

## Investigation of Edible Mushrooms As A Gastronomic Product: The Case of Ermenek (Karaman)

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### Abstract

Although no definite date can be given about the first consumption or birth of mushrooms, it is known that they have been consumed for approximately 13 thousand years as a result of archaeological findings. Mushrooms are an important food source for the masses living on Earth. There is a considerable amount of mushrooms in Turkey. The diversity of fungi also shows itself in the geography of Turkey. In this study it is aimed to determine what the edible mushrooms grown in Ermenek are, in which months they are collected, how these mushrooms are consumed and stored, how they are obtained, how to understand whether they are poisonous, what are the reasons for consumption, and to record the recipe of a dish made with these mushrooms. In line with the research, semi-structured interview technique with snowball sampling method was used, and data were collected from 15 participants by conducting online interviews on 24-30 October 2021. It has been determined that seven types of mushrooms are grown in total. These mushrooms are truffle mushrooms, Gold Flecked Woodwax, oyster mushroom, black morel, the white-footed elf cup, cultivated mushrooms, and morchella dunalii. Currently, these mushrooms collected in the region are generally used in food areas and in health areas and sold on a small scale. In addition, it was determined that they gathered mushrooms according to trial and error method, habit status, and traditional methods.

**Keywords:** Gastronomic Product, Edible Mushrooms, Ermenek

**JEL Code:** L83.

### Gastronomik Ürün Olarak Yenilebilir Mantarların İncelemesi: Ermenek (Karaman) Örneği

#### Özet

Mantarların ilk tüketimi ya da doğuşu hakkında kesin bir tarih verilememekle birlikte arkeolojik bulgular neticesinde yaklaşık 13 bin yıldır tüketildiği bilinmektedir. Dünya üzerinde yaşayan kitleler için mantarlar önemli bir besin kaynağıdır. Türkiye coğrafyasında da önemli bir mantar varlığı kendini göstermektedir. Bu çalışmada Ermenek'te yetişen yenilebilir mantarların neler olduğu, bunların hangi aylarda toplandığı, toplanan bu mantarların nasıl tüketildiği ve saklandığı, nasıl temin edildiği, zehirli olup olmadığının nasıl anlaşıldığı, tüketim sebeplerinin neler olduğunun belirlenmesi ve katılımcıların bu mantarlarla yapmış oldukları bir yemeğin reçetesinin kaydedilmesi amaçlanmaktadır. Araştırma doğrultusunda kartopu örneklem yöntemiyle yarı yapılandırılmış görüşme tekniği kullanılmış, 24-30 Ekim 2021 tarihlerinde online görüşmeler yapılarak 15 katılımcıdan veriler toplanmıştır. Toplamda 7 tür mantarın yetiştiği ve bu mantarların trüf mantarı, kar çanı mantarı, istiridye mantarı, kuzu göbeği, kuzu kulağı, kültür mantarı ve Mersin mantarı olduğu tespit edilmiştir. Bölgede toplanan bu mantarlar genellikle mutfaklarda kullanılmakla birlikte sağlık alanlarında da kullanılmakta ve küçük ölçekte satışı yapılmaktadır. Ayrıca mantarları deneme yanılma yöntemine, alışkanlık durumuna ve geleneksel yöntemlere göre topladıkları belirlenmiştir.

**Anahtar Kelimeler:** Gastronomik Ürün, Yenilebilir Mantar, Ermenek

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## **INTRODUCTION**

The United Nations World Tourism Organization (UNWTO), responsible for universal and sustainable tourism, is an international organization designated to improve and promote tourism. UNWTO defines gastronomic tourism as “the whole of recreational experiential activities related to recreational food and beverages for gastronomic destinations”. These events are trips to markets and food production areas, gastronomy-themed festivals, cooking shows, food fairs, and activities to experience local and quality products. The fact that the people of the region benefit from gastronomy tourism brings with it economic development and branding (Küçükkömürler et al., 2018). Gastronomy tourism is not limited to meals obtained directly from a few ingredients but can also be done for a single product. Traveling to a region for olives, peanuts, apples, cheese, peppers, grapes, and many other products can be given as an example of product-based visits within gastronomy tourism. In addition, gastronomic tourism is also accepted as an application that can take place on any day of the year, at any time. Especially in recent years, the increasing interest in the use of wild edible mushrooms shows this (Forne, 2018).

