

## WILD PLANTS USED AS MEDICINAL PURPOSE in YALOVA (NORTHWEST TURKEY)

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### Abstract

*In this study, medicinal uses and methods of administration of 45 wild plant taxa belonging to 27 families in Yalova are documented. The plant specimens were collected with informants. During the field works all the settlements (58 villages) were visited. 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).*

**Keywords:** Medicinal Plants, Folk Medicine, Yalova, Turkey

### Yalova İlinde Kullanılan Tıbbi Bitkiler

*Bu çalışmada, Yalova'da tıbbi amaçlı kullanılan 27 familyaya ait, 45 doğal taksonun kullanılış nedenleri, uygulanış şekilleri araştırılmış ve kaydedilmiştir. Bitkiler bilgi veren kişiler ile birlikte toplanmıştır. Arazi çalışmaları sırasında bütün yerleşim yerlerine (58 köy) gidilmiştir. Bilgiler kaydedilmiş, toplanan bitkiler teşhis edilmiş ve hazırlanan herbaryum örnekleri İstanbul Üniversitesi Eczacılık Fakültesi Herbariyumu (ISTE)'nda saklanmıştır.*

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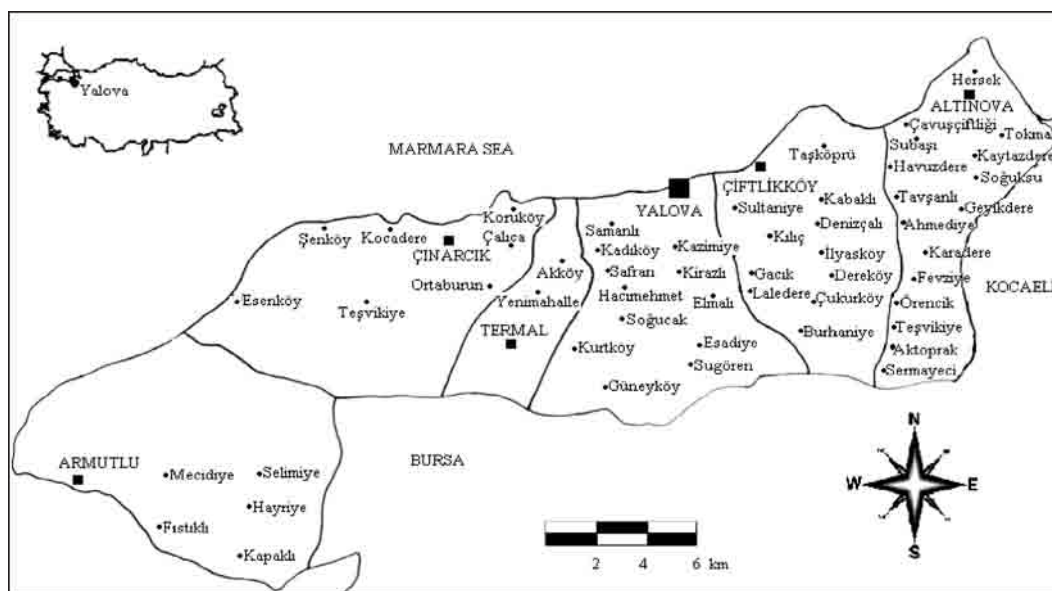
## INTRODUCTION

Yalova is situated in the south of Marmara Region (Northwest Turkey), near Istanbul and has an area of 839 km<sup>2</sup>. Its population is 120.000 in winter and 200.000 in summer. Since the city center 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.

The aim of this ethnobotanical 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 have been determined as Important Plant Area of Turkey (N. Ozhatay, A. Byfield and S. Atay, 2003).



**Figure 1:** The map of Yalova

## EXPERIMENTAL

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 herbal medicine. Efforts were made to double-check any information by asking the opinion of people in neighbouring villages.



**Figure 2:** *Juniperus oxycedrus* subsp. *oxycedrus*



**Figure 3:** The villager is squashing cones of *Juniperus oxycedrus* subsp. *oxycedrus* for molases (Andiz Pekmezi). The molases is used for bronchitis.

