Available online http://amq.aiqua.it
ISSN (print): 2279-7327, ISSN (online): 2279-7335

Alpine and Mediterranean Quaternary, 38 (1), 2025, 1-18 https://doi.org/10.26382/AMQ.2025.03

ROCK ART RELATIONSHIPS BETWEEN CENTRAL ASIA AND EUROPE: THE ROLE OF GOBUSTAN (AZERBAIJAN)

Dario Sigari[1,2], Marcos García-Diez[3], Sevinc Shirinli[4], Rəhman Abdullayev[5], Susana Alonso[6], Bàrbara Mas[7,8], Daniele Gianolla[9], Nurane Hasanova[4], Darío Herranz-Rodrigo[10], Blanca Ochoa[3], Guillermo Bustos-Pérez[11], Manuel Vaquero[6], Günay Verdiyeva[4], Andrea Zerboni[12]

[1]Dipartimento di Beni Culturali e Ambientali, Università degli Studi di Milano, Milano, Italy.
[2]Dipartimento di Studi Umanistici, Università degli Studi di Ferrara, Ferrara Italy.
[3]Facultad de Geografía e Historia, Universidad Complutense de Madrid, Madrid, Spain.
[4]Gobustan National Historical Artistic Preserve, Gobustan, Azerbaijan.
[5]Minnesota Historical Society, Minnesota, USA.
[6]Departament d'Història i Història de l'Art, Universitat Rovira i Virgili de Tarragona, Tarragona, Spain.
[7]Université Côte d'Azur, CNRS, CEPAM, Nice, France.
[8]SERP, Departament d'Història i Arqueologia, Universitat de Barcelona, Barcelona, Spain.
[9]Società Romana di Scienze Naturali, Roma, Italy.
[10]Departamento de Prehistoria y Arqueología, Universidad de Granada, Granada, Spain.
[11]Department of Human Origins, Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany.
[12]Dipartimento di Scienze della Terra "Ardito Desio", Università degli Studi di Milano, Milano, Italy.

Corresponding authors: Dario Sigari <dario.sigari@unimi.it>; Marcos García-Diez <diez.garcia.marcos@gmail.com>; Sevinc Shirinli <sevincshirinli19@gmail.com>

ABSTRACT: Within a continuously changing scenario of knowledge about prehistoric and late prehistoric art, the contact area between Asia and Europe is crucial in understanding the development of the graphic symbolism of ancient cultures. Consequently, the Gobustan region in Azerbaijan, which hosts numerous open-air rock art sites, is a key to interpreting the emergence of symbolism, its dispersal, and the social dynamics beyond it. The Azerbaijan region preserves one of the richest open-air rock art sites in Eurasia. It is at the easternmost end of the Greater Caucasus range, along the western bank of the Caspian Sea, whose Quaternary level changes profoundly shaped local landforms, and heavily conditioned human settlement patterns. Its unique geostrategic position nurtured a cultural crossroads between Europe, Central Asia, and the Near East, influencing the region's artistic traditions. Designated as a UNESCO World Heritage Site (2007), Gobustan engravings possess a universal and exceptional value for their quality, quantity, and density (more than 7,000 petroglyphs on over 1,000 rocks) and preservation, in addition to their chronological (from the Upper Palaeolithic to historical times), thematic and stylistic variety. Among the symbols, the main themes are animals (aurochs, horse, ibex, camel, and deer), humans (feminine silhouette, warrior-hunter, rider), tamgas and boats. Engravings are carved in limestone boulders, shaping the figures with a thick and deep main outline, often overlapping previous figures, thus forming rich palimpsests. The long use of the same sites, rocks and symbols prompt a reflection on the meaning of the places, which was probably passed down from generation to generation, increasing the number of decorating motifs, reusing, and/or modifying previous graphic units. Several engraved rocks are found inside shelters with occupation layers or burials. They help to understand the use, the social function of the rock art, through the analysis of the archaeological remains and the functional complementarity of the sites. Major shifts in the main represented subjects, and in their styles occurred over the long occupation of the site: the Palaeolithic art shows ties with the western European tradition, while the post-Palaeolithic engravings suggest links with the Middle East and Arabian Peninsula. Therefore, Gobustan rock art invites to investigate potential changes in the relationship between socioeconomic organisation and symbolic heritage. In this way, the Gobustan engravings become a powerful legacy of lost cultures and demonstrates the symbolic and cognitive complexity of ancient human groups, suggesting cultural and economic changes, dispersals, and connections. As such, the study of the archaeological record of Gobustan, and its rock art in particular, provides crucial information to the main scientific debate around: 1) the way the stylistic, thematic and technological development of prehistoric art took place; 2) the relations with other European and Asian rock art contexts in terms of differences and similarities; 3) the cultural, social or symbolic contexts into which the rock art was produced. This paper presents the Gobustan rock art context and the new international research project.

Keywords: Rock art; Caucasus; World Heritage Site; Prehistoric Archaeology.

1. INTRODUCTION

The long chronology, from the Upper Palaeolithic to historical times, together with the high quality and the excellent preservation of thousands of petroglyphs on more than 1,000 boulders or rock walls make Gobustan (Qobustan in Azerbaijanian language) one of the richest and most interesting open-air rock art sites in Eurasia (Sigari, 2020).

The main themes of this rock art heritage include animals (aurochs, horse, ibex, camel, and deer), humans (feminine silhouette, warrior-hunter, and rider), tamgas (abstract signs that recall those signs used on seals as identifiers for livestock) and boat figures. Each chronological phase has its own distinct style and subject matter that, in some cases, have provided interesting connections with other contexts, offering a preferential view onto the possible cultural geographies of the past, especially on those dynamics occurring between Asia and Europe.

