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A study of ethnobotany in Kumluca (Antalya)

Fatma Merve Nacakcı[a,*], İsmail Dutkuner[a]

Abstract: The Mediterranean region, which includes Kumluca, is a plant diversity hot spot. Traditionally, most of the plants in this region have many usage areas. This study was carried out from June 2014 to May 2015 to determine ethnobotanical characteristics of the plants in Kumluca (Antalya). Information on the usage areas of plants were obtained by face-to-face interviews with 255 people from this region. In the questionnaires, information such as age, gender, marital status, education level, occupation, social security, income level of respondents were recorded. In addition, the purpose and usage areas of plants (medicinal, food, spice, fodder, religious belief, etc.) were recorded with the usage instructions. While gathering information from survey participants, the fresh samples in the nature showed to the participants and asked explanation regarding to usage areas of the plants. The study revealed that 89 local taxa belonging to 51 families have ethnobotanical features. It was founded that commonly used families were Lamiaceae (9 taxa), Fabaceae (6 taxa), Rosaceae (6 taxa), Asteraceae (5 taxa) and Anacardiaceae (4 taxa). 132 different usage of these 89 taxa were determined and these were as follows; 37 (food), 38 (medicinal), 27 (tea), 13 (goods), 8 (fodder), 5 (ornament) and 4 (spice). Commonly used parts of these taxa were found as follows; above-ground part (39), fruit (18), flower (10), leaf (9) and cone (4). As such studies are carried out and the deficiencies in the literature are completed, plants that have been useful for humanity can be identified and transferred to future generations.
Keywords: Ethnobotany, Flora, Medicinal and aromatic plants, Kumluca

Kumluca (Antalya)'da etnobotanik bir çalışma

Özet: Kumluca'yı da içine alan Akdeniz bölgesi, bitki çeşitliliği bakımından zengin bir bölgedir. Geleneksel olarak, bu bölgedeki bitkilerin çoğu, birçok kullanım alanına sahiptir. Bu çalışma Kumluca (Antalya) 'daki bitkilerin etnobotanik özelliklerini belirlemek için Haziran 2014'ten Mayıs 2015'e kadar gerçekleştirilmiştir. Bu bölgeden 255 kişi ile yüz yüze görüşmeler yapılarak bitkilerin kullanım alanları hakkında bilgi edinilmiştir. Anketlerde yaş, cinsiyet, medeni durum, eğitim durumu, meslek, sosyal güvenlik, ankete katılanların gelir düzeyleri gibi bilgiler kaydedilmiştir. Ayrıca bitkilerin (tıbbi, gıda, baharat, yem, dini inanç vb.) kullanım alanları kullanım talimatları ile birlikte kaydedilmiştir. Araştırmada katılımcılarından bilgi toplarken, doğadaki canlı örnekler katılımcılara gösterilmiş ve bitkilerin kullanım alanlarına ilişkin açıklama istenmiştir. Araştırma, 51 aileye ait 89 yerel taksonun etnobotanik özelliklere sahip olduğunu ortaya koymuştur. Yaygın olarak kullanılan ailelerin Lamiaceae (9 takson), Fabaceae (6 takson), Rosaceae (6 takson), Asteraceae (5 takson) ve Anacardiaceae (4 takson) olduğu saptanmıştır. Bu 89 taksonun 132 farklı kullanımı belirlenmiş ve bunlar aşağıdaki gibidir; 37 (gıda), 38 (tıbbi), 27 (çay), 13 (eşya), 8 (yem), 5 (süs) ve 4 (baharat). Bu taksonların yaygın olarak kullanılan kısımları şöyle bulunmuştur; toprak üstü kısım (39), meyve (18), çiçek (10), yaprak (9) ve kozalak (4). Bu tür çalışmalar yapıldığında ve literatürdeki eksiklikler tamamlandığında, insanlık için yararlı olan bitkiler tanımlanabilir ve gelecek nesillere aktarılabilir.
Anahtar kelimeler: Etnobotanik, Flora, Tıbbi ve aromatik bitkiler, Kumluca

1. Introduction

According to Davis's "Flora of Turkey and the East Aegean Islands", there are 1251 genera and 10.000 species and subspecies (subspecies and varieties) of 174 families in Turkey. Considering that there are about 12.000 plant taxa in all of Europe, Turkey is very rich in vegetation (Kendir and Güvenç, 2010).

