

A STUDY OF CAVES AND THEIR SPELEOTOURISM POTENTIAL IN AZERBAIJAN

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Summary. The caves used by primitive man as shelters and settlements are one of the places where information about the history of mankind is brought to light. For this reason the geographical and archaeological values of caves are always in the foreground. However, we should not forget the economic importance of caves and their potential for speleotourism, because in our contemporary world the economic importance of caves is very high. From this point of view the paper gives the classification of caves; emphasizes the importance of determining their status; on the basis of archival, stock and research works provide extensive information about the caves of Azerbaijan, which are distinguished by their archaeological, paleontological and stratigraphic value; make proposals for their preservation and use as examples of historical and cultural heritage; present a map of the caves of Azerbaijan.

In addition, the paper explores the use of caves as shelters by primitive people, the creation of legends and myths, the significance of shrines, sanctuaries and temples, their value as a historical and cultural heritage, as well as tourist's attraction, the possibility of using them for sports and recreational purposes.

The use of caves for tourism is one of the main objectives of speleotourism. To this end, we have studied the potential of speleotourism in the caves registered and unregistered by the Government of Azerbaijan and proposed to passport the caves, to determine the possibility of using speleotourism services in the regulation of regional tourism based on scientific and economic research.

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Introduction

The improvement of tourism requires the direct and efficient use of existing opportunities, as well as everlasting enhancement of the continuous operation of the types of tourism. Recently, the dynamic development of tourism in Azerbaijan has defined a fuller and more efficient use of available tourism potential as a priority direction and has achieved the improvement of the different tourism directions such as ecotourism, ethno-tourism, sport and health tourism, treatment and recreation tourism, rural tourism and others. However, the proportion of this sector in the country's economy is rather low, since the tourism opportunities have not been used adequately in the regions.

According to the statistic materials of the 2020 year, the volume of the GDP was 42,6 Billion US dollars in Azerbaijan, and it means 4272,2 billion US dollars per capita. Nevertheless, the percentage of tourism in the GDP was relatively lower accounting for 1.2% of the total share (Azərbaycan rəqəmlərdə..., 2021). The reason underlying the low

proportion of tourism is the inexistence of the hierarchical improvement concept of tourism in the implementing State Programs related to the socio-economic development of regions, as well as in the specialised strategic roadmap. Though, the tourism sector was especially determined as one of the priority directions in the development strategy of the national economy.

Material and methods

During the investigation, geological, geomorphological, geographical, historical, biological, anthropological materials were collected and scrutinised in cameral conditions. The analysis was conducted using a historical-geographical approach, comparative and systematical analysis, interviews, Geographical Information Systems (GIS) and other methods.

Natural monument – caves

Natural monument – is the witness and memory of the natural phenomena occurring in the depth and

on the surface of the Earth at different times having certain aesthetic, scientific and practical significance and attracting attention with its unique and remarkable appearance (Xəlilov, 2020). Natural monuments are factored in unique tourism objects. Nevertheless, not all the objects created by nature are unique natural monuments. Typically, unique natural monuments emerge as a result of internal and external natural processes. One of the essential characteristics of the unique natural monuments is their geological, historical and scientific importance (Равшанов, Усманов, 2021).

Nature creates mountain summits, deep valleys, caves, rivers, waterfalls and others during a long geological period. Undoubtedly, these unique monuments of nature attract tourists' attention constantly and create conditions to make their trip intriguing. In order to use the caves, which are unique among natural monuments and in recent years are in the field of interest of tourists, we must first analyze their physical and geographical features, and then explore ways of involving them in tourism. *Caves* are the underground cavities of different forms and sizes in the layers of karstified limestone, dolomite and gypsum rocks. The caves show up as a consequence of percolating water which passes through the inclined carbonated rock layers and washes them out (Гвоздецкий, 1972). The emergence, formation and development of the caves are tightly related to the karst process. In most cases, the caves are formed as a result of the covering of karstified rocks with insoluble and deposited sediments of the Quaternary age and their isolating of soluble rocks.

Caves compose the basic element of the karst system which interferes with the transformation process on the surface of the physical environment and underground, as well as, the settlement of wildlife (Lobo, Moretti, 2009). However, the deficiency of a unified classification to define existence form, belonging, genesis and other parameters of caves creates some misunderstanding in this direction. Despite the conduction of a series of investigations related to the caves, they make it difficult to get a general result.

Although the karst process develops more or less in mountainous provinces of Azerbaijan, the typical karst landscape spreads in very small areas (only in the areas where carbonated rocks spread). Karst developed in the zone of carbonate rocks of the Greater Caucasus, in the places of the southern slope where Jurassic and Cretaceous limestones outcrop. Karst process is active in the Lesser Caucasus, mainly in Shinikh-Destefur synclinorium, in the places where Jurassic and Cretaceous limestone layers' outcrop, in Agjakend synclinorium, where gypsum layers' outcrop and in Karabagh range where

thick carbonate rocks appear on the surface or lie in the areas or zones at shallow depths. Mesozoic and Paleozoic carbonate rocks, spread (distributed) in Daralayaz range or in its west, refer to karstified rocks in Nakhchivan (Museyibov, 1998). Though caves are not of so gigantic size, they are represented by the forms such as karst, abrasion, erosion, denudation and etc., differing from their genesis (Kəngərli, Babayev, 2013). The caves distinguished by different sedimentary forms (stalactites, stalagmites and etc.) are not so rich. Nonetheless, it is possible to encounter them and other sedimentary forms in more complicated structures in some caves and mines.