During the field studies, the plant specimens were collected together with accompanied informants. The collected fresh material were numbered and kept as samples for botanical identification. Taxonomical determination of the collected specimens were made using “Flora of Turkey and East Aegean Islands (1)” and “Flora Europeae (2)”. A voucher specimens of each species was kept in ISTE (The Herbarium of İstanbul University Faculty of Pharmacy).

## RESULTS

During the study 99 specimens were collected in the area. According to the results of the identifications, 45 wild plant taxa are being used as folk medicine in Yalova. The plants used as folk medicine in Yalova, are presented in Table 1, arranged in an alphabetical order according to their botanical names.

**Table 1.** Plants used as medicinal purpose in Yalova

Scientific name Family (Voucher specimen)	Local Name	Used Part	Medicinal Uses, Preparation and Administration	Other traditional uses reported earlier in Turkish ethnobotanical literature (References)
<i>Adiantum capillus- veneris</i> L. Adiantaceae (ISTE 83067)	Arapsacı	Herb	As diuretic; decoction as tea.	For respiratory diseases, expectorant (3), bronchitis, antitussive (4).
<i>Centaurea solstitialis</i> L. subsp. <i>solstitialis</i> Asteraceae (ISTE 83077)	Çakırdikeni	Flower	For chill; dried flowers are taken internally every morning.	For herpes infections around lips (5), headache (6).
<i>Chondrilla juncea</i> L. var. <i>juncea</i> Asteraceae (ISTE 83046)	Sakızotu	Latex	As stomachic; latex obtained by the incision of roots is chewed.	As stomachic (3, 7, 8).
<i>Cichorium intybus</i> L. Asteraceae (ISTE 83058)	Sakızotu	Latex	As stomachic; latex obtained by the incision of roots is chewed.	For ulcer (6), urethra and uterus inflammation, wound healing (9), hemorrhoid, eczema (10).
<i>Cistus creticus</i> L. Cistaceae (ISTE 83060)	Pamucak	Herb	For urethra inflammation and sterility; boiled with water and affected area is exposed to the vapours from boiling herbs.	As stimulant (4), stomachic, antidiarrhoeic (6), for snakebites, burns, wound healing (11).

Table 1. (continued)

<i>Cistus salvifolius</i> L. Cistaceae (ISTE 83066)	Pamucak	Herb	For urethra inflammation and sterility; boiled with water and affected area is exposed to the vapours from boiling herbs.	As sedative and expectorant (3).
<i>Cornus mas</i> L. Cornaceae (ISTE 83054)	Kızılçık, Zaye	Fruit	As antidiarrhoeic; fruits are eaten or boiled to prepare jam.	As antidiarrhoeic, hypoglycemic, for treatment common cold, sunstroke and bronchitis (10), as antidiarrhoeic (5, 12, 13).
<i>Crataegus monogyna</i> Jacq. subsp. <i>monogyna</i> Rosaceae (ISTE 83078)	Aliç, Alişançalısı	Flower, Leaf	As cardiotonic; infusion as tea.	As sedative, hypotensive, for removing kidney stones (4), for tachycardia (6), kidney stones (11).
<i>Crataegus pentagyna</i> Waldst. et Kit. ex Willd Rosaceae (ISTE 83015)	Aliç, Alişançalısı	Flower, Leaf	As cardiotonic; infusion as tea.	As sedative, antispasmodics, diuretic, hypotensive (3).
<i>Cynodon dactylon</i> (L.) Pers. var. <i>villosus</i> Regel Poaceae (ISTE 83051)	Ayrıkotu	Herb	As diuretic; decoction as tea.	As diuretic, hypoglycaemic (6), for gonorrhoea, rheumatism and cold (10).
<i>Datura stramonium</i> L. Solanaceae (ISTE 83074)	Tatula	Leaf	For asthma; as cigarette. For wound healing; externally.	As poison (harmful or useful) (14), for wound healing, asthma (15), sedative, narcotic, mydriatic (18).
<i>Ecballium elaterium</i> (L.) A. Rich. Cucurbitaceae (ISTE 83037)	Acıkelek	Fruit	For sinusitis; crushing fruit juice is put in nose. For eczema; small pieces are prepared with juice and starch are taken internally every morning before breakfast.	For sinusitis, hemorrhoid (6, 8, 10, 15, 16, 20, 21), alcoholics (17), jaundice (5, 6, 11), as diuretic, laxative, for wound healing (18), for hepatitis, earache (19, 21).

