

Article

Local Wild Food Plants and Food Products in a Multi-Cultural Region: An Exploratory Study among Diverse Ethnic Groups in Bessarabia, Southern Moldova

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Abstract: A growing number of studies have acknowledged that food and ethnobotanical heritage have traditionally played a crucial role in the resilience of local communities, and their potentially crucial role in addressing future challenges posed by the turbulent changes affecting food systems worldwide. However, the issue of how and why food heritage changes across cultures within the same or similar foodscapes is still largely under-investigated. To partially contribute to this debate, we conducted exploratory fieldwork research in 15 villages in the Bessarabia region in the southern part of Moldova. We aim to record this multiethnic region's contemporary food and ethnobotanical heritage, focusing on the culinary uses and knowledge of plants, dishes, and artisanal food products. A total of 91 persons (37 men and 54 women) belonging to some of the most representative ethnic groups of the area (i.e., Moldovans, Gagauz, Bulgarians, and Ukrainians) were involved in this study. Among these groups, we recorded 66 plant and fungal taxa, as well as 42 traditional artisanal home-produced local food products and dishes. Overall, Moldovans showed a more vigorous food and ethnobotanical diversity in terms of the mentioned items than the other groups. Based on our exploratory field study, we identified possible factors that could be investigated to better explain the less biodiverse food heritage among the other three considered groups.

Keywords: Eastern Europe; ethnobotany; foodscouting; food heritage



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1. Introduction

In an ever-evolving global landscape, the intricacies of food systems have become increasingly complex, intertwining with cultural, economic, political, and environmental dimensions. Beyond its fundamental role in sustaining life, food is deeply entwined with cultural identity and heritage. In this endeavor, food heritage can be defined as a corpus of tangible and intangible elements tied to the food and culinary cultures of a given community, including agricultural products, ingredients, dishes, cooking artefacts, table manners, rituals, techniques, recipes, eating practices, behaviors and beliefs [1]. The legacy of traditional culinary practices and food-related customs is a vital aspect of a society's identity, shaping its values, beliefs, and social structures.

Over the past century, the rapid evolution of worldwide food systems, driven by significant social and ecological changes, has led to a profound decline in biological and cultural diversity [2]. This decline has also had negative repercussions on the conservation of tangible and intangible elements forming the food heritage of local communities.

A growing number of studies have acknowledged that these corpora of products, knowledge, and practices have traditionally played a crucial role in the resilience of local communities, and they could provide a potentially crucial contribution to addressing

future challenges posed by the turbulent changes affecting food systems worldwide [3–6]. Particular emphasis has been placed on the importance of documenting food heritage and associated biocultural diversity to guide strategies and potential solutions to foster sustainable development and enhance local communities resilience. Such initiatives can, on one hand, help in the preservation and transmission of cultural practices and knowledge to future generations and on the other hand, contribute to improving the food security and food sovereignty of local communities [7–21].

The conservation of food biocultural diversity and associated heritage is more complex in regions that have experienced colonization and occupation, which could negatively affect local communities' food security and sovereignty. Recent studies have shown the detrimental effects of continuous loss of local food diversity and sovereignty [22,23]. In this regard, centralized regimes have played a significant role in homogenizing all life aspects, including ethnic foods, in their controlled territories. However, some ethnic groups have resisted more, retaining their food specialties [24].

In recent decades, documentation of food-related elements and associated heritage has been investigated in a growing number of studies from cross-cultural and cross-geographical comparative perspectives. These studies have investigated the diversity and variability of specific traits of food heritage, exploring how and why food heritage changes across cultures (language, ethnicity, religion) within the same or similar foodscapes [25–33]. In this context, foodscouting methods have been demonstrated to advance the understanding of the emic perspective of local actors on elements belonging to the local food heritage and their evolution triggered by the ongoing transformations of the foodscape. In doing so, they have facilitated the analysis and interpretation of some of the reasons underlying the evolution of specific traits of food heritage, contextualizing them in the broader socio-cultural, political, and economic context of belonging [27].

To shed light on this transdisciplinary research area and topic, we conducted field research in one of Europe's historically most multicultural regions: the southern part of Bessarabia, where few ethnographic studies on local food heritage have been carried out in this region in recent decades, with many of them published in Romanian, Russian, and Turkish, e.g., the work presented in [33–38].

Specifically, we conducted exploratory fieldwork in 15 villages located in Moldovan Bessarabia to advance our understanding of the current food and ethnobotanical heritage in this multiethnic region.

Within this framework, we aimed to:

- Record this multiethnic region's contemporary local food and ethnobotanical heritage, focusing on wild plant reports, local dishes and artisanal food products.
- Compare the data among the selected groups to propose a possible cultural interpretation of the found differences.

2. Materials and Methods

The research used a foodscouting approach, involving trans-disciplinary, ethnographic-based research methods, to document food and gastronomic elements embedded in local and traditional foodscapes [27]. Specifically, we recorded information on food ingredients (plant and fungal species), artisanal food products, and dishes linked to the food and ethnobotanical heritage of four ethnic groups inhabiting Moldovan Bessarabia; namely Moldovans, Gagauz, Bulgarians, and Ukrainians. We deliberately included only four of the Bessarabian ethnic groups in our study as the objective of this study was not to provide an exhaustive inventory of the food and ethnobotanical heritage of Bessarabia, but to preliminarily explore the interactions regarding the food and ethnobotanical heritage of these ethnic groups in the selected key locations within the considered multicultural region.

2.1. Historical Background

The historical region of Bessarabia comprised most of the present territory of Moldova, the southern portion of Ukraine, and Eastern Romania, covering an area of around 28,000

km², with the Prut River running along the western border and the Dniester River along the eastern border [35].

Historically, Bessarabia has been a contested region and has changed hands several times over the centuries. From the 14th to the 18th century, the Ottoman Empire controlled the Bessarabian territory [39,40]. Following the Russo-Turkish War of 1806–1812, the Russian Empire annexed the eastern portion of the Principality of Moldavia and named it Bessarabia [39]. At the end of World War I, Romania received Bessarabia in the peace settlements and incorporated this territory into Greater Romania [41]. In 1940, under the so-called non-aggression pact between Nazi Germany and the Soviet Union, Soviet Union forces forcibly annexed Bessarabia [40], and the area was declared part of the Moldavian Soviet Socialist Republic (MSSR) [42]. After the declaration of independence of Moldova from the Soviet Union, which officially occurred on 27 August 1991, further tensions between Moldova and Russia over the ownership of Bessarabia occurred. Before gaining independence from the USSR in 1991, Moldova served as a net exporter of agri-food products to the rest of the Soviet Union. The agro-industrial complex played a pivotal role in generating over half of the Republic's social product (the Soviet GDP). The sector was predominantly characterized by large collective and state farms (averaging 2000 and 3000 h), and the only form of private agriculture was represented by small plots allocated to rural and urban households in the 1980s [43].

In the same period, fearing the onset of widespread Romanianization following the language laws of 1989 [40], Gagauz, an ethnic minority of Orthodox Christians of Turkic descent, issued a demand for autonomy. In August 1990, they declared an independent republic—the Autonomous Gagauzian Soviet Socialist Republic—in five districts in southern Moldova [44]. This declaration was translated into the Autonomous Territorial Unit of Gagauzia in December 1994 [45,46]. The region is currently an autonomous territorial entity with an official population of 134,535 [47]. It is primarily inhabited by Gagauz, who also reside in the Odesa region (Izmail and its surroundings) in the south of Ukraine [44]. They differ from most Turkic groups in terms of their religious affiliation and mother tongue, although most Gagauz peoples currently speak Russian as a lingua franca.

In this region, Gagauz, Ukrainian, Russian, Bulgarian, and Romanian languages coexist, and up until the 1940s, the German language was also spoken [35]. This reflects the multiethnic mosaic of the southern part of Moldova. The total population of Moldova is 2,804,801, which includes 73.7% Moldovans, 6.9% Romanians, 6.5% Ukrainians, 4.5% Gagauz, 4% Russians, 1.8% Bulgarians, 0.3% Gypsies/Roma, and 0.5% of other ethnicities [47].

2.2. Local Gastronomic Heritage in Bessarabia

The ethnic diversity in the southern part of Moldova translates into rich and diverse food cultures based on the interpenetration and mutual enrichment of various ethnic cuisines of the people inhabiting this region [35].

Having lived together and shared the same religion in the past, these groups (i.e., Gagauz, Bulgarians, Ukrainians, and Moldovans), especially in the last century, engaged in intercultural marriages that fostered the hybridization of food cultures and associated heritage. For instance, Moldovan traditions significantly impacted the evolution of the Gagauz bread food heritage, with several similarities in ingredients (e.g., the use of corn flour), types of bread, and preparation methods [36]. However, each ethnic group seems to have retained some food-related elements (i.e., ingredients, products, and dishes) that still define their identity and heritage.

Dishes such as ciorba (thick soup), the use of paprika (dry red peppers) and mirudia (spice mixture) as a seasoning, and different dairy products (e.g., yoghurt, sirene, and kashkaval) continue to characterize the food traditions of the Bulgarian people in Bessarabia [48]. Culinary preparations such as placinta (fried or deep-fried pastry), ciorba, mamaliga (cornmeal polenta), sarma, as well as zeama (chicken soup), racitura (poultry or pork trotters jelly), and pasca (Easter bread) play an essential role in Moldovans' gastronomy [49,50]. Gagauz cuisine includes dishes and culinary preparations that combine

elements of the Moldovan foodscape with influences from Turkish food culture, which are evident in various celebrations and feasts, as well as in the use of ingredients and products such as sheep and lamb meat, bulgur, turshu/turşu (lactofermented vegetables), and pita [37]. Nicoglo [38] suggests that turşu represents significant evidence of the Gagauz ancestors' Balkan origins. The Gagauz have brought pan-Ottoman traditions to Bessarabia, underscoring its importance for the vitality of the ethnic group. Some of the most important Gagauz dishes and food products include kavurma (sheep or lamb meat-based preserve), baur (a meat-based dish made with pork), and kurban (lamb stew) [51]. Bread and baked goods, such as gözleme (flat bread) and pita, are also significant in Gagauz gastronomy [37]. Ukrainian food heritage in this region primarily consists of borscht (red beet soup or green soup with nettle or sorrel), salo (salted pork), varenyky (boiled pastries with various fillings), and mushrooms, which are essential for ritual food [52].

