

Ethnic and religious affiliation affects traditional wild plant foraging in Central Azerbaijan

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Abstract

Gathering and consuming wild food plants are traditional practices in many areas of the world and their role in fostering food security has been increasingly discussed in recent years. In this field study, we focused on traditional foraging among Azeris, Tats, Russian Molokans, and Udis in Central Azerbaijan. Via 78 semi-structured interviews, with an equal number of individuals from the four ethnic/religious communities, 73 wild food folk taxa were recorded.

While Caucasian autochthonous Udis have a restricted use of wild food plants in comparison with the other groups, possibly due to the fact that they live in a plains area that is horticultural-driven and well-connected, the most divergent ethnobotany was exhibited by the Tats (10 folk taxa exclusively used by them) which may be related to both their cultural and geographical isolation and the fact that this community was endogamic until only a few decades ago. Whereas the Azeri plant cultural markers are mainly retained by refugees from Karabakh, Russian Molokans, who represent a distinct, conservative ethno-religious group, seem to have preserved a few ancient Slavic culinary uses of wild plants (*Armoracia rusticana*, *Crataegus* spp., *Rumex acetosella*, and especially *Viburnum opulus*). Tat cultural markers were possibly represented by barberries (especially in their original lacto-fermented preparation) and *Ornithogalum* spp., while for Udis *Smilax excelsa* shoots were particularly salient, as were wild *Allium*, *Chaerophyllum*, *Prangos*, *Smyrnum*, and *Tragopogon* spp. among the Azeris. Overall, the practice of traditional foraging is alive in the Azeri Caucasus in the most remote mountainous areas and this heritage is the result of a complex co-evolution, in which both human ecological trajectories and cultural attachment to certain plant tastes have possibly shaped specific foraging patterns over centuries.

Keywords: Ethnobotany; Wild Food Plants; Foraging; Local Knowledge; Minorities; Caucasus; Azerbaijan; Plant Genetic Resources

Introduction

While foraging is defined in behavioral ecology as an animal's search for *wild* food resources, in human ecology it is considered an adaptive strategy, which concerns both hunter-gatherer societies and, to a lesser extent, horticulturalist and especially pastoralist communities (Sutton and Anderson, 2004). Although foraging includes both wild animal and plant resources, most of the gathered/foraged items in the world, apart from insects and gastropods, are vegetable items. Gathering and consuming wild food plants are traditional practices still followed in many areas of the world and their role in fostering food security has been increasingly discussed in recent years (Bharucha and Pretty 2010; Neudeck et al. 2012; Nolan and Pieroni 2014; Ong and Kim 2017; Shaheen et al. 2017; Shumsky et al. 2014).

Although the diversification of diets and their traditional ingredients (underutilized and orphan

crops, wild plants, wild crop relatives, and wild meat) is considered a key issue in combating malnutrition and hunger (Heywood, 2013), there is a remarkable lack of knowledge concerning the diverse aspects and scales of foraging and its effect on local communities in many areas of the world.

In Europe, especially in its southern and eastern portions? (maybe “parts”?), where these practices are still alive, traditional food plant gathering has been under threat since the 1960s as a result of the industrialization of local food systems, the changed social role of women within the household, and the abandonment of small-scale agro-pastoral activities (Cucinotta and Pieroni 2018; Łuczaj et al. 2012; Pieroni 2003).

On the other hand, a remarkable resilience of traditional foraging has often been described in those communities in which minor wild plant ingredients are considered crucial for shaping local cultural identities and/or for preserving health and well-being (Cucinotta and Pieroni 2018; Reyes-García et al. 2015). Additionally, these two aspects may represent not only factors that slow the decline of traditional foraging, but also, together with the new trend of eating wild foods sometimes spread by star chefs and the “return to nature” effect, real potent drivers for the resurgence of these practices (Łuczaj et al. 2012; Reyes-García et al. 2015).

The Caucasus region of Eastern Europe and, in particular, its post-communist period, have been the focus of only a few, mainly sporadic, wild food ethnobotanical studies, such as those recently conducted in Georgia (Bussmann et al. 2016 and 2017; Łuczaj et al. 2017), Armenia (Hovsepyan et al. 2016), and Dagestan (Kaliszewska and Kołodziejska-Degórska 2015).

We decided to focus on Azerbaijan and its traditional wild food plant gathering primarily for three reasons: a. the traditional gathering of wild food plants has not been systematically investigated in the country in the last few decades; b. the country is home to remarkable linguistic and religious diversity along the Greater Caucasus Range and wild food gathering as part of the local gastronomic heritage is complex and diverse at cultural (religious/ethnic) edges (Pieroni et al., 2018); c. the country has the lowest Global Food Security Index in Europe (GFSI 2018) and neglected food plant resources could play a role in shaping culturally appropriate food sovereignty-driven policies, which may be particularly important within the community of internal refugees (approx. one tenth of the population), who, as a consequence of the (ongoing) “frozen” war with Armenia, are particularly vulnerable in terms of food security.

The objectives of this study were therefore: a. to record the traditional plant foraging among four linguistic, ethnic and religious communities living along the Greater Caucasus Range; b. to compare the data among the four communities in order to point out possible differences and food *plant cultural markers* (sensu Pieroni et al. 2015: plants used and mentioned exclusively by one cultural group), as well as to compare the same data with the food ethnobotany of neighboring regions (Arab, Persian, Kurdish, and Turkish areas), and to formulate hypotheses to explain possible differences.

Materials and Methods

Study area and communities

Figure 1 shows the visited villages on the southern slopes of the Greater Caucasus Range (Figure 2). Table 1 presents the characteristics of the selected groups. Three of the selected communities (Azeris, Tats, Udis) have been living in the study areas for many Centuries, while the Molokans arrived in the 19th century from Russia and the Azeri refugees from Karabakh reached the present territory approximately 30 years ago.

Field study

The field study was conducted during the spring of 2018 and the study participants were mainly selected among middle-aged and elderly local farmers and shepherds, who we identified as possible local knowledge holders.

Verbal consent was always obtained before each interview and the Code of Ethics of the International Society of Ethnobiology (ISE, 2008) was followed. Semi-structured interviews were conducted in Russian by the second author or sometimes – especially with middle-aged and younger community members – in the Azeri language with the help of an interpreter. The interviews focused on gathered and consumed non-cultivated vegetables; wild plants used as starters in baking or yogurt making, as rennet, for preparing *sarma* (leaves rolled around a filling made from rice, aromatic herbs, and possibly meat or vegetables), or in home-made fermented products; wild fruits and other wild plants used in sweet preserves and/or liquors; wild plants used for recreational herbal teas; and mushrooms. We made note of a few unusual uses of cultivated plants as well. For each of the free-listed plant items, local names and exact details of gathering and culinary preparations were recorded.

