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Ethnopharmacological survey of medicinal and foods plants in Derecik (Hakkari-Turkey)

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This study was carried out to record the medicinal plants and plants used as food by the people living in and around Derecik district (Hakkari) between 2014-2017. One-on-one interviews were conducted with people living in the region and those who had knowledge about their use were asked to answer a survey. Demographic characteristics of the participants, local names of plants, parts used and usage patterns were recorded. The local names of some plants differ in different parts of Anatolia due to differences in language and dialect. As a result of the study; 55 plant taxa belonging to 27 families with medical use and 59 plant taxa belonging to 24 families with food use were determined. Plant use is very common in the regional culture. These plants can be used fresh, dried or can be stored in the refrigerator and be used throughout the year.

Keywords: Derecik, Ethnobotany, Food plants, Hakkari, Traditional medicine, Turkey

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Ethnobotany, in today's conditions can be explained in the most comprehensive way as: Human-plant relations in the process of evolution, in the simplest way as: The benefit of people living in a locality, from the plants in their immediate surroundings to meet their various needs and the effects of those plants[1,2].

Since the beginning of human history, people have used plants for the treatment of various diseases. Therefore, the ethnobotanical information transferred from the past to the present day most commonly includes medicinal plants and their use. Besides this, plants are also used as food, fuel, for ornament making, as dyestuff, building material, for magical purposes, and amulet making[1-5].

Ethnobotanical studies, in addition to recording the interactions of humans and plants, also help protect biodiversity, identify species that are used, exported and endangered and meet the nutritional needs of rural people. Identification of new species is also a source for the cultivation of plants resistant to diseases and adverse environmental conditions[6-8].

Since the beginning of human history, the scientific evaluation of the information obtained through trial and error and transferred from generation to generation has gained considerable speed with ethnobotanical studies. Our country, which has hosted many cultures, has an important wealth of knowledge in terms of ethnobotany. The reasons for the loss of this information might be migrations and young individuals' lack of interest in information transferred to them from their elders. Ethnobotanical studies are used to determine the plants that grow in specific regions and their use. The information obtained as a result of these studies will also contribute to the economic development of the population[9-13].

Turkey is a very rich country in terms of plant diversity and endemic plant species. Besides, due to its geomorphological, topographical and climatic variations, it has an extraordinary richness of habitat[14-17].

Ethnobotanical studies are of great importance for transferring the knowledge of people about plants to future generations without being forgotten. These studies will allow the discovery of new drugs and the conservation of the gene resources and endemic plants[18].

This study is the first ethnobotanical study in Derecik (Hakkari) district. The main purpose of this study was to give information about medicinal and food uses of plants around Derecik district, to contribute to the literature about human-plant relations and to help this important information be

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Fig. 1 — Geographical location of the study area.

transferred to future generations.

Materials and Methods

Study area

The research area of Derecik and its environs is a geographic area with very steep rocky and mountainous terrain. There are 14 villages in this area. At the farthest point of Derecik district, there is the village of Anadag at the Iraqi border. The Iraqi border of the district is surrounded by Hajibey stream. In addition to Hajibey stream surrounding the research area, Semdinli stream passes through the area. In our research area, which includes dense oak forests such as Gulkan valley, agricultural fields are very few while animal husbandry is in demand.

Derecik is a district of Hakkari province (Figure 1). Its geographical position is 37° 06 'N and 44° 31'E/37.1° N 44.517° E/37.1°; 44.517. Derecik is on the Northern Iraqi border of Turkey, 65 km from Şemdinli and 190 km from Hakkâri. Derecik, which was a town of Semdinli until 2018, became a district of Hakkari on 18 October 2018. The population of the district as of 2018 is 22.953 (https://tr.wikipedia.org/wiki/Derecik,_ Hakkâri).

Plant materials

The material of the research consists of plant samples collected during the survey studies and the information obtained after face-to-face interviews with the local people. Beginning in April 2014, periodical field studies were carried out for two years, especially during vegetation periods, the obtained materials were carefully dried and made into herbarium material. The scientific names of the plants were identified based on the information in the "Flora of Turkey and the East Aegean Islands"[14,15]. The taxonomic order of plants was made alphabetically, according to family names. After taxonomic classification of plants; their local names, parts used, usage and usage methods were recorded (Table 1 and Table 2). Literature research on these plants has been done to increase the depth of the discussion.

