

# An ethological view on representations of chamois (*Rupicapra rupicapra*) from the European Upper Palaeolithic art

## Abstract

The chamois belongs to the family Bovidae and to the species chamois (*Rupicapra*). The chamois was rarely figured by the artists of the European Upper Palaeolithic. The figures of chamois can be distinguished from those of ibex especially by the form of their horns and by the colour difference of the head which is sometimes indicated by a dark stripe the so-called the jugal band. All known figures are from sites located in France and the Iberian Peninsula.

In this article six representations of chamois from Upper Palaeolithic cave and portable art are analysed from an ethological point of view.

Key words: Chamois/Izard, Upper Palaeolithic, Portable art, Cave art, Ethology

## 1. The chamois

The chamois (Fig. 01a) belongs to the family Bovidae and to the chamois (*Rupicapra*), which is monospecific (*Rupicapras rupicapra*). There are numerous sub-species among those in the Alps (*Rupicapra r. rupicapra*), the Pyrenean chamois called the izard (*Rupicapra r. pyrenaica*) and another chamois living in the Cantabrian mountains (*Rupicapra r. parva*). Both sexes are horned. The horns are notably different from those of the ibex. They are thinner, go up vertically and finish in a hooked shape (Braun and Zessin 2014, 2015; Sacchi 1993; Sä-gesser and Krapp 1986). In an ideal configuration, the hooked shapes of the males are more arched lower down, those of the females are usually parallel with the back and thinner than those of the males (personal communication by P. Lüps). The different colouring of the coat is also typical of the chamois. The head is light-coloured, but a wide dark stripe, the jugal band, spreads over both sides, the base of the horn,

above and below the eye, at the mouth and the nostrils (Fig. 01b) (Sacchi 1993; Sä-gesser and Krapp 1986). It is particularly the characteristic horns and sometimes also

Fig. 01: Alpine chamois (*Rupicapra r. rupicapra*) (a) and (b) detail of the head with its characteristic hooked-shaped horns and the jugal band (Photo and © I. M. Braun).





Fig. 01b.

the difference in the colour of the head that enables distinguishing the animal in Palaeolithic art.

## 2. The chamois in European Upper Palaeolithic art

Various animals, especially mammals, are a characteristic topic of representations in Upper Palaeolithic art, the Ice Age art. Numerous figures of animals are depicted in a realistic way. Interdisciplinary cooperation with zoology and ethology is therefore very important for a possible understanding and interpreting of these figures (Braun 2022). The chamois is rarely shown in Palaeolithic art. Leroi-Gourhan (1965) only mentions two probable cave art examples. According to Ucko and Rosenfeld (1967, p. 91) *“The chamois (Rupicapra rupicapra) [...] is much less frequently represented and is not known from parietal art. This animal has two short upward-pointing horns [...], whereas the ibex can invariably be recognised by its gracefully curving horns [...] which are shorter in the female than in the male”*. In the statistics regarding animal representations in Franco-Cantabrian cave art the chamois representations are recorded by Sauvet and Sauvet (1979) with those of ibex and saiga antelope. There are more chamois

in Palaeolithic portable art than in cave art (Bellier 2018; Braun 2021, 2022, in preparation; Braun and Zessin 2014, 2015; Sacchi 1993). At present, representations of chamois have been only reported in three open air rock art sites. All known figures were found in sites only located in France and the Iberian Peninsula (Fig. 02 and Tab. 01). Up to now we can only refer to the works of Gonzalez Echegaray (1974), Sacchi (1993), Serangeli (2006), Braun (2021, 2022), Braun and Zessin (2014, 2015) and Bellier (2018) which present the most important known chamois figures. There are some figures in which it is doubtful whether the figured animal is a chamois or an ibex, for example those of Cosquer cave.

Only a few representations of chamois allow a potential ethological analysis of the figures.

The aim of this article is to present six chamois figurations in the Upper Palaeolithic art of Western Europe, three from cave art and three from portable art with an ethological point of view.

### **Laugerie-Basse (Dordogne, France)**

The rockshelter (abri) of Laugerie-Basse, located on the right bank of the Vézère river, is in the community of Les Eyzies-de-Tayac in the Dordogne department in Southwestern France (Fig. 02 no. 3).