In recent years, besides the health benefits of mushrooms, it is seen that mushroom picking has been included in the field of alternative tourism and thus has a social effect. Many regions of our country are affluent in mushroom picking activities. In the studies conducted in our country (Eren et al., 2017), the evaluation of mushrooms among alternative tourism activities was emphasized. Considering the benefits of gastronomic tourism for local development, it reveals that this new economic element of mushrooms is determined on a regional basis (Gül et al., 2018). While fungi's economic and social impact is great in some regions, this remains an unexplored area of research. It also represents an attraction for tourists seeking seasonality and an authentic sense of place (Forne, 2018).

Considering the fungi that are the subject of the international literature, it is generally seen that mushrooms are examined in terms of health, cultural, and economic aspects. Among the studies in question, the effect on human health and a quality life (Valverde et al., 2015), the relationship between the consumption frequency of mushrooms and community culture (Garibay Orijel et al., 2007) and the production of mushrooms, determination and evaluation (Ortega Martinez & Martinez Pena, 2008). When Turkish national literature is examined, it is seen that the mushroom species in different regions (Solak et al., 2006; Yakupoğlu & Karadağ, 2017; Yüksel et al., 2007; Tüfekçi, 2012; Uzun et al., 2015; Pekşen & Kaplan, 2016; Gül et al., 2018) and the areas of use in food (Solak, 2008; Gül et al., 2018) and the determination of consumption habits (Şimşek & Önek, 2021). In addition, Öztürk et al., (2001), Doğan & Öztürk (2006) and Çetinkaya et al., (2021) determined the mushroom species growing in Karaman, Ermenek, Ayrancı and Yeşildere regions. However, these studies were limited to determining the macrofungi flora in the research areas. In this study, different from the existing literature, it is aimed to determine what edible mushrooms are grown in Ermenek (Karaman), in which months they are collected, how these collected mushrooms are consumed and stored. Moreover, determining the recipes of the dishes made using these mushrooms is among the aims of the study. In this context, the study is essential in terms of evaluating the mushrooms grown in Ermenek as a gastronomic product.

## **2. EDIBLE MUSHROOMS**

Although no exact date can be given about the first consumption or birth of mushrooms, it is known that mushrooms, which have been consumed for approximately 13 thousand years as a result of archaeological findings, have an important place in human and animal nutrition. Records of wild mushrooms being edible date back to BC, and it is seen in 7th-century Chinese records (Eren et al.,

2017: 78). Eighteenth-century French cuisine placed mushrooms at the center of its gastronomic philosophy and thus began to revalue this product in its culinary uses (Forne, 2018).

Mushrooms, which have always taken their place in people's meals, need heat and moisture to develop, so it is known that mushrooms grow in spring and autumn. It is thought that there are about 1.5 million species of mushrooms worldwide, of which 5,020 are edible, while 2,150 are non-poisonous and edible. Of the 5.020 edible species, 35 are being sold at an economic scale, and scientific studies are being carried out to increase the cultivation of about 120 species (Eren et al., 2017). Sustainability problems have started to emerge in mushroom cultivation due to reasons such as unconscious foraging and pressure on mushroom production demands. One of the most significant factors in demanding mushrooms collected from nature is that they have high nutritional properties (Yılmaz et al. 2016).

Beside its historical dimension, edible mushrooms, which should also be taken care of in terms of health, are a preferred food in terms of unsaturated fatty acids, carbohydrates, dietary fiber, protein, vitamins, and minerals, on the other hand, with their aroma and flavors (Eren & Pekşen, 2019). Mushrooms are an essential food source for the masses living on Earth. It is possible to access information that mushrooms were used in food and medicine in many countries, especially in China, and in Roman and Greek civilizations in history (Yıldız Radish & Boylu, 2018).

