



General observations on the rock art of Satpura Tiger Reserve, Madhya Pradesh

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Introduction

This paper reports general observations from two occurrences of rock art in the Pachmarhi Tiger Reserve visited casually during a bird survey. One of the occurrences includes only pictograph while the other one includes pictographs and petroglyphs. It is not clear if these sites were visited and reported earlier by other researchers. Though, pictographs are commonly known across central India including the Pachmarhi region, such engraved grooves are not common. The paintings depict animals, human figures, warriors, horseback riders, geometric patterns, dancing scenes and so forth (in red, orange and white, and black pigments) and appear to tentatively belong to Mesolithic and Historical periods. Chalcolithic themes were not observed but proper survey and documentation at the sites may yield them in the future. The engraved patterns (many naturally weathered since production) are in the form of short and straight parallel lines as well as intersecting designs, and their chronological relationship with the adjacent paintings remains ambiguous. Interestingly, these engravings are located on a sandstone ledge at the periphery of the rockshelter but appear to be largely missing elsewhere at the site including inside the rockshelter. It is also not clear if these engravings represent archaeological 'artwork', some form of notation/counting, post-occupational (recent?) graffiti or simply marks resulting from sharpening or grinding some object(s), i.e. weapon(s) or tool(s). In any case, systematic research is required in this central zone to locate more engravings and compare them with comparable evidence elsewhere from India.

In recent years, our understanding of the nature and age of known global rock art occurrences has changed drastically due to new discoveries and geochronological applications. The oldest known examples of prehistoric engravings are now dated to 101-94 Ka & 77 Ka and occur on portable nodules of ochre and the oldest painted evidence (also portable) is -73 Ka, both coming from Blombos Cave in South Africa (Henshilwood et al 2018). The oldest known rock paintings in cave or rockshelter context comes from Spain and are (controversially) thought to be >65 Ka in age and allegedly belong to Neanderthals (Hoffmann et al 2018). In Asia, the oldest known rock paintings were recently reported to be -45 kyr old from Indonesia (e.g. Aubert et al 2019; Brumm et al 2021) and has major implications for India if those populations used it as a dispersal corridor to reach Southeast Asia. The oldest known engravings on a cave/rock art wall belong to Neanderthals and are dated to >39 Ka at Gorham's Cave in Gibraltar (Rodríguez-Vidal et al 2017).

The Indian subcontinent has yielded a large number of rock art sites but very few occurrences have been properly dated and are currently restricted to less than 5000 years including a honeycomb-style engraving from the Kurnool region of Andhra Pradesh (Tacon et al. 2013) and a painting from the Pachmarhi region in Madhya Pradesh (Banerjee and Chakraverty 2015). In India, rock art in the form of engravings, etchings and bruising are

most commonly known from the Himalayan zone and southern India, and usually attributed to the Neolithic and younger times (e.g. see Chakravarty 1984). Additional but comparatively fewer occurrences have been reported from eastern India and most recently from the Konkan zone of Maharashtra (Garge et al 2018). One of the most dense occurrence of engravings in rockshelter/cave context are those from the site of Edakkal Caves in Kerala (Fawcett 1901). Regarding engraved portable art, two of the best prehistoric examples from India are the undated Chandravati core from western India (Sonawane 1987) and the -39 kyr old and -25 kyr old ostrich eggshell fragments from Chandrasal and Patne, respectively (e.g. Kumar et al 1992). For comparison, the oldest known engraved ostrich eggshell in the world come from Diepkloof in South Africa and are -60 kyr old (Texier et al. 2010).

