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# Wild and cultivated plants used as food in Konak (Kalatya) region

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**Abstract**

Plants have been used for various purposes throughout human history. Widely used for therapeutic purposes, the usage of plants as food is also of interest. In this study, the usage of wild and cultivated plants as foods was investigated in the Konak Region between May 2015 and November 2016. 102 individuals were interviewed, but valuable and relevant information for the study was obtained from 19 individuals. A total of 79 plant species belonging to 31 families, 53 of which are wild and 26 cultivated plants, have been identified. From these plants; it has been determined that yoghurt meatballs, yoghurt soup, stuffed leaves, pickle, sherbet, jam, fruit leather, marmalade, molasses, compote, stuffed meatballs, plum sour, dolma, soup, tea and pastries were prepared. Of the plants; 34 were used directly as fresh, 32 were used as tea, 33 were used for cooking and three species were firstly determined to be used in stuffed leaves preparation. Further detailed research is required to evaluate the nutritional and health benefits of the plants utilized by the local community.

**Keywords:** Traditional foods, Local foods, Plant biodiversity, Malatya, Cultural practices.

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## Konak (Malatya) Yöresinde Gıda Olarak Kullanılan Yabani ve Kültür Bitkileri

**Özet**

Bitkiler insanlık tarihi boyunca çeşitli amaçlarla kullanılmıştır. Genellikle tedavi amaçlı kullanılan bitkilerin, gıda olarak kullanımı da ilgi çekmektedir. Bu çalışmada Konak Bölgesi'nde gıda olarak kullanılan yabani ve kültür bitkileri Mayıs 2015 ile Kasım 2016 tarihleri arasında araştırılmıştır. 102 kişiyle görüşülmüş, ancak çalışmaya katkı sağlayacak nitelikli bilgi, 19 kişiden elde edilmiştir. 53'ü yabani, 26'i kültür bitkisi olmak üzere 31 familyaya ait toplam 79 bitki türü tespit edilmiştir. Bu bitkilerden; yoğurtlu köfte, yoğurtlu çorba, yaprak sarması, turşu, şerbet, reçel, pestil, marmelat, pekmez, komposto, içli köfte, erik ekşisi, dolma, çorba, çay ve börek yapıldığı tespit edilmiştir. Bitkilerden 34'ü taze olarak doğrudan, 32'si çay olarak, 33'ü çeşitli işlemlerle yemek yapımında kullanılmış ve üç türün ilk defa yaprak sarmasında kullanıldığı görülmüştür. Yöre halkı tarafından kullanılan bitkilerin beslenme ve sağlık yararlarını değerlendirmek için daha ayrıntılı araştırmalara ihtiyaç vardır.

**Anahtar kelimeler:** Geleneksel gıdalar, Yöresel gıdalar, Bitki biyoçeşitliliği, Malatya, Kültürel uygulamalar

## 1. Introduction

Plants have been used for many purposes, especially as a source of food, in every period of history. The information obtained as a result of the use of plants for many purposes was transferred from generation to generation through trial and error, this knowledge developed over time and has survived to the present day [1, 2]. The plants grown in the fields have their origins from the wild, and although they are cultivated, today, with the development of organic

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agriculture, the wild types of some plants are preferred. For this reason, these studies carried out within the scope of ethnobotany are attracting more and more attention [2].

Anatolia has become an important region throughout human history, in terms of its geographical location. Anatolia has been a region where many states lived throughout history, such as the Mesopotamian civilizations, the Byzantines, the Seljuks and the Ottomans. In today's Türkiye, there are approximately 12 thousand plant taxa, of which approximately 35% of the plants are endemic, and this number is increasing day by day with studies conducted [3]. Records on the use of plants as food are also enriched by ethnobotanical studies detailed examinations conducted in local regions.