Plants were identified using the Flora of Azerbaijan (Karjagin 1950-1961; Əsgərov 2016), while the nomenclature follows The Plant List database (2013) and family assignments are consistent with the Angiosperm Phylogeny Website (Stevens 2017). The collected voucher specimens are deposited at the Herbarium of the Department of Environmental Sciences, Informatics, and Statistics of the Ca' Foscari University of Venice, Italy (UVV, bearing herbarium numbers UVV.EB.AZ01–73). Dried plant samples were also accepted if offered by the interviewees (deposited with numbers UVV.EB.AZD01-21).

All local plant names were transcribed using the rules of the Azerbaijani (for Azeri, Tat, and Udis folk names) and Russian (for Molokan folk names) languages. We reported all Russian folk names in the Latin alphabet, using transliteration according to ISO standards (ISO 1995).

Data analysis

Data were compared with the important worldwide wild food plant reviews (Facciola 1990; Hedrick 1919; Tanaka 1976) as well as the wild food ethnobotanical studies conducted in the last three decades in the Caucasus (see aforementioned literature) and neighboring areas: Iraqi (Pieroni et al. 2017 and 2018) and Turkish (Çakır 2017; Kaval et al. 2015; Polat et al. 2015 and 2017) Kurdistan, Lebanon (Marouf et al. 2015), Syria (Abdalla 2004), and Western Iran (Maassoumi and Bobrov 2004).

Results

Wild plant foods in the study area

Table 2 shows the wild food plants traditionally gathered and consumed in the study area.

For each folk taxon, we reported the botanical species and family, its folk names, the plant parts used, the exact details of its culinary preparations, and the frequency of quotation.

A small portion of the cited plants are gathered during the spring months in the vicinity of the villages (this is the case for synanthropic weeds esp. among Udis and, to less extent, Molokans), while most of the plant items are collected in pastures and mountainous areas more distant from the house. Wild vegetables are gathered by both female (rather exclusively for weeds) and male (especially for species growing further from the villages) community members, while unripe wild fruits are predominately gathered and consumed on the spot by young community members.

Considering the most extensive worldwide reviews on wild food plants and the pre-existing ethnobotanical studies conducted in the Caucasus and neighboring areas (see aforementioned literature), it is worth mentioning the following wild plant uses, since they have rarely been quoted in the scientific literature:

- *Bunium paucifolium* roots, presenting a hazelnut-chestnut-like taste, which are consumed raw as a snack – similar to what was done in the past in most of Western Europe with its congeneric species *B. bulbocastanum*;
- *Calepina irregularis*, presenting a cabbage/rocket-like, pungent-sweetish taste, whose young aerial parts are consumed raw or mainly cooked;
- *Chaerophyllum bulbosum* roots, presenting an aromatic, carrot-like taste, cooked – this taxon was widely used in Central and Eastern Europe in the past;
- *Fagus orientalis* leaves, having a slight astringent taste, used for preparing *sarma* – this is a very specific Caucasian custom, and the resulting *sarma* is delightfully astringent (and also *umami* as the result of the meat-based filling and being cooked in broth);
- *Falcaria vulgaris* (Figure 3), which has a very aromatic taste, whose young aerial parts are consumed cooked – its use in the kitchen is still present in Eastern Turkey;
- *Heracleum trachyloma* stems, slightly aromatic, lacto-fermented (Figure 4) or consumed raw – a very widespread Azeri custom, which we also recorded as common among Tats and Molokans, that may have ties to the Persian tradition of using this plant, particularly the dried fruits (*golper*), widely used in the Iranian cuisine as a seasoning (Duguid 2016);
- *Humulus lupulus* female inflorescences, mixed with bran (Figure 5), as home-made yeast for bread (only among Molokans); this use of hops was recorded in the 19th century in some areas of Eastern Europe (Maurizio 1927) and until the first half of the 20th century in Eastern Romania (Pieroni et al. 2012);
- *Pimpinella aromatica* fruits, very aromatic, resembling anise and caraway, used as seasoning by Tats;
- *Polygonum cognatum* leaves, presenting a neutral taste, cooked;
- *Prangos ferulacea* shoots, having a very aromatic taste vaguely resembling that of sea fennel (*Crithmum maritimum* L.), lacto-fermented in brine (Figure 4) exclusively among Azeri refugees from Karabakh;
- *Smyrniium perfoliatum* stems (Figure 6), aromatic, lacto-fermented among Azeri refugees – the plant is also very commonly used in Kurdistan;
- *Primula woronowii* leaves, whose taste is neutral, used raw in salads exclusively by Molokans, although according to our interviewees this use seems to have been only recently established.

Most of the plants are exclusively used within households, while a few of them (see Table 2, most notably *Asparagus* and *Silybum* spp., Figure 7) are also sold in markets or along the main roads during the spring, while others are preserved (mainly lacto-fermented in brine or in sweet preserves) and sold in local markets (taxa indicated by ^{MA} in Table 1). Although a quantitative analysis of the economic impact of foraging was not the main aim of our study, our observations suggest that the small-scale market of these wild vegetables can generate income, which may be crucial in disadvantaged households.

All the visited communities, especially those inhabiting the most remote mountain villages, consider gathering and consuming wild plants an important cultural custom and these practices still represent a daily routine during the spring, and, to a lesser extent, **the first part of autumn – I would rather say “summer and autumn”**. The study participants often promote the advantages of consuming wild food ingredients via a narrative that includes two main arguments. First is their widespread availability, which in spring would precede that of cultivate plants thus ensuring them a food supply during a critical period, when it could be difficult to find alternatives, considering the distance of a few mountain villages to the nearest towns having a market or supermarket (up to 3 hrs drive with off-road vehicles). The second is the perceived health-promoting effects of

their consumption.

The knowledge in the most remote villages is also shared by the youngest community members, while in villages that are closer to towns, wild food plant knowledge holders are elderly people only.

While Table 2 reports also a few cultivated taxa (*Cydonia*, *Mentha*, *Morus*, *Phaseolus*, *Triticum* and *Vitis* spp.) used in “unconventional” ways, which diverge from usual, globalized food utilizations, it is worth to mention that we could observe in a few home-gardens the incipient domestication of *Heracleum trachyloma*, whose stems are extremely appreciated, especially among Azeris and Molokans.

Comparison among the studied communities

Figures 8 and 9 present two Venn diagrams showing the overlap among the four studied communities (number of cited folk taxa and most commonly quoted genera/taxa only, respectively).

Udis seem to have a restricted use of wild food plants in comparison with the other groups, possibly due to the fact that they live in a plain area, where living conditions are less difficult and food security in spring less problematic. Moreover, they commonly use synanthropic, post-Neolithic weedy food plants such as *Chenopodium* and *Portulaca* spp., which seem to be ignored by the other communities.

