

WILD PLANTS USED AS MEDICINAL PURPOSE IN THE SOUTH PART OF İZMİT (NORTHWEST TURKEY)

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Abstract

In this study, local names, medicinal usage and methods of administration of 64 wild plant taxa belonging to 32 families in the south part of Izmit, which is the centre county of Kocaeli, are documented. The information for these plants, such as local names, their usages, used parts, methods of preparation, administration dosage and duration of treatments have been recorded. During the field studies informations were recorded and materials collected in the area surveyed with local people. All the settlements were visited (9 municipalities and 15 villages) which are in the study area. Collected plant specimens were identified and prepared voucher specimens were kept in the Herbarium of İstanbul University Faculty of Pharmacy (ISTE).

Key words: Medicinal plants, Izmit, Turkey.

İzmit'in Güney Kesiminde Tedavi Amacıyla Kullanılan Doğal Bitkiler

Bu çalışmada Kocaeli ilinin merkez ilçesi olan İzmit'in güney kesiminde tedavi amacıyla kullanılan 32 familyaya ait, 64 doğal takson saptanmıştır. Bunların yöresel isimleri, kullanılış nedenleri ve tedavide uygulanış şekilleri bizzat araştırılmıştır. Arazi çalışmalarında yöre halkından öğrenilen bilgiler derlenmiş, bitkiler bilgi veren kişiler ile birlikte doğadan toplanmıştır. Araştırma bölgesindeki bütün yerleşim birimlerine (9 belediye ve 15 köy) gidilerek 145 adet örnek toplanmıştır. Toplanan örnekler teşhis edilmiş ve hazırlanan herbaryum örnekleri İstanbul Üniversitesi Eczacılık Fakültesi Herbaryumu'nda (ISTE) saklanmıştır.

Anahtar kelimeler: Tıbbi bitkiler, İzmit, Türkiye.

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INTRODUCTION

The Turkish flora is estimated to contain more than 10000 species of vascular plants of which about 3034 (approximately 34 %) are endemic.

For a long time plants have played very important role for human life. Nowadays, the usage of plants as a way of treatment is still very important. The plants that used for medicinal purposes are also play an important role in Turkey (1).

Kocaeli is situated in the east part of Marmara region (Northwest Turkey). Izmit, which is the centre county of Kocaeli, has an area of 974 km² and its population is 373.034. The earthquake that struck western Turkey on 17.August.1999 caused an important population fluctuation. Izmit is a coast county which is established upon between the most important Asia and Europe transition line. The economy in the county mostly based on industry. It represents two different type climates with annual rainfall and avarage temperature 671.7 mm and 14.8°C respectively. Because of Kocaeli is an industry metropolis, the majority of the population consists of people whole around the Turkey, and also immigrants from Balkans and Caucasus.

The aim of this study was to collect information about the medicinal plants usages in the south part of Izmit. A survey of the literature (2, 3) revealed no papers have been published about the ethnobotanical and medicinal plants usages potential of Izmit. Thus, there is a need to record and document indigenou knowledge on medicinal plants in this county. With this study, the medicinal plants usages potential of Izmit has been determined before it is completely lost.

This is a part of a master thesis named “An Ethnobotanical Survey in The South Part of Izmit Gulf” (4).

EXPERIMENTAL

The field works was carried out between April 2006-September 2007. During this research 9 municipalities and 15 villages (Figure 1) have been visited and plant specimens were collected. The herbarium specimens are kept in the Herbarium of Istanbul University Faculty of Pharmacy (ISTE). The information for these plants, such as local names, their usages, used parts, methods of preparation, administration dosage and duration of treatments have been recorded to ethnobotanical data forms.

During the field works, all the settlements were visited in the south part of İzmit. 9 municipalities and 15 villages (Figure 1) are listed; Yuvacık Municipality: Serindere, Aksıgım, Camidüzü, Kazandere, Servetiye Camii and Tepecik villages; Kullar Municipality: Doğantepe village; Arslanbey Municipality: Karatepe, Örnekköy, Merkez Sultaniye and Pazarçayırı villages; Bahçecik Municipality: Servetiye Karşı village; Hikmetiye (Büyük Derbent) Municipality: Balaban, Nusretiye and Şirin Sulhiye villages; Yeniköy Municipality; Suadiye Municipality; Maşukiye Municipality; Karşıyaka Municipality.

