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ORIGINAL RESEARCH

An ethnobotanical study of the useful and edible plants of İzmit

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ABSTRACT: An ethnobotanical study was carried out in İzmit province (Northwest Turkey). During this study, 145 specimens were collected from the area. Informations about plants such as their usages and used parts were recorded. The stud y revealed that, 96 plant taxa belonging to 42 families had ethnobotanical usages in this area. Among these 96 plant taxa, 60 taxa (51 wild, 9 cultivated) were used as edibles and 64 taxa (51 wild, 13 cultivated) were used for different purposes. The results of our study show that even in countrys that are situated in close proximity to metropolitan cities, the ethnobotanical usages of plants are still alive.

KEY WORDS: Ethnobotany, Turkey, İzmit

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INTRODUCTION

In terms of plant diversity Turkey is one of the richest countries in the world. The Turkish flora is estimated to contain more than 10.000 species of vascular plants of which about 3.034 (approximately 34 %) are endemic (1-6).

For a long time plants have played very important role for human life. As is the case with elsewhere in the world, Turkish people have utilized plants for a long time as medicinal, food, fuel and dye, as well as for ornamentation, agricultural tools, furniture and construction materials. Ethnobotanical studies have been carried out in Turkey since the early years of the 19th century (7).

The aim of this study is to collect information about the ethnobotanical usages in İzmit province (Northwest Turkey) before they are completely lost. In this paper, priority is given to the description of useful and edible plants in İzmit province (Northwest Turkey).

MATERIAL AND METHODS

Our research area, İzmit, is situated in Marmara Region in Northwest Turkey (Figure 1). İzmit is the centre province of Kocaeli and it has an area of 974 km² and its population is 373.034. İzmit is a coast county which is established between the most important Asia and Europe transition line. It has close proximity to İstanbul metropolitan city. The economy in the county mostly based on industry. Because of this, the majority of the population consists of people all around the Turkey and also immigrants from Balkans and Caucasus.

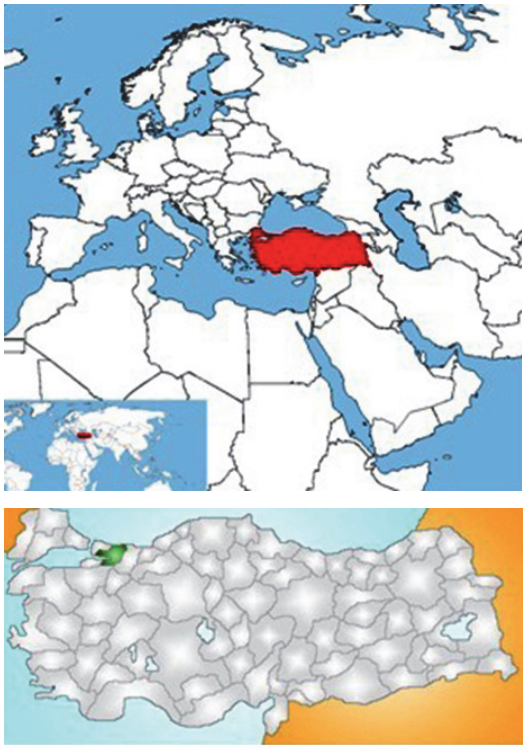

FIGURE 1. Study area: İzmit district, Turkey

This study is a part of a master thesis named "An Ethnobotanical Survey in The South Part of İzmit Gulf" (8). The field works of the study were carried out between April 2006-September 2007. During the research, 9 municipalities and 15 villages were visited and 145 specimens were collected. The informations for these plants, such as their usages and used parts were recorded to "Ethnobotanical data forms". Information was collected from both the elder and the young local people through interviews. The plants were collected with the help of the informants. Taxonomical determination of the collected specimens was made by using "Flora of Turkey and the East Aegean Islands" (1-3) and "Flora of Europaea" (9). The voucher specimens were kept in the Herbarium of the Faculty of Pharmacy, İstanbul University (ISTE). Scientific names of plant species were identified according to the International Plant Names Index (http://www.ipni.org).

FIGURE 2. **(1)** Usage of *Petasites hybridus* leaves as hat, **(2)** Dried *Phytolacca americana* fruits for colouring cabbage pickle to pink, **(3)** *Erica arborea* as broom, **(4)** *Sambucus nigra* fruits as nail polish, **(5)** *Rubus sanctus* stem as food, **(6)** *Juncus inflexus* for wattling, **(7)** *Euonymus latifolius* subsp. *latifolius* seeds for making bead, **(8)** *Arbutus unedo* fruits in the bazaar, **(9)** *Verbascum speciosum* as a gun in children's play.

