



REPLICATION OF ROCK PAINTINGS AT CHATURBHUJNATH NALA  
ON BHANPURA PLATEAU IN CHAMBAL VALLEY, INDIA - PART 4

# Replication of making brush from different organic material for producing rock paintings and their ethnographical study

Hridayshri \*, Geetanjali \*\*, Ram Krishna \*\*\*, Giriraj Kumar \*\*\*\*

## SUMMARY

Understanding the kind of brush used for making the quality lines and strokes of rock paintings is essential to evaluate the knowledge, skill and cognitive development of the authors of rock art. The interaction with folk artist of the region and replication of brushes and their use can help us in this direction. The paper presents our experience of the nature and temperament of the brushes we made by using different organic material while replicating the rock art of Chaturbhujnath Nala at Bada-Mahadev near Bhanpura in Chambal Valley.

**Keywords:** Replication- Rock Art- Brush Making-Ethnography- Chaturbhujnath Nala- India

## SUMMARY (RIPRODUZIONE DI PENNELLI REALIZZATI CON MATERIALE ORGANICO PER LA PRODUZIONE DI PITTURE RUPESTRI E LORO STUDIO ETNOGRAFICO)

La collaborazione con un artista popolare della regione e la riproduzione dei pennelli e del loro uso possono aiutarci a comprendere il tipo di pennello utilizzato per realizzare le linee e i tratti delle pitture di Chaturbhujnath Nala a Bada-Mahadev vicino a Bhanpura nella valle di Chambal. Questa indagine è stata essenziale per valutare la conoscenza, l'abilità e lo sviluppo cognitivo degli artisti preistorici. L'articolo presenta la nostra esperienza nello studio della tecnologia e delle materie prime indispensabili alla realizzare i pennelli (realizzati utilizzando diversi materiali organici) che ci hanno permesso di riprodurre le pitture rupestri.

**Parole chiave:** Replica, Arte rupestre, Fabbricazione di pennelli, Etnografia, Chaturbhujnath Nala, India

## 1. INTRODUCTION

Understanding the kind of brush used for making the quality lines and strokes of the rock paintings is essential to evaluate the knowledge, skill and cognitive development of the authors of rock art. The interaction with folk artist of the region and replication of brushes and their use can help us in this direction. V. S. Wakankar and Robert R. Brooks did experiments to obtain colour by grinding pigment nodules, brush making from palmetto twigs (or porcupine quills for fine work) and *dronas* (cups) made of folded leaves of dhak (*Butea monosperma*) for copying the rock art compositions (WAKANKAR, BROOKS 1976, pp. 13-14). Our attempt is a further study in this direction which presents our experiments with making of brush by using various kinds of organic material and their use for replication of rock paintings of Chaturbhujnath nala.

## 2. ETHNOGRAPHICAL STUDY OF MAKING BRUSH AND FOLK ART

In the villages *mandanas* (*designs*) are made mostly on the floor of the houses. The ladies use fallen hair from their head as colour holder by holding it in the fingers and using ring-finger to make drawings of a design composition. For making compositions on the house-walls thick lines are made by using brushes made of palm leaf midrib, while for making compositions of

thin lines, brushes made of bamboo strips are used. The dried palm midribs and bamboo strips are used for making brush. However, before making them they are soaked in water for overnight. Then their tips are chewed to make bristles of the brush. G. Kumar observed this activity in the villages in his childhood. It was also demonstrated to him by Mrs Gyarasidevi, a veteran *mandana* folk artist at Baran in Rajasthan on 6 March 2021.

Mrs Gyarasi Devi explained to Kumar the technique of brush making from organic material, method of their practical use and the process of making *mandanas*. The *mandanas* are made on the occasion of the festivals and marriages and the process is accompanied by folk songs suitable for the occasion.

Having an idea from this visit, he collected leaves and midrib of palm leaves and thin bamboo and babul twigs with the help of his friend Lakhan Singh in Sindani village in Baran district, then hair from the tail of squirrel from Ruthiyai in Madhya Pradesh. He was fortunate to obtain hair from the tail of dead langur lying in a painted rockshelter on the right bank of river Bilasi in district Baran. The material was collected from 7-10 March 2021, and was used after nearly 40 days, in the third week of April 2021. During this period the collected material became dry. Hence, we had

\* Artist and Communication Designer, Rock Art Society of India. Email: hridayshri@gmail.com.