Edible mushrooms in nature are included in the Ascomycetes and Basidiomycetes classes in the Fungi kingdom. There are over 2400 wild mushroom species grown in Turkey. More than 40 different edible mushroom species in this family are found in nature, depending on the factors specific to the region (Bayrak & Cebirbay, 2018). In terms of flavor, the most preferred mushrooms are morel (*Morchella elata*), truffle mushroom (*Terfezia arenaria*), kanlıca (*Lactarius deliciosus*), *Cantharellus cibarius*, *Hydnum repandum*, *Boletus edulis*, emperor/Caesar (*Amanita caesarea*) in Turkey. Some of these nature mushrooms collected for consumption are sold in public markets, while some are exported (Kastamonu Provincial Directorate of Agriculture and Forestry, 2023). However, according to the data obtained from the Turkish Patent and Trademark Office, there is only one city (Bolu Kanlıca Mushroom) where the mushroom is registered in Turkey (Turkish Patent and Trademark Office, 2021). In addition, when the literature on edible mushrooms is examined, it is seen that the number of academic studies is high. Issues such as investigation of the nutritional value and commercial potential of the most cultivated edible mushrooms worldwide (Valverde et al., 2015), determining the effects of edible mushroom consumption on the risk of cardiovascular diseases (Guillamón et al., 2010), measuring the antioxidant potential of mushrooms (Puttaraju et al., 2006), determining the chemical components and nutritional values of edible mushrooms that are frequently known and consumed (Bernas et al., 2006; Turp & Boylu 2018), evaluation of the impact of heavy metal presence in mushrooms on public health (Cocchi et al., 2006), examination of the total selenium content and chemical forms in edible mushrooms (Falandysz, 2008), examination of some edible mushroom species in terms of mineral content (Mallikarjuna et al., 2013), gastronomic evaluation of edible mushrooms (Karakayalı et al., 2022), determination of its antimicrobial potential (Işık et al., 2020), examination of the consumption of edible mushrooms (Şimşek and Önek, 2021), determining the level of use of kitchen chefs (Duman & Sarper, 2023) are investigated. Based on the aforementioned study subjects, it is possible to say that the studies on edible mushrooms are mainly on the relationship between health and nutrition.

### **3. METHOD**

In this part of the study, information about the purpose of the research, data collection method, data analysis are presented.

#### **3.1. Data Collection Method**

In this study, qualitative research methods were used and a question-answer-based communication was carried out between the researcher and the interviewee. In the data collection process, semi-structured interview technique was preferred. In this approach, before the interview, an interview form containing interview questions or subject headings that will determine the flow is prepared for the researcher. The prepared interview form is in the form of a comprehensive list of the subjects to be answered. The researcher can ask the questions in the form; on the other hand, he can also request additional questions to gather detailed information. Furthermore, to the language used by the participant, body language, gestures, and facial expressions also provide information to the researcher, and the questions that the participants do not understand easily make the semi-structured interview technique powerful (Şimşek, 2018). In the semi-structured interview form, questions were formed by benefiting from the work of Şimşek and Önek (2021). Next, a further expert opinion was sought for the prepared questions. In this context, opinions were received from a total of 5 academicians, 3 from the gastronomy and culinary arts department and 2 from the nutrition and dietetics department, who have studies on edible mushrooms. The fact that they had knowledge about the identification and collection of edible mushrooms was a factor in the determination of the beforementioned academics. The experts examined the questions in terms of their suitability for the purpose of the study, and the final version of the form was created in line with the criticisms and suggestions they expressed. These questions directed to the participant were not prepared by direct quotation but were prepared by determining the aspects that were desired to be measured and seen as missing. The questions in the interview form are listed below:

1. Which edible mushrooms grow naturally in Ermenek?
2. What is your reason for consuming mushrooms that grow naturally in nature?
3. How do you consume these mushrooms?
4. Where do you get these mushrooms from?
5. In which months do you usually consume/collect?
6. How do you identify non-poisonous mushrooms?
7. Can you give a recipe for a dish you made with mushrooms?

Data collection tools used in scientific research should be valid and reliable. Reliability is the error-free measuring power of a related feature of a measuring instrument. On the other hand, validity is the ability to measure only that feature without adding additional elements (Erkuş, 2006). Otherwise, the questions created within the framework of the subject of the research and the interviews conducted with the snowball sampling method both show the commitment to the subject and ensure the validity and reliability of the study.