2.3. Study Area

The fieldwork was conducted in October 2022 in 15 villages located in the Autonomous Territorial Unit of Gagauzia and some Moldovan districts bordering the northern part of the Gagauz region, namely Cenac, Topala, Bogdanovca Veche, Sadaclia, and Carabiber (Figure 1).

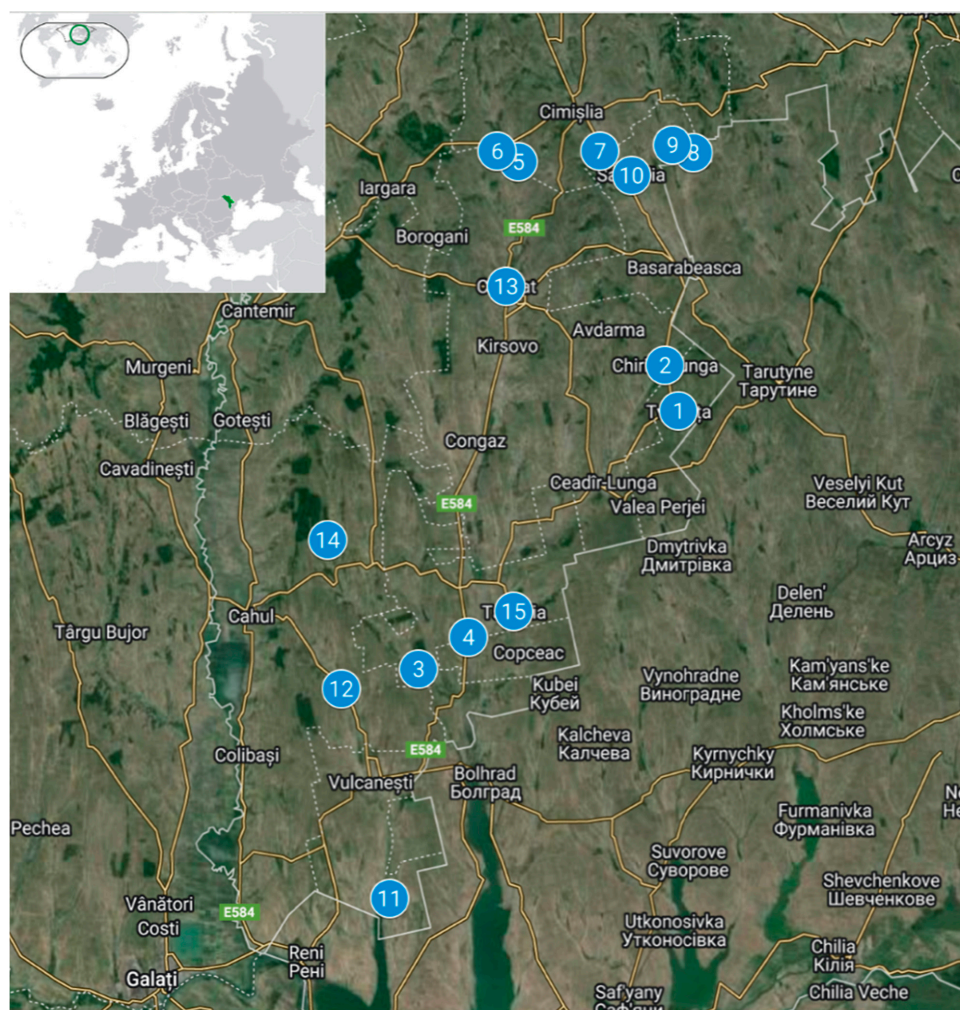


Figure 1. A Map showing the key locations of the study (File credits: Creative Commons Attribution-Share Alike 3.0 licence). Key: 1. Tvardița; 2. Chiriet-Lunga; 3. Musaitu; 4. Aluatu; 5. Topala; 6. Cenac; 7. Bogdanovca Veche; 8. Carabiber; 9. Iserlia; 10. Sadaclia; 11. Etulia; 12. Sătuc; 13. Comrat; 14. Lucești; 15. Taraclia.

The selection of key locations was informed by an analysis of the socio-demographic characteristics and ethnic composition of the villages in the study area, using data from the 2014 Moldovan census released by the National Bureau of Statistics of the Republic of Moldova [47]. Priority was given to villages in rural areas with an estimated population below 3500 inhabitants. There were three exceptions represented by the cities of Comrat, Taraclia, and Tvardița, which, despite being urban centers, are among the most important for Gagauz (Comrat) and Bulgarian (Taraclia and Tvardița) communities [53]. These locations were selected due to their marked predominance of one of the considered ethnic groups, which helped us better investigate and identify the specific traits of the food heritage of each of these groups.

2.4. Data Collection

This study was based on a qualitative approach, using face-to-face interviews as the main research technique. Additionally, participant observation and informal conversations with key informants were carried out to enrich the understanding of the food and ethnobotanical heritage of the considered ethnic groups.

Ninety-one individuals were conveniently selected, and when possible, we used the snowball method [54]. We approached potential interviewees at their homesteads, in local shops or along the road. The agreeable participants were asked to recommend other contacts who fit the research criteria and might also be willing participants, who then, in turn, recommended other potential participants.

Interviews were conducted with people near their homes, on the streets, and working in gardens and food shops. We primarily focused on middle-aged and elderly inhabitants (37 men and 54 women), including farmers, shepherds, food vendors, and housewives, who were considered potential knowledge holders. Most of the interviews were conducted individually, although in some cases, focus-group interviews were preferred to help discover possible diverging knowledge on preparing and using food items. Table 1 provides a summary of the characteristics of the visited villages and the individuals involved in this study.

Table 1. Location of the visited villages and characteristics of the studied communities.

Village	Location	Population	Main Ethnic Group	BG *	GA *	MD *	UA *
Aluatu	45.86614, 28.58293	704	MD	1 (F **)	-	4 (M) 4 (F)	-
Bogdanovca veche	46.47566, 28.82354	6.53	UA	-	-	1 (F)	1 (M) 1 (F)
Carabiber	46.47321, 28.99377	82	GA	-	3 (M ***) 2 (F)	-	-
Cenac	46.47591, 28.63637	12.23	MD	-	-	3 (M) 2 (F)	-
Chiriet Lunga	46.20824, 28.94166	6.39	GA	-	1 (M) 4 (F)	-	-
Comrat	46.30694, 28.65334	21.53	GA	-	2 (M) 2 (F)	-	-
Etulia	45.5375, 28.44047	4.01	GA	-	2 (M) 3 (F)	-	1 (F)
Iserlia	46.4842, 28.95401	2.02	MD	-	-	1 (M) 1 (F)	-
Lucesti	45.98948, 28.32761	504	UA	-	-	-	4 (M) 4 (F)

Table 1. Cont.

Village	Location	Population	Main Ethnic Group	BG *	GA *	MD *	UA *
Musaitu	45.82617, 28.49294	838	UA	-	-	2 (M) 2 (F)	3 (M) 4 (F)
Sadaclia	46.44594, 28.87926	11.46	MD	-	-	5 (F)	-
Sătuc	45.80293, 28.35292	5.03	BG	-	-	1 (M) 2 (F)	-
Taraclia	46.56825, 29.11906	17.55	BG	2 (M) 8 (F)	-	-	-
Topala	46.46159, 28.67448	719	MD	-	-	1 (M) 3 (F)	-
Tvardița	46.15076, 28.96606	12.00	BG	7 (M) 4 (F)	-	-	-
Total				22	19	32	18

Keys: * BG (Bulgarians), GA (Gagauz), MD (Moldovans), UA (Ukrainians) | **: F (Female), ***: M (Male).

The interviews investigated three main elements linked to the food heritage of the considered communities: ingredients, dishes, and artisanal homemade food products. Specifically, interviewees were asked about their current use and use in the recent past of (a) wild food plants, (b) food mushrooms, as well as (c) semi-domesticated plants and possibly cultivated plants used in unusual ways. Study participants were asked about the local name(s), part(s) used and specific details about their culinary preparation (i.e., traditional dishes, including daily and ritual preparations). Moreover, they were asked to list artisanal food products and describe their ingredients and preparation techniques.

One of the authors (RS), fluent in Russian, conducted the interviews and translated to and from English. Local individuals fluent in Russian were engaged as interpreters when necessary to mediate any language-related issues that arose, albeit in very few cases. Each interview lasted approximately 30 to 45 min. Verbal informed consent was obtained orally before the interviews, and researchers adhered to the ethical guidelines of the International Society of Ethnobiology [55].

2.5. Specimens Identification

Specimen identification was conducted by the authors in the field, and voucher specimens were deposited at the Herbarium of Ca' Foscari University of Venice (Italy). For those plants for which specimens were unavailable, the most probable identification was obtained by asking the interviewees to describe the plant and its habitat (botanical taxa not bearing voucher codes) and showing pictures of the presumed plants after a preliminary evaluation of the quoted local name and description. For botanical nomenclature, we followed the criteria set by Plants of the World Online [56] and the Index Fungorum [57] for the mushroom taxon; plant family assignments were consistent with the Angiosperm Phylogeny Website [58]. When documented, all local names of plants, dishes, and artisanal food products were transcribed from the recorded local languages using the Latin alphabet.

2.6. Data Analysis

For data analysis, all the data were organized, selected, and condensed in Excel spreadsheets (version 16.0). Subsequently, we analyzed the diversity and frequency of: (1) ingredients (wild and semicultivated food plants and mushrooms), (2) dishes and artisanal food products recorded during the interviews. The frequency was calculated based on the number of mentions by the interviewees. Subsequently, data were compared to identify similarities and differences of food items and culinary preparations among and within each group. For ethnobotanical data, the comparison findings among the considered

groups were graphically represented using proportional Venn diagrams. To this end, we conducted a comparison based on the genera level rather than the species level.

3. Results & Discussion

3.1. Wild Ethnobotanical Heritage among the Considered Groups

In Table 2, we reported for each wild (and semi-cultivated) plant and fungal ingredient the recorded local name(s), the parts used, the preparations, and the food uses as mentioned by the interviewees, as well as the overall quotation frequency and each of the considered groups.

