

Traditional herbal remedies used in kidney diseases in Turkey: an overview

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Abstract: Ethnobotanical and ethnomedicinal studies have become increasingly recognised as a valuable source of information on the use and possible pharmacological activity of many plant species. There is no study presenting traditional herbal remedies used for kidney diseases in Turkey. The purpose of the paper is to compile herbal remedies used in kidney diseases in Turkey with detailed usage information and chemical constituents. The botanical names, families, and local names; used parts; preparation methods; administration/dosage; kidney problems and chemical constituents were presented by screening ethnobotanical, ethnomedicinal and phytochemical studies. The most cited plant families, the most cited genera, and the most frequently used plant parts were determined and presented in graphics. In total, 300 taxa belonging to 70 families were determined as being traditional herbal remedies used in kidney diseases. Asteraceae (57), Lamiaceae (33), Rosaceae (30), Fabaceae (16), Malvaceae (15), Apiaceae (13) and Poaceae (10) were found as the most cited plant families. The most cited genera were *Helichrysum* (44), *Equisetum* (27), *Tribulus* (23), *Urtica* (23), *Rosa* (17), *Alcea* (14), *Hypericum* (14) and *Paliurus* (14), respectively. It was found that the aerial parts were the most frequently used part of the plant, accounting for 28%. Following in this category are leaves (19%), flowers (14%), fruits (14%), underground parts (13%), seeds (5%), stem (3%), and other parts (4%). The pharmacological studies of the most cited genera were also reviewed to confirm the efficacy of these plants in the treatment of kidney diseases. It is concluded that a number of pharmacological and phytochemical research support the traditional usage of plants, but further studies are needed. Our findings are expected to be the basis for candidate pharmaceutical products.

Key words: Kidney diseases, Turkey, ethnomedicine, medicinal plants

1. Introduction

Kidney diseases are a significant public health problem which can lead to end-stage kidney failure and serious complications. The increasing prevalence of chronic kidney disease that causes high morbidity and mortality has reached to alarming levels all over the world. It is estimated that nowadays more than 1.4 million patients undergoing renal replacement therapy worldwide (Kazancıoğlu, 2013; Bikbov et al., 2020). According to the latest reports chronic kidney disease affects approximately 15.7% of population in Turkey (Ateş, 2020). Since there are some preventable risk factors leading to kidney diseases, identification of them is essential to maintain individual health and inhibition of progression of the disease. Kidney diseases associated with smoking, obesity, hypertension, and diabetes mellitus have been well documented. Moreover, factors such as race, gender, age, and family history have also been considered (Kazancıoğlu, 2013; Ateş, 2020). Despite the advancement in medical science, there are few treatment methods to cure kidney diseases. Patients have looked for more affordable, accessible and

reliable options, therefore, the use of herbal remedies or natural products has gained much attention (Touwaide et al., 2005; Karimi et al., 2017).

Medicinal plants have been serving mankind in treating diseases and improving health since ancient times. In recent years, scientific researches have proven that bioactive compounds from medicinal plants offer a good and safer alternative to modern synthetic drugs (Cotton, 1996; Baytop, 1999; Kendir and Güvenç, 2010; Yeşilada, 2013). The uses of traditional herbal remedies for the treatment of kidney diseases are common in many countries. Several medicinal plants such as *Vaccinium macrocarpon* Aiton, *Harpagophytum procumbens* DC. ex Meissner, *Schisandra chinensis* (Turcz.) Baill., *Filipendula ulmaria* (L.) Maxim, *Tinospora cordifolia* (Willd.) Miers, *Astragalus* sp. and *Rheum* sp. have been used by local people for various kidney problems, especially in Europe and Asia (Heinrich et al., 2012; Singh and Sharma, 2013; Zhong et al., 2013). In many countries, benefit from natural resources for medicinal use and other purposes are closely linked with the floristic richness and the accumulation of

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knowledge on traditional medicine. Turkey is one of the richest countries in the world in terms of plant diversity. The flora contains over 11000 flowering taxa, about 34% of these are endemic (Davis, 1965-1985; Davis et al., 1988; Güner et al., 2000, 2012; Güner, 2014; Güner et al., 2018; Özhatay et al., 2019). There is a vast region preserve this floral diversity, where traditional medicinal practices are still performed. To document the traditional medicinal knowledge of medicinal plants, ethnobotanical study is the bestknown way (Kendir and Güvenç, 2010; Yeşilada, 2013).

According to 2010 data, approximately 2.6 million people around the world are trying to survive with dialysis or kidney transplant treatments. Kidney disease is a major public health problem in Turkey as well as in the world (Liyanage et al., 2015; Süleymanlar et al., 2017). It appears that plants used in kidney diseases generally carry flavonoids and essential oil as effective substances. The antiseptic effect of herbal drugs carrying essential oils and the fact that flavonoids are compounds with diuretic effect support this purpose of use. In recent years there has been an increasing number of research detailing traditionally used plants for the treatment in many diseases (Güner, 2014; Erarşlan and Kültür, 2019). Such studies offer valuable information for drug development researches. No study has been performed for demonstrating traditional herbal remedies used to treat kidney diseases in Turkey. In this regard, this study was undertaken to compile the traditional herbal remedies used for the treatment of kidney diseases in Turkey. Furthermore, the pharmacological and phytochemical studies of medicinal plants were overviewed to evaluate their effectiveness in kidney diseases. Medicinal plants were taken into consideration to guide possible future pharmacological and phytochemical studies.

2. Methods

Ethnobotanical and ethnomedicinal studies carried out in different regions of Turkey from 1990 to 2020 were reviewed and medicinal plants used to treat kidney diseases were determined. From the Republican period, although there are several studies regarding the use of traditional plants in Turkey, the number of ethnobotanical studies has increased rapidly since 1990 (Sadıkoğlu and Alpınar, 2004). Related studies were searched in detail and were collected from books, journals and dissertations via scientific literature databases (PubMed, Scopus, Google Scholar, Web of Science, SciFinder, Springer, and Elsevier). Key words such as “kidney stones”, “kidney sands”, “nephralgia”, “kidney gravels”, “nephritis”, “kidney disorders/diseases/problems/ailments/illnesses”, “kidney inflammation”, “kidney pains/

aches”, and “kidney malfunction” for ethnobotanical research and “*Helichrysum*”, “*Equisetum*”, “*Tribulus*”, “*Urtica*”, “*Rosa*”, “*Alcea*”, “*Hypericum*” and “*Paliurus*” for pharmacological discussion were used to facilitate access to the related information. A total of 375 ethnobotanical studies were reviewed and 110 of them were included in our study according to the searching result. Relevant information about medicinal plants such as botanical names, families, and local names; used parts; preparation methods; administration/dosage; kidney problems; and chemical constituents are given in Table 1. Moreover, the most cited plant families, the most cited genera, and the most frequently used plant parts are presented in graphics (Figures 1–3). The scientific names of plants and plant families were verified using the Bizim Bitkiler¹ (2013) and the International Plant Names Index². Since synonym names were used in some publications, these alternative scientific names are also given in brackets.

3. Results and discussion

We documented 300 taxa distributed in 70 families to treat kidney diseases in Turkey (Table 1). Asteraceae (57) is the most frequently cited family followed by Lamiaceae (33), Rosaceae (30), Fabaceae (16), Malvaceae (15), Apiaceae (13) and Poaceae (10) (Figure 1). Most cited genera are *Helichrysum* (44), *Equisetum* (27), *Tribulus* (23), *Urtica* (23), *Rosa* (17), *Alcea* (14), *Hypericum* (14) and *Paliurus* (14), respectively (Figure 2). Aerial part (28%) is the most frequently used plant parts, followed by leaves (19%), flowers (14%), fruits (14%), underground parts (13%), seeds (5%), stem (3%), and other parts (4%) (Figure 3). Decoction and infusion are the most frequent preparation methods used (Figure 4). All plant parts are administered internally, except for leaves of *Malva neglecta* Wallr. There are some limitations that should be mentioned regarding ethnobotanical studies conducted in Turkey. In several studies, preparation methods of plant parts were not given. Moreover, administration methods and detailed dosage information were not specified in many studies. Therefore, such aforementioned data could not be given in this paper.

A prepared decoction of aerial parts and capitulum from *Helichrysum armenium* DC. (Asteraceae) is used for kidney stones. Flowering branches and aerial parts of *H. chionophilum* Boiss. & Balansa (endemic species) are used for the treatment of nephralgia and kidney gravel. People benefit from decoction of the flowering parts of *H. graveolens* (Bieb.) Sweet for kidney diseases. Infusion of capitulum of *H. orientale* (L.) Gaertn. is used for nephritis and kidney stone. It is seen that aerial parts of *H. pallasii* (Spreng.) Ledeb preferred by local people suffered from

¹ Bizim Bitkiler (2013). Bizim Bitkiler [online]. Website <http://www.bizimbitkiler.org.tr> [accessed 10 May 2021].

² IPNI (2021). International Plant Names Index. The Royal Botanic Gardens, Kew, Harvard University Herbaria & Libraries and Australian National Botanic Gardens [online]. Website <http://www.ipni.org> [accessed 04 May 2021].

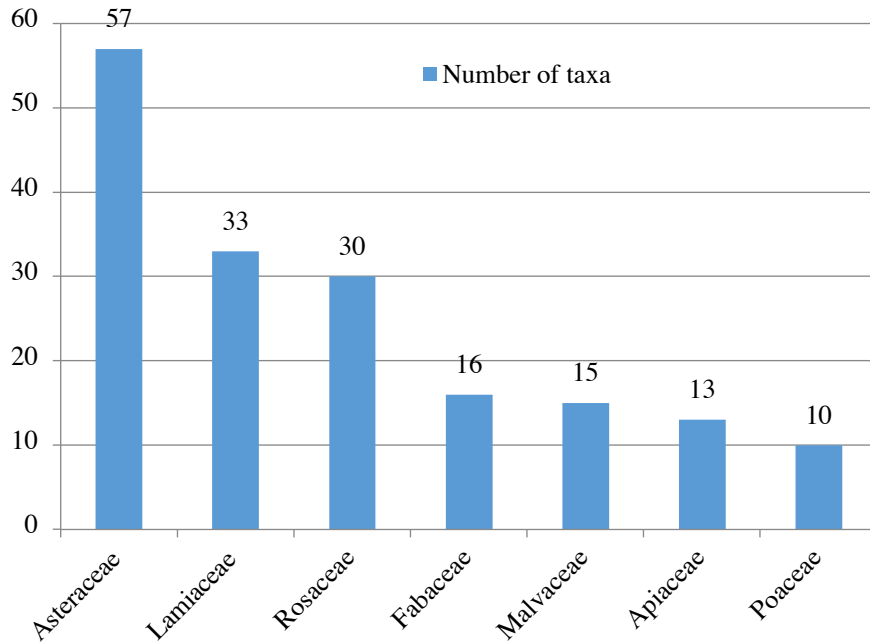


Figure 1. Number of taxa by family used for kidney diseases.

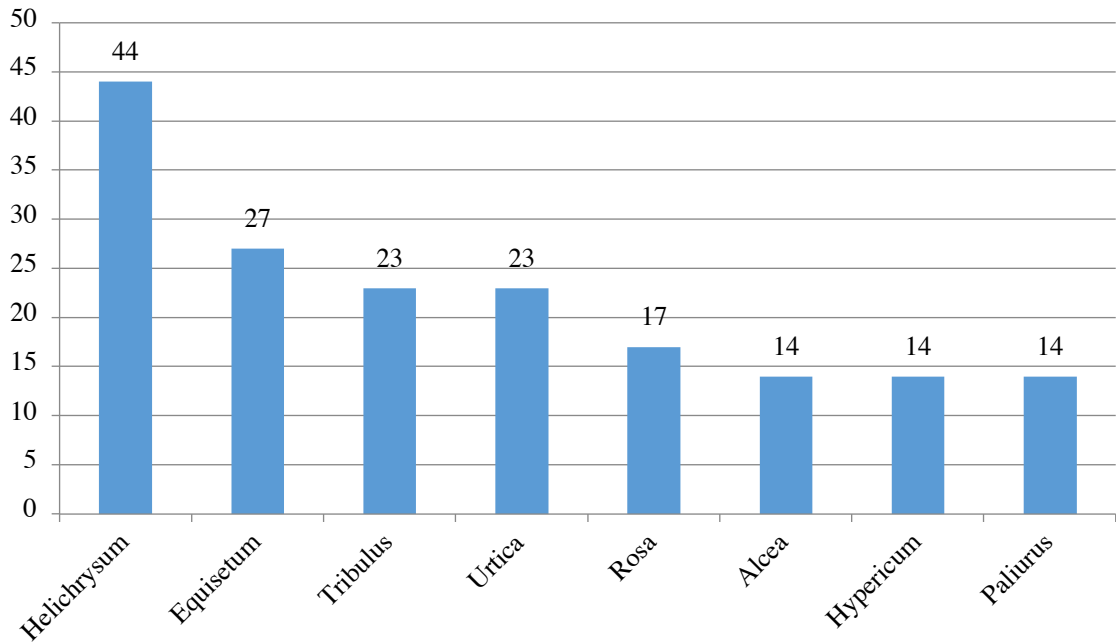


Figure 2. The most cited genera.

nephralgia, kidney gravel and kidney stones. *H. plicatum* DC. is the mostly cited taxon among *Helichrysum* species. Aerial parts and flowers are prepared by decoction or infusion method and used for mainly kidney stone, followed by nephralgia, nephritis and kidney gravel. While decoction of aerial parts of *H. plicatum* DC. subsp. *pseudoplicatum* (Nábělek) P.H.Davis & Kupicha is used for kidney stones, infusion of flowers of *H. sanguineum* (L.)

Kostel. are prepared for same disease. Furthermore, aerial parts and flowering branches of *H. stoechas* (L.) Moench are used for kidney stone, nephralgia and kidney gravel.

The aerial parts of *Equisetum arvense* L., *E. fluviatile* L., *E. giganteum* L., *E. hyemale* L., *E. ramosissimum* Desf. and *E. telmateia* Ehrh. from Equisetaceae family are used for several kidney diseases such as kidney stone, nephritis, kidney gravel and kidney sand. Leaves, branches, stem and

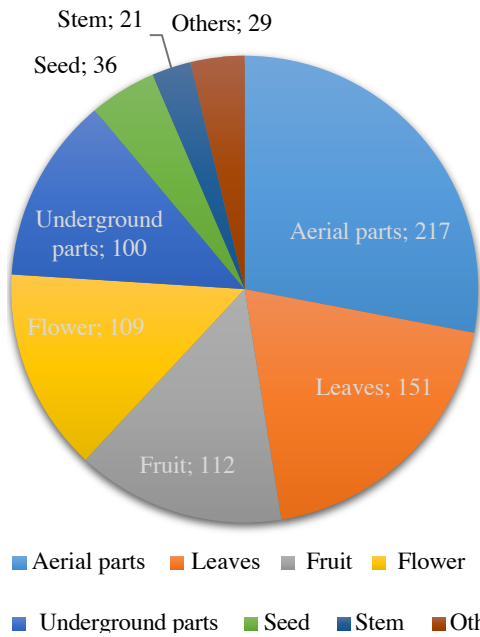


Figure 3. Plant parts used ranked by frequency of use.

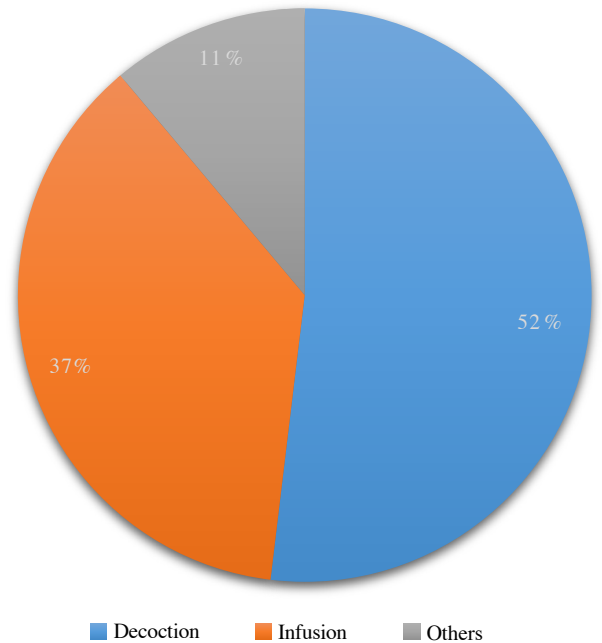


Figure 4. The most frequent preparation methods used.

whole plant are the other parts of *Equisetum* species which are used for kidney problems.

Tribulus terrestris L. (Zygophyllaceae) is mostly used to treat kidney stones, gravel and sand. Aerial parts, flowers, fruits, leaves, roots, seeds and even spicule horns are prepared by infusion or decoction method.

Several parts including aerial parts, seeds, roots, branches, leaves and stem of *Urtica dioica* L. (Urticaceae) are used for nephritis, kidney stone and gravel, kidney inflammation, deficiency and pain. Infusion prepared from seeds of *U. membranacea* Poir. ex Savigny and *U. pilulifera* L. are used for kidney diseases and kidney stones, respectively. While aerial parts of *U. urens* L. are used to treat kidney stone and kidney disorders, leaves are used only for kidney diseases.

Fruits, roots, leaves, flowers and seeds of *Rosa canina* L. (Rosaceae) are used for kidney problems such as kidney stone, gravel, pain and nephritis. Both decoction and infusion methods are used to prepare herbal remedies from *R. canina*.

It is seen that medicinal plants used in the treatment of kidney diseases among the people have methods prepared in different ways. Drugs are generally prepared by extraction methods in the form of infusion and decoction. According to our results Asteraceae, Lamiaceae and Rosaceae are leading plant families in terms of use for kidney diseases. Since these families are the plant families with the most taxa in Turkey, our findings are not surprising. In the literature, there are several phytochemical and pharmacological studies on the most used genera.

Helichrysum species contain flavonoids and essential oil, which are the main phenolic compounds. The drug is used as an adjuvant in the treatment of chronic cholecystitis and cramp-like gall-bladder disorders. In folk medicine, the drug is also employed as a diuretic (Bisset, 1994). There is a WHO monograph on *Helichrysi arenarii* flos in WHO monographs on medicinal plants commonly used in the Newly Independent States (NIS), (WHO 2010). It refers mainly to publication of Szadowska 1962 on the cholagogic and antispasmodic activities. The results of these studies justify the traditional use of infusions and decoctions *Helichrysi* flos as a mild cholagogue and weak spasmolytic in bile ducts. In the experimental conditions, after intravenous and intraduodenal administration the flavonoids: apigenin, kempferol-3-glycoside, naringenin-5-glycoside, exhibited one third of deoxycholic acid activity. Among substances investigated, antispasmodic activity has shown apigenin and ethyl ether containing apigenin and other nonpolar aglycones. Last years important antiinflammatory activity of homoarenol/arzanol, present in extracts of sandy everlasting was confirmed, but the preclinical data on herbal preparations are still not available. The preparations traditionally used in Europe are water extracts, decoction and infusion. Bayir et al. (2011) studied to assess the effects of *Helichrysum plicatum* DC. subsp. *plicatum* as a preventive agent in experimentally induced urolithiasis model in rats. Their finding showed that *Helichrysum* flowers suppressed renal calcium accumulation and

urinary CaOx levels in a rat model of EG/AC induced urolithiasis. Orhan et al. (2015) investigated the preventive and beneficial effects of *Helichrysum graveolens* (M.Bieb.) Sweet and *H. stoechas* subsp. *barellieri* (Ten.) Nyman extracts (infusions, 3%) on stone formation. Both extracts were found to have significant inhibitory effect on stone formation. Onaran et al. (2016) determined that the curative effect of *Helichrysum graveolens* and *H. stoechas* ssp. *barellieri* on sodium oxalate induced kidney stones. Potassium citrate was used as positive control group and *Helichrysum* extracts were given at two different doses. Histopathological examinations of kidneys, blood liver enzyme (AST-aspartate aminotransferase, ALT-alanine aminotransferase, ALP-alkaline phosphatase) levels, blood biochemistry were examined. The elevation in the urine citrate levels and the reduction in the uric acid and oxalate levels of urine samples in extract groups were significant and promising. Their findings showed that biochemical, hematological and enzymatic markers were enhanced by extracts.

