broad area of use in Anatolia, and are employed by a large segment of the population, especially in rural regions, through both rational methods or seemingly more "magical/mystical" practices (Şar, 2008). Knowledge on folk medications are obtained and compiled through folklore studies, herbal studies, botanical studies, and chemistry studies (Sezik, 1991). Information on folk medicine and medications in the past are also obtained through the works of Dioscorides, Avicenna (Ibn Sina), and Ibn al-Baytar (Ayten Turan, 2000).

Reasons for the widespread use of folk medicine in Anatolia include the high ratio of rural population working on agriculture and animal raising (and who hence have easy access to medicinal plants); the transfer of traditions and customs between generations, and the ease with which folk medicine-related information can be remembered; the difficulties for people in rural areas to access modern healthcare centres; the ease of preparation and low cost of most folk medications; and the perception of folk medicine as supportive treatment for conditions which modern medicine cannot provide a definitive cure, or has difficulty treating effectively (Şar, 1982).

The number of medicinal plants in Turkey used for treatment is not well known. Estimates on this number vary between 350 and 1000 in different sources (Özgen, Kaya & Coşkun, 2004; Başer, 2001; Koyuncu, 1990). Although Turkey has a rich flora, only 3 to 9% of these plants have known uses in folk medicine. This is due to the lack of written records and information on most of these plants, as well as the fact that many knowledge on many folk remedies from the past have not survived to our day. In addition, it is known that the same name might be given to different plants in different regions, and that the same plant might receive different names in different regions, which also contributes to the confusion regarding the name and use of these plants. The first regular and consistent records on Turkey's flora was Davis' work entitled "Flora of Turkey and the East Aegean Islands" (Davis, 1965-1985).

## **PLANTS USED FOR TREATMENT PURPOSES AND THEIR PROPERTIES**

"Medicinal plants" are plant whose certain parts or substances extracted from them are administered internally or externally to treat human and animal diseases (URL: İşler, 2016). In recent times, the preference for natural and organic products is

increasingly becoming more manifest in urban life - even if such products are not yet as widely used in urban centers as they are in rural areas. The increase in cancer incidence, as well as the lack of definite treatment for most cancers, is leading both rural and urban populations to seek prevention and remedy in natural products. People from all segments of society are resorting to alternative medicine against diseases for which modern medicine lacks a solution. One important indication of this is the increasing number of herbalists selling herbal medications in cities, and the growing sales of such remedies. According to one study on herbalists in Turkey, the ailments for which medicinal and aromatic plants are the most preferred include gastrointestinal system diseases, respiratory system disorders, skin diseases, anaemia and cardiovascular disorders (Akbulut & Bayramoglu, 2013).

This study examines previous ethnobotanic studies and field knowledge to form a compilation on some of the natural plants used in Turkey to treat people diagnosed with the abovementioned diseases and other ailments, and the natural plants used in daily life as traditional treatment methods. Since there are many such plants, the examples provided below were selected amongst the most widely used species.

***Achillea millefolium* L. (Asteraceae) (Yarrow)**

**Vernacular name:** Civanperçemi

**Description:** Herbaceous perennial that can reach 100 cm in length. Its stem is has a simple, soft and pubescent structure. Leaves on the stem form an alternating sequence, and the base leaves have similar shapes. The leaves are pinnate and pubescent. The number of capitula varies between 50 and 150, although higher numbers are also observed. The inflorescences are shaped as false compound umbels, each having 4 to 6 ray-like flowers and 10 to 20 tube-like flowers. The flowering period of this plant is between June and September. It is distributed in subalpine and alpine areas, between an elevations of 500 to 3450 m (Baytop, 1963; Davis, 1965-1985).

**Part used:** Flowers, leaves, the aerial parts

**Traditional therapeutic used:** Stomachache, cough, shortness of breath, hemorrhoids, diarrhea, wound healing, antiseptic.

**Preparation:** The plant's leaves, flower or parts above the surface can be prepared into a tea through decoction. This tea is consumed as treatment for stomachache, hemorrhoids, shortness of breath, cough and diarrhea. It can also be administered externally to wounds as an antiseptic. Small quantities of the dried flowers are also used to alleviate diarrhea in children (Güler, Manav & Uğurlu, 2015; Saraç, Özkan & Akbulut, 2013; Kültür, 2007; Şimşek, Aytekin, Yeşilada & Yıldırımli, 2002).