The local names used for these plants in Turkey can be differentiated over time. The name of any plant known to previous generations is now being used by the new generations with another name. This can be a big problem in the scientific studies about plants. When a locality is visited, it becomes difficult for scientists to communicate with people who know a plant with a different name, a name they have given themselves, and the integration of scientific studies with the public is prevented. In a study carried out, it is said that "local plant names should also be identified and updated in order for scientific data to integrate with the public" (Kendir and Güvenç, 2010). This update process can only be done with the help of ethnobotanical science.

Until today, various definitions have been made for ethnobotany. For example in 1932, Gilmore define ethnobotany as a sum of the economic botanism of a clan, the traditional knowledge diversity of all plant life and plants. In 1990, Wickens described ethnobotany as a study of useful plants before commercialization and possible tame, and in 1995 Martin described ethnobotany as all work related to plants that describe the interaction of native people with the natural environment.

✉ [a] Isparta Uygulamalı Bilimler Üniversitesi, Orman Fakültesi, Orman Mühendisliği Bölümü, Isparta
@ [*] **Corresponding author** (İletişim yazarı): mervenacakci@sdu.edu.tr
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During ethnobotanical studies there is need to use have related knowledge and some specific equipment. This information and equipment is listed in the "A manual of ethnobotany" as a criterion for being a good ethnobotanist. It is important that an ethnobotanist should have a sincere desire to understand the relationship between plants and humans (Jain, 2010). Having a sincere desire for human well-being and sustainable use of natural resources, obtaining knowledge about the flora of the region, understanding the drugs and their effects on body and having knowledge about common human diseases are the most desirable characteristics of a ethnobotanist (Jain, 2010). In addition to these, it is very important to diagnose plants accurately, to do an ethnobotanical study.

When doing an ethnobotanical study, firstly literature review should be done and previous ethnobotanical studies examined. After that a detailed work plan should be established. Then information about the flora of the region should be gathered. The answers of the questions such as which species are distributed, what is the average altitudes for species are answered through the flora studies about the region. If there is no previous flora study in that area, the researcher himself/herself should gain knowledge about flora by field surveys. Once primary knowledge about the flora has been gained, field trips should be conducted to collect some additional information from the local people who has enough experience about the usage areas of the local flora.

This study was carried out to determine ethnobotanical characteristics of the plants in Kumluca (Antalya) that were passed on to the present generation by the past generations, which have been known or forgotten by today's generation, and to transfer this information to future generations.

2. Methodology

2.1. Study area

Kumluca is a district of Antalya, located on the part of the Teke Peninsula in the western part of the Gulf of Antalya, in the Western Mediterranean region (Figure 1). Kumluca is located in 36° 12' 00" northern latitudes and 29° 40' 00" east longitudes and the district center is 3 m high from the sea. There is Mediterranean Sea in the south of the Kumluca, Finike in the west, Elmalı in the west and northwest direction.

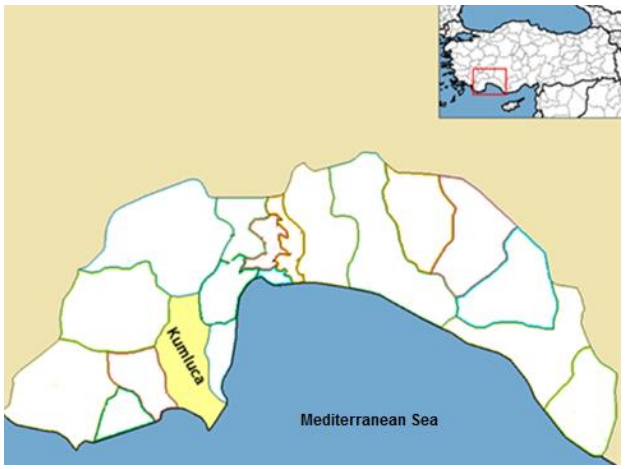

Figure 1. Location Map of Study Area

Since the area of study is located within the Mediterranean climate zone, the winters are warm and rainy and the summers are hot and dry. Precipitation is almost never seen in summer. The month with the highest average precipitation is January (81.5 mm), while the lowest rainfall comes in July (0.0 mm). The temperature difference between night and daytime is small. According to the meteorological data, the highest average temperature is seen in August (34 ^{o}C), while the lowest average temperature is observed in February (-2 ^{o}C). The average temperature in the vegetation period was 21.9 ^{o}C (MGM, 2015).

