Rock Art at Isko in Hazaribagh District, Jharkhand: Anthropological Perspective

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Abstract: *The rock shelter at Isko is a well-known rock art site in the Hazaribagh district of Jharkhand. The present research is carried out to understand the prehistoric and present cultural context of Barkagaon block of Jharkhand by drawing a general comparative analogy between rock art at Isko and ethnic traditions. Interpretation of symbols of rock art has been attempted with the help of an ethnographic study on paintings, symbolic beliefs, tattoos and religious customs of Munda, Birhor and Oraon communities in the study area. The recent find of microliths near the Isko rock shelter can be useful aid for understanding the chronology and identify the authors of the rock art.*

Keywords: Isko, Jharkhand, Rock Art, D-stretch, Ethnoarchaeology, Sohrai Painting, Pictographs

Introduction

The study of rock art is one of the prominent sources for understanding past human behaviour, cognition, and social structure. The geometric patterns, animals, anthropomorphic figures and other symbolic depictions in rock art are useful for interpreting the past environment and symbolic behaviour of humans. The ethnographic documentation of the current practices of local communities is an aid for interpretation of both symbolic and non-symbolic depictions in rock art. This helps in understanding the link between the past and the present.

The study of rock art and stone tools together in a particular geographic area can provide wider information about the culture and environment during prehistoric times. The rock art and lithic archaeological sites are important for understanding the chronology. These sites preserve the information on technological, social and cultural evolution of humans in a particular geographical zone.

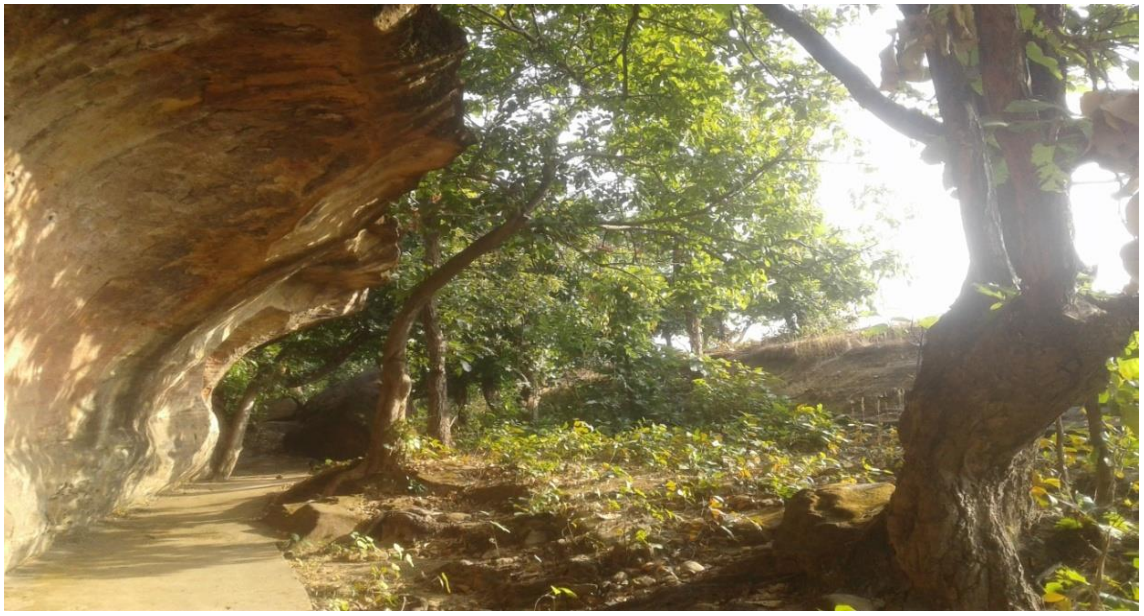

Figure 1: General View of Isko Rock Shelter (from Western side)

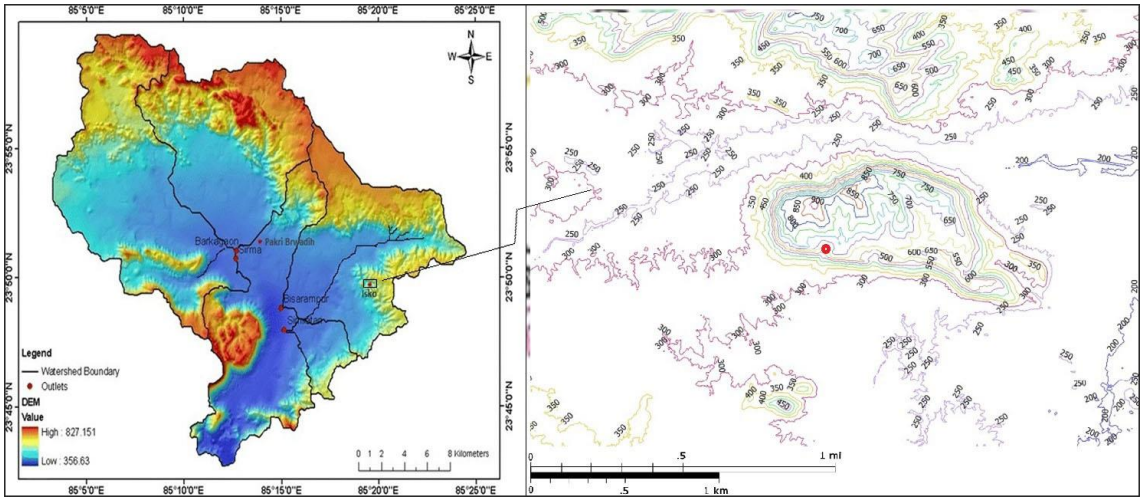

Figure 2: 2D DEM of Barkagaon block of Hazaribagh district, Contour map of Isko village and *Sāthī* hill with Isko rock shelter (Source- Bhuvan, Cartosat-1, PAN -2, NRSC) (after Saha and Rajak, 2019)

Study Area

The present study has focused on the rock art at Isko rock shelter (Figure 1), and survey of communities in the Barkagaon block in Hazaribagh district of Jharkhand. Hazaribagh is situated in the state of Jharkhand, which forms the north-eastern portion of the Chotanagpur plateau or the entire Hazaribagh plateau. The Hazaribagh plateau is elevated about 250 meters the level of Gaya plain. Barkagaon block (23˚51′05′′N; 83˚13′03″ E) is situated in south-western Hazaribagh. The most of part of the study area falls into Chatra Forest range and foothill area of Mahudi (742 m AMSL), Sāthī and Satpāhadh (683 m AMSL) hill ranges. It is a region of plateaus, residual hills, inter-montane valleys and hilly forests. The Barkagaon block covers most part of North

Karanpura Valley coalfield in northern Jharkhand. The bedrock of this region is mainly Mahadeva Sandstone and Granite (yellow and pink). The major geology of this region composed of granite, gneiss and mica schist type of Pre-cambrian rocks. Rest of the portion of the Barkagaon is composed of sedimentary rocks of Gondwana period (Roy Choudhury, 1957).