The most divergent ethnobotany, however, is shown by the Tats (12 folk taxa exclusively used by them, of which only two are commonly used, see Figures 8 and 9), which may be related to their cultural and geographical isolation. In fact, this community was endogamic until only a few decades ago, despite the fact that they have partially shared the same religious faith with the dominant group (Azeri), although they have retained a completely different language (Iranic Tat vs. Turkic Azeri). Moreover, in our study area Tats live in the most remote mountain villages, which could have historically enhanced isolation and the permanence of ancient local knowledge regarding wild food plants.

With regard to the plant *reports* (i.e. food uses of the different species), Azeris and Molokans also show important divergences, which is exemplified by the latter group, which retains eight species, commonly used only by them, that we may define as *plant cultural markers* (sensu Pieroni et al. 2015). This could be attributed to the historical ethno-religious trajectory of Molokans, who were historically endogamic and lived fully separated from the other groups, although during Communists times mixed marriages among different ethnic/religious groups were not uncommon in the study area, as atheism was the norm in the public sphere. However, Molokans have the most in common with Azeris despite differences in both faith and language, which may be due to the inevitable *azerization* process that all ethnic and linguistic minorities in Azerbaijan have experienced for centuries. The reasons for this process may be diverse: a) the Azeri language acted as a lingua-franca in the Eastern Caucasus from the 16th to the 20th century (Trubetzkoy 2000); b) Azeri culture/language was dominant in the school system and the media in the study area during the last century (former Soviet Socialist Republic of Azerbaijan from 1936 to 1991, and since then independent Azerbaijan); c) no pure Molokan villages still exist in the study area, rather Molokan families are spread across villages mainly inhabited by Azeri families - this does not happen for Udis and, to a lesser extent, Tats, which still live in separate, mono-ethnic villages. While a remarkable number of wild food plants (six) are shared by Tats and Azeris, the Azeri plant cultural markers are mainly retained by Azeri refugees from Karabakh, which have a fairly different ethnobotany from that of the autochthonous, local Azeri population. This may be due to the different regional customs from their place of origin (Karabakh high mountains vs. the present area where they live in Central Azerbaijan), their complex ethnic roots (they were originally

mainly Sunni Kurds, strongly *azerized* in the course of history), and especially their current economic and social marginalization, which has forced them to live at the edge of the communities we visited, with very limited socio-economic resources.

Green culinary fingerprints

Figure 10 illustrates the sensory fingerprints concerning the taste of the recorded wild food plants consumed in each community. The diagram was created using the sensory characteristics of all recorded wild plant parts (as described by the interviewees), as well as their quotation indexes. Moreover, the fingerprints were designed by considering nine sensory categories:

1. sweet taste (exemplar: ripe strawberries, *Fragaria* sp., Rosaceae; code SW);
2. herbaceous/neutral taste (exemplar: fat hen, *Chenopodium* sp., Amaranthaceae; code: HE);
3. acidic taste (exemplar: sorrel, *Rumex acetosella*, Polygonaceae, code: AC);
4. bitter taste (exemplar: dandelion, *Taraxacum* sp., Asteraceae; code: BI);
5. garlic-like pungent taste (exemplar: wild garlic, *Allium* sp.; code GP);
6. rocket-like pungent taste (exemplar: shepherd's purse, *Capsella* sp. Brassicaceae; code RP);
7. astringent taste (exemplar: unripe cherries, *Prunus* sp., Rosaceae; code AS);
8. aromatic taste (exemplar: wild chervil, *Anthriscus* sp., Apiaceae and wild mint, *Mentha* sp.; code: AR);
9. crunchy texture (exemplar: fresh stems of milk thistle, *Silybum* sp., Asteraceae; code CR).

The figure shows how Azeris and, to a lesser extent, Tats, seem to favor wild plants having crunchy and aromatic tastes/textures, mainly represented by wild greens, and often Apiaceae snacks, thus reinforcing the hypothesis that among these two groups “pastoralist snacks” have shaped a large part of their foraging behavior. “Pastoralist snacks” are green plant parts, mainly internal stems or flower receptacles, gathered and processed using a knife, consumed as it is, mainly on-spot, or sometimes at home just dipped in salt, possibly originally adopted by shepherds as a side activity while leading herds to grazing areas.

On the other hand, the prevalence of bitter, acidic, and sweet tastes among Molokans could be partially interpreted as a more important attachment to the horticultural practice of gathering synanthropic, mainly Asteraceae, bitter weeds and to specific culinary processes as well (lacto-fermentation, which generates sour taste; and sweet preserves). The fact that the importance of pungent Amaryllidaceae (belonging to the former Liliaceae s.l. family) and Brassicaceae herbs (garlic- and rocket-like, respectively) decrease from Azeris to Tats, and especially among Molokans and Udis, could also be related to a more limited exposure the first two groups have had to industrial foods and mainstream cultivated vegetables living in more isolated villages. Overall, the relative modest contribution to the diet provided by bitter tasting wild plants suggests that the distance of the Caucasian foraging we observed in Central Azerbaijan from the horticulturalist post-Neolithic nutritional framework of the Fertile Crescent, and in particular from Middle Eastern farming communities (Assyrians), which moved in ancient times westward toward Greece and the Central Mediterranean, created what we have referred to for several decades as the “Mediterranean Diet” (Cucinotta and Pieroni 2018; Pieroni et al. 2018; Pieroni and Cattero 2019).

Figure 10 shows the predominant botanical families of the recorded wild food preparations consumed by the four studied communities and considers the frequency of quotation of each of them as well. The figure illustrates how the aforementioned sensory fingerprints are only partially rooted in the cultural salience of certain botanical families and consequently the foraging ecology/foodscapes of the communities. It is remarkable to note only a single significant difference: a large predominance of Apiaceae species (responsible for most aromatic tastes) among Azeris, in whose cluster Rosaceae is not very relevant. This would confirm that both families represent reservoirs of mainly non-synanthropic plants, which agrees with the human

ecological pastoralist origin of the Azeris. However, the absence of other important differences may suggest that the ecology of wild plant gathering areas, i.e. the possible human ecological historical trajectory of the studied communities, may represent only one of the different elements that have influenced their foraging patterns. In particular, our data also suggest that a possible different cultural attachment toward specific plant tastes may have played a crucial role in influencing the foraging preferences of the studied ethnic groups.

Comparison with the ethnobotanical literature of neighboring regions

On the basis of the comparative analyses we conducted in the previous paragraphs as well as an analysis of the pre-existing ethnobotanical literature of the Caucasus and neighboring regions (see aforementioned literature in the Data Analysis section), we can outline some wild food plant uses, which may be relevant to the pre-history and history of food ingredients.

