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Survey of wild food plants for human consumption in villages of Çatak (Van-Turkey)

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This study aims to record accumulation of knowledge on plants which are used as food by native people of Çatak (Van, Turkey) that has a rich culture and a very natural environment. In addition, the medical uses of these plants were compiled from the literature. Study area was located on the East of Anatolian diagonal, in the Eastern Anatolia Region. Field study was carried out over a period of approximately two years (2010-2012). During this period, 82 vascular plant taxa were collected. The plants were pressed in the field and prepared for identification. A total of 82 food plants belonging to 28 families were identified in the region. In the study being conducted, use of wild plants as food points out interest of people in Çatak in wild plants. The fact that a large proportion of edible plants are also being used for medicinal purposes indicates that the use of wild plants has a high potential in the region. The present study shows that further ethnobotanical investigations are worthy to be carried out in Turkey, where most of knowledge on popular food plants are still to discover. In Turkey, the number of ethnobotanic studies is ever-increasing. However, traditional uses of many wild plants have not been recorded yet. In terms of food safety, the adverse effects that may arise due to the use of wild plants without sufficient knowledge must be reported to the native people.

Keywords: Traditional uses, Wild food plants, Ethnobotany, Çatak, Van-Turkey

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Ethnobotanical studies have increased in recent years[1-6]. As well as use for medicinal purposes, wild plants can also be used as food. In particular, wild plants growing in spring when vegetables are rare are commonly used in Turkey, notably in the Aegean and Eastern Anatolia Regions[7]. When plants are used as food, they are eaten raw, or they are boiled, drained and then rice is added. They are eaten with or without eggs or with garlic yoghurt. Alternatively, they are stuffed.

Documentation of indigenous knowledge through ethnobotanical studies is important for the conservation and utilization of biological resources[8]. Therefore, establishment of the local names and indigenous uses of plants has significant potential societal benefits[9].

This study was conducted in villages of Çatak (Van), which has a rich cultural heritage and natural environment in order to research and record the accumulation of knowledge of native people concerning wild plants used as food for human nutrition. Another aim was to raise awareness with regard to the direct effects of these plants, many of which are also used as an economic way to feed animals. This study was also conducted to serve as a source for scientists for the purpose of determining the nutritional value of edible wild plants by comparing information obtained in ethnobotanical studies.

Methodology

Study area

We carried out this research in villages of Çatak and its neighboring settlements, i.e., Konalga, Sırmalı and Dokuzdam villages. Çatak (Fig. 1) is located in the South-East of Turkey. Çatak is included in Iran–Turan Plant Geography Region and falls within the B-9 grid square according to the Grid classification system used in the Flora of Turkey. It is at the South-East of the Anatolian Diagonal which is one of the main endemism centers in Turkey[10].

