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A PRELIMINARY ETHNOBOTANICAL SURVEY OF KUMLUCA (ANTALYA)

Y. E. ARICAN, Y. YEŞİL*, G. ECEVİT GENÇ

Istanbul University Faculty of Pharmacy, Department of Pharmaceutical Botany, 34116, Beyazıt, Istanbul, Turkey

SUMMARY

In this study, 31 plant taxa belonging to 21 families that are used as medicine, food, food conservation, cosmetic and miscellaneous purposes are documented in Kumluca district of Antalya City. While 83,8% of these taxa (26 species) are used for medicinal purposes, 25% of them (8 species) are used for nutritional purposes. The information gathered by investigating the local usage of the plants is compared with the literature.

ÖZET

Bu çalışmada, Antalya ilinin Kumluca ilçesinde tıbbi, gıda, gıda koruyucu kozmetik ve çeşitli amaçlarla kullanılan 21 familyaya ait, 31 bitki taksonu kaydedilmiştir. Bu taksonların %83,8'ü (26 tür) halk tarafından tıbbi amaçla kullanılırken %25'i (8 tür) gıda olarak kullanılmaktadır. Bitkilerin yöresel kullanımlarının araştırılmasıyla elde edilen veriler ile literatürdeki veriler karşılaştırılmıştır.

Key words: Ethnobotany, Antalya, Kumluca, Medicinal uses.

***Correspondence:** yeteryesil@yahoo.com

INTRODUCTION

Kumluca is investigated area located in the west of Antalya province and it is mainly in the Mediterranean phytogeographical region (1) (Fig. 1).

The district of Kumluca is named for its sandy soil, that is good for growing watermelons. There are a number of important historical sites in the district of Kumluca including Olympos, Kitanaura, Korydalla, Rhodiapolis, Idebessos and Gagai (2).

The centre of the district is a plain pointing north from the Mediterranean coast and surrounded by Bey dağı Mountains (2375-3069 m) on three sides. Kumluca has 24 villages (3).

Having show characteristics of Mediterranean climate, fruit and vegetables, they can be grown under glass all year round and this is the mainstay of the local economy. *Citrus* sp., *Morus alba* L. and *Cupressus sempervirens* L. are among those species that stands this type of climate and add value to the local economy (4).

The floristic composition of Kumluca is related to Mediterranean region with most Mediterranean elements. Some vegetation types examples are: dune vegetation *Pistacia lentiscus* L.-*Medicago marina* L.-*Eryngium maritimum* L.-*Echium angustifolium* Miller- *Daphne gnidioides* Jaub. & Spach. etc.; macchi vegeatation: *Quercus coccifera* L.-*Calicotome villosa* (Poiret) Link-*Cistus creticus* L.-*C. salvifolius* L.-*Myrtus communis* L.-*Laurus nobilis* L.-*Olea europae* L. var. *sylvestris* (Miller) Lehr. etc.; rock vegetation; *Inula heterolepis* L.-*Helichrysum stoechas* (L.) Moench-*Allium bourgeaui* Rech. subsp. *bourgeaui*; forest vegetation; *Pinus brutia* Ten.-*Ceratonia siliqua* L. (5).

The aim of this study is revealing the traditional plant uses in Kumluca (Antalya) and comparison of these results have done with other literatures.

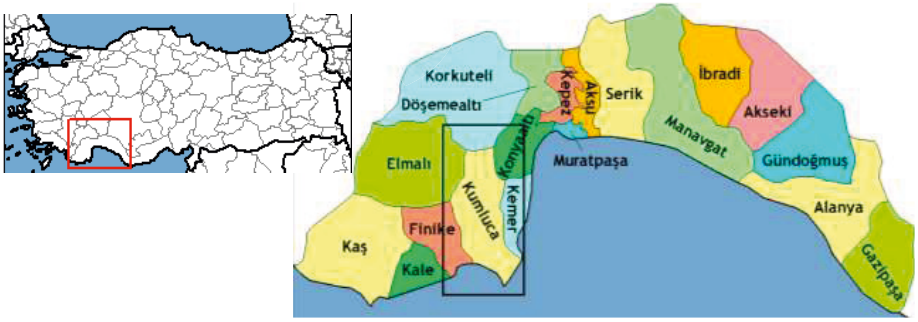

Figure 1. Map of Turkey and Antalya.

MATERIAL AND METHOD

This study is the senior project of Yağmur Emre Arıcan and it is prepared in Istanbul University, Faculty of Pharmacy, Department of Pharmaceutical Botany, in 2010.