The research sample consists of people living in Ermenek and accepting the interview. Using the snowball sampling method, interviews were conducted with 15 people within the framework of the interview mentioned above questions. The people in question are local people who collect and consume edible mushrooms. The snowball sampling method is preferred when it is difficult to determine the available units for sampling (Şimşek, 2021). In this context, a person who lives in

Ermenek and has a good command of the mushroom culture of this province was determined as the key person, and a chain interview was conducted by determining the next participant among the other interviewees based on this person. In line with the research, online interviews were conducted with 15 people between 24-30 November 2021, and the interviews lasted 8-10 minutes on average. The interviews were recorded with informed consent form. Afterwards, the records were translated in to text.

### 3.2. Data Analysis

The data obtained in line with the research were carried out within the framework of descriptive analysis, which is one of the analysis techniques of qualitative research methods. Within the scope of this analysis, the data were divided into specific themes, frequency values were determined, and the findings were interpreted. During the data analysis, coding as P1, P2, P3,.....P15 was preferred, taking the confidentiality of the interviewed participants into account.

### 4. FINDINGS

After the interview with 15 people to determine the mushrooms growing in the Ermenek region, the demographic characteristics of the participants are given in Table 1.

**Table 1: Demographic Characteristics**

<b>Gender</b>	<b>N</b>	<b>Age</b>	<b>N</b>	<b>Education</b>	<b>N</b>	<b>Profession</b>	<b>N</b>
Woman	9	18-25	3	Primary school	7	Public Official	1
Man	6	26-35	5	High school	1	Private Se.	3
<b>Marital status</b>	<b>N</b>	<b>36-45</b>	<b>1</b>	<b>Graduate</b>	<b>6</b>	<b>Student</b>	<b>3</b>
The married	10	46-55	4	Post Graduate	1	Housewife	7
Single	5	56≥	2			Retired	1

According to Table 1, women, married people and people between the ages of 26-35 and 46-55 are more common. Considering the educational level, it is seen that primary education and undergraduate degrees are very close, and housewives dominate the occupational group. The answers given to the edible mushrooms grown in the Ermenek region, which was directed to the participants, are shown in Table 2. Also, the pronunciations of the mushrooms in local dialects and their English equivalents are given in the Appendix.

**Table 2. Participant Responses to the Self-Growing Edible Mushrooms in Ermenek**

<b>P1</b>	Black morel ( <i>Morchella elata</i> ), The White-footed elf cup ( <i>Helvella leucomelaena</i> ), Oyster Mushroom ( <i>oyster fungus</i> ), Cultivated Mushroom
<b>P2</b>	Black morel, The White-footed elf cup
<b>P3</b>	The White-footed elf cup, Black morel
<b>P4</b>	Black morel, Cultivated Mushroom, Truffle Mushroom ( <i>Terfezia arenaria</i> ), <i>Morchella dunalii</i> , Gold Flecked Woodwax ( <i>Hygrophorus chrysodon</i> ), The White-footed elf cup
<b>P5</b>	Cultivated Mushrooms, Black morel, Truffle Mushroom ( <i>Terfezia arenaria</i> ), The White-footed elf cup
<b>P6</b>	Cultivated Mushrooms, Black morel, The White-footed elf cup
<b>P7</b>	Black morel, The White-footed elf cup, Oyster mushroom
<b>P8</b>	Black morel, Cultivated Mushrooms
<b>P9</b>	Cultivated Mushrooms, Black morel, The White-footed elf cup
<b>P10</b>	Black morel, Gold Flecked Woodwax, The White-footed elf cup, <i>Morchella dunalii</i> , Cultivated Mushroom, Truffle Mushroom ( <i>Terfezia arenaria</i> )
<b>P11</b>	Gold Flecked Woodwax , Truffle Mushroom ( <i>Terfezia arenaria</i> ), The White-footed elf cup, Cultivated Mushroom
<b>P12</b>	Black morel, Gold Flecked Woodwax, The White-footed elf cup, Cultured Mushroom
<b>P13</b>	The White-footed elf cup, Black morel ( <i>Morchella elata</i> )
<b>P14</b>	Cultivated Mushrooms, The White-footed elf cup, Black morel, Oyster Mushrooms, Oyster mushrooms, Truffle Mushrooms ( <i>Terfezia arenaria</i> )
<b>P15</b>	Black morel, Cultivated Mushrooms, Truffles Mushrooms ( <i>Terfezia arenaria</i> ), Oyster mushrooms

Seven types of mushrooms are grown in total: truffle mushrooms, gold flecked woodwax, oyster mushrooms, black morel, the white-footed elf cup, cultivated mushrooms, and morchella dunalii. Among these mushrooms grown in the region, black morel and the white-footed elf cup are the most. The answers regarding the reasons for consuming mushrooms are given in Table 3.