Whole Barkagaon block is a part of upper Damodar river valley, where the Damodar River touches the boundary of this block. The study area comes under tropical monsoon climate. Average summer and winter temperatures are 30°C and 17 °C respectively and average annual rainfall is 172cm. The climatic factors like temperature and humidity determine the rate as well as type of physical and chemical weathering of sandstone and other rocks.

The sandstone and quartzite hills of North Karanpura valley has several natural rock shelters which were used by prehistoric humans for various purposes like settlement and as well as a canvas for making rock art. These rock shelters are now marked as sacred places for ethnic groups of North Karanpura valley.

Previous Research

The first anthropological study in this region was carried out by the anthropologist S.C. Roy (1928). He has studied the lifestyle and hunting-gathering pattern of *Munda, Birhor* and *Oraon* communities of Hazaribagh and Ranchi. The first rock art site (Isko rock shelter) of Jharkhand was also discovered in this region by Albert (1991) and further studied by Chakraverty (1996) and Imam (2014, 2016). The first quantitative analysis of rock art in Isko rock shelter has been done by Chakraverty (1996) where he tried to relate with Neolithic tradition on the basis of geometric pattern and stone tools.

Bhattacharya and Singh (1997 and 1998) of Delhi University carried out a small scale survey on the northern part of North Karanpura valley mentioning the probability of Epi-Palaeolithic culture in this region, but no such exploration has been carried out since then. The prehistoric open-air sites of the region have been reported by Imam (2014, 2016) and Das (2009, 2010). Detailed digital documentation was done for virtual preservation of Isko rock shelter as well as to create a model for the future studies (Saha and Rajak, 2019).

Methodology

The present field survey was conducted through exploration using topographic map (73E/5) of Survey of India. In addition to this, for a better understanding of landforms along with sites, DEM is made by using Q GIS software (version 2.81). The rock shelter site of Isko has been documented by taking measurements with a distometer, digital photographs of pictographs and petroglyphs by DSLR camera. The documentation of faded and superposition pictographs (paintings) were done by the enhancement of shades with the help of DStretch plug-in for Image J TM software (version 8.3). The line drawings of rock art were made by Adobe illustrator (version 24.1). Ethnographic

documentation was carried out to draw a general comparative analogy between present material culture and symbolic behaviour with rock art at Isko.

Rock Art at Isko

Isko rock art site is located in the Sathi hill range of western Baragaon block, Hazaribagh district Jharkhand. This sandstone rock shelter is present on the south-eastern portion of Sathi hill and the Isko village is settled on the 100 m west of rock shelter. The Rani-daha River flows around 200 m north of the rock shelter. There are a total of three rock shelters present in the Isko village, while only one present on the south-eastern slope of Sathi hill contains rock art, whereas other two rock shelters present on the northern slope of Sathi hill do not content rock art. The rock shelter which contents rock art is called as *Khovar-gufa* and other rock shelter is known as *Malwa-duari-gufa* by the local villagers (Rajak, 2019).

Isko rock shelter is present in the 49.68 m long synformal anticline in Sathi hill, where it contains a wide array of pictographs on the east-facing wall of rock shelter. The natural floor of this rock shelter has been replaced by 1.50 m wide cemented floor made by the state government. This activity has destroyed the archaeological deposits from the surface of the rock shelter. But still, evidence human occupation is marked by some microliths from the rock shelter and slope of the hill. There are four steps made by villagers to approach the rock shelter. Isko rock shelter is east facing and 8 m south of this rock shelter there is a *Thān* (sacred place) where *Munda* and *Birhor* communities worship their village deities (Rajak, 2019).

The total length of the Isko rock shelter is 28.70 m, the height of the southern edge of rock shelter is 4.30 m and height of the northern edge of rock shelter is 5.30 m. The highest part of this rock shelter is present in the centre which is 5.81 m high. In general, most of the paintings are located on the minimum height of 1.58 m from the present cemented floor and the uppermost rock art is located about 5.54 m on the ceiling of the rock shelter. Most probably the early settlers had purposely selected the middle and upper parts of the rock shelter for painting, and it would be also preserved naturally from distortion (Saha and Rajak, 2019) (Figure 3).

Both pictographs and petroglyphs are present in the Isko rock shelter. The rock art of this site presents a unique realm of symbolic representation of behavioral and cognitive aspects of early settlers in this region. The hunting scenes are absent in this rock shelter, whereas it carries symbolic, linear, some zoomorphic and some anthropomorphic depictions (Figure 4). Pictographs carry more diversity of depictions but petroglyphs are limited with one anthropomorphic, one zoomorphic and some linear carvings. Pictographs are broadly divided into two parts- figurative and non-figurative; moreover, it represents a greater extent of diversity in symbolic creativity of early settlers. It seems that the authors, who made these pictographs, intentionally selected the best possible part in this rock shelter as a canvas. The rock surface is relatively smooth, spacious, wide and protected by a narrow ledge blocking out direct

sunlight in the densely painted area. The rock surface is relatively uneven and coarse-grained in the non-painted or less painted part. A large number of the pictographs have been badly affected due to the erosion and weathering of rock surface by water leaking and recent anthropogenic activities has vandalized rock art.