Table 1 — Demographic characteristics of the individuals' (n=62)

Demographical characteristics	Number	%
Age		
15-49	42	67,7
50 and above	20	32,2
Sex		
Male	31	50
Female	31	50
Educational level		
İlliterate	20	32,2
Literate	26	41,9
Primary and Secondary school	10	16,2
High school	5	8,1
University	1	1.6

Results of the study of plants; families, scientific names, parts used and methods of use are given in Tables (Table 2 and Table 3). The plants are kept in the Herbarium of Van Yuzuncu Yıl University (VANF).

Interviews with local people

The study was conducted between 2014-2017 in 14 villages of Derecik district. These villages were Koçyiğit, Üçyan, Kırca, Umurlu, Akdemir, Yolgeldi, Ulaşan, Gelişen, Yeşilova, Gürmeşe, Samanli, Öntepe, Uslu and Oylum.

The aim of our study was explained by one-on-one interviews with local people. Later, field studies were conducted with the people who wanted to answer our survey and the information they provided and their personal information were recorded. The language of the local people is Kurdish. Since we conducted the survey together with Kurdish-speaking people, there was no problem of public communication. Permission was obtained from local government.

Category of ailments

According to the information obtained from the surveys, the most prominent diseases were classified

Table 2 — List of wild medicinal plants investigated with their related information

Sl. No.	Family	Plant species, voucher specimen	Vernacular name of Derecik	[a]Plant part (s) used	[b]Preparations	[c]Utilization Method	Medicinal use
1	Apiaceae	*Smyrnium olusatrum* L. KY-1194	*Xelendor*	Stm, Lvs	Apb	Per, Dam	Urinary bladder cyst, milk enhancer
2	Asparagaceae	*Leopoldia tenuiflora* (Tausch) Heldr. KY-1026	*Sümbül, sosın*	Whp	Msh	Ext	Callus
3	Asteraceae	*Anthemis cotula* L. KY-1033	*Giyaliç, beybun*	Arp	Inf	Dam	Gastrointestinal disorders, inflammation of the uterus, pregnancy terminator
4		*Artemisia absinthium* L. KY-1195	*Bevüjana kuvi*	Arp	Dco	Doa	Diabetes disease
5		*Centaurea pterocaula* Trautv. KY-1204	*Tahlişk*	Lvs	Msh	Ext	Antidote
6		*Centaurea saligna* (K.Koch) Wagenitz KY-1043	Nebi çiçeği	Arp	Rlf	Ext	Wound healing
7		*Helichrysum plicatum* DC. KY-1210	*Gula zer*	Arp	Inf	Dam	İnflammation dryer
8		*Inula oculus-christi* L. KY-1197	*Andız*	Arp	Dco	Dam	Asthma
9		*Lactuca serriola* L. KY-1008	*Keklik otu, tahliç*	Lvs	Rlf	Eam	Stomach ache
10		*Scorzonera latifolia* (Fisch. & C.A.Mey.) DC. KY-1108	*Yakı sakızı*	Rts	Ltr	Lxe	Analgesic
11		*Tanacetum balsamita* L. KY-1109	*Gıyakeçık*	Lvs	Rlf	Lue	Wound healing
12		*Tanacetum aureum* (Lam.) Greuter & al. KY-1212	*Bovijan*	Arp	Dco	Dam	Diabetes disease
13		*Taraxacum sonchoides* (D.Don) Sch. Bip. KY-1215	*Pıtot-bıtot*	Ltx	Ltr	Lxe	Moisturizer
14	Berberidaceae	*Bongardia chrysogonum* (L.) Spach KY-1044	*Patpat*	Tbr	Glc	Cps	Hemorrhoids
15	Boraginaceae	*Anchusa azurea* Mill. KY-1199	*Gezirwan, gelezan*	Arp	Apb	Ext	Wound healing
16		*Nonea pulla* (L.) DC. KY-1098	*Güzrik*	Rts	Msh	Ext	İnflammation dryer
17	Campanulaceae	*Campanula reuteriana* Boiss. & Balansa KY-1176	*Çan, nojda*	Rts	Apb	Ext	Wound healing
18		*Theodorovia karakuschensis* (Grossh.) Kolak. KY-1175	*Nojda, gezize*	Arp	Dco	Dam	Kidney stones
19	Caryophyllaceae	*Gypsophila nabelekii* Schischk. KY-1117	*Çöven*	Rhz	Dco	Dam	Anti-inflammatory, getter
20		*Oberna commutata* Ikonn. KY-1178	*Gıvışgan, goşberx*	Arp	Inf	Dam	Anti-inflammatory
21	Colchicaceae	*Colchicum szovitsii* Fisch. & C.A. Mey. KY-1101	*Sosin, güzçiğdemi*	Blb	Dco	Dam	Constipation
22	Cucurbitaceae	*Bryonia multiflora* Boiss. & Heldr. KY-1110	*Abdılselam, dalit, tiriyemaran*	Whp	Ltr, Drp	Lxe, Dtd	Hemorrhoids, rheumatism
23		*Lagenaria siceraria* (Molina) Standl. cv. KY-1169	*Kundireavi, dolmik*	Frt	Dco	Dam	Antihypertensive
24	Euphorbiaceae	*Euphorbia denticulata* Lam. KY-1039	*Giyaşirk, dolık*	Arp	Ltr	Lxe	Wound healing, callus
25		*Euphorbia esula* subsp. *tommasiniana* (Bertol.) Kuzmanov KY-1115	*Şirkutik, delek, şir*	Ltx	Ltr	Eam	Gastrointestinal disorders
26		*Euphorbia macrocarpa* Boiss. & Buhse KY-1046	*Giyaşirk, dolık*	Ltx	Ltr	Lxe	Wound healing, callus
27	Fabaceae	*Astracantha gummifera* (Labill.) Podlech KY-1040	*Sakızlıgeven, daraguni*	Whp	Ltr	Chw, Eam	Abdominal pain, milk enhancer