We recorded 66 taxa, among which 57 taxa were taxonomically identified. In total, 50 were wild plant taxa, 14 were fungal taxa, and two were cultivated and semi-cultivated food plants that showed uncommon uses (these taxa are also included in Table 2). Rosaceae ($n = 12$), Amaryllidaceae ($n = 5$), Asteraceae ($n = 5$) and Fabaceae ($n = 4$) were the most represented plant families. leaves and aerial parts, fruits and flowering tops/flowers were the most commonly used parts, being employed mainly for the preparation of home-made tea, as snacks (fruits) and cooked. The four considered groups in our study reported, respectively 18 taxa belonging to 11 families (17 wild and 1 cultivated; Bulgarians), 30 taxa belonging to 19 families (24 wild, 1 cultivated, 5 fungal, including two unidentified; Gagauz), 51 taxa belonging to 24 families (40 wild including 2 unidentified, 1 cultivated, 10 fungal, including 7 unidentified; Moldovans), and 29 taxa belonging to 20 families (23 wild, 2 cultivated, 4 fungal, including 1 unidentified; Ukrainians).

The most frequently cited taxa (i.e., mentioned by at least 25% of the interviewees) were *Rosa canina*, *Rumex acetosa*, *Urtica dioica*, and *Chenopodium album*, all common to all groups. Among the most commonly recorded taxa, leaves and fruits represented an essential element in the groups' food and ethnobotanical heritage. The leaves of *Rumex acetosa*, *Urtica dioica*, and *Chenopodium album* were used by most interviewees as an ingredient of *borscht* (sour vegetable-based and/or meat-based soups). Instead, fruits of *Rosa canina* and *Crataegus monogyna* were eaten as snacks. In contrast, the fruits and branches of *Cydonia oblonga*, and the kernels of *Juglans regia* were used in the preparation of herbal teas.

While these taxa were shared among all the considered groups, we recorded some variations in their uses (in parts and preparation methods), especially among Moldovans and Gagauz. For instance, Gagauz used the leaves of *Rumex acetosa* and *Chenopodium album* for the preparation of *ciorba* (a wide range of traditional, often sour, soup spread over the Middle East, North Africa, and Eastern Europe) as an ingredient of *turshu* (lacto-fermented vegetables). They preserved them with *kvass* or with salt (usually mixing the two taxa). The aerial parts and leaves of five taxa were used to prepare *borscht*, especially by Moldovans, Gagauz and Ukrainians. In particular, the leaves of *Berberis vulgaris* and *Rumex crispus* were exclusively mentioned by Ukrainians and Moldovans, respectively, the ones of *Chenopodium album* by Gagauz and Moldovans, those of *Rumex acetosa* by Gagauz, Moldovans and Ukrainians, while the leaves of *Urtica dioica* by all the considered ethnic communities.

Table 2. Recorded wild and semi-domesticated plants and fungal taxa, their folk names, used parts, local culinary uses, and frequency of quotation.

Botanical Taxon or Taxa; Botanical Family (Botanical Voucher Specimen Code)	Recorded Local Name(s) (in Singular or Plural)	Used Parts	Preparation	Gastronomic Uses	BG [†]	GA [†]	MD [†]	UA [†]	Overall Frequency of Citation
<i>Acer platanoides</i> L.; Sapindaceae	Arzar	leaves	<i>Sarma</i>	<i>Sarma</i>	-	-	5	-	5
<i>Agaricus campestris</i> L.; Agaricaceae (F **)	Ciuperci, Gribi	Fruiting body	Not recorded	-	-	3	9	-	12
<i>Allium ampeloprasum</i> L.; Amaryllidaceae	Dikiy porum	Whole plant	Fried	Sauces	-	-	5	-	5
<i>Allium fuscum</i> Waldst. & Kit., <i>Allium paniculatum</i> L. and <i>Allium podolicum</i> Blocki ex Racib. & Szafer; Amaryllidaceae	Samardala	leaves	Seasoning	-	7	-	-	-	7
<i>Allium</i> sp.; Amaryllidaceae	Luk, Louk, Pur	Whole plant, Bulb	Snack	-	-	1	-	-	1
<i>Allium</i> sp.; Amaryllidaceae	Diki chisnok, Kemre	leaves, Bulb	Cooked, Snack	On bread, With <i>brynza</i> , Soup (leaves and bulbs)	-	2	-	-	2
<i>Allium ursinum</i> L.; Amaryllidaceae	Leurda	leaves	Cooked, Salad	<i>Ciorba</i>	-	-	2	-	2
<i>Armillaria mellea</i> (Vahl) P. Kumm; Physalacriaceae (F)	Pojariza, Hryby, Pidpenky, Opjata	Fruiting body	Cooked, Fried, Sauce	<i>Manja</i> (MD, UA)	-	-	2	5	7
<i>Armoracia rusticana</i> G.Gaertn., B.Mey. & Scherb.; Brassicaceae	Hrean	leaves	Salted (MD), <i>Sarma</i> (MD), Seasoning-preserver (MD, BG)	<i>Sarma</i> (MD), Blanched and salted (MD), Added to fermented-pickled vegetables (to keep them crunchy; MD, BG), Fermented with <i>Rumex crispus</i> (MD)	2	2	13	2	19
		Roots	Cooked (MD), Dried (GA), Fermented, Pickled (MD)	Pickled with vinegar, beet juice, salt and sugar (MD), Dried, ground and mixed with honey (cough sedative) (GA), Served with meat (MD)					

Table 2. Cont.

Botanical Taxon or Taxa; Botanical Family (Botanical Voucher Specimen Code)	Recorded Local Name(s) (in Singular or Plural)	Used Parts	Preparation	Gastronomic Uses	BG †	GA †	MD †	UA †	Overall Frequency of Citation
<i>Artemisia absinthium</i> L.; Asteraceae	Pelin	Aerial parts	Cooked	Syrup	-	-	1	1	2
<i>Berberis vulgaris</i> L.; Berberidaceae	Barbaris	leaves, Fruits	Cooked (UA), Tea (MD)	<i>Borscht</i> (UA)	-	-	3	2	5
<i>Boletus</i> spp.; Boletaceae (F)	Sininosca, Sininioska	Fruiting body	Fried, Marinated, Salted	Marinated with bay leaves and cherry tree leaves, Used to fill pies	-	-	1	1	2
<i>Cantharellus cibarius</i> F.; Hydnaceae (F)	Lisichka	Fruiting body	Fried	-	-	4	-	-	4
<i>Chenopodium album</i> L.; Amaranthaceae (BESS13)	Laboda, Loboda	leaves	Cooked (ALL), Fermented (GA), Salted (GA), <i>Sarma</i> (MD)	<i>Ciorba</i> (MD), <i>Borscht</i> (GA, MD), <i>Turshu</i> (GA), Mixed with <i>Rumex acetosa</i> and preserved with salt (GA), Famine food (BG, UA)	2	6	10	7	25
<i>Cornus mas</i> L.; Cornaceae	Kizil, Coarne	Fruits	<i>Kompot</i> (ALL ****), Snack (MD)	-	2	2	7	1	12
<i>Crataegus monogyna</i> Jacq.; Rosaceae (BESS04)	Glog, Paduchel, Boyarishnik	Fruits	Fruits: Macerated with alcohol (MD), Snack (BG, MD, UA), Tea (ALL) Peduncle: Macerated with alcohol (MD), Tea (MD)	-	1	4	11	4	20
<i>Cydonia oblonga</i> Mill.; Rosaceae	Aiva, Dulia, Gutui	Fruits, leaves, Branches/Stems	Fruits and branches: Tea (GA, UA, MD) Fruits: Compote-jam (BG), <i>Kompot</i> (BG, GA, UA)	-	1	4	8	4	17
<i>Eruca vesicaria</i> (L.) Cav.; Brassicaceae	Rukola	leaves	Salad	-	-	-	2	-	2
<i>Eryngium campestre</i> L.; Apiaceae (BESS09)	Mikalaika	Aerial parts	Snack	-	-	-	1	1	2
<i>Fragaria vesca</i> L.; Rosaceae	Ier-Chilek	Fruits	Snack	-	-	1	-	-	1

Table 2. Cont.

Botanical Taxon or Taxa; Botanical Family (Botanical Voucher Specimen Code)	Recorded Local Name(s) (in Singular or Plural)	Used Parts	Preparation	Gastronomic Uses	BG †	GA †	MD †	UA †	Overall Frequency of Citation
<i>Glycyrrhiza glabra</i> L.; Fabaceae	Lakritsa	Roots	Tea	-	-	-	1	1	2
<i>Helianthus tuberosus</i> L.; Asteraceae	Topinambur	Roots	Cooked, Snack	-	-	2	-	-	2
<i>Hippophae rhamnoides</i> L.; Elaeagnaceae	Katina, Kachina, Ablepiha	Fruits	Snack	-	-	2	-	-	2
<i>Humulus lupulus</i> L.; Cannabaceae (BESS14)	Hmel	Inflorescences	Bread yeast	Breadmaking	5	3	7	6	21
<i>Hypericum perforatum</i> L.; Hypericaceae	Pojarniza, Zverboj	Aerial parts, leaves	Tea	-	-	5	3	3	11
<i>Juglans regia</i> L.; Juglandaceae	Nuc, Ceviz, Gorih	Fruits	Cooked, Preserved	Cakes (MD), Jam-compote (also with other fruits such as apricots; MD), <i>Pierogie</i> (MD), Sweets (MD), Preserved in Acacia honey (GA), <i>Vareniki</i> (MD), Preserved with sugar (MD)	3	3	8	1	15
		Unripe fruits	Jam	Put in water, water discarded, sugar is added (BG, MD)					
		Kernels	Macerated with alcohol, Tea	Tea (ALL), Macerated with brandy-pomace (MD)					
<i>Juniperus communis</i> L.; Cupressaceae	Guvén	Fruits	Snack	-	-	2	-	-	2
<i>Lactarius deliciosus</i> Gray; Russulaceae (F)	Rijiki	Fruiting body	Fried	-	-	-	2	-	2
<i>Malus sylvestris</i> (L.) Mill.; Rosaceae	Dikie jabloki	Fruits	Jam-compote, <i>Kompot</i> , Tea	-	-	2	2	2	6
<i>Matricaria chamomilla</i> L.; Asteraceae	Ramashky, Romashka, Romanica	Flowers	Tea	-	11	2	3	1	17

Table 2. Cont.