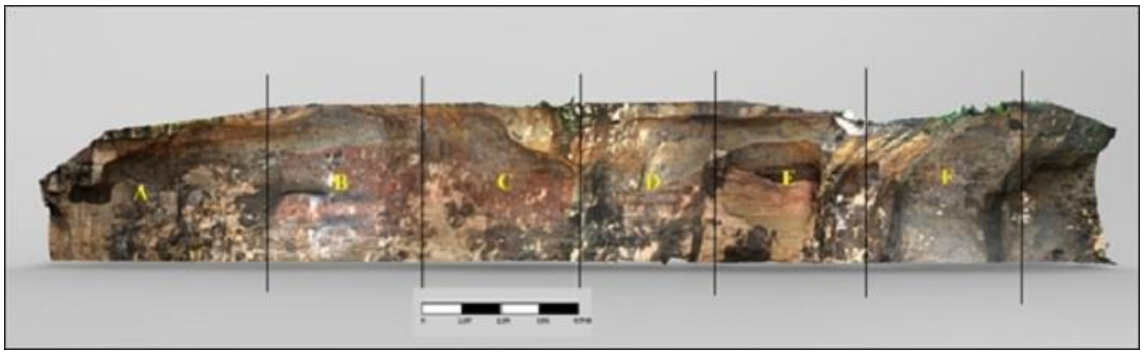

Figure 3a: Division of rock shelter into six sections of 4.79 m equal length
(Courtesy: Saha and Rajak 2019)

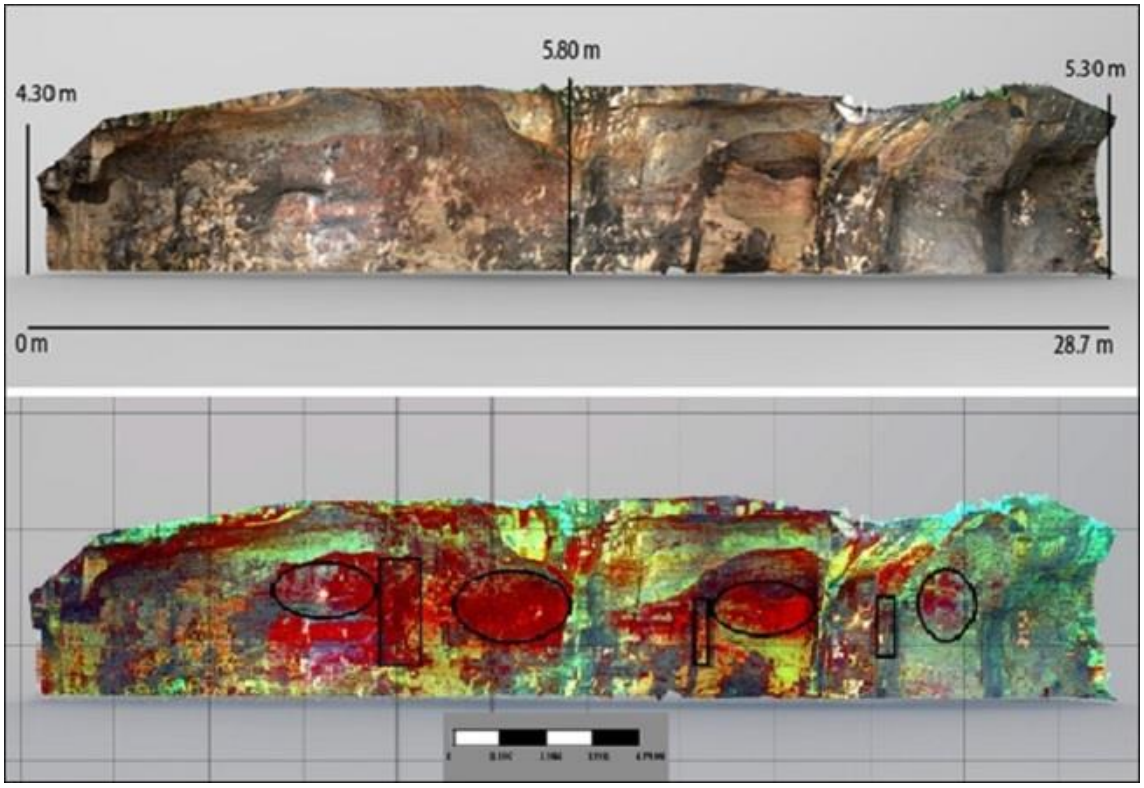

Figure 3b: Messurment and art-distribution of the Isko Rock Shelter
(Courtesy: Saha and Rajak 2019)

For quantitative analysis of rock art depictions on the wall of the rock shelter, the full panel of rock shelter has been divided into six sections according to alphabetical order (from A to F) where each one has a length of 4.79 m. The total depictions on each section have been counted and sub-divided into polychrome and bi-chrome variety (shades of red and white) of pictographs and petroglyphs. The natural circular

depressions are also noticed on the wall of the rock shelter where most of them have utilized as the surface for making pictographs in floral and circular motifs (Rajak, 2019).