Table 1. (continued)

<i>Equisetum ramosissimum</i> Desf. Equisetaceae (ISTE 83013)	Kilitotu	Herb	As diuretic; decoction as tea.	For removing kidney stones (15), diuretic (19).
<i>Equisetum telmateia</i> Ehrh. Equisetaceae (ISTE 83068)	Atkuyruğu	Herb	As diuretic; decoction as tea.	As stomachic, for kidney ailments (11,17, 19, 20), diuretic, prostatitis, cystitis (19), anthelmintic (20).
<i>Foeniculum vulgare</i> Miller Apiaceae (ISTE 83022)	Rezene	Leaf	As carminative; decoction as tea.	As stomachic, carminative (16).
<i>Hedera helix</i> L. Araliaceae (ISTE 83055)	Ağaç sarmaşığı	Leaf	As antirheumatism; boiled with manure and water affected area is washed.	For corn (3), as anthelmintic, laxative (4), abortifacient (10), for burns, as , antiseptic (13).
<i>Helleborus orientalis</i> L. Ranunculaceae (ISTE 83082)	Bohçaotu	Rhizome	For sunstroke (veterinary medicine); cow's ears are pierced and a piece of rhizome is put in the opening	For edeme in legs (for cattle), toothache (5, 20), keratitis, mastitis (for animals), rheumatism, rheumatism and as antifungal (veterinary medicine) (11), as antiarrhoeic (19).
<i>Hypericum perforatum</i> L. Clusiaceae (ISTE 83030)	Kantoron	Flower	As stomachic; infusion as tea. For wound healing; ointment prepared with olive oil is externally used.	For asthma, wound healing, as stomachic (8, 13, 16, 18, 20), for rheumatism, hemorrhoid, as appetiser, sedative (11, 15), for burns, cuts (4, 19).

Table 1. (continued)

<i>Juniperus oxycedrus</i> L subsp. <i>oxycedrus</i> Cupressaceae (ISTE 83007)	Ardıç	Cone	For bronchitis; concentrated jam prepared is taken internally with milk every morning.	As diuretic, for eczema (6), scabies, as stomachic (8), for nocturnal enuresis, sore throat (10), for asthma, rheumatism (11), parasitic diseases, cough (for animals) (12), for removing kidney stones (13), as anthelmintic (16), as carminative (18).
<i>Laurocerasus officinalis</i> Roemer Rosaceae (ISTE 83072)	Taflan, Karayemiş	Fruit	As antidiabetic; fruits are eaten	As antipyretic, analgesic, for gastric descent, stomach ache, sore throat, hemorrhoid (10), as antidiabetic, for alcoholics (17).
<i>Malva sylvestris</i> L. Malvaceae (ISTE 83094)	Ebegümeçi	Flower, Fruit, Leaf	For bronchitis; decoction as tea.  For wound healing; externally.	For intestinal diseases (6), skin, hair, eye diseases, respiratory (4, 8, 18), as abortive (9) for amenorrhoea, eczema, as laxative (16), for urticaria, asthma (19), as stomachic (21).
<i>Melissa officinalis</i> L. subsp. <i>altissima</i> (Sm.) Arcangeli Lamiaceae (ISTE 83070)	Oğulotu	Herb	As sedative; infusion as tea.	As antiseptic (4), for alcoholics (6), arteriosclerosis (11), uterus ailments (16), as cardiotonic, antidiabetic, antiarrhythmic, sedative, for migraine (17), asthma, heart ailments (11, 19), as stomachic, antitussive (20).
<i>Mentha longifolia</i> (L.) Hudson subsp. <i>typhoides</i> (Briq.) Harley var. <i>typhoides</i> Lamiaceae (ISTE 83048)	Eşknanesi	Herb	For wound healing; externally. As antitussive; infusion as tea.	As antiseptic (4), for stomachache, sunstroke (5, 12), for hemorrhoid (6), menstrual pain, headache, internal diseases (9, 12), as styptic, diuretic (10), stomachic (18).

