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THE WILD EDIBLE AND MISCELLANEOUS USEFUL PLANTS IN YALOVA PROVINCE (NORTHWEST TURKEY)

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S U M M A R Y

Wild edible plants (39 taxa), miscellaneous useful plants (28 taxa) and methods of administration of 60 plant taxa belonging to 30 families in Yalova are documented in this study. Among these 56 species are wild and the rest four species are cultivated plants. The plant specimens were collected with informants. During the field works all the settlements (58 villages) were visited between August 2004 - June 2005. The information was recorded and the collected plants were identified and prepared voucher specimens were kept in the Herbarium of Istanbul University Faculty of Pharmacy (ISTE).

Ö Z E T

Bu çalışmada Yalova İli'nde 30 familyaya ait 60 bitki türünden yenebilen yabani türler (39 takson), farklı amaçlarla kullanılan türler (28 takson) ve bu türlerin hazırlanış metotları belgelenmiştir. Bunlardan 56 tür yabani, 4 tür kültür bitkisidir. Bitkiler bilgi alınan kişiler ile birlikte toplanmıştır. Tüm köylerde (58 köy) yapılan arazi çalışmaları Ağustos 2004-Haziran 2005 tarihleri arasında tamamlanmıştır. Toplanan bilgiler kaydedilmiş, bitkiler teşhis edilmiş ve herbaryum örneği haline getirilerek İstanbul Üniversitesi Eczacılık Fakültesi Herbaryumu'na yerleştirilmiştir (ISTE).

Key words: Ethnobotany, Edible Plants, Yalova, Turkey.

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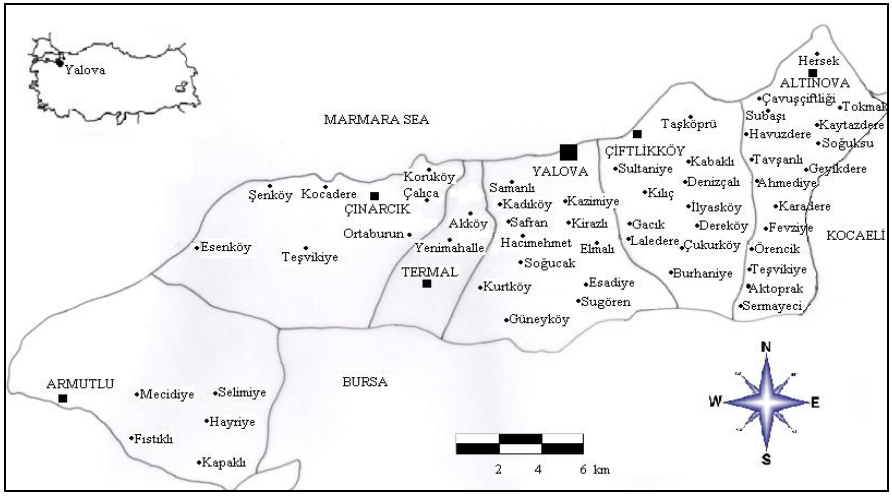
INTRODUCTION

Wild food plants are of great importance to the Anatolian people. The traditional knowledge of these species, which has been handed down from one generation to the next, faces extinction and degeneration in modern times. Ethnobotanical studies have been carried out in Turkey since the early years of the 19 th century (1).

Yalova province, which is located in the south of Marmara Region (Northwest Turkey), is comprised of 6 districts, and 58 villages. Its area covers 839 km^2, its geographical position is 39° 40' N, 29° 61' E (Map 1). The elevation of its land varies from sea level to 926 m. The annual mean temperature is 14, 3°C. Its population is 120.000 in winter and 200.000 in summer. Since the city centre and some districts are located on the Marmara Sea coast, Yalova is preferred for summer holidays. The majority of local population consists of immigrants from Balkans and Caucasus. For many centuries, a number of human races and tribes have settled in Yalova from various lands bringing their cultures for many centuries. The cultural heritage and the richness of the flora cause the people to high diversity of traditional knowledge and practices of using the plants in daily lives. All villages are fairly similar with regard to the level of agricultural development, as well as social and economic life. The main occupations of the villagers are farming, floristry and tourism. None of the villages have any major industrial establishments; people often migrate from smaller villages to the larger towns.



