

The Human Contribution to Local History Through the Development of Rock Shelters in the Adamawa Region

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ABSTRACT

Ngan-Ha is an arrondissement in the Adamawa region, located about a hundred kilometers from Ngaoundéré, on the edge of the Mbéré department and that of Mayo Raye. The area contains several archaeological sites located on plains, mountains, caves and rock shelters. Raoul Gormoaya's rock shelter has experienced human attendance as evidenced by the material culture harvested in situ. The ceramic furniture consists of shards whose average thickness corresponds to small vases, generally intended for cooking food. Speaking of lithic remains, we see that more than half of the remains (68%) refers to hunting instruments, the manufacturing process of which shows that they were made using debitage and shaping techniques. The rest is made up of grinding material, shown at 32%, with a smooth surface which results from polishing. In regards to plant macroremains in particular, we note that they belong to tree species suitable for human consumption, the components of which intervene in daily life. We can from the above suggest that the Rock Shelter has indeed been occupied by men in a context probably marked by insecurity. The quality of the lithic artefacts associated with the macrorests collected suggests that the main activity of the site's inhabitants was hunting and gathering, notwithstanding the fact that they cooked. The evocation of a chronology would be completely inappropriate, in the absence of an absolute dating. However, clues such as the presence of bifaces, a chopper, the use of ceramics and the control of fire suggest that the shelter was occupied at least during the Neolithic.

KEYWORDS

Ngan-Ha; Rock shelter; Archaeological site; Material culture; Local history.

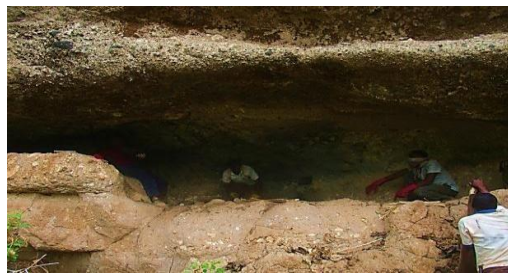
1. Introduction

A rock shelter is defined as a habitat site installed at the foot of a cliff and simply protected by a rocky overhang; it is shallow and widely open to the open air (Leroi-Gourhan, 1988, p 41). There are two types: shelters under natural rocks (ecofacts) and those which are artificial, resulting from an anthropic action. The Ngan-Ha

borough has several natural shelters like that of Raoul Gormoaya, which is the subject of this study. The demographic growth punctuated by the search for new spaces is damaging not only the archaeological sites, but especially the material culture which is deteriorating at an accelerated rate. The urgency is to save the maximum of sites and the vestiges which they contain from destruction, then to consider strategies of preservation and valorization. This research is part of the research undertaken in RaouGormoaya's rock shelter, which aims to assess the importance of the site, by making a preliminary study of the archaeological documentation collected in situ, including results are structured in three points: the first is devoted to the data collection methodology. The second part deals with the description of the site. The last point will revolve around the description of the remains collected on the site.

2. Description of the Site

RaouGormoaya's rock shelter is located 12 kilometers from Ngan-Ha, on the summit that bears his name. You can get there by a passable road, passing through the south-east of the village; access to the study area is exclusively on foot because of the fairly steep slope that must be climbed.



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Photo1. Overview of the rock shelter by Raoul gormoaya

The entrance to the site has good visibility, access is via a ladder. The distance from the mainland to the opening is 2.85 m. The GPS coordinates indicate $7^{\circ} 23' 23''$ longitude South South, $13^{\circ} 57' 01''$ East West latitude and 1147m altitude. The site is relatively well preserved, the access particularly difficult for men and for cattle has ensured that it is not disturbed. Surface collection and excavation allowed the harvest of the material culture that was sampled.

3. Data Collection Methodology

The methodology followed in this research involves several stages. The first consisted in consulting the publications relating to archeology in Adamawa, to the archaeological discipline (articles, dissertations, theses and general works). The second was devoted to ethnological surveys carried out with resource people in the locality which hosts the site. This theoretical part enriched our knowledge in the sense that it first made it possible to locate the site, then to have information on the operating chain of ceramics. Finally, valuable information was obtained on the nature of certain lithic vestiges and the plant

macrorestals harvested. Speaking of the archaeological method, it consisted in carrying out a pedestrian prospection and then an excavation.

