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Sangbor Petroglyphs in Bavanat County, Southern Iran

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Abstract: *During archaeological research, especially in the study of the historical and Islamic periods, the focus is on kings' palaces, religious buildings and famous artists. Ordinary people are generally ignored. This means that all people of every social class should be studied to understand past societies. Petroglyphs are one of the most significant archaeological types of evidence to study ordinary people's art and concerns. During an archaeological survey conducted by the author in Bavanat county, several petroglyphs were found in this area. Considering the importance of rock art in archaeology, anthropology, sociology, the history of art and rock art tourism, in this article, the petroglyphs of Sangbor that were discovered during the survey of Bavanat have been introduced. At this site several petroglyphs are identified on the rock outcrops in the area. Zoomorphs, anthropomorphs, geometric shapes, and unknown shapes are depicted. Petroglyphs were created by three methods: engraving, engraving-pounding and scratching. According to the amount of patination and weathering, the above petroglyphs were created during different periods. Natural factors such as rock erosion, wind and rain have gradually destroyed these rock art. In addition to preserving rock art sites like Sangbor, they can become a tourist attraction for rock art or cultural tourism.*

Key words: Fars, Bavanat, Sangbor, Petroglyphs, Rock Art, Tourism in Iran, Ordinary People

Introduction

Rock art sites contain some of the world's greatest works of art, aesthetically powerful and spiritually charged imagery embedded in cultural landscapes.¹ The countless number of rock arts that have remained all over the world are an inseparable part of the history of human art. This has continued generationally and has been effective in the process of intellectual and artistic excellence in various human societies. Also, rock arts are examples of artwork humans left as proof of their identity. Therefore, rock arts have a special place in art historians, conservationists, archaeological and anthropological studies and research. Petroglyphs are significant in art history and anthropology. They are regarded as the most reliable documents indicating socio-archaeological concepts. This type of rock art was formed by humans

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¹ Agnew *et al.*, 2015: 3.

on rocks.² Humans create rock art as one of their oldest visual representations. It seems that rocks were the first canvas used by humans to express artistic creations. The earliest examples of rock art date to the late Pleistocene period,³ but it seems that rock art developed and expanded in the Holocene period. Rock art is found worldwide and divided into three main categories. In the first case, a person draws paint on the surface of the rock, which is called rock painting (pictograph), In the second case, the surface of the rock is carved, which is called rock engraving (petroglyphs), In the third case, the effects and protrusions of natural stone surfaces are called geoglyphs.⁴

Researchers have studied the site from many perspectives, such as its introduction as an archaeological site,⁵ absolute dating⁶ pigment analysis,⁷ rock art conservation,⁸ rock art and Cognitive neuroscience,⁹ rock art and tourism,¹⁰ Rock Art Management,¹¹ rock art and identity research¹² have dealt with rock art. The use of artificial intelligence and 3D documentation has recently been suggested as an effective way of identifying patterns,¹³ which in Iran has been limited to the introduction of these sites. Using multi-faceted approaches instead of only describing rock art sites can help introduce and protect them. If in Iran only the archaeological view of these sites is done and their importance is not realized to society, many of these works will be destroyed. During the author's archaeological survey of Bavanat county in 2015, rock art was discovered. The research aims to identify, document, and describe the rock art of Sangbor in Bavanat, in south Iran. Rock art is important, so we introduce the Sangbor Petroglyph site. In addition to their analysis of archaeological studies, their potential for rock art tourism should be addressed.

Research background on rock art in Fars

Although rock art research has a long history among researchers around the world,¹⁴ rock art research in Iran was not taken seriously until two decades ago. The rock art of Iran consists of numerous petroglyphs and pictograms that occur throughout the country. Dessau, an Italian geologist, studied rock art in Iran for the first time. He reported

² Khanipour *et al.*, 2018: 271.

³ De Quirós, 1991; White, 2003; Graff, 2006; Aubert *et al.*, 2014.

⁴ Clottes, 2008.

⁵ Ghasimi, 2007; Khanipour *et al.*, 2018; Leloch *et al.*, 2020.

⁶ Aubert *et al.*, 2007; Bonneau *et al.*, 2011; 2017; Pike *et al.*, 2012.