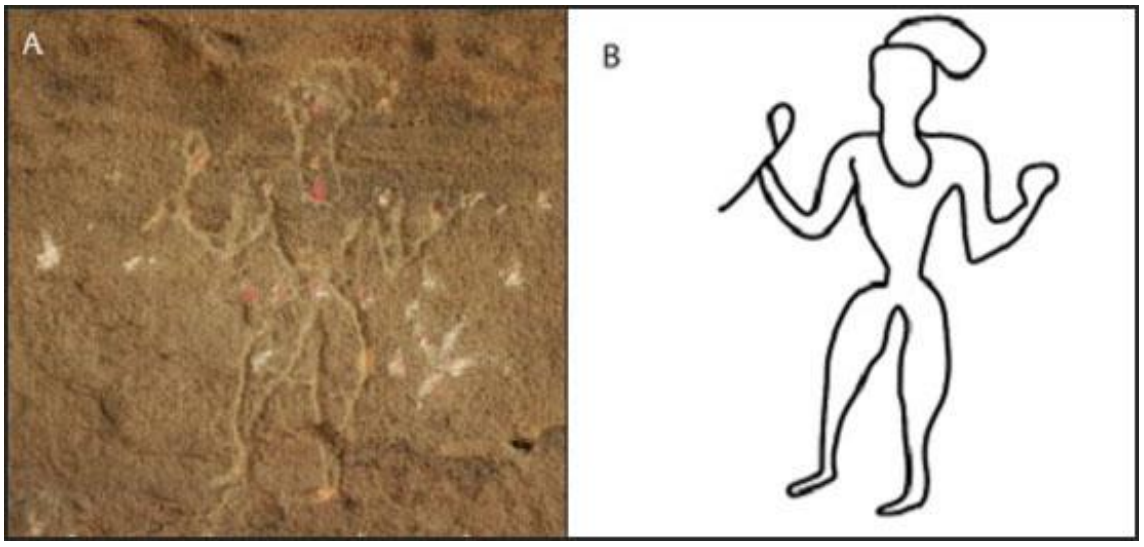

Figure 4: Anthropomorphic petroglyph in section F

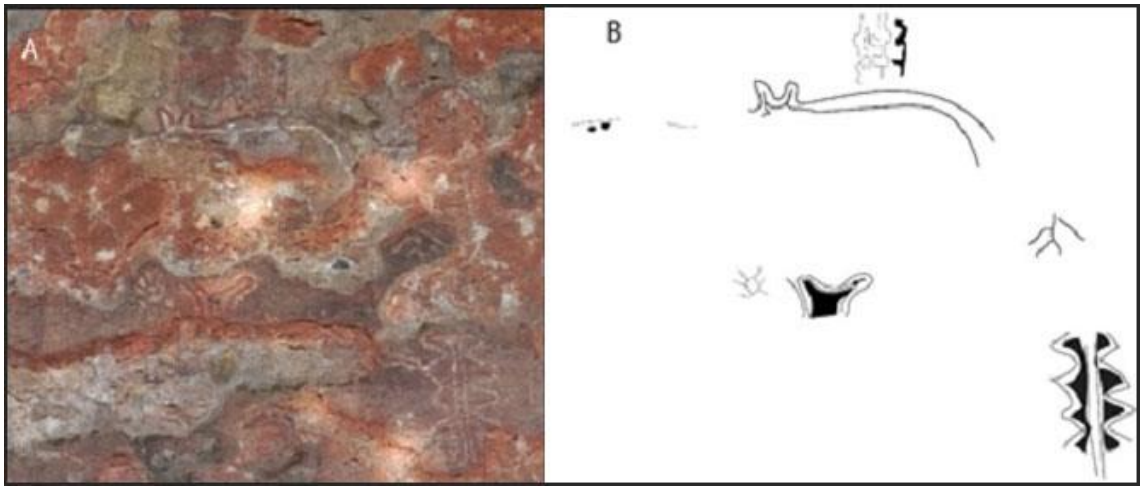

Figure 5: Zoomorphic and non-geometric petroglyph in section B

This rock shelter is dominated by the pictographs whereas very few petroglyphs are present over this site. Chakraverty (1996) had identified only two petroglyphs at this site, but the recent study shows that there are more petroglyphs including single lines and circular patterns at the site and most of them are superimposed by pictographs (Rajak, 2019). The most dominating petroglyph at this site (present in section F) is a complete male figure (Figure 5). This anthropomorphic petroglyph is shown dressed and his hands are in V-shaped upward position, on his right hand, he is holding some attribute which looks like a half-opened lotus flower or an arrow (Imam, 2014). Other decorations on this anthropomorphic petroglyph include a turban or hair dress and necklace. Imam (2014) has interpreted it as chowri-bearer or woman of Mauryan

period, but because of the absence of female's physical attributes like breasts and the presence of *dhoti* like lower-dress indicated that it is most probably a male figure (Figure 4). A close examination of incision lines of this anthropomorphic petroglyph by magnifying glass shows that whole edges of incised lines were sharped and without any patination. The style of making this anthropomorphic petroglyph is also found relatively different from anthropomorphic pictographs of this site. The presence of hair dress or long hair, beard/necklace and dhoti kinds of lower dress does not show the nature of prehistoric society. As this rock shelter is located in a forested and hilly area where we do not have any archaeological trace Early Historic monuments and sites, so it would be wrong to relate it with Mauryan period. These above mentioned nature of this anthropomorphic petroglyph indicate that most probably it is relatively younger than other pictographs and it indicates that this site has an excellent nature of continuity of rock art. At this stage it can be hypothesized that this petroglyph could be of an ascetic but needs to be confirmed.

Figure 6: Petroglyph of one-horned rhinoceros (*Rhinoceros unicornis*) at Section A

Section A

The lower surface of the shelter's wall in 'section A' is uneven and protruding out. The rock surface in this section is coarse in texture. Section A has very few rock art

depictions which are present on the height of 2.45 m towards east direction. Only eight pictographs are present over this section which is 2% of total rock art in Isko (Chakrabarty, 1996; Rajak, 2019). The western rock surface of this section is suffering from chemical weathering process of hydration and this has badly affected the rock surface and the colour of the sandstone wall turned into greyish white. The dripping water from the ceiling of shelter resulted in the formation of natural vesicles or sinkholes across this section. One of the sinkholes is decorated with a floral motif which has two large petals and twelve small petals. Other five natural vesicles or sinkholes are decorated with concentric circles motifs. This shows opportunistic use of natural circular depressions in rock art.

Another important petroglyph depicted in section A one-horned rhinoceros (*Rhinoceros unicornis*) (Chakraberty, 1996; Saha and Rajak, 2019; Rajak, 2019) (Figure 6). This petroglyph is present at height of 2.43 m from the cemented floor of the shelter. It is a peculiar zoomorphic motif for this geographical area, because now one-horned rhinoceros are not present in Jharkhand. So that this petroglyph indicates that when this rock art was made, at that time one-horned rhinoceros (*Rhinoceros unicornis*) was present in Jharkhand.

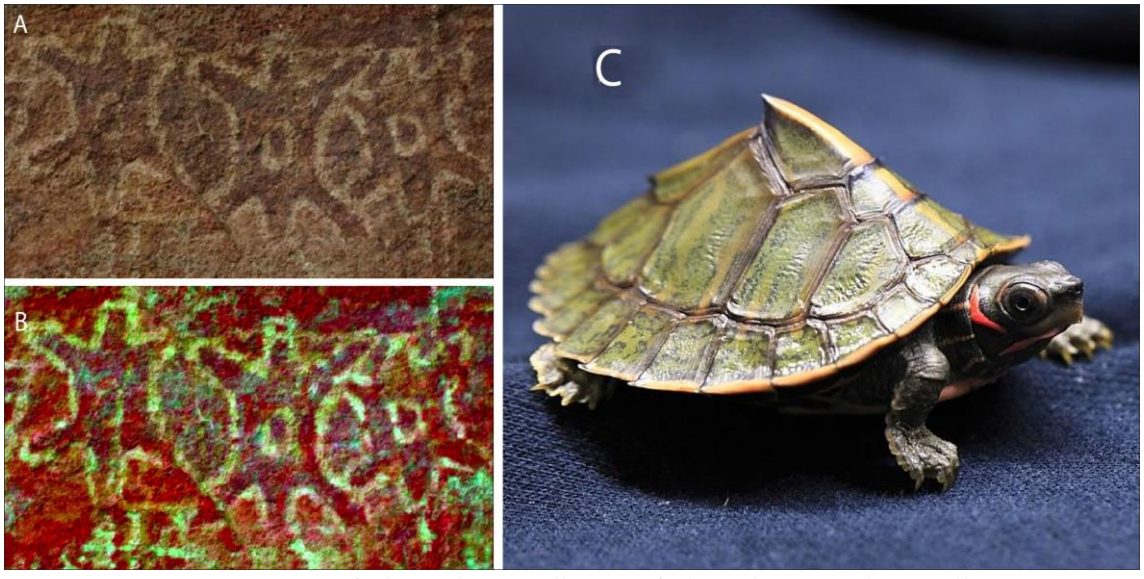

Figure 7: Assam Roofed Turtle or Sylhet roofed turtle (*Pangshura sylhetensis*)