3.1 Prospecting

With the agreement of the traditional and administrative authorities of Ngan-Ha, we systematically explored the rock shelter on foot. Walking exploration, according to Anne Lehöerff (2002, p. 46) is the oldest and most economical method of prospecting. Exploration carried out on the site reveals that it is concave, shallow forming an arc of a circle. It is nevertheless vast, very well lit, composed of a single cavity with however the

weakness of not being high enough because, it is impossible to stand upright inside. The soil is regular, with an almost trapezoidal appearance, made up of clayey earths with a dark gray appearance. The walls are embedded in certain places of rocky block. There are very few notch marks, which suggests that the rock shelter is natural. The measurements recorded on site indicate that the rock shelter is 7.66 m deep, 1.40 m high, with an opening of 7.84 m.

3.2 Excavation

The surface of the rock shelter of Raou Gormoaya having an irregular shape, it seemed appropriate to divide the total surface to be excavated into squares, the first being rectangular indicates 1m wide and 2m long. The second triangular one measures 2m high and 1m basic. The total surface of the excavated space is 3 m² for a depth of 95 cm. But for a better yield, it has proved useful to proceed first to the excavation of the rectangular trench, then to complete with the triangular trench.

In both cases, the preferred method for greater efficiency was that of creating an artificial stratigraphy by progressively excavating strata 20 cm thick. Artificial stratigraphy has been advocated because, the natural strata are not uniformly distributed in the soil. Such an approach is important because it helps to better search.

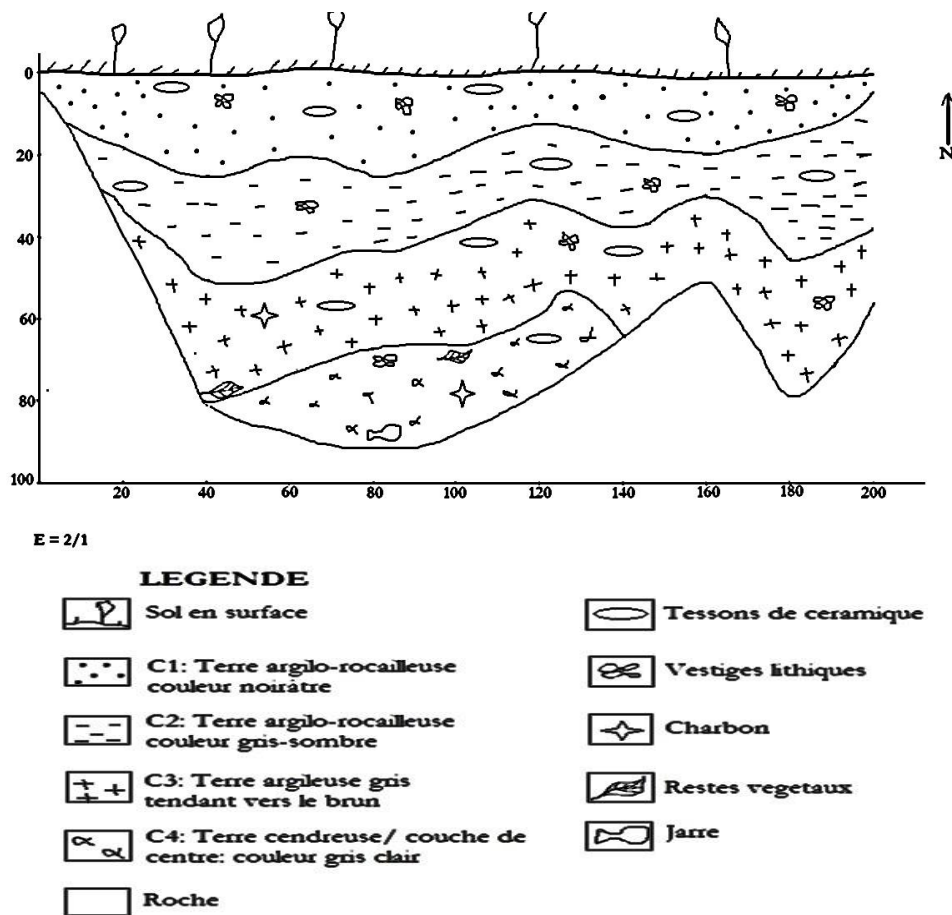


Figure 1. Stratigraphic of the excavation of the rock shelter

These stratigraphic units made up of numerous lithic industries, several plant macrorestals and abundant ceramic remains, the collection of which authorized us to constitute samples, were exhumed in three levels of occupation. The information resulting from the recording carried out during the excavation constitutes the

excavation archives which must make it possible to restore all of this information a posteriori during the study of the site as necessary.