- Russian Molokans, which represent a distinct, conservative ethno-religious group within the Eastern Slavic domain, have preserved a few ancient Slavic wild plant food uses (Pieroni and Söukand, 2018) that are not common, to the same extent, in neighboring areas and ethnic groups: these include the culinary uses of *Rumex acetosella* leaves, lacto-fermented *Prunus spinosa* fruits, as well as *Armoracia rusticana*, *Crataegus* spp., and particularly *Viburnum opulus* fruits.
- The common traditional food uses by Tats of *Berberis vulgaris* fruits, especially in their original lacto-fermented preparation (Figure 12) and *Ornithogalum* spp. are linked to the widespread culinary custom of using barberry fruits as a souring ingredient in Persian cuisine (Duguid, 2016) and to the popularity of the complex *Ornithogalum-Muscari-Bellevalia* spp. group in Kurdistan and Iranian areas (Maassoumi and Bobrov 2004; Pieroni et al. 2018), whose uses are very ancient, as pollen of *Muscari* was found, for example, at the Shanidar IV archaeological site (dating to 35,000 years B.C.; Lietava 1992).
- Udi commonly used wild food plants include, apart from the aforementioned weedy plants *Portulaca oleracea* and *Chenopodium album*, *Smilax excelsa* shoots, whose food use is very common in Georgian cuisine, as well as in that of other autochthonous Caucasian speaking groups in Azerbaijan (Bussmann et al. 2016 and 2017; Łuczaj et al. 2017; personal observations). Young shoots of *Smilax*, however, are still sometimes used in folk cuisines of the Eastern Mediterranean (Greece, SE Italy) (Pieroni and Cattero 2019).
- The common Azeri uses of wild plants, which normally have their ideal habitat in mountainous and pastoral landscapes, such as wild *Allium*, *Chaerophyllum*, *Prangos*, *Smyrniunum*, and *Tragopogon* spp. are similar to the patterns we recorded in Kurdistan and that of other ethnobotanists in both the Caucasus and Eastern Turkey (Bussmann et al. 2016 and 2017; Çakır 2017; Hovsepyan et al. 2016; Kaval et al. 2015; Łuczaj et al. 2017; Pieroni et al. 2017 and 2018; Polat et al. 2015 and 2017).
- The common Azeri and Tat use of some weeds (synanthropic plants) as vegetables, such as *Capsella*, *Papaver*, and *Stellaria* spp., may be linked, in our opinion, to a possible horticultural shift/sedentarization that these two former pastoralist groups may have gone through.
- The widespread common use (recorded among all selected communities, but not Russians) of *Fagus orientalis* for *sarma* could be considered a pan-Caucasian custom (Bussmann et al. 2016 and 2017; personal observations in various areas of Azerbaijan and Georgia).
- The widespread culinary use of *Rumex patientia* and related species among all our mountain communities confirms the role of the *Rumex* genus in the food economy of mountain communities in the geographical and cultural spectrum that proceeds westwards from the Caucasus to the Dinaric Alps in the Balkans (Pieroni and Quave 2014, and

references therein).

Conclusions

The current study shows that foraging is a practice which is still very much alive in the Caucasus, particularly in mountainous areas and among the middle-aged and older generations and that local environmental knowledge, practices, and beliefs related to wild vegetables are crucial in the spring and autumn for coping with food insecurity, especially within the most disadvantaged households and among internal refugees from Karabakh who are, in fact, involved in foraging not only because gathering these ingredients and cooking them is part of their regional cultural heritage and possibly represents an identity-driver, but also for more pragmatic reasons such as coping with economic constraints and food shortages.

Moreover, the traditional knowledge attached to these practices, as well as the gastronomic heritage concerning the manipulation of the plant items within the household, their cooking processes, and the consumption frames are the result of complex co-evolutions where both human ecological origins and sensory factors (i.e. preferences for specific tastes) have shaped the foraging patterns of the studied communities over centuries. Eventually, this complex and diverse heritage needs to be not only preserved but concretely considered in rural development programs in order to foster culturally-sensitive endogenous alternatives in food security policies. All this may require educational platforms aimed at re-instilling local knowledge in the younger generations as well as public engagement for increasing the awareness of rural and urban civil societies regarding the importance of neglected and disappearing traditional food ingredients. Moreover, nutritional and nutraceutical studies on a few of these neglected wild plant ingredients will be important for possibly addressing the beneficial effects of threatened local foods, which could in turn help foster the resurgence of a broader interest in traditional wild plant foraging.

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8 **Conflict of interest**

9 The authors declare that they have no conflict of interest.

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11 **Human and animal rights**

12 Interviews were conducted following ISE Code of Ethics (ISE 2008).

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Table 1. Characteristics of the study participants

<i>Ethnic or ethno-religious group</i>	<i>Azeris</i>	<i>Azeri internal refugees</i>	<i>(Russian) Molokans</i>	<i>Tats</i>	<i>Udis</i>
Arrival in the present area	11 th century AD from Central Asia (NE), when Oghuz Turks arrived in the area and mixed with the autochthonous Iranic populations	1988 from Armenia and the Nagorno-Karabakh region (South; formally in Azerbaijan this territory is nowadays occupied by Armenian military forces within the self-proclaimed Republic of Artsakh)	1830 from Russia (North)	2 nd century AD from Persia (SW)	"Autochthonous" (first mentioned in the 5 th century BC)
Approx. number of inhabitants in Azerbaijan	9 million	250,000	2,000	25,000	4,000
Geographical characteristics of the study villages	Mountainous	Mountainous	Hilly and mountainous	Mountainous	Plain
Original language	Azeri (Turkic group, non Indo-European)	Azeri (Turkic group, non Indo-European) and Kurmanji Kurdish (Iranic group,	Russian (Slavic group, Indo-European)	Tat (Iranic group, Indo-European)	Udi (NE Caucasian group)

		Indo-European)			
Socio-linguistic characteristics of the study villages	Monolingual in Azeri (youngest community members); bilingual in Azeri and Russian (elderly community members)	Monolingual in Azeri (youngest community members); bilingual in Azeri and Kurmanji Kurdish (elderly community members)	Mainly monolingual in Russian; some bilingual in Azeri and Russian	Bilingual in Azeri and Tat; elderly community members fluent in Russian	Bilingual in Azeri and Udi; some of the elderly community members speak Russian
Religion	Shia Islam	Shia and Sunni Islam	Spiritual Christianity (sect)	Shia and Sunni Islam	Orthodox Christianity (Albanian and Armenian Churches)
Marriages	Exogamic with other Muslims	Exogamic with other Muslims	Endogamic in the past, now partially exogamic	Endogamic in the past, currently exogamic with Muslims (Azeris)	Endogamic
Number of study participants	11	10	20	20	17
% of women in the sample / mean age	18 / 56	20 / 62	60 / 62	30 / 54	29 / 47
% of men in the sample / mean age	82 / 57	80 / 38	40 / 64	70 / 49	71 / 52
Overall mean age of the study participants	57	50	63	52	50