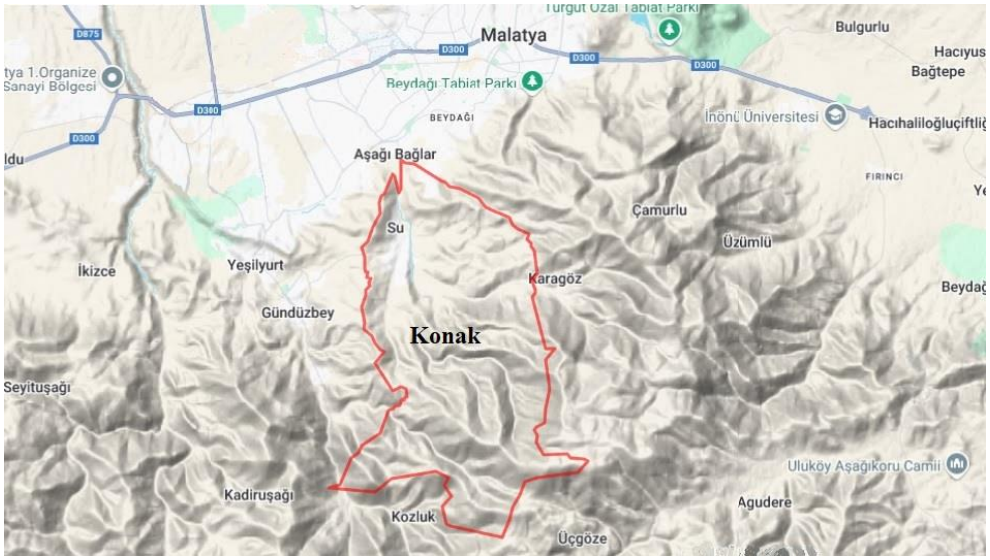

Figure 1. The map of Konak Region

Previously a neighborhood governed by a local headman, Konak transitioned into a town connected to the city center due to population growth. Located three kilometers from Malatya city center, this area was designated as a township under Yeşilyurt District, one of the central districts, after Malatya achieved metropolitan status due to its proximity to the city center.

Konak, which is the subject of the research, is located on the southern foothills of Beydağı. There is Malatya city center in the north, Karagöz Village and Beydağı extension in the east, and Gündüzbey, Yeşilyurt and Tecde in the west (Figure 1). Although it is only 3 kilometers away from the city center, it has managed to preserve its own culture, customs, and traditions. Three neighborhoods in Konak: Yeni, Bahçebaşı and Su have a population of over 6 thousand and they live like a family with strong kinship ties. In addition to being one of the oldest settlements in Malatya, the fact that family elders pass on their experiences to their children makes Konak region worth researching. The experiences of those especially engaged in animal husbandry and hunting continue to be passed on from generation to generation. Those involved in animal husbandry have thought that the herbs eaten by sheep was unsafe and the herbs eaten by goats was safe. It has also been noticed that inexperienced young animals do not eat poisonous plants observing experienced adult animals. Based on this information, people living in the region have tasted the herbs eaten by goats and adult animals and evaluated them as food. It has been reported that those engaged in hunting obtain some information by following the behavior of wild animals. They observed that an injured partridge closed its wound with terebinth gum (*Pistacia terebinthus* L. subsp. *terebinthus*) and that wild animals suffering from indigestion problems ate green fresh herbs. It also has been reported that farmers tried different foods from various plants that grew in their gardens or whose seeds/saplings they bought from the market during periods of famine and abundance. Based on the information highlighted above, the aim of the study is to contribute to the literature in this field by identifying the plants used as food in the Konak region and determining their usage methods.

## 2. Material and Methods

The plant species studied were collected from Konak (Malatya/Yeşilyurt) and its surroundings between May 2015 and November 2016. The identification of the collected plants was based on the work "Flora of Turkey and the East Aegean Islands" [4]. According to herbarium rules, the collected plants were stored in the Inonu University Faculty of Pharmacy Herbarium after identification. Maximum care was taken to ensure that the data were not based on media or hearsay and the plants were collected by reporters. Additionally, to increase the efficiency of the study, only region-specific information was considered, and unrelated information from various sources was not taken into account. In a region with approximately six thousand inhabitants, instead of conducting individual interviews with all individuals, we targeted those who have the most comprehensive and detailed information about our study among the local population.

Following preliminary consultations with neighborhood headmen and community leaders, a total of 102 individuals were interviewed. However, only 19 participants provided qualified and unique information that significantly contributed to the study. Of these individuals, 2 are male and 17 are female. The interviews were conducted face-to-face, without using a questionnaire. No personal data was collected. The plants mentioned and used as food were collected together with the informants. Whether the plant was wild or cultivated and other details were noted and recorded.

The aim of this study is to record the cultural richness of the local people, contribute local dishes to geographical indication products, add edible wild plants to the literature, and preserve forgotten values [5].

Criteria for including plant samples in the study:
Cultivated plants used in local dishes
Wild plants used in local dishes
Edible wild plants.

## 3. Results

In the local region Konak, it was determined that a total of 79 plant species which belong to 31 families, 53 of which are wild and 26 cultivated plants, are used as a food source by the local people (Table 1). To the best of our knowledge, this is the only study that exhibited the plant sources used as foods in Konak. In the periods when industrialization, communication, and transportation were not developed, it was common for people to use wild plants as food. When transportation facilities began to develop, plants from different geographies were cultivated. This situation positively affected biodiversity and revealed that the subject is worth researching. Although it is a region close to the city center, the large number of plants used as food attracted attention. This study in the region showed that the development of technology and transportation facilities had a limited impact on the use of plants as food. It is also noteworthy that the number of wild plants used as food is higher than the number of cultivated plants. It is an important result in terms of showing the interest of the people of the region to nature.