⁷ Chalmin, Menu & Vignaud, 2003; Beck *et al.*, 2012; Mauran *et al.*, 2019.

⁸ Hœrlé *et al.*, 2007; Marshall & Taçon, 2014; Giesen *et al.*, 2014.

⁹ Whitley, 1998.

¹⁰ Deacon, 2006; Duval & Smith, 2013; Gao, 2017.

¹¹ Deacon 1994; 1997; Deacon & Agnew, 2012.

¹² Smith, 2006; 2010; Duval, 2012.

¹³ Horn *et al.*, 2022.

¹⁴ Formozov, 1965; Prideaux, 1973.

two petroglyph frames in Iranian Baluchistan to the east of the country.¹⁵ Next, a rock art site was discovered in Luristan, in 1970.¹⁶ Perhaps the publication of the special issue of Rock Art in No. 5 of the *Bastan Pazhouhi Journal* of can be considered as the beginning of a turning point in the study of rock art in Iran. In this issue, various researchers discussed rock art studies. Since then, numerous articles have been published on rock art in Iran.

Rock art should be plentiful in Fars, given its landscape. Research about rock art in Fars, however, is more than a decade old. So far, petroglyphs from Gashak,¹⁷ Naqshe Rostam,¹⁸ Lavarestan,¹⁹ Pasargadae,²⁰ Dasht-e Morghab,²¹ Tol-e Sukhte,²² pictographs from Tang-e Teyhooee Cave, Jahrom, Tadavan Rockshelter,²³ Abduzo Rock Shelter,²⁴ Kavar,²⁵ Goldamcheh Cave 2,²⁶ Cheshmeh Roni and Chehef-dokhtaran²⁷ and both from Helak²⁸ have been discovered and introduced. According to recent discoveries and the landscape, it seems that there are probably more in this area not been identified so far. Most of these will be discovered through archaeological surveys.

Bavanat County

Bavanat county is located in the northeast of Fars province and consists of two districts: central and Mazayjan. Khataban Mountain, with a height of 3482 m above sea level, has the highest altitude in the region. The lowest altitude location is in the Marvast Plain with a height of 1670 m above sea level. For the first time, Stein excavated some Bavanat sites.²⁹ Furthermore, Helwing and Askari visited several sites in Monj.³⁰ Due to a lack of knowledge about the cultural history of this region, from prehistoric times to the present, it is necessary to conduct archaeological surveys to identify and introduce historical monuments. The importance of this issue motivated us to conduct archaeological surveys in the central and Mazayjan District of Bavanat

¹⁵ Dessau, 1960.

¹⁶ Izadpanah, 1997: 342.

¹⁷ Khanipour & Gasemi, 2013.

¹⁸ Khanipour *et al.*, 2015.

¹⁹ Sarkhosh, Nazari & Sharbaf, 2015.

²⁰ Azizi Kharanghi & Salimi, 2016.

²¹ Karimi, Taghva & Zarei Kurdshuli, 2016.

²² Khanipour *et al.*, 2018.

²³ Fazel & Alibagi, 2012.

²⁴ Ghasimi, Barfi & Norouzi 2014.

²⁵ Ghasimi *et al.*, 2016.

²⁶ Mansori & Lotfinasab, 2016.

²⁷ Molaie Kordshouli, Zare & Khosravanian, 2022.

²⁸ Vahdati Nasab *et al.*, 2008.

²⁹ Stein, 1936.

³⁰ Helwing, 2007.

County from 13th March to 2nd May of 2015. During the survey, 200 sites were identified [Fig. 1], dated from the Neolithic to the late Islamic period. These sites include ancient sites, historical castles, ritual sites or temples, mosques, bridges, cemeteries, Caravanserai, Hammam (Bathhouse), water mills [Fig. 2], rock art, archaeological mines and slag sites.³¹ In addition, the Hormangan site was excavated in 2016.³²

Sangbor Petroglyphs

The collection of Sangbor petroglyphs is located 2300 meters southwest of Sangbor village, 970 meters southeast of Tol-e Koreh site, 4000 meters southwest of Hormangan site and in the southern part of the Bavanat river [Fig. 1]. In this part of the southern basin of the Bavanat river, there are several sloping hills [Fig. 3] that lead to the Khataban mountain range. The limestone slabs of one of these hills have been adorned with 92 rock art in 20 frames, on their smooth vertical and horizontal surfaces. The above rock motifs are all log types, including zoomorphs, anthropomorphs, geometric and unknown shapes.