Morphological features of caves possess different and intriguing elements. In addition to this, being a shelter and worshipping place for a primitive man increases their attractivity. The caves with these features have great archaeological and historical-cultural values.

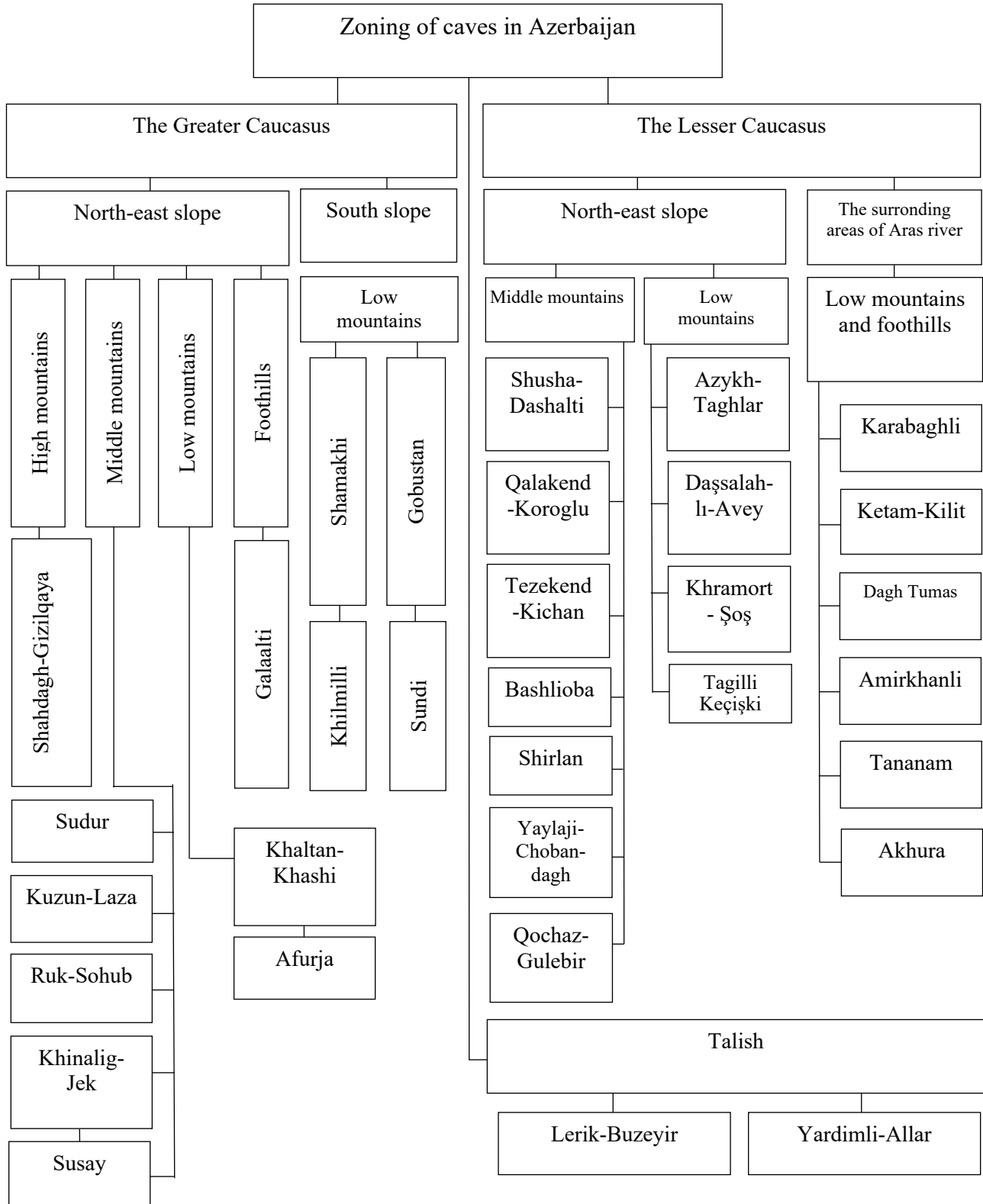
The investigation of caves in Azerbaijan necessitates their zoning (Table 1). The caves are primarily located in the mountainous areas of the Greater and Lesser Caucasus Mountains and a small part covers the Talish highlands. It is feasible to come across several caves in the areas adjacent to the Aras River, especially in the Nakhchivan.