4. Archaeological Study of the Artefacts From The Rock Shelter by Raoul Gormoaya

The investigations carried out in the rock shelter have provided a quantity of ceramic remains, lithic artefacts and plant macrorestals, collected both on the surface and at depth. In this study, it will be a question for a good analysis, to make an inventory of the vestiges collected by grouping them by type. First the ceramic furniture, then the lithic vestiges and finally the macrorestes.

4.1 Ceramic Furniture

The excavation of the rock shelter provided a half of vase and 70 ceramic shards from different vases, divided into 10 neck fragments, 60 pieces of paunch. The minimum thickness is 0.4 cm and the maximum thickness 1.5 cm. Clay is the basic material used in the manufacture of vases. The term is nevertheless a little ambiguous according to Alexandre Livingstone Smith:

The word is confusing, since it can be used to describe either a particular category of minerals, or a size class that brings together all minerals of small dimension, or soils and rocks containing a significant share of minerals clay. In other words, this term applies as well to rocks characterized by a high proportion of clay (clayey rock), as to particular types of minerals (clay minerals) or to a class comprising all the minerals of small size (Livingstone Smith Alexandre, 2001, p.26)

Within the framework of this work, it is necessary to retain the last part of the definition which indicates a class including all the minerals of small sizes also called in English clay.



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Photo2. Half jar exhumed between -50 and -60 cm, height of 50 cm, the opening diameter of the neck is 13 cm, the diameter of the body is 41 cm, thickness 0.5 cm.

Clay Paste and its Specificities

The observation with the naked eye of the broken shards lets appear at first, a fairly consistent amount of coarse elements of mineralogical origin, consisting of grains of sand and ceramic debris reduced to chamotte. It will be further question of a conscious and deliberate introduction of the different degreasers in clay by the potter (Gosselain Olivier Pierre, Livingstone Smith A., 2005, pp.33-47).

Color Study

Most of the shards on the site are orange-brown in color and referring to the work of Seronie Vivien (1979, p103), we can conclude that the shards from the site have a high iron content.

Decoration Techniques

We conducted a study on decorative techniques and patterns. It appears that the decor by printing dominates the tessonnier of the rock shelter, followed by the decor by incision and decorations combining printing and incision techniques.

The decor by printing: it comes from the pressure on the still fresh dough, fern leaves, corn and millet ears, or the pressure of a comb. In order to help us better understand what a punishment is, Olivier Langlois writes: "we call" cord wrapped around armor ", tools made up of a cord wrapped around a support, than this one either flexible (another cord for example) or more rigid (a wooden rod). This tool was called "threaded comb". ((Langlois Olivier, 2006 ,. 109-126). We can observe on a number of shards the geometric, zigzag or diamond patterns, distributed on the surface of the pots concentrically, very often with ringed structures.

The decoration by incision: the patterns obtained by incision are composed of oblique hatching, zigzag lines, crossed lines in fish bones, oblique lines and parallel lines in concentric structures

The printed and incised decor: These are the patterns obtained by combining decoration techniques by incisions and by printing; they are of very varied form.



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Photo3. A sample with patterns of printed decor collected. From left to right we have a shard decorated with a rolled cord with a ringed structure; a shard decorated by printing an empty ear of corn with a concentric structure; a last decorated printed with a comb, bearing patterns in small diamonds with a concentric structure

Speaking of the 10 collars collected, we note that they are divided into three types. The first model is made of slightly concave collars. They are used in open containers limited to the belly with rounded edges without thickening. The second type designates the straight neck, with rounded edges which also belongs to open vases. The last fragment of the neck is finally convex but, of very weak curvature, which designates the closed containers.