***Allium cepa* L. (Amaryllidaceae) (Onion)**

**Vernacular name:** Soğan

**Description:** Bulbous plant whose stem is narrows and becomes hollow towards its base. The cross-section of the leaves is semi-circular. It has large, bracts that surround its flowers' anthers. The perianth is star-shaped, while the flower parts are coloured greenish-white. The plant blooms between the months of June and August. It is a cultivated plant (Davis, 1965-1985).

**Part used:** Bulb

**Traditional therapeutic used:** Sprain, edema, bruised, digestive, urethritis,

arteriosclerosis, cicatrizant.

**Preparation:** Crushed bulbs with salt is made compress to place sprained, bruised and edema. Bulbs are eaten raw to treat urethritis and to facilitate digestion. Herb tea obtained by infusion of bulbs is used to treat arteriosclerosis rheumatism, and cicatrizant (Polat *et al.*, 2015; Hayta, Polat & Selvi, 2014; Tetik, Civelek & Cakilcioglu, 2013; Ugulu, 2011).

***Allium sativum* L. (Amaryllidaceae) (Garlic)**

**Vernacular name:** Sarımsak

**Description:** Bulbous annual standing at a height of nearly 100 cm. Its oval, egg-shaped bulbs consist of nearly equal-sized 5 to 15 cloves. The plants have 4 to 10 leaves, which are spined and have a flat cross-section. The flower clusters consist of the few number of flowers, while the color of the plant itself can be greenish-white, greenish-pink or, in rare cases, entirely white. Blooming occurs between the months of June and August. It is a cultivated plant (Davis, 1965-1985).

**Part used:** Bulb

**Traditional therapeutic used:** Snakebite, hypertension, ringworm.

**Preparation:** Crushed bulbs are eaten raw or with yoghurt to treatment of hypertension. Several crushed clove of garlic is made compress to place snakebite. Crushed cloves are applied externally rubbing to the area of ringworm (Polat *et al.*, 2015; Hayta *et al.*, 2014; Tuzlacı & Şenkardeş, 2011; Ugulu, 2011; Çakılıcıoğlu, *et al.*, 2010).

***Bellis perennis* L. (Asteraceae) (Common daisy)**

**Vernacular name:** Koyungözü, papatya, yoğurt çiçeği

**Description:** A short herbaceous perennial with creeping roots and rosette leaves. The rosette leaves are spoon-like in shape, and the plant may reach 30 cm in size. The false stem (scape) carrying the capitulum is approximately 10 cm in length. The radial flowers number between 30 and 50, and generally have a slightly pinkish-white underside. The flower blooms between March and August, and generally lives in moist areas, especially forests, up to an elevation of 2000 m (Davis, 1965-1985).

**Part used:** Flowers

**Traditional therapeutic used:** Cold, flu, sore throat, dyspnea, bronchitis, stomachache, strengthen hair, urinary inflammations, tranquilizer.

**Preparation:** The plant's flowers can be prepared into a tea through decoction or infusion. The tea is used as a treatment for urinary tract infections and for respiratory tract diseases such as the common cold, flue and bronchitis. The tea is also consumed as a tranquiliser, and may be applied externally to strengthen hair (Polat *et al.*, 2015; Akbulut & Özkan, 2014; Demirci & Özhatay, 2012; Hayta *et al.*, 2014; Uysal, Onar, Karabacak & Çelik, 2010).

***Equisetum arvense* L. (Equisetaceae) (Field horsetail)**

**Vernacular name:** Atkuyruğu, kırkkilit otu, zemberekotu

**Description:** The plant has two types of stem, sterile and non-sterile. Individuals with sterile stems are 20 to 80 cm in length, have dull green colored, are cylinder-shaped, and have 8 to 12 deep longitudinal grooves. The branches are positioned

peripherally, have four sharp corners, and have four deep ridges inside. Non-sterile, reproductive plants, on the other hand, become active earlier in the spring than sterile individuals. Reproductive individuals are 25 cm in length, and have a simple stem with a brownish colour. Their preferred habitat is generally fields and river banks up to an elevation of 1700 m (Baytop, 1963; Davis, 1965-1985).

**Part used:** Leaves, stem

**Traditional therapeutic used:** Diuretic, urinary system disorders, pass a kidney stone and sand, hemostatic, gum inflammations and tonsillitis.

**Preparation:** Herb tea obtained by infusion of dried leaves and dried stems is used to treat diuretic, urinary system disorders, pass a kidney stone and sand, hemostatic. Gargle is made in gum inflammations and tonsillitis (Güler *et al.*, 2015; Fakir, Korkmaz & Güller, 2009; Everest & Ozturk, 2005). Due to the poisonous plant is not recommended long term use.