PROOF

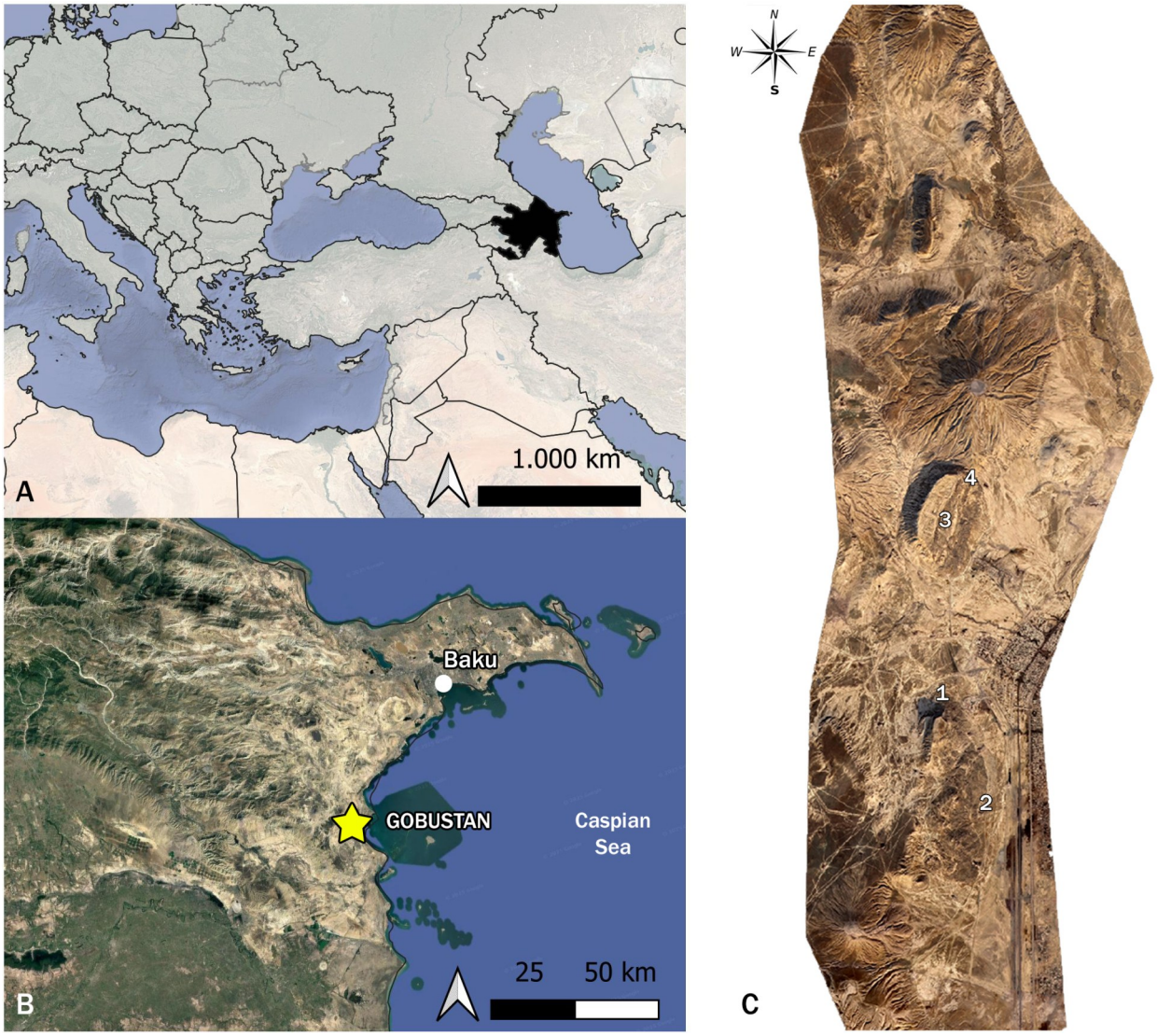

Fig. 1 - Location of Gobustan in: (A) the Euromediterranean area (from GoogleEarth, editing: D. Sigari), and (B) Azerbaijan (image: D. Sigari). (C) The Gobustan National Reserve, from north to south Jingirdağ-Yazılitepe, Kəniza volcano, Böyükdaş and Kiçikdaş. The numbers indicate the shelters Gaya Arasi 1 (1), Firuz 2 (2), Ana Zaga (3) and Maral (4) (from: Sigari et al., 2019).

A new archaeological research project, funded by Fundación Palarq-Fundación Atapuerca and the Ministry of the Foreign Affairs of the Italian Republic, began in 2019 (García-Diez et al., 2020; Sigari et al., 2020). This paper provides a first introduction to the site, together with a general literature review, presenting the new project and its main objectives.

2. BACKGROUNDS

2.1. Location

Gobustan is a semiarid region of Azerbaijan, on the northern edge of the Shirvan Steppe subdesert plain, about 60 km south of the capital city, Baku. It is at the easternmost appendix of the Greater Caucasus range, on the western bank of the Caspian Sea, and represents an important landbridge between Europe and Asia (Fig. 1).

In this setting, the National Historical-Artistic Preserve of Gobustan includes five main rock art clusters: Böyükdaş (188 m above sea level-asl), Kiçikdaş (170 m asl), Jingirdağ (198 m asl)-Yazılitepe (47 m asl), Şongardag (200 m asl), and Şikhgaya (202 m asl). Outside the boundaries of the reserve, a further three clusters were discovered: Daşlidag, Şikhov Beach, and Sona Gaya (86 m asl) respectively found in 2002, 1989 and 2017 (Abdullayev & Shirinli, 2020; Shirinli & Abdullayev, 2021).

In 2007, at the XXXI Session of UNESCO in Christchurch, New Zealand, the Gobustan Rock Art Cultural Landscape Complex was inscribed on the World Heritage List (Sigari et al., 2019).

Gobustan, which means the “land of dry riverbed”, is characterised by a landscape with flat top rock outcrops within a semiarid environment, dotted by cold mud volcanos and flat-top hills (Fig. 2). The vegetation

landscape of Gobustan reflects extreme environmental conditions typical of desert and semi-desert ecosystems, with water scarcity, high soil salinity, and poorly developed substrates. The presence of plant communities dominated by *Artemisia lerchiana*, *Bothriochloa ischaemum*, and halophytes such as *Halocnemum strobilaceum* and *Salsola* spp. indicates vegetation highly adapted to aridity and edaphic stress, forming a discontinuous but functional steppe environment for species such as *Saiga tatarica* (Dieterich & Askerov, 2024).

Its geology comprises a thick limestone sedimentary rock containing in its matrix numerous fragments of bivalve shells attributable to the genus *Didacna* sp. (Fig. 3), an endemic taxon that survived till recent times, as recognised within the archaeological layers together with other endemic taxa of marine molluscs (such as the bivalve *Dreissena* cf. *grimmi* and *Monodacna* cf. *caspia* and the gastropods *Turricaspia meneghiniana*, *T. lyrata* and *Laevicaspia caspia*) (Van de Velde et al., 2019) as a consequence of the long submersion of the region by the Caspian Sea during the Pleistocene (Sigari, 2020). Sporadic occurrence of landsnail remains (particularly the dune species *Xerolenta obvia*) points to a proximity to the coast of an open, dry environment (Welter-Schultes 2012). Following the maximum stage of the Early Khvalynian Sea transgression (up to +50 m above sea level-asl), another two transgression movements occurred during a period of deglaciation, approximately around 16,000 and 14,000 years ago, increasing sea level up to +35 and +22 metres asl (Arslanov et al., 2016; Dolukhanov et al., 2010). At that time Gobustan must have been under water and the two hills Böyükdaş and Kiçikdaş would have emerged as two islands. Later on, between 14,000 and 12,000 years ago the Caspian Sea level increased from the present level (-28 metres under sea level-usl) again twice up to 0 and -12 metres; the former probably corresponding to an Allerød warming phase, and the latter to the warming at the end of the Younger Dryas (Arslanov et al., 2016; Dolukhanov et al., 2010; Mamedov, 1997; Yanina, 2012). The terraced profile of the upland areas of Böyükdaş and Kiçikdaş is therefore clear evidence of ancient coastlines where the first human groups landed and settled.

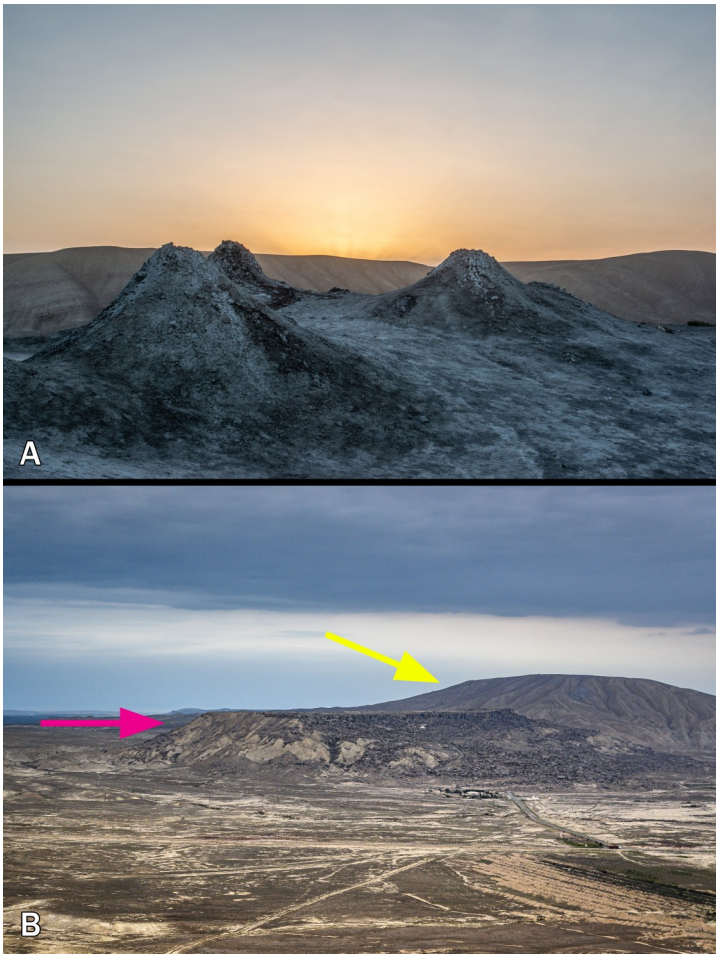

Fig. 2 - (A) Cold mud volcanos in the area of Kiçikdaş (photo: D. Sigari); (B) The Böyükdaş flat-topped hill (pink arrow) and Kəniza volcano on the back (yellow arrow) (photo: D. Sigari).

Fig. 3 - Fossiliferous limestone with external and internal molds and seashell fossils of *Didacna* sp. (photo: D. Sigari).