Section B

The 'Section B' of Isko rock shelter carries about 63 visible pictographs which are the third height number of clearly visible rock art at this site and it shares 15% of total rock art. In this section, a total of 33 pictographs are in bi-chrome (red and white) and 29 pictographs are in mono-chrome (only in dark red) (Rajak, 2019). Most of the rock surface of this section is disturbed and weathered by the chemical weathering process of hydration and anthropogenic activity which formed flared slopes. Some natural vesicles or sinkholes are also noticed in this section which was formed because of dripping water (Figure 5).

Section C

The richest area of this site is 'Section C', which has a share of 43% of rock art in this site. This section has a maximum number of 165 non-figurative pictographs (90.66% of total non-figurative pictographs in Isko rock shelter), and 5 zoomorphic figures, and 12 anthropomorphic pictographs (Rajak, 2019b). The surface texture of rock at this section is fine, smooth and vertical. The rock art is relatively well preserved in this section. Some hunting nets are also drawn in section C (Rajak 2019b: Saha and Rajak, 2019). Three turtles are identified in this section as Assam Roofed Turtle or Sylhet roofed turtle (*Pangshura sylhetensis*) by their physical characteristics like a prominent spiked keel or pointed vertebral shell, pointed tail, legs with nails and cylindrical (Rajak, 2019a) (Figure 7). Finding the figure of this species of turtles in rock art is rare because it is now an endangered species which is only found in Brahmaputra valley of Assam.

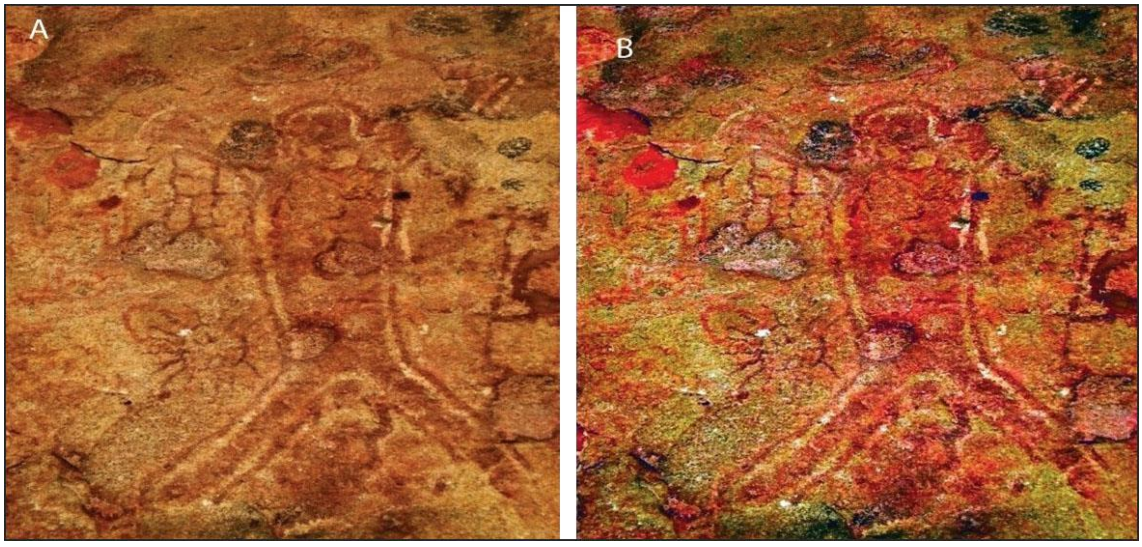

Figure 8: Anthropomorphic figure of a mother giving birth to a child

The depiction of fertility cult is imperatively present over 'section C', in both anthropomorphic and symbolic forms. It has been universally established that the status of women had greater relevance in almost all population parameters and health aspect for primitive societies (Mahadeven, 1989). The anthropomorphic figure of a mother giving birth to a child, indicates that childbirth must be a cheerful moment for ancient society, moreover its emphasis on the fertility of women. Chakraverty (1996) had identified this anthropomorphic pictograph as a male figure but in recent research with close observation, it has been noticed that it is a figure of a mother giving birth to a child (Imam, 2014). This anthropomorphic pictograph is filled with red pigment and the first outline is made with white pigment and second outline with red pigment, it is the most prominent anthropomorphic figure (40.6 cm height) of this section, which is lying back in the extended position and newborn baby coming of the uterus by the normal presentation which is called vertex (head down) or Left Occiput Anterior position. As Chakraverty (1996) had identified that nose, eyes and other identifying features are not available in this pictograph which could be explained by her lying

back or non-upright positions of childbirth (Figure 8). Many caregivers around the world still prefer non-upright positions today, even though current obstetric textbooks state that it is beneficial, especially for first-time mothers, to push in upright positions (Kilpatrick and Garrison, 2012) (Begley at al, 2015). It is thought that most women giving birth are encouraged to push in a back-lying or semi-sitting position, this helps mother to put weight on the tailbone—because it is more convenient for the care provider during the birth of the baby. This pictograph is helpful for us to understand the status of women and their role in family decision-making is pivotal as a determinant of fertility and mortality regulations, mainly among the infants and newborn babies. D-Stretch software shows that the same pigment was used for making this anthropomorphic figure and sun which is present just on the right-hand side of it.