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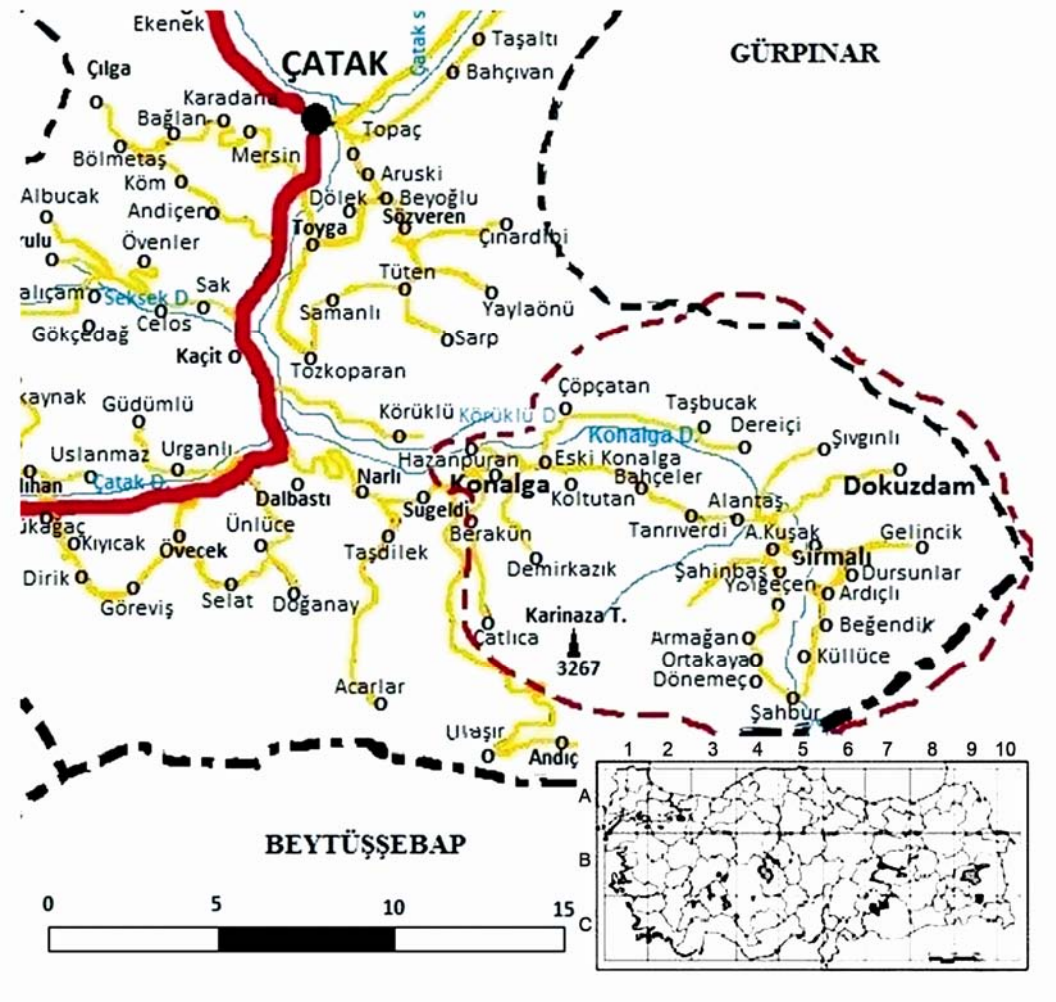

Fig. 1—Geographical location of the study area

According to the data obtained from the website of Çatak District Administration, Çatak was founded in 645 by Arabs. Later it came under the domination of the Byzantine Empire and then it was conquered by the Turks who came to Anatolia after the Battle of Malazgirt, 1071. Throughout the history, Çatak was conquered by Seljuks, Shah-Armens, Mongols, the Hakkari Principality, Safavids and finally Suleiman the magnificent of the Ottoman Empire in 1548 (http://catak.bel.tr/, http://www.catak.gov.tr/).

The highest temperature in the district is +35 °C and the lowest temperature is -25 °C. Winters are long and snowy. It is located 1512 m above sea level and surrounded by steep-lands and mountains. The surface area is 2.200 km^2. The height of the mountains is around 2000 m. According to results of address-based population census conducted in 2013, (http://tuikapp.tuik.gov.tr/adnksdagitapp/adnks.zul) total population of Çatak is 23.440. The economy of the sub-province largely depends on stock breeding.

Plant materials

We carried out the field study for approximately over a period of 2 yrs (2010–2012). During this period, 82 plants taxa were collected. The plants were pressed in the field and prepared for identification. These specimens were initially identified with the help of the Flora of Turkey[10-12]. These plants are being kept in the Herbarium of Yuzuncu Yıl University Van, Turkey (VANF). The names of plant families were listed in alphabetic order. Scientific names of plant species were identified according to the International Plant Name Index (IPNI: http://www.ipni.org). After identifying taxon names, we specify instances of endemism and risk categories[13-14] were specified.

Interviews with native people

A questionnaire was administered to the native people, through face-to-face interviews (Appendix A). Interviews were conducted on 'common' areas (fields, gardens, tea houses, etc.) during the busiest hours of the day. In Çatak, people we selected from the villages were first informed about our research and the interviews took place only upon their consent. The local languages in the region are Turkish and Kurdish, with most of the interviews being conducted in Kurdish.

As a consequence of these interviews, only those persons who were observed to have knowledge regarding food plants were invited to a survey study. Those selected were then visited in order to obtain detailed information regarding their knowledge of plants. During the interviews, demographic characteristics of the study participants, and local names, utilized parts and preparation methods of the plants were recorded.