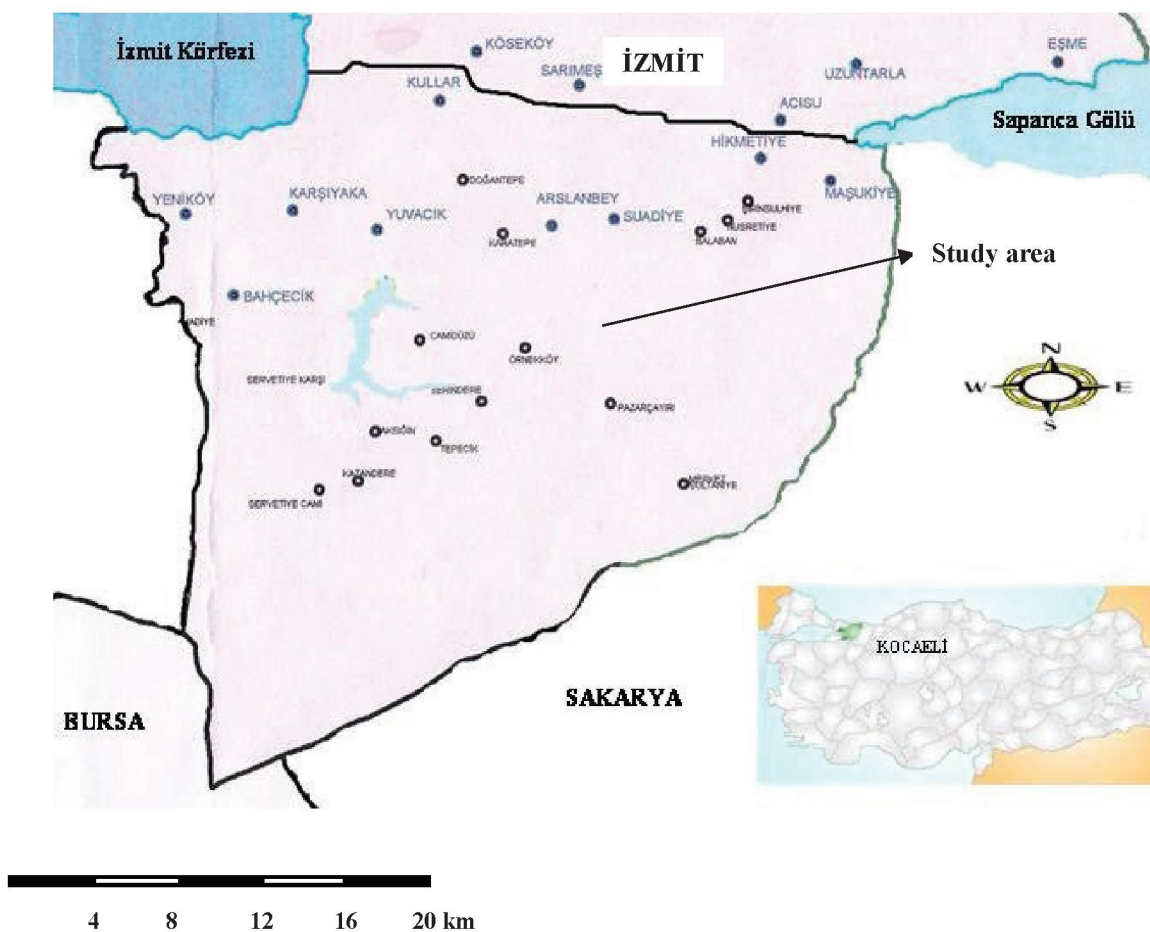


Figure 1. Study area: The South Part of Izmit District (Inset: Map showing the location of Kocaeli in Turkey).

RESULTS AND DISCUSSION

During the study 145 specimens were collected in the area. According to the results of the identifications, 64 wild plant taxa are being used as medicinal purposes in the south part of Izmit. The plants used as medicinal purposes in the study area, are presented in Table 1, arranged in alphabetical order of their botanical names. Some of these plants are also used in multiherbal recipes containing two or more species which are represented in Table 2. Some of these plants are also used in veterinary medicine which are represented in Table 3.

In local tradition, it is more common to use one species in each remedy; however, there are a few remedies consisting of several plants mixed together. Local people used different parts of plants to prepare herbal remedies. The most frequently used parts are leaves, aerial parts, fruits and flowers. The higher frequency of the use of aerial parts of plants in preparation of herbal remedies is largely due to the fact that they can be collected easily and they are readily available. Roots, bulbs, tubers and particularly seeds were used to a much smaller extend.

Most used families are Asteraceae with 12 taxa (18.7%), Lamiaceae with 8 taxa (12.5%), Rosaceae with 5 taxa (7.4%) and Malvaceae, Solanaceae, Hypericaceae with 3 taxa (4.7%).

The plants that used for medicinal purposes have been mostly used for the treatment of wounds (21.5%), cough (16.9%), skin disorders (abscess, wart, nappy rash, ringworm etc.) (15.4%), diabetes and kidney diseases (12.3%), common cold and asthma-bronchitis (10.8%).

Infusion and especially decoction are generally chosen for internal administration. For external administration fresh or dried material can be applied directly or after being cooked in a poultice form.

In a number of cases, some of the taxa are known under the same local name. For instance *Lamium purpureum* var. *purpureum*, *Clinopodium vulgare* subsp. *vulgare* as ballıbaba; *Rubus sanctus*, *Rubus canescens* var. *canescens* as böğürtlen, diken, mora; *Malva nicaeensis*, *Malva sylvestris* as ebegümeçi, ebegömeç; *Taraxacum scaturiginosum*, *Tussilago farfara* as hindiba; *Petasites hybridus*, *Verbascum speciosum* as kabalak; *Hypericum cerastoides*, *Hypericum perforatum* as kantaron; *Origanum vulgare* subsp. *hirtum*, *Thymus longicaulis* subsp. *longicaulis* var. *subisophyllus* as kekik; *Sambucus ebulus*, *Sambucus nigra* as lor, lüver, sultan, şahmelek, piran; *Mentha spicata* subsp. *spicata*, *Mentha longifolia* subsp. *typhoides* var. *typhoides* as nane; *Matricaria chamomilla* var. *recutita*, *Pulicaria vulgaris* as papatya.