Table 1. (continued)

<i>Muscari neglectum</i> Guss. ex Ten. Liliaceae (ISTE 83001)	Guguşluk, Tavukgötü	Flower	For wart; flowers is rubbed on wart.	For rheumatism (21).
<i>Origanum vulgare</i> L. subsp. <i>hirtum</i> (Link) Ietswaart Lamiaceae (ISTE 83035)	Kekik	Herb	As hypocholesterolemic; infusion as tea.	For hemorrhoid, digestive, hepatitis, toothache, diabetes (11), as stomachic (6, 13), antidiabetic (15).
<i>Paliurus spina-christi</i> Miller Rhamnaceae (ISTE 83006)	Karaçalı, Pane	Fruit, Root	As diuretic; decoction as tea.	For headache (6), bronchitis, urethra inflammation, toothache (11), as stomachic, for rheumatism, hemorrhoid, kidney ailments (16), as tonic (19), antitussive (20).
<i>Phillyrea latifolia</i> L. Oleaceae (ISTE 83053)	Pımal	Fruit	For eczema; its mature fruits are taken internally every morning before breakfast.	For asthma, bronchitis (6), removing kidney stones, keratitis (11), as antidiabetic, for eye ailments in veterinary (16).
<i>Plantago lanceolata</i> L. Plantaginaceae (ISTE 83012)	Sinirotu	Leaf	For wound healing; externally.	For maturation of abscess, gastric ulcer (5), embolism (11), as sedative, stomachic (15), for urethra inflammation, wound healing, boils, prostatitis, liver ailments and bleeding stomach (17, 11, 19), rheumatism (21).
<i>Plantago major</i> L. subsp. <i>intermedia</i> (Gilib) Lange Plantaginaceae (ISTE 83045)	Sinirotu, Köpekdiili	Leaf	For wound healing; externally.	For maturation of abscess, gastric ulcer (5), as sedative, stomachic (15), for urethra inflammation, wound healing, boils, eczema, prostatitis, liver ailments and bleeding stomach (17, 11, 19).



Table 1. (continued)

<i>Platanus orientalis</i> L. Platanaceae (ISTE 83071)	Çınar	Fruit	As antidiarrhoeic; infusion as tea.	For burns, as antiseptic (4), for urethra inflammation, removing kidney stones, as antidiabetic (11, 15), diuretic (21).
<i>Rosa canina</i> L. Rosaceae (ISTE 83033)	Köpek Gülü, Kuşburnu	Fruit,  Thorn	For cold; decoction as tea  For boil; the head of boil is pricked by its thorn so inflammation is flowed.	As tonic (4), for removing kidney stones, as antidiabetic(5, 6, 10,12), for infections of respiratory tract (15), malaria, hemorrhoid, jaundice, bronchitis, as stomachic, antidiarrhoeic(11), for bleeding large intestina(16).
<i>Rubus sanctus</i> Schreber Rosaceae (ISTE 83062)	Böğürtlen, Çakalüzüm, Karamık	Fruit,  Leaf	For health bone; mature fruits are eaten  For blood stopping; chewed leafs are put on bleeding wound.	As tonic (4), hypoglisemic (5), for eye disorders, sore throat (6), hemorrhoid, as a styptic, panacea (10), for wound healing, cancer (15), egzema (16), as hemostatic, for sterility (women), gall bladder ailments, as antitussive (19), stomachic (20), for rheumatism, sterility (man), ulcer (21).
<i>Ruscus hypoglossum</i> L. Liliaceae (ISTE 82995)	Tavşan memesi	Fruit	For wetting children's underclothes; mature fruits are taken internally.	As diuretic, for kidney stones (3), boils, warts (11), antipruritic (13).
<i>Salix alba</i> L. Salicaceae (ISTE 83050)	Söğüt	Leaf,  Branch	As antifungal; decoction, externally.  As antitussive; decoction, internally.	As analgesic (4), for rheumatism (11, 21), as antidiabetic (17).