Table 1. Wild and cultivated plants used as food in Konak

| Family | Species | Local name | Part used | Mode of consumption | Wild/ cultivated | Collector number |
|---|---|---|---|---|---|---|
| Adoxaceae | *Sambucus nigra* L. | Paklanguç, Paklangıç | Flower | As tea<br>Making jam | Wild | TK 1400 |
| Amaranthaceae | *Amaranthus albus* L. | Bozot | Aerial part | Added to pastries<br>Added to meatballs<br>Added to yogurt meatballs<br>Yogurt soup | Wild | TK 1410 |
| Amaryllidaceae | *Allium ampeloprasum* L. | Dağ soğanı | Bulb, leaf | Eaten raw<br>Cooked with meals<br>Roasted | Wild | TK 1429 |
| | *Allium cepa* L. | Soğan | Bulb, leaf | Eaten raw<br>Cooked with meals<br>Roasted | Cultivated | TK 1443 |
| | *Allium sativum* L. | Sarımsak | Bulb | Eaten raw<br>Added to yogurt dishes | Cultivated | TK 1442 |
| Anacardiaceae | *Rhus coriaria* L. | Sumak | Fruit | As spice | Wild | TK 1428 |
| Apiaceae | *Anethum graveolens* L. | Dereotu, samıt, tere otu | Aerial part | Eaten raw<br>Added to pastries<br>Pickled | Wild | TK 1396 |
| | *Petroselinum crispum* (Mill.) A.W. Hill | Maydanoz | Aerial part | Eaten raw<br>Pickled | Cultivated | TK 1444 |
| Asteraceae | *Anthemis armeniaca* Freyn & Sint. | Papatya | Capitulum | As tea | Wild | TK 1470 |
| | *Anthemis haussknechtii* Boiss. & Reut. | Papatya | Capitulum | As tea | Wild | TK 1469 |
| | *Bellis perennis* L. | Papatya | Capitulum | As tea | Wild | TK 1471 |

Table 2. Continued

| | | | | | | |
|---|---|---|---|---|---|---|
| | *Echinops pungens* Trautv. | Deve dikeni, topuz dikeni | Receptacle | As tea | Wild | TK 1441 |
| | *Gundelia tournefortii* L. | Kenger | Latex | Chewing gum | Wild | TK 1404 |
| | | | Seed | Roasted | | |
| | | | Aerial part | Added to pastries<br>Cooked with meals<br>Making soup | | |
| | *Helichrysum arenarium* (L.) Moench | Altın otu, ölmez otu | Capitulum | As tea | Wild | TK 1405 |
| | *Helichrysum plicatum* DC. subsp. *plicatum* | Altın otu, Ölmez otu | Capitulum | As tea | Wild | TK 1407 |
| | *Pulicaria dysenterica* (L.) Bernh. subsp. *dysenterica* | - | Aerial part | As tea | Wild | TK 1440 |
| | *Taraxacum officinale* F.H. Wigg. | Keklik otu | Basal leaves | Cooked with meals<br>Added to pastries | Wild | TK 1419 |
| | *Tragopogon buphthalmoides* (DC.) Boiss. | Köse sakalı | Aerial part, leaf | Eaten raw<br>Cooked with meals | Wild | TK 1434 |
| | *Tragopogon dubius* Scop. | Yemlik, Kargacık yemliği | Aerial part, leaf | Eaten raw<br>Cooked with meals | Wild | TK 1395 |
| | *Tripleurospermum oreades* (Boiss.) Rech.f. | Dağ papatyası | Capitulum | As tea | Wild | TK 1439 |
| Boraginaceae | *Anchusa azurea* Mill. var. *azurea* | Sığır emeceği | Flower | Fresh flower bases are sucked | Wild | TK 1424 |
| Brassicaceae | *Brassica oleracea* L. | Lahana | Leaf | Stuffed leaves<br>Pickled | Cultivated | TK 1445 |
| Chenopodiaceae | *Chenopodium album* L. var. *album* | Tahtik | Aerial part | Added to pastries<br>Added to stuffed meatballs<br>Yogurt soup | Wild | TK 1438 |
| Convolvulaceae | *Convolvulus arvensis L.* | Sarmaşık | Aerial part | Added to pastries<br>Added to stuffed meatballs<br>Yogurt soup | Wild | TK 1433 |
| Cornaceae | *Cornus mas* L. | Kızılcık | Fruit | Eaten raw<br>Making jam<br>Making sherbet<br>Making marmalade | Cultivated | TK 1446 |
| Corylaceae | *Corylus avellana* L. var. *avellana* | Fındık | Fruit | Eaten raw | Cultivated | TK 1447 |
| | | | Leaf | Stuffed leaves | | |
| Cruciferae | *Capsella bursa-pastoris* L. | Kuş pepeği | Aerial part | Added to pastries | Wild | TK 1423 |
| Cucurbitaceae | *Cucumis sativus* L. | Salatalık, hıyar | Fruit | Eaten raw<br>Salad<br>Stuffed from dried fruit<br>Pickled<br>Stuffed from fresh fruit | Cultivated | TK 1448 |
| | *Cucurbita moschata* Duchesne | Kabak | Fruit | Stuffed from fresh fruit<br>Cooked with meals | Cultivated | TK 1449 |