Botanical Taxon or Taxa; Botanical Family (Botanical Voucher Specimen Code)	Recorded Local Name(s) (in Singular or Plural)	Used Parts	Preparation	Gastronomic Uses	BG [†]	GA [†]	MD [†]	UA [†]	Overall Frequency of Citation
<i>Melissa officinalis</i> L.; Lamiaceae (BESS06)	Melisa, Matochina	leaves	Tea	-	5	-	1	2	8
<i>Mentha longifolia</i> L. and <i>Mentha spicata</i> L.; Lamiaceae (BESS01)	Giuzum, Miata, Kocheriava	Aerial parts, leaves	Dried (BG), Tea	-	6	-	-	6	12
<i>Morus alba</i> L. and <i>Morus nigra</i> L.; Moraceae (BESS08)	Shelkoviza, Shovkoviza	Fruits	Macerated with vodka (MD), Snack (MD)	-	-	1	1	2	4
		leaves	<i>Sarma</i> (MD, UA)	<i>Sarma</i> filled with bulgur, rice, pepper, dill	-	-	-	-	-
<i>Prunus cerasus</i> L.; Rosaceae (BESS03)	Vishne, Visine, Vishna	Fruits	<i>Kompot</i> (MD), Macerated with alcohol (MD, BG)	-	2	1	15	4	22
		leaves	Seasoning-preserved (MD, UA, BG), Tea (MD, UA)	leaves as preserver for cucumber (UA)	-	-	-	-	-
		Branches/Stems	Tea (MD, GA)	-	-	-	-	-	-
<i>Prunus domestica</i> L.; Rosaceae	Prune, Sliva	Fruits, leaves, Branches/Stems	<i>Kompot</i> , Macerated with alcohol, Snack	-	-	-	8	-	8
<i>Prunus fruticosa</i> Pall.; Rosaceae	Cirese	Fruits	<i>Kompot</i>	-	-	-	2	-	2
		Branches/Stems	Tea	-	-	-	-	-	-
<i>Prunus persica</i> (L.) Batsch; Rosaceae	Piersik, Piersici	Fruits	<i>Kompot</i>	-	-	-	3	-	3
<i>Prunus spinosa</i> L.; Rosaceae	Porumb, Ternovnik, Tiorn, Tiorin	Fruits	Snack, Tea	-	-	-	22	-	22
<i>Pseudopodospermum hispanicum</i> (L.) Zaika, Sukhor. & N.Kilian and possibly <i>Tragopogon</i> spp.; Asteraceae	Pendik, Pendick, Pndk, Punduk	Roots	Cooked, Snack	-	-	4	-	-	4
<i>Ribes nigrum</i> L. and <i>Ribes rubrum</i> L.; Grossulariaceae	Smarodina	leaves, Branches/Stems	Tea	-	-	-	2	-	2
<i>Robinia pseudoacacia</i> L.; Fabaceae (BESS07)	Salcam, Akazia	Inflorescences	Compote-jam (UA, MD), Tea (MD)	Tea is added to the dough of bread to flavor it (MD)	-	-	14	6	20

Table 2. Cont.

Botanical Taxon or Taxa; Botanical Family (Botanical Voucher Specimen Code)	Recorded Local Name(s) (in Singular or Plural)	Used Parts	Preparation	Gastronomic Uses	BG [†]	GA [†]	MD [†]	UA [†]	Overall Frequency of Citation
<i>Rosa canina</i> L.; Rosaceae	Shipka, Shipovnik, Dikia Roza	Fruits	Snack (BG, MD), Tea (ALL)	-	2	7	21	7	35
		Flowers	Tea (UA)	-					
<i>Rubus fruticosus</i> L.; Rosaceae	Iejevika	Fruits	Snack	-	-	-	2	-	2
<i>Rubus idaeus</i> L.; Rosaceae	Malina	Aerial parts	Tea	-	-	3	1	-	4
<i>Rumex acetosa</i> L.; Polygonaceae	Shavel, Kisle, Makris, Kuzukula	leaves	Cooked, Dried (BG), Fermented, Preserved, Salad	<i>Borscht</i> (GA, MD, UA), Soup with <i>Anethum graveolens</i> and salt (MD), <i>Ciorba</i> (GA), <i>Turshu</i> (GA), Preserved with <i>kvass</i> or with salt along with <i>Chenopodium album</i> (GA)	3	12	14	2	31
<i>Rumex crispus</i> L.; Polygonaceae	Shtege, Stege, Shtiejje	leaves	Cooked, <i>Sarma</i> , Seasoning-preserver, Soup	<i>Borscht</i> , To season pickled-fermented cucumbers (along with <i>Armoracia rusticana</i> leaves)	-	-	14	-	14
<i>Sambucus ebulus</i> L.; Viburnaceae (BESS11)	Busina	Flowers	Tea	-	-	-	-	1	1
<i>Suillellus luridus</i> (Schaeff.) Murril; Boletaceae (F)	Dubovik	Fruiting body	Fried	-	-	3	-	-	3
<i>Suillus luteus</i> (L.) Roussel 1796; Suillaceae (F)	Mascata, Maslata	Fruiting body	Fried, sauce	-	-	-	2	2	4
<i>Taraxacum sect. Taraxacum</i> F.H.Wigg.; Asteraceae	Papadie	leaves, Aerial parts	Cooked, Salad	-	-	-	5	-	5
<i>Thymus pannonicus</i> All.; Lamiaceae	Chubrik, Chimbrishor	Aerial parts	Seasoning	-	-	-	2	-	2
<i>Tilia cordata</i> Mill.; Malvaceae	Lipa, Tei	Flowers	Tea (BG, GA, MD)	-	5	3	4	-	12
		leaves	<i>Sarma</i> (MD)	-					

Table 2. Cont.

Botanical Taxon or Taxa; Botanical Family (Botanical Voucher Specimen Code)	Recorded Local Name(s) (in Singular or Plural)	Used Parts	Preparation	Gastronomic Uses	BG [†]	GA [†]	MD [†]	UA [†]	Overall Frequency of Citation
<i>Trigonella caerulea</i> (L.) Ser.; Fabaceae (BESS16, BESSD01)	Mirudia, Myrudia (tsvetochnaja)	leaves, Aerial parts	Recreational tea (BG), Seasoning	In a mix of dry herbs and leaves	2	-	5	-	7
<i>Trigonella foenum-graecum</i> L.; Fabaceae (C) *	Mirudia, Myrudia (rogataja)	leaves, Aerial parts	Seasoning	In a mix of dry herbs and leaves	2	-	6	2	10
<i>Urtica dioica</i> L.; Urticaceae (BESS12)	Krapiva, Urzica	leaves	Blanched, Cooked, Salad, Tea	<i>Borscht</i> (ALL), <i>Ciorba</i> (MD), With <i>smetana</i> , With <i>tocanita</i> (meat stew with lovage, celery and kvass; MD), As an ingredient of a kind of aspic made with meat (MD), <i>Manja</i> (MD), As an ingredient of <i>haladied</i> (traditional dish made with blanched nettles, onion and tomato; MD), Added in the last minute to give the smoked meat the color and taste (BG).	2	4	23	1	30
<i>Viburnum opulus</i> L.; Viburnaceae	Kalina	Fruits	Snack, Tea	-	-	-	4	-	4
<i>Zea mays</i> L.; Poaceae (C)	Kalacike, Kalaciche	Cobs	Flour	Used as a substitute of other flours during famine times	-	1	-	1	2
NOID *** (F)	-	Fruiting body	Not recorded	-	-	-	1	-	1
NOID (F)	-	Fruiting body	Not recorded	-	-	-	1	1	2
NOID (F)	Chiperki	Fruiting body	Not recorded	-	-	-	2	-	2
NOID (F)	Shupesh	Fruiting body	Not recorded	-	-	-	3	-	3
NOID (F)	Baircel	Fruiting body	Not recorded	-	-	3	-	-	3

Table 2. Cont.

Botanical Taxon or Taxa; Botanical Family (Botanical Voucher Specimen Code)	Recorded Local Name(s) (in Singular or Plural)	Used Parts	Preparation	Gastronomic Uses	BG †	GA †	MD †	UA †	Overall Frequency of Citation
NOID (F)	Faruski	Fruiting body	Not recorded	-	-	3	-	-	3
NOID (F)	Shiper	Fruiting body	Not recorded	-	-	-	3	-	3
NOID	Ripeschok	Fruiting body	Not recorded	-	-	-	2	-	2
NOID	Buli	Roots	Snack	-	-	-	5	-	5

Keys: † BG (Bulgarians), GA (Gagauz), MD (Moldovans), UA (Ukrainians) | *: C (Cultivated), **: F (Fungi) | ***: NOID (Not identified) | ****: ALL (all the considered groups).

In addition, we recorded a particular use of the inflorescences of wild *Humulus lupulus* in the preparation of a dry yeast used in bread-making (Figure 2). According to Bulgarian women in Taraclia, the inflorescences are boiled, and the liquid is mixed with bran and/or cereal flour, kneaded and divided into small pieces that are left to dry. This dry mixture is added to the dough to activate the fermentation. In the village of Chiriet Lunga, two Gagauz interviewees claimed that this product was added to the *paska* (a traditional Easter bread) dough and gave a yellowish color to the cooked bread. A similar use of the inflorescences of wild *Humulus lupulus* was documented in the past in Bulgaria [59] and in previous fieldworks conducted by the last two authors of this paper, studying culinary memories of Eastern Romania one decade ago and on current ethnobotany food heritage among a very remote Molokan diaspora in Azerbaijan. A similar fermentation starter was obtained by mixing the foam developed during wine-making with bran, maize, or wheat flour and, according to Ukrainian and Bulgarian interviewees living in the villages of Musaitu and Tvardița, was used for the preparation of *paska* bread as well (see Table 3). While these traditional yeasts, also known as *butkali* in the Gagauz language [37], were still remembered and sometimes used, they have been gradually abandoned due to the availability of industrial yeasts and because fewer and fewer people still prepare bread at home. The dried hop yeast was also sold on the market of Taraclia.



Figure 2. Dry yeast made from an infusion of wild hop inflorescences, bran and/or cereal flour (photo: Andrea Pieroni).