Table 1. (continued)

<i>Sambucus ebulus</i> L. Caprifoliaceae (ISTE 83053)	Şahmelik, Bazeotu, Sultanotu	Leaf, Root, Fruit	For sterility, as antirheumatic; boiled with water and affected area is exposed to the vapours from boiling herbs. For bee and scorpion bite ; squashing leaves and root are put on bite. As antihemorrhoidal; mature fruits are taken internally.	As expectorant, for ulcer, urethra inflammation (6), rheumatism, boils, trauma, as analgesic (11, 20), diuretic, antitussive, antifungal, for asthma, malaria (15), cancer, hemorrhoid, as stomachic (17), for trauma, boils (11), as antirheumatic (18), for cold, urticaria, kneeache, eczema (19).
<i>Smilax excelsa</i> L. Liliaceae (ISTE 83034)	Gıcir	Fruit	As stomachic; obtained membrane is chewed.	As stomachic (3), wound healing (5), for boils (19).
<i>Sorbus aucuparia</i> L. Rosaceae (ISTE 83026)	Üvez	Fruit	As diuretic, antidiabetic; mature fruits are eaten.	As antidiarrhoeic, antidiabetic (3).
<i>Teucrium polium</i> L. Lamiaceae (ISTE 83031)	Mayasilotu	Herb	For eczema; decoction, externally.	As stimulant, for cold, abdominal pain, pneumonia (5), hemorrhoid (20), as stomachic (18), analgesic (21).
<i>Thymbra spicata</i> L. var. <i>spicata</i> Lamiaceae (ISTE 83032)	Kayakekiği	Herb	As antidiabetic; decoction as tea.	As stomachic (4), antidiabetic (6), for cardiac deficiency, arteriosclerosis, insomnia, as sedative (11).
<i>Thymus longicaulis</i> C.Presl subsp. <i>longicaulis</i> var. <i>subisophyllus</i> (Borbos) Jalas Lamiaceae (ISTE 83023)	Yer kekiği	Herb	As stomachic, for asthma; decoction as tea.	For stomachache (5, 6, 20, 21), as antidiabetic (6), carminative (18), antidiarrhoeic (20).
<i>Tilia argentea</i> Desf. Tiliaceae (ISTE 83027)	Ihlamur	Flower	As expectorant; decoction as tea.	For infections of respiratory tract (11, 15), as stomachic, expectorant, antitussive, for bronchitis (16) kidney pain, gum ailments (20).

**Table 1.** (continued)

<i>Tribulus terrestris</i> L. Zygophyllaceae (ISTE 83047)	Deve bağirtan	Fruit	As cardiogenic; decoction as tea.	For vitiligo (6), as cardiogenic, for kidney stones prostatitis (16, 20).
<i>Tussilago farfara</i> L. Asteraceae (ISTE 82996)	Öksürükotu	Flower	As antitussive; decoction as tea.	For wound healing (11), as antitussive, expectorant, for burns (18).
<i>Urtica dioica</i> L. Urticaceae (ISTE 83014)	Isırgan	Seed,  Leaf	As expectorant; internally with honey  For bronchitis; decoction as tea.	As prophylactic, for ulcer, epistaxis, hemostatic (11), as diuretic, antidiabetic, for rheumatism, prostatitis, hemorrhoid, cancer, jaundice(5, 6, 13, 17), fractured bones (16), sciatica, urinary diseases, eczema, waist pain (21).
<i>Vitis sylvestris</i> L. Vitaceae (ISTE 83065)	Çiçek	Fruit	For anemia; mature fruits are eaten.	-

Most of the interviewers stated that they have learned the usage of these medicinal plants from their parents and elderly relatives.

The folk medicinal plants are mostly used for the treatment of urinary disorders such as diuretic, urethra inflammation and kidney sands and stones. On the other hand, gastrointestinal complaints, bronchitis diabetes and skin problems are also frequent complaints treated with herbal remedies. Decoctions and infusions are mostly used for the preparation of the folk medicine.

Cautions about some plants were also recorded; *Datura stramonium*, *Helleborus orientalis*, *Ecballium elaterium* can be dangerous and therefore, they should be used carefully.