**Table 3. Reasons for Consuming Self-Growing Mushrooms in Nature**

	<b>Taste and Flavor</b>	<b>Being Healthy and Nutritious</b>	<b>Habit</b>	<b>Easy to Find</b>
<b>P1</b>	x	x	x	
<b>P2</b>	x	x	x	
<b>P3</b>	x	x		
<b>P4</b>	x	x	x	x
<b>P5</b>	x	x		
<b>P6</b>	x		x	
<b>P7</b>	x	x	x	
<b>P8</b>	x	x		x
<b>P9</b>	x	x	x	
<b>P10</b>	x	x	x	
<b>P11</b>	x	x		
<b>P12</b>	x	x		
<b>P13</b>	x	x	x	x
<b>P14</b>	x	x	x	
<b>P15</b>	x	x		

It is seen that all participants agree on its taste and flavor, all but one participant agrees that it is healthy and nutritious. Also, 9 participants gave the habit answer. Only 3 participants had an answer about the easy availability of mushrooms. In the interviews, it is stated that mushroom picking has decreased even more than in the past, and the people who dominate the region have an advantage in easy availability. The option that the price of mushrooms is affordable is not included in the consumption reasons. At this point, the participants state that the prices of mushrooms brought to the market are pretty high.

When the participants were asked how to consume these mushrooms, it is seen that they are generally consumed in cooking and also preferred as an appetizer. On the other hand, it expressed that it is preserved with storage conditions such as drying and freezing in winter. Furthermore, the participants stated that they sell especially the morel mushroom to the relevant people for drug production. These mushrooms are generally collected from vacant lands with forested areas, gardens, and fields consumed in villages. Cultivated mushrooms are found in greengrocers, markets, and bazaar. The harvesting periods of the mushrooms are known as the post-rainfall periods. The participants were asked in which months they were collected and consumed, and the months of September, October, November, March, April, and May were specified. Participant 4 made the following note for the growing periods of the consumed mushrooms: *“Since these mushrooms are species that love moisture and precipitation, we can find them after precipitation. It usually happens in spring and autumn. But, although rare, we can find some after the rain in August.”*

Mushrooms should be collected consciously against the possibility of being poisonous and should be consumed accordingly. In this regard, the participants were asked whether they could distinguish toxic mushrooms. The answers stated are not scientific in nature but are collected according to the trial and error method, habit status, and traditional methods. For example, Participant 10: *“These mushrooms are all well-known mushrooms. For others, it's up to the animals to see if they're eating.”* Participant 14: *“We cannot know very well whether a mushroom is poisonous or not. After all, some people are poisoned by them. But we look under the mushroom, the old-fashioned way. If it's dark, we don't crave to consume it. And the mushrooms I'm talking about are the mushrooms*

*we've eaten for years, collected, and whose location we know. That's why I'm not afraid of them."* he stated his statements on this subject.

In this study, which was carried out in the Ermenek region, the participants were asked for a recipe for a dish related to their collected mushrooms. It is thought that such a demand will contribute to the recognition of regional food delicacies and provide support for areas that are seen as lacking in gastronomy and cuisine. The answers given by the participants are given in Table 4.

**Table 4. Local Dishes Prepared with Edible Mushrooms**

<b>P1</b>	Grilled mushroom
<b>P2</b>	Pastry and patty
<b>P3</b>	Sauteed mushroom
<b>P4</b>	Mushrooms in jug, sauteed mushroom, roasted mushrooms on the stove
<b>P5</b>	Mushroom salad
<b>P6</b>	Sauteed mushroom
<b>P7</b>	Mushroom soup, sauteed mushroom
<b>P8</b>	Sauteed mushroom, pastry with mushroom
<b>P9</b>	Mushroom fried
<b>P10</b>	Mushroom fried
<b>P11</b>	Baked mushroom, sauteed mushroom
<b>P12</b>	Mushroom omelette, sauteed mushroom
<b>P13</b>	Roasted mushroom
<b>P14</b>	Mushroom soup, pastry with mushroom, sauteed mushroom
<b>P15</b>	Mushroom soup