The most common forest tree species in the area where the research is located is the Turkish Red Pine (*Pinus brutia* Ten.). Taurus Cedar (*Cedrus libani* A. Rich), *Quercus*, *Juniperus and Cupressus* species are the other common tree species in the field. Maquis vegetation of the region contained *Ceratonia siliqua*, *Arbutus andrachne*, *Myrtus communis*, *Cornus mas*, *Pistacia terebinthus*, *Crataegus* sp., *Cistus* sp., *Phillyrea latifolia*, *Rhus coriaria*, *Cotinus coggygria*, *Laurus nobilis* and *Nerium oleander*.

2.2. Material

The material of this study is constituted by plant samples that were collected and dried according to herbarium techniques from 27 villages belonging to Kumluca district, which were periodically visited between 2014 and 2015.

2.3. Method

Plant samples were collected between 2014 and 2015, taking into account the flowering time of the plants and the time of fruit formation. Information on the use area of plants was obtained by face-to-face interviews with the 255 people in the places visited and recorded with the questionnaires. In the questionnaires, information such as age, gender, marital status, education level, occupation, social security, income level of respondents were recorded. In addition, the purpose and use area of plants (medicines, food, species, fodder, religious belief, etc.) were recorded with the usage instructions. While gathering information from survey participants, the fresh samples in the nature showed to the participants and asked explanation regarding to use area of the plants. After identification of plants and their usage patterns, the used parts of the plants were pressed and dried. Care has been taken to provide generative and vegetative organs such as fruits, flowers, leaves (grass leaves in grassy plants), buds, tubers, rhizomes and bulbs in order to ensure that the diagnostics of the collected plant samples can be carried out precisely and accurately. Information such as where the dried plant specimens were collected, gathering time, altitude and growth site characteristics were recorded and processed for the herbarium label generated for each plant (Saraç et. al, 2013). The diagnostics of plant samples were made according to "Flora of Turkey and the Aegean Islands" (Davis, 1965-88) and "Turkey Plant List" (Güner et al., 2012).

After obtaining the necessary preliminary information about the study area and the local people, interviews and written questionnaires should be applied to determine the usage area of the plants. The information gathered through these surveys and guides who know the area well would be helpful while collecting and categorizing the plants. If there is previous flora studies, the findings in these studies should

be checked with local people. In this respect, it is ensured that all the species that are used in the region can be recorded. Interviews with local people and fieldwork can be conducted simultaneously. Surveys conducted to find out the patterns of use of the plants were conducted in Kumluca with 93 females and 152 males who are living in the region. Individuals were mostly 41 years-old and older, and their educational status was mostly secondary school. Since Kumluca is an agricultural province, the vast majority of individuals participating in the survey were farmers.

3. Results

The results showed that 89 taxa belonging to 51 families are naturally distributed in the Kumluca region and they are mostly classified as non-wood herbaceous forest products (Table 1). The result also showed that the local people used these plants for 132 different purposes.