The main compounds in the composition of *Rosa* species are phenolic acids, flavonoid, tannin, anthocyanin, carotenoid and pectin. *Rosa* species are frequently used among the public in kidney and urinary system disorders, and in reducing kidney stones. The diuretic action which lies at basis of its use in folk medicine is supposedly due to the pectin and plant-acid contend. Preparations with diuretic effects are used in urology and modern treatment (Blumental et al., 2000).

The whole or cut, dried sterile aerials parts of *Equisetum arvense* L. contains inorganic constituents (silicic acid, aluminum chloride, potassium chloride and manganese), flavonoids (mostly kaempferol- and quercetin glycosides). The main compounds found in the composition of *Equisetum* species are minerals (silicic acid), flavonoids, saponins, tannins, alkaloids and volatile compounds. Silicic acid and similar mineral substances are responsible for the diuretic effect of the drug (Çubukçu et al., 2002). Drog tablets with diuretic effect are used in modern treatment. As a diuretic which, owing to increased flow through the ureters is useful in inflammation of the renal pelvis and bacteriuria. The drug brings about water diuresis without altering the electrolyte balance (Bisset, 1994). Based on the data documented in the assessment report, a European Union herbal monograph is established on the traditional uses of several preparations (as tea preparation or other oral galenic preparations) from *Equisetum arvense* L., herba. The efficacy is plausible on the basis of longstanding use and experience for the following indications: Indication 1) Oral use: Traditional herbal medicinal product to increase the amount of urine to achieve flushing of the urinary tract as an adjuvant in minor urinary complaints. Indication 2) Cutaneous

use: Traditional herbal medicinal product for supportive treatment for superficial wounds. The flavonoids and the high potassium content may contribute to the effects described (EMA/HMPC/278091/2015). Crescenti et al. (2015) investigated protective effect of Herbensurina (it is a mix herbal medicine, included *Herniaria glabra* L., *Agropyron repens* (L.) P.Beauv., *Equisetum arvense* L. and *Sambucus nigra* L.) in an experimentally induced nephrolithiasis model in rats. They showed that it prevented deposits of calcium oxalate crystals and kidney microcalcifications, and decreases the probability of subcapsular fibrosis. Carneiro et al. (2014) evaluated double-blind, randomized clinical trial on the diuretic effect of dried extract of *Equisetum arvense* L. They found that its affect was comparable to hydrochlorothiazide and was superior to placebo. Pechter et al. (2018) investigated effects of *Equisetum arvense* and *Viscum album* on renal morphology and functioning in experimental model of chronic kidney disease. They used equal doses of *Equisetum arvense* and *Viscum album* L. that was prepared without alcohol and processed by heating, rhythmising. The difference in proteinuria between herbal group and untreated group was found significant. In kidney tissue samples, less glomerulosclerosis and lower IF (interstitial fibrosis) score were found both in herbal group and losartan group compared to untreated group.

Community herbal monograph on *Urtica dioica* L., *Urtica urens* L., radix states that: Traditional herbal medicinal product for the relief of lower urinary tract symptoms related to benign prostatic hyperplasia. All experimental pharmacologic studies and several clinical studies of *Urticae* radix have used hydroalcoholic extracts prepared with relatively hydrophilic solvents, i.e. methanol or ethanol. The main components of these extracts include phytosterols, triterpene acids, lignans, polysaccharides, and simple phenol compounds (EMA/HMPC/461160/2008). *Urtica* species is used as antiinflammatory, preventive and curative of kidney stone formation in urinary system diseases (Çubukçu et al., 2002). There are few clinically and pharmacologically assured results concerning the action and activity, and such as there are relate to the diuretic effect. Thus, *Urtica* herb is supposed to have a accompanied by considerable excretion of chlorides and urea. More studies have confirmed the mild diuretic effect of the fresh sap from the herb (Bisset, 1994). Accepted indications in the Community herbal monograph on *Urtica dioica* L., *Urtica urens* L, herba: a) Traditional herbal medicinal product to increase the amount of urine to achieve flushing of the urinary tract as an adjuvant in minor urinary complaints. b) Traditional herbal medicinal product for relief of minor articular pain. c) Traditional herbal medicinal product used in seborrhoeic skin conditions. Principal components of the herbal substance: minerals

(calcium, potassium, silicon, phosphorus, iron, chloride, magnesium, sodium), flavonoids (principally kaempferol, isorhamnetin, quercetin and their 3-glucosides), acids (carbonic acid, formic acid, silicic acid), caffeic acid esters, amino acids, chlorophylls, carotenoids, vitamins, triterpenes, coumarins. Early studies demonstrated the diuretic effect of nettle herb in animals, accompanied by increased excretion of chlorides and urea. Flavonoids and the high potassium content may contribute to the diuretic action, which is not, however, fully clarified (EMA/HMPC/170261/2006). Sayhan et al. (2012) showed the effect of *Urtica dioica* L. in renal ischemia-reperfusion (I/R) induced renal injury in Sprague–Dawley rats. As a result, the severity of intestinal I/R injury and tubulointerstitial damage score were significantly reduced by *Urtica dioica*. Salih (2015) investigated protective role of *U. dioica* on gentamicin-induced nephrotoxicity in male rabbits. Nettle ethanol extract protected the rabbits when administered after inducing gentamicin nephrotoxicity from changes in blood urea nitrogen and serum creatinine levels. Hajhashemi et al. (2020) evaluated effects of *U. dioica* on gentamicin-induced acute kidney injury in rats. The amounts of plasma creatinine, blood urea nitrogen, urinary sodium excretion, fractional excretion of sodium and potassium, and malondialdehyde levels were reduced by methanolic leaf extract of *Urtica dioica*. Creatinine clearance, urine osmolarity, renal blood flow and ferric reducing antioxidant power levels were increased.

Tribuli fructus consists of the dried fruits of *Tribulus terrestris* L. The major constituents of the fruit are steroidal saponins including gitonin, protodioscin, tribulosaponins A and B, tribulosin and terrestrosins A–K, among others. Other constituents include alkaloids, tribulusamides A and B, and trace amounts of harman and norharman; and flavonols such as kaempferol, quercetin and rutin. Uses described in pharmacopoeias and well established documents: Orally for the treatment of cough, headache and mastitis. Although clinical trials have assessed the use of the crude drug for the symptomatic treatment of angina pectoris and male infertility, randomized controlled clinical trials are needed before the use of the crude drug can be recommended for the treatment of these conditions. Uses described in traditional medicine: Orally for the treatment of abdominal distension, diarrhoea, kidney stones, nosebleeds and vitiligo. It is also used as an aphrodisiac, diuretic, galactagogue, general tonic and uterine tonic (WHO, 2009). *Tribulus* drugs are frequently used in traditional treatment for urinary system disorders. *Tribulus* drugs have diuretic and antiurolithic activity. There are several in vivo and in vitro studies supporting the use of *Tribulus* drugs in kidney diseases (Chhatre et al., 2014). Anand et al. (1994) demonstrated that an ethanolic extract of the *Tribulus terrestris* L. fruits had important dose-dependent protection against uroliths in albino rats.

Alcea rosea showed a beneficial effect in preventing and eliminating calcium oxalate deposition in the rat kidney. This effect is possibly due to diuretic and antiinflammatory effects or presence of mucilaginous polysaccharides in the plant. It may also be related to lowering of urinary concentration of stone-forming constituents (Ahmadi et al., 2012).

Hypericum perforatum L. has been used to treat depression, mental disorders, wounds, peptic ulcers, malaria, gout and arthritis. Various compounds of the plant are known as sedative, diuretic and expectorant according to their effects. The flowers and the aerial parts are commonly used in the preparations of traditional medicines. *Hypericum perforatum* with identified active compounds like hypericine, hyperforin is being studied for its antidepressant activity in both humans and animals. It is also used in the treatment of pulmonary complaints, bladder troubles in suppression of urine, dysentery, worms, diarrhoea, hysteria and other haemorrhages and jaundice (Shrivastava and Dwivedi, 2015).

Gülhan et al. (2020) was reported *Hedera helix* L. as a potential cause for acute tubulointerstitial nephritis. In this case, a 10-month-old infant experienced severe tubulointerstitial nephritis. He used antibiotic (cefdinir) and anticough medication (containing *Hedera helix*) five days ago before applying to the hospital. Accordingly, they thought the cause for acute tubulointerstitial nephritis might be the drugs.

This review has shown that a great number of plants were used in traditional medicine for kidney diseases. Plants can cause toxicity or interactions depending on dose and phytochemical ingredients. When considered from this point of view, more ethnopharmacological studies are required for confirming the effectiveness of the plants which has traditional usage.

4. Conclusion

Medicinal plants, including their chemical compounds, constitute a valuable source for the treatment of kidney diseases. The high floristic diversity and immense knowledge on traditional medicinal practices certainly contributes the richness of plants used in Turkish traditional medicine. This review reports 300 taxa used as traditional herbal remedies in kidney diseases in Turkey through the screening of ethnobotanical studies conducted from 1990 to 2020. The most frequently cited genera were found as *Helichrysum*, *Equisetum*, *Tribulus*, *Urtica* and *Rosa*. Despite the various pharmacological and phytochemical researches carried out on these genera, clinical studies are rather limited. Since there is a lack of scientific validation for many of the taxa, more phytochemical and pharmacological studies in order to confirm the effectiveness of these species are needed. Reviews, based on results of ethnobotanical

and phytochemical studies, are important to support the traditional use of herbal remedies and provide leads in the search for new pharmaceutical products.

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Table 1. Plants used for kidney diseases in Turkey.

Family/ scientific name	Local names	Used parts	Preparation	Administration/ dosage	Kidney problems	Chemical constituents	References
Acoraceae	<i>Acorus calamus</i> L.	Eğirkökü, Hazanbel	Root		Internal	Kidney diseases	Essential oils (Akan and Bakır Sade, 2015; Hosroshahi et al., 2020)
	<i>Sambucus nigra</i> L.	Mürverağacı	Flower, Leaf	Decoction	Internal	Kidney stone	Essential oils, mucilage, resin, tannin, glycoside (Güler et al., 2018; Baytop, 1999)
	<i>Viburnum lantana</i> L.	Gilaburu, Girebolu	Fruit	Fresh	Internal/drink the juice	Kidney stone	(Korkmaz and Karakurt, 2015)
	<i>Viburnum opulus</i> L.	Gilaburu, Gilaboru, Kartopu, Kiraboğlu Kirabolu, Girabolu	Fruit			Nephralgia	Organic acid, flavonoid, anthocyanin, vitamin C (Mumcu and Korkmaz, 2018; Baytop, 1999; Zarifi; Zarifikhosroshahi et al., 2020)
			Fruit	Infusion	Internal	Kidney stone, Kidney infection	(Korkmaz and Karakurt, 2015)
			Fruit juice, Fruit, Flower	Infusion	Internal/pickle eaten thrice a day	Kidney diseases, Kidney stone, Kidney sand	(Tuzlacı and Şenkardeş, 2011)
			Fruit		Internal/juice obtained by squeezing is taken orally	Kidney stone	(Sezik et al., 2001)
Adoxaceae	<i>Viburnum</i> sp.	Fruit		Internal/fresh fruit in summer or pickles prepared to use in winter are ingested	Kidney stone	(Sezik et al., 2001)	
		Fruit		Internal/fresh fruit is ingested or decoction is used as tea	Kidney stone	(Sezik et al., 2001)	
		Fruit	Decoction	Internal	Nephralgia	(Altundağ and Öztürk, 2011)	
		Fruit	Juice	Internal	Kidney stone	Diterpenoid, iridoid, (Şimşek et al., 2002; Lobstein et al.,	

							coumarin, flavonoid	1999)
	<i>Amaranthus retroflexus</i> L.	Silmask	Leaf	Decoction	Internal	Kidney pain	Not found	(Behçet and Arık, 2013)
Amaranthaceae	<i>Chenopodium album</i> L.	Sirken	Whole plant	Decoction	Internal	Kidney inflammation	Flavonoid, saponin, terpen, sterol, alkaloid, vitamine	(Şimşek et al., 2002; Köseoğlu et al., 2019)
Amaryllidaceae	<i>Allium sativum</i> L.	Sarımsak	Leaf	Fresh	Internal	Kidney stone	Essential oils, S-glycoside	(Sağiroğlu et al., 2013; Çubukçu et al., 2002)
Anacardiaceae	<i>Cotinus coggygria</i> Scop.	Tetra, Tetre, Tetere, Tetraotu	Leaf	Decoction	Internal	Kidney stone, Nephritis	Tannin, flavonoid, mucilage	(Kültür, 2007; Kültür and Bitiş, 2007)
	<i>Rhus coriaria</i> L.	Sumak	Fruit	Decoction	Internal/ used cold, before meals	Kidney stone	Tannin, flavonoid, organic acids, essential oils	(Tuzlacı and Erol, 1999; Elagbar et al., 2020)
	<i>Anethum graveolens</i> L.	Dereotu, Kereviz, Kereviztohumu	Aerial parts	Decoction	Internal/drink one glass of the plant three times a day	Kidney stone	Tannin, resin, fixed oil, essential oils	(Güneş et al., 2017; Baytop, 1999)
			Leaf, Stem	Fresh	Internal/ fresh eaten	Kidney stone		(Güler et al., 2015)
			Fruit			Kidney ailments		(Mumcu and Korkmaz, 2018)
			Seed	Decoction	Internal/Drink one teacup 2-3 times a day for 8-10 days	Nephritis		(Ugulu et al., 2009)
Apiaceae			Fruit	Powdered		Kidney stone and		(Akan and Bakır Sade, 2015)

			with honey		sand		
<i>Carum carvi</i> L.	Kimyon	Fruit	Decoction	Internal	Kidney stone	Essential oils, flavonoid, fixed oil, protein	(Altundağ and Öztürk, 2011; Çubukçu et al., 2002)
<i>Daucus carota</i> L.	Yabanihavuç, Havuçtohumu, Tarakotu	Fruit			Kidney stone	Carotenoid, phenolic compounds, vitamin C, polyacetylene	(Mumcu and Korkmaz, 2018; Krivokapic et al., 2020)
		Fruit	Powder		Kidney diseases		(Akan and Bakır Sade, 2015)
		Fruit	Decoction	Internal	Kidney stone		(Altundağ and Öztürk, 2011)
<i>Eryngium billardierei</i> Del.	Sudikeni	Stem	Fresh	Internal	Kidneyache	Not found	(Güneş and Özhatay, 2011)
<i>Eryngium campestre</i> L.	Çakırdikeni	Stem			Kidney diseases	Tannin, saponin	(Uysal, 2010; Baytop, 1999)
	Çakır-Boğa dikeni	Stem	Decoction	Internal	Kidney problems		(Uysal et al., 2006)
<i>Eryngium campestre</i> L. var. <i>virens</i> Link	Devedikeni, Yıldızotu, Boğadikeni	Aerial parts	Decoction	Internal	Kidney stone	Triterpene saponin, flavonoid, coumarin	(Genç and Özhatay, 2006; Atay Balkan et al., 2020)
		Aerial parts, Root	Decoction	Internal/drink 2 glasses daily	Kidney diseases		(Sağiroğlu et al., 2017)
<i>Eryngium creticum</i> Lam.	Diken	Stem			Kidney inflammation	Sesquiterpene, monoterpenes, coumarin, sitosterol, sugar	(Uysal et al., 2010; Kikowska et al., 2016)
<i>Ferularigidula</i> Fisch ex DC.	Heliz	Root, Stem	Decoction, pickle	Internal	Kidney stone	Essential oils	(Polat et al., 2012)
		Stem, Root	Raw	Internal	Kidney stone		(Polat and Çakılcıoğlu, 2018; Başer and Kırimer, 2014)
<i>Foeniculum vulgare</i> Miller.	Rezene, Sıra	Seed	Decoction	Internal/Drunk one teacup twice a day	Kidney stone	Volatile oil, phenolic compounds	(Sağiroğlu et al., 2013; Çubukçu et al., 2002; Kalleli et al., 2019)

<i>Petroselinum crispum</i> (Mill.) Fuss [Syn: <i>Petroselinum sativum</i> Hoffm.]	Madenüs, Maydanoz	Leaf	Decoction, as component of a multiherbal (with <i>Urtica dioica</i> Leaf)	Internal	Kidney stone	Essential oils, flavonoid, coumarin, polyacetylene derivatives	(Tuzlacı and Tolon, 2000; Çubukçu et al., 2002)
		Leaf, Shoot			Nephritis		(Cansaran and Kaya, 2010)
		Root	Decoction	Internal	Kidney stone		(Uzun et al., 2004.)
		Leaf, Branch	Infusion	Internal/drink one once or twice a day	Kidney diseases, Kidney stone		(Uzun and Kaya, 2016)
		Root	Decoction	Internal	Kidney stone		(Ezer and Mumcu Arisan, 2006)
		Leaf	Decoction	Internal	Kidney stone		(Sağiroğlu et al., 2012)
		Aerial parts	Fresh	Internal	Kidney stone, Tonic for kidney		(Korkmaz and Karakurt, 2015)
		Leaf, Petiole			Kidney diseases		(Deniz et al., 2010)
		Fruit	Decoction	Internal	Kidney stone		(Akan and Bakır Sade, 2015)
		Aerial parts	Infusion	Internal/eaten before breakfast every day for a week	Kidney ache		(Polat and Satıl, 2012)
		Aerial parts	Decoction	Internal	Kidney sand		(Yeşilyurt et al., 2017)
		Leaf, Branch	Decoction	Internal/drink one glass of the plant three times a day	Kidney stone		(Paksoy et al., 2015)
		Leaf	Decoction (with <i>Elaeagnus angustifolia</i> Leaf)	Internal/3x1, before meals	Kidney stone		(Tuzlacı and EryaşarAymaz, 2001; Rajkowski, 1962)

