

IV International Symposium ProGEO on the  
Conservation of the Geological Heritage

**Geology as background for a  
top-class geological and  
cultural heritage in the Douro  
region (Northern Portugal)**

Field Trip Guide Book



*Edited by:*

*Diamantino Pereira and Paulo Pereira*

University of Minho  
Earth Sciences Centre  
Campus de Gualtar  
4710-057 Braga, Portugal

Editors: *Diamantino Pereira and Paulo Pereira*

Year: 2005  
ISBN: 972-95255-5-2  
Depósito legal: 231908/05

Organised by:



University of Minho  
Earth Sciences Centre



The European Association for the  
Conservation of the  
Geological Heritage

Sponsors:



Cõa Valley  
Archaeological Park

**FCT**

Fundação para a Ciência e a Tecnologia

IV International Symposium ProGEO on the  
Conservation of the Geological Heritage

Geology as background for a  
top-class geological and cultural  
heritage in the Douro region  
(Northern Portugal)

16-18 September 2005

Field Trip Guide Book

**Leader:**

Diamantino Pereira (University of Minho)

**Associate leaders:**

Graciete Dias (University of Minho)  
Helena Couto (University of Porto)  
Isabel C. Alves (University of Minho)  
Narciso Ferreira (INETI-IP)  
Paulo Castro (INETI-IP)  
Paulo Pereira (University of Minho)

# The origins of art in the Côa Valley

Luís Luís

Côa Valley Archaeological Park  
luisluis@ipa.min-cultura.pt

**Abstract:** In 1993, during the construction of a dam in Vila Nova de Foz Côa, a major rock art site was found. Its discovery was polemic, since its preservation implied the abandonment of a dam already being built. On the other hand it was a major finding of Palaeolithic art in the open air, a kind of art that was supposed to be restricted inside caves.

In this text we present the story of the Côa Valley rock art discovery, its most important features and a brief view of its three most important sites: Penascosa, Canada do Inferno and Ribeira de Piscos.

**Keywords:** Upper Palaeolithic; rock art; motifs; techniques; visiting scheme.

## 1. The importance of the Côa Valley rock art

If rock art in general can be defined as a relatively common patrimonial category nationally and world-wide, the Côa Valley rock art is unique. Some of these characteristics are almost of intangible nature, and are only perceived when we observe it, admire its almost contemporary aesthetic quality and understand that they constitute one of the keys for the understanding in the way of life and mentality of its authors. In an effort of objectivity and systematization, we can point out four basic characteristics of the Côa Valley rock art.

In the first place, the Côa Valley rock art is one of the most important examples of the first human artistic expression: the Palaeolithic art. The oldest representations of the valley go back to about 25,000 years BP, thus registering the first steps of humanity in its affirmation and distinction in relation to the other animal species, through the capacity of symbolic expression.

Secondly, until the discovery of the Côa Valley, researchers thought that the Palaeolithic art was restricted to caves. Hundreds of caves that preserve paintings and engravings, dating from the Upper Palaeolithic, are known since the end of the XIX<sup>th</sup> century, all over Western Europe, mostly in France and North of Spain. Since it is located in the open air, the Côa Valley rock art changed the conception we had of the Palaeolithic art, as an exclusive cave art, operating what has been called as a Copernican revolution in Palaeolithic art (Zilhão, 1997). For its dimension and relevance, the Côa Valley art raises the possibility that open air Palaeolithic art would have been more important than cave art itself. However, different weathering conditions most certainly have distorted today's perception. Artistic expression was better protected inside the caves, whereas, open air Palaeolithic art was almost totality destroyed, since it was more exposed to weathering agents. This fact confers a supplemental importance to the Côa Valley, since it is one of the only, and surely the most important, preserved open air Palaeolithic rock art.

Thirdly, the importance of the art of the Côa Valley is also measured for its dimension. Here, we are before a vast artistic complex, closely related with the Côa River and its involving landscape. Until the moment it was registered 29 different rock art sites, located on both riverbanks along the last 17 kilometres of the Côa River, in its main tributaries and around its mouth with the Douro (Fig. 1). These sites present several hundreds of vertical and sub-vertical schist panels inscribed with rock art.



Fig. 1 – Côa Valley rock art distribution and visiting scheme.

Finally, the Côa Valley rock art is not limited to the Upper Palaeolithic period. It began during the Upper Palaeolithic, and had continuity throughout Late Prehistory, Second Iron Age, Modern and Contemporary Times, finishing in the 1950's, with the last engravings of the Côa millers. Physically similar, but culturally distinct, men and women, expressed themselves in the same areas, using similar artistic techniques, but with very distinct concerns.