Unique Food Preparations Linked to the Mentioned Taxa

We recorded some taxa and/or culinary uses that were mentioned exclusively by one of the considered groups and, according to the perception of the interviewees, seem to represent specific traits of the ethnic food and ethnobotanical heritage of the considered groups.

Among Bulgarians, the leaves of *Allium fuscum*, locally known as *samardala*, were used as a seasoning. At the same time, the unripe fruits of *Prunus cerasifera* were employed as a curdling agent to produce yoghurt (i.e., added to milk). In Bulgaria, the fresh leaves of the wild garlic called *samardala* (*Allium siculum* subsp. *dioscoridis*) are utilized to prepare flavored salt and seasoning mixtures, which share the same name. This plant occupies a significant position in Bulgarian tradition, and its usage has been documented among Bulgarian diaspora communities [60]. The persistence of these practices in our study area, exemplified by the preparation of similar seasonings with other species, highlights Bulgarians' strong attachment to this culinary tradition and their adaptation of the preparation to locally available *Allium* species.

Gagauz informants mentioned the use of wild fruits of *Hippophae rhamnoides* and *Juniperus communis* as snacks. In addition, some elders recalled the consumption of raw

and cooked roots of *Helianthus tuberosus* and *Pseudopodospermum hispanicum*, mainly in the past during famine times. Moreover, a 70-year-old woman in the village of Carabiber mentioned that when the availability of grains and cereals was scarce, people replaced them with coarse flour made from the ground cobs of maize to prepare bread and porridge. The substitution of grain flour with by-products of grain production, flour obtained from minor grains, seeds, and fruits, was also reported in other studies, especially in times of famine or during wars [61,62].

Moldovan informants mentioned the highest diversity of leaves used as a wrap in the preparation of *sarma*; among the six recorded wild taxa used for this purpose, *Rumex crispus*, *Armoracia rusticana*, *Chenopodium album*, *Acer platanoides*, and *Tilia cordata* were exclusively mentioned by this group. This *sarma*-related diversity may be interpreted by the food and cultural influence left by the long period of Ottoman existence in Moldova [63]. Moreover, Moldovan interviewees showed a rich and diverse knowledge regarding the use of wild taxa for the preparation of *ciorba*, with the leaves of *Allium ursinum*, *Amaranthus retroflexus*, *Chenopodium album*, and *Urtica dioica* exclusively recorded among this group. In addition, the leaves of *Rumex crispus* and *Armoracia rusticana* (often mixed) were added to pickled or fermented cucumbers to keep the firmness of the vegetables. Another distinguishing feature of the food and ethnobotanical heritage of the Moldovans is the use of wild fruits for the preparation of macerated alcoholic beverages (usually made with vodka or pomace brandy) with two taxa, *Crataegus monogyna* (also by infusing the peduncles) and *Prunus domestica* exclusively mentioned by informants belonging to this group.

As noted in previous studies [52], mushrooms occupy an important place in Ukrainian gastronomy, a trend also observed among Ukrainians in Southern Moldova. In this context, we documented a significant variety of culinary applications for the fruiting bodies of *Armillaria mellea*, used as an ingredient in the preparation of *manja* (a gravy-like sauce), and those of *Boletus*, used as filling for pies or marinated with bay leaves and cherry tree leaves. Additionally, we exclusively recorded past uses of the young aerial parts of *Eryngium campestre* as a snack among this group. Furthermore, among the distinctive uses of plant taxa, we noted the utilization of the leaves of *Prunus cerasus* as a preservative in lactofermented cucumbers, helping maintain their firmness.

3.2. Dishes and Home-Made Food Products

During the interviews, we documented 42 culinary items (Table 3), namely 11 dishes and 31 artisanal home-produced food products belonging to six main food categories (i.e., beverages, bread and bread products, cheese and dairy products, meat and meat products, vegetable preserves, spice/seasoning). The four ethnic communities reported, respectively, four dishes (Bulgarians), eight dishes (Gagauz), eight dishes (Moldovans, with remarkable variations and diversity in *sarma*, *borscht*, and *ciorba* recipes) and four dishes (for Ukrainians, including the use of mushrooms as a distinguishing element of several culinary preparations, including *sarma*).

Sarma, soups (especially *borscht* and *ciorba*), and, to a lesser extent, sauces (especially *manja*) were the most representative categories in terms of frequency of citations.

We recorded a substantial variability in ingredients, preparation techniques and combinations for these dishes. In addition to the diversity of leaves and aerial parts used in the preparation of *borscht*, *ciorba* and, especially, *sarma* (as a wrap), we observed variations in this latter preparation regarding the ingredients used for the filling among Moldovan communities. In line with previous studies [see 64 and references therein], we found a great diversity of vegetable-based filling for *sarma*, whose preparation is often linked to the Orthodox Lent period.

Table 3. Recorded local dishes and artisanal food products.

Local Name(s)	Category	Description	Known Ingredients	Preparation Techniques	Use/Consumption	BG *	GA *	MD *	UA *	Nr. Mentions
Kvass, Borsch acru	Beverage	Fermented beverage	Maize flour, bran, warm water, leftover of the previous production (MD, GA) Maize flour, bran, water, lovage (MD) Maize flour, water, bran (UA) Water, old bread (only in the past) (BG) Wheat bran (MD)	Fermented: 2–3 days at 30–40 °C (GA), 1 week (UA)	<i>Borscht</i> (GA, MD, UA) <i>Ciorba</i> different types (e.g., with herbs such as <i>Petroselinum crispum</i> and <i>Thymus vulgaris</i> ; MD), Only with meat (UA) To preserve wild vegetables (<i>Rumex acetosa</i> and <i>Chenopodium album</i> , GA)	-	5	11	3	19
Gozleme	Bread and bread products	Flatbread	Not recorded	Baked in a frying pan	-	-	4	-	-	4
Melan, Malai	Bread and bread products	Flatbread	Fermented maize flour, water	Baked in a frying pan	Consumed during famine times	-	-	2	-	2
Pita	Bread and bread products	Flatbread	Flour (different cereals) or bran, water, salt	Baked in the oven	Consumed during famine times	-	2	-	-	2
Rjazenka	Cheese and dairy products	Yogurt	Milk, old yoghurt OR unripe fruits of <i>Prunus cerasifera</i> (BG)	Fermented	-	1	-	-	-	1
Brynza, Branza	Cheese and dairy products	Cheese made from sheep and goat milk, but also cow milk	Milk (sheep, goat, cow, or a mix), rennet (boar stomach, UA), Salt	Fermented, Matured in brine	With potatoes (BG) With <i>mamaliga</i> (BG, MD) With <i>placinta</i> (BG, MD) With <i>Allium</i> spp. (GA) Usually fresh, but can also be aged up to three months (MD) With <i>friptura</i> (MD) The whey is used to make the dough for bread (MD)	8	5	22	6	41
Molosyvo, Molosevo	Cheese and dairy products	Colostro milk pudding	Colostrum, eggs, sugar	Boiled or baked in oven	-	-	-	-	2	2
Sirene	Cheese and dairy products	Feta-like cheese	Not recorded (Possibly sheep and/or goat meat, rennet and salt)	Fermented, Matured in brine	-	6	-	-	-	6
Smetana, Smantana, Kaymak (GA), Rjaznka (UA)	Cheese and dairy products	Sour cream	Fresh milk or cream Boiled milk or cream for five minutes (UA)	Milk is boiled and let cool. Old <i>rjazyanka</i> or yoghurt is added, and the mixture is fermented for 1 day.	With <i>mamaliga</i> (MD) With <i>Urtica dioica</i> (MD)	5	2	8	2	17

Table 3. Cont.

Local Name(s)	Category	Description	Known Ingredients	Preparation Techniques	Use/Consumption	BG *	GA *	MD *	UA *	Nr. Mentions
Suk, Such	Cheese and dairy products	Fermented milk	Not recorded	Fermented	-	-	2	-	-	2
Sukhyy brynza	Cheese and dairy products	Dry brynza cheese	<i>Brynza</i> cheese (cow, sheep or goat milk)	Dried grated into powder and put in a jar. Sometimes covered with lard (<i>smalec</i>)	<i>Mamaliga</i> Filling of <i>placinta</i> Filling of <i>pirozhenki</i>	-	-	-	7	7
Urda	Cheese and dairy products	Whey cheese	Whey from the production of <i>brynza</i>	Cooked	-	-	2	-	4	6
Not recorded	meat and meat products	Sausage made with pork and rice	Pork meat, rice, salt, spices	Baked in the oven, Pan-fried	-	-	-	5	-	5
Not recorded	meat and meat products	Dried lard	Not recorded	Salted	-	-	-	2	-	2
Not recorded	meat and meat products	Sausage made with pork meat and blood	meat, blood	Smoked (with apricot and apple wood)	-	-	-	2	-	2
Not recorded	meat and meat products	Aspic	meat, <i>Urtica dioica</i>	Cooked	-	-	-	2	-	2
Chischi	meat and meat products	White sausage	Lard, rice, bulgur, spices	Baked in the oven, Pan-fried	-	-	-	5	-	5
Kavurma, Kavarma, Saltison	meat and meat products	meat preserve made from sheep or lamb meat	Sheep meat (also the cuts from the head and the eyes), carrots, chili pepper, salt (BG) Old sheep meat, fat, pepper, chili pepper, laurel, salt (GA) Sheep meat, vegetables (GA) Cooked sheep meat, vegetables (GA) Fatty lamb meat (1–2 years old), pepper, chili pepper (GA, MD)	Cooked: The meat is cut into pieces, mixed with the vegetables and spices, put inside the stomach-intestines of the sheep and boiled for 2 h (BG) Stewed: The meat is stewed for 3–4 h with spices and put inside animal casings-intestines (GA, MD) The cooked meat is filled in a bowel (GA)	Served cold. Traditionally prepared when a lamb is slaughtered. It can be stored for up to 2–3 months (GA)	1	6	1	-	8
Kirnacei	meat and meat products	Pork sausage	Ground pork meat, rice, thyme, garlic, pepper, hot paprika	Baked in the oven, Pan-fried	-	-	-	4	-	4

Table 3. Cont.