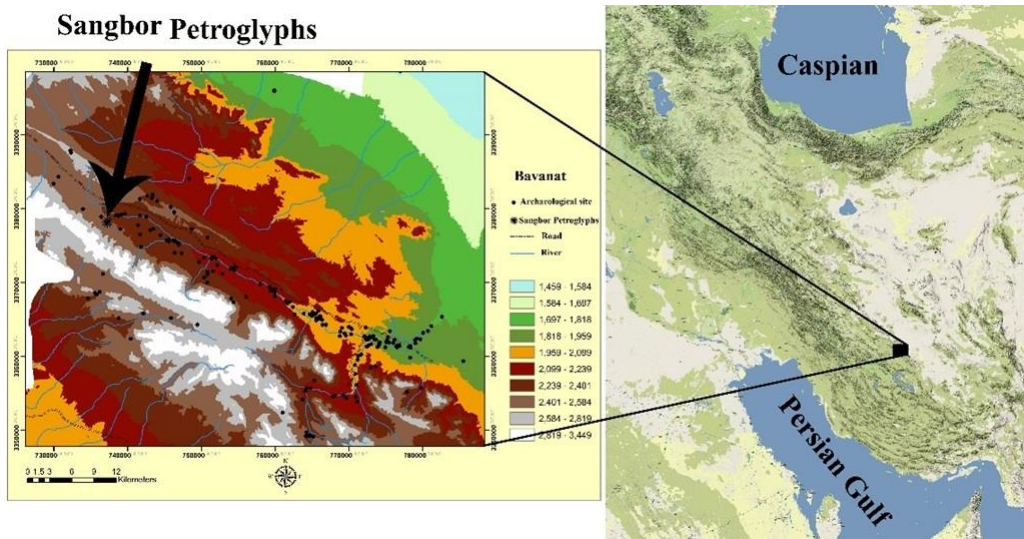


Fig. 1. Distribution of archaeological sites in Bavanat and the location of Sangbor petroglyphs (by M. Khanipour)

³¹ Khanipour *et al.*, 2021.

³² Khanipour, Niknami & Abe, 2021.



Fig. 2. 1) Chartaqi Monj, 2) Bard Shiraz Caravanserai, 3) Monj water mill, 4) Qale Sangi Hammam, 5) Cairn burial, 6) Tol-e Mehdi Yazdi (by M. Khanipour)



Fig. 3. Overview of Sangbor (by M. Khanipour)

Anthropomorphs

Among the motifs there are three anthropomorphs, as seen in figure four [Fig. 4]. Among the motifs there are three anthropomorphs, as seen in figure four. In this frame, an anthropomorph carries a zoomorph and 11 zoomorphs are seen around. The legs show that the anthropomorph above walks to the right. This motif was created by scratching. In the second frame In this frame, an anthropomorph carries a zoomorph and 11 zoomorphs are seen around. The legs show that the anthropomorph above walks to the right. This motif was created by scratching. In the second frame [Fig. 5], there are zoomorphs, anthropomorphs and geometric motifs. At the highest level of this frame there is an anthropomorph hunting with a bow and arrow. 13 zoomorphs also surround the hunter. Also, at the bottom of this frame, there is a geometric motif like a wheel. In this frame, the details of the human body and the zoomorph he (?) rides on are unclear. However, it is clear that he has raised his bow and is ready to shoot an arrow. In the third frame, there is also an anthropomorph riding with a zoomorph. In this frame the rider is moving to the right, but it is impossible to distinguish whether he is riding a horse or a donkey [Fig. 6].