Table 3. Continued

| | | | | | | |
|---|---|---|---|---|---|---|
| Elaeagnaceae | *Elaeagnus angustifolia* L. | İğde | Fruit | Eaten raw<br>As tea | Wild | TK 1397 |
| Fabaceae | *Anthyllis vulneraria* L. subsp. *boissieri* (Sagorski) Bornm. | Emecek otu | Flower | Fresh flower bases are sucked | Wild | TK 1436 |
| | *Astragalus gummifer* Labill. | Geven, keven | Latex | As tea | Wild | TK 1437 |
| | *Cicer arietinum* L. | Nohut | Seed | Cooked with meals<br>Making soup<br>Pickled | Cultivated | TK 1450 |
| | *Phaseolus vulgaris* L. | Fasülye | Fruit | Cooked with meals<br>Boiled in water | Cultivated | TK 1451 |
| | | | Leaf | Stuffed leaves | | |
| | *Vicia hybrida* L. | Bacıt | Seed | Eaten raw | Wild | TK 1399 |
| Geraniaceae | *Geranium tuberosum* L. | Tömlük, kömlük | Tuber | Eaten raw<br>Making soup | Wild | TK 1421 |
| Iridaceae | *Crocus damascenus* Herb. | Çiğdem | Bulb | Eaten raw | Wild | TK 1432 |
| Juglandaceae | *Juglans regia* L. | Ceviz | Seed | Eaten raw<br>Added to Churchkhela<br>Added to dessert | Cultivated | TK 1452 |
| Lamiaceae | *Cyclotrichium niveum* (Boiss.) Manden & Scheng | Erzurum nanesi | Aerial part | As spice | Wild | TK 1414 |
| | *Mentha longifolia* (L.) L. subsp. *longifolia* | Nane, nerpiz, yarpuz, dağ nanesi | Aerial part | As spice<br>As tea | Wild | TK 1394 |
| | *Mentha pulegium* L. | Nane, nerpiz, yarpuz, dağ nanesi | Aerial part | As spice<br>As tea | Wild | TK 1412 |
| | *Mentha spicata* L. subsp. *spicata* | Nane, nerpiz, yarpuz, dağ nanesi | Aerial part | As spice<br>As tea | Wild | TK 1406 |
| | *Origanum vulgare* L. subsp. *gracile* (K.Koch) Ietsw. | Anıh | Aerial part | As spice<br>As tea | Wild | TK 1413 |
| | *Salvia palaestina* Benth. | Sığırdili | Leaf | Stuffed leaves<br>As tea | Wild | TK 1411 |
| | *Satureja hortensis* L. | Kekik | Aerial part | As spice<br>As tea | Wild | TK 1402 |
| | *Teucrium polium* L. subsp. *polium* | - | Aerial part | As tea | Wild | TK 1408 |
| | *Thymus kotschyanus* Boiss. & Hohen. var. *kotschyanus* | Kekik | Aerial part | As spice<br>As tea | Wild | TK 1403 |
| | *Thymus migricus* Klokov & Des.-Shost. | Kekik | Aerial part | As spice<br>As tea | Wild | TK 1453 |

Table 4. Continued

| | | | | | | |
|---|---|---|---|---|---|---|
| Malvaceae | *Alcea apterocarpa* (Fenzl) Boiss. | Horoz gülü, ibibik gülü, | Flower | As tea | Wild | TK 1454 |
| | *Malva neglecta* Wallr. | Ebegümeci, ebemgümeci | Leaf | As tea<br>Added to pastries<br>Stuffed leaves | Wild | TK 1416 |
| | *Malva sylvestris* L. | Ebegümeci, ebemgümeci | Leaf | As tea<br>Added to pastries<br>Stuffed leaves | Wild | TK 1435 |
| Moraceae | *Ficus carica* L. subsp. *rupestris* (Hausskn.) Browicz | İncir | Fruit | Eaten raw | Wild | TK 1455 |
| | *Morus alba* L. | Dut | Fruit | Eaten raw<br>Making fruit leather<br>Making molasses<br>Eaten dried<br>Made into helva<br>Churchkhela | Cultivated | TK 1457 |
| | | | Leaf | Stuffed leaves<br>As tea | | |
| | *Morus nigra* L. | Karadut | Fruit | Eaten raw<br>Making molasses | Cultivated | TK 1456 |
| Plantaginaceae | *Plantago lanceolata* L. | Damarlı yaprak, hava yaprağı, Damarlı ot | Leaf | Stuffed leaves<br>As tea<br>Added to pastries | Wild | TK 1393 |
| Poaceae | *Hordeum vulgare* L. | Arpa | Seed | Making bread<br>Making soup | Cultivated | TK 1458 |
| | *Triticum aestivum* L. | Buğday | Seed | Making bread<br>Making soup<br>Making pilav<br>Making tarhana | Cultivated | TK 1459 |
| Polygonaceae | *Polygonum cognatum* Meissn. | Madımak | Aerial part | Added to pastries | Wild | TK 1420 |
| | *Rumex crispus* L. | Evelik | Leaf | Stuffed leaves<br>Added to pastries | Wild | TK 1422 |
| Portulacaceae | *Portulaca oleracea* L. | Pipirim | Aerial part | Eaten raw<br>Added to pastries<br>Yogurt soup<br>Salad<br>Added to meatballs<br>Added to yogurt meatballs | Wild | TK 1409 |
| Rosaceae | *Amygdalus communis* L. | Acıbadem, pisik payamı | Seed | Eaten after soaking in water<br>Added to fruit leather | Cultivated | TK 1417 |
| | *Armeniaca vulgaris* Lam. | Kayısı | Fruit | Eaten raw<br>Eaten dried<br>Making jam<br>Making compote | Cultivated | TK 1460 |
| | | | Seed | Eaten raw<br>Eaten dried | | |