Local Name(s)	Category	Description	Known Ingredients	Preparation Techniques	Use/Consumption	BG *	GA *	MD *	UA *	Nr. Mentions
Salo	meat and meat products	Cured slabs of fatback with or without skin	Pork lard, garlic, thyme, salt (BG) Pork lard, laurel, garlic, brine (MD, UA) Pork lard, brine (cold) (UA) Pork lard, garlic, chili pepper, salt or brine (UA)	Salted Smoked (with apricot and apple wood; MD)	-	1	-	3	6	10
Saltison	meat and meat products	meat preserve made from pork meat and offals	Pork (offals), lovage (UA) Head, ears, pork rind, garlic, spices (MD)	Cooked: The stomach is washed, filled and cooked (MD)	Eaten cold	-	-	5	1	6
Tushonka	meat and meat products	Confit-like meat	Different cuts, fat Goose, duck or chicken meat, black pepper, laurel, water	Fried at low temperature (confit)	-	-	3	-	-	3
Myrudia	Spice-seasoning	Mix of dry herbs and leaves, salt and spices	Different combinations of the aerial parts of: <i>Allium cepa</i> (BG, GA, MD) <i>Allium sativum</i> (BG, GA, MD) <i>Anethum graveolens</i> (BG, GA, MD) <i>Apium sellowianum</i> (BG) <i>Brassica oleracea</i> (GA) <i>Capsicum</i> spp. (GA, MD) <i>Cucurbita</i> spp. (GA) <i>Daucus carota</i> (MD) <i>Levisticum officinale</i> (BG, GA, MD) <i>Mentha spicata</i> L. (BG) <i>Mentha</i> spp. (MD) <i>Petroselinum crispum</i> (BG, GA, MD) <i>Rumex acetosa</i> (BG) <i>Satureja hortensis</i> (BG) <i>Solanum lycopersicum</i> (BG, MD) <i>Thymus</i> spp. (BG) <i>Trigonella caerulea</i> (BG, MD) <i>Trigonella foenum-graecum</i> (BG, MD)	Dried	On a loaf of bread, On <i>mamaliga</i> , As an ingredient of <i>manja</i>	17	6	9	-	32

Table 3. Cont.

Local Name(s)	Category	Description	Known Ingredients	Preparation Techniques	Use/Consumption	BG *	GA *	MD *	UA *	Nr. Mentions
Paprika, Globda, Globoda	Spice-seasoning	Sundried peppers made into powder	<i>Capsicum annuum</i>	Dried	As a spice on different dishes (e.g., pasta, meat)	4	-	-	-	4
Harbuz, Castraveți murati	Vegetable preserve	Lactofermented cucumbers	<i>Citrullus lanatus</i> , salt, water	Fermented	-	-	-	4	1	5
Mar	Vegetable preserve	Lactofermented cucumbers	<i>Malus domestica</i> , salt, water	Fermented	-	-	-	4	1	5
Patlajan, Patlagea	Vegetable preserve	Lactofermented eggplant	<i>Solanum melongena</i> , salt, water (ALL) With garlic, <i>Levisticum officinale</i> , <i>Laurus nobilis</i> , <i>Armoracia rusticana</i> , water, salt (GA), Also mixed with other vegetables (GA)	Fermented	-	-	-	4	5	9
Solenie	Vegetable preserve	Fermented pickles (Whole peppers filled with cabbage; lacto fermented or marinated cucumbers with added seasoning)	Peppers, cabbage, cucumbers, tomatoes, water, salt, seasoning (<i>Armoracia</i> , <i>Prunus</i> , etc.)	Fermented	-	2	2	-	3	7
Turshu	Vegetable preserve	Fermented pickles	<i>Chenopodium album</i> , <i>Rumex acetosa</i>	Fermented	-	-	6	-	-	6
Verza murata	Vegetable preserve	Lactofermented cabbage	<i>Brassica oleracea</i> , salt, water (ALL) With red beet, celery and <i>Armoracia rusticana</i> leaves (GA, UA)	Fermented	-	-	13	6	4	23
Butkali, Drojdie de vin	Other	Bread yeast is made from the foam that develops during the fermentation of grapes in winemaking.	Wine foam, cereal bran, maize or wheat flour (UA) Wine foam, bran, maize flour (BG, MD) Wine foam, maize flour, sourdough, old bread (MD)	Dried	Breadmaking	7	3	8	7	25

Table 3. Cont.

Local Name(s)	Category	Description	Known Ingredients	Preparation Techniques	Use/Consumption	BG *	GA *	MD *	UA *	Nr. Mentions
Sarma, Sarmale	Dish	Vegetable leaves rolled around different types of filling	<i>Brassica oleracea</i> : Golubzi (onion, rice and tomato; MD), With vegetables (MD) <i>Vitis vinifera</i> : Golubzi (onion, rice and tomato; MD), With vegetables (MD), With cabbage and peppers (BG), With bulgur, rice, pepper, dill (UA), With bulgur, rice, cabbage (GA) <i>Armoracia rusticana</i> : leaves blanched and preserved in a jar with salted water (MD) <i>Chenopodium album</i> (MD) <i>Acer platanoides</i> (MD) <i>Morus alba</i> and <i>Morus nigra</i> : Bulgur, rice, pepper, dill (UA) <i>Tilia cordata</i> (MD) NOID: Filled with <i>kurban</i> (stew of lamb, grains and vegetables; GA)	Steamed	-	6	15	48	8	77
Borscht, Bors	Dish	Soup	Small birds (MD) <i>Columba</i> spp. (MD, UA) <i>Berberis vulgaris</i> (UA) <i>Chenopodium album</i> (GA, MD) <i>Rumex acetosa</i> (BG, GA, MD, UA) <i>Rumex crispus</i> (MD) <i>Urtica dioica</i> (BG, GA, MD, UA)	Cooked	-	1	12	18	10	41

Table 3. Cont.

Local Name(s)	Category	Description	Known Ingredients	Preparation Techniques	Use/Consumption	BG *	GA *	MD *	UA *	Nr. Mentions
Manja	Dish	Sauce/Gravy	garlic, carrot, <i>myrudia</i> (mix of dry herbs), water, flour (BG) Vegetables, meat, <i>myrudia</i> (mix of dry herbs), water, flour (GA) Chicken, onion, water, flour (GA) Young chicken, onion, red pepper, milk, flour, water (MD) meat and/or vegetables (MD) <i>Urtica dioica</i> , garlic, oil, water, flour (MD) <i>Urtica dioica</i> (MD) <i>Urtica dioica</i> , <i>Rumex crispus</i> (MD) Tomatoes, peppers, water, flour (added at the end) (UA, MD) Mushroom, onion, water, flour (UA) meat, fried onion, tomato, pepper, carrot, water, flour (added at the beginning) (UA) Boiled <i>Armillaria mellea</i> , onion, water, flour (UA)	Cooked	With meat (MD) With <i>mamaliga</i> (MD, UA)	1	5	8	5	19
Kvasa	Dish	Porridge made with fermented maize flour	Fermented maize flour (3–4 days)	Cooked	-	-	-	1	1	2
Ciorba, Chorba	Dish	Soup	Duck meat (UA) <i>Allium ursinum</i> (MD) <i>Amaranthus retroflexus</i> (MD) <i>Chenopodium album</i> (MD, GA) <i>Rumex acetosa</i> (GA) <i>Urtica dioica</i> (MD) <i>Rumex acetosa</i> , dill, salt (MD, GA)	Cooked	-	-	3	21	-	24
Haladied	Dish	-	Blanched <i>Urtica dioica</i> , onion, tomato	Cooked	-	-	-	5	-	5
Tocanita, Tocana	Dish	meat stew	Lovage, celery, <i>kvass</i> , <i>Urtica dioica</i>	Cooked	-	-	-	3	-	3

Table 3. Cont.

Local Name(s)	Category	Description	Known Ingredients	Preparation Techniques	Use/Consumption	BG *	GA *	MD *	UA *	Nr. Mentions
Kavarma, Kavurma	Dish	Stew made with sheep or lamb meat	Sheep meat, onion, lovage, mint, garlic, tomato, offal, mutton fat (offal and fat are added at the end) Sheep meat, onion, carrot, spices	Stewed	With <i>mamaliga</i>	-	3	-	-	3
Kurban	Dish	Sheep dish baked in the oven	Sheep meat (large cuts), rice, bulgur, barley, onion, carrot, pepper, oil-fat	Cooked in the oven covered with omentum and a lift	Ritual dish prepared for the celebration of Sankt Dimitri. Usually gifted to neighbors.	-	3	-	-	3
Not recorded	Dish	Bulgur and duck stew	Bulgur, duck	Stewed	-	-	1	-	-	1
Mamaliga	Dish	Yellow maize flour porridge	Maize flour, water	Cooked	With <i>brynza, smetana</i> , fried <i>salo, manja</i> (MD) With <i>kavarma-kavurma</i> (GA)	5	2	2	-	9

Keys: * BG (Bulgarians), GA (Gagauz), MD (Moldovans), UA (Ukrainians).

Ethnic-based variations were also recorded for *manja*, a plant or meat-based gravy-like sauce, with remarkable differences in the combination of ingredients (e.g., wild and tamed vegetables, mushrooms and/or meat) and in the preparation methods (e.g., in the cooking methods and in the time the thickening ingredient is added to the preparation). Among Bulgarians in Tvardița, we recorded a specific variation of *manja* whose peculiarity lies in adding a mix of aromatic dry herbs, known as *myrudia* (see paragraph below).

The cultural food-based variation (ethnic, national, religious) is a phenomenon that has been addressed by several studies [64–66]. During our research, we documented ethnic-based variations of dishes and specific preparations that seem to be linked to the food heritage of a specific ethnic group.

Among Gagauz communities, meat-based dishes and products, such as *kavarma* and *kurban*, were recorded. The former consists of a traditional stew made with sheep/mutton meat, vegetables and aromatic herbs (e.g., lovage and mint); sometimes offals and mutton fat can be added (as reported in the village of Etulia) and is usually served with cornmeal. *Kurban* is a ritual dish (traditionally prepared for the celebration of Sankt Dimitri), consisting of a mixture of large cuts of sheep/mutton, rice, bulgur, barley, onion, carrot, spices, and fat that is covered with omentum and a lift and baked in an oven.