The role of caves is not small in the determination of paleogeographical condition, the development history of relief, as well as, primitive men's shelters and their lifestyle. Unfortunately, not enough attention has been paid to the study of caves in the republic (Əyyubov, 1978). For the first time, during the archaeological exploration conducted in 1953, the remnants of tangible culture of the best scientific importance were discovered in the area known as Yatag, in Damjili cave, in the southwest of Avey Mount, in the Kazakh region (Zamyatnin, 1958). The area of the cave is 360 m², the length is 17 metres, the height from the front side is 4 metres. The entrance part of Damjili cave, which has a semicircular shape, was destroyed. During the archaeological excavations carried out in the cave camp, more than 8 thousand archaeological materials, namely stone cutting tools, sharp-pointed currycomb and knife-shaped tools, plate-shaped splinters, arrowheads, awls and others, more than 2000 bones belonging to different animals were found out. During the archaeological exploration, in the Kazakh region, in the west of Dashsalahly village, a new cave camp belonging to the Stone Age was found in Dashsalahly cave in 1958. The height of the cave is 17 metres, the width is 10 metres, the area is 170 m². A large hearth with a diameter of 2 metres was discovered at the entrance of the cave. It was defined that there existed a cultural layer in the sediments of

Dashsalahly cave's camp. 354 pieces of stone products and nearly 500 pieces of animal bones have been found. Stone tools are referred to the Mousterian period determined by preparation technique, shape and comparison (Alməmmədov və b., 2017). The general length of 12 caves belonging to the Dashsalahly caves group is up to 200 meters

(Əyyubov, 1978). Archaeological and paleontological discoveries found among the sediments of Damjili and Dashsalahly cave camps the proof that primitive men of the Stone Age, inhabited there, made labour tools and engaged in hunting. This, in turn, confirms that the territory of Azerbaijan is one of the most ancient places of accommodation.

Table 1



During the archaeological exploration work conducted in the Guruchay and Kondalanchay valleys of Karabakh and nearby areas in 1960, Azykh and Taghlar Paleolithic camps were recorded on the left bank of the Guruchay river. During the excavations conducted in the Azykh Paleolithic camp, 10 layers were recorded and studied. The general thickness of archaeological camps in the Azykh Paleolithic camp which has the richest stratigraphy in the Near East and Caucasus area is 14 metres (Azərbaycan arxeolojiyası, 2008). Being the largest karst cave of the Caucasus, Azykh cave consists of 5 halls. Its length is 23 metres, the length together with small exits and karst wells comprises 600 metres. At the same time, the cave has an entrance and an exit. Along with the labour tools, the bones of extinct animals were found from the cave (cave bear, wild horse, merka rhinoceros, huge deer, Caucasian deer, Mesopotamian deer, Ekyus hydrintinus, different birds and etc.). The remains of the most ancient hearth found from the Azykh cave is nearly 700 thousand old (Qəniyev, 2019).

Azykh cave occupies a special place in the world archaeology. The discovery of jaw bone belonging to the oldest human-azykhanthrope caused the great scientific revolution in the study of the history of the Caucasus region. The samples of material culture confirm that the first human footprints were found here about 1.5-2 million years ago. The first people who were close to Homo Habilis according to age living in Eastern Africa settled here 2 million years ago (Avşarova, Pirquliyeva, 2010). However, during the excavations carried out in Taghlar camp, 6 layers were recorded. Like Azykh cave, the stratigraphy of Taghlar cave is also rich, the general thickness of layers is 9 metres. Taghlar cave is the only monument with permanent accommodation among the Caucasus and Near East monuments (Azərbaycan arxeolojiyası, 2008). Both caves are of great archaeological and paleontological value as examples of historical cultural heritage. The caves differ from other caves by their natural attraction, remains of stone tools and animal bones (cave bear, cave tiger, Caucasian deer, Mesopotamian deer, mountain goat, bison, cave hyena, sharp-eared owl, brown hare and etc.) as well as by the stratigraphy of great importance. For this reason, the scientists coming to the region take a close interest in Azykh and Taghlar caves.

During the archaeological exploration conducted in 1971 in the mountainous area of Karabakh, the Shusha camp cave, belonging to the Stone Age, was found near Dashalti village, on the left bank of the Dashalti river. The length of the Shusha cave camp is 125 metres, the width is 20 metres and the height is 10 metres. 4 pieces of stone products belonging to

the Paleolithic age were found in the cave camp (Джафаров, 1973). The charm of the Shusha cave camp is not related only to its proximity to Shusha city and its historical-geographical advantages but also to the presence of caves with ancient history such as Shahnazar and Khazina Gala nearby.

According to the implemented geographical, historical, archaeological and paleontological studies, it can be argued that the caves were inhabited by the most ancient settlers of Azerbaijan. The caves were the most ancient accommodation and the first shelter. With population growth, the primitive men created quite a new type of habitations – artificial caves along with natural caves. The artificial caves are underground cavities dug with different tools and carved by people. People used these caves for different purposes such as accommodation, shelter, place of worship, temple, storage, water channel, tunnel and others.

The artificial caves were used since the Neolithic period. Along with expansion their settlements due to these artificial caves, the primitive tribes built a more convenient residence in a form different from the previous one (Очерки по древней истории Азербайджана, 1956).