The rock art sites reported in this paper were encountered accidentally during the Satpura Bird Survey which took place from February 2nd to 4th in 2019 rather than being a pre-planned archaeological survey. The bird survey started with some orientation at Madaiby the forest officials before everyone separated into several groups to document birds at different locations in the tiger reserve. The author was accompanied by Mr. Anup Prakash (The Habitats Trust) and Dr. Suhel Quader (Nature Conservation Foundation). Due to the associated time constraint, only a few minutes were spent at each of the two rock art sites and only a few basic photographs were taken; it was not possible to document or measure the evidence in detail as is traditionally done. Hence unfortunately, several of the photographs are missing a photographic scale as they were taken with a zoom. At the moment, it is not clear if these sites (Fig. 1) have been reported earlier in a specific manner (e.g. Dubey-Pathak 2013). No known villages are in the vicinity of the two discussed sites as many of them in the interior of the tiger reserve were relocated long ago by the Government of India. However, the author was able to document geo-coordinates through the help of Canon and Nikon cameras with an in-built GPS feature.

Site A (Neemdhan forest camp)

This rock art site (geo-coordinates: 22°31'22.1159999999945", 78°18'48.3719999999740") is located about 500 m northeast of a small forest camp at Neemdhan) situated in the center of a low and flat area within the Satpura hills (808 m AMSL). The rockface here is about 15 to 20 meters high and contains leaching stains of iron oxide and other minerals on the bedrock (Fig.2); it also has a large opening in the ceiling of the shelter due to long term chemical weathering (Fig.3). The painted panels include such images as stylized fauna, human figures in different poses including group dancing and with bow and arrow and long wavy hair (Figs.4-5). At places the paintings are purposefully situated on the smoothest available surfaces sandwiched between natural horizontal layers of pebble-sized clasts which is a common sedimentary feature of Gondwana/Satpura bedrock geology (Fig.6).

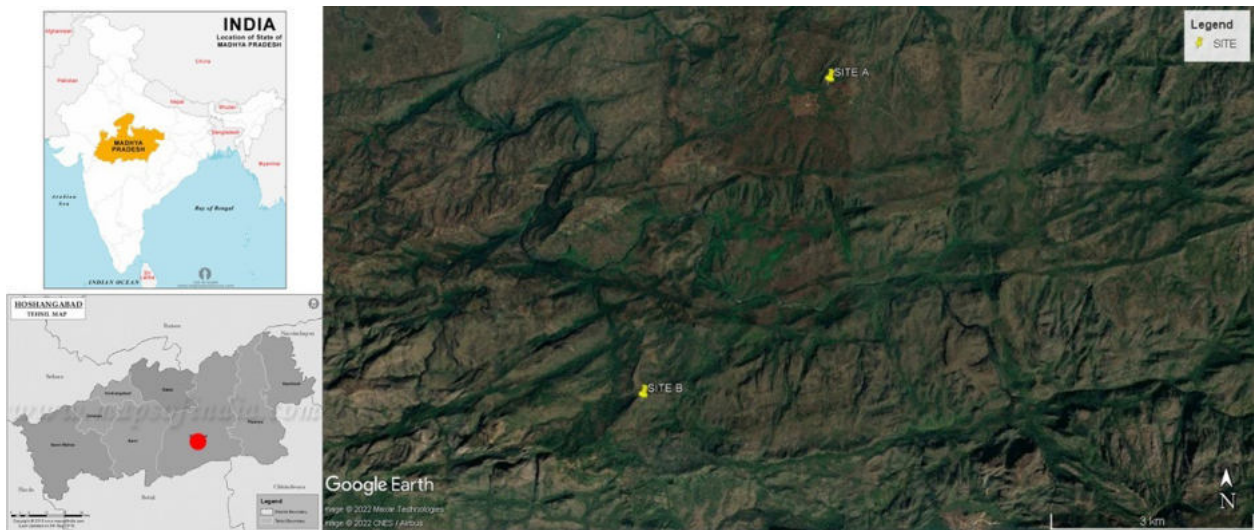


Figure 1. Location map of Sites A and B within the Satpura Tiger Reserve, M.P.



Figure 2. One of the rock shelters faces at Site A (near Neemdhan forest camp) One of the rock shelters faces at Site A (near Neemdhan forest camp).