Demographic characteristics of the respondents

Demographic characteristics of the respondents were determined and recorded through face-to-face interviews. 100 persons above the age of 26 were interviewed. The mean age of the respondents was 52 yrs. All female users were housewives whereas 35.5% of male users were farmers, 34.2% were unemployed and others engaged with various occupations. Of the participants who took part in the questionnaire, 3 were between the ages of 26 and 30, 42 were between the ages of 31 and 49, and 55 were over the age of 50. Of the participants, 76 were male, 24 were female.

Calculations

The use value[15], a quantitative method that demonstrates the relative importance of species known locally, was also calculated according to the following formula: UV = U/N, where UV refers to the use value of a species; U to the number of citations per species; and N to the number of informants.

Knowing the use value of a taxa may be useful in determining the use reliability of the related plant.

Results and discussion

Use of wild plants as food

In the study conducted in Çatak, recorded uses of wild plants as food are given in Table 1, as is information regarding family, scientific name, edible parts, and utilization methods. Aerial parts, bulb, floral receptacle, flowers, fruits, leaves, petal, roots, seeds, stem, and tubers are used as food.

This study reveals that, in general, wild plants are used fresh, uncooked and without any processing. They are also used to give aroma to cheese as well as in the process of making jam. They can be used as fruit, spice, rice, and salads. They are also stuffed or soups are made from them.

In the literature analysis of the plants used in our study, 82 plants were found already being used for food purposes, whereas 10 plants presented no literature records. The food uses of *Alcea kurdica* (Schlecht) Alef., *Arctium minus* (Hill.) Bernh. subsp. *pubens* (Bab.) Arenes, *Astragalus subrobustus* Boiss., *Bellevalia olivieri* (Baker) Wendelbo, *Bunias orientalis* L., *Centaurea nemecii* Nâb., *Ixiolirion tataricum* (Pall.) Schult. & Schult.f., *Muscari armeniacum* Leichtlin ex Baker, *Muscari comosum* (L.) Miller, *Paracaryum rasemosum* (Schreber) Britten var. *rasemosum*, which were found being used in our study area were recorded for the first time.

Interviews with the native people living in villages of Çatak in the study area indicated that 82 taxa were used for food purposes. The most common families are: Apiaceae (15 plants), Asteraceae (13 plants), Rosaceae (10 plants), Amaryllidaceae (4 plants), Fabaceae (4 plants), Polygonaceae (4 plants). The overall number of taxa cited from the most used botanical families can be seen in Fig. 2.

Vitamins and minerals

Approximately 10.000 species are determined to be currently used as food and the number of plants cultivated in order to obtain food is around 3.000. Plant components display rich minerals, vitamins, and fiber variety[16,17].

Other than uses of many edible wild plants in treating illnesses as well as interesting local elements, some of them (*Amygdalus communis* L., *Crataegus pontica* C. Koch, *Crataegus monogyna* Jacq. subsp. *monogyna*, *Juglans regia* L., *Prunus armeniaca* L., *Prunus x domestica* L., *Rosa canina* L., *Rumex scutatus* L.) are also used as a source of vitamins and minerals.

Spices

The plants are used as spices since they give smell and flavor. This type of use is very common in Anatolia[17]. Species of *Allium ampeloprasum* L., *Allium scorodoprasum* L., *Allium vineale* L., *Chaerophyllum macrospermum* (Sprengel) Fisch. & C.A.Mey., *Diplotaenia cachrydifolia* Boiss., *Heracleum persicum*

Table 1—Wild food plants for human consumption in villages of Çatak, Van-Turkey (*contd.*)