When the answers given by the participants are examined, it is seen that mushrooms are mostly preferred in soup, omelette, sauteed and pastries. Therefore, it is possible to say that mushrooms are a food that can be easily used in all kinds of food groups. Participant 14 summarized the mushroom dishes consumed in the region as follows. *"After we collect these mushrooms, we put them on the stove and wait for them to release their water. It will be so delicious. I especially love the black morel. Let's add goat cheese, and it will be even more delicious. Soup, meal, pastry can be made. When we collect more fresh, we roast it with onions and eat it."* The recipes of the mushroom dishes given by the participants are given below:

#### •Grilled mushroom

Ingredients: Black morel, Pepper, Potato, Salt, Black Pepper.

Preparation: *"The collected mushrooms are washed lightly. Mushrooms, peppers, and potatoes are placed on the skewer. Sprinkle salt and pepper on top. It is cooked on embers to soften it. The softened products are taken to the table."*

#### •Pastry with mushroom

Ingredients: Black morel, Onions, Phyllo Dough, Oil, Milk, Eggs, Soda, Salt, Black Pepper.

Preparation: *"After cleaning the mushrooms, fry the oil and onions. Then add the chopped mushrooms and cook. Next, add salt and pepper and cook a little more. Cook until the water is absorbed and take to cool. Open the phyllo dough in your hand, spread the oil, milk, egg, and soda mixture on it, and place it on the tray properly. Take out the mushroom stuffing in the middle part and put the yufka with sauce on it again. Continue in this way until you run out of dough and dough. Bake at 200 degrees for 30 minutes."*

#### •Sauteed mushroom

Ingredients: Black Morel, Pepper, Onion, Oil, Chicken Breast, Water, Spices.

Preparation: *Let's cook mushrooms, peppers, and onions in little oil. Let's add the sliced chicken*

*breasts and mix a little more. Add water and spices and let it cook. You can use any seasoning you want.”*

#### •Mushrooms in jug

Ingredients: Onion, Black morel, Pepper, Tomato, Olive Oil, Thyme, Cheddar Cheese.

Preparation: *“Let's put onions, black morel mushrooms, peppers, and tomatoes in the casserole. Let's add some olive oil and thyme, and mix and leave in the oven for 20 minutes. Then we take it out and grate the cheddar, and bake it in the oven again. When it is fried, we can take it out and eat it.”*

#### •Mushroom salad

Ingredients: Cultivated Mushroom, Lemon Juice, Water, Pepper, Gherkin, Olive, Pickle, Dill, Corn.

Preparation: *“Cut the mushrooms and boil them in water with a squeeze of half a lemon. Roast the peppers, peel, and chop finely. Chop the gherkins, pickles, and olives as well. Add the dill and corn, add the sauce ingredients, and mix.”*

#### •Mushroom soup

Ingredients: Cultivated Mushroom, Onion, Flour, Water, Milk, Black Pepper, Salt.

Preparation: *“Fry the grated onions in oil. Next, add the chopped mushrooms and continue frying. Add two tablespoons of flour and cook for 2-3 minutes. Blend it. Add the hot water little by little and mix it with a whisk to prevent lumps. After it thickens, add one glass of milk and a pinch of black pepper. 5 minutes before downloading. Add salt first.”*

#### •Black morel fried

Ingredients: Black morel, Fresh Garlic, Oil, Paprika, Egg.

Preparation: *“First of all, we chop our mushrooms not very small and soak them in clean water in a deep bowl. On the other hand, we chop the fresh garlic leaves, including the leaves, into small pieces and throw them into the water where the mushrooms are waiting. We put our oil in the pan and put the mushrooms and garlic in the water in the pan with light water without heating our oil. When the mushroom starts to absorb its water slightly, we add enough chili pepper, mix it two or three times, and then break our egg. Mix it well and take it out of the oven after 2-3 minutes.”*

#### •The white-footed elf cup fried

Ingredients: The White-footed elf cup, Lemon, Pepper, Garlic,

Preparation: *“Finely chop the The White-footed elf cup. You can cut the other ingredients into cubes so that the mushrooms do not darken; I blend them with lemon after cutting them. We put the mushrooms in our pan and cook them a little. If you are sure that it is cooked, remove the excess water, add the peppers, add the garlic and tomatoes close to cooked, and cook a little more. You can consume it cold as an appetizer.”*