Figure 3. Another angle of the rock shelter at Site A (near Neemdhan forest camp).



Figure 4. Multiple overlapping figures of animal, human and other images at Site A.



Figure 5. Depictions of human figures with bows and arrows at Site A.



Figure 6. Depiction of bovid-like animals and a human figure with weapons (?) at Site A.



Site B (Engraved grooves site)

The location of this site (geo-coordinates 22°28'47.8859999999986", 78°17'9.73200000001824") is approximately 15.5 km west of Pachmarhi town and -5 km northeast of the Bori forest rest house which is situated near the Barasingha relocation center. The rock art site (923 m AMSL) is situated at the base of a vertical Gondwana/Satpura escarpment or rock face over 30 meters high from the forest road which is directly adjacent to the rock shelter (Fig. 7) and a



Figure 7. Vertical cliff next to the road at Site B.

forest department locational marker (Fig. 8). The rock art here includes one painted panel of battle scenes including human figures with bows and arrows, much of which are now highly eroded and/or stained by chemical weathering (Fig.9). The remaining paintings include outline, geometric, monochrome and bichrome images, many of which are purposefully situated in the inner parts of smooth horizontal recesses (Fig. 10). In general, painted themes include common fauna, ambiguous feline-like figures, and human figures of varying sizes including warriors with shields and weapons, soldiers on horseback and a line of dancers holding hands (Figs.11-15). The site also yielded a possible man-made (or a natural cavity that was later modified) cavity on the floor that may have been used for food processing or pigment processing (Fig.16).

However, the most intriguing evidence at this site is a series of at least 40 engraved grooves/lines located on a small horizontal ledge at least two meters in length, located in front of the rock shelter (Fig.17); some faded paintings of warriors with weapons are associated with a part of the engraved ledge (Fig.18). From a general sense (as there was no time to properly measure or count the grooves), the engraved lines vary in length from about 4 to 20 cm although almost all of them are about 1 to 2 cm in average thickness and depth (Figs. 19-20). The



Figure 8. Forest department locational marker at Site B.



Figure 9. Faded white images of human figures with bows and arrows at Site B.



Figure 10. Faded monochrome and bichrome images at Site B.



Figure 11. Wild canid/cervid (?) fauna depicted in white at Site B.



Figure 12. Stylized animal figures (feline?) and warriors on foot and horseback in red and yellow at Site B. Note the overlap with white figures in the background.



Figure 13. Faded white images of human figures with bows and arrows at Site B.



Figure 14. Multiple human and animal figures (mostly white), many overlapping and of different sizes at Site B. Human figures indicate different activities including hunting/warfare and honey collection?



Figure 15. Red and yellow human figures (dancing?) and abstract design in red outline at Site B.



Figure 16. Cupule-like or mortar-like feature at Site B.

best preserved lines have visible cross-section that grades between “U” and “V” in general morphology. It is not clear whether these engraved lines/grooves were made with a stone or metal implement and what purpose they served. At some locations the lines intersect to form a cross-hatch design while at other locations only parallel lines are visible. Although some of the paintings are protected inside the natural recesses, most of the site including the engraved grooves is exposed to all natural elements. Several of the lines had already faded (Figs.

21-22) as the entire series of grooves is situated on a ledge made of coarse-grained sandstone bedrock prone to rapid weathering.