Araceae	<i>Pimpinella corymbosa</i> Boiss.	Ezerteli, Yabankerevizi	Aerial parts	Infusion	Internal	Kidney pain	Essential oils	(Korkmaz and Karakurt, 2015; Tabanca et al., 2005)
	<i>Arum rupicola</i> Boiss. [Syn: <i>Arum detruncatum</i> C.A.Mey. ex Schott var. <i>detruncatum</i>]	Navic	Leaf	Infusion	Internal	Kidney stone	Not found	(Altundağ and Öztürk, 2011)
Araliaceae	<i>Hedera helix</i> L.	Sarmaşık, Dağ sarmaşığı, Sarmaşlık	Leaf	Infusion	Internal/drink one teacup two times a day for a week	Kidney diseases	Flavonoid, triterpenoid saponins	(Polat and Satıl, 2012; Çubukçu et al., 2002)
			Leaf	Infusion	Internal	Kidney ailments, Kidney stone		(Bulut and Tuzlacı, 2015)
Asparagaceae	<i>Asparagus persicus</i> Baker	Merçin	Fruit	Decoction	Internal/drink one glass of the plant on an empty stomach in the morning	Kidney pain	Steroid saponins	(Dalar et al., 2018; Tairov, 1969)
	<i>Asparagus acutifolius</i> L.	Kuşkonmaz, Demirdelen, Kedikuyruğu, Tilkişen, Tilki, Gıcık	Fruit, Root	Decoction, Infusion		Kidney inflammation	Flavonoid, amino acid, fatty acid, protein, steroidal saponin	(Fakir et al., 2009; Ferraro et al., 2011; Sautour et al., 2007.)
			Aerial parts	Infusion	Internal	Kidney stone		(Demirci and Özhatay, 2012)
			Shoot	Cooked	Eaten	Kidney diseases		(Gürdal and Kültür, 2013)
	<i>Danae racemosa</i> (L.) Moench.	Kandak	Root	Infusion	Internal	Kidney stone	Flavonoid	(Demirci and Özhatay, 2012; Fathiazad and Hamadeyazdan, 2015)
<i>Ruscus aculeatus</i> L. [Syn: <i>Ruscus aculeatus</i> L. subsp. <i>angustifolius</i> Bois s.]	Devedikeni, Öküzdikeni, Kızlarturuncu, Tavşanmemesi, Tavşanotu, Kandak	Root	Decoction	Internal	Kidney stone	Essential oils, resin, saponin, flavonoid, anthraquinon, benzofuran, coumarin	(Demirci and Özhatay, 2012; Baytop, 1999; ESCOP Monographs, 2017)	
		Root	Decoction		Spontaneous kidney stone passage		(Fakir et al., 2009)	
		Root	Decoction	Internal/drink one tea cup two times a day for 7–8 days	Nephritis, Kidney stone		(Kültür, 2007)	
		Root, Stem	Infusion	Internal/drink one glass of the	Kidney stone		(Güneş et al., 2017)	

plant three times a day							
<i>Asplenium adiantum-nigrum</i> L.	Taşğreltisi, Karabacak, KarabaldırOtu, BaldıranOtu	Aerial parts	Decoction	Internal	Kidney stone	Triterpenoid, flavonoid, essential oils	(Tuzlacı and EryaşarAymaz, 2001; Hammami et al., 2016)
		Aerial parts, Leaf	Infusion		Kidney diseases		(Kalankan et al., 2015)
<i>Asplenium ceterach</i> L. [Syn: <i>Ceterach officinarum</i> Willd.]	Altınotu, Kınaotu, Böbrekodu	Leaf	Infusion	Internal/drink one glass of the plant three times a day	Kidney stone	Flavonoid, phenolic acid, acetophenone, lignan, xanthone, phenols	(Güneş et al., 2017; Tomou and Skaltsa, 2018)
		Aerial parts	Infusion		Kidney stone and sand		(Kalankan et al., 2015)
		Leaf	Infusion	Internal	Kidney stone		(Tuzlacı and EryaşarAymaz, 2001)
		Leaf	Decoction	Internal	Kidney stone		(Ertuğ, 2004)
		Aerial parts	Infusion, Decoction	Internal	Kidney stone		(Tuzlacı and Erol, 1999)
		Aerial parts	Infusion	Internal	Kidney ailments		(Bulut and Tuzlacı, 2015)
		Aerial parts	Infusion	Internal	Kidney stone		(Nacakçı and Dutkuner, 2018)
		Leaf, Spores	Decoction	Internal/drink one teacup every morning before breakfast for 7-8 days	Kidney stone, Kidney inflammation		(Uysal et al., 2012)
		Leaf	Decoction	Internal/drink one teacup twice a day	Kidney stone		(Sağiroğlu et al., 2013)
		Leaf	Infusion	Internal/drink one teacup two times a day for 1-2 week	Kidney stone		(Polat and Satıl, 2012)
Leaf	Infusion	Internal	Kidney stone	(Demirci and Özhatay, 2012)			

Asteraceae	<i>Achillea arabica</i> Kotschy [Syn: <i>Achillea biebersteinii</i> Afan.]	Kurtotu, Mayalıkotu, Sırçanotu, Yaylaçiçeği	Aerial parts	Infusion	Internal	Kidney diseases	Essential oils	(Özdemir and Alpınar, 2015; Cakıcı and Koçak, 2015)
		Sarıcivanperçemi, Ormaderen	Aerial parts	Decoction	Internal	Kidney stone	Terpene, flavonoid, coumarin, phenolic acid, lignan, essential oil, sesquiterpene lactone	(Korkmaz and Karakurt, 2015; Şabanoğlu et al., 2019; Mohamed et al., 2015)
			Flower	Decoction	Internal	Nephralgia		(Altundağ and Öztürk, 2011)
	<i>Achillea millefolium</i> L.	Beyazcivanperçemi, Civanperçemi, Perçem, Kalilkasıpi	Aerial parts	Decoction	Internal	Kidney stone	Essential oils	(Korkmaz and Karakurt, 2015; Baytop, 1999)
			Flowering stem	Infusion	Internal/drink one teacup two times a day for a week	Nephritis		(Polat and Satıl, 2012)
			Flower	Decoction	Internal	Kidney pain		(Behçet and Arık, 2013)
			Flower	Infusion	Internal	Kidney pain		(Karakaya et al., 2019)
	<i>Achillea pannonica</i> Scheele [Syn: <i>A. millefolium</i> L. subsp. <i>pannonica</i> (Schelek) Hayek]	Civanperçemi, Kurpotu, Disotu, Ayvadana, Ronagvac, Sporiş, Sporiyiş, Krannavaz	Aerial parts	Decoction	Internal/drink 1–2 tea cups two times a day for 6–8 days	Nephritis	Essential oils	(Kültür, 2007; Karamenderes et al., 2002)
	<i>Achillea santolinoides</i> subsp. <i>wilhelmsii</i> (K. Koch) Greuter [Syn: <i>Achillea wilhelmsii</i> C. Koch]	Sarı civanperçemi	Aerial parts	Decoction	Internal	Kidney stone	Essential oils	(Korkmaz and Karakurt, 2015; Baytop, 1999)
	<i>Achillea vermicularis</i> Trin	Sarıçiçek	Flower	Decoction	Internal	Kidney pain	Essential oils	(Behçet and Arık, 2013; Koçak et al., 2016)
<i>Anthemis cotula</i> L.	Papatya	Flower	Infusion	Internal	Kidney diseases	Essential oils, organic acid, alkaloid, glycoside	(Akbulut and Ozkan, 2014; Baytop, 1999)	
<i>Anthemis cretica</i> subsp.	Papatya	Flower	Infusion	Internal	Kidney diseases	Not found	(Korkmaz and Karakurt, 2015)	

umbilicata Grierson

<i>Anthemis cretica</i> subsp. <i>leucanthemoides</i> (Boiss.) Grierson	Papatya, Akbabasca	Flower, Aerial parts	Infusion	Internal	Kidney stone	Not found	(Ugurlu and Secmen, 2008)
<i>Cota tinctoria</i> (L.) J.Gay [Syn: <i>Anthemis</i> <i>tinctoria</i> L. var. <i>tinctoria</i>]	Sarıpapatya	Flower	Infusion	Internal	Kidney diseases	Flavonoid	(Korkmaz and Karakurt, 2015; Baytop, 1999)
<i>Artemisia absinthium</i> L.	Yavşan	Aerial parts	Infusion	Internal/drink one glass of the plant three times a day	Kidney stone	Essential oils, sesquiterpene lacton, flavonoid	(Güneş et al., 2017; Baytop, 1999)
<i>Carduus acanthoides</i> L.	Küçükkenger	Aerial parts	Decoction	Internal/Drink 1–2 tea cups two times a day for 10 days	Kidney stone	Not found	(Kültür, 2007)
<i>Carduus lanuginosus</i> Willd.	Kelemoşk	Seed	Decoction	Internal/drink one glass of the plant on an empty stomach in the morning	Kidney pain	Flavonoid	(Dalar et al., 2018; Özcan, 2019)
<i>Carduus nutans</i> L. subsp. <i>leiophyllus</i> (Petr.) Stoj. et Stef.	Devedikeni, Eşekdikeni, Çakırdikeni, Eşekgengeri	Aerial parts	Decoction	Internal/Drink 1–2 tea cups two times a day for 10 days	Kidney stone	Not found	(Kültür, 2007)
<i>Centaurea benedicta</i> (L.) L.	Devedikeni, Şevketibostan, Şevketibostanotu, Mezarzambağı	Aerial parts	Infusion	Internal/drink one glass on day for 2 weeks	Nephralgia, Kidney gravel	Sesquiterpene lactone, triterpenoid, flavonoid, essential oils	(Sargin et al., 2015; Al-Snafi, 2016b)
<i>Centaurea iberica</i> Trev. ex Spreng.	Çakırdiken	Aerial parts			Kidney stone	Not found	(Uysal et al., 2010)
	Devedikeni, Devediş		Decoction	Internal	Kidney stone	Not found	(Karakaya et al., 2019)
<i>Centaurea kurdica</i> Reichardt	Cızarılcebel	Flower	Infusion	Internal	Kidney diseases	β- amyrin,β-sitosterol, flavonoid	(Akgul et al., 2018; Tuğçe et al., 2020)

<i>Centaurea glastifolia</i> L.	Devedikeni, Devedışı	Aerial parts	Decoction	Internal	Kidney stone	Guaianolides	(Karakaya et al., 2019; Öksüz and Topçu, 1994)
<i>Chondrilla juncea</i> L.	Acıhindiba, Sarıhindiba, Sakızotu	Leaf	Fresh	Internal	Kidney stone	Gum	(Polat and Satıl, 2012; Baytop, 1999)
<i>Cichorium intybus</i> L.	Çukurotu, Hindiba, İndibahar, İndiba	Root	Decoction		Kidney stone	Mucilage, essential oils, coumarin, tannin, inulin, pentosans	(Sezik et al., 2001; Çubukçu et al., 2002)
		Leaf	Decoction	Internal/drink one teacup two times a day for 1-2 week	Kidney stone		(Polat and Satıl, 2012)
<i>Cnicus benedictus</i> L.	Devedikeni, Şevketibostan, Şevketibostanotu, Yumuşak hasan, Akdiken, Mayasılotu, Diken	Whole plant	Infusion, Decoction, Spice	Internal/drink one tea cup 2–3 times a day for 3–4 weeks	Kidney stone	Sesquiterpene lactone, lignan, flavonoid, volatile oil, alkaloid, saponin, coumarin	(Sargin et al., 2013; Al-Snafi, 2016b)
		Aerial parts	Infusion	Internal/drink one teacup two times a day for a week	Kidney stone		(Polat and Satıl, 2012)
		Aerial parts	Infusion	Internal	Kidney stone		(Bulut and Tuzlacı, 2015)
<i>Cyanus segetum</i> Hill.	Oğlandüğümü, Düğüm, Oğlançiçeği, Dağkaranfili, Peygamberçiçeği	Scapa, Flower, Leaf	Infusion, Cataplasm	Internal/drink one glass 1–2 times a day for 4–8 weeks	Nephralgia, Kidney gravel	Anthocyanin, flavonoid, organic acid, tocopherol	(Sargin et al., 2015; Lockowandt et al., 2019)
<i>Cynara scolymus</i> L.	Enginar	Flower, Leaf	Decoction	Internal/drink one tea cup 3 times a day for 3–4 weeks	Nephralgia, Kidney stone	Mineral, vitamin, phenolic acid, flavonoid, sesquiterpene lacton	(Sargin et al., 2013; Mejri et al., 2020; Çubukçu et al., 2002)
		Root with <i>Mentha</i> sp. + <i>Mespilus germanica</i>	Decoction	Internal	Kidney stone		(Ertuğ, 2004)

		flower					
		Root	Decoction	Internal/drink one cup once a day	Kidney stone		(Sağiroğlu et al., 2013)
<i>Filago arvensis</i> L.	Paryavşanotu, Paryavşan, Çayırüzeli	Aerial parts	Infusion	Internal/drink one tea cup 2–3 times a day for 2–3 weeks	Nephralgia, Kidney gravel	Not found	(Sargin et al., 2015)
<i>Gundelia tournefortii</i> L.	Kenger	Seed, Latex, Root, Stem	Decoction	Internal	Kidney pain	Essential oils	(Altundağ and Öztürk, 2011; Bağcı et al., 2010)
<i>Helianthus tuberosus</i> L.	Yerelması	Flower, Rhizome	Decoction	Internal/drink one glass of the plant three times a day; the plant parts eaten raw	Kidney stone	Carbohydrate	(Güneş et al., 2017; Baytop, 1999)
<i>Helichrysum arenarium</i> (L.) Moench	Ölmezçiçek, Mantfar, Yaylaçiçeği, Ariotu, Sarıçiçek, Altınotu	Flowering branch	Infusion	Internal	Kidney stone, Kidney gravel	Flavonoid, α -pyrons, coumarin, sterol, sesquiterpene lacton, essential oils, fatty acids	(Özdemir and Alpınar, 2015; Czinner et al., 1999)
		Capitulum	Infusion, Decoction	Internal	Kidney stone, Nephralgia		(Tuzlacı and Erol, 1999)
		Leaf, Flower	Infusion, Decoction	Internal	Kidney diseases		(Akan and Bakır Sade, 2015)
<i>Helichrysum arenarium</i> (L.) Moench subsp. <i>aucheri</i> (Boiss.) P. H. Davis & Kupicha	Gözlübaba, Gözlübabaotu, Daşdüşiren, Daşdüşirenot, Altınotu, Kayaotu, Üzümcük, Yaylaçiçeği, Herdemca, Altınbaşotu	Aerial parts			Nephralgia, Kidney stone	Phenolic acid, flavonoid, essential oils	(Mumcu and Korkmaz, 2018; Gradinaru et al., 2014; Babotă et al., 2018)
		Aerial parts			Kidney diseases		(Oğuz and Tepe, 2017)
		Flowering branch, Aerial parts	Infusion	Internal/drink one tea cup 3 times	Nephralgia, Kidney gravel		(Sargin et al., 2015)
		Aerial parts	Decoction	Internal/drink ne tea glass of the plant before the meal	Kidney stone		(Dalar et al., 2018)
		Aerial parts	Infusion	Internal/drink one tea cup 3 times a day for 3–4 weeks	Nephralgia, Kidney stone		(Sargin et al., 2013)

		Aerial parts	Decoction	Internal/drink one glass of the plant on an empty stomach in the morning	Kidney stone		(Mükemre et al., 2015)
<i>Helichrysum arenarium</i> (L.) Moench subsp. <i>rubicundum</i> (C. Koch) Davis & Kupicha	Yaylaçiçeği	Aerial parts	Infusion	Internal	Nephralgia, Kidney stone	Not found	(Altundağ and Öztürk, 2011)
<i>Helichrysum armenium</i> DC.	Guyazerk, Mantuvar, Sesum	Aerial parts	Decoction	Internal/drink one tea glass of the plant three times a day.	Kidney stone	Essential oils	(Mükemre et al., 2015; Baytop, 1999)
		Aerial parts	Decoction	Internal	Kidney stone		(Demirci and Özhatay, 2012)
		Capitulum	Decoction	Internal	Kidney stone		(Karakaya et al., 2019)
<i>Helichrysum chionophilum</i> Boiss. & Balansa	Altınotu	Flowering branch, Aerial parts	Infusion, Leaf Powder, Spice	Internal/drink one teacup 3 times a day for 3–4 weeks	Nephralgia, Kidney gravel	Phenolic compounds, essential oil	(Sargin, 2015; Kürkçüoğlu et al., 2019)
<i>Helichrysum compactum</i> Boiss.	Altınotu	Leaf	Decoction	Internal/drink 2–3 cups of tea daily	Kidney diseases	Flavonoid	(Kargıoğlu et al., 2010; Süzgeç et al., 2005)
<i>Helichrysum graveolens</i> (Bieb.) Sweet	Yaylaçiçeği, Arıçiçeği	Flowering parts	Decoction	Internal	Kidney diseases	Essential oils	(Ezer and Mumcu Arisan, 2006; Baytop, 1999)
<i>Helichrysum orientale</i> (L.) Gaertn.	Sarısolmaz, Yoğurtçiçeği, Balkaymağı, Bozağançiçeği, Sarıçiçek, Bohçaçiçeği	Flower	Infusion	Internal	Kidney stone	Essential oils	(Ertuğ, 2004; Leonardi et al., 2018.)
		Capitulum	Infusion	Internal	Nefritis, Kidney stone		(Gürdal and Kültür, 2013)
<i>Helichrysum pallasii</i> (Spreng.) Ledeb.	Altınotu, Guyazerk, Mantuvar, Altınbaşotu	Flowering branch, Aerial parts	Infusion, Leaf Powder, Spice	Internal/drink one teacup 3 times a day for 3–4 weeks	Nephralgia, Kidney gravel	Essential oil	(Sargin, 2015; Formisano et al., 2009)
		Aerial parts	Decoction	Internal/drink one tea glass of	Kidney stone		(Mükemre et al., 2015)

				the plant three times a day			
		Aerial parts	Infusion	Internal/drink one glass of the plant three times a day	Kidney stone		(Paksoy et al., 2015)
		Aerial parts	Infusion	Internal	Nephralgia, Kidney stone		(Altundağ and Öztürk, 2011)
<i>Helichrysum plicatum</i> DC.	Altınotu, Sariçiçek, Ölmezot, Mantuvar, Herdentaze, Yayla çiçeği, Altın otu, Ölmez çiçek, Sesum, Gülülgazer, Amelotu, Sarıbaş	Flowering branch, Aerial parts	Infusion, Leaf Powder, Spice	Internal/drink one teacup 3 times a day for 3–4 weeks	Nephralgia, Kidney gravel	Flavonoid	(Sargin, 2015; Erdoğan et al., 2001)
		Aerial parts	Infusion	Internal/-	Kidney stone		(Yeşil and Akalın, 2009)
		Flower, Leaf	Decoction	Internal/drink one teacup after meals	Kidney stone		(Dalar et al., 2018)
		Aerial parts	Decoction	Internal	Kidney stone		(Demirci and Özhatay, 2012)
		Aerial parts	Infusion, Decoction	Internal	Nephralgia, Kidney stone		(Altundağ and Öztürk, 2011)
		Flower		Internal	Nephritis		(Cansaran and Kaya, 2010)
		Aerial parts	Infusion	Internal	Kidney stone		(Korkmaz and Karakurt, 2015)
		Capitulum	Infusion	Internal	Kidney stone		(Karakaya et al., 2019)
		Flower	Infusion	Internal/drink one tea glass of the plant before the meal	Kidney stone		(Polat and Çakılcıoğlu, 2018)
		Flower	Infusion	Internal/drink one tea glass of the plant before the meal	Kidney stone		(Polat et al., 2013)
		Aerial parts	Decoction	Internal/drink one tea glass of the plant three times a day	Kidney stone		(Kaval et al., 2014)
		Aerial parts	Decoction		Kidney stone		(Kilic and Bağcı, 2013)