In the territory of Azerbaijan the artificial caves can be found in the south-eastern foothills of the Greater Caucasus and in the Lesser Caucasus region (Усейнов и др., 1963). For example, 30 artificial caves, belonging to the Paleolithic era, have been found in Avey Mount. One of them is the Aveydag cave. The cave is located in the upper part of Karabulag, between two steep rocks. Aveydag cave is considered one of the primary settlements of primitive man. Tools of labour, belonging to the ancient Stone Age, have been found in the cave. Hand choppers, tools like currycombs and sharp-edged tools occupy an important place among labour tools. Bone fractures of the animals hunted in the cave have been found as well. In addition to these, plenty of interesting findings belonging to the bronze era and middle ages (pieces of pottery, lamps and scrap metals) have been revealed (Alməmmədov və b., 2017). It can be feasible to find this type of artificial cave in different regions of our country.

There are some caves in Azerbaijan that local inhabitants use as pilgrimages and temples. One of these caves is the Ashabi-Kahf cave located in the area between Ilandag and Nahajir mountains in the Babek district of Nakhchivan.

The origin of Ashabi-Kahf is referred to pseudokarst, its entrance is located behind the narrow valley hidden behind rocks. The walls of the cave which is more than 5 meters high look like huge hollows overtaken by both nature and humans (Kəngərli, Babayev, 2013).

According to the legend reflected in Surah Al-Kahf (Cave) of Koran, the young people who believed in God hid in the cave together with their dog in order to escape from pursuits. God made them sleep, woke them up after a few centuries. However, seeing the strange world around them, the young fell asleep again forever. The legend spread in the territory of Nakhchivan has the same content (İnzibatı-ərazi vahidləri, 2020). From this point of view, people, who visit the cave of Ashabi-Kahf, believe this cave to be a miraculous place. According to the local belief, if a drop of water falls on the person's head, sitting in the cave, his dreams will come true.

There is a same-name mineral water spring in the cave-pilgrimage as well. Along with Azerbaijan, visitors-tourists from Turkey and Iran Islamic Republic come to this cave. Taking into account these activities, the mosque was built in the area of the cave.

Gara inek (Black cow) cave located near Amirvan village in Dashkesan region like Ashabi-kahf is visited as a pilgrimage. According to the legend, the cow's milk mixes with water and goes out of the cave in a form of spring. Its water is healing. As the water is enriched with iron, it has therapeutic importance. A relevant condition has been created for ritualistic scarification near the cave of Gara inek, which is used as a pilgrimage.

One of the most developed types of cave tourism has sports and recreational purposes. At the present moment, karst caves and salt mines are widely used for the treatment of bronchial asthma disease in most countries of the world (Italy, Hungary, Poland, Germany, Ukraine, Romania and etc.). Physicians came to such a conclusion that as sodium and chloride ions prevail in salt mines, it affects positively on the treatment pulmonary and bronchial diseases with speleotherapy (Bağırılı, 2013). There is a Duzdag Physiotherapy centre on the basis of salt deposits in Duzdag cave near Boyukduz village of Kengarli region in Nakhchivan. By the "Speleotherapy" method, applied in the centre, bronchial asthma patients are cured. Many tourists coming from different places of the world for this purpose use the wide opportunities of Duzdag in this sphere (Cabbarov, İsayeva, 2013). The majority of tourists visiting Nakhchivan for the purpose of treatment health come here after hearing of the healing features of rock-salt. Duzdag physiotherapy centre makes service of high quality to the guests, patients and tourists who come there. There exists a long tunnel for overnight staying and walking in the centre. To recover their health, bronchial asthma patients take a series of various treatments under doctors' control (Zeynalova et al., 2021). The cave used in the treatment of bronchial asthma diseases has specific humidity and air features.

Generally, it can be concluded that the caves in Azerbaijan have scientific (geological, geomorphological, paleo-morphological, hydrological, hydrogeological, geographical, historical, biological, anthropological), religious, cultural, healing and other features. Along with them, there are great potential opportunities to use caves for tourism purposes. In order to properly and fully use these opportunities, it is necessary to determine the direction of speleotourism development and organize reasonable speleotourist routes.

Speleology and speleotourism

At the end of the XIX century, growing interest in numerous caves (there were more than 3 thousand caves only in Europe), opportunities of studying underground cavities with complicated structures, as well as, geological, paleogeological, archaeological and other findings intended to use them as a tourism object. People are trying to learn the secrets of the underground world, for this reason they explore subsoil with special technical devices, which creates a basis for the formation (establishment) of a novel organization. In 1879 "The Association of Cave Explorers" was formed in Vienna. It set tasks such as studying caves of Austria, broadening knowledge about them and participating in the organization of excursions. E. Rivyer suggested the term "speleology" in 1890. Nevertheless, in 1892 M. de Nussac used the term in the short form "speology," which is still used by some biospecialists. After the speech of E. Martelin at the XII Congress of the "Association for the Support of Scientific Research in France" on August 4, 1893, the term "speleology" became known internationally (Дублянский, 2000).

Regardless of the caves geneses, speleology science is engaged in studying all caves. This term is derived from the Latin word "Spelunga" which means "cave". Caves are underground cavities that can develop in a horizontal, inclined or vertical directions extending from a few meters to several kilometres. According to the definition given by International Speleology Union, the cave is valued (estimated) as a large underground cavity that enables humans to pass through the hole in the rock (Bartın mağaraları hakkında araştırma raporu, 2018).