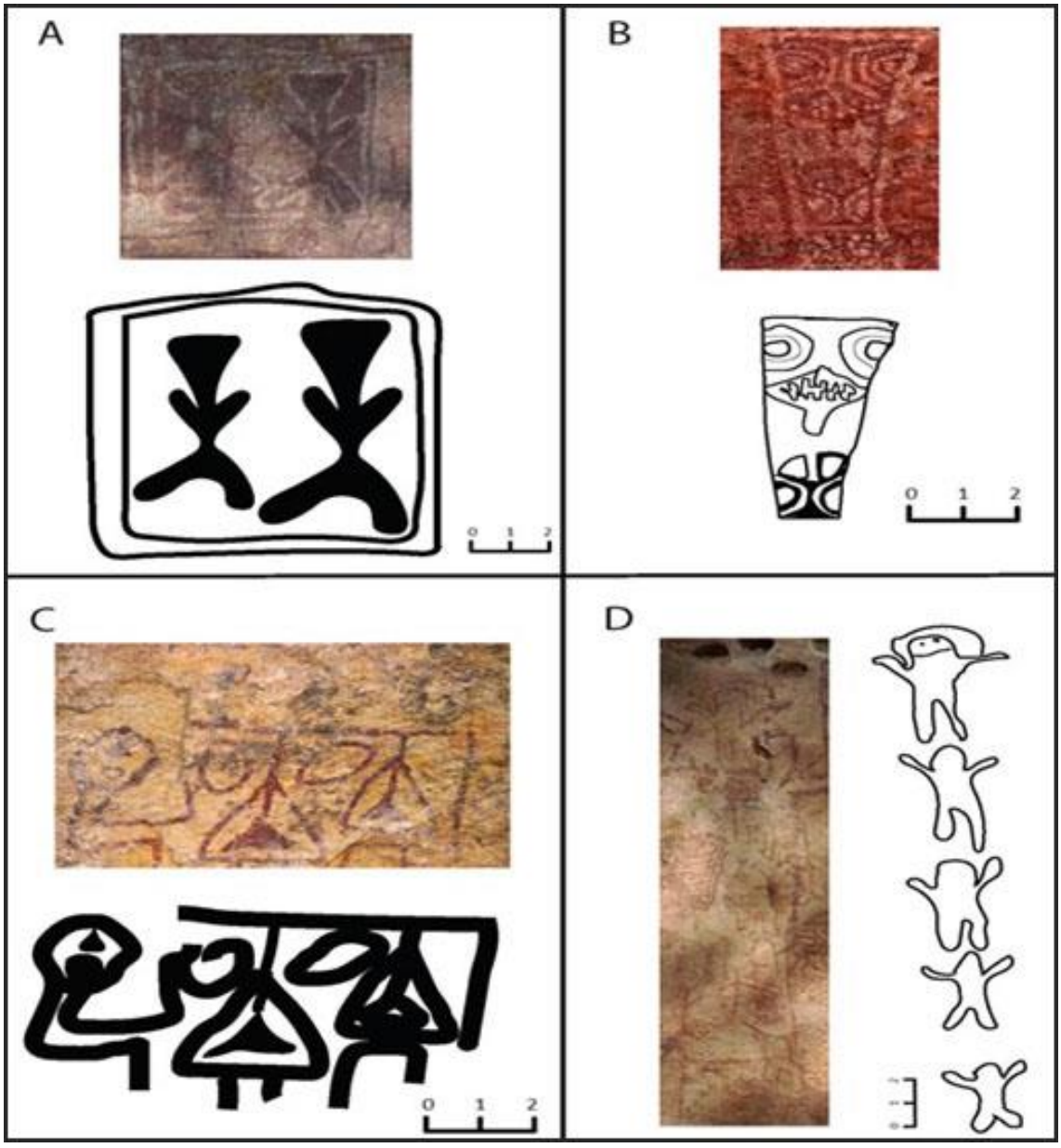

Figure 9: Anthropomorphic pictographs in Section C

The ethnoarchaeological survey in Isko village refers to an on-going tradition and belief that still they symbolized the male power or their superior deity as the sun, this ethnographic reference indicates that most probably these two pictographs are associated with each other and may be made at the same time moreover it may also possible that the sun symbolized the birth of a male child (Mishra, 1991; Imam, 2015; Rajak 2019).

Figure 10: Pictograph of a man riding an animal, with ethnographic parallel

This shelter has also provided us evidence of cosmological belief of early settlers in this region. In the 'section C' of Isko rock shelter, five anthropomorphic figures have been depicted who are vertically standing on the shoulders of each other's, this vertical raw starts from a fish and with a human who's aura are symbolized by the sun on his back. Interpreting the meaning of this depiction is really hard (Figure 9 D). Although it fits in the oral tradition of *Munda* mythology which says that *Singbonga* (sun deity or superior deity) had first created fish and at last he created humans, who were his best creation (Mishra, 1991). Yet it can certainly be claimed that the way in which rock art is being considered or practice by the present ethnic group was the same in the past. The basic problem is the huge time gap and it is sufficient to obliterate from the cognition. It is remarkable that today's ethnic groups still connect themselves with the rock art in the form of ancestral heritage and supernatural belief, so somehow their cognition is still connected with the rock art. It is also possible that this could be a representation of the *Matsyaavatar* (Fish incarnation) and evolution story from the *Dashavatars* of Vishnu. This is just a hypothesis which needs to be verified by further studies.

The pictograph of a man riding an animal (Figure 10) is present in the middle wall of 'section C' of this rock shelter. This pictograph represents an anthropomorphic figure