## 2. The discovery

In the 1960's a complex hydroelectric development project was begun in the Douro River. Within this large project it was decided the construction of the Côa dam in 1991. It consisted of a large, high expense infrastructure that would inundate a large part of the valley along its lower section. In this year, the first engraved panel with Palaeolithic motifs was found in the Côa Valley: panel 1 of Canada do Inferno.

This find was not revealed and the work on the dam was started. In the end of summer in 1993, when the work on the dam construction lowered the water level at the mouth of the Côa River, a surprising number of engravings were found at Canada do Inferno. This information was only revealed in November of 1994 by a newspaper article that accused the construction company and the accompanying parties of hiding the finds.

The exposure of the engravings posed a dilemma: to continue with the dam or to preserve the engravings. Defending the construction of the dam was EDP, the company responsible for the construction and for the distribution of electricity in Portugal. This company presented several forceful arguments: the amount of money already invested in the construction and the necessity of electricity and water, as well as the doubts by part of the scientific community as to the age of the engravings.

The Portuguese government intended to compromise the construction of the dam with the conservation of the rocks, by lifting the engraved panels and creating a theme park, or by submerging the panels. Both solutions were strongly contested by the scientific community. The raising of the panels would promote the fracturing of the majority of them, but also in raising them a large part

of information related to the spatial distribution of the engraved panels and the archaeological context would be lost. The inundation of the panels, which many thought would favour its protection, would have the opposite effect, as is shown in the panels of Canada do Inferno that have been submerged more than 20 years, due to the construction of the Pocinho Dam. Additionally it would deprive researchers and the public of the study and enjoyment of such a valuable heritage.

On the side of conservation of the engravings were the Portuguese scientific community augmented by foreign researchers, the opposition political party and a considerable part of the Portuguese public opinion, motivated by an important information campaign carried by the Portuguese media.

In Vila Nova de Foz Côa the feelings were contradictory. The local government and part of the population defended the construction of the dam, using the argument of job creation and economic development. Despite that, one of the most significant movements of support was carried out by the students of the local school, which organized demonstrations, camp outs, and imitated a rap song popular at that time, creating a slogan that became well known: "the rock art can't swim".

In October of 1995, a new government was elected. After taking office the government decided to suspend the dam construction that was already in an advanced state and ordered the creation of a memorial worthy of the importance of the archaeological finds of the Côa Valley. That order was realized during 1996 and presented a year later. Based on what was exposed, the Côa Valley Archaeological Park (PAVC) and the National Centre of Rock Art (CNART) were formally created on May 14, 1997. Both institutions are based in Vila Nova de Foz Côa. The PAVC exists for the administration and protection of the park, as well as the development of a museum and organizing public visits to the monuments within the park. The CNART inventories and records all the Portuguese rock art including that of the Côa Valley.

On July 2, 1997, the known rock art sites in the Côa Valley, as well as a Palaeolithic habitation site, were classified as national monuments. In December of 1998, the World Heritage Committee of UNESCO recognized the cultural importance of the Côa Valley rock art in worldwide terms, including them in the list of sites classified as World Heritage Sites, based on the following criteria:

*“The Upper Palaeolithic rock art of the Côa valley is an outstanding example of the sudden flowering of creative genius at the dawn of human cultural development.”*

*“The Côa Valley rock art throws light on the social, economic, and spiritual life on the life of the early ancestor of humankind in a wholly exceptional manner.”*

### 3. Palaeolithic rock art

#### 3.1. Themes

The main themes of Palaeolithic art are the animals and the Côa Valley art is no exception. The Palaeolithic motifs are primarily the large herbivores found frequently in the Upper Palaeolithic ecosystems.

In the Côa Valley the most represented species are the caprids, equines, and bovines. Within the caprids (Fig. 2) are highlighted the goat (*Capra pyrenaica*), and, in the site of Fariseu, 4 examples of the chamois goat (*Rupicapra rupicapra*). Within the goats are found examples of mountain goats (as in panel 5 at Vale de Cabrões) with their characteristic horns in the shape of an S.



Fig. 2 – Striated goat from Canada do Inferno (drawing by CNART).

The equines (*Equus caballus*) correspond to our horses, which during the Upper Palaeolithic, formed wild herds and were more robust than in the present (Fig. 3).

The bovines are represented by the aurochs (*Bos primigenius*), formerly wild, now domesticated as our bulls and cows (Fig. 4).

Descending in number are the representations of cervidae, identified as hinds (*Cervus elaphus*) with beautiful antlers and possibly some does.