		Aerial parts	Infusion	Internal	Kidney stone		(Özdemir and Alpınar, 2015)
<i>Helichrysum plicatum</i> DC. subsp. <i>pseudoplicatum</i> (Nab.) P.H.Davis & Kupicha	Altınçiçeği	Aerial parts	Decoction	Internal/drink one glass of the plant on an empty stomach in the morning	Kidney stone	Not found	(Mükemre et al., 2015)
<i>Helichrysum sanguineum</i> (L.) Kostel.	Sarıdağçiçeği, Kudama	Flower	Infusion	Internal	Kidney stone	Flavonoid, anthocyanin	(Akaydın et al., 2013; Baytop, 1999)
<i>Helichrysum</i> sp.	Altınotu, Ölmezçiçek, Arıçiçeği, Salidi, Mayasilotu, Kudumançiçeği, Altınbaş	Leaf, Flower, Fruit	Infusion	Internal	Kidney diseases	Phenolics (simple phenolic, phenolic acid, anthocyanin, flavonoid), essential oil, triterpenoid, sesquiterpene	(Gençay et al., 2016; Albayrak et al., 2010; Eroğlu et al., 2009)
			Decoction	Internal	Kidney stone		(Türkan et al., 2006)
		Leaf, Flower	Infusion	Internal	Kidney diseases		(Akgül et al., 2016)
		Flower	Decoction	Internal	Kidney stone		(Günbatan et al., 2016)
		Flower	Decoction	Internal	Kidney stone		(Altay and Çelik, 2011)
<i>Helichrysum stoechas</i> (L.) Moench	Sarısolmaz, Altınotu	Flower, branch	Infusion	Internal	Kidney stone	Cynarin, arzanol, essential oil, flavonoid, phenolic acid	(Ertuğ, 2004; Leonardi et al., 2018; Silva et al., 2017; Sobhy and El-Feky, 2007)
		Flowering branch, Aerial parts	Infusion, Leaf Powder, Spice	Internal/drink one teacup 3 times a day for 3–4 weeks	Nephralgia, Kidney gravel		(Sargin, 2015)
<i>Inula oculus-christi</i> L.	Yolotu	Flowering branch	Decoction	Internal	Kidney stone	Sesquiterpene lactone	(Tuzlacı and Doğan, 2010; Trendafilova et al., 2017)
		Flower	Decoction	Internal	Kidney disorders		(Altundağ and Öztürk, 2011)
<i>Matricaria chamomilla</i> L.var. <i>recutita</i> (L.) Fiori	Papatya, Beybun	Aerial parts, Capitulum	Decoction	Internal/drink one cup of the plant two times a day	Kidney pain	Essential oils, resin, flavonoid, coumarin	(Nadiroğlu et al., 2019; Baytop, 1999)
		Capitulum	Infusion	Internal/drink one tea cup two	Kidney stone	Essential oil	(Kültür, 2007; Tai et al., 2020)

times a day for 3–6 days

<i>Onopordum anatolicum</i> (Boiss.) Boiss. & Heldr. ex Eig	Galgan	Stem	Decoction	Internal	Kidney stone	Sesquiterpene	(Arı et al., 2015; Meriçli and Tuzlacı, 1989)
<i>Onopordum tauricum</i> Willd.	Göğündürme	Root	Decoction	Internal	Kidney stone	Carbohydrate, lignans, flavonoid, coumrin, alkaloid, sterols, triterpens	(Bağcı et al. 2016; Petkova and Mihaylova, 2016)
<i>Scolymus hispanicus</i> L.	Akkız, Ak diken, Telli gömlek, Şevketibostan, Sartiken, Dikenpamuğu, Kegeçen, Kegecen	Root	Decoction	Internal/drink one teacup two times a day for 1–2 weeks	Kidney stone	Sesquiterpene, triterpen, sterol	(Polat and Satıl, 2012; Kandil et al., 2020)
		Aerial parts, Root	Infusion, Decoction, Heated	Internal/drink one glass 2–3 times a day for 3–4 weeks	Nephralgia, Kidney gravel		(Sargin et al., 2015)
		Aerial parts, Root, Leaf	Infusion, Decoction, Raw	Internal/drink one glass 2–3 times a day for 3–4 weeks	Nephralgia, Kidney stone		(Sargin et al., 2013)
		Seed	Decoction	Internal/drink one teacup 3 times a day for 8-9 days	Nephritis		(Ugulu et al., 2009)
<i>Silybum marianum</i> (L.) Gaertn.	Dikenböree, Dikenböreğe	Stem	Fresh	Internal/eat one bunch 2–3 times a day for 2–3 weeks	Kidney problems	Flavonolignans	(Sargin, 2015; Xu et al., 2019)
	Kengel, Kangal diken	Stem	Raw	Internal/eat one bunch 2-3 times a day for 2-3 weeks	Nephralgia, Kidney gravel		(Sargin and Büyükcengiz, 2019)
<i>Tanacetum aureum</i> (Lam.) Greuter & al. [Syn: <i>Tanacetum chiliophyllum</i> (Fisch. & Meyer) Schultz var. <i>chiliophyllum</i>]	Çeren	Capitulum	Decoction	Internal	Kidney stone	Essential oils	(Altundağ and Öztürk, 2011; Polatoğlu et al., 2012)
<i>Taraxacum androssovii</i>	Zeze	Leaf	Infusion	Internal	Kidney stone	Not found	(Altundağ and Öztürk, 2011)

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<i>Taraxacum fedtschenkoi</i> Hand.-Mazz.	Zeze	Leaf	Infusion	Internal	Kidney stone	Not found	(Altundağ and Öztürk, 2011)
<i>Taraxacum hybernum</i> Stev.	Karahindiba	Leaf, Flower	Raw		Kidney stone	Latex	(Tetik et al., 2013; Knyazev et al., 2017)
<i>Taraxacum macrolepium</i> Schischk.	Kars çitliğı, Karahindiba, Zeze	Leaf			Kidney stone	Not found	(Mumcu and Korkmaz, 2018)
		Root, Leaf	Decoction	Internal	Kidney stone		(Güneş and Özhatay, 2011)
		Leaf	Infusion	Internal	Kidney stone		(Altundağ and Öztürk, 2011)
<i>Tripleurospermum callosum</i> (Boiss. & Heldr.) E.Hossain	Papatya		Infusion	Internal	Kidney stone	Terpenoid, hydrocarbons, alcohols, acids	(Günbatan et al., 2016; Yaşar et al., 2013)
		Flower	Infusion	Internal	Kidney diseases		(Korkmaz and Karakurt, 2015)
<i>Tripleurospermum melanolepis</i> (Boiss. & Buhse) Pobed.	Papatya	Flower	Infusion	Internal	Kidney diseases	Not found	(Korkmaz and Karakurt, 2015)
<i>Tripleurospermum parviflorum</i> (Willd.) Pobed.	Papatya	Flower	Infusion	Internal	Kidney diseases	Essential oils	(Korkmaz and Karakurt, 2015; Kılıç and Bağcı, 2012)
<i>Tripleurospermum transcaucasicum</i> (Manden.) Pobed.	Papatya	Flower	Infusion	Internal	Kidney diseases	Not found	(Korkmaz and Karakurt, 2015)
<i>Xanthium spinosum</i> L.	Pıtrakdikeni, Pıtraktikeni, Devetikeni, Pıtrak, Dikenlipıtrak	Root, Aerial parts	Decoction	Internal/drink one tea cup 2–3 times a day for 1–2 weeks	Nephralgia	Essential oil, terpenoid, sterol, thiazonidionederivaties	(Sargin et al., 2015; Andreani et al., 2017)
		Root, Seed	Decoction	Internal/drink one tea cup 2–3 times a day for 1–2 weeks	Kidney pain		(Sargin et al., 2013)

Berberidaceae	<i>Berberis crataegina</i> DC.	Sarıçalı, Karamuk	Leaf, Fruit			Internal/Leaves are consumed 15-20 days as salad, the Fruit are eaten fresh	Kidney stone	Tannin, organic acid, vitamin C	(Arı et al., 2015; Baytop, 1999)
			Root, Bark	Infusion			Kidney infection		(Fakir et al., 2009)
	<i>Berberis vulgaris</i> L.	Kızılkaramuk, Karamuk	Fruit				Kidney infection	Carotenoid, tannin, carbohydrate, organic acid, vitamin C, alkaloid	(Mumcu and Korkmaz, 2018; Srivastava et al., 2015)
			Root, Bark	Infusion			Kidney infection		(Fakir et al., 2009)
Betulaceae	<i>Betula pendula</i> Roth	Huşağacı	Leaf				Kidney stone	Volatile organic compounds	(Mumcu and Korkmaz, 2018; Vuorinen et al., 2005)
Boraginaceae	<i>Anchusa leptophylla</i> Roem. & Schult. subsp. <i>leptophylla</i>	Hodan	Aerial parts	Decoction		Internal	Kidney diseases	Not found	(Savran et al., 2008)
Brassicaceae	<i>Alyssum pateri</i> Nyár.	Keselmehmut	Aerial parts	Infusion	Internal/drink one tea glass of the plant after the meal		Kidney disorders	Not found	(Kaval et al., 2014)
	<i>Capsella bursa-pastoris</i> (L.) Medik	Çobançantası, Gayışlık, Bicibici, Çingildaklot, Kuşkuşotu	Aerial parts	Decoction	Internal		Kidney stone	Flavonoid, amins, volatile oil, carotenoid, thio glycoside, fumaric acid, vitamin C	(Türkan et al., 2006; Çubukçu et al., 2002)
			All plants expect flower				Kidney stone and sand		(Deniz et al., 2010)
			Aerial parts	Infusion	Internal		Kidney stone		(Mumcu and Korkmaz, 2018)
			Aerial parts	Decoction	Internal		Kidney stone		(Altundağ and Öztürk, 2011)
	<i>Cardamine uliginosa</i> Bieb.	Tere, Munzurotu	Aerial parts	Decoction	Internal		Kidney diseases	Not found	(Gül and Seçkin Dinler, 2016)
	<i>Lepidium draba</i> subsp. <i>chalepense</i> (L.) P.Fourn.	Beyazçiçek	Aerial parts	Infusion	Internal		Kidney stone	Not found	(Altundağ and Öztürk, 2011)
	<i>Eruca vesicaria</i> (L.) Cav. [Syn: <i>Eruca sativa</i> Miller]	Roka	Leaf	Fresh	Internal/Eaten		Kidney stone	Not found	(Tuzlacı and Doğan, 2010)
<i>Lepidium sativum</i> L.	Tere, tereotu	Leaf	Infusion	Internal/drink one teacup three times a day for 10 days		Kidney stone	Not found	(Tuzlacı and Erol, 1999)	
						Internal/drink one teacup three times a day for 10 days	Nephritis	Flavonoid, essential components, alkaloid,	(Ugulu et al., 2009; Kassem et al., 2020; Al-Marzoqi et al., 2016)

Cactaceae	<i>Lepidium vesicarium</i> L.	Patpatık	Aerial parts, Seed	Infusion	Internal/take 1–2 dessert spoon for 2-3 weeks	Nephralgia, Kidney stone	terpenoid	(Sargin et al., 2013)
	<i>Nasturtium officinale</i> R.Br.	Germede Gerdeme	Whole plant	Decoction	Internal	Kidney diseases	Essential oils	(Güneş and Özhatay, 2011; Solmaz et al., 2018; Asnaasshari et al., 2018)
	<i>Raphanus raphanistrum</i> L. [Syn: <i>Raphanus sativus</i> L. var. <i>niger</i> (Mill) J.Kern.]	Siyahturp	Aerial parts Aerial parts	Raw	Internal/eat one bunch a day for 1-2 weeks	Kidney stone Kidney gravel	Essential oils, phenols	(Uysal et al., 2010; Amiri 2012) (Sargin and Büyükcengiz, 2019)
	<i>Opuntia ficus-indica</i> (L.) Miller	Frenkinciri, Frencir, Firencir, Frenkyemişi, Dikenliyemiş	Root	Grated and filtered (+1 spoonful honey)	Internal/drink as tea on an empty stomach	Kidney stone	Fixed oil, glycoside	(Uzun and Kaya, 2016; Baytop, 1999)
	<i>Opuntia ficus-indica</i> (L.) Miller	Frenkinciri, Frencir, Firencir, Frenkyemişi, Dikenliyemiş	Fruit, Seed Fruit Fruit	Fresh Fresh Fresh	Internal Internal Internal/eat 4–5 Fruit a day for 2–3 weeks	Kidney stone Kidney gravel Kidney gravel	Flavonoid	(Ertuğ, 2004; Bargougui et al., 2019) (Sargin and Büyükcengiz, 2019) (Sargin et al., 2015)
Campanulaceae	<i>Asyneumamichauxioides</i> (Boiss.) Damboldt.	Yalancısütlü	Aerial parts	Infusion	Internal	Kidney inflammation	Not found	(Özdemir and Alpınar, 2015)
Cannabaceae	<i>Celtis australis</i> L.	Kahvedikeni	Fruit	Decoction	Internal	Kidney pain	Flavonoid	(Bağcı et al. 2016; El-Alfy et al., 2011)
Capparaceae	<i>Capparis sicula</i> Duhamel. [Syn: <i>Capparis ovata</i> Desf. var. <i>canescens</i>]	Gebere	Root	Decoction	Internal	Kidney stone	Flavonoid	(Şimşek et al., 2004; Baytop, 1999)

	<i>Valeriana officinalis</i> L.	Kediotu	Aerial parts	Decoction	Internal	Kidney stone, Kidney diseases	Essential oil, iridoit, tannin, starch	(Tuzlacı and Doğan, 2010; Baytop, 1999)
Caprifoliaceae			Aerial parts	Decoction	Internal	Kidney stone		(Altundağ and Öztürk, 2011)
Cornaceae	<i>Cornus mas</i> L.	Kızılıcık	Fruit	Boiled n water+sugar (compote)	Internal/eaten two times a day for 8 days	Nephritis Kidney stone	Anthocyanin, flavonoid, carbohydrate, amino acid, mineral, vitamin	(Kültür, 2007; Kawa-Rygielska et al., 2019) (Erdoğan et al., 2014)
Corylaceae	<i>Corylus avellana</i> L. var. <i>pontica</i> (K.Koch) H.J.P.Winkl.	Fındık	Leaf, Seed	Infusion	Internal/the Seed fresh eaten	Kidney diseases	Essential oils	(Sağiroğlu et al., 2017; Najda and Gantner, 2012)
Corylaceae	<i>Corylus colurna</i> L.	Fındık	Seed		Internal/eaten	Kidney pain	Protein, fat, carbohydrate, vitamins, minerals	(Güler et al., 2015; Ayan et al., 2018)
Cucurbitaceae	<i>Cucumis sativus</i> L.	Salatalık	Fruit peel	Decoction	Internal	Kidney stone	Volatile compounds	(Korkmaz and Karakurt, 2015; Sotiroidis et al., 2010)
			Fruit	Decoction	Internal/decoction of outer layer (fresh) is consumed as tea	Kidney stone		(Uzun et al., 2004.)
	<i>Ecballium elaterium</i> A. Richard	Acıkavun	Leaf	Decoction	Internal/drink 1-2 cups a day	Kidney stone	Elaterin derivatives	(Koyuncu et al. 2009; Baytop, 1999)
	<i>Cupressus sempervirens</i> L.	Servikozalağı, Serviağacı, Selvi	Leaf, Cone	Decoction	Internal	Kidney diseases	Essential oils, flavonoid, diterpen	(Akgül et al., 2016; Fayed 2015; Rawat et al., 2010)
			Resin, Leaf, Cone	Decoction	Internal	Kidney diseases		(Gençay et al., 2016)
Cupressaceae	<i>Juniperus communis</i> var. <i>saxatilis</i> Pall. [Syn: <i>Juniperus communis</i> L. subsp. <i>nana</i> (Hook.) Syme]	Ardıçtohumu, Adı ardıç, Cüceardıç, Hevirs	Seed			Kidney sand	Sugar, organic acid, Resin, essential oils	(Akan and Bakır Sade, 2015; Baytop, 1999)

Cyperaceae	<i>Juniperus excelsa</i> Bieb.	Ardıç, Kara ardıç	Leaf, Cone	Decoction	Internal/drink one teacup once a day	Kidney diseases	Phenolic compounds (flavonoid, catechin, sennidin A), essential oil	(Uzun and Kaya, 2016; Al Hafi et al., 2015) (Çakılcıoğlu et al., 2010)
			Seed	Decoction	Internal/drink a tot after meals	Kidney stone		
	<i>Juniperus oxycedrus</i> L.	Ardıç, Andız, Dikenardıcı	Fruit, Pine Tar, Seed	Decoction	Internal/drink one tea cup 3 times a day for 3–4 weeks	Nephralgia, Kidney gravel	Essential oil, catechin, flavonoid	(Sargin et al., 2015; Najar et al., 2020; Okut et al., 2018; Şahin Yağlıoğlu and Eser, 2017) (Bulut and Tuzlacı, 2013) (Tuzlacı and Erol, 1999) (Deniz et al., 2010) (Sağiroğlu et al., 2013)
			Cones	Infusion	Internal	Kidney stone		
			Cones	Decoction	Internal	Kidney stone		
			Cones	Decoction	Internal	Kidney stone		
			Fruit	Decoction	Internal/drink one teacup once a day	Kidney stone		
	<i>Cyperus longus</i> L.	Aynkotu	Aerial parts	Decoction	Internal	Kidney stone	Essential oil	(Akaydın et al., 2013; Ait-Ouazzou et al., 2012)
Dennstaedtiaceae	<i>Pteridium aquilinum</i> (L.) Kuhn	Eğrelti, Eğreltiotu	Aerial parts, Leaf	Infusion	Internal/Drink one glass a day for 2-5 weeks	Kidney problems	Essential oil, flavonoid, phenolic acid, sterol	(Sargin, 2015; Bouchekouk et al., 2019; Tian et al., 2011)
Dioscoreaceae	<i>Dioscorea communis</i> (L.) Caddick & Wilkin [Syn: <i>Tamus communis</i> L. subsp. <i>cretica</i> (L.) Kit Tan]	Acıot	Whole plant	Decoction	Internal	Kidney stone, Kidney sand	Starch, mucilage, saponin	(Ertuğ, 2004; Baytop, 1999)
Dryopteridaceae	<i>Dryopteris filix-mas</i> (L.) Schott	Taşegreltisi, Karabacak	Leaf	Decoction	Internal	Kidney stone	Sugar, starch, organic acid, essential oils, tannin	(Tuzlacı and EryaşarAymaz, 2001; Baytop, 1999)

Elaeagnaceae	<i>Elaeagnus angustifolia</i> L.	İğde, İğdeçalısı	Flower			Kidney aches	Flavonoid, anthocyanin	(Uysal et al., 2010; Hassanzadeh and Hassanpour, 2018) (Ugulu et al., 2009)	
			Fruit	Decoction	Internal/drink one teacup twice a day for 15 days	Kidney stone			
			Leaf	Decoction	Internal/3×1, before meals	Kidney stone			
			Fruit		Internal	Kidney stone			
			Bark	Decoction	Internal/drink one tea cup two times a day for 20 days	Kidney stone			
				Fruit	Infusion	Internal Internal/boiled and filtered through a piece of muslin and 3–4 glasses of filtrate are taken orally on an empty stomach for the following 2 to 3 days	Kidney stone Kidney stone		(Bulut and Tuzlacı, 2015) (Sezik et al., 2001)
	<i>Equisetum arvense</i> L.	Kırkboğum, Kırkilitotu, At kuyruğu, Ulama, Zemberekotu,	Aerial parts	Decoction	Internal		Nephritis	Flavonoid, saponin, tannin, alkaloid	(Akdoğan and Akgün 2006; Veit et al., 1995; Baytop, 1999) (Korkmaz and Karakurt, 2015; Güner and Selvi 2016) (Mumcu and Korkmaz, 2018) (Korkmaz et al., 2016) (Güler et al., 2015) (Akbulut and Ozkan, 2014) (Akan and Bakır Sade, 2015)
			Whole plant	Infusion	Internal		Kidney stone		
			Leaf				Kidney stone		
			Leaf, Branch	Infusion	Internal/drink 1-2 glass daily		Kidney stone		
Leaf, Stem			Infusion	Internal		Kidney stone			
Branch			Infusion	Internal		Kidney stone			
Aerial parts			Infusion	Internal		Kidney stone and sand			
Aerial parts			Infusion	Internal/drink one glass before meals		Kidney diseases			
			Whole plant	Decoction	Internal/drink a tot after meals	Kidney stone		(Çakılcıoğlu et al., 2010)	
Equisetaceae	<i>Equisetum fluviatile</i> L.	Getgedok	Aerial parts	Infusion	Internal/drink one glass of the plant on an empty stomach in the morning	Kidney disorders	Volatile constituents	(Kaval et al., 2014 Radulovic et al., 2008)	
	<i>Equisetum giganteum</i> L.	Ulamaotu	Leaf, Stem	Infusion	Internal/drink one glass of the plant three times a day	Kidney stone	OleoResin	(Güneş et al., 2017; Michielin et al., 2005) (Özçelik and Balabanlı, 2010; Pollio et al. al., 2016)	
	<i>Equisetum hyemale</i> L. [Syn: <i>Equisetum ramosissimum</i> Desf.]	At kuyruğu Kırkkilit, Sazak, Boğumluot, Ulama otu, At kuyruğu	Aerial parts	Decoction	Internal		Kidney stone	Flavonoid, polyphenols	(Cansaran and Kaya, 2010; Štajner et al., 2009) (Bulut et al., 2017) (Nacakçı and Dutkuner, 2018) (Demirci and Özhatay, 2012) (Genç and Özhatay, 2006)
			Whole plant				Nephritis		
			Aerial parts	Infusion	Internal		Kidney stone		
			Aerial parts	Infusion	Internal		Kidney diseases		
			Aerial parts	Infusion	Internal		Kidney stone		
			Aerial parts	Decoction	Internal		Kidney stone and sand		
<i>Equisetum telmateia</i> Ehrh	Çöloto, Kedimerdiveni, Kedibıyığı,	Whole plant	Decoction	Internal		Kidney stone	Phenolic acid, flavonoid, essential oil	(Tuzlacı and Tolon, 2000; Pallag et al., 2016; Milovanovic et al., 2008) (Bulut, 2011)	
		Whole plant	Infusion	Internal		Kidney stone			