Discussion and conclusion

In India, rock art in the form of engravings, etchings and bruising are most commonly known from the Himalayan zone and southern India, and usually attributed to the Neolithic and younger times. Additional but comparatively fewer occurrences have been reported from eastern India-including in association with paintings - and most recently from the Konkan zone of Maharashtra on lateritic bedrock. Except the Konkan evidence which is all produced on the ground as open-air sites, almost all other known occurrences are parts of rock shelters or boulders. In comparison to all of these zones, central India has yielded very little evidence of engravings, etchings and bruising. While this is probably attributable to a number of factors including the unsuitability of (some) bedrock for anthropogenic physical modification and diverse regional cultural practices, another major factor can also be the lack of adequate archaeological surveys and inadequate visibility due to thick vegetation and inaccessible areas such as gorges, ravines and caves. Oneshared or common feature between all the known prehistoric portable and non-portable engravings (as cited in the introduction), including 1) Middle Stone Age ochre fragments, 2) cave wall design by Neanderthals, 3) engraved ostrich eggshells from Africa and India and 4) an engraved core and cave wall designs in India, is that they are all represented by straight lines in parallel or



Figure 17. Crosshatched or overlapping engraved grooves at Site B.



Figure 18. Highly faded crosshatched or overlapping engraved grooves on the bottom and images of warriors on top, at Site B.



Figure 19. Another perspective of the crosshatched or overlapping engraved grooves at Site B.



Figure 20. Another perspective of the crosshatched or overlapping engraved grooves at Site B.



Figure 21. Highly faded engraved grooves at Site B.



Figure 22. Another perspective of the engraved grooves at Site B.



geometric cross-hatched patterns. While some exceptions of curved lines and figures do exist, the main factors affecting this morphological variation (straight vs curved lines) is the medium and size of the artwork. In other words, when small engravings are made on hard surfaces such as ochre, cave walls and ostrich eggshells, the only possible option is to make straight lines including the Satpura engraved grooves mentioned in this paper. When much larger (both in terms of image size and the width of the lines) images are engraved in softer materials such as sandstone or laterite, curved lines are able to be formed (e.g. Edakkal and Konkan rock art). The distance between the two rock art sites mentioned in this paper (Sites A and B) is approximately 5.5 km and it is not known whether the chronological record of occupation/rock art at both sites is contemporary or vastly separated. Not all paintings at both sites were clearly discernible and require extensive digital photography followed by image enhancement using various software. Hence, the number and types of subject matters of the paintings as discussed above should not be viewed as being comprehensive. It is also not clear if the engraved grooves at Site B are a result of some functional activity such as sharpening an implement or meant to be simple art/decoration. It is to be noted that the general absence of polished axes/adzes (as commonly known from Neolithic contexts elsewhere in India) in central India disqualifies these engravings/grooves as sharpening/polishing evidence of the same; such sharpening/polishing grooves have been commonly reported from bedrock contexts elsewhere in India where polished axes/adzes occur frequently. In fact, it is possible that the engraved grooves at Site B may not even be archaeological in nature and age but rather, a result of recent human activity such as by local herders/shepherds prior to the evacuation of nearby villages (personal communication: Rajesh Poojari 2021). In any case, it is interesting that the occurrence is on a coarse-grained Gondwana/Satpura rock surface. The coarse-grained nature of that bedrock may have discouraged extensive engravings, bruising and etchings in such regions and many such occurrences may have weathered significantly by now and hence not easily visible/discernible. However, it is notable that even where the rock face/surface is smooth (i.e. Vindhyan bedrock), engravings are still generally absent. More time is required for proper systematic documentation at these sites including comprehensive overlapping digital photography and application of D-Stretch software for image enhancement to obtain the most accurate counts of individual paintings and engravings.

Acknowledgement

I thank the forest department of the Satpura Tiger Reserve for facilitating the Satpura Bird Survey and providing the vehicle, without which these rock art sites would not have been encountered. I also thank Anup Prakash and Suhel Quader for their company and cooperation during the casual documentation. I am grateful to Dr. Sachin Kr. Tiwary for his invitation to publish in this volume and for the review process. The Archaeological Survey of India and Directorate of Archaeology, Archives and Museums, Government of Madhya Pradesh are thanked for their support of our long-term paleoanthropological research in the region.

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Dibujos y notas de investigación del Dr. Vishnu Shridhar Wakankar.