Map 1: The Map of Yalova Province

The aim of this study is to collect systematic information about the remaining ethnobotanical usages in Yalova before it is completely lost.

The floristic composition of the province is similar to Northern Anatolian with some Mediterranean elements; *Calicotome villosa, Cistus creticus, C. salviifolius, Erica arborea, Lavandula stoechas, Phillyrea latifolia, Quercus coccifera, Crataegus monogyna Arbutus unedo* and *Laurus nobilis* are the most common plants in the vegetation.

The Armutlu Peninsula that is a part of the Yalova has been determined as Important Plant Area of Turkey (2). In the area, some floristic investigations, such as "Flora of Armutlu Peninsula I, II, III" (14), (15), (16), "Armutlu Yarımadası Geofitik Monokotiledonları Üzerinde Bazı Bulgu ve Gözlemler" (13) and "Armutlu (Gemlik) ve Çevresinin Florası hakkında"(17) have been performed,but there has been no ethnobotanical research to date.

MATERIALS AND METHODS

The field work was carried out between August 2004 - June 2005. The information including the various data such as local names, part of the used plants, ailments and preparation methods, were obtained by mean of direct interviews (approximately 300 informants in 58 visited villages) with villagers who know practice about the useful plants. Efforts were made to double-check any information by asking the opinion of people in neighboring villages.

During the field studies, the plant specimens were collected together with accompanied informants. The collected fresh material were numbered and kept as specimens for botanical identification. Taxonomical determinations of the collected samples were made using "Flora of Turkey and East Aegean Islands 1965 (3)-2000 (4), Check List III 2006 (5) and IV 2009 (6)" and "Flora European (7)". A voucher specimen of each species was kept in ISTE (The Herbarium of Istanbul University Faculty of Pharmacy).

RESULTS AND DISCUSSION

Three hundred people were interviewed in this study, and 250 voucher specimens were collected. Following the identification of the specimens in ISTE, wild edible plants (39 taxa) (Table 1), miscellaneous useful plants (28 taxa) (Table 2) and methods of administration of 60 plant taxa belonging to 30 families in Yalova were documented.

Some species have two different uses: food and dye (*Rhus coriaria, Juglans regia*), food and toy (*Papaver rhoeas*). Some plants have the same local name, in spite

of belonging to different species, such as for "karamık" (*Silene alba* ssp. *eriocalycina* and *Rubus sanctus*).

The specimens usually are used as vegetable (Figure 1).

The usages were compared with the usages of related areas (Figure 2). The most similar usages were observed in Kırklareli (12) and Balıkesir (8).

Figure 2: The Comparison with Related

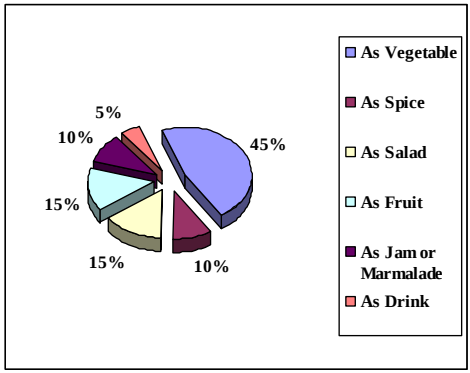


Figure 1: The Kind of Usages in Yalova Province.

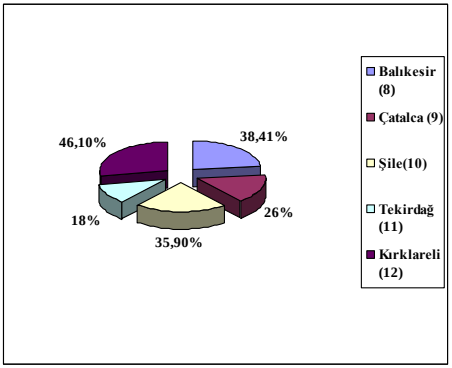


Figure 2: The Comparison with Related Areas.