Table 1. Ethnobotanical Species of the Kumluca Region

No	Family	Scientific name	Local name	Used parts	Local uses	Usage
1	Amaryllidaceae	*Allium rotundum* L.	Körmen	Above-ground part	Food	It is consumed as uncooked.
2	Anacardiaceae (Terebinthaceae)	*Pistacia terebinthus* L. subsp. *palaestina* (Boiss.) Engler	Menengiç	Fruit, Resin	Food	Coffee is made from fruit; chewing gum is made from its resin.
3	Anacardiaceae (Terebinthaceae)	*Pistacia lentiscus* L.	Dat çalısı	Gum on truck	Food	It is used in deserts and it is used as chewing gum.
4	Anacardiaceae (Terebinthaceae)	*Rhus coriaria* L.	Sumak	Fruit	Spice	Its fruits are used as spice by pestling.
5	Anacardiaceae (Terebinthaceae)	*Cotinus coggygria* Scop.	Boyacı sumağı	Above-ground part	Goods	It is used for making wreath.
6	Apiaceae (Umbelliferae)	*Echinophora tenuifolia* subsp. *sibthorpiana* (Guss.) Tutin	Çörtük otu	Leaf, flower	Spice	Used as spice in pickles and fish dishes.
7	Apiaceae (Umbelliferae)	*Eryngium* sp.	Boğa dikeni	Above-ground part	Food	Leaves are consumed by cooking.
8	Araliaceae	*Hedera helix* L.	Sarmaşık	Above-ground part	Goods	It is used as a canopy in the wooden camellia.
9	Aspleniaceae	*Ceterach officinarum* L.	Altın otu	Above-ground part	Medicinal, Tea	Leaves are drunk like tea in order to pass kidney stones.
10	Asteraceae (Compositae)	*Achillea nobilus* L.	Ayvadana	Flower	Tea, Medicinal	It is drunk like tea for cough and stomach aches by brewing.
11	Asteraceae (Compositae)	*Calendula arvensis* L.	Aynısefa	Above-ground part	Tea, Ornament	It is drunk like tea by brewing for liver disorders. It is used as ornament plant.
12	Asteraceae (Compositae)	*Lactuca serriola* L.	Eşek marulu	Root milk, Above-ground part	Food	Chewing gum is obtained from the root milk. Above-ground parts are consumed by cooking.
13	Asteraceae (Compositae)	*Matricaria chamomilla* L.	Papatya	Flower	Tea, Medicinal	Its flowers are drunk like tea as an anti-spasmodic by brewing.
14	Asteraceae (Compositae)	*Taraxacum w*iggers spp.	Karahindiba	Leaf	Food	Leaves are used in salads as a salad plant.
15	Berberidaceae	*Berberis crataegina* DC.	Karamuk	Fruit	Food	Eat the fruits are eaten and marmalade is made from the fruits.
16	Boraginaceae	*Onosma tauricum* Pallas &Willd	Emzik otu	Flower	Food	The liquid in the flowers is absorbed because of its nice taste.
17	Cannabaceae	*Celtis glabrata* Steven ex Planchon	Çıtlık	Fruit	Food	Its fruits are eaten for stomach aches.
18	Capparaceae	*Capparis spinosa* L. var. *spinosa*	Kapari	Bud	Food	Pickles are made from its buds.
19	Caryophyllaceae	*Dianthus tripunctatus* Sibth. & Sm.	Siğil otu	Above-ground part	Tea, Medicinal	Its above-ground parts' water is drunk by boiling and diluting for warts.
20	Chenopodiaceae	*Chenopodium albüm* L. subsp. *albüm* L.	Sirken	Above-ground part	Food	Its leaves are cooked and eaten.
21	Chenopodiaceae	*Chenopodium albüm* subsp. *iranicum* Aellen	Sirken	Above-ground part	Food	Its leaves are cooked and eaten.
22	Cistaceae	*Cistus creticus* L.	Laden, fatmagül	Leaf	Medicinal	Its leaves are drunk like tea for cancer treatment by brewing.
23	Cistaceae	*Cistus laurifolius* L.	Laden, fatmagül	Leaf	Medicinal	Its leaves are drunk like tea for cancer treatment by brewing.
24	Cornaceae	*Cornus mas* L.	Kızılcık	Fruit	Food	Edible, Syrup is made by mixing with sugar and water.
25	Cruciferae (Brassicaceae)	*Capsella bursa-pastoris* L.	Çobançantası	Above-ground part	Medicinal	Leaves are used in salads as a salad plant.
26	Cruciferae (Brassicaceae)	*Nasturtium officinale* R. Br.	Su teresi	Above-ground part	Food	It is used as astringent by putting on the wound.
27	Cruciferae (Brassicaceae)	*Sinapis arvensis* L.	Turp otu	Above-ground part	Food, Fodder	It is consumed as food, food is made. It is also used as Fodder.
28	Cucurbitaceae	*Ecballium elaterium* (L.) A. Rich.	Şeytan keleği	Fruit milk	Medicinal	3-4 drops of 1 glass of water is diluted and pulled to the nose is used in sinusitis treatment.