#### •Baked mushroom

Ingredients: Potato, Pepper, Onion, Mushroom (any mushrooms collected), Tomato, Yogurt, Olive Oil, Thyme, Red Pepper, Salt,

Preparation: *“Mix 2 potatoes, two peppers, one onion, and mushroom (whichever mushroom you picked is suitable) with olive oil, salt, thyme, and paprika and place them on the baking tray. Add the tomatoes to it and bake in the oven for 25 minutes. Cook it. You can eat it with yogurt when it*

*comes out of the oven."*

#### •Mushroom omelette

Ingredients: Pepper, Cultivated Mushroom, Egg, Cheddar Cheese, Salt.

Preparation: *"Saute the peppers and add the mushrooms. After sautéing all of them, add the egg (beat the egg well on a separate plate), add optional grated cheddar when it's cooked."*

### 5. CONCLUSION, IMPLICATIONS, LIMITATIONS

In this study, it is aimed to determine what edible mushrooms are grown in Ermenek (Karaman), in which months they are collected, how these collected mushrooms are consumed and stored. Moreover, determining the recipes of the dishes made using these mushrooms is among the aims of the study. In this context, semi-structured interviews were conducted with 15 people. As a result of the interviews, it has been determined that seven types of mushrooms are grown and consumed in the Ermenek region. These mushrooms are truffle mushrooms, gold flecked woodwax, oyster mushrooms, black morel, the white-footed elf cup, cultivated mushrooms and morchella dunalii has been done. These mushrooms have also been detected in previous studies (Doğan & Öztürk, 2006; Çetinkaya, et al., 2021). It has been determined that the region's people have consumed these mushrooms for many years, but today this rate has decreased.

Mushrooms have taken an important place in people's food and health fields in ancient times. Edible mushrooms, which have important functions in terms of necessary vitamins, proteins, and mineral substances and are accepted as an alternative food source, are an important dietary product due to their low fat and sugar content (Kibar, 2015). The reasons for consuming mushrooms grown in the Ermenek region also vary among the participants. In the interview, it was noted that all of the participants consumed mushrooms because of their taste and flavor. Kibar (2015), Yilmaz et al. (2016), Şimşek and Önek (2021) also obtained similar results regarding the consumption reasons of mushrooms in their studies. Since these collected mushrooms are not easily accessible by everyone, their consumption is not intense in the region. Participants think these mushrooms brought to the market for sale are costly because they are rare.

Due to the climate and geographical conditions in Turkey, there are many types of mushrooms that grow in different environments. As a result of the temperature and humidity balance, these mushrooms grow in forest areas, gardens, and fields, on plant parts that have lost their vitality, and in areas suitable for organic matter (Erdem et al., 2018). Mushrooms collected in the Ermenek region are generally collected from vacant lands with forested areas, gardens, and fields in villages and consumed. Cultivated mushrooms are found in greengrocers, markets, and bazaar. These species, which emerge with the moisture in the soil after the rain, are collected in the Ermenek region in autumn and spring.

Although the fungus that grows spontaneously in nature can respond to physiological needs, it can sometimes be fatal. There are some misconceptions that are known among the people. Today, mushroom picking is rapidly developing as an alternative activity. These activities, which proceed under the guidance of a leading person, are an effective way to eliminate misinformation about mushrooms. Some primitive methods are used in this regard if a silver spoon or onion garlic is added to the mushroom dish, color change, intense and bad smell of the mushroom, blue or dark color perception at the cut point of the mushroom, animals eat it, salt or vinegar is added to the food, and the poison is tried to be removed, the milk of the mushroom bleeding is listed as the difficulty of peeling off the hat (Alan, 1977). These false and deadly perceptions, which are still widespread, do not change in the Ermenek region either; It is seen that mushrooms are collected

according to trial and error method, habit status and traditional methods. Sümer (1987) also stated in his study that similar wrong methods are common among the public. The importance of mushrooms in taste is of particular value for the study. At this point, it is necessary to determine the mushroom dishes made in the Ermenek region. Although the mushroom dishes in this region are generally based on simple cooking over embers, stove, and fire, it is discovered that pastry, sauté, stew, salad, soup, roast, and omelet are also made in this region. It is possible to say that these recipes, which can be made with only one product, are a valuable find for the Ermenek region.