Ericaceae	<i>Arbutus unedo</i> L.	Kırkkilitotu, Atkuyruğu, Çamotu, Dereotu, Suotu, Biğirgan, Tilkikuyruğu, Bebekotu, Camotu, Dereotu, Eklemotu, Fenerotu, Kuşkonmaz, Minareotu	Aerial parts	Decoction	Internal/drink one tea cup three time sa day for15 days	Kidney stone, Nephritis		(Kültür, 2007)	
			Aerial parts	Infusion	Internal	Kidney stone		(Ezer and Mumcu Arisan, 2006)	
			Aerial parts	Infusion	Internal/drink one cup of the plant two time a day	Kidney stone		(Polat et al., 2015)	
			Aerial parts	Decoction	Internal	Kidney stone		(Uzun et al., 2004.)	
			Aerial parts	Decoction	Internal/1x1	Kidney stone		(Tuzlacı and Eryaşar Aymaz, 2001)	
			Aerial parts	Infusion, Decoction	Internal	Kidney stone and sand		(Kızılarşlan and Özhatay, 2012)	
			Aerial parts	Infusion		Kidney diseases		(Kalankan et al., 2015)	
			Leaf	Decoction	Internal	Kidney stone		(Ertuğ, 2004)	
			Fruit	Fresh		Kidney inflammation	Flavonoid, anthocyanin	(Kızılarşlan and Özhatay, 2012; Aladı et al., 2019; Kachkoul et al., 2019)	
			Fruit	Decoction	Internal	Kidney stone		(Tuzlacı and EryaşarAymaz, 2001)	
			Andrana, Dağyemişi, Kocakanyemişi, Kocayemiş, Ormançileği, Piyadin, Davulga, Yemişen						
			Funda, Süpürgeotu	Leaf, Flower	Infusion, Decoction	Internal	Kidney diseases	Tannin, essential oil, sugar, glycoside	(Akan and Bakır Sade, 2015; Baytop, 1999)
			Hull.						
			<i>Erica manipuliflora</i> Salisb.	Püren, Pürenotu, Süpürgeotu, Sükürteotu, Süpürtgeotu, Funda	Flowering branch	Decoction	Internal/drink one glass 3 times a day for 4–8 weeks	Drink one glass 3 times a day for 4–8 weeks	Flavonoid, coumarin, triterpenoid, essential oil
		Flowering branch	Decoction	Internal		Kidney stone		(Özçelik and Balabanlı, 2010)	
	<i>Vaccinium arctostaphylos</i> L.	Trabzon çayı, Likapa, Lifar	Branch, Leaf, Fruit	Infusion	Internal	Kidney diseases	Tannin, organic acid, glycoside (arbutin)	(Akbulut and Ozkan, 2014; Baytop, 1999)	
	<i>Cicer arietinum</i> L.	Nohut	Fruit	Maceration	Internal/take 1–2 handfuls a day for 4–8 weeks	Kidney stone	Peptide, flavonoid	(Sargın et al., 2013; Milan-Noris et al., 2018)	
	<i>Ebenus hirsuta</i> Jaub. et Spach.	Çayırotu, Üçgül, Üçgüllü	Flower	Infusion	Internal	Kidney problems	Flavonoid	(Özdemir and Alpınar, 2015; Ceylan et al., 2016)	
	<i>Glycyrrhiza asymmetrica</i> Hub.-Mor.	Meyankökü	Root	Infusion		Kidney diseses	Not found	(Fakir et al., 2009)	
	<i>Glycyrrhiza echinata</i> L.	Pıtrakmeyan, Dikenlimeyan	Rhizome			Nephralgia	Essential oil, flvonoid, saponin	(Mumcu and Korkmaz, 2018; Çakmak et al., 2012; Hayashi et al.,2000)	
	<i>Glycyrrhiza glabra</i> L.	Meyan, Biyan, Sus, Meyankökü, Meyanşerbeti, Biyambalı	Rhizome	Decoction	Internal	Nephralgia		(Altundağ and Öztürk, 2011)	
			Root	As sherbet	Internal/drink 1 cups on an empty stomach in the morning	Kidney diseases	Starch, sugar, Resin, Polysaccharide, flavonoid, glycyrrhizin	(Shimizu et al., 1991; Akan et al., 2008; Baytop, 1999)	
			Root	As sherbet	Internal	Kidney diseases, Kidney stone		(Akan et al., 2013)	
			Root			Kidney diseases		(Ayanoğlu et al., 1999)	
			Root			Kidney stone		(Balos, 2007)	
			Root			Nephralgia, Kidney stone		(Mumcu and Korkmaz, 2018)	

Fabaceae

		Root	Infusion	Internal	Nephropathy		(Kaya et al., 2020)
		Root	Decoction	Internal	Nephralgia, Kidney stone		(Altundağ and Öztürk, 2011)
<i>Lotus corniculatus</i> L.	Yaylaçiçeği, Gazalboynuzu	Root	Infusion		Kidney diseases	Cyanogenic glucoside	(Fakir et al., 2009;)
		Aerial parts	Decoction	Internal	Kidney diseases		(Savran et al., 2008; David, 1962)
		Aerial parts	Decoction	Internal	Nephralgia		(Altundağ and Öztürk, 2011)
<i>Lupinus albus</i> L.	Acıbakla	Seed	Brine	Internal	Kidney inflammation, Kidney stone	Protein, lipid, mineral, oligosaccharide, flavonoid, alkaloid	(Mumcu and Korkmaz, 2018) (Özçelik and Balabanlı, 2010; Ruiz- Lopez et al., 2019)
<i>Melilotus officinalis</i> (L.) Desr.	Yonca, Kaymakçiçeği	Aerial parts	Decoction	Internal	Kidney stone	Phenolic acid, flavonoid,	(Çubukçu et al., 2002; Kilic and Bagci, 2013; Nasab et al., 2019)
		Aerial parts	Decoction	Internal/drink a tot after meals	Kidney stone	vitamins(C.E.carotene),	(Çakılıoğlu et al., 2010)
		Leaf, Stem, Flower	Decoction	Internal/drink a glass once a day	Kidney stone	fatty acids, alkaloid, coumarin, pterocarpan	(Güneş and Özhatay, 2011)
<i>Ononis spinosa</i> L.	Kayışkiran	Root	Infusion	Internal/drink one teacup three times a day for 10 days	Kidney stone, Nephritis	Isoflavonoid, pterocarpan, tannin,	(Ugulu et al., 2009; Gampe et al., 2018; Baytop, 1999)
		Root	Decoction	Internal/drink one tea cup two times a day for 5–10 days	Kidney stone	organic acid, essential oils, saponin	(Kültür, 2007)
		Root	Decoction		Spontaneous kidney stone passage		(Fakir et al., 2009)
<i>Ononis spinosa</i> L. subsp. <i>hircina</i> (Jacq.) Gams	şırbık	Root			Kidney stone	Not found	(Mumcu and Korkmaz, 2018)
<i>Ononis spinosa</i> L. subsp. <i>leiosperma</i> (Boiss.) Sirj.	Kayışkiran	Root	Infusion	Internal	Kidney stone	Isoflavonoid	(Kilic and Bagci, 2013 Ergene Öz et al., 2018)
<i>Securigera orientalis</i> (Mill.) Lassen [Syn: <i>Coronilla orientalis</i> Miller subsp. <i>orientalis</i>]	Yonca	Aerial parts	Decoction	Internal	Kidney stone		(Altundağ and Öztürk, 2011)
<i>Spartium junceum</i> L.	Katırtırnağı	Leaf	Fresh	Internal	Nephralgia	Not found	(Altundağ and Öztürk, 2011)
		Flower, Branch			Kidney stone	Essential oiltriterpene saponin, flavonoid	(Uysal, 2010; Miraldi et al., 2004; Yeşilada et al., 2000)
		Leaf	Decoction	Internal/drink one teacup with honey three times a day before meals for 15 days	Kidney stone, Nephritis		(Ugulu et al., 2009)
<i>Trifolium diffusum</i> Ehrh.	Giyanezer	Leaf, Branch	Decoction	Internal	Kidney pain	Not found	(Behçet and Arık, 2013)
<i>Vicia cracca</i> L. subsp. <i>tenuifolia</i> (Roth) Gaudin	Gıyarok	Flower, Leaf	Infusion	Internal/drink one cup after meals	Kidney stone	Not found	(Nadiroğlu et al., 2019)
<i>Vicia faba</i> L.	Karabakla, Börekbakla, Bakla	Flower	Infusion	Infusion/cooled overnight and taken orally	Kidney diseases	Polyphenol, flavonoid, amino acids,	(Sezik et al., 2001; Allam et al., 2018; Mortuza et al., 2009)
		Flower	Decoction	Internal	Kidney stone,	carbohydrates	(Ertuğ, 2004)

Fagaceae			Flower	Decoction		Kidney sand, Kidney pain		(Fakir et al., 2009)
	<i>Quercus</i> sp.	Meşepalamudu, Pelit, Meşekozaşı, Bişegezengevi	Leaf Leaf- bonito	Decoction Decoction, Crude,	Internal Internal	Spontaneous kidney stone passage Kidney diseases Kidney diseases	Sterol, triterpene, flavonoid, coumarin, volatile compounds	(Akgül et al., 2016; Zhou et al., 2018) (Gençay et al., 2016)
	<i>Hypericum elongatum</i> Ledeb. ex Rchb. [Syn: <i>Hypericum hyssopifolium</i> Chaix subsp. <i>elongatum</i> (Ledeb.) Woron]	Sarı kantaron Sarıçiçeklinefer	Flower, Leaf, Whole plant Flower	Infusion Decoction	Internal Internal	Kidney stone Kidney pain, Kidney stone		(Korkmaz and Karakurt, 2015) (Behçet and Arık, 2013)
	<i>Hypericum montbretii</i> Spach	Çayotu	Aerial parts	Decoction	Internal	Kidney stone		(Altundağ and Öztürk, 2011)
	<i>Hypericum perforatum</i> L.	Kantaron, Kantaronçayı, Sarıkantaron, Kantaryon, Sarıcayüz, Kantül, Kesikotu, Mideotu, Kalpotu, Binbirdelikotu	Leaf, Shoot, Flower Flowering branch Aerial parts Aerial parts Leaf, Flower Aerial parts Aerial parts	Infusion Decoction Decoction Infusion Decoction Infusion, Decoction	Internal Internal Internal Internal Internal/1 glass for day	Nephritis Kidney ailments Kidney stone Kidney stone Kidney diseases Kidney disorders Kidney inflammation Kidney diseases	Naphthodiantrone, proanthocyanin, flavonoid, phenolic acid, xanthone, essential oil	(Cansaran and Kaya, 2010; Schepetkin et al., 2020) (Tuzlacı et al., 2010) (Kültür, 2007) (Genç and Özhatay, 2006) (Deniz et al., 2010) (Altundağ and Öztürk, 2011) (Kızıllarslan and Özhatay, 2012)
	<i>Hypericum perforatum</i> L. subsp. <i>veronense</i> (Schrank) H.Linb.	Sarıkantaron	Aerial parts, Flower Aerial parts	Infusion	Internal/drink one glass every day	Kidney disorders	Essential oil	(Sağiroğlu et al., 2017) (Mumcu and Korkmaz, 2018; Maggi and Ferretti, 2008)
	<i>Hypericum scabrum</i> L.	Sarıkantaron, Sancıotu	Flower, Leaf, Whole plant Aerial parts	Infusion Decoction	Internal Internal	Kidney stone Kidney disorders	Flavonoid, phenolic acid, vitamin, phytosterols, catechin	(Korkmaz and Karakurt, 2015; Keser et al., 2020) (Altundağ and Öztürk, 2011)
	<i>Juglans regia</i> L.	Ceviz	Fruit	Decoction	Internal	Kidney stone	Tannin, flavonoid, naphthoquinone	(Sağiroğlu et al., 2012; Çubukçu et al., 2002)
	Juglandaceae							

Juncaceae	<i>Juncus inflexus</i> L.	Kayıkıran, Kofaotu, Kova, Kovaotu, Peygamberkılıç, Sabankıran, Pizak, Gümüştöpek, Sazak, Susüpürgesi, Suotu, Kofalık	Aerial parts Root Root	Decoction Decoction Infusion	Internal Internal Internal/drink one glass of the plant on an empty stomach in the morning	Kidney stone Kidney stone Kidney stone	Phenanthrenes	(Tuzlacı and EryaşarAymaz, 2001; Bus et al., 2018) (Özdemir and Alpınar, 2015) (Kaval et al., 2014)	
	<i>Lamium purpureum</i> L.	Balicak	Flowering branch	Decoction	Internal	Kidney diseases	Flavonoid, iridoid, phenylpropanoid, polysaccharide, triterpene, saponin, tannin	(Gül and Seçkin Dinler, 2016; Alipieva et al., 2003)	
	<i>Lavandula stoechas</i> L.	Karabaş, Lavanta, Karabaşotu, Karağan	Flowering parts				Kidney cleanse	Essential oil	(Altay et al. 2015; Skoula et al., 1996)
			Leaf, Flower	Decoction	Internal/drink one teacup every morning until recovery	Kidney stone		(Uysal et al., 2012)	
			Leaf, Flower	Decoction	Internal/drink one cup once a day	Kidney ailments			(Sağiroğlu et al., 2013)
	<i>Marrubium catariifolium</i> Desr.	Boz ot, Acıot	Whole plant	Decoction	Internal	Kidney diseases	Diterpene, sterol, flavonoid, phenylpropanoids	(Güneş and Özhatay, 2011; Çubukçu et al., 2002)	
	<i>Melissa officinalis</i> L.	Oğulotu, Anotu	Aerial parts	Decoction	Internal/drink one tea cup two times a day for 5–10 days	Nephritis	Flavonoid, tannin, triterpenoid, phenolic acid, volatile oil	(Kültür, 2007; Çubukçu et al., 2002;)	
<i>Mentha longifolia</i> (L.) L.	Punk	Leaf with root of <i>Aristolochia bottae</i> Jaub. & Spach	Decoction	Internal	Kidney pain	Essential oil	(Behçet and Arık, 2013; Okut et al., 2017)		
<i>Mentha × piperita</i> L.	Nane, Kırçayı, Yabannanesi	Leaf	Decoction	Internal	Kidney diseases	Essential oil, rosmarinic acid, phenolics	(Genç and Özhatay, 2006; Anwar et al., 2019)		
<i>Micromeria cristata</i> (Hampe) Griseb. subsp. <i>orientalis</i> P.H.Davis	Kekik	Flower, Leaf, Whole plant	Infusion	Internal	Kidney diseases	Essential oil	(Korkmaz and Karakurt, 2015; Çarıkcı, 2013)		
Lamiaceae	<i>Ocimum basilicum</i> L.	Fesleğen	Leaf, Flower	Infusion	Internal	Kidney diseases	Essential oils	(Sıcak et al., 2013; Baytop, 1999)	
	<i>Origanum vulgare</i> L. subsp. <i>hirtum</i> (Link) Ietswaart	Yerkekiği, Kekikotu, Keklikotu, Keklik	Aerial parts	Decoction	Internal/drink one tea cup two times a day for 7–8 days	Kidney stone	Essential oils	(Kültür, 2007; Stesevic et al., 2018)	
	<i>Origanum vulgare</i> L.	Kekikotu, keklikotu, keklik	Aerial parts	Decoction	Internal/drink one tea cup two times a day for 7–8 days	Kidney stone	Essential oils	(Kültür, 2007; Stesevic et al., 2018)	
	<i>Rosmarinus officinalis</i> L.	Kuşdili, Biberiye	Leaf,	Infusion, Oil extracted	Internal/drink one teacup, apply 3 times a day for 3–6 weeks	Kidney gravel	Volatile and phenolic compounds	(Sargin, 2015; Capatina et al., 2020)	
	<i>Salvia candidissima</i>	Adaçayı	Whole plant	Infusion	Internal	Kidney stone	Terpenoids	(Korkmaz and Karakurt, 2015;	

Vahl. <i>Salvia absconditiflora</i> Greuter & Burdet [Syn: <i>Salvia cryptantha</i> Montbret & Aucherex Bentham] <i>Salvia multicaulis</i> Vahl.	Adaçayı	Whole plant	Infusion	Internal	Kidney stone	Essential oils	Ulubelen et al., 1997) (Korkmaz and Karakurt, 2015; İpek et al., 2012)
<i>Salvia officinalis</i> L.	Adaçayı, Tıbbiadaçayı	Leaf Branch with flower and leaf Aerial parts	Infusion	Internal/drink 1–2 cups daily	Kidney stone Kidney diseases	Phenolic acid, flavonoid, vanillin, catechin Tannin, essential oil	(Uysal, 2010; Baytop, 1999) (Korkmaz et al., 2016)
<i>Salvia rosifolia</i> Sm.	Adaçayı	Whole plant	Infusion	Internal	Kidney stone Kidney stone	Essential oils	(Öztürk et al., 2013) (Korkmaz and Karakurt, 2015; Özek et al., 2020)
<i>Salvia sclarea</i> L.	Adaçayı	Whole plant	Infusion	Internal	Kidney stone	Tannin, Resin, essential oils, bitter matter	(Korkmaz and Karakurt, 2015; Baytop, 1999)
<i>Salvia</i> sp.	Adaçayı			Internal	Kidney diseases	Sesquiterpenoids, monoterpenoids, diterpene alcohols, fatty acids, phenolics, triterpens	(Ayanoğlu et al., 1999)
<i>Salvia syriaca</i> L.	Adaçayı	Whole plant	Infusion	Internal	Kidney stone	Ursolic acid, corosolic acid, β -sitosterol, daucosterol	(Korkmaz and Karakurt, 2015; Bahadori et al., 2016)
<i>Salvia tomentosa</i> Mill.	Büyükçiçekliadaçayı 1	Aerial parts			Kidney stone	Essential oils	(Öztürk et al., 2013; Hanlidou et al., 2014)
<i>Salvia verticillata</i> L. subsp. <i>amasiaca</i> (Freyn & Bornm.) Bornm.	Adaçayı, Kayışkıran	Whole plant	Infusion	Internal	Kidney stone	Protein, essential oil, fatty acids	(Korkmaz and Karakurt, 2015; Habibvash et al., 2007)
<i>Scutellaria orientalis</i> L. subsp. <i>sosnowskyi</i> (Takht.) Fed.	Sancıotu	Leaf	Infusion	Internal	Nephralgia		(Altundağ and Öztürk, 2011)
<i>Sideritis lanata</i> L.	Ballıbaba, Sarıballı baba	Aerial parts	Infusion	Internal/drink one teacup 2–3 times a day for 1 week	Kidney renewing	Iridoid, flavonoid	(Sargin, 2015; Alipieva et al., 2009)
<i>Sideritis scardica</i> L. subsp. <i>scardica</i>	Kuyrukluadaçayı, Kırçayı, Taşlıkçayı, Başakçayı, Pazlakçayı, Çiçekçayı, Kuyrukçayı, Bazlakçayı, Adaçayı,	Aerial parts	Decoction	Internal/drink one tea cup two times a day for 15 days	Kidney stone	Essential oil	(Kültür, 2007, Kloukina et al., 2019)