\*\* MA Research Scholar, Delhi Institute of Heritage Research and Management, New Delhi. Email: gitanjali26aug@gmail.com.

\*\*\* Ph. D. Research Scholar, Department of Management, Faculty of Social Sciences, DEI University, Dayalbagh, Agra-282005. Email: ramkrishna.gem@gmail.com.

\*\*\*\* Director of the Rock Art Replication Project and Secretary General, Rock Art Society of India. Email: girirajrasi.india@gmail.com

to soak it in water for overnight and chewed it at the tip to make the proper brush out of it. We also tried the soft fibre of Dudhi seeds to make brush on the replication site.

### 3. MAKING THE BRUSHES FROM ORGANIC MATERIAL

We did experiment with Palm (*Phoenix sylvestris*) leaf midrib (rachis), bamboo (*Bambusa vulgaris*) branch internodes, and Indian babul (*Acacia nilotica*). Geetanjali also did experiment with brush made of common reed (*Phragmites australis*) in Delhi, prior to the field work. The reed brush absorbs colour and is not suitable for drawing lines and strokes. Out of the materials we used, the midrib fibres of palm leaf were found most suitable for making brush of the needed bristle size from thin to thick. The brushes made from the dried palm leaf midribs were found most suitable for painting than that of the fresh palm midrib. The latter lost moisture very fast, curled on drying and was unable to hold pigment properly. Besides, they were difficult to use and control. We also did experiments with the brush made of petiole of Dhak (*Butea monosperma*) leaf.

It is hard to cut palm leaves from the tree even with iron sickle and scissors. So, it might have been a tedious task for early man by using implements made of microliths, we presume. The palm leaflets are also wonderful. We can bring out very thin fibres from the dried young leaves after softening them in water. We prepared a brush from the hair of a dead langur (Hanuman monkey) and fastened it by a thin fibre obtained from palm leaflet. We also made brushes from Dudhi (*Wrightea tomentosa*) plant seed fibres (Fig. 1-12).

### 4. TESTING THE NATURE AND TEMPERAMENT OF THE BRUSHES WE MADE

In order to test the nature and temperament of the brushes we made; we replicated the Mesolithic composition of colour strokes from rockshelter no. B7. This is a composition of freehand colour strokes made in two phases. The earlier thin ones are superimposed by latter thick strokes. To replicate the latter strokes Hridayshri did experiment with four different types of brushes by using pigment no. 8, as follows:

- Attempt one with Dhak leaf petiole brush (*patti ka danthal*). The brush could not hold sufficient colour for rapid strokes.
- Attempt two with Dhak leaf petiole brush (*patti ka danthal*). After adding a little water, the brush was holding the pigment but lost the richness of the colour and water started to trickle down.
- Attempt three with Dudhi seed fibre brush. The bristles were too soft and did not have strength to move with force, hence difficult to control.
- Attempt four with bamboo brush. This brush comparatively had the best result from the rest, but could not be called perfect. The bamboo stick was dried for forty days and the bristles were slightly harder to generate the right effect.

The brush used for these compositions did not have long bristles. When we worked with long bristles, the nature of lines on turns and at joints became very different. With the brushes made from bamboo, palm and dhak material we were able to achieve the results close to the original one. We are presenting our observations on working with different kind of brushes in Table 1.