Plant No	Family	Plant species, voucher specimen, endemism	Vernacular name of Çatak	Edible parts [a]	Utilization methods	UV
1.	Amaryllidaceae	*Allium akaka* S.G.Gmel. ex Schult. & Schult.f. MM-74	*Guhbızın*	Lea	Cooked as a stew or rice-vegetable dish	0.04
2.		*Allium ampeloprasum* L. MM-49	*Pivazok*	Aer	Used in cheese production	0.14
3.		*Allium scorodoprasum* L. subsp. *rotundum* (L.) Stearn MM-177	*Pivazok*	Aer	Used in cheese production	0.02
4.		*Allium vineale* L. MM-48	*Sirik*	Aer	Used in cheese production	0.06
5.	Apiaceae	*Anethum graveolens* L. MM-184	*Tereotu*	Aer	Plant is with yogurt	0.08
6.		*Anthriscus nemorosa* (M.Bieb.) Spreng. MM-163	*Piçekli*	Aer, Lea	Leaves cooked as vegetable; plant is with yogurt	0.10
7.		*Chaerophyllum crinitum* Boiss. MM-140	*Ğitik*	Aer	Fresh plant is eaten after peeling off the outer part	0.04
8.		*Chaerophyllum macropodum* Boiss. MM-170	*Mendadem*	Aer	Fresh plant is eaten after peeling off the outer part	0.02
9.		*Chaerophyllum macrospermum* (Sprengel) Fisch. & C.A.Mey. MM-92	*Mendi*	Aer	Ayran is made by mixing fresh leaves; cooked as a stew or egg-vegetable dish; used in cheese production	0.04
10.		*Diplotaenia cachrydifolia* Boiss. MM-67 Vulnerable (VU.)	*Siyabu*	Ste	Cooked as a stew or egg-vegetable dish; used in cheese production; used in pickle production	0.02
11.		*Eryngium billardieri* Delar. MM-185	*Tüsü*	Ste	Fresh plant is eaten after peeling off the outer part	0.08
12.		*Eryngium bornmuelleri* Nab. MM-96 Near Threatened (NT.)	*Tusi*	Ste	Fresh plant is eaten after peeling off the outer part	0.09
13.		*Falcaria vulgaris* Bernh. MM-186	*Kazayağı*	Lea	Cooked as a stew or egg-vegetable dish	0.07
14.		*Heracleum persicum* Desf. ex Fisch., C.A. Mey. & Avé-Lall. MM-93	*Soy*	Aer	Used in cheese production	0.06
15.		*Pimpinella anthriscoides* Boiss. var. *anthriscoides* MM-160	*Alo*	Lea	Ayran is made by mixing fresh leaves; cooked as a stew or egg-vegetable dish	0.16
16.		*Prangos meliocarpoides* Boiss. var. *meliocarpoides* MM-100 Endemic (End.) Least Concern (LC.)	*Gumbılok*	Fru	Eaten fresh	0.12
17.		*Sium sisarum* L. var. *lancifolium* (M.Bieb.) Thell. MM-53	*Bilmehink*	Lea	Cooked as a stew or egg-vegetable dish; eaten fresh; used in cheese production	0.04
18.		*Smyrnium olusatrum* L. MM-39	*Ğelendor*	Ste	Eaten fresh	0.06

(*contd.*)

Table 1—Wild food plants for human consumption in villages of Çatak, Van-Turkey (*contd.*)