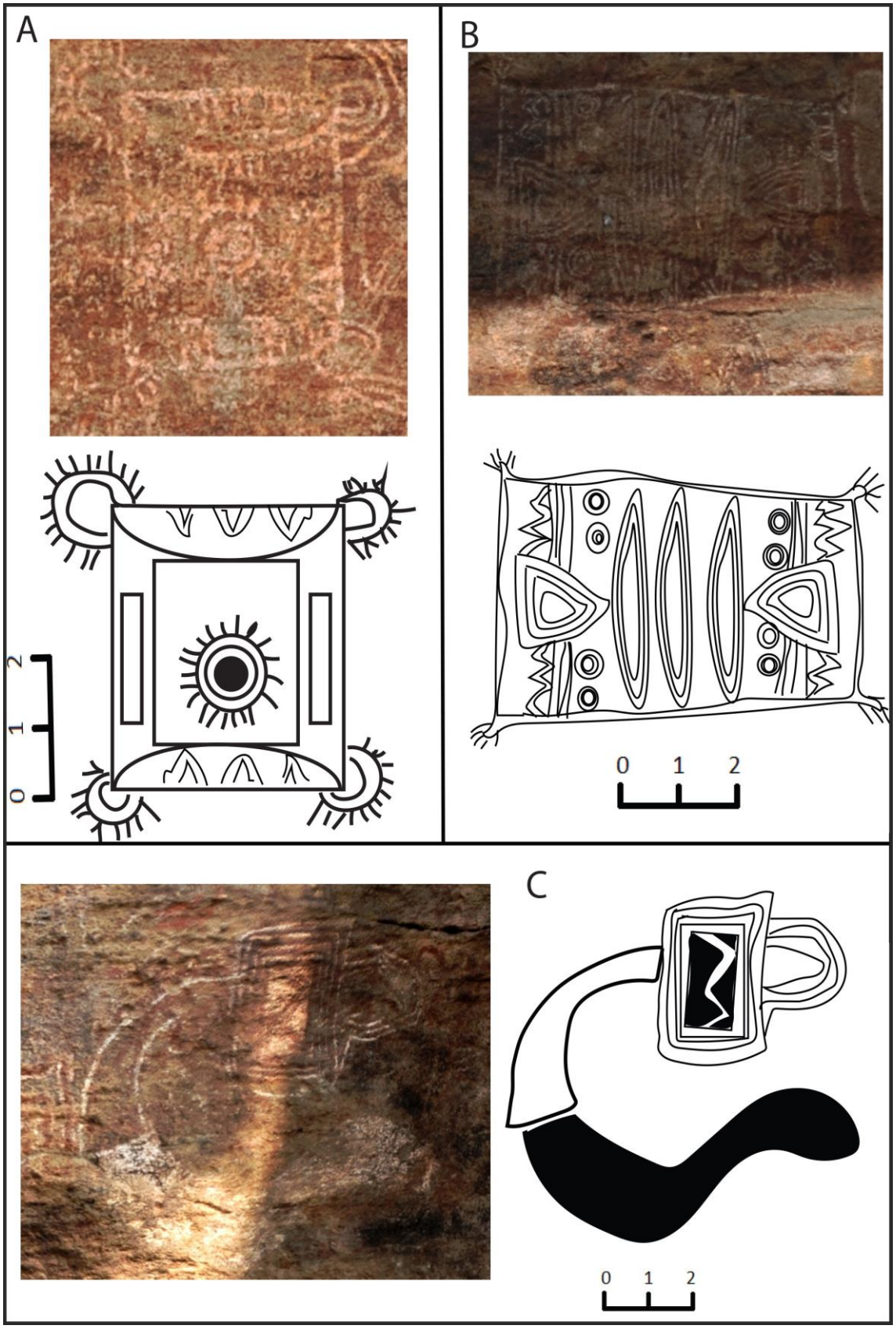

Figure 11: Symbolic or non-figurative pictographs in section E of Isko rock

who is seated on an animal which has small horns and long ears which clearly indicates that this animal belongs to the Bovidae family, moreover it has bridle which had held by the anthropomorphic figure in one hand, this attribute specified it as a domestic animal. The bust part of this anthropomorphic figure has been destroyed because of erosion. This distinct pictograph has provided us evidence that those humans who occupied this rock shelter had knowledge of domestication of Bovidae (cattle or ox or buffalo. One of the interesting factors about this particular pictograph is that it has its parallel in the ethnic art of *sohrai* painting of this region, where the painting of a man riding an animal is considered as S*hiva* who is the lord of all animals and worshipped in the *sohrai* festival (Rajak, 2019b).

Section D

The 'section D' of this rock shelter is the second richest and diverse parts of Isko. It has a share of 43% of rock art in this site (Rajak, 2019). This section is dominated by non-figurative pictographs and it also has some zoomorphic and anthropomorphic pictographs. On the western part of section D, a monochrome red pictograph of male Gaur or Indian Bison (*Bosgaurus*) is found, this zoomorphic depiction is identified on the basis of a deep massive muscular body, sturdy and short limbs, shoulder hump and pens but the head of this depiction is fully faded and eroded. It is one of the rare and strange depictions for this region because this animal is extinct from this region.

Figure 12: The symbolic depiction of fertility with three valvas in centre (original photo and enhanced version in DStretch plug-in)

Section E

In 'section E' pictographs are relatively ill preserved. A large part of this section is weathered due to chemical and biological weathering. This section share 9% of rock art of this site, where 14.43% of paintings are made by white monochrome pigment and 76% made by bi-chrome pigments (Rajak, 2019). The non-figurative pictographs are dominating here (Figure 11), which include both geometric and non-geometric pictographs (Across and Davidson, 2006). Most of the pictographs which are present here are in faded condition.