TABLE 1. Ethnobotanical usages of plants in İzmit province.

Scientific name Family name (Voucher specimen number)	Local names	Used parts	Uses
Alcea setosa Alef. Malvaceae (ISTE 84 029, ISTE 84 176)	Hatmi, Hatmiçiçeği, Karafatma, Yabanifatmagül	Leaf	For hair care Cleaning the house against dust
Amaranthus hybridus L. Amaranthaceae (ISTE 84 185)	Işţır, Karagözmancarı, Tellıştır	Leaf and young stem	Cooked as a meal and for pastry
Arbutus unedo L. Ericaceae (ISTE 84 051)	Andrana, Dağyemişi, Kocakarıyemişi, Kocayemiş, Ormançileği, Piyadin	Fruit	Eaten fresh or as jam
		Wood	As fuel
Arum italicum Mill. Araceae (ISTE 84 151)	Çiçekotu, Tirşik, Yılanbıçağı, Yılanotu, Yılansoğanı, Yılanyastığı, Yılanzehiri, Zehirotu	Leaf	Boiled a few times for a long time in several waters to detoxificate because it contains poisinous alkaloids. "Tirşik soup" is made.
Bellis perennis L. Asteraceae (ISTE 84 121)	Beyazpapatya	Leaf	Cooked with vegetables
		Capitulum	As tea
**Brassica oleracea* L. var. *acephala* DC. Brassicaceae (ISTE 84 119)	Karalahana, Pali	Leaf	Cooked as meal, soup and farci
Calepina irregularis Thell. Brassicaceae (ISTE 84 099)	-	Leaf	Boiled and eaten as salad
*Capsella bursa-pastoris (*L.) Medik. Brassicaceae (ISTE 84 065)	Çobançantası, Derelahanası, Kazayağı, Kazbağsı, Kuşayağı	Leaf	Eaten as salad and cooked for pastry
Cardamine hirsuta L. Brassicaceae (ISTE 84 095)	-	Leaf	Boiled and eaten as salad, cooked with onion as a meal
		Seed	Boiled and eaten
**Castanea sativa* Mill. Fagaceae (ISTE 84 063)	Kestane, Kestane ağacı	Wood	As fuel
		Flower	As beeplant for getting "Kestane Balı (Chestnut honey)"
**Cerasus avium* Moench Rosaceae (ISTE 84 147)	Kiraz	Fruit	Eaten fresh
Chaerophyllum byzantinum Boiss. Apiaceae (ISTE 84 044)	Çarşır, Çarşırotu, Yoğurtotu	Leaf and stem	Cooked with onion as a meal As fodder
		Stem	As pickle
Chenopodium album L. subsp. *album* var. *album* Chenopodiaceae (ISTE 84 153)	Cimel, Evlidaotu, Güllüotu, Küllümancar, Tavukotu	Leaf and young stem	Boiled and eaten as a meal or salad, cooked for pastry
Cichorium intybus L. Asteraceae (ISTE 84 047)	Hindiba, Mavihindiba, Radika, Sakızotu	Leaf and stem	Boiled and eaten as salad, cooked for pastry
Cirsium creticum d'Urv. subsp. *creticum* Asteraceae (ISTE 84 123)	Eşekçalısı, Eşekdikeni	Stem	After bark is peeled, cooked as a meal or eaten fresh
Cistus creticus L. Cistaceae (ISTE 84 028, ISTE 84 050)	İstifiza, Karağan, Laden	Branch with leaf	As tea
Convolvulus arvensis L. Convolvulaceae (ISTE 84 112)	Babootu, Leksiotu, Tosbağaotu	Leaf	Cooked with vegetables
		Aerial part	As fodder
Convolvulus betonicifolius Mill. subsp. *betonicifolius* Convolvulaceae (ISTE 84 149)	Leksiotu	Aerial part	As fodder for cow
**Cornus mas* L. Cornaceae (ISTE 84 089)	Kızılcık	Fruit	Eaten as jam, marmalade and tarhana soup
		Leaf	For colouring henna
**Cydonia oblonga* Mill. Rosaceae (ISTE 84 170)	Ayva	Fruit	Eaten fresh or as jam
		Leaf	For colouring henna and dying cloth
Cynodon dactylon (L.) Pers. var. *dactylon* Poaceae (ISTE 84 053)	Ayrıkotu, Beygirotu	Whole plant	As fodder
Datura stramonium L. Solanaceae (ISTE 84 080)	Afyonotu, Eşekdikeni, Eşekotu	Fruit	As comb in children's play
		Leaf, seed	As cigarette
Dipsacus laciniatus L. Dipsacaceae (ISTE 84 179)	Eşekkengeri	Aerial part	Treating mouth sores in donkey
Erica arborea L. Ericaceae (ISTE 84 129, ISTE 84 141)	Süpürgeotu	Aerial part	As broom and fuel
Erodium malacoides (L.) L'Hér. Geraniaceae (ISTE 84 161)	-	Branch with leaf	Cooked with vegetables
Euonymus latifolius Mill. subsp. *latifolius* Celastraceae (ISTE 84 193)	-	Seed	For making bead