Table 1: Wild Edible Plants in Yalova Province

Plant Name [Voucher Specimens]	**Local Name**	**Parts Used**	**Use and Administration**
Anacardiaceae			
Rhus coriaria L. [ISTE 83090]	Tetere, Sicimotu	Fruits	As Spice
Boraginaceae			
Trachystemon orientalis (L.) G.Don [ISTE 83005]	Zılbırt	Rhizome and Aerial part	Young blossoms and rhizomes boiled in water with salt are eaten.
Caryophyllaceae			
Silene alba (Miller) Krause ssp. *eriocalycina* (Boiss.) Walters [ISTE 83043]	Kuzukulağı, Karamık	Young Leaves	Roasted and then cooked as a meal with rice.
Stellaria media (L.) Vill. var. *media* [ISTE 82993]	Kuşyüreği	Aerial part	Cooked as patty
Compositae (Asteraceae)			
Bellis perennis L. [ISTE 83089]	Koyungözü, Nineotu	Leaves	Cooked as a meal with rice.

Silybum marianum (L.) Gaertner [ISTE 82994]	Kangal, Eşekkengeri	Stem	Stem are eaten after bark is peeled
Sonchus asper (L.) Hill. ssp. *glaucescens* (Jordan) Ball [ISTE 83083]	Gevirtlek	Young Leaves	Roasted and then cooked as a meal with rice.
Convolvulaceae			
Convolvulus arvensis L. [ISTE 83011]	Kuzu sarmaşığı	Aerial part	Cooked as a meal
C. betonicifolius Miller ssp. *betonicifolius* [ISTE 83039]	Kuzu sarmaşığı	Aerial part	Cooked as a meal
Cruciferae (Brassicaceae)			
Nasturtium officinale R. Br. [ISTE 83042]	Acı tere	Aerial part	Young herbs sprinkled with salt are eaten.
Raphanus raphanistrum L. [ISTE 82991]	Yabani Turp	Roots and Leaves	Roots and Leaves are boiled in water and then are eaten as salad
Capsella bursa-pastoris (L.) Medik [ISTE 83093]	Tavuktırnağı	Aerial part	Cooked as a meal with rice.
Cupressaceae			
Juniperus oxycedrus L. ssp. *oxycedrus* [ISTE 83007]	Ardıç	Cone	Ingested
Ericaceae			
Arbutus unedo L. [ISTE 83079]	Kocayemiş, Dağ çileği	Fruits	As jam or marmalade
Geraniaceae			
Erodium moschatum L. [ISTE 83080]	Leylekgagası	Aerial part	Cooked as a meal with rice.
Iridaceae			
Crocus flavus Weston ssp. *flavus* [ISTE 82998]	Yeriğdesi, Çiğdem	Corms	1. Raw corms are eaten. 2. Corms are added in boza (A Turkish drink which is made with wheat).
Labiatae (Lamiaceae)			
Origanum vulgare L. ssp. *hirtum* (Link) Ietswaart [ISTE 83035]	Kekik	Aerial part	As Spice
Salvia virgata Jacq. [ISTE 83024]	Katırtırnağı	Young Leaves	Cooked as a meal with rice.

Satureja cuneifolia Ten. [ISTE 83069]	Mercimek otu	Aerial part	As Spice
Lauraceae			
Laurus nobilis L. [ISTE 83021]	Defne	Leaves	As Spice in meat meal and pickle
Liliaceae			
Allium scorodoprasum L. ssp. *rotundum* (L.) Stearn [ISTE 83061]	Delipırasa, Kargapırasasaı	Young Leaves	Cooked as a meal with rice.
Ornithogalum oligophyllum E.D.Clarke [ISTE 82992]	Yoğurtotu	Bulbs	Roasted with eggs.
Smilax excelsa L. [ISTE 83034]	Gıcır	Young Branches and Leaves	Cooked as a meal with rice.
Malvaceae			
Malva sylvestris L. [ISTE 83094]	Ebegümeci	Aerial part	Cooked as a meal with rice.
Papaveraceae			
Papaver rhoeas L. [ISTE 83096]	Gelincik	Young Leaves and Flowers	1. Cooked young leaves as vegetable-balls 2. Boiled flowers as sherbet
Polygonaceae			
Polygonum arenastrum Bor. [ISTE 83010]	Madımak, Suayrığı	Aerial part	Cooked as a meal with rice.
Rumex pulcher L. [ISTE 83017]	Pancar, Kızıldibi	Aerial part	Cooked as a meal with rice.
Ranunculaceae			
Ranunculus ficaria L. ssp. *bulbifera* (Marsden-Janchen) Lawalreé [ISTE 82999]	Yağlıot	Leaves	Leaves are boiled in water and then are eaten as salad
Rosaceae			
Crataegus monogyna Jacq ssp. *monogyna* [ISTE 83078]	Yemişen, Alişan çalısı	Hypanthium	As fruit
C. pentagyna Waldst. et Kit. ex Willd. [ISTE 83015]	Yemişen, Alişan çalısı	Hypanthium	As fruit
Prunus spinosa L. ssp. *dasyhylla* (Schur) Domin [ISTE 83092]	Gövem, Paguşh	Fruits	As fruit