2.2. History of research

The discovery of Gobustan rock art dates to May 1939. Archaeologist Iskhag Jafarzade then began intensive fieldwork in 1939. However, due to events in World War II, systematic research did not start until 1947 and continued under that scholar until 1965. During this work, most of the engravings were documented, and over 3,500 petroglyphs including anthropic cupmarks and holes, on more than 750 rocks, were catalogued and studied (Jafarzade, 1973).

Following Jafarzade's work, archaeologists Rustamov and Muradova continued archaeological research in Gobustan, unearthing a long chronological multilayered stratigraphy from the Upper Palaeolithic to the Middle Ages (Rustamov, 1994; Rustamov & Muradova, 2008; Shirinli & Abdullayev, 2021). Muradova and Rustamov recorded nearly 400 new engraved stones,

increasing the number of rock art sites to more than 6,000 engravings on 1,000 rocks (Rustamov & Muradova, 2008).

At the beginning of the new millennium new studies have been carried out by Farajova, (2009, 2018), Sigari (2009a, 2009b, 2013, 2016, 2017), Abdullayev and Shirinli (Abdullayev & Shirinli, 2020; Shirinli & Abdullayev, 2021), leading to the discovery of new petroglyphs, and increasing the number of the known engravings to more than 7,000.

3. ARCHAEOLOGY OF GOBUSTAN AND CHRONOLOGY OF ITS OCCUPATION

According to the literature, the archaeological evidences of long term occupation are abundant: forty kurgans (burial mounds built over grave), a multiple burial (ten adults and one child) in Firuz (Fig. 4), a possible sanctuary in Yazılıtepe, and Bronze Age settlements have been documented, together with around 105,000 archaeological finds, including flints, pebbles and tools, ochre fragments, arrow heads and such other weapons as axes, clay vessels and bones (Farajova, 2018; Rustamov, 2006).

However, if we assume that Archaeology is a time science, then the available chronometric data to establish the different occupation stages in Gobustan are very limited (Farajova, 2012, 2018). The first dated sample came from Ana Zaga (*the Mother Cave*, in Azerbaijanian language) at a depth of 1.85 m and yielded an age of 8,996 ±33 BP (Farajova, 2012: 937). A few more samples from Gaya Arasi 1, Firuz 2, Ana Zaga and Maral (Fig. 1c) were later published by Farajova (2018). Unfortunately, their entire archaeological context has not yet been cleared or published, and therefore the real link with the parietal engravings is missing. Only the height of the engravings and the depth of the dated sample are known, which makes the dating series uncertain, at least as a way to propose an interpretation of the rock art chronology. Thus, any chronological proposal must currently be based on the typological analysis of the material culture.

According to Rustamov (2006), the first occupation phase was between 20,000-15,000 years ago. The fisher-hunter-gatherer human groups settled Gobustan until around 9,000 years ago. In this period, societies mainly hunted gazelles and mules. By analysing the findings, scholars have divided this long-time frame into two main moments, the first one

- - - - - >>>>

Fig. 4 - The Firuz site in Kiçikdaş. The rock under the sheltered part is completely engraved with boat, anthropomorph and zoomorph figures (photo: D. Sigari).

Fig. 5 - The southern side of Rock No. 29, where it is possible to see hunters-warriors of different size and a boat figure with a solar symbol on its praw. Part of the panel (see the remarked human figure in yellow) is covered by a slab (its edge is marked in white) that fell from the top of the mountain in ancient time suggesting a catastrophic event that happened in the past and led to the displacement of several rocks (photo: D. Sigari).

linked to Upper Palaeolithic societies, and the recent one to Mesolithic cultures.

Palaeoenvironmental analyses were performed for the most ancient phases and showed how during the first settlement of Gobustan the environment was characterised by a drought-resistant open woodland with pistachio trees, hawthorn, willow pear, juniper and pomegranate (Vereshagin, 1981; Farajova, 2009). In the late Pleistocene, the Gobustan landscape must have resembled a Tugay forest, with oak and pine trees (Farajova, 2009; Rustamov, 2006).

Based on the archaeological evidence, despite the discovery of a Pre-Pottery Neolithic burial in Kaniza shelter and some artefacts, the Neolithic is underrepresented. The explanation may be found in a natural event that occurred in Gobustan in the early years of the Neolithic, that can be recognised in the numerous displaced rocks, and that led to a temporary abandonment of the region until the end of the Calcolithic-beginning of the early Bronze Age (Rustamov, 2006; Sigari, 2009a; Sigari et al., 2019) (Fig. 5).

A later human presence in the region is confirmed during the Bronze Age, when it is possible to recognise strong influence by other Caucasian cultures, e.g., the *Kura-Arax*, *Maykop*, and *Khojaly-Gadabay* (Muradova, 2011). During the Bronze Age, rock shelters Ana Zaga, Çardag Zaga, Çapmali, and Firuz-1, and fortified settlements Daire and Böyükdaş were densely inhabited by transhumant pastoral groups (Muradova, 2011; Crist & Abdullayev, 2024). The heightened occupancy of old shelters and settlements coincided with an increase in rock art production in Böyükdaş and Kiçikdaş, as well as the expansion of rock art creation to other regions, such as Jingirdağ and the Abşeron Peninsula.

Archaeological excavations carried out by Rustamov and Muradova between 1972 and 1977 in Jingirdağ led to the identification of a three-room building, where glazed and unglazed ceramic materials, bone remains, stone objects, a gold ring with turquoise, and other artefacts were found. The ceramic finds perfectly fit within the general pottery record recovered at other medieval sites in Azerbaijan, thus providing a valid chronological reference. The same is true for the glazed ceramic that dates to the 10th-13th centuries AD.

A second room was brought to light in Yazılitepe. Here the traces of a hearth and pottery confirm that there was a dynamic society in Gobustan during the Middle Ages (Muradova & Rustamov, 1993: 97-98).

More Middle Age materials come from Böyükdaş where archaeological excavations were carried out near Rocks No. 6, 7, 8 and in the Ana-Zaga shelter. Here, both Antique and Early Medieval pottery was recorded (Rustamov & Muradova, 1980).

Lastly, important information about the way of life of the local communities during the Middle Ages was determined in Daşlidag in Kiçikdaş, where pottery and architectonic remains confirm the predominance of transhumant pastoral and agricultural societies (Rustamov & Muradova, 2008).

The continuous occupation of the region, from the Upper Palaeolithic to the Middle Ages, also involved the production of rock art (Rustamov, 2006).

Fig. 6 - Part of the big northern panel of the Rock No. 29 of Böyükdaş with its rich palimpsest that can be the key to understand the different figurative periods (photo: D. Sigari).

Fig. 7 - One of the fish figures of the Rock No. 104 of Böyükdaş (photo: D. Sigari). In the small picture on the right, the same fish figure is highlighted.

4. THE ROCK ART ENSEMBLE AND ITS CHRONOLOGY

The rich rock art heritage can be classified into eleven main thematic groups: aurochs, horse, boats, feminine silhouette, warrior-hunter, ibex, camel, tamgas, deer, rider and inscription. Each chronological phase has its own distinct style and subject matter. Consequently, based on the analysis of the variability of the themes, it has been possible to suggest chronological interpretations.

Different scholars have proposed relative chronologies based on petroglyph styles. First, Jafarzade recognised six styles grouped into two phases: the first three belong to the most ancient periods (Jafarzade, 1973). When Anati reviewed Jafarzade's chronology in 2001, he suggested subdividing the first two cultural horizons described by Jafarzade (1973) into six phases in the following order: I/A, B, C; II/A; I/D; II/B; I/E; II/C (Anati, 2001). However, Anati in his tracing of Rock No. 29 marks a boat, attributed to Phase I/E, under an aurochs of Phase II/B (Anati, 2001: 30), demonstrating how his chronological scheme is objectionable (Fig. 6).

Elaborating on Jafarzade's chronology, Rustamov proposed a stylistic evolution, but for each subject and only for three main categories: anthropomorphs, zoomorphs and boats. The original factor in Rustamov's work is the emphasis given to the anthropomorphic figures which seem to have been first engraved. The male figures reveal a different sequence based on their sizes, from the smallest to the biggest. The same stylistic evolution appears in the different shapes of boats whereas, among the zoomorphs, the oldest would be the most naturalistic figures, not the smallest ones (Rustamov, 2006).