No	Family	Scientific name	Local name	Used parts	Local uses	Usage
29	Cupressaceae	*Cupressus sempervirens* var. *horizantalis* M.	Selvi	Cone	Medicinal	It is boiled and brewed like tea for bronchitis.
30	Cupressaceae	*Juniperus oxycedrus* L. subsp. *oxycedrus* L.	Katran ardıcı	Cone	Food, Medicinal	It is eaten raw for colds.
31	Equisetaceae	*Equisetum ramosissimum* Desf.	Kırk kilit	Above-ground part	Goods, Food, Medicinal	For kidney and bladder disturbances, it is drunk like tea by brewing. Its mush is used as cataplasm.
32	Ericaceae	*Arbutus andrachne* L.	Sandal ağacı	Fruit, Leaf	Food, Goods	Its fruits are eaten and used for making wreaths.
33	Ericaceae	*Erica manipuliflora* Salisb.	Püren	Above-ground part	Goods	It is used in making broom.
34	Euphorbiaceae	*Euphorbia kotschyana* Fenzl	Sütleğen	Milk	Medicinal	It is useful for warts and calluses. It is poisonous and should be used with caution.
35	Fabaceae (Leguminosae)	*Astragalus* sp.	Geven	Above-ground part, tragacanth	Fodder, Goods	Fresh leafy sprouts are used as fodder and its tragacanth is used in production of glue.
36	Fabaceae (Leguminosae)	*Ceratonia siliqua* L.	Keçiboynuzu, harnup	Fruit	Food	The matured fruits are eaten. Molasses is made from its fruits. Its molasses is used against anemia and cough.
37	Fabaceae (Leguminosae)	*Colutea cilicica* Boiss. & Bal.	Patlak	Above-ground part	Tea	The flowering branches are drunk like tea by boiling and brewing for constipation.
38	Fabaceae (Leguminosae)	*Medicago sativa* L.	Yonca	Above-ground part	Fodder	It is used as fodder.
39	Fabaceae (Leguminosae)	*Spartium junceum* L.	Söğsük	Flower	Goods	The flowers are used as brooms and making wreaths.
40	Fabaceae (Leguminosae)	*Vicia sativa* L.	Fiğ	Above-ground part	Fodder	It is used as fodder.
41	Fagaceae	*Quercus coccifera* L.	Pelit, kermes	Above-ground part	Fodder	Leaves and fruits are used as fodder.
42	Fagaceae	*Quercus aucheri* Jaub. Et Spach	Boz pırnal, piynar, pelit	Acorn	Food, Fodder	It is eaten like chestnut and used as a fodder.
43	Geraniaceae	*Erodium moschatum* (L.) L'Herit	İğnelik	Above-ground part	Food	It is consumed by making food.
44	Guttiferae (Hypericaceae) (Clusiaceae)	*Hypericum perforatum* L.	Sarı kantaron	Oil	Goods, Medicinal	It is applied externally or drunk as wound healing and astringent
45	Iridaceae	*Crocus biflorus* Mill.	Çiğdem	Tuber	Food, Ornament	It is consumed as food. It is used as ornamental plant.
46	Juglandaceae	*Juglans regia* L.	Ceviz, koz	Fruit	Food	It is eaten; it is put in dessert, pasta, baklava-like foods.
47	Labiatae (Lamiaceae)	*Lavandula stoechas* L. subsp. *stoechas* Bonnier.	Karabaş otu	Flower	Tea, Medicinal	It is drunk like tea by brewing for vessel stiffness and cancer of tumors.
48	Labiatae (Lamiaceae)	*Phlomis* sp.	Çalba	Above-ground part	Tea, Medicinal	It is drunk like tea by brewing for colds.
49	Labiatae (Lamiaceae)	*Sideritis libanotica* subsp. *linearis (Benth.) Bornm.*	Toros çayı	Above-ground part	Tea, Medicinal	It is drunk like tea by brewing for colds.
50	Labiatae (Lamiaceae)	*Sideritis condensata* Boiss. & Heldr.	Kozalı kekik	Above-ground part	Tea, Medicinal	It is drunk like tea for sniffles and asthma by brewing.
51	Labiatae (Lamiaceae)	*Origanum onites* L.	Bilyalı kekik	Above-ground part	Tea, Medicinal	It is drunk like tea by brewing for colds.
52	Labiatae (Lamiaceae)	*Satureja thymbra* L.	Çorba kekiği	Above-ground part	Spice	Freshly flowered stems are dried and added to soups and foods as spice. For the flu and cough, it is drunk as tea by brewing.
53	Labiatae (Lamiaceae)	*Mentha pulegium* L.	Yarpuz	Above-ground part	Tea, Medicinal	For asthma, it is drunk like tea by brewing.
54	Labiatae (Lamiaceae)	*Teucrium chamaedrys* Boiss.	Bodur Mahmut	Above-ground part	Tea, Medicinal	It is drunk like tea as antifebrile by brewing.
55	Labiatae (Lamiaceae)	*Teucrium polium* L.	Bodur Mahmut	Above-ground part	Medicinal, Tea	It is drunk like tea as antifebrile by brewing.
56	Lauraceae	*Laurus nobilis* L.	Defne	Leaf, Oil	Spice, Tea, Medicinal	Leaves are used as spice and tea. Oil of matured seeds is used for soften the chest, and cold. And it is also used as antitussive
57	Liliaceae	*Asparagus acutifolius* L.	Tilkicen	Sprout	Food	It is eaten cooked with egg.
58	Loranthaceae	*Viscum album*subsp. *album* L.	Ökse otu, burç	Above-ground part	Tea, Medicinal, Fodder	It is drunk with decoction method for diabetes by dried. It is used as fodder. Its fruits are poisonous.
59	Malvaceae	*Alcea heldreichii* Boiss.	Hatmi	Flower	Medicinal	It is brewed like tea and drunk for dry cough.
60	Malvaceae	*Malva sylvestris* L.	Ebegümeci	Above-ground part	Food	It is eaten by cooking. Its mash is wrapped to painful places.