Table1. Quantitative data for ceramics

Rock shelter	Bellies	Collars	Vase	Total
Surface collection	17	1	0	18
Search	43	9	1	53
Total	60	10	1	71
Percentage	84.5%	14.0%	1.4%	100%

4.2 The lithic Objects

The lithic material is visible on the ground. In the opinion of Marianne Deschamps (1995): “The carved stone remains” are those that are most frequently encountered on prehistoric deposits, in particular because these remains are better preserved than plant (wood) and organic materials (bones and antlers). What is called “lithic industry” is the set of stone objects transformed by humans. Helping us with the work of Hervieu Jean (1970, pp. 3-37), Deschamps Hélène (1995), Digara (1985), in this part we will make a descriptive analysis of all the types of lithic tools collected in the rock shelter based on the morphological and functional characteristics

4.2.1 The Wheel

In the site excavation a fragmented wheel was harvested at -20 -40 cm. Observations with the naked eye made on the vestige, reveals that its realization followed two major stages namely debitage and polishing (Breuil, 1951, p3).



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Photo 4. A fragmented wheel with rounded ends collected in the excavation of the rock shelter at -20cm - 40cm, diameter 8 cm. Granite rock, gray color.

4.2.2 The Bifaces

Bifacial stones have been unearthed in the rock shelter. Made from a few strokes to release on the mass of basalt one or two large chips called choppers, they have a sharp edge, they are used to chop or cut (chop in English) meat, vegetables, butcher animal carcasses or breaking bones. The basic tool of Late Stone Age (9000-8500BC / 5000-3000BC) “is the ax-adze-hoe with rounded or rectilinear tip obtained on shine, sometimes with a slight bush hammering of the central edges, presenting a cutting edge” (Digara Claude 1985).

The first biface (conf. Photo 5 of plate 1) has an elongated shape with a sort of handle at the level of the lower end. The tool is not polished, however it is sharp on the contours; you can see traces of shaping on the face side, but the back side simply seems to have been debited from a block. The rock is dense and dark in color, the raw material seems to be granite. His measurements indicate that it is 11 cm long, 6 cm wide and 2.3 cm thick at the middle because, as already mentioned, the edges are sharp.

Plate 1: presentation of the bifaces harvested in the rock shelter	
Photo 5. Biface N01 collected during the excavation of the rock shelter at -40cm -60cm. Length 11 cm, width 6 cm, thickness 2.3 cm. Rock: granite, dark color	Photo 6. biface N02, collected on the surface in the rock shelter. Length 13cm, width 7cm thickness1: 1.2cm, thickness 2: 2.2cm. Rock: granite, gray color
	
Photo 7. Biface N0 3 javelin point, harvested between -40 cm -60 cm. Length 4 cm, width 6.2 cm, thickness 2.3 cm. Rock: granite, dark color	
	
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The second biface (conf. Photo 6 of plate 1) resembles a kitchen knife blade. It has an elongated shape and one of the edges is sharp; it gives the impression of having been broken, which suggests that the remains were probably subjected to a shock which altered it. The thickness at the end is 1.2 cm while that of the rest of the object is 2.2 cm. With regard to the technology used, it would seem that the object was obtained by cutting on the granite; this can be verified from the traces observed on one side of the vestige. The surface is not polished.

The third biface (conf. Photo 7 of plate 1) exhumed is an almost oval tool but, elongated and tapered at the upper end. The lower end is slightly rounded with a kind of handle that allows it to be fixed to a support. Both sides are sharp. Observation of the rock indicates that it is dense, compact, and dark in color at breakage, whose appearance refers to that of granite. The surface is irregular, it is not polished but sports a brownish color.

The measurements indicate that the vestige is 4 cm long, 6.2 cm wide and also 2.3 cm thick at the middle level only because, all sides are sharp. By observing the technology used to manufacture it, we realize that the

vestige was cut in quartz through the debitage process. The recourse to the works of Hervieu (Hervieu, 1970 p28), informs us on the fact that the artefact is a biface point of javelin.

4.2.3 The hatchet

In the rock shelter, an elongated cleaver was harvested, slightly tapered towards the upper end with a broadly enlarged base. It is covered with a brownish color, however observing the break of the object we realize that the real color is gray. Also we can see elements similar to grains of sand in the rock. The surface is neither homogeneous nor polished. The tool was cut in granite, thanks to the shaping technique. It could be an old ax, according to the analogies made with the works of Marliac Alain (Marliac 1973, p 9).