In the first decade of the new millennium, Farajova developed a new stylistic and more detailed chronology consisting of six phases each subdivided into different styles (Farajova, 2009, 2018). The first phase has been subdivided into four styles and would correspond to the whole Upper Palaeolithic and Mesolithic. The second and third phases belong to Neolithic, while the fourth and the fifth phases, respectively to the Bronze Age and the Iron Age. The sixth phase encompasses the late periods (Farajova, 2009, 2018; Shirinli & Abdullayev, 2021).

5. THE SEA IN THE ROCKS

The Caspian Sea not only shaped the landscape of Gobustan, but also profoundly influenced cultures and economies of the ancient settlers in the region.

Witnessing this relationship, together with the archaeological finds discovered in excavations, such as the tools for weaving fishing nets (Rustamov, 2006), are the fish (Fig. 7) and boat figures engraved in the rocks (Farajova, 2009; Sigari, 2017). Moreover, a series of pierced rocks suggests they were used to dock the boats when the sea reached those terraces.

These links with the water resource formed the core of a recent study that looked at the relationships between rock art themes and landscape, or rather "seascape" (Sigari, 2017), to approach an understanding of the chronology of Gobustan rock art. It focused on the boat figures which had been engraved over a long time, changing style, possibly according to new ideologies (Sigari, 2017, 2020) (Fig. 8). Through the analysis of the changes in styles, altitudes and positioning of boat figures, a relative chronology revealed different use of spaces, from the top of the hills down to the lower terraces,

Fig. 8 - Detail of the western panel of Rock No. 19 in Kiçikdaş, with a key series of engraved boat figures (photo: D. Sigari).

Fig. 9 - A second sector of the big northern panel of the Rock No. 29 of Böyükdaş. The simple-shape long boat is highlighted (photo: B. Ochoa).

on what must have been palaeo-beaches. The first boat images, which are very simple in their shape even though they may vary in their size, are found on the upper terraces of both Böyükdaş and Kiçikdaş and would date to a period of deglaciation, between 16,000 and 14,000 years ago, when the Caspian Sea level was higher than today (Badyukova, 2021; Sigari, 2017, 2020).

Then, between 14,000 and 12,000 years ago, the Later Khvalynian stages occurred, and the Caspian sea

Fig. 10 - Rock No. 8 on the lower terrace of Böyükdaş and its coupled boats with the “X-shaped” crew (photo: D. Sigari).

level increased from its current level, which is 28 metres usl, up to 0 and 12 metres usl (Dolukhanov et al., 2010). To this period, or to a later one, the boat figures engraved in the foothills of Böyükdaş and Kiçikdaş can be dated. From here the boat style with the sun-symbol on the prow and the “X”-shaped crew would spread up to the upper terraces (Sigari, 2017, 2020) (Fig. 10) and might last for centuries, until a significant cultural change.

Boat figures were displayed differently in the panels: alone, superimposed by other themes, associated in pairs or in groups.

At first sight, it seems that the long boats with a simple shape, for instance the one on the northern side of Rock No. 29 in Böyükdaş (Fig. 9), are alone and correspond to the earliest artistic phases. In contrast, in the most recent phase, when the prows are curved and the solar symbol becomes a recurrent feature decorating the ships, boats are represented in pairs or groups, e.g., Rock No. 8 in Böyükdaş (Fig. 10) or Rock No. 19 in Kiçikdaş (Sigari, 2017). Moreover, they are juxtaposed or underlie anthropomorphic figures, mainly female silhouettes, and zoomorphs, especially bovids (Sigari, 2017).

The boat theme is peculiar to Gobustan and is possibly among the oldest evidence of sailing. However, some connections have already been proposed with figures in the Scandinavian peninsula and recently a new relationship has been suggested with a painted motif found in the late Upper Palaeolithic layers of Romanelli Cave in southern Italy (Sigari, 2020). The diffusion of this symbol, despite different chronologies, means we should look further into its evolution, importance for past cultures, and the human dynamics behind its representation.

6. SCENE COMPOSITIONS

The relationship among different figurative themes is a recurrent topic in the Gobustan rock art. Therefore, after briefly introducing the graphic compositions in which the boat figures appear, we can recognise how all the other different graphic units are associated: how they may be found standing alone, or in relationship with other figures. These relationship typologies are differently expressed in terms of juxtaposition or superimposition.

For the juxtapositions we recognise:

- figures facing one another e.g., the aurochs confronted on Rocks No. 46b, 49, or the caprids on Rock No. 42 in Böyükdaş, and Rock no. 54 in Jingirdağ-Yazılitepe (Fig. 11);
- figures in line e.g., the two boats on Rock No. 8 (Fig:10), the bovids on Rock No. 42, or the anthropomorphs on Rock No. 67 in Böyükdaş (Fig. 12a);
- herds: Rock No. 46 in Böyükdaş (Fig. 12b);
- hunting scenes e.g., Rock No. 45 in Böyükdaş (Fig. 12c).

This kind of figurative association can express contemporaneity and possibly a narrative involving the represented subjects.

In contrast, superimpositions are harder to interpret since they may be the result of diachronicity in a figurative palimpsest and this may respond to different reasons: e.g., refreshing, narrative, erasing, reusing.

An interesting kind of composition is the bovid-horse pairing that is differently expressed by juxtaposing figures in line, for instance on the western side of Rock No. 31 in Böyükdaş, or by placing an equid inside a bovid, e.g., an unnumbered rock behind Ana Zaga in Böyükdaş; or by superimposing the horse on the auro-

Fig. 11 - (A) Facing bovids, with a horse overlapping one of the two aurochs, on Rock No. 49 in Böyükdaş; (B) Facing goats on Rock No. 42 in Böyükdaş; (C) Facing goat figures on Rock No. 54 in Jingirdağ mountain and behind is the sheltered site composed by Rocks No. 12 and 9 (photos: D. Sigari).

chs like on Rock No. 49 in Böyükdaş (Fig. 11a). What emerges in the three cases is a strong link between the two animals that may recall a sort of structured cosmogony of opposed or complementary elements that undoubtedly needs to be investigated further. Bovids and equids are certainly among the most represented themes in Palaeolithic art in western Europe and such a recurrent association invites us to investigate the spread and diffusion of these subjects in the Euro-Mediterranean area in the late Pleistocene (Delporte, 1990; Leroi-Gourhan, 1992; Sauvet & Wlodarczyk, 2000). Moreover, from a stylistic point of view some comparisons can be established as well, especially for the bovids, as expressed by several researchers. Therefore, in brief, it seems that during the late Pleistocene we can recognise elements, in terms of themes, styles, and compositions, in common with the artistic tradition of societies that lived and spread around the Mediterra-

Fig. 12 - (A) The anthropomorphic figures of Rock No. 67 of Böyükdaş. They are displayed in two main rows, framing them into the panel. Some of the graphic units have a headgear; (B) A series of horse figures, all oriented to the west, towards the sheltered area. Böyükdaş, Rock No. 46; (C) A hunting scene to aurochs on Rock No. 45 in Böyükdaş (photos: D. Sigari).

nean basin.

Finally, any potential narrative seems also to be reflected in the association of bovid and anthropomorphic figures surrounding the animal, as in the big southern panel of Rock No. 30 (Fig. 13) or unnumbered rock behind Ana Zaga in Böyükdaş.

7. ANTHROPOMORPHIC FIGURES

Together with zoomorphic figures, which were recently discussed in a complete and detailed paper by Shirinli and Abdullayev (2021), anthropomorphic figures are important among the different figurative categories of Gobustan.

Four main groups of anthropomorphic petroglyphs can be defined:

- female silhouettes (Fig. 14a),
- hunter-warriors (Fig.s. 5, 12c),
- the so-called dancers and jumpers (Fig. 12a),
- human figures with raised arms (Fig.s. 14b).

Anthropomorphs usually change from the most stylized to the most naturalistic figures. These changes occur according to different chronological phases. Rustamov (2006) emphasised the anthropomorphic figures which seem to have been the first engraved. They reveal male figures belonging to a sequence based on their size, from the smallest to the largest (Sigari et al., 2019). Moreover, the first three groups are usually associated with the most ancient phases, while the fourth is recurrent during late Prehistory e.g., Rock No. 25 in Jingirdağ-Yazılitepe (Jafarzade, 1973), or Rocks No. 15, 24, 29 in Böyükdaş (Jafarzade, 1973; Sigari, 2009b).