<i>Sideritis trojana</i> Bornm.	Karlıkçayı, Karlıçay, Tilkikuyruğu Kazdağçayı, tüylüçay	Aerial parts	Infusion	Internal	Kidney ailments	Phenolic compounds	(Bulut and Tuzlacı, 2015; Celep et al., 2019)
<i>Stachys lavandulifolia</i> Vahl [Syn: <i>Stachys lavandulifolia</i> Vahl var. <i>glabrescens</i> Bhattacharjee & Hub.-Mor.]	Tüylüadaçayı	Whole plant	Infusion	Internal	Kidney stone	Not found	(Korkmaz and Karakurt, 2015)
<i>Teucrium chamaedrys</i> L.	Çobansargısı, Kısacıkmahmut, Mayasilotu, Yermeşesi, Uzunmahmut	Aerial parts	Decoction	Internal	Kidney diseases	Diterpenoid, triterpenoid, flavonoid, essential oil	(Genç and Özhatay, 2006; Kameziadeh et al., 2008)
		Aerial parts	Infusion, Decoction	Internal	Kidney pain		(Altundağ and Öztürk, 2011)
		Aerial parts Leaf	Decoction	Internal/drink one tea cup two times a day for 10–15 days	Kidney pain Kidney stone		(Mumcu and Korkmaz, 2018) (Kültür, 2007)
		Flowering branch	Infusion	Internal/drink one tea cup two times a day for a 1 week	Kidney stone		(Polat and Satıl, 2012)
<i>Teucrium polium</i> L.	Ta'lık, Çölilacı, Ca'ri, Meryemotu, Kısamahmut, Keselmehmut	Aerial parts		Internal	Kidney stone and gravel Kidney stone	Essential oil, flavonoid	(Balos, 2007)
		Flowering branch	Infusion	Internal/drink one tea cup two times a day for a 1–2 week			(Polat and Satıl, 2012; Saltan et al., 2019; Chaouche et al., 2018)
		Aerial parts		Internal/drink one tea glass of the plant after the meal	Kidney pain		(Kaval et al., 2014)
<i>Thymbra spicata</i> L.	Dağkekiği, Zahter	Aerial parts Leaf, Flower	Infusion Infusion	Internal Internal	Kidney stone Kidney diseases	Essential oils	(Akaydın et al., 2013; Baytop, 1999) (Korkmaz et al., 2016)
<i>Thymus transcaucasicus</i> Ronniger	Kek otu, Catra	Whole plant	Infusion	Internal	Kidney diseases	Essential oils	(Güneş and Özhatay, 2011; Bektaş et al., 2016)
<i>Thymus longicaulis</i> subsp. <i>chaubardii</i> (Rechb.f.) Jalas [Syn: <i>Thymus longicaulis</i> C. Presil subsp. <i>longicaulis</i> var. <i>subisophyllus</i> (Borbás) Jalas]	Taşkekiği	Aerial parts	Infusion	Internal	Kidney stone	Essential oil	(Tuzlacı and EryaşarAymaz, 2001; Baser et al., 1992b) (Kültür, 2007)
<i>Thymus migricus</i> Klokov & Des.-Shost.	Kekik, Dağkekiği	Aerial parts	Infusion	Internal	Kidney stone	Phenolic acids, flavonoids	(Altundağ and Öztürk, 2011; Aras et al., 2020)
		Leaf	Decoction	Internal	Kidney stone		(Tuzlacı and Doğan, 2010)
<i>Thymus sibthorpii</i> Bentham	Kekik, Keklikotu	Aerial parts	Decoction	Internal	Kidney stone	Phenolic acid, flavonoid, essential oil	(Genç and Özhatay, 2006; Baser et al., 1992a; Raudone et al., 2017)

Lauraceae	<i>Thymus sipyleus</i> Boiss. subsp. <i>sipyleus</i>	Kekik	Flower, Leaf, Whole plant	Infusion	Internal	Kidney diseases	Essential oils	(Korkmaz and Karakurt, 2015; Ceylan and Uğur, 2015)
	<i>Vitex agnus-castus</i> L.	Hayıt, Ayıtbebesi	Fruit	Fresh	Internal	Kidney sand	Flavonoid, iridoid, volatile oil, alkaloid	(Akaydın et al., 2013; Çubukçu et al., 2002)
	<i>Laurus nobilis</i> L.	Defne	Fruit	Decoction	Internal	Kidney pain	Essential oil, proanthocyanidins	(Şimşek et al., 2002)
			Seed	Decoction	Internal	Kidney stone		(Gürdal and Kültür, 2013)
	<i>Persea americana</i> Mill. [Syn: <i>Persea gratissima</i> Gaertn. fil.]	Avakado	Leaf	Decoction	Internal	Kidney diseases	Essential oil, phenolic acids, flavonoids, proanthocyanins, phytosterols, carotenoids, alkaloids	(Genç and Özhatay, 2006; Tomar et al., 2020; Alejo-Armijo et al., 2019)
			Leaf, Fruit	Infusion, Fresh	Internal	Kidney stone		(Altay et al., 2015; Salazar-Lopez et al., 2020)
			Leaf	Decoction	Internal/drink 3 times a day	Kidney stone		(Sıcak et al., 2013)
	<i>Alcea apterocarpa</i> (Fenzl) Boiss.	Huri	Aerial parts	Decoction	Internal	Kidney stone	Essential oil, fatty acid, phenolic acid, flavonoid	(Altundağ and Öztürk, 2011; Ertaş et al., 2016)
								<i>Alcea calvertii</i> (Boiss.) Boiss.
	<i>Alcea fasciculiflora</i> Zohary	Hero, Hatmi	Root	Decoction	Internal/drink one glass of the plant on an empty stomach in the morning	Kidney stone	Not found	(Dalar et al., 2018)
	<i>Alcea flavovirens</i> (Boiss. & Buhse) Iljin	Heru, Hero	Root	Decoction	Internal	Kidney stone	Polysaccharide	(Altundağ and Öztürk, 2011)
			Root	Decoction	Internal	Kidney stone		(Altundağ and Öztürk, 2011; Zaitzeva and Kozhina 1980)
			Leaf	Decoction	Internal/drink one glass of the plant on an empty stomach in the morning	Kidney pain		(Kaval et al., 2014)
	<i>Alcea hohenackeri</i> Boiss.	Gülhatmi, Hero	Root	Decoction	Internal	Kidney stone	Not found	(Bulut et al., 2019)
Flower, Leaf			Decoction with milk	Internal	Kidneyache	(Güneş and Özhatay, 2011)		
Leaf, Root			Decoction, Leaf boiled (+Lemon, egg)	Internal/drink one glass of the plant on an empty stomach in the morning	Kidney pain, Kidney stone	(Kaval et al., 2014)		
<i>Alcea kurdica</i> Alef.	Hero	Leaf, Root	Decoction	Internal/drink one tea glass of the plant three times a day	Kidney stone	Not found	(Mükemre et al., 2015)	
<i>Alcea pallida</i> (Willd.) Waldst. & Kit.	Hatmi	Seed, Flower	Decoction	Internal/drink before meals for 1 week	Kidney stone	Vitamin C, phenolic acid, flavonoid, essential oil	(Uysal et al., 2012; Ertaş et al., 2016)	
<i>Alcea remotiflora</i> (Boiss. & Heldr.) Alef.	Şabla, Hatmi	Bud, Flower	Cold water maceration	Internal/drink one teacup 3 times a day for 2-3 weeks	Kidney gravel, Nephralgia	Not found	(Sargın and Büyükcengiz, 2019)	
<i>Alcea rosea</i> L.	Peygamber övenderesi Hiro	Flower	Infusion	Internal	Kidney stone	Carbohydrate, protein, elemental compositions	(Bulut et al., 2017; Azizov et al., 2007)	
		Root	Decoction	Internal	Kidney stone		(Bulut et al., 2019)	

<i>Althaea officinalis</i> L.	Deli hatmi, Hatmi	Aerial parts				Kidney stone	Mucilage, flavonoid, phenolic acid	(Mumcu and Korkmaz, 2018; Çubukçu et al., 2002)
<i>Malva neglecta</i> Wallr.	Toluk, Hibbes, Tibbayka, Ebegümeçi, Ebemgömeçi, Dolluk, Toltolik	Aerial parts	Decoction	Internal		Kidney stone		(Altundağ and Öztürk, 2011)
		Aerial parts	Infusion	Internal		Kidney diseases	Flavonoid,	(Akgul et al., 2018; Dalar et al., 2012)
		Whole plant	Infusion	Internal		Kidney diseases	hydroxycinnamic acid	(Korkmaz and Karakurt, 2015)
		Stem, Leaf, Seed	Decoction	Internal		Kidney diseases		(Güneş and Özhatay, 2011)
<i>Malva nicaeensis</i> All.	Develik, Ebegümeçi	Leaf	Plant leaf are boiled and drained, wrapped around the aching place	External		Kidney inflammation		(Şimşek et al., 2002)
		Whole plant	Decoction	Internal		Kidney pain		(Şimşek et al., 2002)
		Leaf	Decoction	Internal		Kidney stone		(Yeşilyurt et al., 2017)
<i>Malva parviflora</i> L.	Tollik	Leaf	Infusion	Internal		Kidney ailments	Monosaccharide, saponin, tannin, terpenoid, flavonoid, alkaloid	(Bulut and Tuzlacı, 2015; Azab, 2017)
		Leaf	Infusion	Internal		Nephropathy	Stigmastane derivative	(Kaya et al., 2020; Sharma and Ali, 1999)
<i>Malva sylvestris</i> L.	Ebegümeçi, Develikotu, Kabaot, Usluebegümeçi	Leaf				Kidney stone, Kidney pain	Musilages, anthocyanin, tannin, flavonoid,	(Öztürket al., 2013; Çubukçu et al., 2002; El-Kader et al., 2013)
		Leaf				Kidney ailments	Lignan	(Uysal et al., 2010)
		Aerial parts	Decoction	Internal/drink one tea		Kidney stone		(Kültür, 2007)
<i>Malvella sherardiana</i> (L.) Jaub. & Spach	Ebekömeçi, Ebemkömeçi	Aerial parts	Decoction	Internal		Kidney diseases		(Genç and Özhatay, 2006)
		Leaf	Decoction	Internal		Kidney diseases		(Gürdal and Kültür, 2013)
		Leaf	Decoction			Kidney stone	Phenoloic acid, essential oil	(Akaydın et al., 2013; Haşimi et al., 2017)
<i>Eucalyptus camaldulensis</i> Dehnh	Okalıptüs, Gelendost, Galiptoz, Okalıptuz	Leaf	Decoction	Internal		Kidney diseases	Essential oil	(Ertuğ, 2004; Baytop, 1999)
<i>Myrtus communis</i> L.	Mersin	Leaf	Decoction	Internal/drink one glass 3 times every days		Kidney disorders		(Akaydın et al., 2013)
		Seed	Decoction	Internal/drink once a day every morning before breakfast for 10–15 days		Kidney stone	Tannin, essential oil	(Uysal et al., 2012; Baytop, 1999)

Oleaceae	<i>Olea europaea</i> L.	Zeytin	Oil (with seed <i>Lini</i>)	Fresh	Internal/eaten 1–2 spoon	Kidney stone	Essential amino acids, phenolic compounds, oil	(Sağiroğlu et al., 2013; Hannachi et al., 2020)
	<i>Phillyrea latifolia</i> L.	Pırnal	Leaf	Decoction	Internal	Kidney stone	Oleuropein, flavonoid, tannin	(Tuzlacı and EryaşarAymaz, 2001; Azaizeh et al., 2013)
Orabanchaceae	<i>Orobanchae aegyptiaca</i> Pers.	Aluk	Root	Decoction		Kidney stone	Not found	(Balos, 2007)
	<i>Orobanchae gracilis</i> Sm.	Yer Göbeği	Whole plant	Infusion	Internal	Kidney stone, Kidney pain	Not found	(Ertuğ, 2004)
Oxalidaceae	<i>Oxalis acetosella</i> L.	Ekşiyonca	Leaf	Infusion	Internal/drink one teacup twice a day as hot for 6–7 days	Nephritis	Ascorbic acid, tocopherol, carotenoid, flavonoid, phenolic acid	(Ugulu et al., 2009; Sircelj et al., 2010)
Papaveraceae	<i>Fumaria officinalis</i> L.	Şahtere	Aerial parts	Infusion, Leaf Powder, Spice	Internal/drink one teacup 3 times a day for 3–4 weeks	Kidney problems	Phenolic acid, flavonoid, alkaloid	(Sargin, 2015; Paltinean et al., 2017)
	<i>Papaver</i> sp.	Lale, Lele		Infusion, Boiling, Meal	Internal/drink one tea cup/eat one plate 2–3 times a day for 2–4 weeks	Kidney gravel	Alkaloid	(Sargin et al., 2015; Yoshimatsu et al., 2005)
Pinaceae	<i>Pinus brutia</i> Ten.	Çam	Bud, Shoot	Decoction	Internal/drink one glass before bed for 3-4 weeks	Nephralgia	Resin, essential oil	(Sargin and Büyükcengiz, 2019; Baytop, 1999)
Plantaginaceae	<i>Plantago weldenii</i> Rchb. [Syn: <i>P. coronopus</i> L. ssp. <i>commutata</i> (Guss.) Pilg.]	Fare kuyruğu	Flower	Infusion	Internal	Kidney stone, Kidney sand	Not found	(Ertuğ, 2004)
	<i>Plantago major</i> subsp. <i>intermedia</i> (Gilib.) Lange [Syn: <i>P. intermedia</i> L.]	Damar otu	Aerial parts	Infusion	Internal	Kidney stone	Phenolic compounds	(Uzun et al., 2004; Ivanova et al., 2005)
	<i>Plantago lanceolata</i> L.	Kırksinir, Eşekayağı	Leaf	Decoction	Internal	Kidney	Phenolic acid,	(Şimşek et al., 2002; Bajer et al.,

						inflammation	flavonoid, coumarin, iridoid, essential oil	2016)
	<i>Plantago major</i> L.	Balazagva, Damarliot, Damarotu, Kirksinirotu, Sinirliot, Sinirotu	Flower Leaf	Decoction Infusion	Internal Internal	Kidney stone Kidney disorders	Iridoids, mucilage, tannin, pectin, organic acid	(Bağcı et al.; 2016) (Kızılarıslan and Özhataı, 2012; Çubukçu et al., 2002)
	<i>Veronica orientalis</i> Miller	Gözmuncuğuçiçeği	Aerial parts	Infusion	Internal	Kidney stone	Flavonoid, iridoid, phenolic acid	(Altundağ and Öztürk, 2011; Harput et al., 2009)
	<i>Platanus orientalis</i> L.	Çınar, Çınarağacı	Cones	Decoction	Internal/drink one teacup two times a day for 3–4 days	Kidney stone	Flavonoid, proanthocyanidin, carbohydrates, fatty acid	(Polat and Satıl, 2012; Tantry et al., 2012)
			Fruit	Infusion	Internal	Kidney stone		(Bulut and Tuzlacı, 2015)
			Fruit	Infusion	Internal	Kidney stone		(Tuzlacı and Eryaşar Aymaz, 2001)
			Leaf, Flower	Infusion, Decoction	Internal/drink one glass 3 times a day for 4–8 weeks	Nephralgia, Kidney stone		(Sargin et al., 2013)
			Stem bark			Kidney stone		(Uysal et al., 2010)
			Stem bark			Kidney stone		(Uysal et al., 2010)
			Leaf	Decoction	Internal	Kidney diseases		(Genç and Özhataı, 2006)
			Leaf	Infusion	Internal/drink 1–2 glasses a day for 2–5 weeks	Nephritis		(Sargin and Büyükcengiz, 2019)
			Leaf, Flower, Bud	Decoction, Infusion	Internal/drink one glass twice a day for 2–5 weeks	Nephralgia, Kidney gravel		(Sargin et al., 2015)
	<i>Cynodon dactylon</i> (L.) Pers. var. <i>villosus</i> Regel	Ayrık, Ayrıkotu	Rhizome	Decoction	Internal/drink one cup of the decoction on an empty stomach in the morning	Kidney stone	Terpenoid, alkaloid, phenolics, flavonoid, carotenoid, tannin,	(Çakılciöğlü et al., 2010; Muthukrishnan et al., 2015; Al-Snafi, 2016a)
			Aerial parts	Infusion	Internal/drink 2–3 cups of tea daily	Kidney diseases, Kidney stone	Resin, phytosterol, carbohydrate, protein, volatile oil	(Kargioğlü et al., 2010)
			Root	Decoction	Oral administration	Kidney diseases		(Gençay et al., 2016)
			Root			Kidney stone		(Uysal et al., 2010)
			Rhizome	Infusion	Internal	Kidney stone		(Bulut and Tuzlacı, 2013)
			Aerial parts	Decoction	Internal/drink one teacup two times a day for 1–2 week	Kidney stone		(Polat and Satıl, 2012)
			Whole plant	Decoction	Internal/drink one glass of the plant three times a day	Kidney stone		(Paksoy et al., 2015)
			Root	Decoction	Internal/drink twice a day for 40–50 days	Kidney stone		(Kartal and Güneş, 2017)
			Whole plant					
			Rootstock	Decoction	Internal/drink every morning half glass once a day for 12 days	Kidney stone		(Uzun and Kaya, 2016)
			Rhizome	Decoction	Internal	Kidney stone		(Kargioğlü et al., 2008)
			Root	Decoction	Internal	Kidney stone		(Bulut et al., 2017)
			Rhizome,	Decoction	Internal	Kidney stone,		(Yeşilyurt et al., 2017)