Each product offered by nature symbolizes abundance at the point of meeting physiological needs. Almost all of them have different growing and usage areas, sometimes a product is specific to the region and represents the geography. It's like remembering the Black Sea when talking about anchovies, the Aegean Sea when talking about olive oil, the East when talking about meat, and the Mediterranean Sea when talking about citrus. Turkey is located in a region with fertile lands surrounded by seas on three sides. There are millions of foods in its south, north, east, and west. In addition to being diverse, there are also many products waiting to be discovered. Edible mushrooms, which are in the Ascomycetes and Basidiomycetes classes in the fungus world, dominate a wide area (Bayrak & Cebirbay, 2018). In Chinese records, mushrooms have a history dating back to the 7th century BC. Edible mushrooms, which are used in medicine for health purposes, show a very slow progress especially in kitchens. However, the poison in the mushroom is important. Nowadays, it is seen that mushrooms have an intense species thanks to mushroom studies whose researches are accelerated. Although the number of edible species of mushrooms in the world is 5,020, only 35 species are traded. At this point, it is essential to do more research to increase commercial types. There are over 2400 wild mushroom species in Turkey, and only 40 of them are known to be edible (Eren et al., 2017).

Today, the increase in mushroom trade is a common phenomenon with the spread of local product trade. At this point, the small-scale mushroom trade in the Ermenek region has the potential to contribute to this sector by expanding it. Currently, these mushrooms collected in the region are generally used in food areas and in health areas and sold on a small scale. It is possible to say that the mushroom resource of the region is open to evaluation within the scope of gastronomic tourism, ecotourism, and rural tourism through authorized institutions and organizations. Promoting the dishes prepared with mushrooms grown in this direction and including them in restaurant menus will contribute to the gastronomy of the district. Furthermore, important steps can be taken within the scope of both gastronomic tourism and ecotourism by organizing mushroom picking events. Especially in recent years, the increasing interest in edible mushrooms will provide an advantage in the local development. As a result, the fact that seven types of mushrooms are edible from a district with a population of 10,000 is promising among other regions. It is thought that this diversity of Turkey's geography cannot be underestimated. There are some limitations as a result of qualitative research methods in this study, and the data obtained cannot be generalized. The limitations of this study are the sources of the document review and the interviewees. In the study, data were collected with 15 leaders of the region, and it is anticipated that more comprehensive research will contribute to future studies. In order to contribute to both Anatolian culinary culture and regional culinary culture, an inventory study can be performed on the mushroom dishes in the surrounding districts and provinces. In this context, new recipes for edible mushrooms can be developed by conducting in-depth interviews with kitchen chefs.

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**ETHIC STATEMENT FORM**

<b>Research Support Information:</b> No research support has been received.
<b>Ethics Committee Approval Status</b>
<input checked="" type="checkbox"/> Ethics committee approval is required.
<b>Etik Kurul Raporunu Veren Kurum</b>
Kastamonu University Rectorate Social and Human Sciences Research and Publication Ethics Committee
<b>Ethics committee report decision date:</b> 02.02.2022 <b>Decision Number:</b> 2/29
<input type="checkbox"/> Ethics committee approval is not required. The reason is stated below.
<input type="checkbox"/> Ethics committee approval was not obtained since the data were collected before 2020.
<input type="checkbox"/> The method used in the study does not require ethics committee approval.
<b>Author(s) Contribution Rate</b>
1.Author: 55%
2.Author: 45%
<b>Informed Consent Form:</b> All parties are involved in the study voluntarily.

**Appendix: Name of Mushrooms in Local Dialect/English**

<b>Name of mushrooms in local dialect</b>	<b>Name of mushrooms in English</b>
Kuzu Göbeği	Black morel (Morchella elata)
Kuzu Kulağı	The White-footed elf cup (Helvella leucomelaena)
Kavak Mantarı (İstiridyeye Mantarı)	Oyster Mushroom (Pleurotus ostreatus)
Dolaman-Domalan-Dobalan	Truffle Mushroom (Terfezia arenaria)
Mersin Mantarı	Morchella dunalii
Kar Çanı Mantarı	Gold Flecked Woodwax (Hygrophorus chrysodon)
Kültür Mantarı	Cultivated Mushrooms (Agaricus bisporus)