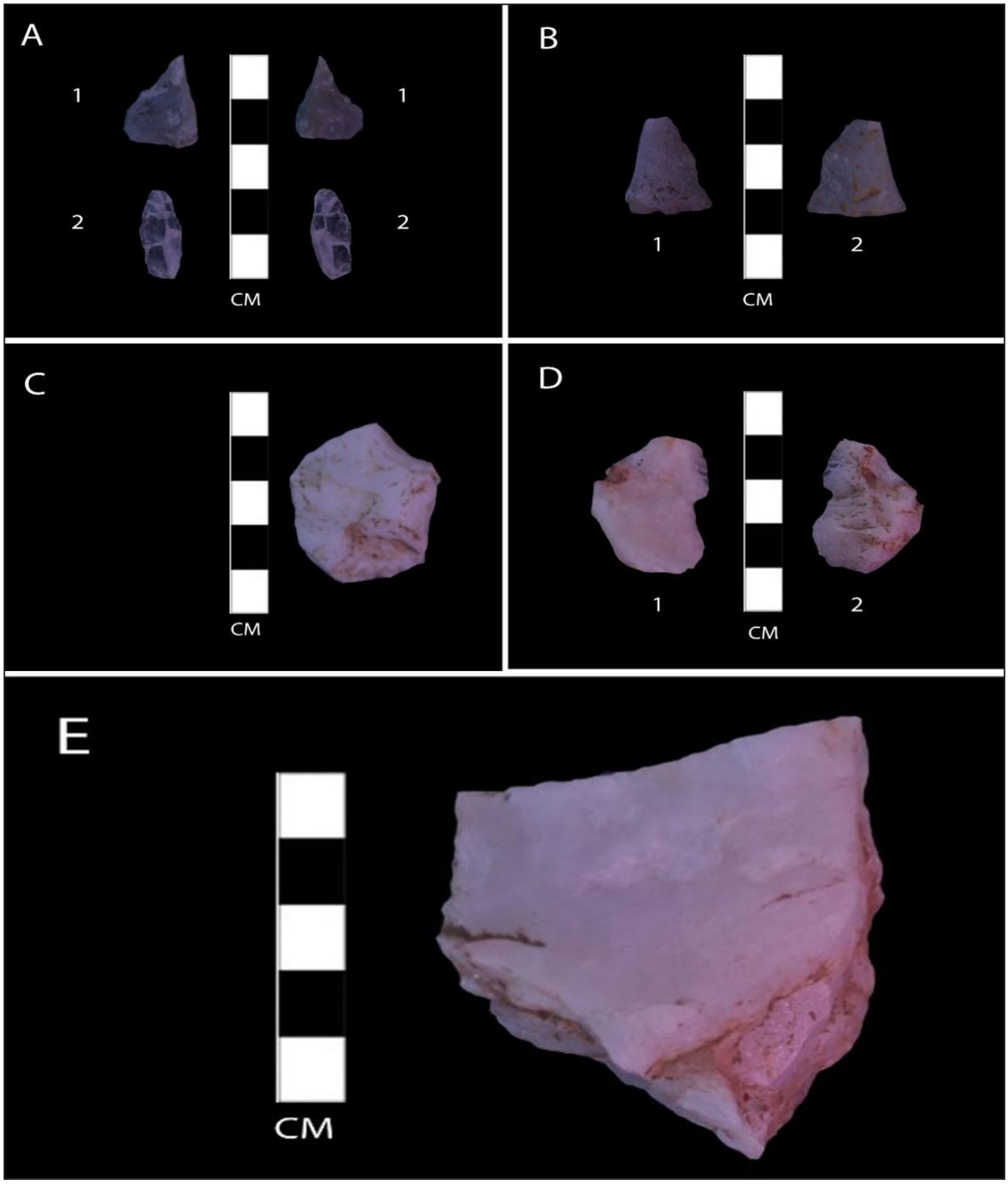

Figure 13: Microliths and Raw Materials from Isko rock shelter

Section F

The last edge of Isko rock shelter is 'section F', where only 34 cases of rock art are present (Rajak, 2019). Short and smooth rock surface was preferred here for rock art. The symbolic depiction of fertility is more prominent in this section, which is represented by abstract female vulvas and multiple circles. The symbolic female fertility is represented by 'a rectangular box where four concentric circles are present in all four corners and on both right-left parallel sides it has concentric triangles and in the centre of the rectangular box three concentric rhombus or vulvas are present

(Figure 12). The pictographs of this site including Mother giving birth to a child in section C (Figure 8), several concentric rhombus or vulvas in section E (Figure 11 B) and F (Figure 12) indicate the possibility of belief in fertility cult, especially on female fertility. In hunter-gatherer cultures, human and animal sexuality are conceptually related and this association if further linked with the survival and growth of population in the small society (Conkey and Trevathan, 1989).

Lithics

As mentioned earlier that the construction of the cemented floor at the Isko rock shelter has destroyed most of the archaeological deposits from the rock shelter. Now getting any kind of other archaeological cultural material from the rock shelter is rare.

The chronology of this site is a matter of debate as no absolute dates are available so far. There are difficulties in assigning relative time period for this site, due to high amount of superimposition of rock art at specific sections, absence of any general iconographic characteristics of rock art, absence of the good amount of stone tools and potsherds.

Imam has mentioned his findings in his book Antiquarian Remains of Jharkhand (2014) that he has found Acheulian handaxe from just above the rock shelter and evidence of copper pipe from the agricultural land of Isko village. Chakraverty (1996) has mentioned in his article that he found a small polished celt from in-situ uppermost clay deposit beneath the rock shelter. Neumayer (2003) has done a comparative study of Isko rock art and the claims that this rock shelter belongs to the Mesolithic and Chalcolithic periods.

Recent intensive exploration around the site indicates that it is a multi-cultural site and it has several layers of superimposition. Most of the rock art is faded now or destroyed because of weathering which may belong to an early age. During the recent exploration some deposits yielded microliths from the slopes near the rock shelter. The microliths assemblage from this site includes one end flake made from crystal quartz, two end flakes, one flake fragment, one trimmed nodule or one raw material nodule. The presence of microliths shows that the inhabitants were exploiting stones for making flakes and blades. All the specimens collected recently are devoid of retouching or secondary flake scars, no proper tool was recovered (Figure 13).

Conclusion

The present documentation of Isko rock art clearly show that the majority of pictographs are non-figurative (92.67%) and only 7.33% pictographs are figurative including anthropomorphic, zoomorphic and floral motifs (Rajak, 2019b; Saha and Rajak, 2019). The high number of geometric patterns in this particular rock shelter also indicates its connection with the ritual or belief system of ancient society. Rappaport (1999:31) suggested that "*...if rock art were associated with ritual, the motifs would provide ideal 'symbols' in which to convey the canonical messages*.'' This study shows that the

symbols and patterns in rock art have been used by present and (maybe for) past societies as a tool for meta-communication which transfer canonical message or hidden message with the use of clairvoyance as a medium of communication. The feeling that some symbols or something are sacred, which is powerful, seems to be universal for all ethnic societies.

This rock shelter has some important zoomorphic motifs including one-horned rhinoceros (*Rhinoceros unicornis*),Assam Roofed Turtle (*Pangshura sylhetensis*) and Gaur or Indian Bison (*Bosgaurus*) which indicate that during the time when these rock art were being made the surrounding landscape was densely forested and these species were part of the ecology. Isko rock shelter has comparatively less anthropomorphic motifs and most of them seems to be indicators of past social belief system like the pictograph of the mother giving birth to a child in section B could be an indicator of female fertility and importance of childbirth for past society. Another important pictograph is a row of vertically standing five anthropomorphic figures and uppermost with aura or sun which might indicate some kind of ritual or supernatural beliefs of the past society.

The study of symbolism which is discussed in this study of rock art at Isko, ethnographic survey and its justification by cognitive archaeology suggests that the ethnic people of this region are deeply connected with their tradition and belief which gave sustainability to survive the intangible cultural heritage of these people and tangible heritage of rock art. The ethnic people of this region still follow ethnic art (*Shrai* and *Khovar*) and they still use natural pigments. The popularity of Isko rock shelter has badly affected the site because of an increase in the tourism and attention of local scholars towards these paintings. The basic problem with this site is its chronology or cultural background. The microliths with have been found from rock shelter indicate that the humans were using small flakes. But as most of the stone tools are not from proper context a specific time bracket cannot be assigned for these tools. Further systematic investigations along with application of scientific techniques might yield better results including the chronology.

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