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Table 2. Non-cultivated food plants recorded among the studied communities and their local culinary uses (table also includes six cultivated plants, whose recorded culinary uses are unusual)

Botanical taxon/taxa; family (voucher specimen codes)	Recorded local names	Parts used	Recorded gastronomic uses, frequency of quotation, and notes
<i>Allium atroviolaceum</i> Boiss.; Amaryllidaceae (AZ04, AZ23, AZ41)	Sarimsok ^T , Sir ^T , Sirçui ^T , Sirsiç ^T , Soğanak ^A	Leaves ^{MA}	Seasoning <i>dovğa</i> ^{AA} , <i>kyukyu</i> ^{A,T} , <i>qutab</i> ^{A,T} , and soups ^{AA} , fermented in brine ^{A,RRR} , snack ^{AA,T}
<i>Allium paradoxum</i> (M.Bieb.) G.Don; Amaryllidaceae (AZ11)	Dikij česnok ^M , Pəl ^{A,M,T}	Leaves	Seasoning <i>kyukyu</i> ^{AA,MM,TT} and <i>qutab</i> ^{AA,MMM,T} , snack ^{AA,MM}
<i>Anthriscus sylvestris</i> (L.) Hoffm.; Apiaceae (AZ01)	Başkalın ^T , Ceme ^R , Çelambir ^A , Dah ^T , Dikaja kinza ^M , Dikaja petruška ^M	Leaves Young shoots ^R	Seasoning <i>dovğa</i> ^{AA,MM,T} and <i>qutab</i> ^{A,M,T} , snack ^{A,T} Fermented in brine ^{RRR}
<i>Arctium lappa</i> L.; Asteraceae (GR22)	Çortun ^R , Lopuh ^M	Roots	Boiled ^R , snack ^R , soups ^M
<i>Armoracia rusticana</i> P.Gaertn., B.Mey. and Scherb.; Brassicaceae (AZ094)	Hren ^{M,R}	Roots ^{MA}	Seasoning cold dishes ^{R,MMM}
<i>Artemisia absinthium</i> L.; Asteraceae [#]	Polyn ^M	Leaves	Snack ^M
<i>Asparagus verticillatus</i> L.; Asparagaceae (AZ14)	Guvançar ^U , Kalança ^U , Kulançar ^{A,R} , Sparža ^M	Young shoots ^{MA}	Boiled and fried with eggs ^{AA,MM,RR,UU} , <i>qutab</i> ^{MM}
<i>Berberis vulgaris</i> L.; Berberidaceae [#]	Kislička ^M , Sum ^T , Ziriş ^{A,T} , Zirişk ^T	Fruits ^{MA}	Added to cooked rice ^T , fermented in brine (and esp. used to dress onions) ^{A,M,TTT} , sweet preserves and <i>kompot</i> ^{TT}
<i>Bunium paucifolium</i> DC.; Apiaceae (AZ39)	Buzluchok ^M , Kaştanik ^M , Şabil ^{A,T} , Zemnoj oreh ^M	Roots	Snack ^{A,T,MM}
<i>Capsella bursa-pastoris</i> (L.) Medik.;	Gagulaguşin ^T , Kaşka ^M , Kogolla ^T ,	Leaves	Cooked and then fermented in brine ^A , <i>dovğa</i> ^T , <i>kyukyu</i> ^T , <i>qutab</i> ^{AA,R,TTT} , soups ^{AA}

Brassicaceae (AZ12, AZ24)	Quşəppəyi ^{A,R,T} , Pilpilaç ^T		
<i>Calepina irregularis</i> (Asso) Thell.; Brassicaceae (AZ19)	Palçum ^A	Young whorls	<i>Dovğa</i> ^A , <i>kyukyu</i> ^A , <i>qutab</i> ^A , snack ^A
<i>Chaerophyllum bulbosum</i> L. (AZ06); Apiaceae	Cacix ^A	Hypocotyl tubers and lower part of the stems	Roots: cooked like potatoes ^{AA} Stems: <i>dovğa</i> ^A , <i>qutab</i> ^A , snack ^{AA}
<i>Chenopodium album</i> L.; Amaranthaceae (GR18)	Davun ^U , Lebeda ^M , Tərə ^{A,T}	Aerial parts	Boiled and <i>kyukyu</i> ^{UUU} , <i>qutab</i> ^T , soups ^{A,M,T}
<i>Cirsium echinus</i> (M.Bieb.) Hand. Mazz. and <i>C. macrocephalum</i> C.A.Mey.; Asteraceae (AZ57, AZ10)	Kangal ^{A,R,U} , Şelal ^T	Stems Seeds	Pealed and eaten raw ^{AA,RR,TT,U} Snack ^U
<i>Cornus mas</i> L.; Cornaceae [#]	Kizil ^M , Zoğal ^{R,T,U}	Fruits ^{MA}	Distilled into spirits ^{M,R,U} , fermented in brine ^M , sweet preserves and <i>kompot</i> ^{MMM,T,U}
<i>Corylus avellana</i> L.; Betulaceae [#]	Ərək ^U	Leaves ^{MA}	<i>Sarma</i> ^U
<i>Cotoneaster melanocarpus</i> Fisch.ex Blytt.; Rosaceae (AZ056)	Çahabisim ^T	Fruts	Snack ^T
<i>Crataegus caucasica</i> K.Koch, <i>C. meyeri</i> Pojark., <i>C. pentagyna</i> Waldst. and Kit. ex Willd., and <i>C. monogyna</i> Jacq.; Rosaceae (AZ60, AZD02, AZ30)	Bojaryşnik ^M , Glamatsoi ^U , Kenek ^U , Şyşki ^M , Yemşan ^{A,T,U} , Zerü ^T	Fruits ^{MA} Flowering aerial parts ^{MA}	<i>Kulaga</i> ^M , recreational tea (fruits) ^A (aerial parts) ^M , snack ^{A,M,U} , sweet pies ^M , sweet preserves and <i>kompot</i> ^{MM,TT}
<i>Crepis pulchra</i> L. and <i>C. foetida</i> subsp. <i>rhoeadifolia</i> (M.Bieb.) Čelak.; Asteraceae (AZ20, AZ45)	Çobançəreie ^A , Turşan ^T	Stems	Snack ^{A,T}