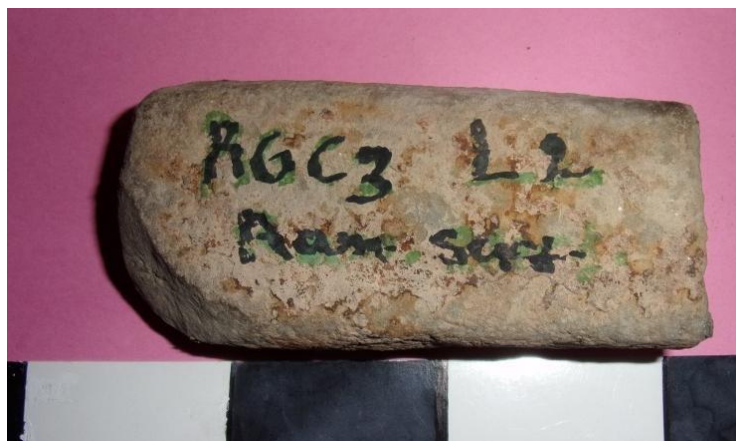


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Photo 8. Chopper N01 harvested at -20 -40 cm in the excavation, length 8cm, width 6cm, thickness 1.5 cm.
Rock: granite, dark gray color.

4.2.4 The Pestle

It has an elongated shape, with rounded edges whose appearance evokes a beam. It is characterized by a gray color, but covered with a yellowish layer. One end is segmented, the other has a normal ending, even if it shows signs of alteration. We note at the break that the rock is compact, dark, that it would have been cut in granite. The technology used for manufacturing would be shaping, then polishing. It measures 12.5 cm long, 5 cm wide and 3.9 cm thick. Drumsticks are generally used to reduce grain or other medical substances (bark roots) in millstones.



© Ngonu Lucrèce, Rock shelter, May 2015

Photo 9. A broken pestle probably intended for use in millstones. It measures 12.5 cm long, 5 cm wide and 3.9 cm thick. Rock: granite, gray color.

Table2. Presentation of quantitative data on lithic remains

Types of objects	Surface collection	Search	Total	percentage
Fragmented wheel	0	1	1	18%
Bifaces	1	2	3	50%
Choppers	0	1	1	18%
Pestle	1	0	1	18%
Total	2	4	6	100%

4.3 Plant Macro Remains

Plant remains have been found in the rock shelter; after analysis it appears that they belong to five different plant species. The preliminary studies which consisted in the identification of the fossilized macro-remains were carried out by a specialist [Pr Tchopsala, Associate Professor, Vice Dean in charge of tuition and student monitoring, interview on April 2, 2019 in Maroua.] of plant physiologies in service in the Faculty of Sciences, in the Department of Life and Earth Sciences []. We then used the expertise of a native of the language respectively.

1. *Sorghum bicolor*: two empty ears of *Sorghum bicolor* [<https://fr.wikipedia.org/wiki/Sorghum>, accessed April 5, 2019] were collected in the rock shelter excavation, at - 40cm and - 50cm. Still called Nang [Mr. Ndji Assistant, teaching in service at the Department of AGEF at the National Polytechnic School of Maroua, interview of April 2, 2019 in Maroua.] in Mboum of Ngan-Ha and Gaouri [Dada Aziz 45 years old, interview of April 6, 2019 in Maroua.] in Foulbé, they are not bushy, but rather elongated. One of the ears is 20.6 cm long; with diameters of 0.5 cm at the level of the stem, and 2.5 cm at the level of the ear. The other indicates 25.7 cm long, 1.1 cm in diameter at the stem, also 4 cm at the ear. They weigh 20 g.

