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Azokh Cave and the Transcaucasian Corridor

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Chapter 1
Introduction: Azokh Cave and the Transcaucasian Corridor

Yolanda Fernández-Jalvo, Tania King, Levon Yepiskoposyan, and Peter Andrews

Abstract Azokh Cave (also known as Azïkh or Azykh) contains Pleistocene and Holocene stratified sediment infill. The site was discovered by M. Huseinov (also named Guseinov by other authors) who led the previous phase of excavations. The geographic location of the site is at an important migratory route between Africa and Eurasia. The site has yielded Middle Pleistocene hominin remains (a mandible fragment) recovered in the 1960s during a previous phase of excavation work, together with Acheulean (Mode 2) stone tools and contemporaneous fauna. An important characteristic of the Azokh I cave site is a continuous sedimentary record along a 7 m section, ranging in age from Middle Pleistocene (MIS 9-8) to Late Pleistocene (Mousterian industry/Mode 3, MIS 5), and to Holocene periods at the top of the series. This detailed record documents three species of *Homo*: ancestors of Neanderthals, *Homo neanderthalensis* and *Homo sapiens*. In addition, two new fossiliferous sites, Azokh 2 and Azokh 5 (which are currently being explored), constitute a potential new source of information, especially about the Middle to Late Paleolithic transition and Holocene periods in the area. Plans for preservation and protection of the whole site are currently in progress.

Резюме Пещера получила свое название от деревни Азох, расположенной в двухстах метрах от нее в долине. Это карстовый комплекс Южного Кавказа с узкими коридорами и входами, заканчивающимися более широкими камерами, в которых в настоящее время обитает большая популяция летучих мышей.

Карст имеет сложное происхождение, и седиментные наполнения содержат информацию о различных стадиях развития пещеры и ее экологии. Некоторые входы пещеры богаты ископаемыми организмами, указывая тем самым, что эти пространства в прошлом – от среднего плейстоцена до голоцена – были заселены людьми и различными формами животных. Главный и самый большой вход, известный в литературе как Азых, был обнаружен в 1960 г. М.Гусейновым, который до 1980 г. возглавлял раскопки стоянки. Ископаемые организмы в двух новых входах и соединениях последних с внутренними камерами, как и остатки отложений в задней части главного входа, в настоящее время исследуются международной экспедицией, с 2002 г. проводящей здесь раскопки.

Стоянка расположена на естественной магистрали через Кавказ, по которой ранние гоминиды и животные могли мигрировать из Африки в Европу и Азию. Азохская пещера была поочередно заселена тремя видами гоминид – *Homo heidelbergensis*, *Homo neanderthalensis* и *Homo sapiens*, ископаемые останки которых, хотя и разрозненные, найдены здесь.

Среди видов животных наиболее богато представлен гигантский пещерный медведь, здесь обнаружены и другие травоядные и плотоядные формы. Каменные орудия, встречающиеся вместе с ископаемыми костями животных, со следами разрезов указывают на активную деятельность людей на данной стоянке. Непрерывный слой плейстоценовых отложений содержит сведения о переходе от среднего к позднему плейстоцену, которые могут быть ключевыми для понимания происхождения неандертальцев и их предков. Ископаемая фауна и культурные свидетельства предоставляют информацию

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Материал, защищенный авторским пра

о поведении человека и животных и их социальных стратегиях. Обнаруженные остатки флоры и фауны в этих отложениях характеризуют экосистемы и климат в эпоху плейстоцена.

К сожалению, поверхностный слой подразделения II подвержен сильной эрозии, и находки эпохи голоцена появляются в прямом контакте с плейстоценовыми отложениями. Таким образом, если в действительности и существовали материальные свидетельства о переходном периоде средний–поздний палеолит (т.е. *H. neanderthalensis – H. sapiens*), то во входе *Азох 1* они были размыты. К счастью, недавно открытые и все еще находящиеся в стадии предварительного исследования входы *Азох 2* и *Азох 5* имеют достаточно толстый слой седиментов для возможной регистрации временно́го пробела последних 100 тыс. лет.