Plant No	Family	Plant species, voucher specimen, endemism	Vernacular name of Çatak	Edible parts [a]	Utilization methods	UV
19.		*Smyrniopsis aucheri* Boiss. MM-274	*Mamır*	Lea	Used in cheese production	0.11
20.	Araceae	*Arum conophalloides* Kotschy ex Schott var. *conophalloides* MM-18	*Kahri*	Aer	Cooked as a stew or rice-vegetable dish	0.05
21.		*Arum conophalloides* Kotschy ex Schott var. *virescens* (Stapf.) Engler MM-240	*Kahri*	Aer	Cooked as a stew or rice-vegetable dish	0.02
22.	Aristolochiaceae	*Aristolochia bottae* Jaub. & Spach. MM-241	*Guhok*	Ste	Eaten fresh	0.04
23.	Asparagaceae					
	Bellevalia olivieri (Baker) Wendelbo MM-178	*Luş*	Lea	Leaves cooked as vegetable	0.02	
24.						
	Muscari armeniacum Leichtlin ex Baker MM-179	*Çav şink*	Bulb	As spice	0.04	
25.		*Muscari comosum* (L.) Miller MM-180	*Çav şink*	Bulb	As spice	0.02
26.	Asteraceae	*Arctium minus* (Hill.) Bernh. subsp. *pubens* (Bab.) Arenes MM-80	*Belg gırno, kuncurk, belg misek*	Ste	Eaten fresh	0.06
27.		*Centaurea nemecii* Nâb. MM-120	*Şivanok*	Roo	Eaten fresh	0.09
28.		*Cirsium pubigerum* (Desf.) DC. var. *spinosum* Pet. MM-245	*Kivar*	Ste	Eaten fresh	0.07
29.		*Echinops orientalis* Trautv. MM-244	*Gog*	Rec	Eaten fresh	0.13
30.		*Gundelia tournefortii* L. var. *tenuisecta* Boiss. MM-3	*Kenger reş*	Lea, Roo	Cooked as a stew or egg-vegetable dish; used in cheese production; used in pickle production	0.08
31.		*Gundelia tournefortii* L. var. *tournefortii* MM-98	*Kenger zer*	Roo	Cooked as a stew or egg-vegetable dish; obtained gum is chewed; used in cheese production	0.21
32.		*Helianthus annuus* L. MM-242	*Gülberoj*	Fru	Eaten as dried nuts	0.18
33.		*Helianthus tuberosus* L. MM-243	*Sevik*	Tub	Eaten fresh	0.10
34.		*Scorzonera latifolia* (Fisch. & Mey.) DC. MM-63	*Nermend*	Aer	Cooked as a stew or egg-vegetable dish; eaten fresh	0.07
35.		*Scorzonera semicana* L. MM-29 End. (LC.)	*Spınga dem*	Lea	Eaten fresh; leaves cooked as vegetable	0.04
36.		*Scorzonera papposa* DC. MM-143	*Spınga sor*	Lea	Eaten fresh; leaves cooked as vegetable	0.02

(*contd.*)

Table 1—Wild food plants for human consumption in villages of Çatak, Van-Turkey (*contd.*)

Plant No	Family	Plant species, voucher specimen, endemism	Vernacular name of Çatak	Edible parts [a]	Utilization methods	UV
37.		*Tragopogon buphthalmoides* (DC.) Boiss. var. *latifolius* Boiss. MM-122	*Sipink*	Aer	Cooked as a stew or egg-vegetable dish; eaten fresh	0.04
38.		*Tragopogon coloratus* C.A. Mey. MM-171	*Siping*	Aer	Cooked as a stew or egg-vegetable dish; eaten fresh	0.02
39.	Boraginaceae	*Anchusa azurea* Miller. var. *azurea* MM-108	*Mıjmejok*	Flo	Fresh flower is suck	0.20
40.		*Paracaryum rasemosum* (Schreber) Britten var. *rasemosum* MM-134 End. (LC.)	*Mejmejok*	Flo	Fresh flower is suck	0.07
41.	Brassicaceae	*Bunias orientalis* L. MM-139	*Tahliş*	Ste	Eaten fresh	0.03
42.	Chenopodiaceae	*Beta corolliflora* Zosimovic ex Butter MM-107	*Kizirok*	Aer	Cooked as a stew or egg-vegetable dish	0.07
43.		*Chenopodium foliosum* (Moench.) Aschers MM-118	*Tırye ruvi*	Fru	Eaten fresh	0.06
44.	Fabaceae	*Astragalus subrobustus* Boiss. MM-123	*Güniberan*	Fru	Eaten fresh	0.04
45.		*Cicer anatolicum* Alef. MM-9	*Yabani nohut, Uğursuz nohut*	See	Eaten fresh	0.08
46.		*Lathyrus tuberosus* L. MM-33	*Henc*	Tub	Eaten fresh	0.05
47.		*Vicia balansae* Boiss. MM-281	*Giya fasulye*	See	Eaten fresh	0.04
48.	Juglandaceae	*Juglans regia* L. MM-131	*Giz*	See	Eaten as dried nuts	0.02
49.	Iridaceae	*Iris barnumiae* Foster & Baker MM-91	*Sıtırk*	Lea	Cooked as a stew or egg-vegetable dish	0.02
50.	Ixioliriaceae					
	Ixiolirion tataricum (Pall.) Schult. & Schult.f. MM-164	*Pambız*	Aer	Fresh plant is eaten after peeling off the outer part	0.05	
51.	Lamiaceae	*Mentha longifolia* (L.) Huds. subsp. *longifolia* MM-37	*Pung*	Lea	As herbal tea; as spice; plant is with yogurt; used in cheese production	0.37
52.		*Thymus kotschyanus* Boiss. & Hohen var. *glabrescens* MM-81	*Catır*	Aer, Lea	As herbal tea; as spice; used in cheese production	0.32
53.	Liliaceae	*Tulipa armena* Boiss. MM-176	*Soryaz*	Bulb	Eaten fresh	0.04
54.	Malvaceae	*Alcea kurdica* (Schlecht) Alef. MM-79	*Hero*	Lea	Used as stuffing leaves from fresh leaves	0.07
55.	Orchidaceae	*Dactylorhiza umbrosa* (Kar. & Kir.) Nevski MM-136	*Salep*	Bulb	Used in ice cream production	0.03
56.		*Orchis mascula* (L.) L. subsp. *pinetorum* (Boiss. & Kotschy) G. Camus MM-233	*Orkid*	Bulb	Used in ice cream production	0.02
57.		*Orchis palustris* Jacq. MM-137	*Salep*	Bulb	Used in ice cream production	0.02