<i>Crocus speciosus</i> M.Bieb.; Iridaceae (AZ42)	Pervocvet ^M , Qusuğese ^T	Bulbs	Boiled and eaten like potatoes ^T , (raw) snack ^M
<i>Cydonia oblonga</i> Mill.*; Rosaceae	Aiva dikaja ^M , Bih ^T , Heyva ^{R,T} , Pushsa ^U	Leaves Flower petals Fruits ^{MA}	Sarma ^{R,TTT} Snack ^U Sweet preserves and <i>kompot</i> ^M
<i>Elaeagnus rhamnoides</i> (L.) A.Nelson; Elaeagnaceae (AZ68)	Galebizim ^T , Karsum ^T , Oblepixa ^M	Fruits ^{MA}	Sweet preserves and <i>kompot</i> ^{MM,TT}
<i>Epilobium angustifolium</i> L.; Onagraceae [#]	Ivan čaj ^M	Leaves	Recreational tea ^M
<i>Fagus orientalis</i> Lipsky; Fagaceae [#]	Lapan ^U , Pip ^{A,R,T}	Leaves ^{MA}	Sarma ^{AA,RR,TTT,UU}
<i>Falcaria vulgaris</i> Bernh.; Apiaceae (AZ07)	Qazayağave ^A	Aerial parts ^{MA}	Raw snack ^A
<i>Filipendula vulgaris</i> Moench; Rosaceae [#]	Karnal ^T , Koincose ^A , Şabil ^{T,A}	Shoots and roots	Snack ^{A,T}
<i>Fragaria vesca</i> L.; Rosaceae [#]	Hamy ^U , Muri ^T , Zemljanika ^M	Fruits ^{MA}	Snack ^{MM} (rarely in the past, common today),T,U
<i>Heracleum trachyloma</i> Fisch. and C. A. Mey.; Apiaceae (AZ66)	Baldarğan ^T , Baldriğan ^{A,R} , Caldarğan ^T , Candaloş ^T , Gandaloş ^T , Kapury ^M , Malaçun ^R , Xarapenç ^T	Stem ^{MA}	Fermented in brine ^{AAA,RRR,TT} , snack ^{AAA,MM} ("makes you drunk if consumed in large amounts")
<i>Humulus lupulus</i> L.; Cannabaceae (GR15)	Cindireh ^U , Hmel' ^M	Shoots Female inflorescences	Fried ^{UU} <i>Drodzy</i> ^M (very commonly used in the past, today rare)
<i>Hypericum perforatum</i> L.; Hypericaceae [#]	Şimşit ^T , Zverboj ^M	Aerial parts	Recreational tea ^{M,T}
<i>Malus baccata</i> (L.) Borkh.; Rosaceae (AZ51)	Almu ^T , Arma ^T , Cannatalataze ^T , Jabloki dikie ^M , Məşeda ^R , Sif ^T	Fruits	Fermented in brine ^{M,T} , recreational teas (after being dried) ^M , snack ^{RR} , sweet preserves and <i>kompot</i> ^{M,TT}
<i>Malva neglecta</i> Wallr. and <i>M. sylvestris</i> L.; Malvaceae (AZ38, AZ29)	Alteika ^M , Amaçedoumağe ^R , Emeçumeğe ^A , Əməkimeçe ^R , Pilpilaç ^T , Pumpul ^U ,	Leaves	Fried ^M , salad ^M , <i>qutab</i> ^{A,RR,M,TT} , <i>sarma</i> ^{A,TTT} , soups ^{AA,U} , <i>dovğa</i> ^{A,RR,MM,TT} , green <i>borscht</i> ^{MM}

	Pyšečnik ^M , Pyšnik ^M Tolk ^R		
<i>Mentha × piperita</i> L. and <i>M. spicata</i> L.; Lamiaceae (AZ05, AZD03)**	Mjata ^M , Nanə ^{A,R} , Nanü ^T	Aerial parts ^{MA}	Dried and fresh seasoning for <i>dovğa</i> ^{AA,RR,TT} , recreational tea ^{AA,M,TT} , <i>qutab</i> ^{RR,TT} seasoning <i>pilaf</i> , cheese, and <i>sarma</i> ^{RR} , <i>qutab</i> ^{TT}
<i>Mentha longifolia</i> (L.) L.; Lamiaceae (AZ16, AZ27, AZ44)	Mjata ozernaja ^M , Purinat ^T , Yarpəz ^{A,R,T}	Aerial parts	Dried and fresh seasoning for <i>dovğa</i> ^{AA,RR,TT} , recreational tea ^{AA,M,TT} , <i>qutab</i> ^{RR,TT} seasoning <i>pilaf</i> , cheese, and <i>sarma</i> ^{RR} , <i>qutab</i> ^{TT}
<i>Mespilus germanica</i> L. Rosaceae (AZ55)	Azcil ^T	Fruits ^{MA}	Fermented in brine ^T , sweet preserves and <i>kompot</i> ^T
<i>Morus alba</i> L.; Moraceae**	Tut ^{A,R,U}	Fruits ^{MA} Leaves	Distilled into spirits ^{A,RR,U} , <i>pekmez</i> ^A , snack ^R <i>Sarma</i> ^R
<i>Oenanthe pimpinelloides</i> L.; Apiaceae (AZ26)	Horcote ^A	Basal rosettes	<i>Qutab</i> ^A
<i>Ornithogalum ponticum</i> Zahar.; Asparagaceae [#]	Gojuncesi ^T , Kuseğuse ^T	Aerial parts and bulbs	Boiled in milk ^T , <i>qutab</i> ^T
<i>Papaver orientale</i> L. [#] and <i>P. rhoeas</i> L.; Papaveraceae (AZ09)	Alola ^T , Alulaç ^T , Lalə ^{A,R,T} , Mak dikij ^M	Young aerial parts Seeds ^{MA}	Boiled ^{AAA} , <i>kyukyu</i> ^{AA,M} , raw snack ^{A,M} , <i>qutab</i> ^{AA, RR,TT} , <i>dovğa</i> ^{A,M,TT} Garnishing bread ^T
<i>Phaseolus vulgare</i> L.*; Fabaceae	Lubye ^T	Leaves	<i>Sarma</i> ^T
<i>Pimpinella aromatica</i> M.Bieb.; Apiaceae (AZD05)	Tuntuma ^T	Seeds	Seasoning bread ^T
<i>Plantago major</i> L.; Plantaginaceae (AZ22)	Bağalbağə ^T , Bağayarpağə ^A , Kərgəpugum ^R , Podoroznik ^M	Leaves	Fermented in brine ^R , <i>qutab</i> ^A , recreational tea ^T , salad ^M , snack ^R , <i>sarma</i> ^{A,T}
<i>Podospermum canum</i> C.A. Mey.; Asteraceae [#]	Kasmatki ^M	Leaves, stems	Salad ^(in the past during times of famine) M, snack ^M
<i>Polygonum cognatum</i> Meisn.; Polygonaceae (AZ50)	Çarcecuo ^T	Leaves	<i>Dovğa</i> ^T , <i>qutab</i> ^T
<i>Portulaca oleracea</i> L. Portulacaceae (GR04)	Kaprica ^M , Tentor ^U	Aerial parts ^{MA}	Boiled ^{UU} , fermented in brine ^{M,UU} , salads ^{UU}