Speleotourism is a kind of tourism that protects or strengthens the geographical features, environment, heritage, aesthetics, culture of the area and inhabitants' welfare. This means that speleotourism is a form of diversified tourism, which covers natural areas, historical attributes of the area, archaeological excavations, aesthetic landscapes, traditional architecture, as well as local cuisine, music, art and dance. At the same time, speleotourism is able to preserve the environment and enrich the economy of the region (Emeka et al., 2017).

The complexity of underground routes, due to the different forms of cave relief, and high relative humidity (up to 100%) at low temperatures are among the essential features of speleotourism. Speleotourism requires tourists' physical strength, endurance, dexterity, the ability to use all possible means and opportunities for safety under the ground, as well as swimming and climbing skills. Speleotourism route consists of two parts – above-ground and underground. The complexity of the first part of the route, the state and strength of the transition depend on the area of location, the remoteness of settlements and the season of the year. However, the second part of the route is characterized by several categories of complexity, which are determined by the length of the cave, the shape of the relief and climatic conditions. Before starting "speleotour", the routes which show interesting and relevant excursion areas are compiled (İmrani, Ağakişiyeva, 2021). Regardless of the goal, speleotourism has two directions: 1. Sports tourism (in this case scientific research must be carried out necessarily) 2. Scientific research (in sport tourism all requirements must be met on a mandatory basis). The development of speleotourism is possible in two main directions: 1. Mass tourism: the goal is to have fun, relax and sightseeing; 2. Special tourism: hiking (trekking) in small groups (10-12 people) and within a restricted time (3-7 hours) accompanied by a guide and specially equipped. Speleotourism is a complex type of tourism, the complexity of which depends on natural light, high relative humidity, low air temperature, relief forms and crossing roads. Hiking requires the tourist to be cautious and prepared, as well as strength, endurance, agility and the ability to use technical means of insurance. In general, we can say that combining mountain tourism with some features of alpinism, speleotourism is carried out in caves, remote from settlements and inaccessible areas. Nevertheless, the development of speleotourism is more appropriate in areas located near settlements, where a service is prepared for the tourist. Along with the level of service for tourists, the entrance to and around the cave should be cleaned, tourists should be informed about the cave. In turn, speleotourists must pay attention to their behavior and comply with the special requirements for the underground nature. This is due to the extreme fragility of cave ecosystems, the different types of natural formations, minerals and ice crystals that surround them. For example, the broken stalactite can be restored after decades, even a hundred years later. Unfortunately, as a result of studying the caves, numerous mineral compounds are destroyed. It is

necessary to protect caves with valuable, rare and scientifically and ecologically sensitive characteristics and not to take any action in these caves.

Analysis and discussion

The most convenient method to better protect million-year-old caves as part of the promotion and marketing of Azerbaijan's natural and cultural resources should be their use for tourism purposes. The caves in our country have great potential in terms of tourism diversity. Geomorphological elements, exotic and rare forms of relief make the caves attractive as free recreation elements or natural objects.

Attracting attention to the caves in Azerbaijan is carried out in various aspects. They include the following points:

- settlement of primitive man (Azykh, Damjili, Taghlar, Gazma and others);
- a creation of legends and myths (Ashabi-Kahf, Gara inek and others);
- estimation as a place of pilgrimage, temple and worship (Ashabi-Kahf, Gara inek, Damjili, Gaur and others);
- value as historical and cultural heritage (Azykh, Taglar, Shusha, Aveydag and others);
- use for sports and recreational purposes (Duzdag and others).

Caves are widespread in Azerbaijan. They can be found mainly at an altitude of 500-2600 meters above sea level. However, they can be occasionally encountered in the highlands. Their sizes are not so huge. According to the data given by F.D.Ayyubov, we can enunciate that 240 caves were recorded in the territory of our republic. Nearly 40 caves with an extension of 800 meters have been studied among them. Nevertheless, only 30 caves have been confirmed and recorded as historical and cultural monuments in our republic. 4 of them are preserved as world, 18 caves as country monuments and 8 caves as a monument of local importance (Table 2).

Azykh, Taghlar, Damjili and Gazma cave camps of world importance have been studied well scientifically, their potential opportunities have been assessed (Fig. 1). However, the caves of state and local importance have been studied poorly, Shusha and Zar cave camps, Buzeyir, Allar, Nokho, Almammad, Dashgala and other caves which are distinguished by their historical past and where people settled as dwellings have been out of sight (Fig. 2). Along with them, several caves which served as cave-temple in the past can be used for VFR (visiting friends and relatives) tourism purposes.