TABLE 1 CONTINUED. Ethnobotanical usages of plants in İzmit province.

Scientific name Family name (Voucher specimen number)	Local names	Used parts	Uses
**Ficus carica* L. subsp. *carica* Moraceae (Observation)	İncir, Yemiş, Yemişen	Fruit Leaf	Eaten fresh or as jam Added to anchovy
Geranium asphodeloides Sibth. & Sm. subsp. *asphodeloides* Geraniaceae (ISTE 84 166)	-	Branch with leaf	Cooked with vegetables
Geranium purpureum Vill. Geraniaceae (ISTE 84 163)	Hıdır, Yabanihıdır	Branch with leaf	Cooked with vegetables and for pastry
Helleborus orientalis Lam. Ranunculaceae (ISTE 84 126)	Bohça, Bohçaotu, Çöpleme, Çöpotu	Leaf, rhizome	Against diarrhea and chill in animals
Heracleum platytaenium Boiss. Apiaceae (ISTE 84 171)	Havlan, Halvanotu, Hometi, Kekrer, Romati, Yabanlahanası	Stem and stalk Leaf	As pickle As fodder for cow
**Juglans regia* L. Juglandaceae (ISTE 84 120)	Ceviz	Seed Pericarp	Eaten fresh Tea as panacea
Juncus inflexus L. Juncaceae (ISTE 84 045)	Sazotu	Stem	For wattling and tying *Petroselinum sativum* bunches
Lamium purpureum L. var. *purpureum* Lamiaceae (ISTE 84 103)	Arıotu, Ballıbaba, Balotu, Petekotu	Aerial part Flower	Cooked with vegetables and for pastry Children aspirate its nectar
Lathyrus undulatus Boiss. Fabaceae (ISTE 84 077)	Ladir	Aerial part	As fodder
Laurocerasus officinalis M. Roem. Rosaceae (ISTE 84 115)	Karamiş, Karayemiş	Fruit Seed	Eaten fresh As tea
Laurus nobilis L. Lauraceae (ISTE 84 048)	Defne, Define, Depne	Leaf	As spice in meat and fish Used for hair care
Malva nicaeensis All. Malvaceae (ISTE 84 136)	Ebegömeci, Ebegömeç, Ebegümeci	Leaf Fruit	Cooked as a meal Used for decreasing *Urtica* sp. prickles For making necklace and bracelet
Malva sylvestris L. Malvaceae (ISTE 84 092)	Ebegömeç, Ebegümeci, Molaşa, Molaşaotu	Stem and leaf	Cooked as a meal and for pastry
Medicago arabica (L.) Huds. Fabaceae (ISTE 84 030)	Yonca	Leaf Aerial part	Cooked with vegetables As fodder
Melissa officinalis L. subsp. *altissima* (Sm.) Arcang. Lamiaceae (ISTE 84 070, ISTE 84 073)	Oğulotu, Saçkıran, Yabanısırganı, Yabanidereotu	Leaf Aerial part	Boiled as salad, cooked as a meal As tea for bracing (Decoction with *Urtica* sp. ve *Malva* sp. leaves)
Mentha longifolia Huds. subsp. *typhoides* (Briq.) Harley var. *typhoides* Lamiaceae (ISTE 84 059)	Nane, Yabaninane, Yabannanesi	Leaf	As spice
Mentha spicata L. subsp. *spicata* Lamiaceae (ISTE 84 187)	Nane, Yabaninane	Leaf	As spice
**Mespilus germanica* L. Rosaceae (ISTE 84 113)	Döngel, Muşmula	Fruit Leaf	Eaten fresh or as jam For colouring henna
**Morus alba* L. Moraceae (ISTE 84 137)	Dut, Mora	Fruit	Eaten fresh or as jam
**Morus nigra* L. Moraceae (Observation)	Ekşi karadut, Karadut	Fruit Leaf	Eaten fresh or as jam Children paint their hands and faces Cooked with vegetables
Muscari neglectum Ten. Liliaceae (ISTE 84 071)	Kargasoğanı, Saçkıran	Leaf Flower	For plaiting hairs in children's play For painting the egg to blue-purple
Oenanthe pimpinelloides L. Apiaceae (ISTE 84 142)	Kazayağı, Kazayak, Kazbacağı, Kazıyak, Kazyağı, Kazyakotu, Yabanimaydanoz	Leaf	Boiled as pickle and salad, cooked as a meal with rice and egg
Origanum vulgare L. subsp. *hirtum* (Link) Ietsw. Lamiaceae (ISTE 84 067)	Kekik, Kekikotu, Köfteotu	Branch with leaf	As spice
Ornithogalum sigmoideum Freyn & Sint. Liliaceae (ISTE 84 087)	Çiğdemçiçeği, Kargasarımsağı	Leaf, stem, bulb	Cooked with rice
Paliurus spina-christi Mill. Rhamnaceae (ISTE 84 172)	Avanaktamisi, Dikenliçalı, Karaçalı, Karaçalıdikeni	Aerial part	For making fence
Papaver rhoeas L. Papaveraceae (ISTE 84 148, ISTE 84 183)	Gelincik, Gelincikotu, Kukumavotu, Nünü	Leaf Petal	Cooked as a meal and for pastry Boiled as sherbet
Petasites hybridus (L.) G.Gaertn., B.Mey. & Scherb. Asteraceae (ISTE 84 116)	Ayıkulağı, Farafla, Kabakulakotu, Kabalak, Şemsiyeotu	Leaf	For making hat and umbrella with 2 big leaves while working in gardens As fodder and for wound healing in animal diseases