The field work was carried out in July 2010. The plants were collected from Altinyaka (Godene), Belen and Yesilkoy villages. In addition, a field information form was prepared for every plant with the help of local people. The obtained information about plants includes local names, used parts, uses, preparations and administrations, side effects, habitats and whether cultivated or wild. During the field studies, the plant specimens were collected together with accompanied informants.

The collected material were kept as samples for botanical identification. Taxonomical determination of the collected specimen were made using 'Flora of Turkey and the East Aegean Islands' (6) and "Türkiye Bitkileri Listesi" (7).

RESULT AND DISCUSSION

During the field works 35 specimens were collected from the area. According to the results of the identifications 31 species are being used in Kumluca. 27 species are wild and 4 species (Table 1).

Among the plants 28 species (84%) are used as medicinal purpose, 6 species (26%) used as food, 2 species (7%) used as spice, 2 species (7%) for cultural and religious purposes, 1 species (3%) used as cleaning material, 1 species (3%) as food preservative, 1 species (3%) as beads, 1 species (3%) as cosmetic purposes, 1 species (3%) used as incense (Fig. 2)

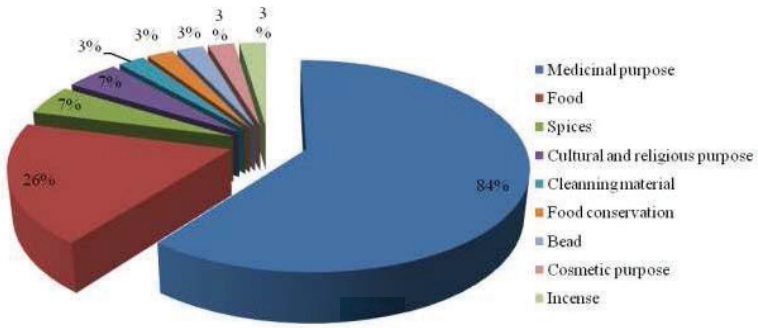

Figure 2. The graphic of plants uses in Kumluca (Antalya)

Local people used different parts of the plants to prepare ethnobotanical purposes. The most frequently used parts were aerial parts and fruits.

Some species have two different uses: medicinal and food (*Capparis spinosa, Persea gratissima*), medicinal and cultural (*Myrtus communis*), two species have three different uses: medicinal, spice and food preservative (*Laurus nobilis*), beads, incense and cleaning material (*Styrax officinalis).*

Among the recorded species, *Styrax officinalis, Laurus nobilis*, *Portulaca oleracea, Pinus brutia, Myrtus communis, Capparis spinosa, Tamus communis, Glycyrrhiza glabra, Origanum onites* are the most popular plants used in the ethnobotanical purposes.

Capparis spinosa is used as a aphrodisiac cholesterol in the Kumluca, Pürenbeleni ve Yanıktepe (9).

Glycyrrhiza glabra and *Lavandula stoechas* are commonly used for stomach disorders in the study area, and the same uses are also reported from other neighboring areas (8, 9).

Myrtus communis is used against diabetes and cholesterol. These uses are consistent with those in neighboring area (8).

Origanum onites is used as a high cholesterol in the Kumluca and Manavgat (8).

Rosa canina is commonly used for cold in the Kumluca, and the same uses are also reported from other neighboring area (8).

Ethnobotanical uses of plants overlap considerably between Kumluca and the neighboring districts of Pürenbeleni, Yanıktepe and Manavgat. But there also are differences. For example, *Rosmarinus officinalis* is used for cold in Kumluca, for analgesic in Manavgat (8), for cardiovascular disease in Pürenbeleni and Yanıktepe (9); *Vitex agnus-castus* is used as a antispasmodic in Kumluca, for rheumatism in Manavgat (8).