<i>Prangos ferulacea</i> (L.) Lindl.; Apiaceae (AZ35)	Çaşırım ^R , Çeşer ^R , İlançolğasi ^T , Kapury ^M	Aerial parts ^{MA}	Boiled and then fermented in brine ^{M,RRR,T}
<i>Primula woronowii</i> Losinsk.; Primulaceae (AZ28)	Baraški ^M , Barančiki ^M , Babuškinj rubahj ^M	Leaves	Salad ^M
<i>Prunus cerasifera</i> Ehrh.; Rosaceae (AZ59)	Altsa ^A , Alyča ^M , Gox ^U , Turshi ^T	Unripe and ripe fruits ^{MA}	Unripe fruits: fermented in brine ^{A,T} , snack ^A , soups ^A Ripe fruits: distilled into spirits ^U , pies ^M , salty ^M or sweet ^{M,T} preserves and <i>kompot</i> ^M , snack ^M
<i>Prunus cerasus</i> L.; Rosaceae [#]	Zurcoem ^T	Fruits ^{MA}	Fermented in brine ^T
<i>Prunus spinosa</i> L.; Rosaceae (AZD06)	Lesnoj tjorn ^M , Tèren ^M , Dikij tjoren ^M	Fruits ^{MA}	Distilled into spirits ^{MM} , dried and then boiled ^M , preserved without sugar, previously burried in vessels underground ^{MMMM}
<i>Pyrus caucasica</i> Fed. and <i>P. salicifolia</i> Pall.; Rosaceae (AZ46; AZ89)	Gruşy dikie ^M , Karibə ^T , Meşar ^R , Zimovki ^M	Fruits ^{MA}	Distilled into spirits ^{RR} , fermented in brine ^{RR} , <i>kulaga</i> ^M , snack (raw and dried) ^{MM,RR,T} , sweet preserves and <i>kompot</i> ^M
<i>Rosa canina</i> L. and <i>Rosa</i> spp.; Rosaceae (AZD01, AZ40, AZ63)	Çengil ^T , Dikij şipovnik ^M , Itburne ^U	Fruits ^{MA} Roots Flower petals (<i>Rosa</i> spp.) ^{MA}	Recreational tea ^{A,MMM,TTT,U} , snack ^{UU} , sweet preserves and <i>kompot</i> ^{A,TT,UUU} Recreational tea ^M Recreational tea ^A
<i>Rubus caucasicus</i> Focke; Rosaceae (AZ64)	Balnhoi ^U , Bərçan ^A , Ježevika ^M , Ozina ^M , Pəğala ^T	Fruits ^{MA} Young stem	Sweet preserves and <i>kompot</i> ^{A,MM,T,U} Raw snack ^{M,A}
<i>Rubus idaeus</i> L.; Rosaceae [#]	Burtçan ^T	Fruits ^{MA}	Snack ^T
<i>Rumex acetosa</i> L. (AZ31, AZ54) and <i>R. acetosella</i> L. (AZ02); Polygonaceae	Fitolli ^T , Futolxə ^T , Gusugulag ^K , Şçavel ^M , Tahalu ^T , Turşai ^A , Turşanç ^T , Turtuncik ^U , Xtalo ^T	Leaves and stems ^{MA}	Boiled and then <i>kyukyu</i> ^R , <i>dovğa</i> ^M , fermented in brine ^T , green <i>borscht</i> ^{MMM,U} , <i>pilaf</i> ^M , <i>qutab</i> ^A , salad ^M , snack ^{A,R,U} , soups ^T , sweet pies (strawberry-like smell) ^{MMMM}
<i>Rumex conglomeratus</i> Murray (AZ43), <i>R. cofertus</i> Willd. (AZ37), <i>R. crispus</i> L. (AZ32), <i>R. obtusifolius</i> L. (AZ15), and <i>R. patientia</i> L. (AZ21); Polygonaceae	Avaliç ^R , Əvəlik ^{A,R,U,T} , Kisily ^M , Kicakazal ^U , Şçavel' konskij ^M	Leaves ^{MA}	Green <i>borscht</i> ^{MM} , <i>kyukyu</i> ^T , fermented in brine ^T , <i>dovğa</i> ^{AAA,MM,RR,TTT} , <i>qutab</i> ^{AAA,RR,T,U} , <i>pilaf</i> ^{AAA,RR,TTT} , <i>sarma</i> ^{R,T}

<i>Silybum marianum</i> (L.) Gaertn.; Asteraceae (AZ34)	Kangal ^{R,U} , Şelal ^T	Stems ^{MA}	Fermented in brine ^{T,U} , snack ^R
<i>Smilax excelsa</i> L.; Smilacaceae (AZ56)	Ğoretsat ^U , Oratsats ^U	Shoots	Boiled (possibly mixed with garlic and accompanied with spirits) ^{UU}
<i>Smyrniun perfoliatum</i> L.; Apiaceae [#]	Şoşan ^R	Shoots	Fermented in brine ^{RRR}
<i>Sorbus caucasica</i> Zinserl.; Rosaceae (AZ72)	Pungul ^T	Fruits	Snack ^T , sweet preserves ^T
<i>Stellaria media</i> (L.) Vill.; Caryophyllaceae (AZ08)	Cincilin ^{A,R,T} , Zinzilin ^{R,T}	Aerial parts	Fried ^A , <i>dovğa</i> ^{AAA,TTT} , <i>kyukyu</i> ^{TTT} , <i>qutab</i> ^{A,R,TTT} , soups ^A
<i>Taraxacum campyloides</i> G.E.Haglund; Asteraceae [#]	Oduvančik ^M	Leaves Flowers	Coffee substitute ^M , green <i>borscht</i> ^M Sweet preserves ^M
<i>Thymus caucasicus</i> Willd. Ex Benth. (AZD08), <i>T. collinus</i> Bieb. (AZD07), and <i>Thymus transcaucasicus</i> Ronniger (AZ62); Lamiaceae	Atotu ^R , Ğebrets ^M , Merzajù ^T , Purinat ^T , Tazai ^T , Tsakliotu ^{A,R}	Aerial parts ^{MA}	Recreational tea ^{AAA,MMM,RR,T} , seasoning for grilled meat and <i>dovğa</i> ^T
<i>Tragopogon graminifolius</i> DC. and <i>T. reticulatus</i> Boiss. & A.Huet; Asteraceae (AZ25, AZ03)	Şing ^T , Yemliş ^A ,	Shoots	<i>Qutab</i> ^A , snack ^{AA,T}
<i>Trifolium pratense</i> L.; Fabaceae (AZ73)	Çaçələzote ^T	Flowers	Recreational tea ^T
<i>Triticum aestivum</i> L.*; Poaceae	Buğda ^A , Gundm ^T	Germinated young shoots	Decocted; the resulting decoction is used for (dyeing) preparing a special, home-made green <i>halva</i> that is consumed during the Nowruz Festivities (21 st March) ^{AA,TT}
<i>Tussilago farfara</i> L.; Asteraceae (AZD12)	Çurki ^R , Karpeğan ^R , Kipegan ^R , Sarmajapağə ^R	Leaves	<i>Kyukyu</i> ^R , <i>dovğa</i> ^R , <i>sarma</i> ^R
Unidentified Apiaceae sp.	Poskal ^U	Roots	Snack ^U