(*contd.*)

Table 1—Wild food plants for human consumption in villages of Çatak, Van-Turkey

Plant No	Family	Plant species, voucher specimen, endemism	Vernacular name of Çatak	Edible parts [a]	Utilization methods	UV
58.	Papaveraceae	*Papaver arenarium* M.Bieb. MM-209	*Haşhaş*	Flo	Eaten fresh	0.06
59.		*Roemeria refracta* DC. MM-105	*Haşhaş*	Flo	Eaten fresh	0.05
60.	Portulacaceae	*Portulaca oleracea* L. MM-257	*Parparık*	Aer, Lea	Aerial parts cooked as vegetable; leaves eaten in salads	0.26
61.	Polygonaceae	*Polygonum cognatum* Meissn. MM-117	*Madımak*	Aer	Aerial parts cooked as vegetable	0.29
62.		*Rheum ribes* L. MM-164	*Revas*	Ste	Fresh plant is eaten after peeling off the outer part	0.43
63.		*Rumex scutatus* L. MM-153	*Tırşoktırş*	Lea	Leaves eaten in salads; prepared sour souce is added to food	0.35
64.		*Rumex tuberosus* L. subsp. *horizontalis* (Koch.) Rech. MM-258	*Tırşo*	Lea	Used as stuffing leaves from fresh leaves	0.24
65.	Poaceae	*Hordeum bulbosum* L. MM-284	*Gunbilok*	Bulb	Eaten fresh	0.13
66.		*Zea mays* L. MM-284	*Şamik*	See	Eaten fresh	0.39
67.	Primulaceae	*Primula auriculata* Lam. MM-161	*Belgsisin*	Lea	Used in cheese production	0.06
68.	Ranunculaceae	*Ranunculus kotschyi* Boiss. MM-23	*Çung*	Aer	Used in cheese production	0.09
69.	Rhamnaceae	*Rhamnus kurdicus* Boiss. & Hohen. MM-220	*Helhelok*	Fru	Eaten mature fresh	0.02
70.	Rosaceae	*Amygdalus communis* L. MM-219		*Bahiv*	Fru, See	Eaten as dried nuts; eaten fresh
71.		*Cerasus mahaleb* (L.) Miller var. *mahaleb*. MM-141	*Hihinik*	Fru	Eaten mature fresh	0.27
72.		*Cerasus brachypetala* Boiss. var. *bornmuelleri* (Schneider) Browicz MM-78	*Helhelok*	Fru	Eaten fresh	0.04
73.		*Crataegus pontica* C. Koch MM-217	*Gühüjsipi*	Fru	Eaten mature fresh	0.28
74.		*Crataegus monogyna* Jacq. subsp. *monogyna* MM-217	*Gühüjsor*	Fru	Eaten mature fresh	0.37
75.		*Prunus armeniaca* L. MM-263	*Zerdali*	Fru	Eaten mature fresh	0.08
76.		*Prunus x domestica* L. MM-126	*Erik, dağ eriği*	Fru	Eaten mature fresh	0.03
77.		*Pyrus syriaca* Boiis. var. *syriaca* MM-213	*Reli*	Fru	As compote; eaten mature fresh	0.06
78.		*Rosa canina* L. MM–254	*Şilank*	Fru, Pet	As herbal tea; jam is made	0.40
79.		*Sorbus umbellata* (Desf.) var. *taurica* (Zinserl.) Gabr. MM-102	*Behok*	Fru	Eaten fresh	0.03
80.	Ulmaceae	*Celtis glabrata* Steven ex Planch. MM-218	*Teyrok*	Fru	Eaten mature fresh	0.16
81.	Urticaceae	*Urtica dioica* L. MM-14	*Gezınk*	Lea	Eaten fresh (washed with water)	0.45
82.	Xanthorrhoeaceae	*Eremurus spectabilis* M.Bieb. MM-182	*Sıtırk*	Lea	Cooked as a stew or egg and rice-vegetable dish	0.09