TABLE 1 CONTINUED. Ethnobotanical usages of plants in İzmit province.

Scientific name Family name (Voucher specimen number)	Local names	Used parts	Uses
Phytolacca americana L. Phytolaccaceae (ISTE 84 076)	Kuşüzümü	Leaf	Cooked with vegetables
		Fruit	For colouring cabbage pickle to pink
Plantago major L. subsp. *major* Plantaginaceae (ISTE 84 127)	Balazağva, Damarlıot, Damarotu, Kırksinirotu, Sinirliot, Sinirotu	Leaf	Eaten as meal and stuffing
Prunus spinosa L. subsp. *dasyhylla* (Schur) Domin Rosaceae (ISTE 84 064)	Çakaleriği, Güvem, Yabanierik	Fruit	Eaten fresh or as jam
Pteridium aquilinum (L.) Kuhn Hypolepidaceae (ISTE 84 056)	Eğrelti, İfteri	Aerial part	As carpet in children's play, as fodder and for dust inhibiting in barns
Ranunculus constantinopolitanus d'Urv. Ranunculaceae (ISTE 84 038)	Sakızotu	Petal	For colouring chewing gum in children's play
Ranunculus ficaria L. subsp. *ficariiformis* Rouy&Foucaud Ranunculaceae (ISTE 84 091)	Yağlıot	Leaf	Boiled as salad, cooked as a meal
Raphanus raphanistrum L. Brassicaceae (ISTE 84 078)	Karamancar, Karaturp, Turpotu, Yabaniturpotu	Leaf and stem	Boiled as salad, cooked as a meal
		Stem	As pickle
Rhodendron ponticum L. subsp. *ponticum* Ericaceae (ISTE 84 055)	Avu, Komargülü, Ormangülü	Flower	As decorative and beeplant for getting "Deli Bal (Poisonous honey)"
		Aerial part	As fuel
Rosa canina L. Rosaceae (ISTE 84 041, ISTE 84 146)	Dikenbaşı, Köpekgülü, Kuşburnu, Öküzgötü, Yabanigül	Fruit	Eaten fresh or as jam
		Petal	Eaten as panacea
**Rosmarinus officinalis* L. Lamiaceae (ISTE 84 118)	Biberiye	Leaf	As spice
		Whole plant	As mosquito repellent
Rubus canescens DC. var. *canescens* Rosaceae (ISTE 84 144)	Böğürtlen, Diken, Hamdüspara, Karamuk, Mora	Fruit	Eaten fresh or as jam
		Young shoot	After bark is peeled, eaten or cooked with vegetables
Rubus sanctus Schreb. Rosaceae (ISTE 84 145)	Böğürtlem, Böğürtlen, Börtlen, Diken, Dikenbaşı, Mora	Fruit	Eaten fresh or as jam
		Young shoot	After bark is peeled, eaten or cooked with vegetables
Rumex acetosella L. Polygonaceae (ISTE 84 046)	Ekşiotu, Kuzukulağı	Leaf	Eaten fresh or boiled as salad