Moldovan interviewees mentioned a greater diversity of plant-based preparations, including variations of *sarma*, *borscht*, *ciorba* and *manja*. In some of these preparations, as well as in other dishes such as *haladied* (a traditional dish made with blanched nettles, onion and tomato) and *tocanita* (meat stew with lovage, celery and kvass), the aerial parts of *Urtica dioica* stood out as one of the identitarian ingredients of Moldovans. This is in line with the findings of Ciocarlan and Ghendov [34], who reported *Urtica dioica* as one of the most representative edible plants in this region.

Ethnic-based variations of some dishes were also recorded among Ukrainian informants, especially regarding the wrapping leaves (e.g., *Morus alba* and *Morus nigra*) and fillings/ingredients (e.g., bulgur, rice, pepper, and dill) of *sarma*, *borscht* (e.g., using leaves of *Berberis vulgaris*) and *manja* (with mushrooms such as *Armillaria mellea*).

In regard to artisanal food products, the considered groups reported, respectively, 10 items (Bulgarians), 14 items (Gagauz), 19 items (Moldovans) and 14 items (Ukrainians). Cheese and dairy products, meat and meat products, and spice seasonings were the most frequently cited food categories.

Some artisanal foods were documented among multiple groups, but they exhibited differences in their significance (i.e., frequency of mentions) and variations in preparation and use. One example is *myrudia* (Figure 3), a seasoning powder made from dried and ground herbs of different taxa belonging especially to the Amaryllidaceae, Apiaceae, and Lamiaceae families. *Myrudia* has been documented among Moldovan and Gagauz informants, but it appeared to hold a more prominent place in the food heritage of the Bessarabian Bulgarians. The same mixture (spelt in this case as *merudiya*) has been documented by Ivanova et al. [60] and previously by other scholars [67,68]; used by Bulgarians in different parts of the country, this mix indicates various seasoning herbs, such as *Trigonella foenum-graecum*, *Petroselinum crispum*, *Satureja* spp., and *Anethum graveolens*.

As shown in Figure 4, different combinations of dried herbs were used in the making of a wide variety of herb mixtures were used in making *myrudia*, with the predominance of specific taxa according to the considered group with garlic leaves, parsley, dill, onion leaves, and lovage being the most commonly used. Among Bulgarian interviewees, aromatic herbs like *Satureja hortensis* and *Mentha spicata* were mentioned more frequently than other recorded species, including dill and lovage.

Among Gagauz interviewees, *kavurma-saltison* was mentioned as a traditional artisanal preparation, consisting of a meat preserve made from sheep (either lamb or older animals) stewed or boiled for 3–4 h with vegetables and spices, then filled into animal casings (it can last up to 2–3 months) (Figure 5).



Figure 3. Myrudia (photo: Dauro Mattia Zocchi).

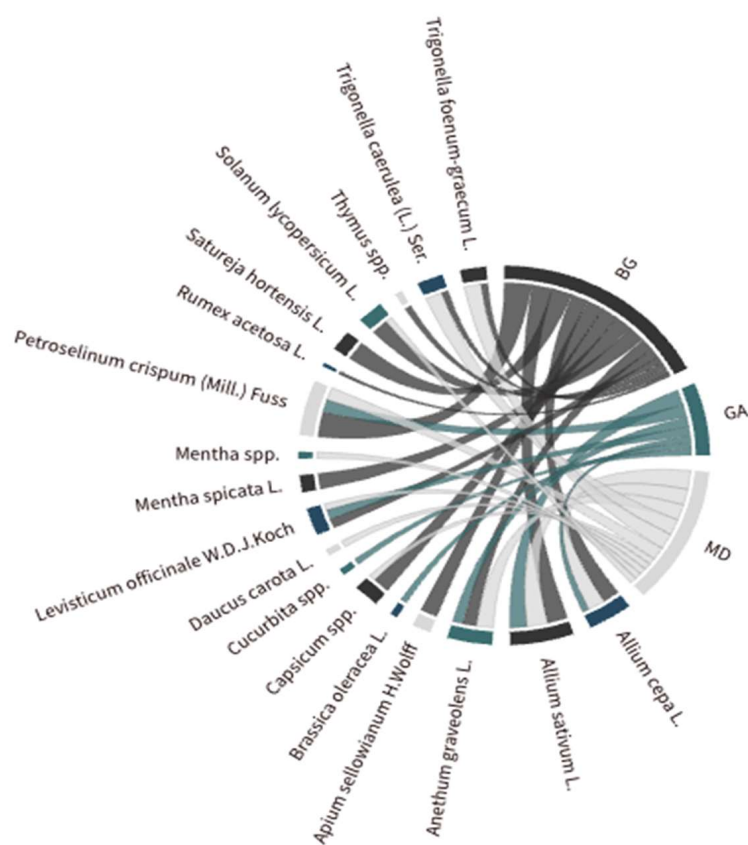


Figure 4. Chord diagram illustrating the different species used by the considered groups to prepare *myrudia*. Keys: BG (Bulgarians), GA (Gagauz), MD (Moldovans).

Flatbreads, such as *gozleme* (a pancake-like cake cooked in a frying pan), were also mentioned during interviews with Gagauz people. Moreover, two Gagauz elders from

Chiriet Lunga recalled a specific variation of *pita*, made with wheat or other cereal bran, commonly produced and consumed during a famine.



Figure 5. Kavurma sold in the market of Comrat (photo: Andrea Pieroni).

Moldovan informants reported the preparation of cured meat sausages as a key element of their food heritage. Two main categories of sausages were documented: raw (usually baked in the oven or pan-fried) and smoked. These sausages include different pork cuts, lard, and, to a lesser extent, blood (though this practice has been almost abandoned nowadays). They are mixed with aromatic herbs and spices (e.g., thyme, garlic, pepper, hot paprika), and sometimes grains and cereals, such as rice and bulgur, are added to the filling, especially in pan-fried sausages.

Dairy products are traditional elements in the Ukrainian food culture [52], and this also applies to Ukrainian-Bessarabian people we interviewed during our field research. Apart from fresh *brynza* (standard cheese among all groups in the area) and *urda* (whey cheese/ricotta), some elderly informants in the villages of Musaitu mentioned a unique product called *sukha brynza*. This product consists of dried or sun-dried fresh *brynza*, grated into a powder and stored in a jar, sometimes covered with a layer of *smalec* (lard). Traditionally, this powder has been eaten with *mamaliga* or used as an ingredient in *placinta* and *pirozhki* (baked or fried yeast-leavened buns). Few people continue to prepare *sukha brynza* as ownership of herds and cattle has declined.

3.3. Food and Ethnobotanical Heritage: A Comparison among the Considered Communities

As indicated in Figure 6, 12 genera were common to all the groups, including *Prunus*, *Rumex*, *Rosa*, *Urtica*, *Chenopodium*, and *Humulus* among the genera with the highest frequency of citation. Seven other genera were common among three groups and twelve genera were shared among two groups. Additionally, we documented 15 genera that were exclusively mentioned by only one of the considered groups: Gagauz individuals recognized 7 genera (including two fungal species), Moldovans reported 7 genera (one of which was a fungal species), and Ukrainians noted 1 genus. Overall, more overlaps in the mentioned genera were observed among Moldovan and Ukrainian interviewees ($n = 25$), Moldovans and Gagauz peoples ($n = 19$), as well as among Moldovans, Gagauz, and Ukrainians ($n = 15$). Eight genera, including *Armillaria*, *Robinia*, and *Suillus*, were only mentioned by Moldovans and Ukrainians, while two genera (i.e., *Agaricus* and *Rubus*) were mentioned among Moldovans and Gagauz.

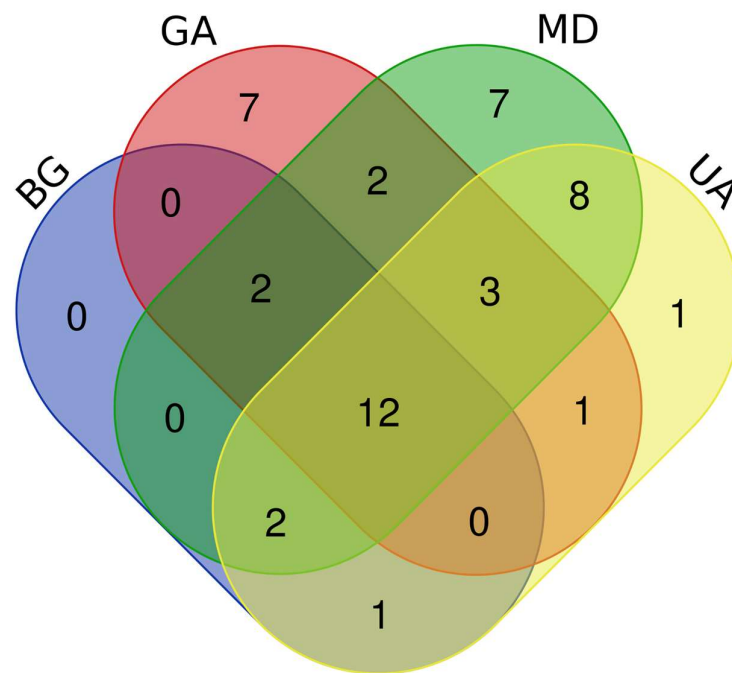


Figure 6. Venn diagram showing the cross-cultural comparison of the wild food plant genera within the considered groups. Keys: BG (Bulgarians), GA (Gagauz), MD (Moldovans), UA (Ukrainians).

Considering the ethnobotanical data gathered during our study, Moldovan interviewees showed greater and more diverse knowledge about plants and fungal taxa and associated food uses than the other groups involved in our exploratory field research. We recorded 14 taxa (13 wild plants and 1 fungus) being mentioned by at least 25% of the interviewees belonging to this group. Some of these taxa, such as *Urtica dioica*, have already been identified in previous studies [34] conducted in the same region as iconic edible plants in Moldovans' traditional cuisine. The significance of this taxon for Moldovan interviewees was further underscored by the diverse and unique food and culinary applications associated with this plant. These include its use as an ingredient in *ciorba*, *manja*, and other traditional dishes such as *haladied*. Similarly, the leaves of *Rumex crispus*, a taxon uniquely mentioned by Moldovan interviewees, exhibited various culinary applications, including its use as an ingredient in *borscht*, as a wrapping for *sarma*, and as a seasoning and preservative for pickled cucumbers.