Some of the plants are used only in veterinary medicine (*Dipsacus laciniatus*, *Helleborus orientalis*), some of them are used in both veterinary and human medicine (*Petasites hybridus*, *Rumex pulcher*, *Sambucus ebulus*).

According to our results, usage of 9 taxa (*Calepina irregularis*, *Clinopodium vulgare* subsp. *vulgare*, *Hypericum cerastoides*, *Pulicaria vulgaris*, *Senecio vernalis*, *Trifolium resupinatum* var. *resupinatum*, *Verbascum speciosum*, *Veronica persica* and *Viola gracilis*) have not recorded in traditional medicine before (1, 5-22).

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

The results of our study show that even in countrys that are situated in close proximity to metropolitan cities, the medicinal usages of plants and its applications are still alive. However, most of the knowledge acquired by the local people has been passed on to them by word of mouth from one generation to the next. Since written documentation is mostly lacking, this knowledge is in danger of being lost.

Table 1. Plants used as medicinal purposes in the south part of İzmit.

^a Scientific name Family (Voucher specimen)	Local names	Used parts	Usage	^b Preparation, administration dosage, duration of treatment	Other traditional usage reported earlier in Turkish ethnobotanical literature (1, 5-22)
<i>Alcea setosa</i> (Boiss.) Alef. Malvaceae (ISTE 84 029, ISTE 84 176)	Hatmi, Hatmiçiçeği, Karafatma, Yabanifatmagül	Flower	Cough	Decoction, int., 1 glass for day	Diuretic (1), cough (5)
<i>Arbutus unedo</i> L. Ericaceae (ISTE 84 051)	Andrana, Dağyemişi, Kocakarıyemişi, Kocayemiş, Ormançiçeği, Piyadin	Fruit	Intestinal and stomach disorders, prostate and kidney inflammation	Eaten, fresh fruits	Kidney disorders (14)
<i>Arctium minus</i> (Hill) Bernh. subsp. <i>minus</i> Asteraceae (ISTE 84 107)	Lahanaotu, Pıtrak, Pıtraktikeni	Leaf	Itching	Decoction, ext.	Rheumatism, antipyretic (10), abscess (15), sunburn and burns (10, 14)
<i>Arum italicum</i> Miller Araceae (ISTE 84 151)	Çiçekotu, Tirşik, Yılanbıçağı, Yılanotu, Yılansoğanı, Yılanyastığı, Yılanzehiri, Zehirotu	Fruit Tuber	Cough Eczema Cancer Hemorrhoids	Decoction, int., crushed fruits Decoction, int., dried fruits Swallowed, 1 fruit Swallowed, 1 fruit before breakfast	Expectorant, purgative (1), woman diseases, cancer, ulcer (7), jaundice (14), hemorrhoids, eczema (6, 7, 14)
<i>Bellis perennis</i> L. Asteraceae (ISTE 84 121)	Beyazpapatya	Capitulum	Sore throat, common cold	Infusion, int., dried capitulum	Diuretic, purgative (1), eye disorders, tonsillar inflammation, common cold (14), bellyache (7, 14), cough (6, 14)
<i>Calepina irregularis</i> (Asso) Thellung Brassicaceae (ISTE 84 099)	-	Leaf	Stomachache	Eaten, boiled leaves as salad	-

Table 1. (continued)

<i>Campanula rapunculoides</i> L. subsp. <i>cordifolia</i> (C.Koch) Damboldt Campanulaceae (ISTE 84 079)	Çançıçeği, Kacafta	Flowering stem	Bellyache, bloated feeling	Boiling, ext., applied over abdomen and wrap	Against body pains (16)
<i>Centaureum erythraea</i> Rafn subsp. <i>erythraea</i> Gentianaceae (ISTE 84 131, ISTE 84 111)	Afyonotu, Kırmızıkantaron	Aerial part	Hemorrhoids, eczema Wounds, cuts Appetizer, antihelmintic	Powdered and fill in Gripin capsule, swallow 1 capsule 3 times per day Salve, ext., waited in olive oil in a jar Int., waited in water and drink 1 teaspoon	Digestive, appetizer (1), wounds, cuts (7), rheumatism, asthma (13), ulcer (14), digestive (5, 7, 9, 14), eczema (9, 14)
<i>Chelidonium majus</i> L. Papaveraceae (ISTE 84 058, ISTE 84 060)	Temreotu	Aerial part Latex	Diuretic Wounds, eczema	Infusion, int. Ext.	Diuretic, purgative, sedative, eye disorders (1), warts (14), eczema (14, 17), skin disorders, abscess (13, 14)
<i>Cichorium intybus</i> L. Asteraceae (ISTE 84 047)	Hindiba, Mavihindiba, Radika, Sakızotu	Aerial part Latex	Hemorrhoids, eczema, psoriasis, diabetes Genital itching Digestive	Decoction, int. or eaten as meal Decoction, int. Chewed, latex obtained by the incision of roots	Strengthening (1), ureter inflammation, constipation (14), diuretic, appetizer, asthma, ulcer (16), digestive (1, 6, 14, 16)
<i>Cistus creticus</i> L. Cistaceae (ISTE 84 028, ISTE 84 050)	İstifiza, Karağan, Laden	Aerial part	Emmenagogue	Boiling, ext., vapour bath	Stomachache (8), sterility and ureter inflammation (11)
<i>Clinopodium vulgare</i> L. subsp. <i>vulgare</i> Lamiaceae (ISTE 84 138)	Ballibaba	Aerial part	Bellyache	Boiling, ext., applied over abdomen and wrap	-