<i>Elymus repens</i> (L.) Gould [Syn: <i>Agropyron repens</i> (L.) Beauv.]	Ayrıkotu, Ayrık, Çayır, Çayırotu	Root	Infusion	Internal/drink one glass twice a day for 3 weeks	Kidney sand	Flavonoid	(Sargin et al., 2015; Korhammer and Haslinger, 1994) (Akan and Bakır Sade, 2015; Çubukçu et al., 2002)	
		Rhizome	Infusion	Internal	Nephralgia, Kidney gravel	Mucilage, carbohydrate		
		Aerial parts, Root	It is consumed by putting 100 g of separate grass in 1 liter of water					
		Root	Infusion	Internal/drink one glass 2–3 times a day for 1–2 weeks	Nephralgia, Kidney stone			(Sargin et al., 2013)
		Part of underground	Decoction		Spontaneous kidney stone passage	Organic acid, vanillin		(Fakir et al., 2009; Schulz et al., 1994)
<i>Elymus tauri</i> (Boiss. & Bal.) Melderis	Ayrık	Aerial parts, Rhizome	Decoction	Internal/drink one cup of the decoction on an empty stomach in the morning	Kidney stone		(Çakılcıoğlu et al., 2010)	
		Whole plant	Infusion	Internal	Kidney failure		(Korkmaz and Karakurt, 2015)	
		Root	Infusion	Internal/drink 3 glass daily	Kidney stone		(Korkmaz et al., 2016)	
		Root	Decoction	Internal/drink one cup once a day	Kidney ailments	Not found	(Sağiroğlu et al., 2013)	
<i>Hordeum</i> sp.	Sirome	Rhizome	Decoction	Internal/drink one cup of the plant on an empty stomach in the morning	Kidney stone	Not found	(Polat et al., 2013)	
<i>Hordeum bulbosum</i> L.	Sirome, Siromek, Siyamo	Rhizome	Decoction	Internal/drink one cup of the plant on an empty stomach in the morning	Kidney stone	Starch	(Polat and Çakılcıoğlu, 2018; Baytop, 1999)	
<i>Hordeum vulgare</i> L.	Arpa, cev	Fruit	Decoction	Internal/drink one tea cup two time sa day for 7–10 days	Nephritis	Polysaccharide, protein, phenolic compound	(Kültür, 2007; Lazaridou et al., 2008; Panizo-Casado et al., 2020) (Korkmaz and Karakurt, 2015) (Çakılcıoğlu et al., 2010)	
		Whole plant	Infusion	Internal/-	Kidney stone			
		Seed	Decoction	Internal/drink one tea glass of the plant before the meal	Kidney stone			
<i>Panicum miliaceum</i> L.	Darı	Flower	Decoction	Internal/drink twoglasses every days	Kidney stone	Protein, lipid, fiber, phenolic compounds	(Akaydın et al., 2013; Mc-Sweeney et al., 2017)	
<i>Triticum aestivum</i> L. [Syn: <i>Triticum vulgare</i> L.]	Buğday	Whole plant	Infusion	Internal	Kidney stone	Starch	(Korkmaz and Karakurt, 2015; Baytop, 1999)	
<i>Zea mays</i> L.	Mısır, Darı, Lazıt	Fruit			Nephritis	Flavonoid, tannin, mucilage, sugar, lipid	(Cansaran and Kaya, 2010; Çubukçu et al., 2002)	
		Tassel	Decoction	Internal	Kidney pain			(Bağcı et al.; 2016)

			Infusion	Internal/drink one tea cup 3 times a day for 3–4 weeks at early mornings	Nephralgia		(Sargin et al., 2015)
		Corn tassel	Decoction	Internal/drink one tea cup two times a day for 5–7 days	Kidney stone		(Kültür, 2007)
		Style, Fruit	Decoction	Internal	Kidney stone		(Korkmaz and Karakurt, 2015)
		Tassel,	Decoction	Internal	Kidney stone,		(Sağiroğlu et al., 2012)
		Corncob			Kidney pain		
		Style	Decoction	Internal/drink one cup of the plant on an empty stomach in the morning;	Kidney stone		(Polat and Çakılcıoğlu, 2018)
		Style	Decoction	Internal/drink one cup of the plant on an empty stomach in the morning	Kidney stone		(Polat et al., 2013)
		Style	Infusion	Internal/drink one teacup 3 times a day for 3–4 weeks at early mornings	Kidney gravel		(Sargin, 2015)
		Style	Decoction		Kidney stone and sand		(Deniz et al., 2010)
		Style	Decoction	Internal	Kidney stone		(Şenkardeş and Tuzlacı, 2014)
		Flower	Infusion	Internal	Kidney stone		(Kaya et al., 2020)
		Style	Decoction	Internal	Kidney stone		(Bulut and Tuzlacı, 2015)
		Style	Infusion	Internal	Kidney stone		(Tuzlacı and Erol, 1999)
		Leaf	Infusion	Internal/drink one tea glass of the plant three times a day	Kidney stone	Not found	(Tetik et al., 2013)
<i>Polygonum arenarium</i> Waldst.&Kit.							
<i>Polygonum aviculare</i> L.	Keçimemesi, Kuşotu, Süpürgeotu	Aerial parts	Infusion	Internal/drink one tea cup 2–3 times a day for 2–3 weeks	Nephralgia, Kidney gravel	Flavonoid, phenolic acid	(Sargin et al., 2015; Cai et al., 2020)
<i>Polygonum patulum</i> subsp. <i>patulum</i> Bieb	At madımağı	Aerial parts	Infusion	Internal	Kidney stone	Flavonoid, phenolic acid	(Demirci and Özhatay, 2012; El-Kader et al., 2013)
[Syn: <i>P. bellardii</i> All.]	Saçotu, Saçbüyüten	Aerial parts	Decoction	Internal	Kidney stone		(Gürdal and Kültür, 2013)
<i>Polygonum cognatum</i> Meisn.	Levlevik	Whole plant	Infusion	Internal/drink one cup after meals	Kidney stone	Ascorbic acid, mineral	(Nadiroğlu et al., 2019; Demir, 2006)
<i>Rheum ribes</i> L.	Ribes, Rıwes, Rewas, Kap, Işgın, Ribis	Aerial parts	Decoction, Fresh		Kidney stone	Essential oil, tannin, anthracene glycosides	(Polat et al., 2012; Amiri et al., 2015; Baytop, 1999)
		Stem, Root	Stem fresh, Root decoction	Internal	Kidney diseases		(Güneş and Özhatay, 2011)
		Aerial parts, Root	Decoction	Internal/drink one cup of the plant on an empty stomach in the morning;	Kidney stone		(Polat and Çakılcıoğlu, 2018)
		Aerial parts	Infusion	Internal/drink one cup of the plant on an empty stomach in the morning	Kidney stone		(Polat et al., 2013)
		Aerial parts	Decoction	Internal/drink one tea glass of the plant after the meal	Kidney stone		(Çakılcıoğlu et al., 2010)

Polypodiaceae	<i>Rumex acetosella</i> L	Kuzukulağı, Ekşikulak, İlibada, İlibadaotu	Leaf	Leaf Powder, Raw	Internal/take 1/2 bunch a day for 2–3 weeks	Kidney gravel	Flavonoids, hyperin, vitamin C, carotenoid, organic acid	(Sargin et al., 2015; Saleem et al., 2009; İşbilir and Sağiroğlu, 2013)	
	<i>Rumex crispus</i> L.	Evelik, Kuzukulağı, Lapada	Leaf			Kidney stone	β-sitosterol, anthraquinone, flavonoid, catechin, gallic acid	(Macit and Köse, 2015; Fan and Zhang, 2009)	
			Leaf, Root	Decoction	Internal	Kidney trainer	Tannin, antracene glycosides	(Gül and Seçkin Dinler, 2016)	
	<i>Rumex patientia</i> L.	Efelek, At eveleği, Ekşiot	Leaf				Kidney disorders		(Mumcu and Korkmaz, 2018)
			Leaf	Infusion	Internal	Kidney disorders			(Altundağ and Öztürk, 2011)
	<i>Rumex tuberosus</i> L.	Kuzukulağı, Kislek	Fruit	Decoction	Internal	Kidney diseases			(Tuzlacı and Doğan, 2010)
			Stem, Leaf	Fresh	Internal	Kidney stone	Not found		(Uysal et al., 2006)
	<i>Rumex tuberosus</i> L. ssp. <i>horizontalis</i> (Koch) Rech.	Trisog, Evelik, Yumruköklü kuzukulağı	Stem, Leaf			Kidney stone	Not found		(Uysal et al., 2010)
			Root, Seed			Kidney stone	Not found		(Öztürk et al., 2013)
	<i>Rumex acetosella</i> L & other <i>Rumex</i> sp.	Kuzukulağı	Aerial parts	Decoction	Internal	Kidney stone	Tannin, K salt, antracene glycosides	(Özçelik and Balabanlı, 2010; Baytop, 1999)	
<i>Polypodium vulgare</i> L.	Karabaldırotu, Altınotu, Kök çayı	Aerial parts	Decoction	Internal/ drink one teacup two times a day for 3–4 days	Kidney stone	Saponin, essential oil, tannin	(Polat and Satıl, 2012; Baytop, 1999)		
Portulacaceae	<i>Portulaca oleracea</i> L	Semizlik, Semizlikotu, Temizlik, Temizlikotu, Semizotu, Pazı	Aerial parts without flower	Leaf powder, Raw, Mash, Oinment, Mixture, Rubbing	Internal/eat one bunch a day for 1–8 weeks	Kidney gravel	Phenolic acid, flavonoid, alkaloid, betanin	(Sargin et al., 2015; Nemzer et al., 2020)	
			Aerial parts	Raw, Mash, Oinment	Internal/take 3–4 handfuls a day for 3–4 weeks	Kidney stone		(Sargin et al., 2013)	
			Aerial parts	Decoction	Internal/drink one cup once a day	Nephritis		(Sağiroğlu et al., 2013)	
			Aerial parts	Poultice	Internal/poultice is eaten every day	Kidney stone		(Akaydın et al., 2013)	
			Aerial parts	Infusion	Internal/drink one cup of the plant two time a day	Kidney stone		(Polat et al., 2015)	
			Leafy stem			Nephritis		(Uysal, 2010)	

Pteridaceae	<i>Adiantum capillus veneris</i> L.	İrefeotu, Karabadır, Karabalıdırotu	Aerial parts			Kidney stone	Flavonoid, tannin, mucilage, terpens, alkaloid, steroid	(Kocabaş and Gedik, 2016; Çubukçu et al., 2002) (Sargin, 2015)	
			Aerial parts	Infusion	Internal/drink one teacup 3 times a day for 1–2 weeks	Kidney problems			
			Aerial parts, Leaf	Infusion	Internal	Kidney stone			(Altundağ and Öztürk, 2011; Dehdari and Hajumehdipoor, 2018; Raina et al., 2003)
	<i>Paliurus spina-christi</i> Mill.	Çaltı, Muskaotu, Muskaağacı, Çaltıdiken, Dikenliçalı, Dalıke, Karaçalı	Fruit	Decoction	Internal	Kidney stone	Flavonoid, fixed oil, tannin, alkaloid	(Şenkardeş and Tuzlacı, 2014; Kustrak et al., 1990; Baytop, 1999) (Sargin, 2015)	
			Seed	Decoction	Internal/drink one glass twice a day for 2–3 weeks	Nephralgia, Kidney gravel			
			Seed	Decoction	Internal/drink one tea cup 2–3 times a day for 2–3 weeks	Nephralgia, Kidney gravel			(Sargin et al., 2015)
			Seed	Decoction	Internal/drink one tea cup 2–3 times a day	Nephralgia, Kidney stone			(Sargin et al., 2013)
			Matured Fruit	Infusion		Kidney stone			(Akyol and Altan, 2013)
			Seed	Decoction	Internal	Kidney stone, Kidney diseases			(Gürdal and Kültür, 2013)
			Fruit	Decoction	Internal	Kidney stone			(Gürdal and Kültür, 2013)
Flower	Decoction	Internal	Kidney stone	(Gürdal and Kültür, 2013)					
Fruit	Decoction	Internal/drink one cup of the decoction on an empty stomach in the morning	Kidney stone	(Çakılcıoğlu et al., 2010)					
Rhamnaceae			Fruit, Flower	Decoction	Internal/drink one glass every day	Kidney stone		(Yeşilyurt et al., 2017)	
			Fruit	Decoction	Internal	Kidney stone		(Bulut and Tuzlacı, 2013)	
			Fruit	Decoction	Internal	Kidney stone		(Elçi and Erik, 2006)	
			Fruit	Decoction		Spontaneous kidney stone passage		(Fakir et al., 2009)	
	<i>Alchemilla</i> sp.	Kurtayağı, Dokuztepe, Paraotu, Fındıkotu, Sarıçiçek	Fruit	Decoction	Internal	Kidney stone	Tannin, flavonoid	(Tuzlacı et al., 2010) (Akbulut and Ozkan, 2014; Çubukçu et al., 2002)	
			Flower, Leaf	Decoction	Internal	Kidney diseases			
	<i>Amygdalus communis</i> L.	Badem, Acıbadem	Seed			Kidney diseases	Flavonoid, lipid	(Yapıcı et al., 2009; Mandalari et al., 2010) (Tuzlacı and Erol, 1999)	
			Seed		Internal/eaten, 3×1	Kidney diseases			
	<i>Armeniaca vulgaris</i> Lam. [Syn: <i>Prunus armeniaca</i> L.]	Kayısı	Fruit, Seed	Fresh or dried fruit, Powdered Seed	Internal	Kidney tonic	Glycoside (amygdalin)	(Korkmaz and Karakurt, 2015; Baytop, 1999)	
Rosaceae	<i>Cerasus avium</i> (L.) Moench	Kiraz, Napolyonkirazı, Kuşkirazı, Sapıksakirazı,	Fruit stalk	Decoction	Internal	Kidney stone	Flavonoid, phenolic acid, stilben, coumarin, tannin, vitamin	(Bulut and Tuzlacı, 2015; Budak, 2017) (Akaydın et al., 2013)	
			Bark	Decoction	Internal/drink 1–2 glass every day	Kidney problems			

	Akkiraz, Karakiraz	Fruit stalk	Decoction	Internal/drink one glass of the plant three times a day	Kidney stone		(Paksoy et al., 2015; Güner and Selvi, 2016)
		Fruit stalk	Decoction	Internal/drink one glass every day until recovery	Kidney stone		(Yeşilyurt et al., 2017)
		Fruit stalk	Decoction	Internal/drink one cup of the plant on an empty stomach in the morning;	Kidney stone		(Polat and Çakılcıoğlu, 2018)
		Fruit stalk	Decoction	Internal/drink one glass once a day	Kidney stone		(Uzun and Kaya, 2016)
		Stalk	Decoction	Internal/drink one tea cup two times a day for 7–10 days	Nephritis, Kidney stone		(Kültür, 2007)
		Fruit Stem, Seed	Decoction	Internal/drink one teacup twice a day for 7–10 days	Nephritis		(Ugulu et al., 2009)
		Leaf, Pedicule, Fruit Peduncle	Raw, Decoction	Internal/drink one glass 3 times a day for 4–8 weeks	Nephralgia, Kidney stone		(Sargin et al., 2013)
			Infusion	Internal/drink one cup of the plant on an empty stomach in the morning	Kidney stone		(Tetik et al., 2013)
		Fruit	Infusion	Internal/drink one glass 3 times a day for 4–8 weeks	Kidney gravel	Sugar, organic acid, fatty acid, tocopherol, phenolic acid, flavonoid	(Sargin et al., 2015; Bastos et al., 2015)
		Fruit stalk			Kidney stone		(Altay et al. 2015)
<i>Cerasus mahaleb</i> (L.) Miller	Mahlep, Mahalep	Fruit stalk	Decoction	Internal	Kidney stone		(Sezik et al., 2001)
		Seed	Infusion	Internal	Kidney stone	Organic acid, vitamin C, flavonoid, anthocyanin	(Altundağ and Öztürk, 2011; Gerardi et al., 2012)
<i>Cerasus vulgaris</i> (L.) Mill.	Vişne, Yazvişne	Fruit stalk	Infusion	Internal	Kidney stone	Flavonoid, quinic acid derivatives	(Çakılcıoğlu et al., 2010)
		Fruit	Infusion	Internal/drink 8–10 cups a day	Kidney diseases		(Güneş and Özhatay, 2011; Piccolella et al., 2008)
		Fruit stalk	Decoction	Internal/drink one tea cup two times a day for 5–10 days	Nephritis, Kidney stone		(Arı et al., 2015)
<i>Crataegus azarolus</i> var. <i>azarolus</i> L. [Syn: <i>C. aronia</i> var. <i>minuta</i> Browicz]	Kuşburnu	Fruit	Decoction	Internal	Kidney stone	Not found	(Kültür, 2007)
<i>Crataegus azarolus</i> var. <i>aronia</i> L.	Alıç	Leaf, Flower, Fruit	Infusion, Decoction, Raw	Internal/take a handful a day for 3– 8 weeks/drink one glass 2– 3 times a day for 3–5 weeks with one teaspoon honey.	Kidney gravel	Triterpene acid, flavonoid	(Şimşek et al., 2004)
		Leaf, Shoot	Infusion	Internal/drink one glass twice a day for 3-5 weeks	Kidney gravel		(Sargin and Büyükcengiz, 2019)
<i>Crataegus monogyna</i> Jacq.	Alıç, Kızılalıç, Yemişen	Leaf	Infusion	Internal	Kidney diseases	Flavonoid, triterpenoid, monoterpenoid, sesquiterpenoid, steroid, lignan, organic acid	(Akgül et al., 2016; Sargin, 2015; Mot et al., 2016)
		Leaf, Flower, Fruit	Infusion, Decoction, Raw	Internal/take a handful a day for 3– 8 weeks/drink one glass 2– 3 times a day for 3–5 weeks with	Kidney gravel		(Sargin, 2015)

		Leaf, Flower, Fruit	Infusion	one teaspoon honey. Internal	Kidney diseases		(Gençay et al., 2016)
<i>Crataegus orientalis</i> Pall. ex M.Bieb.	Aliç, Dikenlialıç, Aliç, Aliş, Yemiş, Aliçtoburcuğu, Aliştöpurcuğu, Kırmızıalıç	Fruit	Decoction	Internal	Kidney stone	Flavonoid, epicatechin, chlorogenic acid	(Tuzlacı and EryaşarAymaz, 2001)
		Leaf, Flower, Fruit	Infusion, Decoction, Raw	Internal/take a handful a day for 3– 8 weeks/drink one glass 2– 3 times a day for 3–5 weeks with one teaspoon honey.	Kidney gravel		(Sargin, 2015; Savikin et al., 2017)
		Leaf, Fruit	Decoction	Internal/drink one glass 2–3 times a day for 3–5 weeks	Nephralgia, Kidney gravel		(Sargin et al., 2015)
		Leaf, Fruit, Seed	Raw, Mash, Decoction, Infusion	Internal/drink one glass 2–3 times a day for 3–4weeks	Nephralgia, Kidney stone		(Sargin et al., 2013)
<i>Crataegus pentagyna</i> Waldst. & Kit. ex Willd.	Yemişgen, Yemişkendikeni, Galagun	Flower, Fruit	Infusion, As jam	Internal	Kidney stone		(Korkmaz and Karakurt, 2015)
		Flower	Decoction	Internal/drink one tea cup two times a day for 7–15 days	Nephritis	Flavonoid, phenolic acid, proanthocyanin	(Kültür, 2007; Bujor et al., 2020)
<i>Crataegus tanacetifolia</i> (Poir.) Pers.	Sarıalıç	Flower, Fruit	Infusion, As jam	Internal	Kidney stone		(Korkmaz and Karakurt, 2015)
<i>Cydonia oblonga</i> Mill.	Ayva	Leaf	Infusion	Internal/drink one glass of the plant three times a day	Kidney stone	Flavonoid, terpenoid, phenylpropanoid, carotenoid,	(Güneş et al., 2017; Wei et al., 2019)
<i>Mespilus germanica</i> L.	Muşmula, Döngel, Beşbiyik	Leaf	Decoction	Internal	Kidney stone Kidney stone	Flavonoid, carotenoid	(Kültür, 2007)
		Fruit		Internal/fruit left in water and water drunk for 3–5 days	Kidney stone		(Erdoğan et al., 2014; Safari and Ahmady-Asbchin, 2019)
		Leaf Fruit, Seed, Leaf Leaf	Decoction	Internal Internal	Kidney stone Kidney stone		(Sağiroğlu et al., 2012)
		Fruit	Decoction	Internal/drink one tea cup two times a day for 7–15 days	Kidney stone Nephritis	Not found	(Öztürk et al., 2013)
<i>Prunus cocomilia</i> Ten. [Syn: <i>P. divaricata</i> subsp. <i>ursina</i> (Kotschy) Browicz]	Güvem	Fruit	Fresh, Marmalade, Jam	Internal	Kidney stone	Polyphenols	(Öztürk et al., 2013; Sabatini et al., 2020)
<i>Prunus spinosa</i> L. [Syn: <i>P. spinosa</i> L. subsp. <i>dasyphylla</i> (Schur) Domin]	Güvem, Bürbonka, Tranka	Fruit	Decoction	Internal/drink one tea cup two times a day for 6 days	Nephritis	Phenolic acid, flavonoid, procyanidin	(Kültür, 2007; Baltas et al., 2017)
<i>Pyracantha coccinea</i> Roemer	Güvemdikeni, Güvem, Veskruş, Güvemtikeni	Root	Decoction	Internal/drink 1 cups a day	Kidney stone		(Koyuncu et al., 2009)
<i>Pyrus elaeagnifolia</i>	Ahlat, Ahlet	Fruit	Fresh	Internal/drink the juice	Kidney stone,		(Korkmaz and Karakurt, 2015)