(*Contd*.)

Table 2 — List of wild medicinal plants investigated with their related information—(*Contd*.)

Sl. No.	Family	Plant species, voucher specimen	Vernacular name of Derecik	[a]Plant part (s) used	[b]Preparations	[c]Utilization Method	Medicinal use
28		*Glycyrrhiza glabra* L. KY-1056	*Bıyan, piyan*	Rts	Dco	Dam	Colds and flu, anti-inflammatory
29		*Melilotus officinalis* subsp. *alba* (Medik.) H.Ohashi &Tateishi KY-1189	*Yonce*	Lvs	Rlf	Lue	Wound healing, bleeding stopper
30		*Onobrychis vanensis* (Hedge) Ponert KY-1152	*Korunga*	Arp	Dco	Dam	Kidney stones, diuretic
31		*Ononis spinosa* L. KY-1130	*Semisk*	Arp	Dco	Dam	Kidney stones
32		*Trifolium repens* L. KY-1184	*Nefela spi*	Arp	Dco	Dam, Ext	Anti-inflammatory
33	Fagaceae	*Quercus infectoria* subsp. *veneris* (A.Kern.) Meikle KY-1167	*Dara mazi, mazi, qulind*	Whp	Dlf, Dfp	Ext	Abdominal pain, burn, toothache
34	Gentianaceae	*Gentiana olivieri* Griseb. KY-1146	*Afat otu*	Arp	Rlf	Ext	Wound healing
35	Hypericaceae	*Hypericum scabrum* L. KY-1133	*Giyazer*	Whp	Dco	Dam	Hemorrhoids
36	Lamiaceae	*Salvia sclarea* L. KY-1186	*Dağçayı*	Lvs	Inf	Dam	Colds and flu, gastric pain
37		*Salvia verticillata* subsp. *amasiaca* (Freyn & Bornm.) Bornm. KY-1147	*Giyareşık*	Lvs	Dco, Inf	Dam	Gastrointestinal disorder
38		*Salvia verticillata* L. KY-1088	*Bareş*	Arp	Rlf	Lue	Wound healing
39		*Teucrium chamaedrys* subsp. *sinuatum* (Celak.) Rech.f. KY-1201	*Kıselmahmut*	Arp	Inf	Dam	Diabetes disease, analgesic
40		*Teucrium polium* L. KY-1129	*Catri*	Arp	Dco	Dam, Per	Gastrointestinal disorder
41	Malvaceae	*Alcea hohenackeri* Boiss. KY-1158	*Hero*	Arp	Apb	Lue	Blain,anti-inflammatory, sinusitis
42	Oleaceae	*Fraxinus angustifolia* subsp. *syriaca* (Boiss.) Yalt. KY-1172	*Benavi*	Arp	Apb	Ext	Rheumatism
43	Papaveraceae	*Fumaria schleicheri* subsp. *microcarpa* (Hausskn.) Lidén KY-1099	*Vaşedikan, cahteli*	Arp	Dco	Dam	Anti toxic
44	Plantaginaceae	*Plantago lanceolate* L. KY-1198	*Giyabiring*	Lvs	Rlf	Lue, Per	Gastric ulcer, gastric pain
45	Platanaceae	*Platanus orientalis* L. KY-1065	*Çinar, dara dilbe, çinara rojhelati*	Brn, Stm, Lvs	Apb	Ext	Rheumatism
46	Resedaceae	*Reseda lutea* L. KY-1126	*Cebore, helezerengi*	Arp	Dco	Dam	Gastric pain
47	Rosaceae	*Alchemilla hessii* Rothm. KY-1164	*Vaşevayan, şerpençe*	Lvs	Dco	Dam	Gynecology
48		*Filipendula ulmaria* (L.) Maxim. KY-1202	*Mecrisok*	Arp	Dco	Dam	Heart burn
49		*Rosa heckeliana* Tratt. KY-1070	*Şilan*	Frt	Dco	Dam	Cough, throatache
50	Rubiaceae	*Cruciata taurica* (Pall. ex Willd.) Ehrend. KY-1185	*Giyayenorme*	Frt	Dco	Dam	Gastrointestinal disorder
51		*Galium consanguineum* Boiss. KY-1150	*Giyaye rune*	Arp	Dco	Ext, Dam	Hemorrhoids
52	Scrophulariaceae	*Verbascum speciosum* Schrad. KY-1142	*Mascerik*	Arp	Dco	Dam	Cough, anti-inflammatory