Table 5. Continued

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | Making jam | | |
| | *Crataegus monogyna* Jacq. var. *monogyna* | Yemişen | Fruit | Eaten raw | Wild | TK 1425 |
| | *Crataegus orientalis* Pall. ex M.Bieb. subsp. *orientalis* | Alıç | Flower | As tea | Wild | TK 1468 |
| | | | Fruit | Eaten raw | | |
| | *Cydonia oblonga* Mill. | Ayva | Leaf | Stuffed leaves<br>As tea | Cultivated | TK 1465 |
| | | | Seed | As tea | | |
| | | | Fruit | Making compote<br>Eaten raw<br>Making jam | | |
| | *Malus pumila* Mill. | Elma | Fruit | Eaten raw<br>Eaten dried<br>Making compote | Cultivated | TK 1467 |
| | | | Leaf | Stuffed leaves<br>As tea | | |
| | *Persica vulgaris* Mill. | Şeftali | Fruit | Eaten raw<br>Making compote<br>Making jam | Cultivated | TK 1418 |
| | *Prunus avium* (L.) L. | Kiraz | Leaf | Stuffed leaves | Cultivated | TK 1466 |
| | *Prunus x domestica* L. | Erik | Fruit | Eaten raw<br>Making jam<br>Making syrup<br>Making compote<br>Making fruit leather | Cultivated | TK 1464 |
| | *Prunus hippophaeoides* (Bornm.) Bornm. | Kırmızı Dağ kirazı | Fruit | Eaten raw | Wild | TK 1426 |
| | *Prunus microcarpa* C.A.Mey. | Sarı dağ kirazı | Fruit | Eaten raw | Wild | TK 1427 |
| | *Rosa canina* L. | Gül burnu, Gül burcu, kuşburnu | Fruit | Eaten raw<br>Making jam<br>As tea<br>Making marmalade | Wild | TK 1398 |
| Solanaceae | *Capsicum annuum* L. | Biber | Fruit | Eaten raw<br>Salad<br>Added to meals<br>Stuffed from dried fruit<br>Pickled<br>Stuffed from fresh fruit | Cultivated | TK 1463 |
| | | | Leaf | Stuffed leaves | | |
| | *Solanum lycopersicum* L. | Domates | Fruit | Eaten raw<br>Salad | Cultivated | TK 1461 |
| | | | | Added to meals | | |
| | | | | Pickled<br>Stuffed from fresh fruit | | |

Table 6. Continued

| | | | | | | |
|---|---|---|---|---|---|---|
| | *Solanum melongena* L. | Patlıcan | Fruit | Stuffed from fresh fruit<br>Stuffed from dried fruit<br>Added to meals | Cultivated | TK 1462 |
| Urticaceae | *Urtica dioica* L. subsp. *dioica* | Isırgan | Leaf | Cooked with meals<br>As tea<br>Added to pastries | Wild | TK 1430 |
| | *Urtica urens* L. | Isırgan | Leaf | Cooked with meals<br>As tea<br>Added to pastries | Wild | TK 1431 |
| Violaceae | *Viola odorata* L. | Menekşe | Flower | Stuffed leaves | Wild | TK 1415 |
| Vitaceae | *Vitis vinifera* L. | Üzüm, Asma | Fruit | Making molasses<br>Eaten raw<br>Eaten dried<br>Making compote<br>Making fruit leather | Cultivated | TK 1401 |
| | | | Leaf | Stuffed leaves | | |