Table 1. (continued)

<i>Cynodon dactylon</i> (L.) Pers. var. <i>dactylon</i> Poaceae (ISTE 84 053)	Ayrıkotu, Beygirotu	Whole plant Aerial part	Hemorrhoids, diabetes, asthma, bronchitis, expectorant Hemorrhoids Analgesic	Decoction, int., before breakfast Decoction, int. Poultice, ext.	Bellyache (8, 14), kidney stones and sands (6, 8, 14), diuretic (5, 6, 11, 13, 14)
<i>Datura stramonium</i> L. Solanaceae (ISTE 84 080)	Afyonotu, Eşekdikeni, Eşekotu	Seed	Hemorrhoids Eczema	Swallowed, 2-3 seeds in the morning Swallowed, 1 seed before breakfast	Narcotic, cough (1), hemorrhoids, eczema (17), toothache (6, 13), asthma (1, 6, 13, 14)
<i>Ecballium elaterium</i> (L.) A. Rich. Cucurbitaceae (ISTE 84 164)	Acıkavun, Cırtatan, Cırtatan, Şeytankavunu, Yabanhiyarı, Yabanikavun, Yabankavunu	Fruit juice Fruit	Sinusitis Nasal inflammation Sinusitis	Dropped into the nostrils, ext. Dropped into the nostrils, 1 drop, ext. Boiling, ext., boiled water dropped into the nostrils	Hepatitis (13), sinusitis (11, 14), analgesic (5, 13), eczema (6, 11), wounds (5, 6), hemorrhoids (9, 13), earache (7, 9, 14), rheumatism (6, 8, 13, 15)
<i>Equisetum telmateia</i> Ehrh. Equisetaceae (ISTE 84 109)	Bebekotu, Çamotu, Dereotu, Eklemotu, Fenerotu, Kırkkilitotu, Kuşkonmaz, Minareotu	Aerial part	Ureter disorders Kidney stones and sands Diuretic, kidney sands Kidney disorders, woman diseases	Decoction or infusion, int. Decoction, int. Infusion, int. Boiling, ext., vapour bath	Stomachache (9), kidney stones and sands (13), rheumatism, expectorant (17), diuretic (9, 17), eczema (5, 17), prostate disorders (7, 9, 13)
<i>Filago vulgaris</i> Lam. Asteraceae (ISTE 84 110)	Kuzaotu	Aerial part	Wounds on hands, warts	Decoction, int.	Diuretic (1)
<i>Hypericum cerastoides</i> (Spach) Robson Hypericaceae (ISTE 84 090)	Kantaron, Küçükkantaron	Aerial part	Diarrhoea	Boiled and drinking crushed juice every morning for 3 days, int.	-
<i>Hypericum montbretii</i> Spach Hypericaceae (ISTE 84 074)	Mayasilotu	Aerial part	Eczema	Decoction, int., waited in a bottle for 3 days	Wounds, burns (22)

Table 1. (continued)

<i>Hypericum perforatum</i> L. Hypericaceae (ISTE 84 069)	Kantaron, Kanterçiçeği, Sarıkantaron	Aerial part Flower	Cancer Diuretic, kidney inflammation Wounds, cuts Stomachache, ulcer	Infusion, int. Decoction or infusion, int., 1 glass for day Salve, ext., waited in olive oil for 1-2 days Waited in olive oil and drinking per 2 days, int.	Sedative (1), stomachache, eczama (13), diabetes (11, 13), ulcer (8, 12), antiseptic (1, 16), wounds, cuts (7, 11)
<i>Lamium purpureum</i> L. var. <i>purpureum</i> Lamiaceae (ISTE 84 103)	Ariotu, Ballıbaba, Balotu, Petekotu	Aerial part	Analgesic Sore throat, tonsillar inflammation	Poultice, ext. Decoction, int.	To enlarge prostate (17)
<i>Laurocerasus officinalis</i> Roemer Rosaceae (ISTE 84 115)	Karamış, Karayemiş	Leaf Fruit	Bronchitis Diabetes	Applied over chest after heating with honey, ext. Eaten, fresh fruits	Burns (14), sore throat (14, 15), diabetes (11, 12, 14)
<i>Lysimachia verticillaris</i> Sprengel Primulaceae (ISTE 84 094)	-	Aerial part Flower, leaf	Cough, bronchitis Wounds	Decoction, int. Salve, ext., waited in olive oil	Wounds (1) (For other <i>Lysimachia</i> species)
<i>Malva nicaeensis</i> Wallr. Malvaceae (ISTE 84 136)	Ebegömeçi, Ebegömeç, Ebegümeçi	Leaf	Analgesic	Poultice, ext., heating with milk	Analgesic, ulcer, woman diseases, rheumatism, digestive (14), expectorant, cough (17)
<i>Malva sylvestris</i> L. Malvaceae (ISTE 84 092)	Ebegömeç, Ebegümeçi, Molaşa, Molaşaotu	Aerial part Leaf Flower, leaf	Wounds Emmenagogue Diabetes, hepatic and stomach disorders Expectorant	Poultice, ext., heating with milk Boiling, ext., vapour bath Decoction, int. Infusion, int.	Hepatic and stomach disorders (6), cancer, mumps (13), sore throat (16), cough (6, 12), common cold (6, 13), wounds (1, 16), abscess (1, 7), woman diseases (8, 13)