**Table 1.**

Sr. No.	Brush (Materials and making details)	Bristle Size (Line thickness)	Temperament (After being soaked overnight)	Comments
1	<b>Bamboo, Dry</b>  Chewed at the tip and flattened for required softness and length of the bristles.	Brush a: 2 mm	Bristles were hard and brittle, not getting wet enough to hold the pigment. Could not get continued strokes; it was stiff and not working smoothly.	Not convenient
2	<b>Bamboo, Fresh</b>  Chewed at the tip and flattened for require softness and length of the bristles.	Brush a: 2 mm	Bristles were soft. Getting continued strokes with agile movement was possible but with difficulty.	Comfortable to use
3	<b>Babul</b>  Chewed at the tip and flattened for required softness and length of the bristles	Brush a: 2 mm	Bristles were soft but brittle. It was getting dry very fast. Getting continued strokes was possible but with difficulty.	Difficult to use
4	<b>Reed</b>  Chewed at the tip and flattened for required softness and length of the bristles	Brush a: 4 mm Brush b: 8 mm	Bristles were stiff and brittle. It was absorbing colour and getting dry at the same time. Getting continued strokes was difficult.	Not convenient
5	<b>Palm midrib, Dry</b>  Chewed at the tip and flattened for required softness and length of the bristles	Brush a: 2 mm Brush b: 5 mm	Bristles were semi soft, and were able to hold a good amount of colour at a time. Getting continued strokes was comfortable.	Most convenient

6	<b>Palm midrib, Fresh</b>  Chewed at the tip and flattened for required softness and length of the bristles	Brush a: 2 mm	The brush was curling when drying. The pigment was getting stuck at the tip leading to blot and needed constant washing.	Difficult to use
7	<b>Dhak leaf petiole - two days old</b>  Chewed at the tip for required softness and length of the bristles	Brush b: 9 mm	Bristles were semi soft, and were able to hold a good amount of colour at a time. Getting a continuous and agile stroke was comfortable.	Convenient to use
8	<b>Dudhi Seed fibre</b>  Tied to bamboo stick with palm leaf fibre	Brush a: 2 mm Brush b: 5 mm	Bristles were too soft. Getting continued and agile strokes was comfortable, however it was difficult to control the strokes. Though it was working smoothly but could have been better for delicate small strokes.	Difficult to use
9	<b>Langur's tail hair</b>  Tied to bamboo stick with palm leaf fibre	Brush a: 2 mm Brush b: 9 mm	Bristles were slightly coarse but soft, could hold enough colour at a time. Getting a continuous and agile stroke was comfortable. It was the most comfortable brush to achieve thin and thick lines with desired control and effect maintain some amount of pigment consistency.	Most convenient

Table 1. Brushes made of different organic material and their temperament.

#### CONCLUDING REMARKS

While replicating the compositions we realised that good quality of brush is as important as the good pigment consistency. If the brush is not in control, it moves everywhere except where we want it to move. Hence, one would feel frustrated. Working with natural brushes on the rough rock surface needs very calculated and skilled wrist movement to obtain the desired results. The brushes made of different natural material had different temperaments and different pigment holding capacities. With these brushes it is even more difficult to maintain certain thickness of lines especially at curves, angles, arches, circles, starting and ending points of the strokes. For that one needs a lot of plan-

ning and skill before putting the brush on the working surface. But in rock art we do not see any such evidence. It means the artists who created rock art were matured and skilled enough to deal with the entire process of rock art execution effortlessly.

#### ACKNOWLEDGEMENT

Rock Art Society of India for financially supporting the Rock Art Replication Project.

#### REFERENCE

WAKANKAR V.S., R.R. BROOKS  
1976 *Stone Age Painting in India*. Bombay, D.B. Taraporewala and Sons.

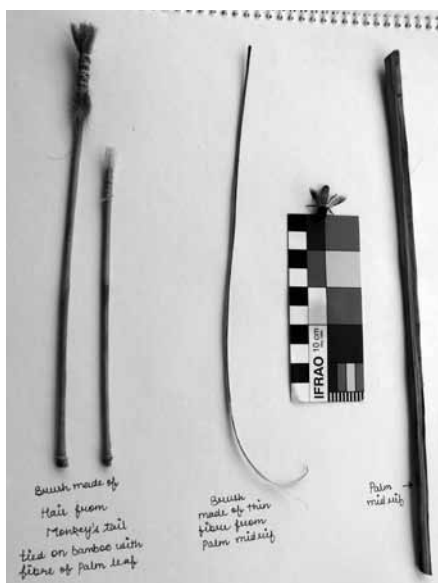


Fig. 1 - Brush made of hair from Langur tail (dead), left side; that of palm midrib, right side.