The most common families of plants used as food in the study are as follows; Asteraceae (12), Rosaceae (11), and Lamiaceae (10) (Figure 2). From 79 plant taxa; It has been recorded that 34 are used fresh, 32 are used as tea, 33 are used in cooking through various processes, 15 are used as stuffing in pastries, 14 are used in stuffing leaves and 10 are used in spice making (Table 1). It has been observed that the public generally prefers to stick to traditional methods. Also, as a result of the studies, it was determined that the products of cultural plants such as fruit pulp, molasses, and dried fruits were marketed and traded, but spices, teas, and wild fruits were not traded. Especially due to its leaves used for wrapping/ stuffed; *Vitis vinifera*, *Viola odorata*, *Capsicum annuum*, *Malus pumila*, *Cydonia oblonga*, *Rumex crispus*, *Prunus avium*, *Plantago lanceolata*, *Morus alba*, *Malva sylvestris*, *M. neglecta*, *Salvia palaestina*, *Phaseolus vulgaris*, C*orylus avellana* var. *avellana*, and *Brassica oleracea* are among the plants that have the potential to be included in the list of geographically indicated products (Figure 3). Although the plants are mentioned in the literature as stuffed leaves, making pastries, and adding them to meals, they have not been used in stuffed meatballs or meatballs with yoghurt [5-9]. It was the first time reported that the leaves of *V. odorata*, *S. palaestina* and *M. pumila* were used in stuffing. *Amaranthus albus* all the uses mentioned here were reported for the first time. The use of *Pulicaria dysenterica* subsp. *dysenterica* and *S. palaestina* as tea; *Tragopogon dubius* being added to dishes; *Portulaca oleracea*, *Convolvulus arvensis*, and *Chenopodium album* var. *album* being used in stuffing for meatballs and in yogurt soups; and *Geranium tuberosum* being used in soup were reported for the first time in this study [2, 10-20].

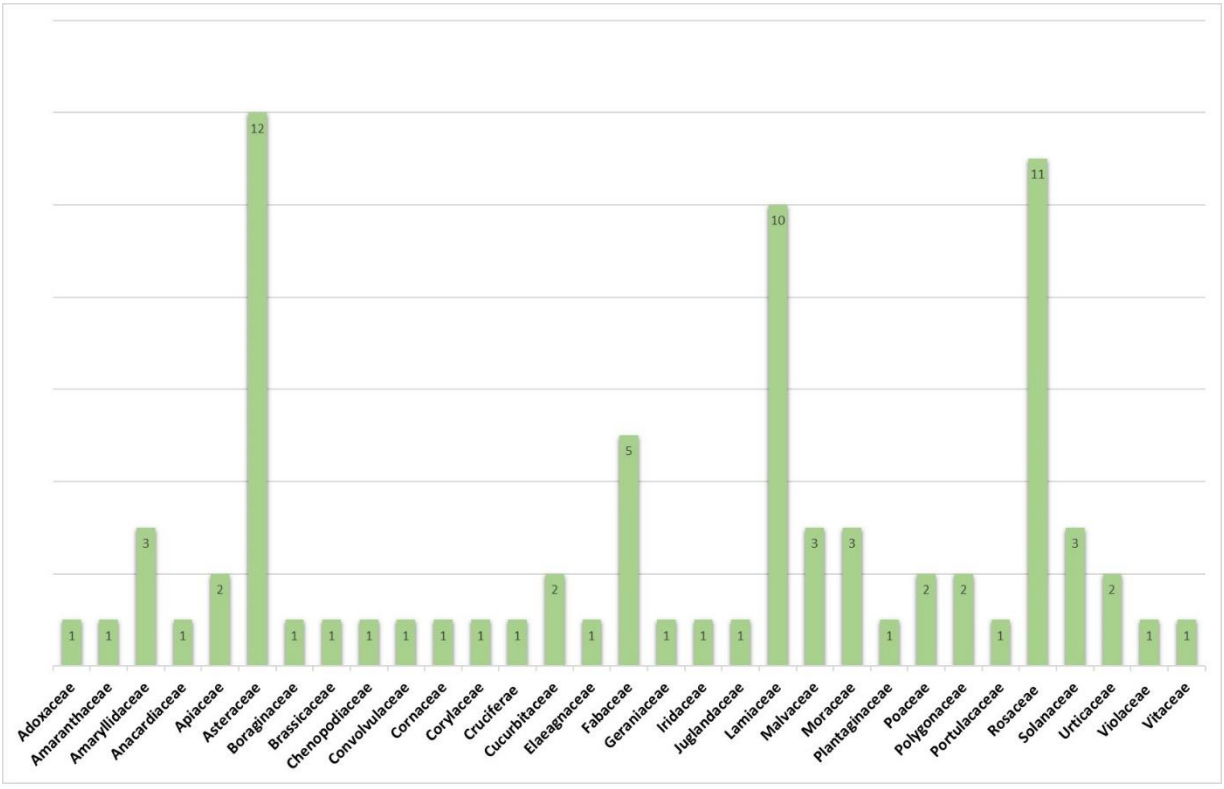


Figure 2. The most frequently encountered plant families


Figure 3. a- Leaves of *Prunus avium*, b- Stuffed leaves of *Prunus avium*, c- Meatballs, d- Stuffed leaves

We know from detailed folk medicine studies that the majority of the plants found to be used as food in our study were also traditionally used for health [21]. Although it is not possible to evaluate the contribution of plants used as food to the health of local people, it is suitable for a holistic approach that they will have a positive impact on the health of people who include these plants in their daily diets and pay attention to a balanced diet [22, 23]. This study is expected to be a pioneer and data provider for health and food studies to be carried out in this region. Detailed research is needed to elucidate the potential of the identified plants.