Rosa canina L. [ISTE 83033]	Köpekgülü, Kuşburnu	Hypanthium	As jam or marmelade
Rubus sanctus Schreber [ISTE 83062]	Böğürtlen, Çakalüzümü, Karamık, Kapina, Kazimaek	Fruits	As jam or marmelade
Ulmaceae			
Celtis australis L. [ISTE 83020]	Çitlembik	Fruits and Seeds	1. As fruit 2. Crashed seeds, sugar and nut are mixed. The sweetened balls are named “iyiboku”
Umbelliferae (Apiaceae)			
Eryngium campestre L. var. *virens* Link [ISTE 83073]	Yer kestanesi	Leaves	As vegetable
Foeniculum vulgare Miller [ISTE 83022]	Rezene	Aerial part	As vegetable-balls
Oenanthe pimpinelloides L. [ISTE 83004]	Kazayağı	Aerial part	Leaves are boiled in water and then are eaten as salad
Urticaceae			
Urtica dioica L. [ISTE 83014]	Isırgan	Leaves	As vegetable
Vitaceae			
Vitis sylvestris L. [ISTE 83065]	Çivek, Deliasma, Lazüzümü	Fruits and Leaves	1. Boiled young fruits as vinegar 2. Cooked fresh leaves with onion, rice and some spices, it’s named “sarma” 3. Boiled fruits as molasses.

Table 2: Miscellaneous useful plants in Yalova Province

Plant Name [Voucher Specimens]	**Local Name**	**Parts Used**	**Use and Adminisstration**
Anacardiaceae			
Rhus coriaria L.	Tetere, Sicim otu	Leaves	For black dye
Caprifoliaceae			
Sambucus ebulus L.	Şahmelik, Bazeotu, Sultanotu, Pıramuj	Fruit	Black fruits are indicated opening time of beehives.
Caryophyllaceae			
Silene alba (Miller) Krause ssp. *eriocalycina* (Boiss.) Walters	Kuzukulağı, Karamık	Fruit	As musical instrument
Compositae (Asteraceae)			
Arctium minus Hill. Bernh. ssp. *pubens* (Babington) Arenes	Domuzpıtrağı, Ayıpıtrağı	Capitulum	For closing some holes
**Helianthus annuus* L.	Gündöndü, Tırgaze	Stem	As toy
Xanthium strumarium ssp. *cavanillesii*	Domuzpıtrağı, Ayıpıtrağı	Capitulum	For closing some holes
Dipsacaceae			
Dipsacus laciniatus L.	Taraklık	Capitulum	For napping clothes
Ericaceae			
Arbutus unedo L.	Kocayemiş, Dağ çileği	Fruit	Jam is used for epilation
Erica arborea L.	Funda, Süpürgelik, Süpürge otu, Aeoy, Püren	Aerial part, root	1. As broom 2. As wood coal
Graminea (Poaceae)			
Avena barbata Pott ex Link ssp. *barbata*		Stem	For binding
**Triticum aestivum* L.		Stem	As morter for houses
Hypericaceae			

Hypericum calycinum L.	Saatçiçeği, Tavuk yumurtlamaz, Sicim otu, Yaban gülü	Aerial part	For purple, lilac dye
Juglandaceae			
**Juglans regia* L.	Ceviz	Leaves and pericarp	1. For care of hair 2. For black dye
Labiatae (Lamiaceae)			
Thymbra spicata L. var. *spicata*	Kaya kekeği	Aerial part	For bathing because of nice smell
Lauraceae			
Laurus nobilis L.	Defne	Leaves	As fumigant for bad smells
Legüminosae			
Ononis spinosa L. ssp. *leiosperma* (Boiss.) Sirj	Karayandırak, Sabankıran	Aerial part	For magic
Spartium junceum L.	Katırkuyruğu	Peduncle	As broom
Liliaceae			
Allium scorodoprasum L. ssp. *rotundum* (L.) Stearn			As decorative
Oleaceae			
Fraxinus ornus ssp. *ornus*	Dişbudak	Branches	As musical instrument
Papaveraceae			
Papaver rhoeas L.	Gelincik	Flowers	As toy
Ranunculaceae			
Clematis vitalba L.	Sabunotu, kedibarsağı	Leaves	For cleaning hands
Rhamnaceae			
Paliurus spina-christi Miller	Karaçalı, Pane	Fruits	For magic
Rosaceae			
**Cydonia oblonga* Miller	Ayva	Leaves	As orange dye
Ulmaceae			
Celtis australis L.	Çitlembik	Branches	For magic
Ulmus minor Miller ssp.*canascens* (Melville) Browicz et Zielinski	Karaağaç	Cortex	For binding