No	Family	Scientific name	Local name	Used parts	Local uses	Usage
61	Myrtaceae	*Myrtus communis* L.	Mersin	Fruit, Leaf	Food, Medicinal	Fruits are eaten. Leaves are drunk like tea by brewing to lower cholesterol.
62	Oleaceae	*Olea europaea* var. *sylvestris* (Miller.) Lehr	Delice	Fruit, Oil	Food, Tea, Medicinal	Fruits are eaten. Leaves are drunk like tea by brewing. Olive oil is obtained from fruits.
63	Oleaceae	*Phillyrea latifolia* L.	Akçakesme	Above-ground part	Fodder, Goods	It is used as fodder. It is also used as bush broom.
64	Orchidaceae	*Barlia robertiana* (Loisel.) Greuter	Salep	Tuber	Tea	It is drunk with milk or plain.
65	Orchidaceae	*Ophrys lutea* subsp. *minor* (Guss.) O. & E. Danesch	Salep	Tuber	Tea	It is drunk with milk or plain.
66	Orchidaceae	*Orchis spitzelii* Sauterex W. Koch	Dağ salebi	Tuber	Tea	It is drunk with milk or plain.
67	Papaveraceae	*Papaver rhoeas* L.	Gelincik	Above-ground part	Food	Before the flowering stem is consumed by making the food.
68	Pinaceae	*Pinus brutia* Ten.	Kızılçam	Cone, Resin, Floem	Tea, Medicinal, Food	Green cones are boiled and drunk for asthma and bronchitis. 1 year button-shaped resins are used as gum. The floems are eaten.
69	Pinaceae	*Cedrus libani* A. Rich. var. *libani*	Katran	Cone	Medicinal, Tea, Goods	Its cones are boiled and drunk for hemorrhoids. Put it in the flour sack as a preventive and to prevent insects.
70	Plantaginaceae	*Plantago lanceolata* L.	Sinirli ot	Leaf	Medicinal	Fresh leaf is crushed and applied on wounds. It is poisonous.
71	Platanaceae	*Platanus orientalis* L.	Çınar, kavak	Leaf	Tea, Medicinal	For knee arthritis and rheumatism, it is dried and drunk like tea by brewing
72	Poaceae (Gramineae)	*Elymus repens* (L.) Gould subsp. *repens* (L.) Gould	Ayrık otu	Root	Medicinal, Tea	Roots are boiled and drunk for diabetes.
73	Polygonaceae	*Rumex crispus* L.	Labada, ilibada	Above-ground part	Food	Leaves are consumed as food by wrapping.
74	Portulacaceae	*Portulaca oleracea* L.	Semizotu	Above-ground part	Food	Above-ground parts are put in a salad. Food is made. It is consumed because of it is rich in omega 3.
75	Primulaceae	*Cyclamen coum* var. *coum* Miller	Sıklamen	Flower	Ornament	It is used as ornamental plant.
76	Ranunculaceae	*Anemone coronaria* L.	Anemon, lale	Above-ground part	Ornament	It is used as ornamental plant in the gardens of houses.
77	Rhamnaceae	*Paliurus spina-christii* Miller	Karaçalı	Fruit	Tea, Medicinal	It is boiled and drunk for stone reduction and diabetes.
78	Rosaceae	*Amygdalus orientalis* Miller.	Acı payam	Fruit	Medicinal	Fresh fruit is eaten for diabetes.
79	Rosaceae	*Crataegus monogyna* subsp. *monogyna* Jacq.	Alıç	Fruit	Food	Fruits are eaten. Flowers are drunk by brewing and barks are drunk for cholesterol by boiling.
80	Rosaceae	*Pyrus elaeagnifolia* subsp. *elaeagnifolia* Pallas	Ahlat	Fruit, Flower	Food, Medicinal	Fruits are eaten. Dried flowers are brewed like tea, drunk for heart problems and bronchitis.
81	Rosaceae	*Rosa canina* L.	Kuşburnu, it gülü	Fruit	Tea, Medicinal, Food	Its fruits are drunk like tea by brewing against colds. Marmalade is also made.
82	Rosaceae	*Rubus sanctus* Schreber.	Böğürtlen	Fruit	Food	It is eaten and jam is made from fruits.
83	Rosaceae	*Prunus cocomilia* Ten.	Çakal eriği	Fruit	Food	It is eaten and compote is made from dried fruits.
84	Scrophulariaceae	*Verbascum* spp.	Sığırkuyruğu	Flower	Medicinal	It is drunk like tea with decoction method against coughing and sound discomfort. It is poisonous.
85	Styracaceae	*Styrax officinalis* L.	Tespih çalısı	Fruit, Balsam	Goods	Rosaries are made from fruits. The balsam coming out of the body is used a mystical smell for religious days.
86	Thymelaeaceae	*Daphne sericea* Vahl.	Ezelbahar	Above-ground part	Ornament, Goods	Flowering branches are used in broom construction. It is also used ornamental plant in the gardens. It is poisonous.
87	Urticaceae	*Urtica dioica* L.	Isırgan	Above-ground part	Food, Medicinal	It is cooked and eaten to protect against cancer. It is also used in pie making.
88	Verbenaceae	*Vitex agnus-castus* L.	Hayıt	Root ash	Goods	It is used as detergent in laundry. Its seeds are used as carminative as cataplasm.
89	Zygophyllaceae	*Tribulus terrestris* L.	Demir bıtırağı	Above-ground part	Tea, Medicinal	It is drunk like tea for heart diseases by brewing.