Fig. 2 - Brush made of petiole of Dhak leaf (extreme left) and rest are different kind of brushes made of dry palm midrib soaked in water overnight.



Fig. 3 - Brush made of palm midrib (left) and thin bamboo stem (right).

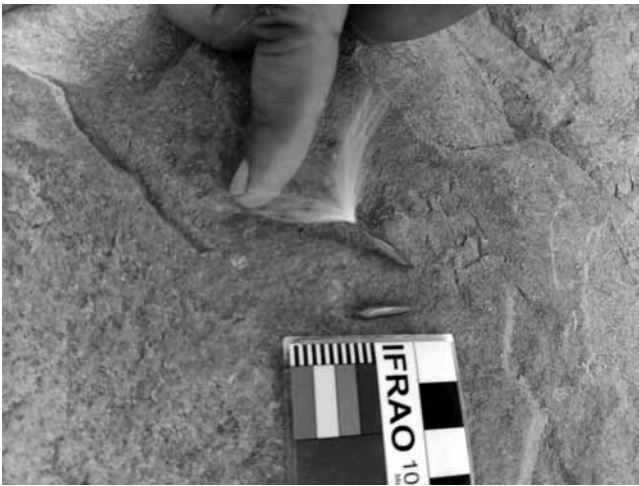


Fig. 4 - Fibres of Dudhi seeds.

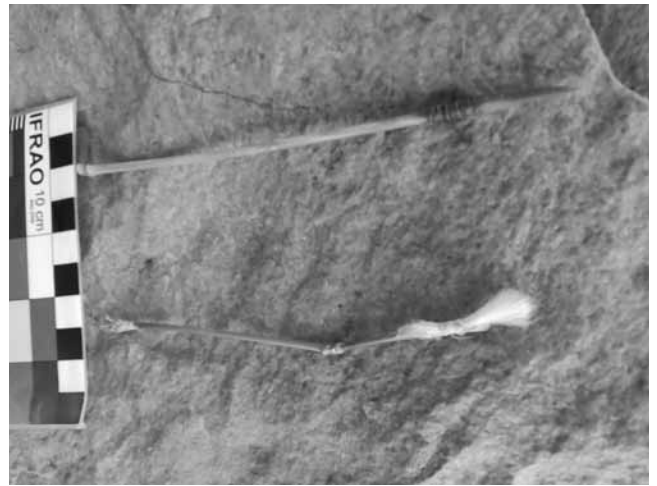


Fig. 5 - Brush made of Dudhi fibres, upper one used and lower one unused.



Fig. 6 - Brush made of Langur hair.



Fig. 7 - Brush making from Langur tail hair.

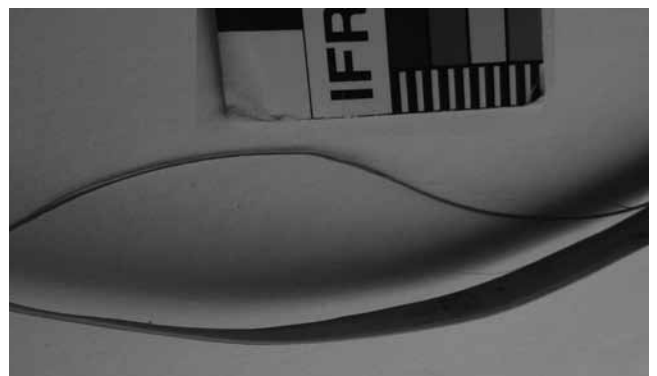


Fig. 8 - Obtaining thin fibre from dry Palm leaflet, soaked in water overnight, to tie fibres and hair for making brush.