The data gathered among the other considered groups highlight a different situation with fewer mentioned species and slightly lower citation frequencies. Among Ukrainians, six taxa (five wild plants and one fungal species) were mentioned by at least 25% of the interviewees belonging to this group. A similar figure applies to Bulgarians, with three taxa mentioned by at least 25% of the interviewees, and to Gagauz peoples, with four species mentioned by at least 25%. Furthermore, a narrower spectrum of food and culinary applications was noted. With the exception of a few taxa that displayed multiple food uses (e.g., *Rumex acetosa* among Gagauz interviewees and *Armillaria mellea* among Ukrainians), most of these taxa were primarily utilized in the preparation of teas and infusions.

A slightly similar pattern was identified for dishes and homemade food products, with more items ($n = 28$) recorded during interviews with Moldovans. Culinary preparations such as *sarma* and *ciorba* were mentioned by the majority of the interviewees. Moreover, Moldovans and Ukrainians exhibited more similarities, followed by Gagauz peoples and Moldovans. As highlighted in previous studies [36,37], a connection between Moldovan food traditions and Gagauz gastronomy can also be seen in this study.

Overall, in the surveyed villages, our field study showed that Moldovan interviewees hold a richer and more diverse knowledge of food plants in terms of mentioned genera,

recorded taxa, as well as in the diversity of associated culinary uses, with a similar figure for what concerns food products and dishes.

Future studies could infer and explore several possible reasons underpinning this figure. Acknowledging the limited reach of the study and the need to expand the current findings with further investigation, which could involve diachronic analysis, as well as with thorough analysis of Moldova's historical and political contexts before, during and after the Soviet Union, we report below some of the assumptions underpinning possible differences in the diversity of food and ethnobotanical heritage among the considered groups that could be assessed by expanding the results of the present research.

Considering the socioeconomic changes that the Moldovan food and agricultural sectors underwent based on political transitions and the associated impacts on traditional rural food systems [69–71], stronger embeddedness in the local foodscape and a livelihood strategy predominantly based on agricultural activities could be assumed as a crucial factor in maintaining a more comprehensive and diverse knowledge among Moldovans regarding the food and gastronomic uses of plant and fungal taxa. In this regard, as noted by Piras [72], access to land and smallholders' practices of food self-provisioning continue to be significant realities among Moldovans, playing a crucial role in the well-being and resilience of rural communities, as well as in the intergenerational transmission of traditional food-related practices and knowledge, even between rural and urban areas.

Another factor that could be explored to comprehend the observed findings is the impact of the centralization policies, in different historical periods, on Moldovans regarding the conservation of specific traits of their ethnic and cultural heritage. Maintaining the local language and alphabet is a factor correlated to more robust food and biocultural diversity in this framework. As observed in various ethnobotanical studies across the western borderlands of the former Soviet Union, a consistent pattern regarding the homogenization of local ethnobotanical heritage can be identified [24,73]. Specifically, for ethnic groups less familiar with the Cyrillic script, the impact of the Soviet Union acted as a filtering mechanism for disseminated knowledge. Moreover, as Saglam and Adiguzel observed [74], incorporating Russian as a mother tongue alongside their ethnic language has negatively reverberated Gagauz's identity. This could also affect the conservation of this group's idiosyncratic local plant and food knowledge bodies. In addition, during the Soviet Union, Gagauz society transformed from a self-contained, unchanging, traditional community with an agrarian economy to a more open, dynamic structure engaging with diverse communities. In this context, educational and other institutions were reconfigured to revolve around the Soviet/Russian language-cultural heritage rather than the Gagauz heritage. The influence of the Russian legacy on institutionalization could have also impacted some traits of Gagauz's culinary identity [74].

A third factor underpinning a thorough decrease in ethnic diversity could be the increase in mixed marriages, which may have homogenized certain aspects of the ethnic identity of the considered groups, including elements tied to their culinary heritage. In this context, various cross-cultural ethnobotanical studies highlighted intermarriage's role in the homogenization of local knowledge and potentially decreasing the knowledge uniqueness of each group over time [2,26,75,76].

Lastly, initiatives promoting Moldovan traditional cuisine nationally and internationally have possibly strengthened food's role in constructing modern Moldovan identity. Moldovan cuisine is currently promoted as an essential cultural marker at the central administrative level through the formulation of state policies and at the individual and community level through cookbooks, culinary blogs, festivals, and the Moldovan diaspora [77]. An analysis of the dynamics at play could explain whether the circulation and promotion of Moldovan food traditions through these media have had an impact on the revitalization of ethnic food heritage in both urban and rural areas.

3.4. From Preservation to Celebration: Possible Strategies for Southern Moldova's Food Heritage

Documenting food heritage is fundamental for implementing context-based initiatives to revitalize food and food-related resources embedded in traditional foodscapes. In this context, foodscouting offers scholars and practitioners the tools to delve into the specific values and expressions associated with food heritage by local communities. In doing so, it may inform the design of tailored strategies that extend beyond formal institutions and organizations, thereby preserving and promoting foodstuffs and their associated heritage in culturally adapted and context-based manners [27].

Our foodscouting research aimed to contribute to a preliminary understanding of Southern Moldovan contemporary multiethnic food heritage. It delineates certain elements that, according to local communities, embody the contemporary food culture of the selected groups in this region. Furthermore, as already highlighted in previous studies on the cultural identity of this region [48], our research sheds light on how intercultural relations among the groups under consideration translate into a rich and diverse food and cultural heritage that continues to characterize the southern part of Moldova, having covered an essential role in the harmonization and stabilization of interethnic relations of the communities inhabiting Bessarabia.

Celebrating and promoting this diversity and its dynamic nature could serve as a strategic path for the future of rural and marginal regions, driven by various interconnected reasons [78]. Notably, food and cultural heritage constitute potential assets in fostering the sustainable development of local foodscapes, especially for rural and marginal regions [15,21,33,79].

Acknowledging the importance of historical and folkloristic studies of food heritage in promoting the livelihoods and culture of local communities, the mere folklorization of food does not always represent the most sustainable and practical approach to effectively promoting the sustainable resilience of food heritage. As anthropologists see [80,81] and sociologists [82] have observed, the folklorization of food and culture could have negative repercussions on the continuation of living food heritage, potentially triggering a process of "Disneyfication" sensu [83] that may reduce food practices and products to a state of "rurality under glass". Research of this nature should not merely focus on documenting local food; instead, it should extend to identifying and co-designing strategies in collaboration with local actors that could activate processes to revitalize these resources.

Looking at our research, pathways toward revitalization and promotion may include endeavors such as food tourism and education-related activities.

Within the burgeoning interest in food tourism, anchored in the utilization of local culinary resources and the provision of experiential activities [14,84], the multiethnic food heritage of Moldovan Bessarabia could distinguish this region and activate gastronomy-based projects involving local stakeholders in collaborative initiatives. These initiatives aim to furnish alternative occupation sources for local populations, fostering the region already known for its rich and diverse wine industry and associated tourism activities [85]. While the regional restaurant industry appears nascent in its development, community-based activities, including home restaurants and visits to local producers, may present viable options for local stakeholders. Furthermore, developing food education activities targeted at younger local generations could yield beneficial effects, fostering the intergenerational transmission of traditional food knowledge [13] and an appreciation for diversity as a potential asset. Over time, educational endeavors centered on celebrating diversities could be pivotal in fostering social cohesion and inclusion within multiethnic and multicultural regions like Moldovan Bessarabia.

4. Conclusions

Our research aimed to record the contemporary food and ethnobotanical heritage in selected villages within the multicultural region of the southern part of the Republic of Moldova. We recorded 66 plant and fungal taxa and 42 traditional artisanal home-produced food products and dishes among the considered groups.

Our findings show a richer and more diverse food and ethnobotanical heritage among Moldovan communities. To identify the reasons behind the observed changes, we suggest exploring, in future studies, some of the following factors: changes in the national food and agricultural sector, the impact of centralized regimes on the conservation of ethnic diversity, the role of intermarriages in the homogenization of ethnic diversity, as well as attempts to create cultural markers around food and gastronomy at both public and private levels.

Overall, the findings of our study offer valuable insights into the world of gastronomy aimed at fostering food sovereignty and sustainability. Firstly, gastronomic diversity is continuously negotiated and recreated within specific historical and cross-cultural exchanges underpinned in a specific territory. Secondly, the research sheds light on the need to create comprehensive frameworks to preserve local folk cuisines, in which local language and customs are placed at the center and into daily practice, and in which diversity is concretely celebrated, not simply turned into “folkloristic shows”. Our study ultimately advocates for a rigorous worldwide need for documenting local food heritage and its evolutions; this could allow the establishment of a local food database to be possibly later used for protecting local food systems, enabling them to exercise their resilience towards the food turbulences many peripheral regions face.

While the study provides valuable insights into the contemporary food and ethnobotanical heritage of Moldovan Bessarabia, it is essential to acknowledge certain limitations. First, the inclusion of both rural and urban respondents adds complexity, as urban lifestyles often exhibit a detachment from local food heritage, potentially influencing the reliability of the gathered data. Furthermore, a specific limitation pertains to the Bulgarian respondents, primarily sourced from urban areas where food heritage may be less preserved. To address these constraints and pave the way for future research, special attention should be directed towards examining the similarities and differences in the food and ethnobotanical heritage among people residing in urban and rural areas. This exploration should encompass comparisons within the same ethnic group and across different ethnic groups.

Given the exploratory aims of this study and its geographical focus, future research should strive to increase the sample population size. Additionally, it may be beneficial to include representatives from other ethnic groups inhabiting the region to ensure a more comprehensive representation of the demographic and ethnic structure of the Republic of Moldova. This expansion would enable the qualitative-based investigation to incorporate quantitative and statistical methods, potentially yielding findings representative of the selected ethnic groups at the national level.

From a broad perspective, our study highlights that cross-cultural comparisons would be important for proposing culturally sensitive ways of using food heritage-based resources in future sustainable development initiatives to foster food security and food sovereignty, especially in regions affected by turbulent events. In this regard, further research could investigate the dynamics and exchanges of plant and gastronomic knowledge and practices among diverse cultural groups to assess better the negotiations, osmosis, and hybridizations that have happened in the foodscape throughout history and how food sovereignty is shaped accordingly.

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