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REFERENCES

1. Kumluca Belediyesi Kumluca Tarihçesi. Kumluca Belediyesi. Erişim 20.11.2013 (http://www.kumluca- bld.gov.tr).
2. Aydın, E.K., Examining the Lycian Sites by Using Gis. the Degree of Master of Science, Archaeometry, Middle East Technical University the Graduate School of Natural And Applied Sciences, Ankara (2006).
3. Ayaz, A., Kumluca İlçesinde Doğal Ortamın Beşeri Faaliyetlere Etkisi. Yüksek Lisans Tezi, Coğrafya Anabilim Dalı, Harran Üniversitesi Sosyal Bilimler Enstitüsü, Şanlıurfa (2010).
4. Gökçeoğlu, M., Ünal, O. & Göktürk, S.,"Kumluca'nın Floristik Zenginliği" 50. Kuruluş Yıldönümünde Kumluca. Antalya: Kumluca Belediyesi Yayınları (2008).
5. Sümbül, H. & Göktürk, R.S., Flora of Antalya City. *Turkish Journal of Botany,***21**, 341-378 (1997).
6. Davis. P.H., Flora of Turkey Volume 1-9. 1st ed. Edinburgh: Edinburg University Press (1965-1985).
7. Güner ,A., Aslan, S., Ekim, T., Vural, M. & Babaç, M.T. (Eds.). 'Türkiye Bitkileri Listesi/Damarlı Bitkiler' Nezahat Gökyiğit Botanik Bahçesi ve Flora Araştırmaları Derneği Yayını. Istanbul, Turkey (2012).
8. Bulut, Y., Manavgat (Antalya) Yöresinin Faydalı Bitkileri. Süleyman Demirel Üniversitesi, Fen Bilimleri Enstitüsü, Biyoloji Anabilim Dalı. Yüksek Lisans Tezi. Isparta (2006).
9. Abay, G., Kılıç, A., Pürenbeleni ve Yanıktepe (Mersin) Yörelerindeki Bazı Bitkilerin Yöresel Adları ve Etnobotanik Özellikleri. *Ot Sistematik Botanik Dergisi,* **8** (2), 97-104 (2001).

Table 1. Ethnobotanical usage of plants in Kumluca (Antalya). (*: cultivated species, int.: internal, ext.: external)

Botanical name, family, collecter number	**Local names**	**Used part**	**Uses**	**Preparation, administration**	**Other ethnobotanical uses reported earlier in Turkish ethnobotanical literature (References)**
Anagyris foetida L., Papilionaceae, 43, 44	Keçi gevişi	fruits	source of C vitamin, foodstuff	eaten	sedative, appetizer, aphrodisiac, tonic, diuretic, anti-tonsillitis (8)
Capparis spinosa L., Capparaceae, 46, 47, 48	Ak böğürtlen, gebere	buds, fruits	rheumatism, tonic, aphrodisiac, foodstuff	pickle, int.	stomach disorders (8, 9), splenitis, hepatitis, diarrhea, diuretic, aphrodisiac, digestive, cardiovascular disease (9)
Clematis flammula L., Ranunculaceae, 51	Dolaşık	aerial parts	analgesic.	crushed, ext.	Abscess (8)
Convolvulus arvensis L., Convolvulaceae,52	Sarmaşık	aerial parts	analgesic.	crushed, ext.	Weakening, prostate inflammation (8)
Cyperus rotundus L., Cyperaceae, 30, 31, 32, 33	Topalak	tubers	abdominal ailments and cold,	infusion	-
Equisetum ramosissimum Desf., Equisetaceae, 3,4	Kırkkilid	aerial parts	skin buty	decoction, bathing	-
Glycyrrhiza glabra L., Fabaceae, 13, 14	Boyan, Meyan	root	cold, diabetes, stomach disorders	peeled off and boiled.	disorders of kidney, stomach disorders (8)
Heliotropium hirsutissimum Grauer, Boraginaceae, 39	Kuyruklu otu, Akrep otu	aerial parts	scorpion bites	crushed plant applied on bited area, ext.	-
Juniperus oxycedrus L. subsp. oxycedrus, Cupressaceae, 38	Dikenli Ardıç	fruits	treatment of heel spur	infusion, eaten	
**Lagenaria vulgaris* Ser. var. *clavata* Ser., Cucurbitaceae, 49, 50	Su kabağı, tabalak	seed	antitonsillitis	roasted and mixed with seeds of *Nigella sativa* and honey, int. 1 tea spoon, during 15-20 day.	-
Laurus nobilis L., Lauraceae, 17,18	Defne ağacı	seeds leaves, bark of stem	upper respiratory tract disorders, spices, food preservative spices, food preservative	crushed and obtained thenel oil, ext.	stomach disorders, analgesic, sedative (8)
Lavandula stoechas L. subsp. *stoechas,* Labiatae, 24	Karabaş Otu	flowered aerial parts	stomach disorders, antispasmodic	infusion, int.	high cholesterol, cold, infectional disorders, stomach disorders, aromatizer (8), sedative, cardiovascular disease (8, 9), epilepsy, headache, obesity, digestive, respiratory disease (9)

Table 1. (Cont.)