2. *Sporobolus pyramidalis* [[https://fr.wikipedia.org/wiki/Sporobolus pyramidalis](https://fr.wikipedia.org/wiki/Sporobolus_pyramidalis), accessed April 5, 2019] : Two types of cord made from *sporobolus pyramidalis* dried were harvested. In Mboum language it is identified under the name Azarzan [Mr. Ndji Assistant, teaching in service at the Department of AGEF at the National Polytechnic School of Maroua, interview of April 2, 2019 in Maroua.], in full Soddo [Dada Mami 52 years old, interview of April 6, 2019 in Maroua. 11 Maa Adama 56 years old, interview of May 18 in Ngan-Ha]. Moon is twisted, it is 20 cm long and according to surveys carried out on site, the straw twine is involved in the process of manufacturing ceramic objects, in terms of decoration. The application of the rolled cord on the fresh dough makes it possible to obtain certain neat patterns¹¹.

The other rope, also made of dried *sporobolus pyramidalis*, woven so as to alternate three laces measures 25 cm. According to our sources we used it to bind certain tubercles like yams (we still do today). Surveys of potters [Habiba 43 years old, interview of October 2, 2017 in Ngaoundéré.] allowed to know that the object is part of the decorative instruments of ceramic vases, to the extent that, it is applied to the still raw paste to obtain concentric structures in a zig zag line. The weight of the two strings is 10g

3. *Canarium schweinfurthii* [[https://uses.plantnet-project.org/fr/Canarium_schweinfurthii_\(Fruitiers_du_Cameroun\)](https://uses.plantnet-project.org/fr/Canarium_schweinfurthii_(Fruitiers_du_Cameroun))] It is a variety of black wild fruits encountered in the brouissalles of Ngan-Ha on the mountains around the site studied. The Mboum designate him by the name Afourou. We collected some during the excavation of the rock shelter. They are composed of four seeds harvested between -40 and -60 cm deep. Their shape is oval, medium with pointed tips, a very thick skin which has grooves on the surface. At the break we see that it contains a smooth core, circular and black in appearance. The largest seed measures 4 cm in circumference, the next 3.7 cm, the third 3.1 cm, the last to finish indicates 2 cm in circumference, their total weight is 13g.

4. *Lagenariasiceraria* [https://fr.wikipedia.org/wiki/Lagenaria_siceraria, accessed May 5, 2019]: Among the Mboum, it is called yong, and among the foulbétoumoudé. In the excavation of the rock shelter two fragments were exhumed. One is obviously a piece of collar and the other a part of belly. Both have a dark gray color, which probably comes from the time spent in the ground in the middle of the ash and other remains. One may be led to think that, it would have served as a gourd given the fact that there is not a stream in the immediate vicinity. They weigh 8g

Borassusaethiopum still known as rônier [[https://uses.plantnet-project.org/fr/Borassus_aethiopum_\(Fruitiers_du_Cameroun\)](https://uses.plantnet-project.org/fr/Borassus_aethiopum_(Fruitiers_du_Cameroun)), accessed May 5, 2019] : The Mboum know him by the name of kandaou, the Foulbe call him doukadje or douba. In the Raou gormoaya rock shelter, we collected two different macrorestal types belonging to this species; one on the surface and the other in the excavation. The macrorest taken on the surface is a remnant of woven mat with palm leaves. The mat fragment measures 21 cm long and 6.1 cm wide, it is greatly altered.

The second is a set of dried brown roots, exhumed between -40cm and -60cm during the excavation, they were identified as fibers taken from the roots [Pr Tchopsala, Senior Lecturer, specialist in plant biology and physiology, talks from April 2, 2019 in Maroua.] of a rônier. The two macrorestes weigh 18g.

Plant remains have been found in the rock shelter; after analysis it appears that they belong to five different plant species. The preliminary studies which consisted in the identification of the fossilized macro-remains were carried out by a specialist [Pr Tchopsala, Associate Professor, Vice Dean in charge of tuition and student monitoring, interview on April 2, 2019 in Maroua.] of plant physiologies in service in the Faculty of Sciences, in the Department of Life and Earth Sciences [1]. We then used the expertise of a native of the area [Mr. Ndji Assistant, teaching in service at the Department of AGEF at the National Polytechnic School of Maroua, interview of April 2, 2019 in Maroua], then that of women [Dada Aziz 45, interview on April 6, 2019 in Maroua, Dada Mami 52, interview on April 6, 2019 in Maroua.] stamped for the identification of species in Mboum language and in Fulani language respectively.