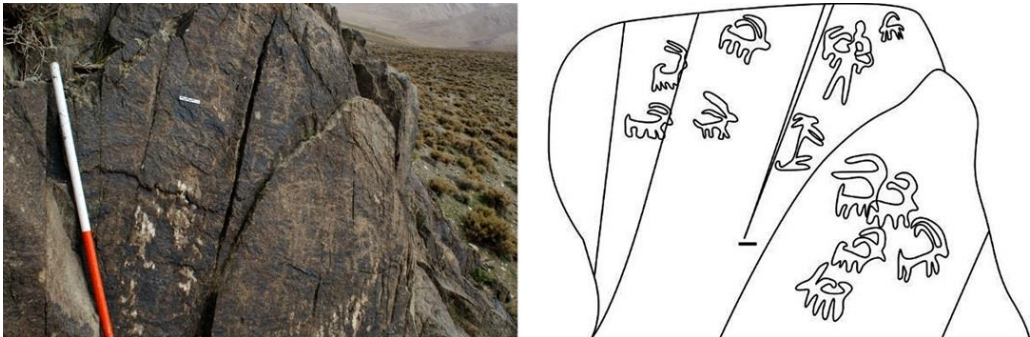


Fig. 4. A frame showing anthropomorph and zoomorphs (by M. Khanipour)

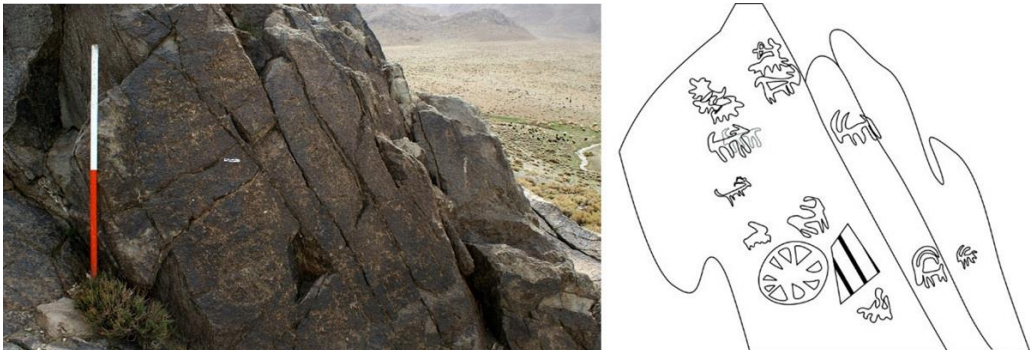


Fig. 5. A frame showing anthropomorph, zoomorphs and geometric shapes (by M. Khanipour)



Fig. 6. A frame showing anthropomorph, zoomorphs and unknown shapes (by M. Khanipour)

Zoomorphs

Zoomorphs are always present in Iranian art of several periods, especially rock art. Most rock art is found in the region; zoomorphs appear as a motif.³³ It is the most abundant motif compared to anthropomorph or plants. In the Bakun period of Fars, potters drew zoomorph motifs on pottery. There are different shapes of zoomorphs with long or short horns on this period's pottery [Fig. 7].³⁴ In Iranian mythology, the goat is a symbol of prosperity. In terms of subsistence, different periods raised goats or hunted them. Because rock art uses the goat motif. Some researchers consider the creators of these motif shepherds. Sangbor's zoomorph motifs are the most frequent. In Sangbor, there are 73 antelopes, 1 horse or Danky, and 1 dog. It is possible to depict zoomorphs schematized or stylized. Zoomorphs motif is represented by curved, horizontal, and vertical lines that show the horns, legs, and bodies of zoomorphs. In addition to standing (most of the time), grazing, or moving, zoomorphs are seen in various postures. In frame number four there are two zoomorphs, in the upper part there is a zoomorph horizontally and below it there is another zoomorphs (possibly a dog?) vertically and facing upwards.

³³ Remacle *et al.*, 2006; Karimi, 2014; Khanipour *et al.*, 2015.

³⁴ Langsdorff & McCown, 1942; Alizadeh, 2006.



Fig. 7. Animals motif on Bakun pottery (after Langsdorff & McCown, 1942: Plate 69, 70, 71)

Geometric

Sangbor has 3 geometric petroglyphs. 2 motifs are similar, including an irregular circle, centered on a topo circle. The two circles are connected by lines, similar to a chariot wheel. These two motifs are located in frames two [Fig. 5] and seven.