Rumex pulcher L. Polygonaceae (ISTE 84 159)	Çarşaf, Efelek, Efelik, Labada, Lapaza, Mancar, Mancarotu, Pancarotu, Yapalak	Leaf	Eaten as meal and stuffing
		Fruit	Against cough in animals
Ruscus aculeatus L. var. *aculeatus* Liliaceae (ISTE 84 039)	Çalısüpürgesi, Kuşkondurmadikeni	Aerial part	As broom and in floriculture
Ruscus hypoglossum L. Liliaceae (ISTE 84 068)	Aleksandra, Karamut	Fruit	Eaten fresh
		Aerial part	As fodder
Salvia virgata Ait. Lamiaceae (ISTE 84 106, ISTE 84 181)	Yağlısomara	Whole plant	As fodder
Sambucus ebulus L. Caprifoliaceae (ISTE 84 184)	Lor, Lüver, Piran, Sultan, Şahmelek, Şahmelekotu	Leaf	Decreasing *Urtica* sp. prickles
		Leaf, stem	For chick diseases and as acaricide in animals
Sambucus nigra L. Caprifoliaceae (ISTE 84 180)	Lor, Lüver, Lüvor, Melikşah, Piran, Piren, Sultan, Sultanotu, Şahmelek, Şahmelik, Yiğidinotu	Leaf	Putting over the tobacco bales to make moisture
		Fruit	As nail polish in children's play
Scrophularia scopolii Hoppe ex Pers. var. *scopolii* Scrophulariaceae (ISTE 84 173)	Ballıbaba, Süpürgelik	Aerial part	As broom
		Flower	Children aspirate its nectar
Senecio vulgaris L. Asteraceae (ISTE 84 134)	Sütlüce	Leaf	Boiled, filtered the boiling water and eaten as salad
		Aerial part	As fodder
Silybum marianum (L.) Gaertn. Asteraceae (ISTE 84 169)	Kocabaş	Stem, young shoot	After bark is peeled, eaten fresh or cooked with rice
Smilax excelsa L. Liliaceae (ISTE 84 150, ISTE 84 186)	Gıcırdakdikeni, Kuşevin, Zimilaçidikeni	Young shoot, leaf	Cooked as meal
		Fruit	Chewing like gum in children's play
Solanum nigrum L. subsp. *nigrum* Solanaceae (ISTE 84 037, ISTE 84 049)	Köpekdomatesi, Tarlaüzümcüğü, Üzümcük	Fruit	Eaten fresh
Sonchus asper (L.) Hill subsp. *glaucescens* (Jord.) Ball Asteraceae (ISTE 84 042, ISTE 84 168)	Çallıcaotu, Özsütlü, Sütlen, Sütlük, Sütlüotu	Stem, leaf	Eaten as salad, cooked with vegetables
		Aerial part	As fodder
Sorghum halepense (L.) Pers. var. *halepense* Poaceae (ISTE 84 052)	Ekinotu, Mısırotu	Aerial part	As broom and fodder

TABLE 1 CONTINUED. Ethnobotanical usages of plants in İzmit province.