Information about ethnobotanical use was lacking for 11 taxa (out of 89) and this study provided new contributions to the literature. These species are; *Allium rotundum* L. as food, *Eryngium* sp. as food, *Lactuca serriola* L. as food, *Onosma tauricum* Pallas & Willd as medicine, *Dianthus tripunctatus* Sibth. & Amp; Sm. as food, *Nasturtium officinale* R. Br. as fodder, *Quercus aucheri* Jaub. Meat Spach as ornamental and food, *Crocus biflorus* Mill. as food and fodder, *Phillyrea latifolia* L. as ornamental and food, *Anemone coronaria* L. as fodder and goods, *Styrax officinalis* L. as ornamental and goods.

When the taxa detected in the region are examined, it is seen that the family of Labiatae (Lamiaceae) was the most used family by the local people, represented by 9 species (Figure 2). Other frequently used families are Fabaceae (6), Rosaceae (6), Asteraceae (5), Anacardiaceae (4), Orchidaceae (3) and Cruciferae (3). When the used parts of the taxa are examined, it is seen that above-ground parts are the most commonly used part of the plants, represented by 39 taxa (Figure 3). Other commonly used parts of the plants are: Fruit (18), flower (10), leaf (9) and cone (4). 89 taxa identified in the region have 132 use areas; 38 are medical, 37 are food, 27 are tea, 13 are ware, 8 are animal food, 5 are ornament, 4 are spice (Figure 4).