### ***Helichrysum* spp. (Asteraceae) (Everlasting flower)**

**Vernacular name:** Altınçiçeği, yayla çiçeği, sarıçiçek, ölmez çiçek

**Description:** A pubescent or nodal herbaceous perennial that is lignified near the soil surface. Leaves are simple shaped, fully-edged, banded, and with a spear-tip or spoon-like shape. The leaves are arranged helically. The capitulum is of terminal false umbel type, and with an upside-down pyramid or cylinder shape. The involucre bracts are organised in an array that is disorderly at first, but then gradually becomes orderly. The flower receptacle is hairless and smooth. The flowers are of golden-yellow color, and are all hermaphrodite or females with edges. The corolla is tube-shaped and with nodes. The pappus hairs are yellowish, while the achene are cylinder-shaped (Davis, 1965-1985).

**Part used:** Flower, flowering stems

**Traditional therapeutic used:** Wound healing, passing kidney stones, tenesmus, stomachache, ear pain, relieving shortness of breath, coughs, asthma, colds.

**Preparation:** The species that are the most used ethnobotanically are *Helichrysum arenarium*, *H. armenium*, *H. orientale*, and *H. plicatum*. Ointments prepared from the plant's flowers are generally used for treated wounds. Decoctions prepared from the plant's flowers or capitulum are used for passing kidney stones, treating stomachache, and relieving shortness of breath and asthma. The capitulum can also be inspired from the nose to relieve ear pain. Keeping the capitulum in olive oil for a certain time of time provides a syrup that can then be used for treating coughs and colds (Gürdal & Kültür, 2013; Saraç *et al.*, 2013; Tetik *et al.*, 2013; Demirci & Özhatay, 2012; Tuzlacı & Erol, 1999).

### ***Hypericum perforatum* L. (Hypericaceae) (Perforate St John's-wort)**

**Vernacular name:** Sarı kantaron, gevrik, binbirdelik otu

**Description:** Herbaceous perennial with a stem that can reach 110 cm in length. The leaves are arranged in an opposing sequence, have an egg-like or ellipsoid shape, and are almost without a petiole. Their length varies between 5 to 35 cm, and have various holes across their structure. The flowers are yellow coloured with five petals and black glandular and pubescent edges. Flowering time is between the months of May and August. The plant grows in moderately humid and dry habitats up to an elevation of

2500 m (Davis, 1965-1985).

**Part used:** Flower, all plant

**Traditional therapeutic used:** Sedative and tranquillizer, eczema, burn injury treatment, wound healing, painkiller, stomachache.

**Preparation:** Herb tea obtained by decoction or infusion of flowers is used to be sedative and tranquillizer, painkiller, stomachache. Medical water obtained by decoction of all parts of the plants is used to treat external eczema. Centaury oil prepared with olive oil and the flowers is used as wound healing and burn ointment (Akbulut & Özkan, 2014; Güneş & Özhatay, 2011; Yücel, Tapırdamaz, Yücel Şengün, Yılmaz & Ak, 2011; Çakılıoğlu *et al.*, 2010; Ezer & Mumcu Arısan, 2006).

### ***Juglans regia* L. (Juglandaceae) (Walnut)**

**Vernacular name:** Ceviz

**Description:** This woody plant is approximately 30 m high and 2.5 m wide. The stem is silvery-gray coloured and without cracks. The outline of the pubescent compound leaves varies between 22 and 35 cm. The leaves have fully crenated edges, and elliptic or inverted egg-like in shape. The plant forms flower clusters consisting of separate male and female flowers. The green fruit is a drupe, is between 4 to 6 cm in diameter, and a lignified endocarp. The flowers blooms in May. Its preferred habitats are forests with oak or mixed deciduous trees; calcareous rocky slopes; and area with gravel inside valleys that are rich in alluvions. Furthermore, the plant has largely been cultivated for its fruit and naturalised (Davis, 1965-1985).

**Part used:** Leaves, fruit, young shoots

**Traditional therapeutic used:** Headach, stomachache, expectorant, sore throat, rheumatism, goiter, dermatologic disorders like as syphilis, eczema, herpes, and papula.