Table 2

The list of the caves recorded in the Republic of Azerbaijan

Series number	Title	Location	Period
Of global importance			
1	Azykh cave camp	In Khojavend district, in Guruchay valley, between Azykh and Salahli villages	Paleolithic
2	Taghlar cave camp	Khojavend district, in the south from Boyuk-Taghlar village	Paleolithic
3	Damjili cave camp	Qazakh district, near the village of Dash-Salahli, in the territory of Damjili, mount Avey	Paleolithic
4	Gazma cave camp	Kangarli district, 3 kilometres northeast of Tananam village	Paleolithic
Of state importance			
1	Shusha cave camp	Shusha city, on the left bank of Dashalti river, near the village of Dashalti	Stone Age
2	Taghlar cave	Khojavend district, near the village of Taghlar	Stone Age
3	Cave	Qazakh district, at a distance of 1.2 kilometres from Dash Salahli village, in the south and west from Avey temple (10 artificial caves)	First middle ages
4	Buzeyir cave	Lerik district, on the left bank of Zuvandchay, at the top of Delikli-Dash 3 kilometres east of the village of Buzeyir	Middle Paleolithic
5	Allar cave	Yardimli region, on the left bank of Vileshchay, near the village of Allar	Stone Age
6	Damjili cave temple	Qazakh district, near the village of Dash Salahli, in mount Avey, on the top part of Damjili spring (artificial cave)	Antique
7	Kilit cave	Ordubad district, on the left bank of Araz river, near the village of Kilit	Neolithic
8	Almammad cave	Julfa district, near the village of Jamaldin	Stone Age
9	Dashgala cave	Babak district, near Sirab village, in the southern slope of Dashgala mountain	Bronze
10	Nokho cave	Balaken region, on Gubek rock	Iron Age
11	Hadi Gaib cave	Sharur region, near Akhura village	Stone Age
12	Shikhlar cave	Jabrayil region, near Shikhlar village	Stone Age
13	Zar cave camp	Kalbajar region, in the west of Zar village	Paleolithic
14	Cave temple	Lachin region, near Qochaz village	V century
15	Cave-place of worship	Gubadli region, near Aliguluushagi village	IV century
16	Cave-place of worship	Gubadli region, near Gaur valley	
17	Cave	Baku city, Khazar district, near Dubandi	Early Bronze
18	Maiden Tower cave	Zagatala district, north of Yukhari Chardaglar village, in the west of Maiden tower mountain	
Of local importance			
1	Guyulu caves	Gobustan district, in the south of Sundu village, in Gahla mountain (two caves)	Middle Ages
2	Caves	Gobustan district, in the south of Sudu village, in Gahla mountain (8 caves)	Middle Ages
3	Gazanfar caves with wells	Gobustan district, in the south of Gazanfar mountain, in Sundu village (2 caves)	Middle Ages
4	Caves	Gobustan district, 8 kilometres south of Sundu village (4 caves)	Middle Ages
5	Cave	Jabrayil region, near Dag-Tumas village	Middle Ages
6	Cave	Lachin region, near Gulabird village	XV century
7	Koroglu cave	Gadabay district, 5 kilometres south-west from Novosaratovka village	Middle Ages
8	Mashanli cave	Gabala district, south-east of Bayramkokhali village	Middle Ages

Note: Approved by the resolution of the Cabinet of Ministers of the Republic of Azerbaijan Number 132 dated on the 2nd of August 2001. Baku: 162 p.