Table 1. (continued)

<i>Matricaria chamomilla</i> L. var. <i>recutita</i> (L.) Grierson Asteraceae (ISTE 84 167)	Papatya	Capitulum	Common cold, flu, expectorant, sore throat, cough	Infusion, int.	Diuretic, appetizer (1), asthma, bronchitis (13), sedative (1, 8), cough (9, 13), wounds (1, 13), rheumatism (6, 9), bellyache (9, 14), carminative (1, 13, 14)
<i>Melissa officinalis</i> L. subsp. <i>altissima</i> (Sm.) Arcangeli Lamiaceae (ISTE 84 070, ISTE 84 073)	Oğulotu, Saçkırın, Yabamsırganı, Yabanidereotu	Aerial part Leaf	Bellyache Embolism Stomachache, ulcer	Boiling, ext., applied over abdomen and wrap Decoction and infusion, int., half of a teaglass 2 times per day for 20 days Swallowed, boiled with starch and taken as pill 3 times per day after meals	Cough (5), cardiovascular disorders (6), woman diseases (8), bronchitis (13), asthma (14), migraine (17), carminative (18), stomachache (1, 13), sedative (1, 6, 11, 17), diabetes (8, 13, 14)
<i>Mentha longifolia</i> (L.) Hudson subsp. <i>typhoides</i> (Briq.) Harley var. <i>typhoides</i> Lamiaceae (ISTE 84 059)	Nane, Yabaninane, Yabannanesi	Leaf	Common cold, flu Digestive	Decoction, int., with lemon Decoction, int.	Cough, wounds (11), asthma, bellyache (14), diuretic, kidney disorders, stomach disorders (15)
<i>Mentha spicata</i> L. subsp. <i>spicata</i> Lamiaceae (ISTE 84 187)	Nane, Yabaninane	Leaf	Nausea Toothache, halitosis	Decoction, int., with lemon Chewed	Cough, common cold, bronchitis, asthma, carminative (14)
<i>Origanum vulgare</i> L. subsp. <i>hirtum</i> (Link) Ietswaart Lamiaceae (ISTE 84 067)	Kekik, Kekikotu, Köfteotu	Aerial part	Nausea, bellyache, common cold	Decoction, int.	Cholesterol lowering (11), bellyache, ulcer, cough (13), hemorrhoids, stomachache (14)

Table 1. (continued)

<i>Paliurus spina-christi</i> Miller Rhamnaceae (ISTE 84 172)	Avanaktamisi, Dikenliçalı, Karaçalı, Karaçalıdikeni	Fruit, leaf Fruit	Anti- inflammatory Laxative, for weakening	Infusion, int., 1 glass before breakfast and lunch Infusion, int., dried fruits	Kidney stones and sands (1), cough (5), bronchitis (7), ureter inflammation (11), asthma (14), hemorrhoids (6, 14), abscess (1, 14, 16), stomach disorders (5, 6, 8), diuretic (1, 11, 16)
<i>Petasites hybridus</i> (L.) Gaertner Asteraceae (ISTE 84 116)	Ayıkulağı, Farafla, Kabakulakotu, Kabalak, Şemsiyeotu	Leaf	Analgesic, mumps	Heating, ext.	Diuretic, perspiratory (1), analgesic, aphtha (for babies) (7), wounds (13)
<i>Physalis alkekengi</i> L. Solanaceae (ISTE 84 191)	Kızılyörük	Fruit	Anti- inflammatory, sore throat, erythema on skin	Swallowed, 1 fruit	Diuretic, antipyretic, sedative (1)
<i>Plantago major</i> L. subsp. <i>major</i> Plantaginaceae (ISTE 84 127)	Balazağva, Damarlıot, Damarotu, Kırsinirotu, Sinirliot, Sinirotu	Leaf Seed	Stomachache, itching, mycosis on hands Antihypertensive, anti- inflammatory Kidney and intestinal disorders Wounds, abscess Antidiuretic, cough, common cold	Decoction, int. Decoction, int., before breakfsat Infusion, int. Heating, ext. Eaten, with yogurt or honey	Antidiuretic, sedative (7), stomachache (9), asthma, diabetes, cancer, common cold (13), wounds, abscess (7, 11)
<i>Prunus spinosa</i> L. subsp. <i>dasyhylla</i> (Schur) Domin Rosaceae (ISTE 84 064)	Çakaleriği, Güvem, Yabanierik	Fruit	Anaemia Diabetes	Int., drinking compote Int., drinking compote or eating jam	Diuretic (1), cardiac diseases (13), eczama (9, 14), asthma, bronchitis (6, 7, 14), diabetes (5, 6, 8, 9, 13, 14)
<i>Pulicaria vulgaris</i> (L.) Gaertner Asteraceae (ISTE 84 062)	Papatya	Aerial part	Whiteness on hands	Decoction, int., dried parts	-