[a] Plant part(s) used: Aer, aerial parts; Bul, bulb; Flo, flowers; Fru, fruits; Lea, leaves; Pet, petal; Rec, Receptacle; Roo, roots; See, seeds; Ste, stem; Tub, tuber.

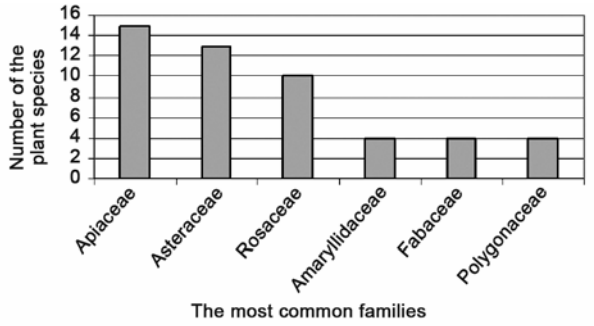

Fig. 2—Most representative families

Desf. ex Fisch., C.A. Mey. & Avé-Lall., *Mentha longifolia* (L.) Huds. subsp. *longifolia, Muscari armeniacum* Leichtlin ex Baker, *Muscari comosum* (L.) Miller, *Primula auriculata* Lam., *Ranunculus kotschyi* Boiss., *Smyrniopsis aucheri* Boiss., *Sium sisarum* L. var. *lancifolium* (M.Bieb.) Thell., *Thymus kotschyanus* Boiss. & Hohen var. *glabrescens* are used as spice in villages of Çatak.

Tea and eaten fresh

It is very common to consume wild plants as tea[18-21]. Species of *Mentha longifolia* (L.) Huds. subsp. *longifolia, Rosa canina* L., *Thymus kotschyanus* Boiss. & Hohen var. *glabrescens* are consumed as herbal tea in Çatak. Besides, wild plants are commonly eaten fresh; *Amygdalus communis* L., *Arctium minus* (Hill.) Bernh. subsp. *pubens* (Bab.) Arenes, *Aristolochia bottae* Jaub. & Spach., *Astragalus subrobustus* Boiss., *Bunias orientalis* L., *Celtis glabrata* Steven ex Planch., *Centaurea nemecii* Nâb., *Cerasus brachypetala* Boiss. var. *bornmuelleri* (Schneider) Browicz, *Cerasus mahaleb* (L.) Miller var. *mahaleb*., *Chenopodium foliosum* (Moench.) Aschers, *Cicer anatolicum* Alef., *Cirsium pubigerum* (Desf.) DC. var. *spinosum* Pet., *Crataegus monogyna* Jacq. subsp. *monogyna, Crataegus pontica* C. Koch, *Echinops orientalis* Trautv., *Helianthus tuberosus* L., *Hordeum bulbosum* L., *Lathyrus tuberosus* L., *Papaver arenarium* M.Bieb., *Prangos meliocarpoides* Boiss. var. *meliocarpoides*, *Primula auriculata* Lam., *Prunus armeniaca* L., *Prunus x domestica* L., *Pyrus syriaca* Boiis. var. *syriaca*, *Ranunculus kotschyi* Boiss., *Rhamnus kurdicus* Boiss. & Hohen., *Roemeria refrecta* DC. subsp. *occidentalis* Kadereit, *Scorzonera papposa* DC., *Scorzonera semicana* L., *Smyrnium olusatrum* L., *Sorbus umbellata* (Desf.) var. *taurica* (Zinserl.) Gabr., *Tulipa armena* Boiss. *Urtica dioica* L. (washed with water), *Vicia balansae* Boiss., *Zea mays* L.