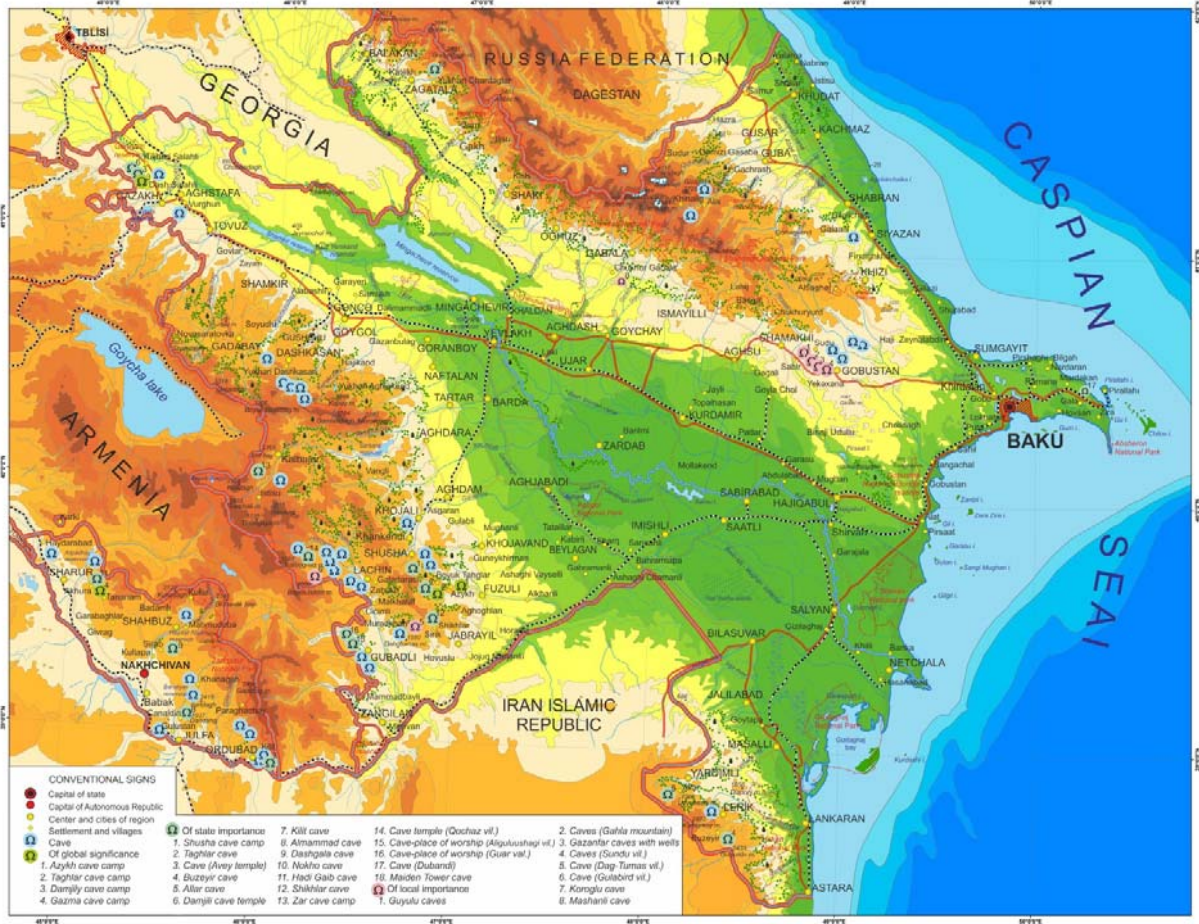


Fig.1. The map of caves of Azerbaijan



Azykh cave (Khojavend district)



Zar cave (Kalbajar district)



Buzeyir cave (Lerik district)



Keshikchidagh cave (Aghstafa district)

Fig. 2. Caves with a speleotourism potential

Along with the above-mentioned caves, there are a number of caves in our republic which are known for their uniqueness, natural charm, historical past and as a dwelling place, as well as which are suitable for speleotourism purposes. These are Shahnazar, Khazina, Gala, Dashsalahli, Khalilli, Zuvandchay, Chakhmag, Maral, Salakhan, Dashgala, Darasham, Dragon, Peygamber (prophet) cave, Kuhuldag, Divlar sarayi, Khramort, Gizilgaya, Nardivan, Goygala, Keshikchidag and others.

The attraction of caves plays a significant role in the development of a special kind of tourism – speleotourism. Potential opportunities for the development of speleotourism are wide. However, at the present day, they are not used for international tourism purposes, only local tourists visit some of the caves and are interested in their geological structure, historical past, and archaeological findings.

No special means are used practically in the horizontal cave passages which are of great interest for the amateurs of speleotourism. Special types of equipment are used as the vertical cave passages are steep and inclined and in the mixed cave passages different obstacles are observed (Квартальнов, 2005). Such excursions should be led by mining engineers and speleologists who have been engaged in organized field research for many years (Черных, 2002). From this point of view, speleotourism is studied in different aspects. A number of researchers investigate the participants who take interest in this type of tourism (pupils, students, nature lovers, sportsmen, scientists, researchers) and the purpose of their visits (aesthetical, sports, pilgrimage, scientific-research, educational and other purposes) in order to define the route map of speleotourism. Because amateurs of aesthetical tourism prefer travelling in order to explore and study the beauty of the underground environment, nature lovers – for charming (authentic) natural areas, visitors – for historically and religiously famous caves, sportsmen – for hard-to-reach caves, scientific-researchers – for relief forms, hydrological features and historical heritage of the caves. Mainly pupils, students and amateur excursions are involved in speleotourism which is organized in a form of group. They prefer educational trips, visiting the caves well provided with road and transportation infrastructure, getting acquainted with the results of archaeological and paleontological research carried out in the cave. Along with the above-mentioned facts, to improve speleotourism, caves should be equipped with a lighting system, at the entrance to them information boards should be installed in Azerbaijani, English and Russian languages, and the interior and surrounding areas of the cave should always be protected and preserved intact, as they constitute a large ecosys-

tem. In order to develop speleotourism, we take into account that it may be more appropriate to draw up action plans for the following areas:

- caves should be studied and explored on a scientific basis in terms of tourism;
- peculiarities of the caves should be presented to the tourists, and booklets should be distributed to them;
- along with natural caves, tourists should be introduced to the archaeological and cultural value of artificial caves formed by ancient people to create shelters;
- it is necessary to improve the road and transport infrastructure going to the caves, to organize service areas and settlement sites near them;
- surrounding areas of the cave should be kept clean, the entrance to the caves must be symbolic, tourists should be provided with guide service.

The above-mentioned directions can be of great help in using the caves for tourism purposes. All this, when taken into account by the relevant institutions, can create a basis for the development of speleotourism and sustainable tourism at the regional level.

Result

1. The use of caves which are rare and unique historical monuments for the speleotourism purpose have great potential in Azerbaijan. To develop speleotourism on the basis of caves in the future it is necessary to organize scientifically based geographical and tourist expeditions, to prepare speleotourist routes, as caves are considered the primary source of human artistic thinking. Therefore, many caves should be supplied for speleotourism purposes, however, in this case, their microclimate, the development of bacteria, fungi and algae must remain intact. The problem of "lamp flora" (the destruction of life forms in caves due to constant lighting), that can occur because of cave infrastructure and lighting, needs to be discussed.

2. Caves are called the cradle of mankind rightly since caves have always been the primary shelter and place of protection for primitive men and played an essential role in their social and cultural development. Although 240 caves have been recorded in the territory of the Republic, only 30 out of them have been approved as historical and cultural monuments by the state. Though speleotourism importance of these caves is highly appreciated, other caves also have the potential. However, due to the fact that they are not scientifically investigated and the features of each of these caves are not identified, it is impossible to explain their archaeological and cultural value for speleotourism.