(*Contd*.)

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Sl. No.	Family	Plant species, voucher specimen	Vernacular name of Derecik	[a]Plant part (s) used	[b]Preparations	[c]Utilization Method	Medicinal use
53	Thymelaeaceae	*Daphne mucronata* Royle KY-1053	*Tevrixank, tevri*	Brn	Dco	Grg, Ext	Toothache, anti-inflammatory
54	Violaceae	*Viola odorata* L. KY-1036	*Bınevşok*	Whp	Dco	Dam, Per	Colds, gastric ulcer
55	Zygophyllaceae	*Tribulus terrestris* L. KY-1141	*Germük, peykol, xencere, gurnik*	Arp	Dco	Dam	Kidney stones

cv. : cultivar, provariety

[a]**Plant part(s) used:** Arp, aerial parts; Bgh, bough; Brn, branches; Blb, bulb; Flw, flowers; Frt, fruits; Ltx, latex; Lvs, leaves; Ptl, petiole; Rhz, rhizomes; Rsn, resin; Rts, roots; Sds, seeds; Spc, spica; Stm, Stems; Tbr, tuber; Whp, whole plant.

[b]**Preparations:**Apb, aerial parts boiled; Dco, decoction; Dfp, dried fruit powdered; Dlf, dried leaf; Drp, dried root powdered; Fbo, fruit boiled; Glc, the gallus is crushed; Inf, infusion; Ltr, latex is removed; Msh, mash; Rlf, raw leaf; Rtb, raw tuber; Tbd, tree bark decoction; Wfl, wheat flour.

[c]**Utilization method:** Chw, Chew; Cmp, compote; Cps, compress; Dam, drink one cup after meals; Des, drink one glass of the plant on an empty stomach in the morning; Dtd, drink one cup of the plant two times a day; Eam, eaten as meal; Ext, externally; Fer, fruit eaten raw; Grg, gargle; Lue, latex is used externally; Per, the plant is eaten raw.