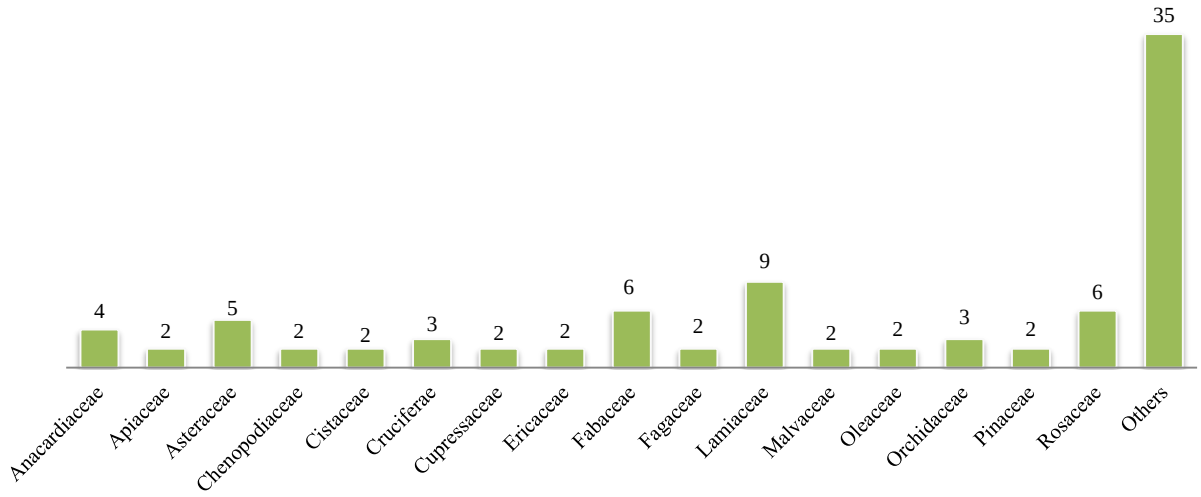

Figure 2. Number of species by families found in the region

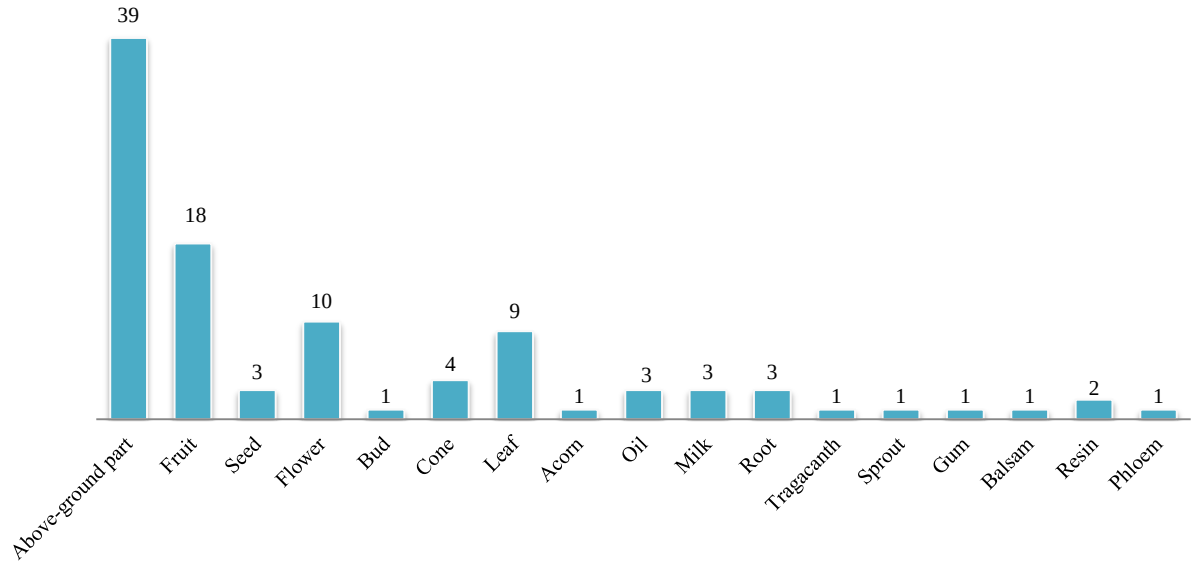

Figure 3. Number of species by different used parts

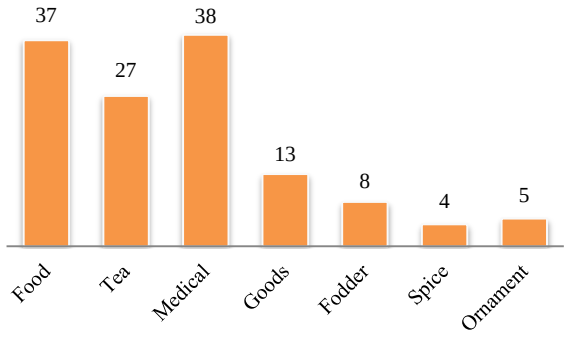

Figure 4. Number of usage purposes plants in the region

4. Discussion and conclusion

Arıcan et al. (2013) have identified 31 taxa belonging to 21 families in the preliminary work carried out in this region, and mainly the medical uses of these taxa are emphasized. In this study, 89 taxa belonging to 51 families were detected, but it is seen that these plants were not only used for medical purposes but also for other uses such as food, tea, species and ornaments. Because of these features, our work is more comprehensive than the work Arıcan et al. (2013) have done.

There are many ethnobotanical studies in the Western Mediterranean region so far. For example, Özçelik (1987), Erol (1995), Duran (1998), Düşen and Sümbül (1999), Doğanoğlu (2004), Özçelik and Balabanlı (2005), Bulut (2006), Büyükgebiz et al (2008), Fakir et al. (2009), Korkmaz and Fakir (2009), Arıcan et al. (2013), Başaran (2003), Arıtuluk (2010) and Şenkardeş and Tuzlacı (2014) made ethnobotanical studies in the Western Mediterranean region of Turkey and it seems that our study overlaps with this literature.

Such studies will ensure that information about the plants used by people is passed on to future generations. Also ethnobotanical studies help identifying plants' potential area of use which will open new business areas and create income sources for people. Moreover, the use of a plant for any medical purpose may be inspiring for the pharmaceutical industry. For these reasons, it is necessary for countries to regard all plant assets as a value and to keep track of ethnobotanical studies and information on all plants.

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