The least represented species are the fish, primarily the salmon.

In addition to these species clearly identified by the realistic depictions, there is another group of figures that are listed as undetermined animal figures. This is done because the figures lack the descriptive characteristics or because they are incomplete.

All of these species were identified in the Portuguese Upper Palaeolithic sites, as for example in the Portuguese Estremadura region, where the faunal remains are preserved. Without exception, in the Côa Valley rock art there is the absence of several species of the Franco-Cantabrian region, such as the mammoth, reindeer, wholly rhinoceros, etc. This is not strange, as in Portugal these species are also absent in the archaeological record, since the southern location of the Portuguese territory did not allow for the survival of these species more adapted to the rigorous climate of central Europe.

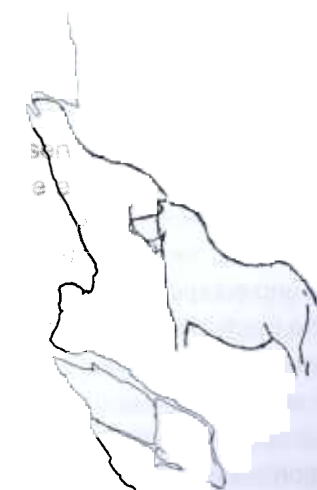


Fig. 3 – Embracing horses at Ribeira de Piscos (drawing by CNART).

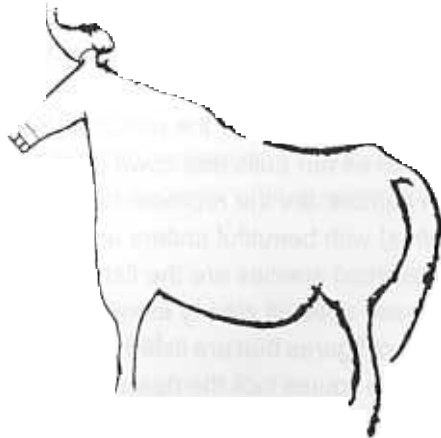


Fig. 4 – Pecked and abraded auroch from Penascosa (drawing by CNART).

A distinct group in terms of their nature and form of representation are the human figures. At present there are only 2 panels known with this type of figures, panels 2 and 24 of Ribeira de Piscos. These are represented differently from the animals, in a manner that is less realistic, displaying the upper and lower limbs incompletely and the faces are intentionally distorted.

In the last group are found the signs and symbols (5%) of uncertain significance, such as the zigzag, stepped line, tectiform, wavy line, etc.

### 3.2. Techniques

The dominant technique of representation in the Palaeolithic art of the Côa Valley is engraving identified through four different methods: fine line incision, pecking, abrasion and scraping.

Fine line incision is the predominant method (55%). This technique was manifested using a fine and resistant stone, probably flint or quartz, which would scratch the surface of the panel leaving a very fine line. At the time of engraving, and probably during the next several centuries or millennia, the furrow remained clearer, contrasted against the darker panel. With time the engravings were patinated, and today the colour of the lines blends with the

rock surface, making the identification of certain lines difficult. This technique was utilized in 2 different ways: a single engraved line to denote a contour or the association of multiple lines to create a design, and at times, interior areas were striated with fine lines (Fig. 2).

Pecking is the second most frequent technique (25%). It is manifested through percussion, direct or indirect, on the panel, creating an irregular outline easily visible at considerable distances (Fig. 3). In the excavations of the archaeological site at Olga Grande 4, an open air site situated on a bench above the left bank of the Côa River, there were two small quartzite picks that showed evidence of percussion identified in a Gravettian occupation level.

Notably less used than the previous is abrasion. This technique consists of the deepening of a line with a stone tool. The surface of the panel is abraded with a repeated lateral movement creating a regular line with either a U or V shaped furrow (Fig. 4).

These three techniques of engraving – fine line incision, pecking and abrasion – can complement each other, in different phases, for the creation of one engraving. The fine line incision was used first as a sketch, then the line was pecked and finally it was deepened and made regular through abrasion.

Completely distinct and less represented is scraping. This technique is manifested through scraping the entire surface of the image, resulting in a chromatic contrast between the original surface of the panel and the scraped area.

In the Côa Valley the association of painting to engravings is documented, not to exclude the possibility of figures exclusively painted. But today there are no known due to the conservation conditions, since the decorated surfaces are exposed directly to the action of natural threats. We can imagine some engravings which are now incomplete that would have been completed through the addition of paint.