Table 3 — Wild food plants in Derecik and around

Sl. No.	Family	Plant species, voucher specimen	Vernacular name of Derecik	Edible Parts [a]	Utilization method
1	Amaranthaceae	*Beta vulgaris* L. cv. KY-1011	*Sılq, silk, sersılık*	Lvs	Cooked as a stew or egg and rice-vegetable dish, used as stuffing leaves from fresh leaves
2		*Chenopodium foliosum* Asch. KY-1205	*Dağçileği*	Frt	Eaten fresh
3	Amaryllidaceae	*Allium akaka* S.G.Gmel. ex Schult. &Schult.f. KY-1032	*Guhbızın, pivazahiçke*	Lvs	Aerial parts cooked as vegetable, eaten fresh
4		*Allium ampeloprasum* L. KY-1136	*Sirakevşi*	Whp	Aerialparts cooked as vegetable, eaten fresh
5		*Allium giganteum* Regel cv. KY-1135	*Lüş*	Arp	Cooked as a stew or egg and rice-vegetable dish, plant is with yogurt
6		*Allium macrochaetum* Boiss. & Hausskn. KY-1181	*Çorin*	Lvs	Cooked as a stew or egg and rice-vegetable dish
7		*Allium schoenoprasum* L. KY-1134	*Sirik, sirmok, sirok*	Arp	Used in cheese production, local food
8		*Allium trachycoleum* Wendelbo KY-1183	*Piyazok*	Whp	Used in cheese production
9	Apiaceae	*Apium graveolens* L. cv. KY-1095	*Kereviz, maydanoz*	Lvs	Eaten fresh, burrito, as spice
10		*Chaerophyllum macropodum* Boiss. KY-1048	*Mendi, mendé*	Stm, Lvs	Soup made with ayran, used in cheese production, fresh plant is eaten after peeling off the outer part
11		*Chaerophyllum macrospermum* (Willd. Ex Spreng.)Fisch. & C.A.Mey. ex Hohen. KY-1174	*Mendi*	Arp	Cooked as a stew or egg and rice-vegetable dish, used in cheese production
12		*Falcaria vulgaris* Bernh. KY-1009	*Bagelaşk, kazayağı*	Arp	Cooked as a stew or egg and rice-vegetable dish, aerial parts cooked as vegetable
13		*Ferula orientalis* L. KY-1192	*Heliz, hıngedan*	Whp	Used in cheese production, plant is with yogurt, as spice
14		*Ferulago angulata* (Schltdl.) Boiss. KY-1012	*Cevri*	Arp	Used in cheese production
15		*Ferulago stellata* Boiss. KY-1013	*Big*	Arp	Used in cheese production, plant is with yogurt, cooked as a stew or egg and rice-vegetable dish

(*Contd.*)