Undoubtedly, the most fascinating theme is linked to the female silhouettes, which have appeared in Gobustan rock art since the Upper Palaeolithic, as the series of this representation in the lowermost part of the

Fig. 13 - A detail of the southern side of Rock No.30 in Böyükdaş where it is possible to see a bovid figure surrounded by anthropomorphs (photo: D. Sigari).

Fig. 14 - (A) Female silhouette in profile with the decorated body on Rock No. 2 in Böyükdaş, lower terrace; (B) Praying anthropomorphs on Rock No. 24 in Böyükdaş (photos: D. Sigari).

northern side of Rock No 29 in Böyükdaş seems to confirm (Fig. 15). The subject of female silhouettes varies considerably in terms of style, size, location, and association with other figurative themes. This may reflect not only different chronologies, but even different cultural and social reasons e.g., the accessibility of a site determining if it was a public or not (Sigari, 2016). Thus, on Rock No. 29 in Böyükdaş we find different feminine representations that are clearly visible. Some of them are small sized, while others can be c. 1.5 m high. Some are displayed in front view, others in profile. Some are squared, contrasting with the more sinuous ones. Even the engraving techniques differ from one figure to another. This high concentration of multiple styles is unlike the situation on Rock No. 78 in Böyükdaş, with the so-called “Seven beauties” (Fig. 16). Indeed, these six (despite the given name) female figures are homogeneous in their style (all represented in frontal view, with decorated bodies and a pole on their breast) and overlap a bovid figure. The same graphic composition is seen on a rock near Rock No. 78, apparently closing that hidden place dominated by those female silhouettes, thus suggesting a possible social meaning of the site, with exclusive accessibility.

Fig. 15 - The female silhouettes of Rock No. 29. They are displayed in row and are partially covered by the ground, suggesting they can be among the earliest figures of the panel (photo: D. Sigari).

Fig. 16 - The “Seven beauties” are engraved in a hidden place, where the accessibility is reduced to very few people suggesting a private use of the space. The figures are showed in front view with the decorated body and overlap a bovid (photo: D. Sigari).

8. THE TIME OF THE GOATS

A significant change in the graphic repertoire of the Gobustan rock art can be noticed during the Bronze Age. In this period the most frequent themes are bezoar ibex (*Capra aegagrus*), deer (*Cervus elaphus*) and anthropomorphs (Shirinli & Abdullayev, 2021).

The main petroglyph clusters belonging to this period are in Jingirdağ-Yazılitepe and Böyükdaş. Especially in Böyükdaş, the ibex are ideal chronological markers since they are not associated with the most ancient figures and, in some cases, overlap previous carvings (Abdullayev & Shirinli, 2020; Sigari et al., 2019). Moreover, this subject was found on 30 rocks out of 34, which were covered by layers dated to the Bronze Age, thus confirming the chronological reference, between the 4th and 2nd millennia BC (Abdullayev, 2016; Muradova, 2003) (Fig. 17a).

The large number of ibex figures naturally attracted the attention of the researchers who tried to address this topic in terms of both the chronology and its meaning (Abdullayev, 2016; Farajova, 2009; Jafarzade, 1973; Muradova, 2003; Rustamov, 1994).

A first classification of this theme distinguishes between the more realistic figures (some of them in their natural size too) which are proper of the Bronze Age, and the more schematic figures that belong to more recent periods; for instance, Jingirdağ-Yazılitepe Rock No. 59 (Fig. 18) (Abdullayev, 2016; Jafarzade, 1973).

The explosion of this subject in the rock art of Gobustan seems to reflect a significant change in the cultural connections, which are no longer addressed towards the Mediterranean and western Europe as in the case of Palaeolithic imagery (Sigari, 2013; Sigari et al., 2019), but are closer and involve, from a thematic point of view, western and central Asia; e.g., Iran (Karimi et al., 2020), Oman (Fossati, 2018) and the Altai region (Shirinli & Abdullayev, 2021) and Mesopotamia (Crist & Abdullayev, 2024).

According to Muradova (2003), the change in the choice of theme reflects an alteration in the economic life of people causing a modification in religious beliefs too. Thus, ibex increased in importance for the Gobustan inhabitants, they become a worshipped element (Muradova, 2003: 48).

Finally, Farajova in her book “Rock art of Azerbaijan” proposed that ibex images would be a symbol of sun and fertility, with the large, curved horns that would be linked to the sun (Farajova, 2009: 173) (Fig. 17b).

According to Shirinli and Abdullayev (2021) ibex figures are present in almost all periods from the Early Bronze Age to the historical period. They were rarely represented during the Palaeolithic. However, with the development of seasonal pastoralism, this animal soon became a main player in the agricultural economy, on the farm and in people’s worldview, thus affecting religious ideas.

9. THE LAST DEER

The cervid theme is a minor topic in discussions on Gobustan rock art. Nevertheless, deer petroglyphs appear in Gobustan, Absheron, Kalbajar and Gemigaya rock art repertories, at least in Azerbaijan.

Thus, for the deer, we can recognise three main clusters in Jingirdağ-Yazılitepe, Kiçikdaş and Böyükdaş (Fig. 19a). The three concentrations show some differences in the way this animal was portrayed.

Deer images in Gobustan can be divided into two groups according to the techniques used: linear images and images with outline. Deer are recorded as single, isolated images, in groups or herds, and in hunting scenes.

Deer antlers are shown as being very large, forming a primary focus; their tines are very thin, and some have backward tails. Deer images are usually depicted in motion, sometimes turning the head backward. The deer body on Stone number 9 in Jingirdağ was depicted close to natural size, despite the exaggerated antlers (Fig. 19b).

Jafarzade attributed the oldest deer images to the 3rd millennium BC (Jafarzade, 1973). The deer-hunting scenes found in the Jingirdağ-Yazılitepe area would belong to a second stage, between the 2nd and 1st millennia BC (Rustamov, 1994: 73-74). Besides the images in rock art, deer were frequently depicted on ceramics and metal objects in the Bronze Age (Abdullayev, 2016).

Some naturalistic deer figures may recall other representations in central Asia, e.g., Siberia and Mongolia (Francfort et al., 1990; Kubarev, 2010; Molodin & Cheremissin, 1999), where this animal becomes the main motif and displays stylistic similarities, suggesting shared symbolism over wide territories.

10. SACRED SPACES

Gobustan rock art seems to be strictly linked to the daily life and is usually located in places where products of everyday life have been unearthed e.g., pottery, lithic and bone tools, and hearths.

However, the Firuz site indicates how rock art was associated with afterlife rituals as well, as attested by the burials discovered there (Rustamov, 2006; Sigari, 2017). This link is evident from the most ancient phases and possibly lasted for millennia. It is particularly common in the Bronze Age, when more structured spaces existed, like the Yazılitepe (Fig. 11c).

11. HISTORICAL INSCRIPTIONS

Another interesting theme in Gobustan rock art consists of inscriptions. Indeed, thanks to them it was possible to understand the importance of the region during millennia when it was a landbridge between Europe and Asia and a place of exchanges and meetings among people.

Thus, here we find the Roman inscription furthest from Rome. At the foot of the Böyükdaş Mountain, there is an epigraph engraved by a centurion of the *Legio XII Fulminata* of the Roman Army. The inscription testifies the passage of the Romans in Gobustan during Domitian’s reign (AD 81-96) (Sigari et al., 2019) (Fig. 20a).

In Jingirdağ "*Imad Shaki came, prayed, left*" was written on Rock No. 91 close to where the remains of a building were found. According to Jafarzade (1973), this epigraphic sample dates to the 13th or 14th centuries AD, so it would be the same age as the proximate building, suggesting that the place was dedicated to worshipping activities (Fig. 20b).

More inscriptions have been found, and some date to even more recent times. These inscriptions are written in Cyrillic alphabet and mainly report personal names.