In the sixth frame there is a motif like a ladder. This motif consists of two parallel vertical lines that connect their horizontal lines [Fig. 8]. This motif is created with the engraving method. The ladder motif is one of the common motifs on Hormangan pottery [Fig. 10, No 6].



Fig. 8. A frame showing zoomorphs and geometric motif (by M. Khanipour)

Unknown shapes

There are 11 motifs in Sangbor, registered under an unknown shape. These motifs are either part of a geometric or animal motif, which are faded or left unfinished. Straight and curved lines are included in this group.

Methods for creating

The ways of making rock art are one of the critical topics in research in this field. This is so that we can find information such as the techniques of making motifs. In addition, we can find out the tools used and the artist's skill in creating motifs. Iran has many petroglyphs because of the easy access to resources (mountains and tools) which allows carvings with stone or metal tools on the rock. Motifs have been created, resulting in technical and stylistic diversity. Different methods divide these petroglyphs into groups:

Engraving: A log with a width of 1 cm and a depth of 2 to 4 mm is the first method. The main feature of the motifs of this group is that the motifs are created by engraving the bedrock, in such a way that the border lines of the motif are carved first, and then the inner part is also engraved, and after the engraving is finished, there is a noticeable change in the surface between the motif and the bedrock. As a result, this collection has 28 motifs. The destructive effect of erosion factors on the motifs of this group compared to other groups can be seen as a reason for the older motifs in this category.

Engraving-pounding: The second method is to create patterns using engraving-pounding simultaneously [Fig. 9]. In this method, the border and the main lines of the pattern are created by chipping. The general and final shape of the pattern is created by regularly hitting a stone piece on the base stone. This is done inside the chipped pattern border. Statistically, they have allocated 19 cases.

Scratching: The third method, which scratches the vertical surface. In this method, unlike the motifs of the second group, there is no border at the beginning of making a pattern with the base stone. The whole pattern is hammered, which means hitting a piece of stone or metal on the base rock [Fig. 9]. This forms patterns as compared to each other. The final petroglyph is carved. And statistically, they have allocated 45 cases. Since this technique does not create a depression in the rock, there is a possibility that over time the patina will cover the surface of these motifs. This means they will not be easily recognizable. From this, we can see that the motifs of this group have little patina.



Fig. 9. Top motif: engraving-pounding, and bottom motif: scratching (by M. Khanipour)

Dating

Opinions vary about Iranian petroglyph dates. Some researchers regard them as recent nomadic works. For the most part, they are prehistoric. The occurrence of patina on some petroglyphs³⁵ and different styles places them within a variety of time spans. However, in the case of Iranian rock art, one of the main research obstacles is the lack of sufficient laboratory facilities for absolute dating. This has faced serious problems in providing a specific and complete time frame for this field of archaeological research in Iran.

Some researchers have tried to date the rock art based on the surrounding settlements. Around the rock art of Sangbor, there are prehistoric sites from the Mushki, Bakun and Lapui periods, and sites from the historic [Fig. 10] and Islamic periods.³⁶ Considering the sequence of several thousand years of habitation in this area, these motifs cannot be attributed to one of these periods. Since the Paleolithic period was not found in this area, it can be said that these petroglyphs are not related to this period. However, a more recent date should be considered for them. According to the type of petroglyphs, patina and weathering level, some motifs, especially those carved in the engraving method, are older. Those carved in the scratch method are newer. Of course, since in this method, a dimple is not formed in the bedrock, there is a possibility that they will disappear after some time. This is due to weathering

³⁵ Mohammadi Ghasirian & Naderi, 2007: 16.

³⁶ Khanipour *et al.*, 2021.

and patina. Therefore, it can be assumed that if a motif was created in this manner in the older period, it is not now visible. Weathering and patina have made some engraving motifs not easily identifiable. It is clear that the above petroglyphs were created at a variety of periods. According to the amount of weathering and patina, frame 3 petroglyphs can be dated to three different periods. At the bottom of it there is a motif with a lot of patina. The color and patina amount of this motif is the same as the rock surfaces around it. This shows that this motif is older than the other motifs in this frame. In the middle of this frame, there is a zoomorphs motif that has less patina, but at the top of this frame, there is a horseman motif that has very little patina, and the color of the motif is different from the color of the rock surface, which indicates that this motif is newer than the others [Fig. 6].