**4. Conclusions and discussion**

Reflecting the rich cultural heritage and diverse flora of Western and Central Anatolia, Doğan and his colleagues identified a total of 121 wild edible plant species in their study. These plants were found to be consumable by boiling, frying, eating raw, or as rolled vegetables. They can also be used as pickles, fruits, desserts, spices, and prepared as cold or hot beverages. The study recorded 30 species from the Lamiaceae family, 15 species from the Asteraceae family, 13 species from the Rosaceae family, and 8 species from the Brassicaceae family [24]. In the Konak region, 9 species from Lamiaceae, 12 from Asteraceae, 12 from Rosaceae, and 1 from Brassicaceae were identified. The usage of these plants was summarized as follows: a total of 30 plant species were cooked with meals, while in Konak this number was 16. A total of 21 plant species were used as spices, while in Konak this number was 11. A total of 11 plant species were eaten raw, while in Konak this number was 33. For preparing hot drinks, 23 plant species were recorded in total, while in Konak this number was 32. For stuffing, 11 plant species were used in total, while in Konak this number was 25. The study did not include information about the preparation of molasses, compote, fruit leather, meatballs, or churchkhela. However, it was noted that stuffed leaves and meatballs were prepared using wild or cultivated plants, demonstrating that nearly every plant in the region could be utilized for culinary purposes.

This study conducted in Konak sheds light on the region's rich culinary heritage. The use of both wild and cultivated plants in traditional dishes highlights the deep connection between nature and culture. Furthermore, it suggests the potential for some plants to be included in the list of geographical indication products or to provide commercial

benefits to the local community. Efforts to preserve traditional knowledge of plant use are essential for the protection of cultural heritage, reflecting the local population's strong ties to nature and profound understanding of plant resources. This study makes a significant contribution to the literature by demonstrating how the botanical biodiversity and traditional usage knowledge of Anatolia have been preserved up to the present day.

One of the most important contributions of this research to the literature is the documentation of traditional uses of numerous plants that were not previously reported. For instance, the use of the leaves of *Viola odorata*, *Salvia palaestina*, and *Malus pumila* in making dolma, the inclusion of *Tragopogon dubius* in meals, and the use of *Geranium tuberosum* in soup are reported here for the first time. Such discoveries offer new research opportunities in both botany and ethnobotany. The local population's perception of *Salvia palaestina* as distinct from other sage species, and its culinary use despite the fact that sage tea can be unpleasant when steeped for long periods, suggests that this species may have unique phytochemical properties.

This study not only highlights the plants' value as food sources but also their potential health benefits. The harmful effects of plants used as food are expected to be less severe than those of medicinal plants because much larger quantities are consumed as food compared to the small doses used in medicine. The therapeutic effects of the plants mentioned in this study can be examined with greater confidence.

By documenting the plant diversity and wealth of traditional knowledge in the Konak region, this study makes a significant contribution to the literature. Future detailed research could more comprehensively reveal the health effects and commercial potentials of these plants. Such studies can be important steps towards the preservation of cultural heritage and the sustainable management of biological diversity, both locally and globally.

**References**

[1] Baytop, T. (1984). *Türkiyede Bitkiler ile Tedavi Geçmişte ve Bugün (2nd ed.)*. Nobel Kitabevi, pp. 5-20. ISBN: 9786257146869

[2] Tuzlacı, E. (2011). *Türkiye'nin Yabani Besin Bitkileri ve Ot Yemekleri*. Alfa Yayınları, pp. 25-54. ISBN: 9786051063485

[3] Güner, A. (2012). *Türkiye bitkileri listesi:(damarlı bitkiler)*. Nezahat Gökyiğit Botanik Bahçesi Yayınları, pp. 1-30. ISBN: 9786056042577

[4] Davis, P. (1965-1985). *Flora of Turkey and the East Aegean Islands*. Vols.1-9. Edinburgh University Press, Edinburgh

[5] Tapan, İ. (2023). Malatya İlindeki Coğrafi İşaretli Ürünlerin Değerlendirmesi. *Fikriyat*, 3(1), 41-64.

[6] Güvenin, D., Tokur, B., Korkmaz, K., & Uçar, Y. (2021). Proximate Composition of Traditional Turkish Stuffed Meatballs Produced with Rainbow Trout (Oncorhynchus mykiss Walbaum, 1792) Mince and Determination of its Colour and Sensory Quality during Frozen Storage (-18ºC). *Acta Aquatica Turcica*, 17(3), 361-375. https://doi.org/10.22392/actaquatr.842738

[7] Kavrut, E. (2023). Iğdır Halk Mutfak Kültüründe Yer Alan Lezzetlerin Değerlendirilmesi. *Gastro-World*, 1(2), 1-14.