Table 1. (continued)

<i>Ranunculus constantinopolitanus</i> (DC.) d'Urv. Ranunculaceae (ISTE 84 038)	Sakızotu	Flower	Analgesic (on legs)	Wrapping, ext., crushed flowers	Rheumatism (19)
<i>Rosa canina</i> L. Rosaceae (ISTE 84 041, ISTE 84 146)	Dikenbaşı, Köpekgülü, Kuşburnu, Öküzgözü, Yabanigül	Fruit Petal	Woman diseases, common cold, cough Diabetes, asthma Diabetes Flu Health-giving	Decoction or infusion, int. Infusion, int. Eaten, as marmalade Drinking prepared fruit juice, int. Eaten, in spring time	Kidney sands (5), cough (6), bronchitis, rheumatism, kidney and cardiac diseases (7), intestinal disorders (8), abscess (11), eczama, common cold, itching (13), digestive (15), sterility in woman (18), bellyache, diabetes (6, 14), hemorrhoids (7, 10)
<i>Rubus canescens</i> DC. var. <i>canescens</i> Rosaceae (ISTE 84 144)	Böğürtlen, Diken, Hamdüspara, Karamuk, Mora	Root	To prevent abortion Itching, wounds on body	Cleaned and crushed roots' juice, int. Boiled in water and take a bath with this water for 2-3 weeks	Anaemia, diarrhoea, wounds (14), diabetes, diuretic (16), hemorrhoids (6, 15)
<i>Rubus sanctus</i> Schreber Rosaceae (ISTE 84 145)	Böğürtlem, Böğürtlen, Börtlen, Diken, Dikenbaşı, Mora	Leaf Fruit Root	Wounds Strengthening Ureter disorders, skin disorders	Ext. Eaten, fresh fruits Decoction, int.	Diarrhoea, diuretic (1), digestive (5), bronchitis (6), sterility (9), acne, mycosis on foot (12), cancer (14), hemorrhoids (15), hemostatic (11, 15), sore throat, diabetes (1, 5, 14), wounds (1, 7, 9, 11, 12)
<i>Rumex pulcher</i> L. Polygonaceae (ISTE 84 159)	Çarşaf, Efelek, Efelik, Labada, Lapaza, Mancar, Mancarotu, Pancarotu, Yapalak	Fruit	Cough	Decoction, int.	Hemorrhoids, bronchitis (10)

Table 1. (continued)

<i>Salvia virgata</i> Jacq. Lamiaceae (ISTE 84 106, ISTE 84 181)	Yağlısomara	Leaf	Wounds, abscess	Ext.	Wounds (1), woman diseases, uterus cancer (14)
<i>Sambucus ebulus</i> L. Caprifoliaceae (ISTE 84 184)	Lor, Lüver, Piran, Sultan, Şahmelek, Şahmelekotu	Leaf Fruit	Wounds, hurts Hemorrhoids Stomachache	Waited in blaze or ember, ext. Eaten, fresh fruits Swallowed, one handful of fruit - in the morning	Asthma (7), sterility, insect sting (11), bellyache, cough (13), tonic (25), wounds (6, 15), enuresis (children) (6, 14), analgesic (13, 14), diuretic (1, 7, 12), burns (6, 14, 15), hemorrhoids (7, 13, 15), rheumatism (6, 9, 11, 13-15)
<i>Sambucus nigra</i> L. Caprifoliaceae (ISTE 84 180)	Lor, Lüver, Lüvor, Melikşah, Piran, Piren, Sultan, Sultanotu, Şahmelek, Şahmelik, Yiğidinotu	Leaf Fruit	Sunburn Rash in children Eczama, abscess on hands, hemorrhoids	Waited in oliveoil, ext. Powdered, ext. Swallowed, int.	Laxative (1), paralysis (5), diabetes (7), wounds, hemorrhoids, cough, asthma (13), bronchitis (8, 13), diuretic (1, 7), expectorant (13, 14), prostate disorders (7, 10, 13)
<i>Sedum pallidum</i> Bieb. var. <i>pallidum</i> Crassulaceae (ISTE 84 160)	Kedimemesi	Leaf	Wounds	Poultice, ext.	Mycosis on foot (1)
<i>Senecio vernalis</i> Waldst.&Kit. Asteraceae (ISTE 84 105)	Sarıpatatya	Aerial part	Wounds	Salve, ext., boiled, crushed and waited in olive oil	-
<i>Smilax excelsa</i> L. Liliaceae (ISTE 84 150, ISTE 84 186)	Gıcırdağdiken, Kuşevin, Zimilaçidiken	Young shoot	Cancer	Decoction, int.	Wounds (10), cancer, stomachache (15), abscess (9, 14)

Table 1. (continued)