Unidentified Apiaceae sp.	Svinuška ^M	Stems	Snack (with salt) ^M
Unidentified Brassicaceae sp. (AZ19)	Pałçum ^A	Young shoots	<i>Dovğa</i> ^A , <i>kyukyu</i> ^A , <i>qutab</i> ^A , snack ^A
<i>Urtica dioica</i> L.; Urticaceae (AZ17)	Cezina ^T , Gicitkan ^{A,R,T} , Karpeğan ^R , Kizilçan ^{A,R} , Kipeğan ^R , Krapiva ^M , Gişçan ^A , Meç ^U , Zi ^A	Young aerial parts	<i>Afar</i> ^{UU} , boiled ^{M,R} , green <i>borscht</i> ^{MM} , fried with onions and/or eggs ^{AAA,MM,TTT,UUU} , <i>qutab</i> ^{RR,UU} , rubbed with salt and eaten on bread ^T , soups ^A
<i>Viburnum opulus</i> L.; Viburnaceae [#]	Kalina ^M	Fruits ^{MA}	Dried or stored in water for winter and then recreational tea ^{MMM} , <i>kalinniki</i> ^{M(very common in the past)} , <i>kulaga</i> ^{MM} , snack ^M
<i>Viola odorata</i> L.; Violaceae (AZ48)	Banofşa ^T , Konfety ^M	Flowers ^{MA}	Snack ^M Recreational tea (also used as an anti- fever) ^T
<i>Vitis vinifera</i> L. **; Vitaceae	Andrus ^T , Hazal ^U , Tuli ^U Vinograd ^M , Üzüm ^{RR,T}	Leaves ^{MA}	Sarma ^{M,RR,UU,TT}

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118 ^A recorded among Azeris; ^M recorded among (Russian speaking) Molokans; ^R recorded among Azeri
119 internal refugees from Karabakh (mainly Kurds); ^T recorded among Tats; ^U recorded among Udis.

120 *Cultivated taxon (whose recorded folk culinary use is “unusual”); ** both wild and cultivated.

121 # taxon identification made via detailed plant descriptions and previously recorded folk names.

122 Frequency of quotation: x less than 20%, xx 20 – 50%; xxx more than 50%.

123 Plants part(s): ^{MA} occurring on local markets.

124 Gastronomic uses. *Afar*: typical Caucasian relish (known as *pkhali* in Georgia) made from chopped
125 greens or other vegetables mixed with ground onions, garlic, walnuts, and aromatic herbs; *borscht*:
126 typical Eastern Slavic sour soup; *halva*: sweet Middle Eastern confection made from flour, butter,
127 sugar, and possibly nuts; *kalinniki*: Eastern Slavic sweet pie made with *Viburnum opulus* berries and
128 traditionally consumed at Easter; *kompot*: Slavic beverage obtained by boiling fruits with a large
129 amount of water, often together with raisins (different from the Western European *compote* in a
130 small amount of sugar used); *kulaga*: Slavic sweet soups made with germinated wheat (ground and
131 poured over with boiling water), berries, and flour (finished in the oven); *dovğa*: typical Azeri yogurt-
132 and-herb based soups; *drodzy*: home-made yeast made by mixing a decoction of hop inflorescence
133 with bran, shaped by hand into small round oval balls, and preserved in dried form (see Figure 7);
134 *kyukyu*: typical Azeri and NE Iranian vegetable omelette; *pilaf*: Oriental dish made from boiled saffron
135 rice, and, in Azerbaijan, *gara* (cooked meat, eggs, dried fruits, or fish), and aromatic herbs; *pekmez*:
136 typical syrup of Ottoman cuisine obtained by condensing diverse fruit juices; *qutab*: typical Azeri thin
137 stuffed (salty) pancake filled with mixtures of aromatic and wild herbs, or cheese, or meat; *sarma*:
138 leaves rolled around a filling made from rice, aromatic herbs, and possibly meat or vegetables.

139 Note: traditional medical and folk uses and modern medicinal values of the culinary herbs described
140 here are given for informational purposes only. Medicinal use of herbs should be carried out only
141 under the care of a well-informed, qualified physician. Please note that some herbs included in his
142 table may be poisonous, and others may cause toxic reactions in susceptible individuals. Although
143 most, if not all culinary herbs are pharmacologically active, for many herbs limited health

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144 *information is available, and the levels of consumption are scarcely understood.*
145

146 Figure 1. Study area and visited villages.
147 Figure 2. Southern slopes of the Greater Caucasus Range.
148 Figure 3. *Falcaria vulgaris* leaves gathered in the village of Kürdüvan.
149 Figure 4. Lacto-fermented *Prangos* and *Heracleum* spp. stems prepared in an Azeri refugees'
150 household of Pirdinar.
151 Figure 5. Bread "yeast" made with a decoction of *Humulus lupulus* inflorescences and bran in a
152 Molokan household of Xillilli.
153 Figure 6. Lacto-fermented *Anthriscus sylvestris* stems prepared in an Azeri refugees' household of
154 Meysəri.
155 Figure 7. *Silybum marianum* stems sold along a main road close to the town of Şamaxı.
156 Figure 8. Venn diagram showing the overlap among the four studied communities for the recorded
157 wild food plants.
158 Figure 9. Venn diagram showing the overlap of the recorded wild food plant genera/species among
159 the four studied communities for the *most commonly quoted taxa only*. The figure does not show
160 *Eleagnus*, which represents the overlap between Tats and Molokans.
161 Figure 10. Sensory fingerprint of the wild plant foods quoted by the studied communities (SW:
162 sweet taste; HE: herbaceous/neutral taste; AC: acidic taste; BI: bitter taste; GP: garlic-like pungent
163 taste; RP: rocket-like pungent taste; AS: astringent taste; AR: aromatic taste; CR: crunchy texture).
164 Figure 11. Most frequently quoted wild food botanical families among the studied communities.
165 Figure 12. Lacto-fermented *Berberis* fruits prepared in a Tat household of Dəmirçi.
166