Medicinal plants

The majority of wild plants used in Çatak for nutritional purposes are also used both in Çatak and other regions for medicinal purposes[22]; *Alcea kurdica* (Schlecht) Alef., *Anchusa azurea* Miller. var. *azurea, Arctium minus* (Hill.) Bernh. subsp. *pubens* (Bab.) Arenes, *Cerasus brachypetala* Boiss. var. *bornmuelleri* (Schneider) Browicz, *Diplotaenia cachrydifolia* Boiss., *Eryngium billardieri* Delar., *Eryngium bornmuelleri* Nab., *Helianthus tuberosus* L., *Heracleum persicum* Desf. ex Fisch., C.A. Mey. & Avé-Lall., *Juglans regia* L., *Mentha longifolia* (L.) Huds. subsp. *longifolia, Prunus armeniaca* L., *Prunus x domestica* L., *Rheum ribes* L., *Rosa canina* L., *Scorzonera latifolia* (Fisch. & Mey.) DC., *Thymus kotschyanus* Boiss. & Hohen var. *glabrescens, Urtica dioica* L.

Endemic plants

Paracaryum rasemosum (Schreber) Britten var. *rasemosum, Prangos meliocarpoides* Boiss. var. *meliocarpoides, Scorzonera semicana* L., were found to be the endemic plants used for food purposes in villages of Çatak (Van-Turkey). According to the Red Data Book of Turkish Plants and Red List Categories[13-14]. Three taxons are categorized as “least concern”.

Diplotaenia cachrydifolia Boiss. (Vulnerable), *Eryngium bornmuelleri* Nab. (Near Threatened) are non-endemic plants that are under risk. *Eryngium bornmuelleri* Nab. was reported to be used traditionally as wounds[18]. *Diplotaenia cachrydifolia* Boiss., was reported to be used traditionally as diabetes disease, rheumatism, scorpion and snake bite[22].

Data analysis

According to the calculation made on the basis of the use-value UV[15]; *Urtica dioica* L. (0.45), *Rheum ribes* L. (0.43), *Amygdalus communis* L. (0.41), *Rosa canina* L. (0.40), *Crataegus monogyna* Jacq. subsp. *monogyna* (0.37), *Mentha longifolia* (L.) Huds. subsp. *longifolia* (0.37), *Rumex scutatus* L. (0.35), *Thymus kotschyanus* Boiss. & Hohen var. *glabrescens* (0.32), were reported to be of the highest use value (Table 1).

Conclusion

This study shows the contimued interest in the use of wild plants as food by the native people in villages of Çatak. The fact that a large proportion of edible plants are also being used for medicinal purposes

indicates that the use of wild plants has a high potential in the region. The present study shows the value of further ethnobotanical investigations in Turkey, where most of knowledge on popular food plants are still undiscovered.

Within the scope of this study, 28 families of edible plant and 82 plant taxons have been determined. Used parts, preparation and use of those plants are recorded. In the case of food use of those plants, it is found out that they are either used in cooking or consumed without cooking.

Paracaryum rasemosum (Schreber) Britten var. *rasemosum*, *Prangos meliocarpoides* Boiss. var. *meliocarpoides*, *Scorzonera semicana* L., were found to be the endemic plants used for food purposes in villages of Çatak (Van-Turkey).

It is noteworthy that people of the region who have different ethnicities use different names for the plants. Turkish and Kurdish names are available for the plants that are used for medicinal purposes.

In Turkey, the number of ethnobotanic studies is ever-increasing. However, the traditional uses of many wild plants have not been recorded yet. In terms of food safety, the adverse effects that may arise due to the use of wild plants without sufficient knowledge must be reported to the native people.

Appendix A; 1**.** Name and surname of the participant; 2. Age and sex of the participant; 3. Telephone and address of the participant; 4. Educational level of the participant; 5. Date of interview; 6. Place of residence of the participant; 7. Duration of residence of the participant; 8. What is the local name of the plant used?; 9. Which parts of the plant do you use?; 10. How do you prepare the plant for use?

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