**Preparation:** The leaves are externally put on forehead for headache. Herb tea obtained by decoction of leaves is used to treat stomachache, sore throat, and expectorant. Herb tea obtained by infusion of leaves is used to treat skin diseases like syphilis, eczema, herpes, and pimples. Leaves and decoction obtained from young shoots are used externally to treat rheumatism by wrapped in a cloth. Unripe fruits are eaten to treat goiter (Gürdal & Kültür, 2013; Ugulu, 2011; Tuzlacı & Eryaşar Aymaz, 2001; Tuzlacı & Tolon, 2000; Tuzlacı & Erol, 1999).

### ***Malva neglecta* Wallr. (Malvaceae) (Common mallow)**

**Vernacular name:** Ebegümeçi, Ebe Kömeçi

**Description:** Herbaceous annual with a creeping stem that can reach height of 60 cm. Leaves are circular with five to seven lobes, while the edges of the leaves are sparsely crenated. Flowers emerge as bundles from beneath the leaves. Upper sepals have a striped appearance. The petals, on the other hand, are pubescent at their base, and have purple-white colour. Flowering occurs between May and August, and the plant prefers habitats such as steppes, fields, road sides and abandoned uncultivated lands up to an elevation of 2000 m (Davis, 1965-1985).

**Part used:** The aerial parts

**Traditional therapeutic used:** Stomachache, nephrite, abscess, and inflammations.

**Preparation:** Decoctions prepared from the green parts of the plant are used for treating stomachache and renal infections. It also has two different forms of use for boils and infections on the skin. One involves the preparation of an infusion from the green parts of the plant, which is then pressed topically against the boil or infected area. The second method involves the boiling of the green parts and the mixing obtained liquid with a certain amount of starch. This mixture is then made into a paste that is topically applied to the relevant area. (Polat *et al.*, 2015; Hayta *et al.*, 2014; Yücel *et al.*, 2011; Çakılcıoğlu, *et al.*, 2010; Sarper, Akaydın, Şimşek & Yeşilada, 2009).

***Mentha longifolia* (L.) L. (Lamiaceae) (Horsemint)**

**Vernacular name:** Pünk, nane, çay nanesi

**Description:** Herbaceous and pubescent perennial of various forms and with a sharp, mouldy smell. Its stems emerging from rhizomes can reach a height of 120 cm during flowering season. Its leaves, which rarely have petioles, are elliptic or spear-tip shaped, and can be as large as 9 cm. The base of the leaves is heart-shaped, while the lead edges have a double row of sharp crenations. The plant forms long and branching flower clusters, while blooming occurs in the months of June and August. It can be found on river banks and swampy areas between elevations of 600 to 2300 m (Davis, 1965-1985).

**Part used:** Leaves

**Traditional therapeutic used:** Stomach disorders, common cold, respiratory tract infections, vermifuge, carminative, diabetes, rheumatism, eczema.

**Preparation:** Herb tea obtained by decoction or infusion of leaves is used to treat common cold, respiratory tract infections, vermifuge, rheumatism, and eczema. The essential oils obtained from leaves can be applied directly to stomach disorders, carminative, and diabetes (Akbulut, 2015; Elçi & Erik, 2006; Everest & Ozturk, 2005; Şimşek *et al.*, 2002).

***Petroselinum crispum* (Mill.) A.W.Hill (Apiaceae) (Parsley)**

**Vernacular name:** Maydanoz

**Description:** Herbaceous, non-pubescent biannual reaching a height of 50 to 80 cm. Its leaves lack any trichome, and have an overall triangular, egg-like shape. Flower clusters have a joined umbel structure. Flowering season is between June and August, and the plant can be found distributed up to an elevation of 2000 m (Davis, 1965-1985). As a widely cultivated plant, *Petroselinum crispum*, or parsley, is mainly found in artificial habitats created by humans.

**Part used:** Leaves, stem, root

**Traditional therapeutic used:** Stomach disorders, pass kidney stones, mouth sores and halitosis, hemorrhoids, urinary inflammations, oedema.

**Preparation:** Either the entire green parts of the plant, or just its leaves or stems, can be used to prepare a decoction that is consumed to treat many of the aforementioned ailments. It is also chewed and consumed raw to treat bad breath or mouth sores (Hayta *et al.*, 2014; Tuzlacı & Şenkardeş, 2011; Ezer & Mumcu Arısan, 2006; Yeşilada *et al.*, 1999).