Fig. 10. Neolithic (1-6 from Hormangan site) and Parthian (7-10 from Koreh site) pottery (by M. Khanipour)

Rock art and tourism

Although different sciences such as archeology, anthropology and social sciences study rock art, today rock art has become one of the most significant tourist attractions in the world. It is called “rock art tourism”. Unfortunately, in Iran, due to such tourism potential, this sector still has no position in tourism. Despite archaeological studies of rock art in Iran being conducted earlier than in some countries, tourism will be much later.

This negligence has caused these effects to be ignored and every year various sites are destroyed due to dams, mines or vandalism. Since the presence of pristine nature and various historical buildings such as Imamzadeh Hamzeh Bazm has attracted many tourists from different parts of Iran and the world to Bavanat county, introducing the collection of motifs in this place can also be an attraction for cultural tourists or rock art tourism. To develop Sangbor rock art sites and other archaeological heritage in Bavanat for tourism, we need to look beyond individual frames and sites. A comprehensive approach needs to be developed that allows for integrated regional development that takes into account the full complexity of the sociocultural processes in which the rock art sites are situated. This broad approach is one of the main challenges to successful rock art management practices. Management challenges are to find the point of convergence for conservation, interpretation, territorial dynamics, and cultural rights and aspirations. Rock art tourism ventures developed through careful consultation and that successfully position themselves at such points of convergence have the foundations for sustainable development.³⁷

By opening sites for tourism and allowing people to see art, it will increase people's appreciation for art and help them understand its unique beauty and the importance of this fading heritage that we still see for the first time.³⁸ Since there are many rock art sites in Bavanat and access to some of them is difficult, and also for preventive measures like in Europe, if a museum is built in this city, a part can be dedicated to the 3D presentation of the rock arts.

Conservation issues

Sangbor petroglyphs, like most rock art in Iran, are subject to destruction, and due to the importance of rock art, protection measures should be taken for it. The factors that damage these petroglyphs can be divided into two categories: natural and human factors. The presence of snow, rain and wind, and weathering over time has also destroyed these motifs and is still considered a threat. Bavanat is considered one of the coldest regions in the Fars and snows every year. The severe cold has caused rain or snow water to freeze on these petroglyphs.

Water seeps into cracks in the rocks, and, as the temperature drops below freezing, water expands as ice in petroglyph cracks. The expansion exerts tremendous pressure on the surrounding rock and acts like a wedge, making cracks wider. After repeated freezing and thawing of water, the rock breaks apart [Fig. 11]. Some people destroy historical sites to find treasure, and this problem can also be seen in Sangbor. A large well was also dug in Sangbor, although the motifs were not damaged, but the site

³⁷ Deacon, 2006; Duval & Smith, 2013.

³⁸ Srivastava, 2021: 90.

landscape was distorted. The main threat to this site is freezing, so it should be protected with a roof or cover.



Fig. 11. In this photo, the weathering and destruction of petroglyphs is clear (by M. Khanipour)

Conclusion

The archaeological survey of Bavanat county has discovered 200 archaeological sites dating back from the Neolithic to Islamic periods. One remarkable discovery is the Sangbor petroglyphs. These are rock carvings that depict various zoomorphs, anthropomorphs, geometric shapes, and unknown shapes. The petroglyphs are located in six frames and, in some cases, have been subjected to intense weathering. The amount of weathering and patina shows that these were carved in different periods. Considering the existence of historical and prehistoric sites in the Bavanat county, it is possible that some of these motifs are related to these periods. However, reliable dating is not currently possible. So, analysis of the petroglyphs for more secure scientific dating will be required. The presence of rock art in the Bavanat county, while a valuable window into the region's rich history, is also a potential catalyst for tourism. Unfortunately, rock art tourism has not been fully recognized and tapped in Iran. As a result, various rock art sites face ongoing threats, from construction projects like dams to vandalism.

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