<i>Solanum nigrum</i> L. subsp. <i>nigrum</i> Solanaceae (ISTE 84 037, ISTE 84 049)	Köpekdomatesi, Tarlauzumcügü, Üzumcük	Fruit	Aphtha	Eaten, fresh fruits	Analgesic (1), hemorrhoids (1, 14)
<i>Sonchus asper</i> (L.) Hill. subsp. <i>glaucescens</i> (Jordan) Ball Asteraceae (ISTE 84 042, ISTE 84 168)	Çallicaotu, Özsütlü, Sütlen, Sütlük, Sütlüotu	Leaf Stem, leaf	Cancer Cancer	Decoction, int. Eaten, boiled leaves as salad	Wounds, cuts (13)
<i>Tanacetum parthenium</i> (L.) Schultz Bip. Asteraceae (ISTE 84 124)	Pireotu	Capitulum	Flu	Infusion, int.	Migraine, stomachache (14), headache, diuretic, digestive (16), strengthening, emmenagogue (1, 16), antipyretic (1, 14, 16)
<i>Taraxacum scaturiginosum</i> G. Hagl. Asteraceae (ISTE 84 154)	Hindiba, Sarısütlü, Sütlüot	Capitulum, stem Leaf	Anti- inflammatory Genital itching	Decoction, int. Eaten, as meal with * <i>Brassica oleracea</i> var. <i>acephala</i> leaves	Diabetes (20)
<i>Thymus longicaulis</i> C. Presl subsp. <i>longicaulis</i> var. <i>subisophyllus</i> (Borbás) Jalas Lamiaceae (ISTE 84 132)	Kekik	Aerial part	Stomach disorders Diabetes	Infusion, int. Infusion, int., before breakfast	Stomachache (5), cancer (6), eczema (9), cough, sedative, diabetes (6, 13), asthma (9, 11)
<i>Tilia argentea</i> Desf. Tiliaceae (ISTE 84 054)	Ihlamur	Flower and bract	Cough, common cold, flu, pectoral	Infusion, int.	Cough (4), diuretic (23), bronchitis, stomachic (6, 14), expectorant (7, 8, 11), common cold (6-8, 11, 14)

Table 1. (continued)

<i>Torilis arvensis</i> (Huds.) Link subsp. <i>arvensis</i> Apiaceae (ISTE 84 043)	Derecikotu	Aerial part	Bellyache	Poultice, ext., applied over abdomen and wrap	Diuretic (21)
<i>Trachystemon orientalis</i> (L.) G. Don Boraginaceae (ISTE 84 114)	Çiçeklimancar, Hodan, Kaldırak, Kaldırek, Kaldırık, Somara, Tomara, Tomari, Zılbit	Root, rhizome	Analgesic (for broken, dislocated)	Wrapping, ext., crushed and heat with milk, apply with a broken egg over the aching area	Stomachic, breast cancer (15), rheumatism (17)
<i>Trifolium resupinatum</i> L. var. <i>resupinatum</i> Fabaceae (ISTE 84 157)	Tifilotu	Aerial part	Constipation	Decoction, int., 1 teaglass before brekfast	-
<i>Tussilago farfara</i> L. Asteraceae (ISTE 84 086)	Hindiba, Kınaççeği, Kınaotu, Öksürükotu	Aerial part Capitulum, leaf	Foot ache Cough, expectorant	Boiling, ext., foots are put in this water Infusion, int.	Bronchitis, cuts (14), burns, eye inflammation (17), wounds (14,17), cough (11, 14, 17)
<i>Urtica dioica</i> L. Urticaceae (ISTE 84 108)	Isırgan, Isırganotu, Sirgan, Sirgan	Aerial part Leaf Seed	Sunburn Diabetes Rheumatism Goiter Cough, expectorant Kidney stones and inflammation Bronchitis	Boiling, ext., washing face with this water Decoction, int. Ext. Eaten, crushed leaves 1 spoon before breakfast Eaten, crushed seeds with honey Eaten, crushed seeds with honey, 1 spoon before meals Eaten, crushed seeds with honey	Diuretic, appetizer, laxative, emmenagogue, antipyretic (1), diabetes (6), goiter, kidney disorders (7), fracture, luxatio (8), cough, cancer, common cold, psychological disorders (12), against hair loss (13), sciatic (14), rheumatism (1, 15), prostate disorders, nephritis, tonic, embolism (13, 14), hemorrhoids (13, 15), stomach disorders (7, 15), urethra and respiratory system disorders (12-14), bronchitis (11, 13, 14)

Table 1. (continued)

<i>Verbascum speciosum</i> Schrader Scrophulariaceae (ISTE 84 189)	Ayılhanası, Kabalak	Flower Root	Hemorrhoids, cough Hemorrhoids	Infusion, int. Swallowed, little pieces of root as pill 3 times per day	-
<i>Veronica persica</i> Poirer Scrophulariaceae (ISTE 84 101)	Mineçiçeği	Aerial part	Tonsillar inflammation	Decoction, int.	-
<i>Viola gracilis</i> Sibth.&Sm. Violaceae (ISTE 84 096)	Hercaimenekşe, Menekşe	Flower	Wounds, abscess Wounds, burns	Poultice, ext. Salve, ext., waited in olive oil with honey	-
<i>Viscum album</i> L. subsp. <i>album</i> Loranthaceae (ISTE 84 088)	Çakum, Ökse, Ökseotu, Yapışkanotu	Leaf, branch Leaf	Diabetes Antihypertensive Being more healthy	Decoction, int., drink in the morning Decoction, int., drink before breakfast Infusion, int.	Hemorrhoids (10), diabetes, bronchitis (14), headache (18), asthma, antihypertensive (7, 13), ulcer, cardiac diseases (7, 13, 14)

^a Scientific name: *, cultivated plant

^b Preparation: Ext., external use; Int., internal use

Table 2. Multiherbal recipes used as medicinal purposes in the south part of İzmit.