Table 3 — Wild food plants in Derecik and around

Sl. No.	Family	Plant species, voucher specimen	Vernacular name of Derecik	Edible Parts [a]	Utilization method
16		*Heracleum persicum* Desf. ex Fisch., C.A.Mey. &Avé-Lall. KY-1093	*So*	Arp	Cooked as a stew or egg and rice-vegetable dish
17		*Prangos pabularia* Lindl. KY-1051	*Alo*	Arp	Aerial parts cooked as vegetable, used in cheese production, eaten fresh
18		*Pseudopimpinella anthriscoides* (Boiss.) F.Ghahrem., Khajepiri & Mozaff. KY-1225	*Biyök*	Whp	Cooked as a stew or egg and rice-vegetable dish, lea, soup made
19		*Sium sisarum* L. KY-1022	*Bentkaavi*	Arp	Cooked as a stew or egg and rice-vegetable dish
20	Araceae	*Arum rupicola* Boiss. KY-1107	*Kari, gardi*	Arp	Cooked as a stew or egg and rice-vegetable dish, local food
21	Asteraceae	*Centaurea iberica* Trevir. ex Spreng. KY-1041	*Talu, tali*	Arp	Fresh plant is eaten after peeling off the outer part
22		*Cirsium pubigerum* var. *spinosum* Petr. KY-1196	*Kivar*	Stm	Fresh plant is eaten after peeling off the outer part
23		*Cota austriaca* (Jacq.) Sch. Bip KY-1031	*Papatya, beybun*	Arp	As herbal tea
24		*Echinops heterophyllus* P.H.Davis KY-1165	*Baxuxe*	Arp, Flw	Eaten with cheese, flower tray eaten
25		*Helianthus annuus* L. cv. KY-1064	*Gulberoji*	Arp, Sds	Eaten as dried nuts
26		*Lactuca sativa* L. KY-1002	*Marul, kahü*	Arp	Eaten fresh, leaves eaten in salads
27		*Scorzonera mollis* M.Bieb. KY-1177	*Gurzi*	Lvs	Aerial parts cooked as vegetable
28	Asparagaceae	*Zagrosia persica* (Hausskn.) Speta KY-1119	*Sümbül, simbil*	Lvs	Local food
29	Boraginaceae	*Alkanna orientalis* (L.) Boiss. KY-1187	*Gürız, gozirvan*	Arp	Aerial parts cooked as vegetable
30		*Onosma alborosea* Fisch. & C. A. Mey. KY-1014	*Emzik, havaciva*	Flw	Fresh flower is suck
31		*Symphytum kurdicum* Boiss. & Hausskn. KY-1027	*Ezmangag*	Lvs	Used as stuffing leaves from fresh leaves
32	Brassicacea	*Cardamine uliginosa* M.Bieb. KY-1156	*Tereotu*	Arp	Eaten fresh
33	Cannabaceae	*Celtis planchoniana* K.I.Chr. KY-1045	*Tewek, tewok*	Frt	Eaten mature fresh, eaten as dried nuts
34	Convolvulaceae	*Convolvulus arvensis* L. KY-1206	*Sarmaşık, gulbori*	Arp	Aerial parts cooked as vegetable
35	Cornaceae	*Cornus mas* L. KY-1221	*Dendelok, belalük*	Brn, Frt	Eaten mature fresh
36	Fabaceae	*Cicer arietinum* L. cv. KY-1157	*Nohut, nuk*	Frt, Sds	Meal made from seeds, seeds eaten fresh
37		*Vicia alpestris* Steven KY-1200	*Gılgireş*	Frt, Sds	Eaten fresh seeds
38	Fagaceae	*Quercus petraea* subsp. *pinnatiloba* (K.Koch) Menitsky KY-1166	*Meşe, daram oz, belu*	Frt, Brn, Stm	Eaten as dried nuts
39	Lamiaceae	*Mentha longifolia* (L.) L. KY-1140	*Pungasor*	Arp	As spice, leaves eaten in salads, burrito, soup made
40	Moraceae	*Morus alba* L. cv. KY-1082	*Tü*	Whp	Used as stuffing leaves from fresh leaves, dried fruit, eaten mature fresh
41		*Morus nigra L. cv. KY-1083*	*Tü*	Frt	Dried fruit,eaten mature fresh, boiled grape juice
42		*Morus rubra L. cv. KY-1084*	*Tü*	Frt	Dried fruit,eaten mature fresh
43	Orchidaceae	*Anacamptis palustris (Jacq.) R.M.Bateman, Pridgeon & M.W.Chase KY-1017*	*Galok, pıtatok*	Rhz	Used in ice cream production
44	Pleurotaceae	*Pleurotus eryngii (DC.) Quèl. var.ferulae (Lanzi) Sacc. KY-1018*	*Mantar, karık*	Arp	Cooked as a stew or egg and rice-vegetable dish
45	Poaceae	*Oryza sativa L. cv. KY-1163*	*Bırınç*	Sds, Arp	Rice pilaf is made
46	Polygonaceae	*Rumex alpinus L. KY-1029*	*Tirşok*	Lvs	Aerial parts cooked as vegetable
47	Primulaceae	*Primula auriculata Lam. KY-1188*	*Sosıng*	Arp	Aerial parts cooked as vegetable
48	Ranunculaceae	*Ficaria fascicularis K.Koch KY-1096*	*Giyagelmok, giyalog*	Lvs	Aerial parts cooked as vegetable

(*Contd*.)

Table 3 — Wild food plants in Derecik and around

Sl. No.	Family	Plant species, voucher specimen	Vernacular name of Derecik	Edible Parts [a]	Utilization method
49		*Ranunculus aquatilis* L. KY-1207	*Çunge, çiçegazer, xiyalog*	Lvs	Used in chees eproduction, aerial parts cooked as vegetable
50		*Ranunculus kotschyi* Boiss. KY-1211	*Çünge*	Lvs	Used in cheese production
51	Rhamnaceae	*Paliurus spina-christi* Mill. KY-1035	*Diriyereş, kenari*	Arp	Eaten fresh
52	Rosaceae	*Fragaria vesca* L. cv. KY-1122	*Çileg*	Frt	Eaten mature fresh, jam is made
53		*Prunus cerasus* L. cv. KY-1072	*Vişne, kerasi*	Frt, Ptl	Eaten mature fresh, jam is made
54		*Prunus mahaleb* L. KY-1075	*Dendelok*	Brn,Frt	Eaten mature fresh
55		*Prunus trichamygdalus* Hand.-Mazz. KY-1139	*Bahiv*	Frt	Eaten as dried nuts, eaten mature fresh
56		*Pyrus syriaca* Boiss. KY-1161	*Kurişi, hemro*	Arp, Frt	Eaten mature fresh, dried fruit, as compote
57	Solanaceae	*Capsicum annuum* L. cv. KY-1079	*Biber, isot*	Frt	Used as stuffing leaves from fresh leaves, cooked as vegetable
58		*Solanum lycopersicum* L. cv. KY-1086	*Temate*	Frt	Cooked as vegetable
59		*Solanum melongena* L. cv. KY-1087	*Badrıcan*	Frt	Used as stuffing leaves from fresh leaves, cooked as vegetable