3. Speleotourism, which has great potential, is practically not developed in our republic compared

to other types of tourism, the use of caves has faded into the background. Nevertheless, as a result of our study it was determined that the development of speleotourism in our republic is associated not only with the dreams of tourists to visit caves with a natural landscape, but also with such advantages

as their great economic importance, environmental education and control over the environment. Because the caves are valued as part of nature, able to attract tourists from all over the world, this natural monument is considered interesting and valuable for tourists.

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ИССЛЕДОВАНИЕ ПЕЩЕР В АЗЕРБАЙДЖАНЕ И ИХ ПОТЕНЦИАЛ ДЛЯ СПЕЛЕОТУРИЗМА

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Резюме. Пещеры, используемые первобытными людьми в качестве укрытий и жилищ — одно из мест, где можно найти сведения об истории человечества. По этой причине на первый план всегда выходят географические и археологические ценности пещер. Однако нельзя забывать экономическое значение пещер и их потенциал для спелеотуризма, потому что в нашем современном мире экономическое значение пещер очень велико. С этой точки зрения в статье дана классификация пещер, подчеркнута важность определения их статуса, на основе архивных, фондовых и исследовательских работ приведена обширная информация о пещерах Азербайджана, отличающихся своей археологической, палеонтологической и стратиграфической ценностью, внесены предложения по их сохранению и использованию в качестве образцов историко-культурного наследия, представлена карта пещер Азербайджана. Кроме того, в статье исследуется использование пещер в качестве убежищ первобытными людьми, рассматривается создание легенд и мифов, значение пиров, святилищ и храмов, их ценность в качестве историко-культурного наследия, а также туристической привлекательности, возможности использования их в спортивно-оздоровительных целях.

Использование пещер для туризма – одна из основных задач спелеотуризма. С этой целью мы изучили потенциал спелеотуризма в зарегистрированных и незарегистрированных правительством Азербайджана пещерах и предложили провести паспортизацию пещер, определить возможность использования услуг спелеотуризма в регулировании регионального туризма на основе научных и экономических исследований. Только в этом случае в нашей стране можно будет развивать спелеотуризм, что может повлиять на региональное развитие и повышение социально-экономических показателей местного населения.

Ключевые слова: памятник природы, пещера, спелотуризм, Азых, Таглар, Дамджылы, Газма

AZƏRBAYCANDA MAĞARALARIN TƏDQIQI VƏ ONLARIN SPELEOTURİZM POTENSİALI

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Xülasə. İbtidai insanların mağaralardan sığınacaq və yaşayış yerləri kimi istifadəsi bəşəriyyətin tarixi haqqında məlumatların tapıldığı yerlərdən biridir. Bu səbəbdən mağaraların coğrafi və arxeoloji dəyərləri hər zaman ön plana çıxır. Lakin mağaraların iqtisadi əhəmiyyətini, onların speleoturizm potensialını da unutmamaq olmaz. Çünki müasir dünyamızda mağaraların iqtisadi əhəmiyyəti olduqca böyükdür. Məhz bu baxımdan, məqalədə mağaraların təsnifatı verilmiş, onların statusunun müəyyən olunmasının vacibliyi bildirilmiş, Azərbaycanda öz arxeoloji, paleontoloji və stratigrafiya dəyərləri ilə seçilən mağaralar barədə geniş məlumatlar arxiv, fond və elmi-tədqiqat işlərinə əsaslanmaqla araşdırılmış, onların tarixi mədəni irs nümunəsi kimi qorunması və istifadə imkanları barədə təkliflər verilmiş, Azərbaycanın mağaralar xəritəsi təqdim olunmuşdur. Bunlarla yanaşı, məqalədə mağaralardan ibtidai insanların sığınacaq yerləri, əfsanə və rəvayətlərin yaradılması, pır, ziyarətqah və məbəd kimi dəyərləndirilməsi, tarixi mədəni irs kimi qiymətləndirilməsi, idman-sağlamlıq məqsədilə istifadə və turizm cəlbediciliyi öyrənilmişdir.

Mağaralardan turizm məqsədilə istifadə speleoturizmin əsas vəzifələrindən biridir. Bunun üçün tərəfimizdən Azərbaycan hökuməti tərəfindən qeydə alınmış və qeydə alınmamış mağaraların speleoturizm potensialı araşdırılmış və təklif edilmişdir ki, mağaraların pasportlaşdırılması aparılsın, elmi-iqtisadi tədqiqatlara əsaslanmaqla regional turizmin tənzimlənməsində speleoturizmin xidmətlərindən istifadə imkanları müəyyən edilsin. Yalnız bu halda ölkəmizdə regional inkişafa və yerli əhalinin sosial-iqtisadi göstəricilərinin yüksəldilməsinə təsir edə bilən speleoturizmi inkişaf etdirmək mümkün olacaqdır.

Açar sözlər: təbiət abidəsi, mağara, speleoturizm, Azyx, Tağlar, Damcılı, Qazma