### ***Plantago major* L. (Plantaginaceae) (Broad-leaved plantain)**

**Vernacular name:** Sinirotu, damar otu

**Description:** Herbaceous perennial with rosette-structured leaves and reaching a height of 50 cm. The leaves have an overall elliptic and egg-like shape, with irregular edges that are crenated or wavy. Flower clusters are branch-like. The flowers' sepal are green and without trichome. Petals also lack trichomes. A fruit capsule may have up to about 30 seeds. Blooming occurs between June and August. Plants may grow at different elevations up to 2440 m, and can easily grow in habitats such as stream and rivers banks, fosses, paths, agricultural lands, prairies and disused fields (Davis, 1965-1985).

**Part used:** Leaves

**Traditional therapeutic used:** Cardiovascular diseases, stomach disorders, urethritis, cancer, abscess.

**Preparation:** Leaves are used by decoction to treat cardiovascular diseases, stomach disorders, urethritis, and cancer. The crushingly obtained poultice, fresh leaves are externally applied to the abscess. Or leaves are heated at mild fever short a while and then are applied pressure to the abscess (Akbulut & Özkan, 2014; Akyol & Altan; 2013; Özgen *et al.*, 2012; Elçi & Erik, 2006; Ezer & Mumcu Arisan, 2006; Yeşilada *et al.*, 1999).

### ***Salvia* spp. (Lamiaceae) (Sage)**

**Vernacular name:** Adaçayı

**Description:** Shrubby plants that are generally perennial, although rarely biannual or annual species also exist. These species have a fairly strong aromatic smell. The stems are either erect or creeping, and may be nodular or without nodules and trichomes. The leaves are unsplit, and have a lyrate or lobed structure. The simose type flower clusters are either sparse or closely spaced. Sepals have a bell-like shape. Flowers can be white, pink, yellow, blue or purple. There are two stamens, which have short stalked. The style has two lobes. The nut-like fruits are glabrous (Davis, 1965-1985).

**Part used:** The aerial parts, leaves, flowers

**Traditional therapeutic used:** Cold, flu, stomachache, antipyretic, sore throat, tonsillitis, digestive, cough.

**Preparation:** The most ethnobotanically used species are *Salvia verticillata*, *S. frucosa*, *S. multicaulis*, *S. syriaca*, and *S. officinalis*. Among these, *S. officinalis* is not found naturally in Turkey, but is grown in cultivation. The green parts of the plant, and especially the leaves and flowers, are made into a tea through decoction, or sometimes infusion. One or two cups a day of this tea is consumed as a treatment for flu, the common cold and stomachaches, or as an antipyretic and cough suppressant. It can also be used as a mouthwash against mouth sources or tonsillitis. The plant is also consumed raw to alleviate heartburn (Güler, Kümüştekin & Uğurlu, 2015; Güler *et al.*, 2015; Hayta *et al.*, 2014; Kilic & Bagci, 2013; Çakılıcıoğlu, *et al.*, 2010; Uysal *et al.*, 2010).

### ***Sambucus ebulus* L. (Adoxaceae) (Dwarf elder)**

**Vernacular name:** Otsu mürver

**Description:** Herbaceous perennial with rhizomes and aromatic smell. The compound leaves of this plant has opposite arrangement, and its leaflets consist of three to six pairs. The plant gives white flowers, and blooming occurs between the months of July and August. The plant is usually found between elevations of 500 to 2000 m, and its main habitats are deciduous forests and road clearings (Davis, 1965-1985).

**Part used:** Leaves, fruit

**Traditional therapeutic used:** Skin disorders, insect repeller, hemorrhoids, rheumatism, laxative.

**Preparation:** Fresh leaves or juices obtained through decoction are applied topically to insect bite sites or areas with skin diseases. The juice is also be to repel insects that damage the wooden structure of houses. The mature fruits are consumed as a remedy for hemorrhoids and constipation. The leaves can also be pressed on joints or added to bath water as a relief for rheumatoid pain (Akbulut & Bayramoglu, 2014; Doğru Koca & Yıldırım, 2010; Yeşilada *et al.*, 1999).

### ***Thymus* spp. (Lamiaceae) (Thymes)**

**Vernacular name:** Kekik

**Description:** Small, sometimes cushion-shape shrubby perennial whose lower sections are lignified. The margins of its leaves are flat or curved. The leaves may or may not have petioles, and are marginally pubescent towards the base of the leaf blade. Bracts, calyxes and leaves lack petioles, and are covered with transparent or red oil glands. The flower clusters each consist of more than two flowers. The sepals are prominently double-lipped. Flowers are purple, pink, cream or white coloured. Flowers have four stamens, and the fruits lack trichomes (Davis, 1965-1985).