cv.**:** cultivar, provariety

[a]**Edible part(s):** Arp, aerial parts; Bgh, bough; Brn, branches; Blb, bulb; Flw, flowers; Frt, fruits; Ltx, latex; Lvs, leaves; Ptl, petiole; Rhz, rhizomes; Rsn, resin; Rts, roots; Sds, seeds; Spc, spica; Stm, stems; Tbr, tuber; Whp, whole plant.

into 10 categories (rheumatism, ulcer, diabetes, hemorrhoids, heart disease, gynecological diseases, respiratory diseases, digestive system diseases, skin diseases and kidney diseases).

Results and Discussion

Demographic characteristics of study participants

Although a total of 90 people were interviewed, the questionnaire was applied only to 62 people with knowledge. Of these, 30 were male and 32 were female. The mean age of the individuals in this study was 40 years. Demographic data obtained from the research are shown in Table 1.

Interviews with locals and literature review

A questionnaire was used for face-to-face interviews with local people (Appendix A).

Appendix A.

1. Name of the student who saved the information:
2. Student's class:
3. Date of interview:
4. Name and surname of the participants:
5. Age and sex of the participants:
6. Place of residence of the participants:
7. Telephone and address of the participants:
8. Educational level of the participants:
9. What is the local name of the plant used?:
10. Which parts of the plant do you use? (root, stem, flower, leaves, fruit etc.):
11. For which diseases do you use the plant?:
12. How do you prepare the plant for use?:
13. How and when do you use the plant?:

Besna Mavigöz (65 age) from Şemdinli district said that *Anthemis cotula* L. (Giyalic, Beybun) plant was prepared as an infusion treatment for uterine inflammation. She also said that this infusion taken with red onion juice had a pregnancy-terminating effect.

Naz Dinç from Gürmeşe village (40) said that *Smyrnium olusatrum* L. (Xelendor) plant was eaten raw as a milk enhancer for new mothers. Besna Mavigöz (65) from Şemdinli district reported the same plant boiled in milk was used in the treatment of cysts in the urinary bladder.

Şir Cetinkaya (60) from the village of Ucyan, reported that *Quercus infectoria* subsp. *veneris* (A. Kern.) Meikle plant fruits were dried and pulverized, then put into water. He said they were used in the treatment of toothache, stomach pains and burns, in addition to being used as an amulet. *Q. infectoria* is also used in Malatya in the form of powder for toothache[19].

Ibrahim Erdas from Kocyigit village (35), said that the cream made from the bark of *Fraxinus angustifolia* Vahl. subsp. *syriaca* (Boiss.) Yalt. (Benavi) plant was used in the treatment of rheumatic pain.

Besna Mavigöz from the town of Şemdinli (65) said that the infusion prepared from the roots of the plant *Glycyrrhiza glabra* L. was used in the treatment of colds and inflammation in the body[20].

Muhyeddin Gunes (54) from Umurlu village said that *R. scutatus* was applied externally for cleaning wounds.

Besna Mavigöz (65) from Semdinli district said that the cream obtained after boiling the leaves of *P. orientalis* in water was used for the treatment of rheumatic pains.

Sabri Dinç (50) from Yesilova village said, *Lagenaria siceraria* (Molina) Standl. decoction obtained from dried fruits of the plant was used as a blood pressure reducer.

Besna Mavigöz (65) from the district of Semdinli said, *Bryonia multiflora* Boiss. & Heldr. was used externally, in fresh and dried forms, in the treatment of hemorrhoids and rheumatism.

Elif Öztunç from Semdinli district (35) said that the leaves of *Arum rupicola* Boiss. plant were used in the preparation of local dishes, mostly used after being boiled with sumac juice.

Derya Yalçın from Samanlı village (18) said that *Allium schoenoprasum* L. was used in the construction of Geşik, a local dish; Özlem Şirin (17) from Üçyan village said that the geşik made from the same plant was soaked in hot water, softened and then eaten in breakfast after frying.