Botanical name, family, collecter number	Local names	Used part	Uses	Preparation, administration	Other ethnobotanical uses reported earlier in Turkish ethnobotanical literature (References)
Melissa officinalis L. subsp. *officinalis* Labiatae, 5, 6	Arı otu	aerial parts,	relaxing	infusion, int.	stomach disorders, intestinal disorders, cardiovascular disease, digestive, diarrhea, migraine, analgesic (8)
Mentha spicata L. subsp. *tomentosum* (Briq.) Harley, Labiatae, 25, 26, 27, 28	Narpuz	aerial parts	digestive	infusion, int.	stomach disorders, cold, antiemetic, infectional disorders, hair loss, spice (8)
Myrtus communis L., Myrtaceae, 23	Sazak, mersin	fruit aerial parts	diabetes, high cholesterol, foodstuff putting on graves	eaten	diabetes, high cholesterol (8),antiseptic, hemostatic, urinary diseases, diuretic, diarrhea, appetizing, wound, stomach disorders, obesity, kidney stone, respiratory disease, anti-inflammatory, digestive, (9)
Nasturtium officinale R. Br., Brassicaceae, 36	Su teresi	aerial parts	kidney stones	eaten	-
Origanum onites L., Labiatae, 41	Eşek kekiği	aerial parts	abdominal ailments, cold, high cholesterol	infusion, int.	sedative, cardiovascular disease, antiparasitic, high cholesterol (8)
**Persea gratissima* Gaertner, Lauraceae	Avakado	fruit leaves	foodstuff foodstuff	mature fruits are crushed and garlic and limon are added, as salad. as tea	-
Pinus brutia Ten., Pinaceae, 12	Çam, Kızıl çam	fresh branches	stomach disorders, tuberculosis, bronchitis	infusion, int.	asthma, tonic (8)
Portulaca oleracea L., Portulaccaceae, 22	Semiz otu	aerial parts	stomach disorders, digestive, diarrheal, foodstuff	eaten as salad	food (9)
**Pyrus communis* L. subsp. *communis,* Rosaceae, 7	Ahlat, Yoz Armut	fruits	stomach disorders, foodstuff	eaten	-
Quercus aucheri Jaub. et Spach., Fagaceae, 29	Piynar	fruit	stomach disorders, foodstuff	cooked and eaten	-
Rosa canina L., Rosaceae, 8	Kuşburnu	fruits	cold	infusion, int.	tonic, antitussive, diabetes, cardiotonic, kidneystone, rheumatism, bronchitis, osteoclasis, source of vitamin, stomach disorders, cold (8)

Table 1. (Cont.)

Botanical name, family, collecter number	**Local names**	**Used part**	**Uses**	**Preparation, administration**	**Other ethnobotanical uses reported earlier in Turkish ethnobotanical literature (References)**
Rosmarinus officinalis L., Labiatae, 40	Biberiye	aerial parts	cold	infusion, int.	analgesic, digestive (8), respiratory disease, wound, headache, rheumatism, diuretic, epilepsy, hepatitis, insomnia, diarrhea, stimulant, antipyretic, carminative, appetizing, skin diseases, cholesterol, cardiovascular disease (9)
Salvia tomentosa Miller, Labiatae, 1, 2	Çalba	aerial parts	foodstuff	as tea	asthma (8)
Sorghum halepense (L.) Pers. var. *muticum* (Hackel) Grossh., Poaceae, 45	Mağara, Kanyaş	root	diuretic	infusion, int.	-
Styrax officinalis L., Styracaceae, 19,20	Tesbih Otu	seed, aerial parts resin	making prayer beads, evil eye, as incense cleaning cleaning	burned, burned and ash uses burned	-
Tamus communis L. subsp. *communis,* Dioscoriaceae, 9	Köpek tilkiceni	root,aerial parts	rheumatism, analgesic, foodstuff	direct. ext. roasted and eaten	-
Teucrium chamaedrys L., Labiatae, 15	Bodur mahmut	aerial parts	foodstuff	infusion, int.	diuretic, exudative, bleed off oedema (8
Vitex agnus-castus L., Verbenaceae, 42	Hayıt	seed, leaves, flowered aerial parts	antidyaretic, antispasmodic	infusion, int. crushed and putted by a muslin, direct, ext.	internal diseases, tonic, hair loss, rheumatism, anthelmintic, carminative, expectorant (8)
**Zea mays* L., Poaceae, 16	Mısır	stylus	diuretic, high cholesterol	infusion, int.	-