In the rock art at the site of Faia, within the granite region of the Côa, five aurochs of Palaeolithic style engraved by abrasion have been found and their lines are full of red colour. In addition to this complementing of techniques, several of the lines, such as the muzzle, were not previously engraved, but only painted. In the Côa Valley there are no other examples of painting associated with Palaeolithic motifs, while being more common in representations from the Neolithic and Calcolithic.

## 4. Visiting the Côa Valley rock art

The major concerns of the visiting scheme, implemented by the PAVC, are the preservation of the rock art in its landscape and the offering of an informed and comprehensive visit experience.

Therefore, the three most significant and accessible rock art sites, were made available for public visits (Fig. 1). Each tour begins either in the Park's office in Vila Nova de Foz Côa, or in the two visitor centres located in the villages of Castelo Melhor and Muxagata. In these villages, two buildings operate as reception centres where the visitors are welcomed and where the tour to the sites begins.

Visitors are then driven, by especially trained guides and in small groups of eight, aboard 4WD vehicles through the old local roads. Once on the site to visit, different panels are revealed by the guide, with the aid of interpretation files, and the rock art is put in context with the ways of life of the people that produced it.

### 4.1. Canada do Inferno (Stop 4.1)

First rock art site identified in 1991. By the end of 1994, a team began identifying and studying 40 engraved panels, of which 36 contain Palaeolithic figures. Almost half of the figures were created by fine line incision, specifically the motifs with multiple outlines and striation, while the rest were created through pecking and several were later abraded. The themes represented coincide with the Côa Valley bestiary, a high frequency of bovines, followed by equines and the third group being the cervidae and caprids, both species in similar proportions. The presence of several figures of fish is noteworthy due to their rarity.

Chronologically all the periods of Palaeolithic art in the Côa Valley are represented, from the Gravettian to upper middle Magdalenian.

Panel 1 is noted for its significance historically, but also for the group of representations superimposed on it. On it are identified several fine line figures, such as a two headed auroch engraved first. In the upper part of the panel can be seen a goat drawn by incision and pecking. The rest of the figures, more

visible because they were pecked, are 2 aurochs, 2 horses, one with 2 heads, and a bit separated from the group is an undetermined two headed quadruped.

In panel 14, 2 incompletely pecked equines are easily visible; one of these is attributed to the Solutrean and the other to the Magdalenian. Within the second, and with great difficulty, can be seen a beautiful representation of a caprid (Fig. 2), 10 cm high and drawn with multiple fine lines, and a small fish of similar technique.

The tradition of engraving in this site continued through the Neolithic, Iron Age, to modern times, from which are emphasized cruciforms, different scenes and inscriptions.

### 4.2. Penascosa

Rock art site composed of 22 panels with Palaeolithic motifs. Here are found representations of all the techniques utilized in the Côa Valley, except painting. Although the dominant technique is pecking, one of the few cases of scraping is present. The represented figures are consistent with the themes of the valley, but here with a higher frequency of caprids and equines, almost always pecked; followed by the cervidae, mainly incised and the bovines, almost exclusively pecked. The panels are divided into two groups: one at the mouth, showing a preference to incised cervidae and the other at the emergence, where all the represented species are found pecked. The chronology of this rock art site includes every period of Palaeolithic art, from the Gravettian to the Magdalenian.

In panel 3 there are 12 superimposed animal figures. The head of a horse can be seen with a typical muzzle in "duck bill" style and looking backwards, attributed to the Solutrean; also, there is an unusual goat with the body in profile and the horns in the frontal perspective. There is a possible mating scene in panel 4, where a mare, finely abraded, is mounted by a male with three heads drawn through pecking.

In panel 5, despite its lack of preservation, are seen, within many other figures, a horse of almost natural proportions, a salmon-like fish, several large aurochs and a finely engraved male goat.

### 4.3. Ribeira de Piscos

Rock art site composed of 26 engraved panels, 23 of which have motifs attributed to the Upper Palaeolithic. Despite the fact that the numbers of figures does not compare with Canada do Inferno, in this site are found some of the most important representations within the Côa Valley. The two horses of panel 1 represent a typical scene of behavior for these animals, revealing a heightened degree of artistry and a deep knowledge of their habits (Fig. 3). In panel 3 can be observed a scene of four horses, finely engraved, with all types of details, such as the ears and the hooves. Panel 13 displays 3 aurochs of large dimensions, possibly intended to be seen from a distance, even from as far as the other side of the Côa River. Finally, in this rock art site are engraved, in panels 2 and 24, the only Palaeolithic human representations known at this point in the Côa Valley.

In addition to the themes, the techniques are varied, from pecking and abrasion to single and multiple fine lines. The chronology of this rock art site contains the entire Palaeolithic sequence, from the Gravettian to Late Magdalenian.