**Part used:** The aerial parts

**Traditional therapeutic used:** Cold, flu, stomach disorders, dyspnea, antihypertensive, sedative, tonsillitis.

**Preparation:** The most ethnobotanically used species are *Thymus kotschyanus*, *T. longicaulis*, *T. cilicicus*, *T. vulgaris* and *T. sipyleus*. In addition to their curative uses, that are also widely used as spices in meat dishes. The plants are used to prepare a tea - usually through infusion, but sometimes through decoction - that is consumed once or twice a day to treat seasonal illnesses such as the common cold and flu; to alleviate digestive system ailments such as stomachaches; to reduce blood pressure; and to treat tonsillitis and shortness of breath (Kalankan, Özkan & Akbulut, 2015; Mükemre *et al.*, 2015; Polat, Cakilcioglu & Satıl, 2013; Gürdal & Kültür, 2013; Tuzlacı & Şenkardes, 2011; Kültür, 2007).

### ***Urtica dioica* L. (Urticaceae) (Stinging nettle)**

**Vernacular name:** Isırgan, Sırgan

**Description:** Coarse perennial herb with an extensively spreading, matted root system, forming clumps, 30-150 cm tall. Flowering takes place from June to September. Stinging nettle grows on forests, shaded ravines and rocks, margins of streams, between 500-2700 m above sea level (Davis, 1965-1985).

**Part used:** Leaves, seeds

**Traditional therapeutic used:** Hemorrhoids, stomach disorders, rheumatism, cancer, urinary tract diseases and urologic diseases, dermatological disorders.

**Preparation:** Leaves are used by decoction, fresh or cooked. Pulverulent seeds are used with honey (Akbulut & Özkan, 2014; Akyol & Altan; 2013; Özgen, Kaya & Houghton, 2012; Ezer & Mumcu Arisan, 2006; Şimşek *et al.*, 2002; Yeşilada *et al.*, 1999).

***Zea mays* L. (Poaceae) (Maize)**

**Vernacular name:** Mısır

**Description:** An annual plant which branches from its lower nodes, has an erect and rigid structure, a diameter of 2 to 6 cm, and 4 m. or more different heights. The leaf blade is 90 cm or longer, and wavy leaf edges are 12 cm broad. The male flower cluster is 30 cm long and has an erect appearance. The female flower cluster, on the other hand, is 20 cm long, and has a very long style. At the end of the flowering period, the flower cluster moves out of the tip to assume a hanging positions. The dry fruits with single seeds are generally wedge-shaped and have pressed sides. Flowering occurs between June and October. Agricultural lands and abandoned fields are their favored habitats (Davis, 1965-1985).

**Part used:** Styles

**Traditional therapeutic used:** Diuretic, kidney stone, rheumatism.

**Preparation:** Styles are mostly prepared decoction form, sometimes infusion form. 2-3 cups per day for the aforementioned diseases consumed (Güler, Kümüştekin & Uğurlu, 2015; Güler *et al.*, 2015; Polat *et al.*, 2015; Hayta *et al.*, 2014).

## CONCLUSION AND RECOMMENDATIONS

It can be seen that leaves, flowers and green parts are the most commonly used portions of medicinal plants employed for traditional treatments. In addition, other vegetative and generative organs such as the bulbs, stems, shoots, fruits, roots, seeds and stylus of the plants can also be used for treatment. The most commonly method of use is the preparation of decoctions and infusions. Aside from these, the plants may also be applied as tinctures, extracts, essential oils, electuary, maceration, ointments, salves and medicinal oils. The plants are most commonly used for the treatment of gastrointestinal diseases (such as stomach disorders), respiratory diseases, urinary tract disorders, skin diseases, kidney stones, and rheumatoid pain. The ethnobotanical properties of these plants used in folk medicine were discovered over many years through trial-and-error and experience.

However, it is known that some of the plants traditionally used for treatment purposes among local peoples actually contain toxic compounds that cause various ailments, and even resulted in death in certain cases. For this reason, studies such as this on the medicinal properties and uses of different plants are for information purposes only. Such information such not be viewed as prescriptions, and careless use should be avoided. It is also known that the compounds and essential oils in plants may have different effects on different individuals. Although plant-based medications have less side effects than synthetic medical drugs, it is important to bear in mind that role also plays and important role. For this reason, the administration of such plants for medical

purposes should be performed under the control of a phytotherapy specialist.

Regardless of their origin, no plant-based medications or mixtures should be used regularly as a habit.

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