Pallas subsp. <i>kotschyana</i> (Boiss.) Browicz <i>Rosa canina</i> L.	Yabanigül, Deli gül, Kuşburnu, Öküzgözü, Şilan, İt gülü, İt burnu, Gülburnu, Pisiburnu	Fruit Root Leaf Fruit, Root Fruit Fruit Flower, Fruit Root Fruit Fruit Petal, Fruit Fruit Fruit Flower Fruit, Root, Seed Fruit, Flower Leaf Seed	Decoction Decoction Infusion Infusion Decoction Decoction Decoction Infusion, Decoction Infusion Infusion Decoction Decoction, Fruit, Raw Decoction Raw	Internal Internal/drink morning and evening on an empty stomach Internal/drink one cup of the plant two times a day Internal/drink 3 glasses daily Internal/drink one glass twice a day for 3 weeks Internal Internal Internal Internal Internal/drink one tea cup two times a day for 6 days Internal Internal/drink one cup of the plant on an empty stomach in the morning Internal Internal/drink one glass (with <i>Hibiscus</i>) 1–2 times a day for 2–3 weeks Internal Internal Internal	Kidney tonic Kidney stone Kidney stone Kidney stone Kidney pain Kidney gravel Kidney gravel Kidney diseases Kidney stone Kidney diseases Kidney stone Nephritis Kidney diseases Kidney stone Kidney inflammation Kidney problems Kidney stone, Kidney inflammation Kidney stone Kidney stone Kidney stone Kidney problems Nephritis Kidney stone and sand Nephritis Kidney problems Nephralgia,	Phenolic acid, flavonoid, tannin, phenanthrene, anthocyanin, carotenoid, fatty acid Flavonoid Not found Ascorbic acid, anthocyanin Anthocyanin Vitamin, organic acid, carotenoid, pectin Essential oil	(Şimşek et al., 2004; Fetni et al., 2020) (Uysal et al., 2006) (Mumcu and Korkmaz, 2018) (Nadiroğlu et al., 2019) (Korkmaz et al., 2016) (Sargin and Büyükcengiz, 2019) (Güler et al., 2018) (Tuzlacı and Erol, 1999) (Sezik et al., 2001) (Sezik et al., 2001) (Kültür, 2007) (Genç and Özhatay, 2006) (Polat et al., 2013) (Şimşek et al., 2002) (Sargin, 2015) (Özçelik and Balabanlı, 2010) (Altundağ and Öztürk, 2011) (Kaval et al., 2014; Grochowski et al., 2019) (Sargin, 2015) (Kültür, 2007; Dubravka et al., 2012) (Genç and Özhatay, 2006) (Kültür, 2007; Güder and Korkmaz, 2012) (Sargin, 2015; Rygalova et al., 2020) (Sargin et al., 2013; Rahmanzadeh
<i>Rubus caesius</i> L.	Düdürk, Dırne	Leaf Seed	Decoction Raw	Internal Internal	Kidney stone Kidney stone	Flavonoid	(Altundağ and Öztürk, 2011) (Kaval et al., 2014; Grochowski et al., 2019) (Sargin, 2015)
<i>Rubus canescens</i> DC.	Böğürtlen	Root, Fruit	Decoction	Internal/drink one glass twice a day for 1–3 weeks	Kidney problems	Not found	(Sargin, 2015)
<i>Rubus discolor</i> Weihe & Nees	Karamuk, Böğürtlen, Kapina, Böğürtlendikeni, Özmenek, Ahududu	Fruit, Root, Leaf Root	Juice, Decoction Decoction	Internal/drink one tea cup once a day for 6 days Internal	Nephritis Kidney stone and sand	Ascorbic acid, anthocyanin	(Kültür, 2007; Dubravka et al., 2012) (Genç and Özhatay, 2006)
<i>Rubus hirtus</i> Waldst. & Kit.	Karamuk	Root	Decoction	Internal/drink one tea cup two times a day for 7–10 days	Nephritis	Anthocyanin	(Kültür, 2007; Güder and Korkmaz, 2012)
<i>Rubus saxatilis</i> L.	Böğürtlen	Root, Fruit	Decoction	Internal/drink one glass twice a day for 1–3 weeks	Kidney problems	Vitamin, organic acid, carotenoid, pectin	(Sargin, 2015; Rygalova et al., 2020)
<i>Rubus sanctus</i> Schreb.	Akböğürtlen,	Fruit	Decoction	Internal/drink one glass 1–2	Nephralgia,	Essential oil	(Sargin et al., 2013; Rahmanzadeh

Rubiaceae	[Syn: <i>Rubus ulmifolius</i> subsp. <i>sanctus</i> (Schreb.) Sudre]	Dikenbaşı, Moradikeni, Orman, Orman üzümü, Orman gülü, Gür, Kür, Kürüzümü, Gürüzümü, Kocakızkürü, Gocagızgürü, Böğürtlen, Dırık, Dırkel, Tiri	Root Root, Fruit Aerial parts, Root Fruit, Flower, Root Root Fruit	Decoction Decoction Infusion, Decoction Infusion, Jam Decoction	times a day for 4–8 weeks Internal/drink one glass twice a day for 1–3 weeks Internal/drink one glass 1–2 times Internal Internal/drink 1 glass every day Internal	Kidney stone Kidney stone Kidney problems Kidney gravel Kidney stone Kidney stone Kidney stone	Phenolic acid, tannin, flavonoid, triterpenoid saponin Essential oil	Ishkeh et al., 2009) (Yapıcı et al., 2009; Zengin et al., 2019) (Sargin, 2015) (Sargin et al., 2015) (Polat et al., 2012) (Akaydın et al., 2013) (Tuzlacı and Erol, 1999) (Bulut et al., 2019; Esmaceli et al., 2010)
	<i>Sanguisorba verrucosa</i> (G. Don) Ces. [Syn: <i>S. minor</i> subsp. <i>magnolii</i> (Spach) Cout.] <i>Sorbus domestica</i> L.	Gıyayepaluka Ahlağağacı, Üvez, Börtlücan	Aerial parts Fruit	Decoction Pickle	Internal	Nephritis	Flavonoid, procyanidin, phenolic acid	(Tuzlacı and EryaşarAymaz, 2001; Rutkowska et al., 2019) (Kültür, 2007)
	<i>Sorbus</i> sp.	Övez	Leaf	Infusion, Decoction Decoction	Internal/drink one tea cup two times a day for 8–15 days Internal	Nephritis, Kidney stone Kidney ailments	Sugar alcohols	(Şimşek et al., 2002; Fungand Herrebout, 1988)
	<i>Galium aparine</i> L.	YoğurtOtu, Yapış	Leaf, Branch	Infusion	Internal	Kidney diseases	Iridoid, flavonoid, coumarin, tannin, phenolic acid	(Ertuğ, 2004; Çubukçu et al., 2002)
	<i>Rubia peregrina</i> L.	Kökboya	Root			Kidney stone	Anthraquinone glycoside, iridoid, lignan, naphthoquinone glycoside	(Öztürket al., 2013; Özgen et al., 2009)
	<i>Rubia tinctorum</i> L.	Yapışkanot	Root	Decoction	Internal	Kidney stone	Anthraquinone	(Tuzlacı et al., 2010; Henderson et al., 2013) (Güneş et al., 2017)
	<i>Citrus limon</i> (L.) Burm.f.	Limon	Fruit Fruit	wring out	Internal/drink one glass of the plant three times a day Internal/a whole fresh egg is left inside a glass of lemon juice for 24 h until the egg-shell dissolves, an equal amount of pure olive oil is added and ingested. This remedy should be prepared freshly before administration	Kidney stone Kidney stone	Resin, flavonoid, alkaloid, saponin, sesquiterpen, essential oil	(Sezik et al., 2001; Paw et al., 2020)
	Rutaceae							

Salicaceae	<i>Populus tremula</i> L.	Kavak	Bark	Decoction	Internal/drink one tea cup two times a day for 9 days	Nephritis	Phenolic glycosides	(Kültür, 2007; Keefover-Ring et al., 2014)
	<i>Viscum album</i> L. subsp. <i>abietis</i> (Wiesb.) Abrom.	Gögelek, Gövelek, İladıngögeleği, Andızgögeleği, Ardıçgöveleği, Ökseotu	Leaf, Fruit	Cold water maceration, Decoction	Internal/drink one glass a day for 3–5 weeks	Kidney problems	Flavonoids, phenolic acids	(Sargin, 2015; Pietrzak et al., 2014)
Santalaceae	<i>Viscum album</i> L.	Güveldek	Leaf	Infusion	Internal	Kidney stone	Essential oil, polypeptid, lectin, flavonoid, lignan	(Demirci and Özhatay, 2012; Kürkçüoğlu et al., 2002; Çubukçu et al., 2002)
Saxifragaceae	<i>Saxifraga hederacea</i> L.	Taşkıran, Taşkıranotu, YonsulOtu	Leaf	Infusion	Internal/drink one teacup 3 times a day for 3–4 weeks	Nephralgia, Kidney gravel	Not found	(Sargin, 2015; Sargin and Büyükcengiz, 2019)
	<i>Saxifraga kotschyi</i> Boiss.	Taşkıran, Taşkıranotu	Leaf	Infusion	Internal/drink one teacup 3 times a day for 3–4 weeks	Nephralgia, Kidney gravel	Not found	(Sargin, 2015)
Scrophulariaceae	<i>Verbascum</i> sp.	Sığırkuyruğu	Flower	Decoction	Internal	Kidney stone	Mucilage, saponin, iridoid, flavonoid, sterol, sugar, phenolic acid	(Bağcı et al. 2016; Baser, 2015)
Smilacaceae	<i>Smilax excelsa</i> L.	Melecon (Dikenucu), Mervecan	Root, Fresh shoot		Internal	Kidney diseases	Steroidal saponin, anthocyanin, flavonoid	(Gül and Seçkin Dinler, 2016; Ivanova et al., 2009; Khaligh et al., 2016)
Theaceae	<i>Camellia sinensis</i> (L.) Kuntze	Siyahçay, Çay	Leaf			Kidney regulator	Catechins, caffeine, amino acids, polysaccharide, protein, saponin	(Leblebici et al., 2012; Chen et al., 2020)

Ulmaceae	<i>Ulmus minor</i> Mill.	Karaağaç	Stem bark	Decoction	Internal/drink one cup once a day	Kidney ailments	Flavonoid, anthocyanin	(Sağiroğlu et al., 2013; Amoros et al., 2019)
	<i>Parietaria judaica</i> L.	Çamanuğu, Kumanuğu, Dağanuğu	Whole plant	Infusion	Internal	Kidney pain	Tannin, flavonoid, alkaloid, mucilage	(Korkmaz and Karakurt, 2015; Baytop, 1999)
	<i>Urtica dioica</i> L.	Isırgan, Isırganotu, Koprığa, Büyüksırgan, Yeğirç, Gerzink, Derzink, Gezik, Gezgez, Dalan	Root, Aerial parts	Decoction	Internal	Nephritis	Flavonoid, phenolic acid, coumarin, lignan, steroid, terpen, aminoacid,	(Kültür, 2007; Grauso et al., 2020)
			Aerial parts	Infusion	Internal	Kidney stone		(Polat et al., 2012)
			Leaf, Branch	Decoction	Internal	Kidney stone		(Şimşek et al., 2004)
			Leafy stem	Decoction	Internal	Kidney stone		(Korkmaz and Karakurt, 2015)
			Leafy stem	Infusion	Internal	Kidney diseases		(Ertuğ, 2004)
			Aerial parts	Infusion	Internal/drink one glass of the plant three times a day	Kidney stone		(Paksoy et al., 2015)
			Leaf, Aerial parts	Decoction	Internal/drink 1-2 cups every day on empty stomach	Kidney deficiency, Kidney pain		(Yeşilyurt et al., 2017)
			Aerial parts, Root			Kidney stone		(Öztürk et al., 2013)
	<i>Urtica dioica</i> L. <i>U. urens</i> L.	Dalağan, Isırgan	Leaf	Decoction	Internal	Kidney stone		(Tuzlacı and Doğan, 2010)
			Leaf, Branch	Decoction	Internal	Kidney sand		(Gül and Seçkin Dinler, 2016)
			Leaf	Decoction	Internal	Kidney stone and gravel		(Balos, 2007)
			Aerial parts	Decoction	Internal/drink one teacup twice a day for 5–10 days	Kidney stone		(Ugulu et al., 2009)
Root			Decoction	Internal	Kidney stone		(Tuzlacı and EryaşarAymaz, 2001)	
Aerial parts			Decoction	Internal	Kidney stone		(Altundağ and Öztürk, 2011)	
Urticaceae	<i>Urtica pilulifera</i> L.	Seed	Infusion	Internal/eaten, crushed seed with honey, 1 spoon before meals	Kidney stone and inflammation		(Kızıllarslan and Özhatay, 2012)	
		Aerial parts			Kidney stone		(Mumcu and Korkmaz, 2018)	
		Aerial parts	Decoction	Internal	Kidney pain		(Özçelik and Balabanlı, 2010; Çubukçu et al., 2002)	
		Seed	Infusion	Internal	Kidney diseases	Ca, K, silicic acid salts, scopoletin, β-sitosterol, histamine		
		Seed	Infusion	Internal	Kidney stone	Flavonoid		
<i>Urtica sp.</i>	Isırgan	Leaf	Decoction	Internal	Kidney stone	Fixed oil, mucilage	(Gürdal and Kültür, 2013; Carvalho et al., 2017)	
<i>Urtica urens</i> L.	Isırgan, Isıran, Isırganotu	Leaf	Decoction	Internal/drink one glass of the plant three times a day	Kidney stone	Ca, K, silicic acid salts, scopoletin, β-sitosterol, histamine	(Güneş et al., 2017; Baytop, 1999)	
<i>Urtica urens</i> L.	Isırgan, Isıran, Isırganotu	Aerial parts	Decoction	Internal/drink 2 cups every day	Kidney stone	Ca, K, silicic acid salts, scopoletin, β-sitosterol, histamine	(Şimşek et al., 2002; Çubukçu et al., 2002)	
<i>Urtica urens</i> L.	Isırgan, Isıran, Isırganotu	Aerial parts	Decoction	Internal/drink 2 cups every day	Kidney stone	Ca, K, silicic acid salts, scopoletin, β-sitosterol, histamine	(Akaydın et al., 2013; Çubukçu et al., 2002)	

Xanthorrhoeaceae	<i>Asphodelus aestivus</i> Brot.	Çiriş, Hidrellezkamçısı	Aerial parts	Infusion	Internal/2X1	Kidney diseases	histamine	(Bulut and Tuzlacı, 2015) (Sarper et al., 2009) (Uysal et al., 2010; El-Shabrawy et al., 2018) (Tuzlacı and Eryaşar Aymaz, 2001)
			Leaf	Decoction		Kidney disorders		
			Root			Kidney stone	Flavonoid	
			Root (Tuber)	Decoction	Internal/2 weeks	Nephritis		
Verbenaceae	<i>Verbena officinalis</i> L..	Mine çiçeği	Aerial parts	Decoction	Internal	Kidney stone	Iridoid, tannin, flavonoid, triterpenoid,	(Kilic and Bagci, 2013; Shu et al., 2013) (Demirci and Özhatay, 2012)
			Aerial parts	Decoction	Internal	Kidney stone	volatile constituents, carbohydrate, alkaloid, steroid, saponin, protein	
Violaceae	<i>Viola altaica</i> Ker.- Gawl. subsp. <i>oreades</i> (M.Bieb.) W.Becker <i>Viola odorata</i> L.	Binevş Binevsok	Flower, Leaf	Decoction	Internal/drink one teacup after meals	Kidney pain	Not found	(Dalar et al., 2018)
			Fruit	Drying, Infusion	Internal	Kidney pain	Flavonoid, phenolic acid, tannin, alkloid, saponin	(Kaval et al., 2014; Jurca et al., 2019; Feyzabadi et al., 2017)
Zygophyllaceae	<i>Tribulus terrestris</i> L.	Çobançökerten, Demir dikenini, Demir pıtrağı, Demir bıtırığı, Kızılbacak, Demirotu, Deveçökerten, Demirpitirak, Pitirak, Üçdişlipitirak Domuzpitiragi, Sedıdan	Leaf			Kidney stone	Steroidal saponin, flavonoid, alkaloid, lignan amides	(Uysal, 2010)
			Aerial parts, Flower, Spicule	Decoction	Internal/drink one glass twice a day for 21 days	Kidney gravel		(Sargin et al., 2015; Semerdjieva and Zheljzakov, 2019)
			Fruit			Kidney stone		(Altay et al. 2015)
			Aerial parts	Decoction	Internal	Kidney diseases		(Akgul et al., 2018)
			Aerial parts	Decoction	Internal	Kidney stone		(Kocabaş and Gedik, 2016)
			Leaf	Decoction	Internal	Kidney stone		(Uysal et al., 2006)
Aerial parts	Infusion	Internal	Kidney stone		(Bulut and Tuzlacı, 2013)			
			Aerial parts	Infusion	Internal/ drink one teacup two times a day for a 1–2 week	Kidney stone		(Polat and Satıl, 2012)
			Leaf, Seed	Decoction	Internal	Kidney stone, Kidney sand		(Ertuğ, 2004)
			Leaf	Infusion	Internal/drink one glass of the plant three times a day	Kidney stone		(Güneş et al., 2017)
			Aerial parts	Decoction	Internal	Kidney stone		(Tuzlacı and Şenkardeş, 2011)
			Aerial parts	Infusion	Internal/drink one glass of the plant on an empty stomach in	Kidney stone		(Kaval et al., 2014)

Aerial parts, Spicula	Infusion, Decoction, Seed powder	the morning Internal/drink one glass twice a day for 21 days/sprinkle the thorn Powder 2–3 times a day for 1–2 weeks	Kidney gravel	(Sargin, 2015)
Aerial parts Fruit, Leaf	Decoction Decoction	Internal Internal/drink one cup of the plant two times a day	Kidney stone Kidney stone	(Demirci and Özhatay, 2012) (Polat and Çakılcıoğlu, 2018)
Aerial parts	Decoction	Internal/drink one cup of the plant on an empty stomach in the morning	Kidney stone	(Paksoy et al., 2015)
Fruit, Leaf	Infusion	Internal/drink one cup of the plant on an empty stomach in the morning	Kidney stone	(Polat et al., 2013)
Leaf, Root	Decoction	Internal	Kidney sand	(Arı et al., 2015)
Fruit	Decoction	Internal	Kidney stone	(Kilic and Bagci, 2013)
Aerial parts			Kidney stone	(Uysal et al., 2010)
Fruit	Decoction	Internal	Kidney stone	(Şimşek et al., 2002)
Leaf, Flower	Decoction	Internal	Kidney stone	(Deniz et al., 2010)
Aerial parts	Infusion	Internal	Kidney stone	(Akan and Bakır Sade, 2015)