Scientific name Family name (Voucher specimen number)	Local names	Used parts	Uses
Spartium junceum L. Fabaceae (ISTE 84 139)	Katırtırnağı	Aerial part	As broom, fuel, decorative
Stellaria media (L.) Vill. subsp. *media* Caryophyllaceae (ISTE 84 093)	Arapsaçı, Bürümcek, Gıyşak, Kulumcak, Kuşotu, Kuşyüreği	Young shoot, branch with leaf	Eaten as salad, cooked with rice or for pastry
Taraxacum scaturiginosum G.E. Haglund Asteraceae (ISTE 84 154)	Hindiba, Sarısütlü, Sütlüot	Leaf	Cooked as meal, boiled as salad
		Stem	As whistle in children's play
Thymus longicaulis C. Presl subsp. *longicaulis* var. *subisophyllus* (Borbás) Jalas Lamiaceae (ISTE 84 132)	Kekik	Leaf	As spice
Tilia argentea DC. Tiliaceae (ISTE 84 054)	Ihlamur	Wood	As fuel and decorative
Trachystemon orientalis (L.) G. Don Boraginaceae (ISTE 84 114)	Çiçeklimancar, Hodan, Kaldırak, Kaldırek, Kaldırık, Somara, Tomari, Tomara, Zılbıt	Stem, leaf	Cooked as meal
Trifolium constantinopolitanum Ser. Fabaceae (ISTE 84 040)	Üçkulakotu, Yonca	Aerial part	As fodder
Trifolium resupinatum L. var. *resupinatum* Fabaceae (ISTE 84 157)	Tifilotu	Aerial part	As fodder
Tussilago farfara L. Asteraceae (ISTE 84 086)	Hindiba, Kınaçiçeği, Kınaotu, Öksürükotu	Leaf	Cooked with onion as meal, boiled as salad
Typha latifolia L. Typhaceae (ISTE 84 128)	Saz	Aerial part	As decorative
Urtica dioica L. Urticaceae (ISTE 84 108)	Isırgan, Isırganotu, Sırgan, Sirgan	Aerial part	Cooked with rice as meal and for pastry
Verbascum speciosum Schrad. Scrophulariaceae (ISTE 84 189)	Ayılahanası, Kabalak	Aerial part	As fuel
		Whole plant	As a gun in children's play
		Leaf	As fodder for sheep and goat
Vicia sativa L. subsp. *nigra* (L.) Ehrh. var. *nigra* Fabaceae (ISTE 84 031)	Fi, Fiotu, Yabanifi	Aerial part	As fodder
Viola gracilis Sibth. & Sm. Violaceae (ISTE 84 096)	Hercaimenekşe, Menekşe	Whole plant	As decorative
Viscum album L. subsp. *album* Loranthaceae (ISTE 84 088)	Çakum, Ökse, Ökseotu, Yapışkanotu	Fruit	As glue
		Leaf	As tea for bracing
**Vitis vinifera* L. Vitaceae (ISTE 84 182)	Asma, Üzüm	Fruit	Eaten fresh and as pickle
		Juice sap (obtained from broken branches)	For hair and skin care
		Leaf	Cooked with onion, rice and some spices as farci
		Seed	Boiled and eaten or eaten as pop corn
**Zea mays* L. subsp. *mays* Poaceae (Observation)	Mısır	Stilus	As cigarette
		Aerial part	As fodder

*Cultivated plant

RESULTS AND DISCUSSION

During this research, 145 specimens were collected from the area. According to the results of the identifications, 96 plant taxa belonging to 42 families have ethnobotanical usages. The ethnobotanical usages of plants are given in Table 1. Among these 96 plant taxa, 60 taxa (51 wild, 9 cultivated) are used as edibles and 64 taxa (51 wild, 13 cultivated) are used for different purposes. Several taxa were recorded as being used for more than one purpose. Photos of some plants which were taken from the study area are given in Figure 2.

In a number of cases, some of the taxa are known under the same local name. For instance *Ranunculus constantinopolitanus, Cichorium intybus* as "Sakızotu", *Taraxacum scaturiginosum, Tussilago farfara, Cichorium intybus* as "Hindiba", *Convolvulus arvensis, Convolvulus betonicifolius* subsp. *betonicifolius* as "Leksiotu", *Cirsium creticum* subsp. *creticum, Datura stramonium* as "Eşekdikeni", *Lamium purpureum* var. *purpureum, Scrophularia scopolii* var. *scopolii* as "Ballıbaba", *Malva nicaeensis, Malva sylvestris* as "Ebegömeç, Ebegümeci", *Mentha longifolia* subsp. *typhoides* var. *typhoides, Mentha spicata* subsp. *spicata* as "Nane, Yabaninane", *Verbascum speciosum, Petasites hybridus* as "Kabalak", *Sambucus ebulus, Sambucus nigra* as "Lor, Lüver, Piran, Sultan, Şahmelek", *Rubus canescens* var. *canescens, Rubus sanctus* as "Böğürtlen, Diken, Mora", *Oenanthe pimpinelloides, Capsella bursa-pastoris* as "Kazayağı" and *Sonchus asper* subsp. *glaucescens, Taraxacum scaturiginosum* as "Sütlüot".