В книге представлены результаты исследования, которые главным образом основаны на коллекции фаунальных, ботанических и культурных образцов, собранных за 2002–2009 гг. Данная глава описывает историю раскопок и иных форм исследований в пещере в течение начальных восьми полевых сезонов.

Keywords Azykh, Azikh • Human evolution • Pleistocene • Paleofaunas and paleobotany • Stone tools

Introduction

Azokh Cave is located in Nagorno-Karabakh, within the Lesser Caucasus (39° 37.15′ N; 46° 59.32′ E Fig. 1.1). It is an important site for the understanding of human evolution in its archeological, paleontological, environmental and ecological context. The site takes its name from the nearby village, situated in a valley 200 m from the cave (Fig. 1.1b), but it is also known in the literature as Azykh or Azikh. This area was a natural corridor and refuge between Africa and Eurasia during the Pleistocene (Fig. 1.2), indicated by the number of Pleistocene sites in the region (Grün et al. 1999; Gabunia et al. 2000; Lioubine 2002; Fernández-Jalvo et al. 2004, 2010; Tushabramishvili et al. 2007; Doronichev 2008; Mosar et al. 2010).

This chapter includes an introduction to the sites, their location, and the relevance of Azokh Caves to studies of the Middle to Late Pleistocene of the Caucasus. The history of the archaeological expeditions and excavations at Azokh from first discovery to the present are briefly described, and the renewed investigations (2002–2009) at Azokh Cave are described in detail. Two new sites (Azokh 2 and Azokh 5, Fig. 1.3a) have been discovered and provide an additional interest to the previously known site (hereinafter referred to as Azokh 1). Finally, the content of each chapter in the volume is briefly described together with the main findings.

Azokh Cave is significant for several reasons. The site is situated on the migration route through the Caucasus that early hominins and fauna may have followed during passage from Africa into Europe and Asia. Secondly, the caves of Azokh were occupied by three species of hominin for which fossil remains are known. Early research delineated ten stratigraphic "units", numbered X–I from oldest to youngest. Our analysis has identified these units, except for the bed-rock, Unit X, that we have not recognized (see below). In 1968 the first hominin fossil was discovered in Unit V during the Huseinov excavations. This specimen is a small fragment of mandible assessed by Kasimova (2001) as a Middle Pleistocene hominin with affinities closest to the Ehringsdorf sample. We consider this specimen to be *Homo heidelbergensis* (Fernández-Jalvo et al. 2010; King et al. 2016). The current

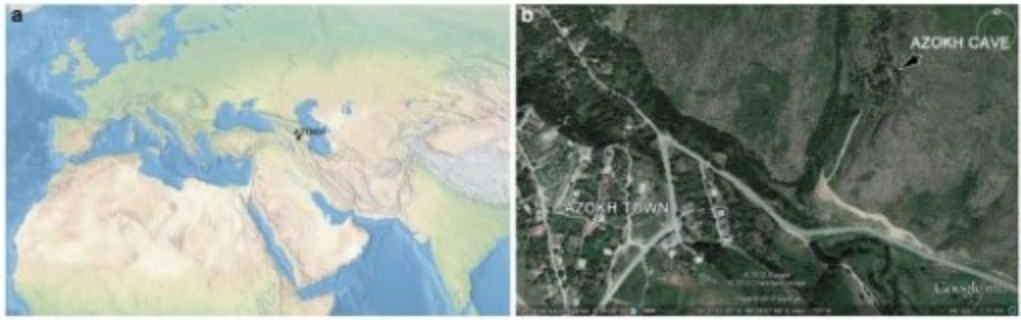

Fig. 1.1 **a** Location of Azokh in Eurasia. **b** Satellite view of the Azokh Cave site (from Google Earth), named from the closest town nearby. The site is located 200 m up on the hill

animal remains. The ceramics were made on pottery wheels belonging to a tradition that can be linked to the Iberian Peninsula, where this style persisted to the 12th century. In both this area and Iberian regions we find similar techniques and decorative motifs, such as green-manganese decoration. This tradition originated in Baghdad with a clear Byzantine influence, and it is based on the applications of copper oxide to achieve the green color and manganese oxide for purple, both set against a white luster-glazed background. It is certainly of great interest to recognize how this modern human civilization spread its culture, behaviors and art across different geographic areas becoming successfully adapted to the necessities of different populations. An international team of specialists (J. Gómez, B. Márquez, H. Simonyan, T. Sanz) is currently investigating these ceramics, and they provided these preliminary results.