## 5. Conclusions

Although the polemics related with the conditions of discovery, the identification of the Côa Valley rock art was one of the most important discoveries in the world of the Palaeolithic art in the end of the 20<sup>th</sup> century.

Its dimension and antiquity shake our concepts on the origins of art. After all, Palaeolithic art was not exclusive to caves, it was probably more important in the open air. Because of extraordinary conditions, it was preserved for more than 20,000 years in the Côa riversides. Once its preservation was guaranteed, with the abandonment of the dam construction and its classification as National Monument and World Heritage, two lines of action have been developed: to promote its scientific investigation and promotion.

Since then, a CNART team works on the documentation, study and publication of the engraved panels. Their work continues to reveal new engravings. On the other hand, the Park (PAVC) began to study of the

archaeological context of the art. We today begin to know a little better the men and women who continuously decorated the schist panels of the valley throughout the times, and their reasons to do it.

In terms of promotion of the art, the Park developed a visiting scheme that primarily aims its preservation and to offer a quality visit. Thousands of tourists, national and foreign, visit the Park every year. However, its number is limited by logistic conditions and a maximum number of visitors that each site can sustain without being destroyed. The construction of a museum that shall be concluded by the end of 2007 is therefore very important.

The museum will be able to increase extraordinarily the number of annual visitors. It will be a very important step on making the Côa Valley rock art a development axis of this entire interior region.

## REFERENCES

- AUBRY, T.; BAPTISTA, A. M. (2000). Une datation objective de l'art du Côa. *La Recherche*. Bruxelles, Hors Série 4, 54-55.
- AUBRY, T.; MANGADO LLACH, X.; SAMPAIO, J. D.; SELLAMI, F. (2002). Open-Air Rock-Art and Modes of Exploitation during the Upper Paleolithic in the Côa Valley (Portugal). *Antiquity*, York, 76, 62-76.
- BAPTISTA, A. M. (1999). *No tempo sem tempo: A arte dos caçadores paleolíticos do Vale do Côa: Com uma perspectiva dos ciclos rupestres pós-glaciares*. Vila Nova de Foz Côa: Parque Arqueológico do Vale do Côa.
- BAPTISTA, A. M. (2001). The Quaternary Rock Art of the Côa Valley. In Zilhão, J.; Aubry, T.; Carvalho, A. F., (Eds.) – Les premiers hommes modernes de la péninsule ibérique. Actes du Colloque de la Commission VIII de l'UISPP. Vila Nova de Foz Côa, 22-24 Octobre 1998, Lisboa, IPA, 237-252. [available in [http://www.ipa.min-cultura.pt/publicacoes/monog/2001/n17/237\\_253.pdf](http://www.ipa.min-cultura.pt/publicacoes/monog/2001/n17/237_253.pdf)].
- BAPTISTA, A. M.; GOMES, M. V. (1995). Arte Rupestre do Vale do Côa: 1. Canada do Inferno – Primeiras Impressões. *Trabalhos de Antropologia e Etnologia*, Porto, 35:4, 349-422.
- CARVALHO, A. F.; ZILHÃO, J.; AUBRY, T. (1996). *Vale do Côa: Arte Rupestre e Pré-História*. Lisboa, PAVC.
- LUÍS, L. (2000). Patrimoine archéologique et politique dans la vallée du Côa au Portugal. *Les Nouvelles de l'Archéologie*, Paris, 82: 4.º trimestre, 47-52.

- ZILHÃO, J. (1995). The Age of the Côa Valley (Portugal) Rock-Art: Validation of Archaeological Dating to the Paleolithic and Refutation of 'Scientific' Dating to Historic or Proto-Historic Times. *Antiquity*, York, 69, 883-901.
- ZILHÃO, J., (Ed.) (1998). *Arte rupestre e Pré-história do Vale do Côa: trabalhos de 1995-1996*. Lisboa, Ministério da Cultura.
- ZILHÃO, J. (1998). The Rock Art of the Côa Valley, Portugal: Significance, Conservation and Management. *Conservation and Management of Archaeological Sites*, Londres, 2:4, 193-206.
- ZILHÃO, J.; AUBRY, T.; CARVALHO, A. F.; BAPTISTA, A. M.; GOMES, M. V.; MEIRELES, J. (1997). The Rock Art of the Côa Valley (Portugal) and its Archaeological Context: First Results of Current Research. *Journal of European Archaeology*, Oxford, 5:1, 7-49.

Some of these and other scientific papers on the Côa Valley rock art are available on <http://www.ipa.min-cultura.pt/coa>