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Plate 2: presentation of all the plant macrorestes harvested in the Rock shelter by Raoul gormoaya	
<p>Photo 11. A close-up view of the ear of sorghum harvested during the excavation.</p>	<p>Photo 12. Woven cords harvested during the excavation of the Raougormoaya rock shelter, 20cm long</p>
	

<p>Photo 13. <i>Canarium schweinfurthii</i> seeds harvested during the excavation, -40 -60 cm</p>	<p>Photo 14. Presentation of the two pieces <i>Lagenariasiceraria</i> same plant harvested during the excavation</p>
	
<p>Photo 15. A piece of mat made from palm leaves or <i>Borassusaethiopum</i>, found on the surface during RaouGormoaya's Rock Shelter</p>	<p>Photo 16. A ball of rônier root harvested during the excavation of the rock shelter at -40 -60 cm</p>
	
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5. Interpretation

Raoul Gormoaya's rock shelter has experienced human attendance as evidenced by the material culture harvested in situ. The ceramic furniture consists of shards whose average thickness corresponds to small vases, generally intended for cooking food. Speaking of lithic remains, we see that more than half of the remains (68%) refers to hunting instruments, the manufacturing process of which shows that they were made using debitage and shaping techniques. The rest is made up of grinding material, shown at 32%, with a smooth surface which results from polishing. In regards to plant macroremains in particular, we note that they belong to tree species suitable for human consumption, the components of which intervene in daily life. We can from the above suggest that the Rock Shelter has indeed been occupied by men in a context probably marked by insecurity. The quality of the lithic artefacts associated with the macroremains collected suggests that the main activity of the site's inhabitants was hunting and gathering, notwithstanding the fact that they cooked. The evocation of a chronology would be completely inappropriate, in the absence of an absolute dating. However, clues such as the presence of bifaces, a chopper, the use of ceramics and the control of fire suggest that the shelter was occupied at least during the Neolithic.

6. Contribution of the Study to Local History

The last part of this article is devoted to the contribution of archaeological research carried out in Raoul Gormoaya's rock shelter to the history of the locality. For this, we will articulate our reflection on two axes, the first of which will aim to show the impact of the natural environment in the settlement of the site. The second will have the mission of highlighting the know-how of the former inhabitants of the sites which can be read in the production of lithic and ceramic.

The site offers certain environmental advantages insofar as it is located at altitude, in a secure environment, favorable in all respects in terms of protection. It constitutes itself a subject of attraction for different human groups. The surroundings of the site offer arable land on slopes, fertile, and a very favorable environment responding to the aspirations of the populations whose movements are generally guided by the search for food, water and a secure space. D'orthe first contribution of this study to the history of the locality, which stems from the desire to show how environmental dynamics played a major role in the implantation and establishment of human groups in the site. Speaking of human groups, it is not only the Mboum, who currently occupy the study area, but those who once lived in the Rock Shelter but whose nothing they keep in their tracks other than the objects collected

The abundance and variety of the material ceramic culture observed on the site of Raoul Gormoaya express the skills of their former inhabitants. The shapes and patterns convey their techniques, their thoughts; their beliefs, their love and why not their fears. The shards collected on the surface or exhumed from the layers of the soil, bring out a mastery of clay through an operating chain whose different sequences lead to the production of receptacles with plural functions.

The lithic production in itself highlights the genius of the former occupants of the site, who to respond to environmental and nutritional constraints have developed specific skills in making tools. These vestiges also express a proven skill which can be appreciated through the technology used to extract from a simple block of rock a biface, a wheel or a grindstone.

This observation establishes the second contribution of this study to the history of the area, which aims to note the fact that the ancient populations of the site, once established, have developed techniques and methods of ceramic and lithic productions to assert their know-how.

7. Conclusion

At the end of this analysis relating to the analysis of the first results of the excavation of the RaouGormoaya rock shelter in Ngan-ha (Adamaoua / North Cameroon), it appears that the site contains a significant amount of remains divided into three main categories. The ceramic artefacts which are the most represented, consist of fragments of pottery from which there are 60 bellies, 10 necks. As for the lithic objects, they consist of bifaces, hatchers and a pestle. The third category finally concerns the plant and animal macroremains which have been unearthed on the site; it is a bone and six macroremains that belong to five different plant species. It appears from the above that the site has experienced human occupation, the duration and occupation time remains to be determined.

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