Umbelliferae (Apiaceae)			
Ammi visnaga L.	Dişotu, Kürdanlık, Namusotu	Peduncle	For cleaning teeth
Conium maculatum L.	Baldıran	Stem	As bobbin
Tordylium apulum L.	Boncukotu	Fruit	As jewelry

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REFERENCES

1. Baytop, T., Türkiye'de Bitkiler ile Tedavi (Geçmişte ve Bugün). İstanbul (1984).

2. Özhatay, N, Byfield, A. & Atay, S., Türkiye'nin Önemli Bitki Alanları. İstanbul (2003).

3. Tutin T. G., Heywood V. H., Burges N. A., Moore D. M., Valentine D. H., Walters S. M., Webb D. A., Flora Europaea, Vol 1-5. Sydney (1980).

4. Davis P.H., Tan K. & Mill R. R., Flora of Turkey and the East Aegean Islands, Vol.1-10. Edinburgh: Edinburgh University Press (1965-1988).

5. Güner A., Özhatay N., Ekim T. & Başer K. H. C., Flora of Turkey and the East Aegean Islands, Vol. 11 (suppl 2). Edinburgh: Edinburgh University Press (2000).

6. Özhatay, N & Kültür, Ş., Check-List of Additional Taxa to the Supplement Flora of Turkey III. *Turk J Bot* 30, pp. 281-316 (2006).

7. Özhatay, N., Kültür, Ş. & Aslan, S. Check-List of Additional Taxa to the Supplement IV. *Turk J Bot* 33, pp. 191-226 (2009).

8. Tuzlacı, E. & Eryaşar Aymaz, P., Turkish Folk Medicinal Plants, Part IV: Gönen (Balıkesir). *Fitoterapia* 72, pp. 323-343 (2001).

9. Ecevit Genç, G. & Özhatay, N., An Ethnobotanical Study from European Part of İstanbul (Çatalca) in Turkey. J. Fac.Pharm. İstanbul, 37, pp.67-74 (2004).

10. Tuzlacı, E & Tolon, E., Turkish Folk Medicinal Plants, Part III: Şile (İstanbul). *Fitoterapia* 71, pp. 673-685 (2000).

11. Akalın, E. & Alpınar, K., Tekirdağ'ın Tıbbi ve Yenen Bitkileri Hakkında Bir Araştırma. *Ege Ünv. Eczacılık Fak.Derg.* 2 (1), pp. 1-11 (1994).

12. Kültür, Ş., Medicinal Plants used in Kırklareli Province (Turkey). *J. Ethnopharmacology* 111, pp. 341-364 (2007).

13. Kaynak, G., Malyer, H. ve Tuyji, O., Armutlu Yarımadası Geofitik Monokotiledonları Üzerinde Bazı Bulgu ve Gözlemler. *Anadolu Ünv. Fen-Ed. Fak. Derg*. 2, 52, pp. 81-109 (1990).

14. Kaynak, G., Armutlu Yarımadası Florası I. *Selçuk Ünv. Fen Derg.* 13, pp. 152-164 (1997).

15. Kaynak, G., Armutlu Yarımadası Florası II. *Selçuk Ünv. Fen Derg.* 13, pp. 165-179 (1997).

16. Kaynak, G., Flora of Armutlu Peninsula III, *Lagascalia*, 20 (1), pp. 63-98 (1997).

17. Demiriz, H., Armutlu (Gemlik) ve Çevresinin Florası hakkında. *Türk Biol.Derg*. 19 (2-4), pp. 107-109 (1969).