[8] Özdemir, A., & Özbay, G. (2023). Sürdürülebilirlik Çerçevesinde Malatya Mutfak Kültürü: Vegan-Vejetaryen Yemekler Üzerine Bir Araştırma. *Stratejik ve Sosyal Araştırmalar Dergisi*, 7(2), 465-479. https://doi.org/10.30692/sisad.1101322

[9] Secer, O. M., Guneser, B. A., & Guneser, O. (2020). Prediction of shelf-life and kinetics of quality changes in canned stuffed grape leaves. *LWT*, 132, 109850. https://doi.org/10.1016/j.lwt.2020.109850

[10] Akan, H., Balos, M. M., & Tel, A. Z. (2013). The Ethnobotany of some Legume plants around Birecik Şanlıurfa. *ADYUTAYAM Dergisi*, 1(1), 31-39.

[11] Altay, V., & Karahan, F. (2012). Tayfur Sökmen Kampüsü (Antakya-Hatay) ve Çevresinde Bulunan Bitkiler Üzerine Etnobotanik Bir Araştırma. *Karadeniz Fen Bilimleri Dergisi, The Black Sea Journal of Sciences*, 2(7), 13-28.

[12] Deniz, L., Serteser, A., & Kargıoğlu, M. (2010). Uşak Üniversitesi ve Yakın Çevresindeki Bazı Bitkilerin Mahalli Adları ve Etnobotanik Özellikleri. *AKÜ Fen Bilimleri Dergisi*, 57-72.

[13] Doğan G, & Bağcı E. (2011). Elazığ'ın Bazı Yerleşim Alanlarında Halkın Geleneksel Ekolojik Bilgisine Dayanarak Kullandığı Bitkiler ve Etnobotanik Özellikleri. *Fırat Univ. Journal of Science*, 23(2), 77-86.

[14] Kargıoğlu, M., Cenkci, S., Serteser, A., Evliyaoğlu, N., Konuk, M., Kök, M., & Bağcı, Y. (2008). An Ethnobotanical Survey of Inner-West Anatolia, Turkey. *Hum Ecol*, 36(5), 763-777. https://doi.org/10.1007/s10745-008-9198-x

[15] Kargıoğlu, M., Cenkci, S., Serteser, A., Konuk, M., & Vural, G. (2010). Traditional Uses of Wild Plants in the Middle Aegean Region of Turkey. *Hum Ecol*, 38(3), 429-450. https://doi.org/10.1007/s10745-010-9318-2

[16] Özüdoğru, B., Akaydın, G., Erik, S., & Yesilada, E. (2011). Inferences from an ethnobotanical field expedition in the selected locations of Sivas and Yozgat provinces (Turkey). *Journal of Ethnopharmacology*, 137(1), 85-98. https://doi.org/10.1016/j.jep.2011.04.050

[17] Sarper, F., Akaydın, G., Şimşek, I., & Yeşilada, E. (2009). An Ethnobotanical Field Survey in the Haymana District of Ankara. *Turkish Journal of Biology*, 33(1), 79-88. https://doi.org/10.3906/biy-0808-28

[18] Korkmaz, M., & Alpaslan, Z. (2015). Ergan Dağı (Erzincan-Türkiye)'nın Etnobotanik Özellikleri. *Bağbahçe Bilim Dergisi*, 1(3), 1-31.

[19] Tugay, O., Bağcı, I., Ulukuş, D., Özer, E., & Canbulat, M. A. (2012). Wild plants using as food of Kurucuova town (Beyşehir, Konya/Turkey). *Biological Diversity and Conservation*, 5(3), 140-145.
[20] Yücel, E., Özel, A. N., & Yücel, İ. Ş. (2013). The plants consumed as food in Kemaliye (Erzincan/Turkey) district and other typical foods in this region. *Biological Diversity and Conservation*, 6(2), 34-44.
[21] Karcı, E., Gürbüz, İ., Akaydın, G., & Günbatan, T. (2017). Bafra'nın (Samsun-Türkiye) halk ilaçları. *Turkish Journal of Biochemistry*, 42(4), 381–399. https://doi.org/10.1515/tjb-2017-0172
[22] Açu, M., & Ocak, Ö. Ö. (2019). Gıdalarda aflatoksin düzeylerinin belirlenmesinde kullanılan analiz yöntemleri. *Sinop Üniversitesi Fen Bilimleri Dergisi*, 4(2), 168-181. https://doi.org/10.33484/sinopfbd.537820
[23] Bayraç, C., & Camızcı, G. (2020). Hplc metodu ile patulin tayininde tek laboratuvar metot validasyon çalışması. *Niğde Ömer Halisdemir Üniversitesi Mühendislik Bilimleri Dergisi*, 9(1), 285-296. https://doi.org/10.28948/ngumuh.547635
[24] Dogan, Y., Baslar, S., Ay, G., & Mert, H. H. (2004). The use of wild edible plants in western and central Anatolia (Turkey). *Economic botany*, 58(4), 684-690. https://doi.org/10.1663/0013-0001(2004)058[0684:TUOWEP]2.0.CO;2