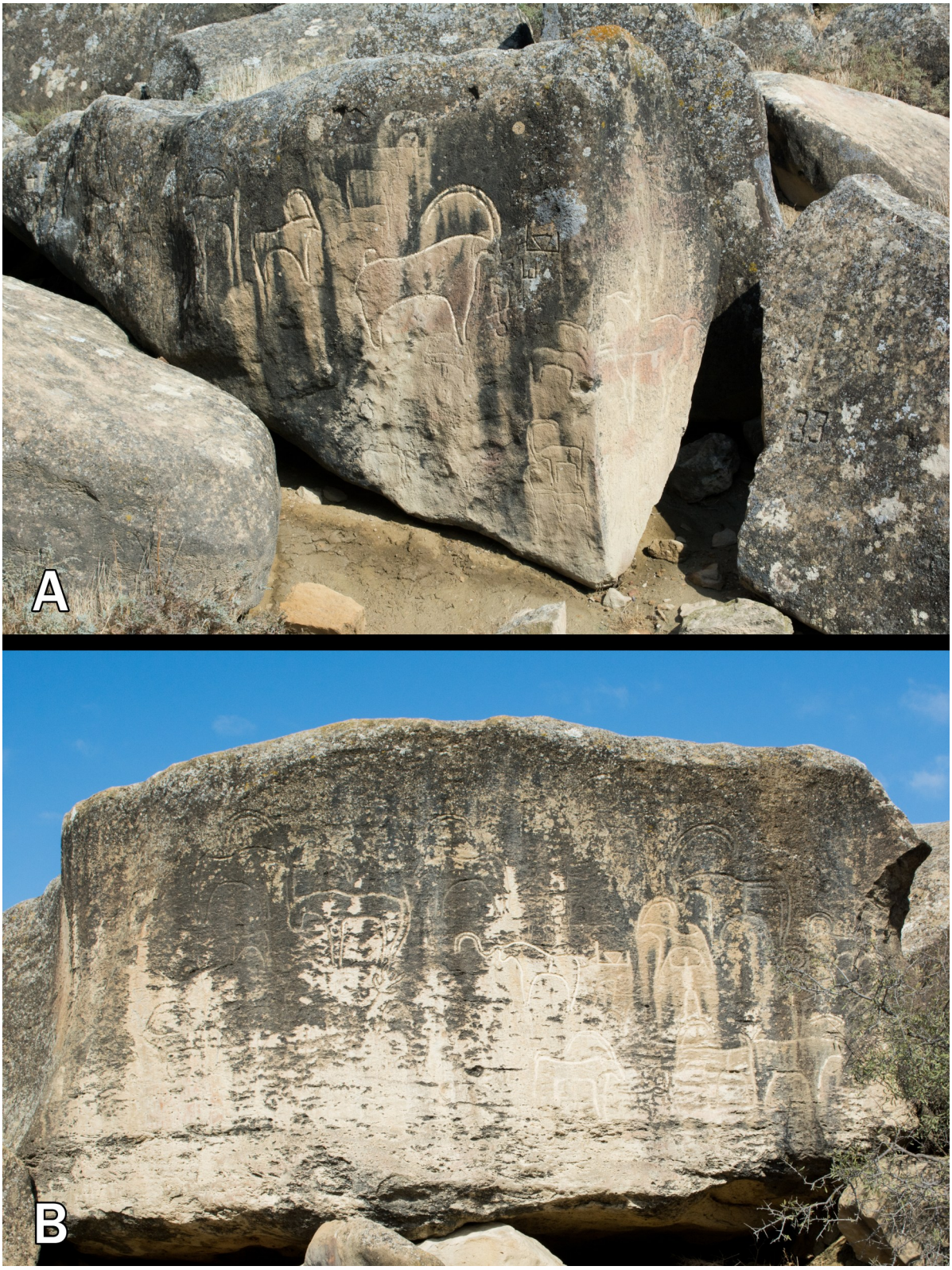

Fig. 17 - (A) Jingirdağ-Yazılitepe, goat figures and a horse rider on Rock No. 47; (B) The dominating Rock No. 1 in Jingirdağ-Yazılitepe, with its series of goat figures. The human figure with the raised arms, apparently holds a goat, however it was probably reused being under the zoomorph and so representing an older stage (photos: D. Sigari).

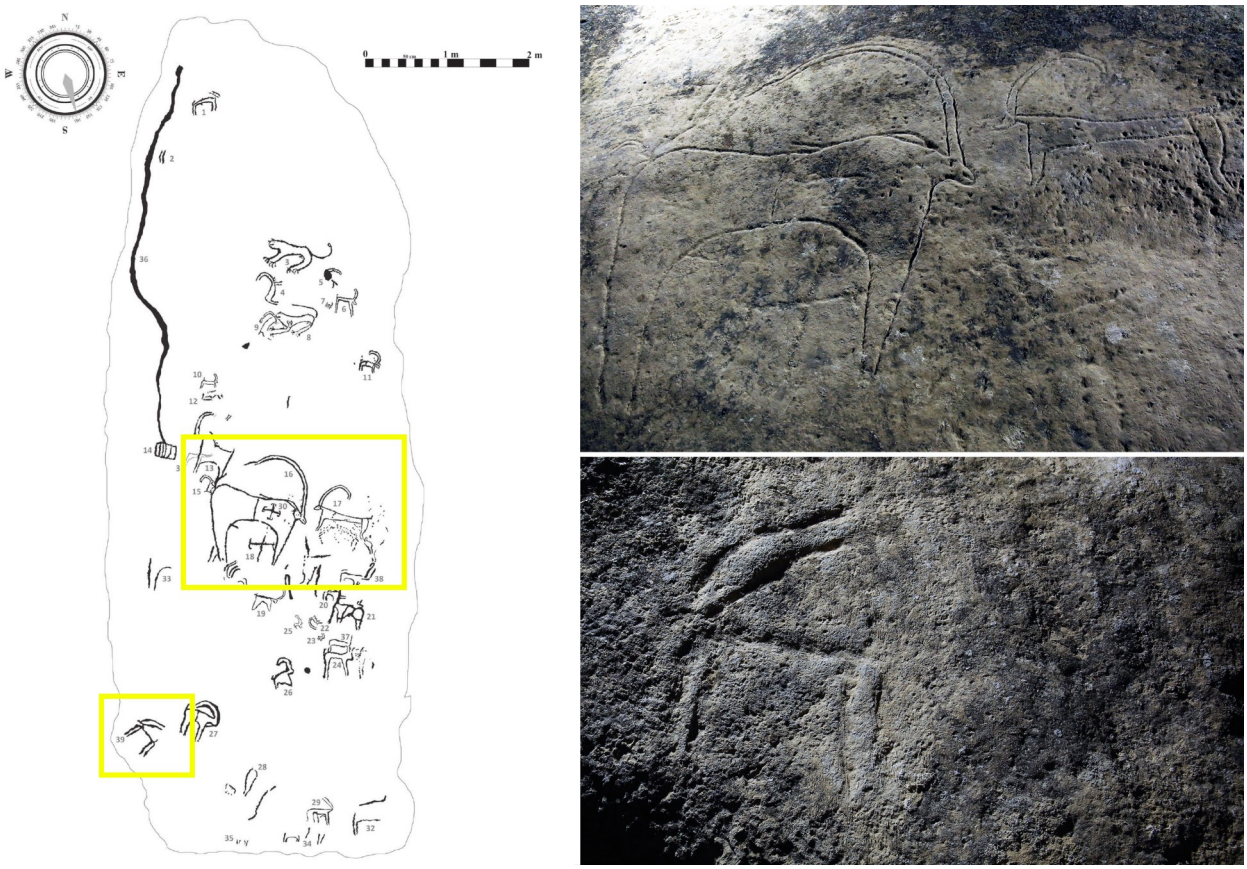

Fig. 18 - Tracing o f the Rock No. 59 of Jingirdağ-Yazılitepe (from: Abdullayev & Shirinli, 2020) with the goat figures in both naturalistic style (Bronze Age) and schematic (probably historical times) (photos: K. Abbasov & R. Abdullayev).