The current excavations have concentrated on the deep parts of the cave entrance in Azokh 1. They have revealed evidence of seasonal occupations of the site, as well as social living and survival strategies of both hominins and fauna, particularly cave bears. The faunal and botanical remains recovered from Azokh provide information on the past ecosystems and environments, i.e. the context in which these hominins (both extinct and modern species) evolved, as well as the cultural techniques they developed.

History of Excavations at Azokh Caves

Excavations 1960–1988

Excavations were initiated by Mammadali Huseinov (National Academy of Sciences of the Azerbaijan SSR), who discovered the site in 1960 (see Mustafayev 1996; Lioubine 2002; Doronichev and Golovanova 2010). Early excavations at the site (1962 to 1974) led by Huseinov focused on the main entrance of the Azokh 1 passageway, when the cave sediments reached to within 3 m of the roof (Lioubine 2002). In 1968, Huseinov discovered a human mandibular fragment from Unit V that he named as 'Azikh anthropos' or 'Palaeoanthropus azykhensis'.

Huseinov (1965, 1974) differentiated 10 stratigraphic layers, but paleogeographers Velichko and colleagues distinguished 17 horizons (see references and descriptions in Lioubine 2002). Units distinguished by Huseinov (Velichko's horizons in brackets) are as follows:

- Layer I (Horizon 1) Humus Medieval-Chalcolithic/Copper Age.
- Layer II light yellow silts with angular clasts of almost no thickness at the central part of the entrance gallery (~Horizon 1) with some Mousterian flint/chert.
- Layer III originally described as grey silts with angular clasts (horizons 2–3) and limestone blocks covering a large surface (Mousterian). The description of this layer was further distinguished by Huseinov and divided into three horizons: (1) crumbly dark grey silt, having manganese-staining at the bottom and containing Mousterian tools. (2) grey silt with mixed clasts at the anterior part of the circular hall containing limestone plaques 1.5 × 0.6 × 0.12 cm and Mousterian tools. (3) light grey silt and yellow silts at the bottom, without clasts, containing late Acheulean or early Mousterian tools.
- Layer IV (Horizon 4) dark brown silts with angular limestone plaques, sterile in archaeology and large mammals.
- Layer V yellow silty unit containing different horizons of diverse colors (Horizons 6–11) Acheulean (Horizon 10 yielded the human mandible).
- Layer VI yellow-grey sandy silt containing rounded clasts (Horizon 12).
- Layers VII–X, 4–4.5 m of grey-bluish clayey silt (Horizons 13–17), with 'Kuruchai pebble culture'.

Layers VII to X sediments are exposed today in a trench at the entrance to the Azokh 1 passageway (Fig. 1.3b). Pebbles found in Layers X, IX and VII were considered to document an ancient Paleolithic industry, named by Huseinov the *Kuruchai pebble culture*, "… as the Azikh Cave is located in the Kuruchai River basin. The only other known civilization equivalent to Kuruchai Culture dates back 1.5 million years to the Olduvai Gorge in Tanzania. Huseinov believed the Kuruchai Culture dated from between 1.5 million years to 730,000 years ago" (Mustafayev 1996, p. 26). The pebble culture described by Huseinov, however, has been challenged by several authors (e.g., Lioubine 2002; Doronichev 2008; Doronichev and Golovanova 2010 and references therein) who dispute the likelihood of human manufacture of the stones from the lowermost layers, and this issue is still under debate. Huseinov (1985) also mentions that the Matuyama-Brunhes paleomagnetic reversal is located in Layer VIII, suggesting an Early Pleistocene age for the very basal part of the stratigraphy. Huseinov (1974) also described several hearths from Layers VI, V, and III and

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