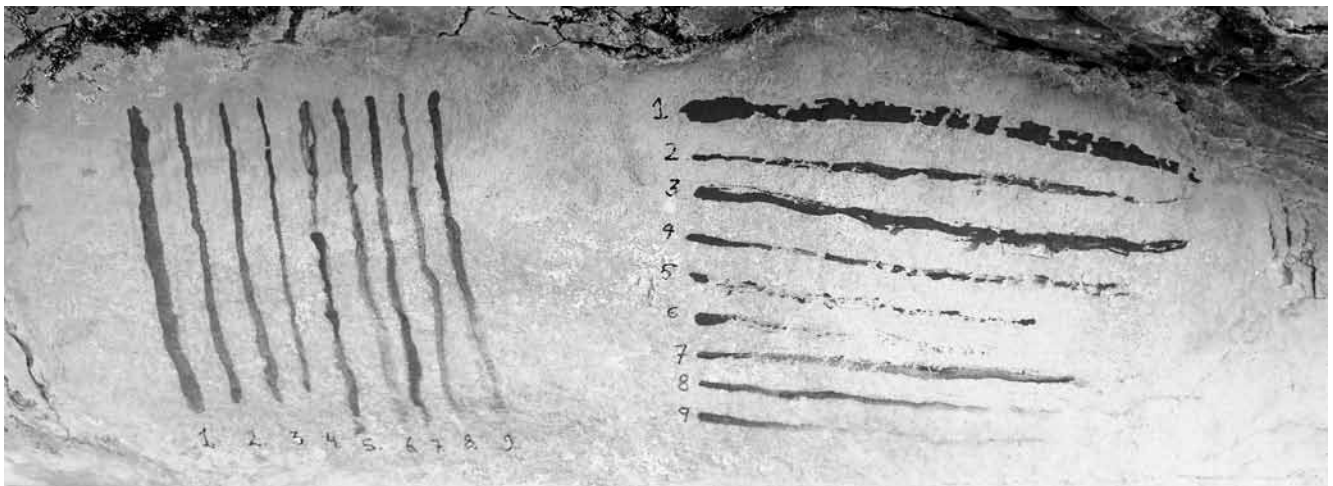


Fig. 9 - Strokes made from 9 types of brushes from pigment no. 9 (left, vertical strokes) and from pigment no. 8 (right, horizontal strokes). Table 1 follows the same sequence of the brushes.

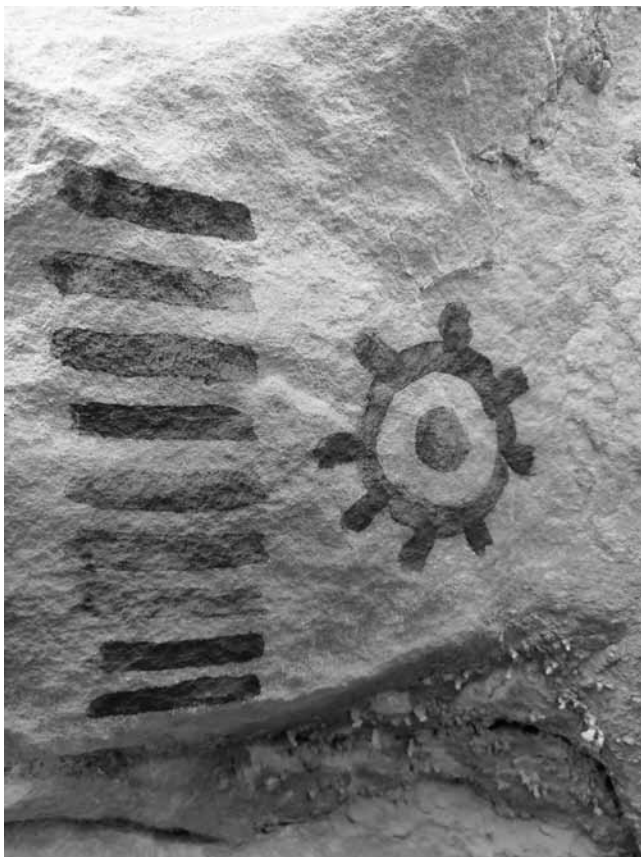


Fig. 10 - Strokes made from brush made of Langur tail-hair, 9.0 mm thick.



Fig. 11 - Practical use of thin brush made of palm midrib.



Fig. 12 - Different brush materials soaked in water container made by cutting of 2 litre of plastic water bottle.