Taxonomic identification

As a result of our ethnobotanical research, in Derecik district and villages (Koçyiğit, Üçyan, Kırca, Yolgeldi, Umurlu, Ulaşan, Gelişen, Oylum, Samanlı, Öntepe, Yeşilova, Gürmeşe, Uslu ve Akdemir) connected to the district; 55 plant taxa belonging to 27 families were found to have medical use and 59 plant taxa belonging to 24 families were found to have food.

As a result of this study which was conducted in and around Derecik, ethnobotanical information on 114 taxa were presented for the first time.

During the surveys we conducted during one-on-one interviews in the field of research, the three plants that were most commonly used as food were; *Ferulago stellata* Boiss. (Büg), *Allium giganteum* Regel (Lush) and *A. macrochaetum* Boiss. Hausskn. (Corin). The three plants that were most common for medical use are; *Plantago lanceolate* L. (Garabiring), *Astracantha gummifera* (Labill.) Podlech (Chizgegeven, daraguni) and *Quercus infectoria* (Dara pasture, pasture, qulind).

The Asteraceae, Fabaceae and Lamiaceae families are three families that contain the most taxa among the plants identified in the research area, respectively. Apiaceae, Amaryllidaceae and Asteraceae families are the three families that contain the most taxa that have use as food.

In a study conducted in Geçitli-Hakkari, it was determined that medicinal plants belonging to the families Asteraceae, Apiaceae, Lamiaceae were widely used by the people of the region[21]; In the study carried out in Çatak-Van, it was determined that the medicinal plants belonging to Asteraceae, Apiaceae and Lamiaceae families were widely used by the people of the region[22].

It was determined that wild plants in Derecik district were collected by the public and used as a food source. Those plants collected in spring; are consumed fresh or after making brine or after drying. The plants are stored in the refrigerator and used outside the spring and summer months. Although it was more common in previous years, it was determined during our interviews that salep tuber was collected around the region in order to generate income. As a result, it was reported by local people that these plants started to decrease in the region.

Many of these are also used as food sources in various regions of our country[21-25]. The majority of the consumed plant parts that were identified in the research area are above-ground parts, except the use of root and tuber. The use of different parts of each plant shows us that the use of plants is done consciously[26,27].

Mode of preparation–utilization method

It is common in the region to prepare plants used for different purposes by infusion or decoction. Except for medicinal purposes for which, flowers, fruits, branches and secretions of plants are also used directly or by drying.

Above ground parts, flowers, fruits, branches, seeds, tubers and leaves of plants are used as food. Plants are usually used in raw salads without processing. They are also used as pickles, jams, spices, and tea.

Conclusion

With this ethnobotanical research we conducted between 2014-2017 in Derecik district, valuable information about plants which have great importance in the life of the local people was recorded. Within the scope of this questionnaire, 14 villages in and around Derecik district were surveyed. Some of the information we obtained is information that only the elderly know and use and that may be lost over time. The convenience

provided by modern life causes individuals living in the region to move away from traditional plant use. Technological products have taken the place of some tools and equipment that has local usage. In spite of this, it has been determined that traditional uses are quite common in our study area.

The current situation of the folk culture related to plants in the villages of Derecik district is presented in detail in this study and it is ensured that the information on this subject is conveyed to future generations without being forgotten. At the same time, as a result of this study we might expect a contribution to biology, medicine, pharmacy, agriculture and inventory.

This study shows that local people's interest in the use of plants continues. In our country, which is quite rich in plant diversity, unconscious plant collection leads to the deterioration of the natural balance. Therefore, the importance of these plants should be explained to the local people to create public awareness.

Recording of Turkish and Kurdish names of medicinal and food plants is important in terms of comparing the usage in different regions.

The number of ethnobotanical studies carried out in Turkey is increasing day by day. However, we still think that the number of unregistered plants is quite high.

With the widespread use of social media, people have access to information, in particular on medicinal plants. The public should be informed about the problems that may arise as a result of the use of plants without having sufficient information. Further scientific studies should be carried out on the use of plants and the collection and sale of plants should be controlled by legal regulations.

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Conflict of Interests

Authors declare that there is no conflict of interests

Author Contributions

Plant collection and questionnaire, writing-original draft and writing-reviewing draft: K.Ö.G.; Plant identification: F.Ö.; Writing-reviewing draft, translation and statistics: F.Ö., K.Ö.G. All authors discussed the results and contributed to the final manuscript.

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