^a Scientific name	Used parts	Usage	^b Preparation, administration dosage, duration of treatment
<i>Equisetum telmateia</i> * <i>Malus sylvestris</i> <i>Plantago major</i> subsp. <i>major</i> <i>Tilia argentea</i>	Aerial part Leaf Leaf Flower and bract	Ureter disorders For bed wetting children	Infusion, int. Decoction, int., drinking with honey
<i>Hedera helix</i> * <i>Allium cepa</i> <i>Malva sylvestris</i>	Leaf Dried leaf Leaf	Sterility (woman)	Boiling, ext., vapour bath
<i>Tanacetum parthenium</i> <i>Tilia argentea</i>	Capitulum Flower and bract	Sore throat, aphonia	Infusion, int.
<i>Hypericum perforatum</i> <i>Thymus longicaulis</i> subsp. <i>longicaulis</i> var. <i>subisophyllus</i>	Aerial part Aerial part	Stomachache, stomach disorders Stomach disorders	Decoction, int. Infusion, int.
<i>Clinopodium vulgare</i> subsp. <i>vulgare</i> <i>Lamium purpureum</i> var. <i>purpureum</i>	Aerial part Aerial part	Bellyache	Boiling, ext., applied over abdomen and wrap
<i>Melissa officinalis</i> subsp. <i>altissima</i> <i>Urtica dioica</i> <i>Malva sylvestris</i>	Leaf / Aerial part Leaf Leaf	Being more healthy Kidney inflammation	Decoction, int., drink before breakfast Infusion, int., drink 1 glass before breakfast
<i>Mentha spicata</i> subsp. <i>spicata</i> <i>Tilia argentea</i>	Aerial part Flower and bract	Nausea, stomachache	Infusion, int.

Table 2. (continued)

* <i>Cydonia oblonga</i> <i>Tilia argentea</i>	Leaf Flower and bract	Common cold, cough	Infusion, int.
<i>Rubus canescens</i> var. <i>canescens</i> * <i>Petroselinum crispum</i>	Root Aerial part	Ureter disorders	Decoction, int.
* <i>Robinia pseudoacacia</i> <i>Bellis perennis</i>	Flower Capitulum	Common cold, bronchitis	Infusion, int.
<i>Alcea setosa</i> <i>Tilia argentea</i>	Flower Flower and bract	Pectoral, respiratory system disorders	Infusion, int.
<i>Plantago major</i> subsp. <i>major</i> <i>Urtica dioica</i> <i>Mentha longifolia</i> subsp. <i>typhoides</i> var. <i>typhoides</i>	Leaf Leaf Leaf	Embolism	Decoction, int.
<i>Plantago major</i> subsp. <i>major</i> <i>Urtica dioica</i>	Leaf Leaf	Laxative	Decoction, int.
<i>Plantago major</i> subsp. <i>major</i> <i>Urtica dioica</i> * <i>Malus sylvestris</i> * <i>Cydonia oblonga</i>	Seed Seed Fruit Fruit	Asthma, bronchitis, cough	Infusion, int.

^a Scientific name: *, cultivated plant

^b Preparation: Ext., external use; Int., internal use

Table 3. Plants used in veterinary medicine in the south part of İzmit.

Scientific name Family (Voucher specimen)	Local names	Used parts	Usage	^a Preparation	Other traditional usage in veterinary medicine reported earlier in Turkish ethnobotanical literature (1, 5-22)
<i>Dipsacus laciniatus</i> L. Dipsacaceae (ISTE 84 179)	Eşekkengeri	Aerial part	Wounds in mouth, for donkey	Add in fodder	-
<i>Helleborus orientalis</i> L. Ranunculaceae (ISTE 84 126)	Bohça, Bohçaotu, Çöpleme, Çöpotu	Leaf Rhizome	Diarrhoea Diarrhoea Cold	Feed Feed with bread Inserted in cow's ear	Oedema in legs (10), backache (13), difficulty in walking, against <i>Mycoplasma dysagalactia</i> (14), antiparasitic (1, 13), cold (7, 11, 13)
<i>Petasites hybridus</i> (L.) Gaertner Asteraceae (ISTE 84 116)	Ayıkulağı, Farafla, Kabakulakotu, Kabalak, Şemsiyeotu	Leaf	Inflamed wounds	Ext.	-
<i>Rumex pulcher</i> L. Polygonaceae (ISTE 84 159)	Çarşaf, Efelek, Efelik, Labada, Lapaza, Mancar, Mancarotu, Pancarotu, Yapalak	Fruit	Cough, illness	Add in fodder	-
<i>Sambucus ebulus</i> L. Caprifoliaceae (ISTE 84 184)	Lor, Lüver, Piran, Sultan, Şahmelek, Şahmelekotu	Leaf Stem	Chick's illness Tick purifying	Ext., heated and apply to chick's body Ext., crushed and apply to animal's skin	Sprains and strains (7), wounds (13, 15)

^a Preparation: Ext., external use; Int., internal use

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