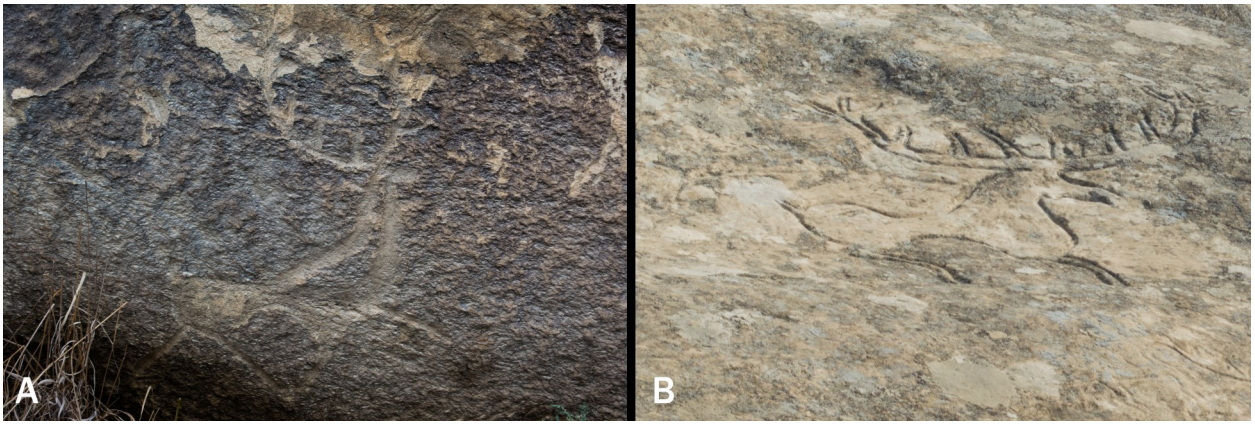

Fig. 19 - (A) A deer figure from Böyükdaş Rock No. 22 with a more schematic style; (B) The big naturalistic deer from Jingirdağ-Yazılitepe. It is located on the top of stone No. 9 (photo: D. Sigari).

12. A NEW RESEARCH PROJECT

A new interdisciplinary research project began in 2019 with the objective of answering some crucial questions:

- When did the prehistoric art of western Asia first appear?
- How did the Palaeolithic rock art develop in stylistic, thematic, technical and spatial organisation aspects?
- What is the cultural, social or symbolic reason behind such a huge concentration of rock art in Gobustan, in relation to the occupation contexts?
- What is the relationship between symbolic space and domestic space?
- Was the Palaeolithic graphic tradition produced within a local tradition? Or was it part of wider phenomenon and therefore should be studied within a network of graphic traditions?

The research focuses on the Ana Zaga site in Böyükdaş. After the forced stop because of the SARS-

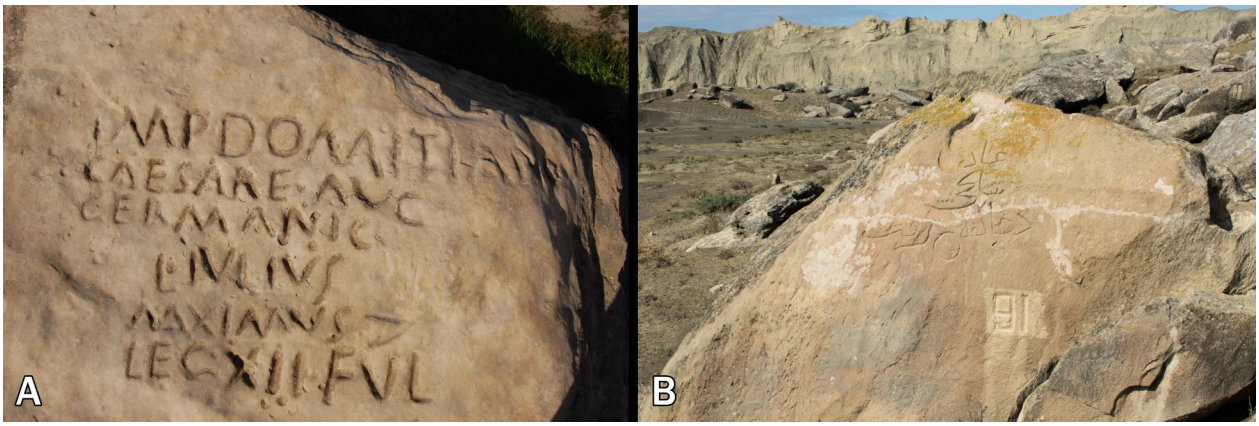

Fig. 20 - (A) The Roman inscription at the feet of Böyükdaş; (B) Rock No. 91 in Jingirdağ-Yazılitepe with the Arabic inscription (photos: D. Sigari).

CoV-2 pandemic outbreak, five fieldwork sessions have already taken place between November 2021 and August 2024, involving both an archaeological excavation and rock art recording. Their objective was to study some specific areas to then lay the foundations for the next archaeological activities, which aim to systematically document the artistic production and the traces of the daily life of the people who used this shelter.

12.1. The Ana Zaga shelter

The selected shelter is located on the upper terrace of Böyükdaş and is made of some displaced limestone boulders: Rocks 29, 30, 31. These blocs were engraved with hundreds of figures (anthropomorphic, zoomorphic, boats above all), whose style points towards a long chronology of use of the site. Moreover, the dense palimpsest characterised by several overlapping figures support the long reuse of the rock surfaces to make rock art, as the two main rocks forming the shelter reveal, Rocks No. 29 and 30.

Small boulders with engraved figures are randomly dispersed within the sheltered area for instance, Rocks No. 30R, 30S, 30Ş.

The Ana Zaga shelter had been studied since the earliest archaeological fieldworks for its parietal engravings (Jafarzade, 1973). However, the first archaeological investigation at Ana Zaga was launched in 1965 and conducted intermittently until 1986. This research activity led to the identification of approximately 28 engraved portable slabs, along with the documentation of thousands of other archaeological artefacts (lithic tools, bones, human remains, decorated pebbles, pottery).

Fortunately, some parts of the deposit were left in place, so that with the new project, it was possible to select key areas within the site where part of the deposit was covering engraved boulders, and the whole stratigraphic sequence could be reconstructed.

The systematic review of both archive documentation and previously collected materials (portable art, engraved slabs, lithic industry) plays a key role in the new project, widening the spectrum of available information so to reconstruct the ancient setting of the site, to understand the links between daily and symbolic spaces, to fix a solid chronological frame for the parietal art, and to suggest the cultural links behind the graphic production at a continental scale.

Finally, in other words cross-analysing different types of evidence will provide solid references to answer the main questions of the research project, fill those blank pages of the new chapter of the project itself, remark the importance of carrying out interdisciplinary works in rock art contexts, highlight the value of the international cooperation, and establish a methodological approach to such a site typology.

ACKNOWLEDGMENTS

The authors wish to thank the Gobustan National Historical Artistic Preserve director, Mr. Vugar Isayev; the workers at the Gobustan Museum for their help; and Mr. Fikrət Abdullayev for his support. We are greatful to Peter Smith for the written English review.

The research is funded by the Fundación Palarq-Fundación Atapuerca, and by the Ministero degli Affari Esteri e della Cooperazione Internazionale della Repubblica Italiana (n. 954-2021, n. 1234-2022, n. 1501-2023, n. 2969-2024).

BO is a researcher under the Juan de la Cierva-Incorporation Program (JC2020-044629-I), funded by the Spanish Ministerio de Ciencia e Innovación (MCIN/AEI/10.13039/501100011033) and the European Union NextGenerationEU/PRTR.

REFERENCES

Abdullayev R. (2016) - Bronze Age rock art of Gobustan. Arkeos - Proceedings of the XIX International Rock Art Conference IFRAO 2015 (Cáceres, Spain, 31 August - 4 September 2015), 37, 1693-1703.

Abdullayev R., Shirinli S. (2020) - Qobustan. Cingirdağ-Yazılıtəpə və Sona qaya petroqliflerinin korpusu. Ideal-Print, Baku, pp 520.

Anati E. (2001) - Gobustan. Azerbaijan. Edizioni del Centro, Capo di Ponte, pp. 95.

Arslanov Kh. A., Yanina T.A., Chepalyga A.L., Svitoch A. A., Makshaev R.R., Maksimov F.E., Chernov S.B., Tertychniy N.I., Starikova A.A. (2016) - On the age of the Khvalynian deposits of the Caspian Sea coasts according to ^{14}C and $^{230}Th/^{234}U$ methods. Quaternary International, 409, 81-87. Doi: 10.1016/j.quaint.2015.05.067

Badyukova E.N. (2021) - Caspian Sea Level Fluctuations in the Neopleistocene (Was There an Atelian Regression?). Oceanology, 61(2), 283-291.