Local people usually consume plants as edibles. These 60 edible plant taxa are distributed among 30 families and 58 genera. The most frequently used families are Asteraceae and Rosaceae (13,3 %), Lamiaceae (11,7 %), Brassicaceae (8,3 %), Geraniaceae, Apiaceae, Moraceae and Liliaceae (5 %). The genera which is represented with the highest number of taxa among edible plants are: *Geranium*, *Malva*, *Mentha*, *Morus*, *Rubus* and *Rumex*.

The mostly used parts of edible plants are leaf, young stem and fruit. Leaves are usually boiled and eaten as salad or cooked as a meal and cooked for pastry. Leaves of *Arum italicum* are boiled a few times firstly and then the boiled water is thrown away because of its alkaloid content.

Some plants of the Apiaceae family like *Oenanthe pimpinelloides, Heracleum platytaenium* and *Chaerophyllum byzantinum* are consumed as edible or fodder in İzmit. But food plants of the Apiaceae family contain a group of bioactive aliphatic C_{17}-polyacetylenes. These polyacetylenes have shown to be highly toxic towards fungi, bacteria and mammalian cells and to display neurotoxic, anti-inflammatory and anti-platelet-aggregatory effects and to be responsible for allergic skin reactions (10). Also some members of Apiaceae family are reported to cause photosensitization (11, 12), because of these reasons they have to be used carefully.

Local people also use plants for different purposes in İzmit. These 64 various useful plant taxa are distributed among 32 families and 56 genera. Among these plants, the genera which is represented with the highest number of taxa are: *Convolvulus, Ruscus, Sambucus* and *Trifolium*. The most frequently uses are; 19 taxa as fodder, 7 taxa as fuel, 6 taxa as tea, 5 taxa as broom, 5 taxa in the treatment of animal diseases and 3 taxa for colouring henna. *Rhodendron ponticum* subsp. *ponticum* and *Castanea sativa* are used as beeplant. Flowers of *Rhodendron ponticum* subsp. *ponticum* is used for getting "Deli Bal (Poisonous honey)". But this plant contains Grayanotoxin I (Andromedotoxin) and can cause poisoning (13). Also *Helleborus orientalis*, *Pteridium aquilinum* and *Sorghum halepense* var. *halepense* are used as fodder and they can cause poisoning in animals (14).

According to our results, there is 1 endemic plant; *Lathyrus undulatus* which is used as fodder by local people. The responsibility of researchers is to give informations to local people about endemic plants and their usages. This result gives us an important information to protect our natural habitat in the study area for long term. Ethnobotanical knowledge becomes widespread by immigration. The majority of the population in İzmit consists of people all around the Turkey and also immigrants from Balkans and Caucasus. Because of this, ethnobotanical knowledge is mostly gathered from different areas, so various informations have been found in İzmit.

The results of our study show that even in countrys that are situated in close proximity to metropolitan cities, the ethnobotanical usages of plants are still alive. And also documenting not only about medicinal plants but also edible plants and plants for different usages (fodder, fuel etc.) are necessary before the knowledge of these usages has been completely lost.

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İzmit'in faydalı ve besin bitkilerinin etnobotaniği

ÖZET: İzmit ilçesinde yapılan bu etnobotanik çalışmada 145 adet bitki örneği toplanmıştır. Arazi çalışmalarında yöre halkıyla görüşülerek bitkilerin kullanım amaçları ve kullanılan kısımları gibi bilgiler derlenmiştir. Yapılan bu çalışma sonucunda 42 familyaya ait 96 taksonun etnobotanik kullanımı olduğu saptanmıştır. Bunlardan 60 (51 doğal, 9 kültür) takson gıda olarak ve 64 takson da (51 doğal, 13 kültür) çeşitli diğer amaçlar için kullanılmaktadır. Yapmış olduğumuz çalışma ile büyük şehirlere yakın yerleşim alanlarında bile bitkilerin etnobotanik kullanımlarının hala varolduğu görülmüştür.

ANAHTAR SÖZCÜKLER: Etnobotanik, Türkiye, İzmit

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