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## REFERENCES

1. **Davis, P.H.**, Flora of Turkey and the East Aegean Islands. Volumes 1-9, Edinburgh University Press, Edinburgh, 1965-1985.
2. **Tutin, T.G., Heywood, V.H., Burges, N.A., Moore, D.M., Valentine, D.H., Walters, S.M., Webb, D.A.**, Flora of Europaea. Volumes 1-5, Cambridge University Press, 1964-1980.
3. **Baytop, T.**, Geçmişten Günümüze Bitkilerle Tedavi. Nobel Tıp Kitabevi, 2. Baskı, İstanbul, 1999.
4. **Sayar, A., Güvensen, A., Özdemir, F., Öztürk, M.**, “Muğla İli’ndeki bazı türlerin etnobotanik özellikleri” *Ot Sist. Bot. Der.*, (2) 1, 151-160, 1995.
5. **Fujita, T., Sezik, E., Tabata, M., Yeşilada, E., Honda, G., Takeda, Y., Tanaka, T., Takaishi, Y.**, “Traditional medicine in Turkey VII. Folk Medicine in Middle and West Black Sea Regions” *Economic Botany*, 49 (4), 406-422, 1995.
6. **Tümen, G., Sekendiz, O. A.**, Balıkesir ve Merkez Köylerinde Halk İlacı Olarak Kullanılan Bitkiler. In: VIII. Bitkisel İlaç Hammaddeleri Toplantısı, Bildiri Kitabı, pp.347-354, 1989.
7. **Işık, S., Gönüz, A., Arslan, Ü., Öztürk, M.**, “Afyon (Türkiye) İli’ndeki bazı türlerin etnobotanik özellikleri” *Ot Sist. Bot. Der.*, (2) 1, 161-166, 1995.

8. **Vural, M., Karavelioğulları, F.A., Polat, H.,** “Çiçekdağı (Kırşehir) ve çevresinin etnobotanik özellikleri” *Ot Sist. Bot. Der.*, (4) 1, 117-124, 1997.
9. **Gümüş, İ.,** “Ağrı Yöresinde yetişen bazı faydalı bitkilerin yerel adları ve kullanılışları” *Tr. J. of Botany*, 18, 107-112, 1994.
10. **Yeşilada, E., Sezik, E., Honda, G., Takaishi, Y., Takeda, Y., Tanaka, T. J.,** “Traditional medicine in Turkey IX. Folk medicine in North-West Anatolia” *J. Ethnopharmacol.*, 64, 195-210, 1999.
11. **Tuzlacı, E., Aymaz, P. E.,** “Turkish folk medicinal plants. Part IV: Gönen (Balıkesir)” *Fitoterapia*, 72, 323-343, 2001.
12. **Sezik, E., Yeşilada, E., Tabata, M., Honda, G., Takaishi, Y., Fujita, T., Takeda, Y.,** “Traditional medicine in Turkey VIII. Folk medicine in East Anatolia: Erzurum, Erzincan, Ağrı, Kars, Iğdır provinces” *Economic Botany*, 51 (3), 195-211, 1997.
13. **Yazıcıoğlu E., Alpınar, K.,** An investigation on medicinal and edible plants of Trabzon” *Ege Univ. Ecz. Fak. Der.*, 1 (2), 89,98, 1993.
14. **Ertuğ, F.,** “An ethnobotanical study in Central Anatolia (Turkey)” *Economic Botany*, 54 (2), 155-182, 2000.
15. **Ecevit Genç, G.,** “Çatalca Yöresinde Etnobotanik Bir Araştırma” M.sc. thesis, Istanbul University, 2003.
16. **Emre, G.,** “Ezine (Çanakkale) Yöresinin Geleneksel Halk İlacı Olarak Kullanılan Bitkileri” M.sc. thesis, Marmara University, 2003.
17. **Arslan, Ö.,** “Dereli (Giresun) Yöresinin Geleneksel Halk İlacı Olarak Kullanılan Bitkileri” M.sc. thesis, Marmara University, 2005.
18. **Keklik-Koçoğlu, T., Çubukçu, B., Özhatay, N.,** “Konya ve Karaman İlleri Halk İlaçları” *Geleneksel ve Folklorik Halk İlaçları Dergisi*, 3 (1), 1-35, 1996.
19. **Tuzlacı, E., Tolon, E.,** “Turkish folk medicinal plants. Part III: Şile (Istanbul)” *Fitoterapia*, 71, 673-685, 2000.
20. **Akalın, E., Alpınar, K.,** “Tekirdağ’ın tıbbi ve yenen bitkileri hakkında bir araştırma” *Ege Univ. Ecz. Fak. Derg.*, 2 (1), pp. 1-11, 1994.
21. **Tuzlacı, E., Erol, M.K.,** “Turkish folk medicinal plants. Part II: Eğirdir (Isparta)” *Fitoterapia*, 70, 593-610, 1999.

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