Doi: 10.1134/S0001437021010021
Crist W., Abdullayev R. (2024) - Herding with the Hounds: The Game of Fifty-eight Holes in the Abşeron Peninsula. European Journal of Archaeology, 28(1), 61-80.
Doi: 10.1017/eaa.2024.24
Delporte H. (1990) - L'image des animaux dans l'art préhistorique. Picard, Paris, pp. 254.
Dieterich T., Askerov E. (2024) - Feasibility study for introducing Saiga to Azerbaijan-site comparison. Astana, Baku, pp. 41.
Dolukhanov P.M., Chepalyga A.L., Lavrentiev N.V. (2010) - The Khvalynian transgressions and early human settlement in the Caspian basin. Quaternary International, 225(2), 152-159.
Doi: 10.1016/j.quaint.2009.10.039
Farajova M. (2009) - Rock Art of Azerbaijan. Aspoliqraf, Baku, pp. 373.
Farajova M. (2012) - Pleistocene art in Azerbaijan. Préhistoire, Art et Sociétés - L'art Pléistocène Dans Le Monde / Pleistocene Art of the World / Arte Pleistoceno En El Mundo, Actes Du Congrès IFRAO, Tarascon-Sur-Ariège, Septembre 2010, Symposium « Art Pléistocène En Asie », Numero Special, 929-942.
Farajova M. (2018) - About specifics of rock art of Gobustan and some innovative approaches to its interpretation ("Firuz 2" shelter). Quaternary International, 491, 78-98.
Doi: 10.1016/j.quaint.2017.07.034
Fossati A.E. (2018) - Messages from the Past: Rock Art of Al-Hajar Mountains. Ministry of Heritage & Culture-Sultanate of Oman, Muscat, pp. 332.
Francfort H.-P., Klodzinski D., Mascle G. (1990) - Pétroglyphes archaïques du Ladakh et du Zanskar. Arts asiatiques, 45(1), 5-27.
Doi: 10.3406/arasi.1990.1275
García-Diez M., Sigari D., Abdullayev R., Ochoa B., Shirinli S., Vaquero M. (2020) - Gobustan (Azerbaiyán). Los orígenes del arte entre Europa y Asia. Arqueología e Historia, 28.
https://bit.ly/3Jt48WT (access: 30/05/2025).
Jafarzade I.M. (1973) - Qobustan. Qayaüstü rəsmlər. Nurlar, Baku, pp. 321.
Karimi E., Heydarian M., Alirezazadeh M., Ghorbani H. R., Sarikhani M. (2020) - Ibex in context: A new insight into the meaning of the ibex depiction in the rock art of Iran based on new findings from Mount Eüji-iti in Central Western Iran. Archaeological Research in Asia, 23, 100211.
Doi: 10.1016/j.ara.2020.100211
Kubarev V.D. (2010) - Khar Chulu: A new rock art site in the Mongolian Altai. Archaeology, Ethnology and Anthropology of Eurasia, 38(2), 89-96.
Doi: 10.1016/j.aeae.2010.08.012
Leroi-Gourhan A. (1992) - L'art pariétal. Langage de la préhistoire. Jerome Million, Grenoble, pp. 420.
Mamedov A.V. (1997) - The Late Pleistocene-Holocene history of the Caspian Sea. Quaternary International, 41-42, 161-166.
Doi: 10.1016/S1040-6182(96)00048-1
Molodin V.I., Cheremissin D.V. (1999) - Pétroglyphes de l'âge du bronze du plateau d'Ukok. A propos des représentations de personnages avec une coiffure fongiforme. Arts asiatiques, 54(1), 148-152.
Doi: 10.3406/arasi.1999.1440
Muradova F., Rustamov D. (1993) - Yazılıtəpədə arxeoloi qazıntılar. In Azərbaycanın Maddi Mədəniyyəti. Elm, Baku, 90-101.
Muradova F. (2003) - Qobustanın Tunc Dövrü abidələrindən rəsmli daşlar. Azərbaycan arxeologiyası və etnoqrafiyası jurnalı, 1, 47-54.
Muradova F. (2011) - Gobustan at the Bronze Age. YEK production, Baku, pp. 225.
Rustamov D. (1994) - Gobustan Dünyasi. Nurlar, Baku, pp. 130.
Rustamov D. (2006) - Gobustan, the ancient centre of Azerbaijan culture: Devoted to the 80th anniversary of archeologist Jafargulu Rustamov. Nurlar. Baku, pp. 93.
Rustamov D., Muradova F. (1980) - Археологическая работа 1977 года в Гобустане. In АЭИ в Азербайджане. Elm, Baku, 3-6.
Rustamov D., Muradova F. (2008) - Kiçikdaş abidələri. E.L., Baku, pp. 229.
Sauvet G., Wlodarczyk A. (2000) - L'art pariétal, miroir des sociétés paléolithiques. Zephyrus, 217-240.
Shirinli S., Abdullayev R. (2021) - Post-Paleolithic zoomorphic images in Gobustan Rock Art. "Animals in Prehistoric Art. The Mediterranean Area and Its Surroundings" - Revista Arkeogazte Aldizkaria, 11 (Special Issue), 243-270.
Sigari D. (2009a) - La roccia 44 di Böyük Daş (Gobustan, Azerbaijan): Elementi per lo studio delle figure zoomorfe nell'arte rupestre all'aria aperta nell'arco alpino e in Europa. Bullettin d'Etudes Préhistoriques et Archeologiques Alpines, XX, 151-160.
Sigari D. (2009b) - La Roccia 44 di Böyük Daş, nel quadro dell'arte rupestre del Gobustan (Azerbaijan). Elementi per lo studio delle figure zoomorfe di stile paleo-epipaleolitico all'aria aperta. Università degli Studi di Milano.
Sigari D. (2013) - Palaeolithic rock art in Gobustan, Azerbaijan, The rock 44 of Böyük Das, Gobustan. Journal of Iranian Archaeology, 4, 15-22.
Sigari D. (2016) - Goddesses' art. Feminine representations in Gobustan rock art. Arkeos. Proceedings of the XIX International Rock Art Conference IFRAO 2015 (Cáceres, Spain, 31 August - 4 September 2015), 37, 521-522.
Sigari D. (2017) - Portrayal of a sea in a semiarid environment: Boat engravings in Böyük Daş, Gobustan. Journal of Arid Environments, 143, 57-63.
Doi: 10.1016/j.jaridenv.2016.12.012
Sigari D. (2020) - The sea on the rocks. Sailing in the rock art of Gobustan. In Biglari F., Nokandeh J., Naderi Beni A., Hozhabri A. (eds.), Human and the Sea. A Review of Thousands of Years of Relationship between Humans and the Sea in Iran. National Museum of Iran and Ports and Maritime Organization of Iran, Tehran, 165-173.
Sigari D., García-Diez M., Shirinli S., Abdullayev R., Ochoa-Fraile B., Vaquero M. (2020) - Gobustan. Un laboratorio su roccia. Archeologia Viva, 205, 52 -61.
Sigari D., Shirinli S., Abdullayev R. (2019) - Gobustan Rock Art Cultural Landscape. In Smith C. (ed.), Encyclopedia of Global Archaeology. Springer, Cham, 4618-4625.
Doi: 10.1007/978-3-319-51726-1_2827-1
Van de Velde S., Wesselingh F.P., Yanina T.A., Anistratenko V.V., Neubauer T.A., ter Poorten J.J., Vonhof H.B., Kroonenberg S.B. (2019) - Mollusc

biodiversity in late Holocene nearshore environments of the Caspian Sea: A baseline for the current biodiversity crisis. Palaeogeography, Palaeoclimatology, Palaeoecology, 535, 1-15.
Doi: 10.1016/j.palaeo.2019.109364

Vereshagin N.K. (1981) - Paleontologist's notes. In the Footstepsof Ancestors. Nauka, Leningrad, pp. 167. (In Russian).

Yanina T.A. (2012) - Correlation of the Late Pleistocene paleogeographical events of the Caspian Sea and Russian Plain. Quaternary International, 271, 120-129.
Doi: 10.1016/j.quaint.2012.06.003

Welter-Shultes F. (2012) - European non-marine molluscs, a guide for species identification. Planet Poster editions, Goettingen, pp. 760.

Ms. received: June 16, 2025 *Revised: July 10, 2025*
Accepted: July 12, 2025 *Available online: July 18, 2025*