The Laugerie-Basse site consists of the Abri classique and the Abri des Marseilles. The site was discovered in 1863 and the first excavations were carried out under E. Lartet and H. Christy and later by different researchers. Middle and Late Magdalenian layers were found in Laugerie-Basse. Among the rich find material are several important portable art objects made of stone, bone and antler (Cleyet-Merle and Geneste [Eds.] 2014; Lartet and Christy 1875; Paillet 2014; Rousset 1996; Tosello 2003).

The presented object is a bone disk with a central hole (Fig. 03a-d). Such objects are typical of the Middle Magdalenian. The object has a diameter of 3.1 cm and was found in 1868 by M. Hardy (Rousset 1985, 1996). Together with other finds from Laugerie-Basse and other sites this disk was given to the Musée du Périgord (today Musée

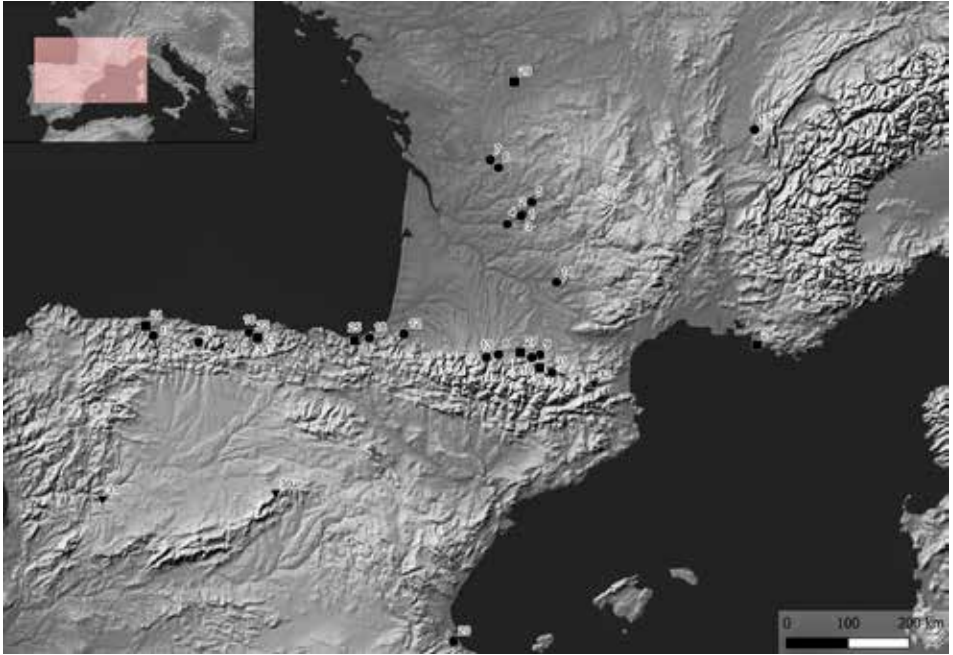


Fig. 02: Distribution of the sites with figures of chamois/izard in portable art (●), cave / rockshelter art (■) and open air rock art (▼): 1 La Madeleine, 2 Villepin, 3 Laugerie-Basse, 4 La Roche-de-Lalinde, 5 Badegoule, 6 Mège, 7 Le Placard, 8 Gourdan, 9 Le Mas d'Azil, 10 Le Tuc d'Audoubert, 11 La Vache, 12 Isturitz, 13 Labastide, 14 Montastruc, 15 La Colomnière, 16 Altamira, 17 Collubiu, 18 Torre, 19 Las Caldas, 20 El Parpalló, 21 Peña de Candamo, 22 El Castillo, 23 La Pasiega, 24 Las Chimeneas, 25 Altxerri, 26 Ker de Massat, 27 Marsoulas, 28 Cosquer, 29 Roc-aux-Sorciers, 30 Domingo García, 31 Foz Côa, 32 Fornols-Haut (Cartography N. Spichtig, [www.naturalearthdata.com](http://www.naturalearthdata.com)).

d'Art et d'Archéologie du Périgord) by his daughter after M. Hardy's death (Roussot 1985). Its inventory number is Pr.A. 1905. Both sides of the disk are decorated with an animal engraving and V-shaped marks on the borders. On one side the animal is depicted standing (Fig. 03a and 03b) and on the other side it is lying with bent legs (Fig. 03c and 03d). According to Roussot (1985, 1996) the animal is interpreted differently depending on the author: as a chamois, hind or fawn.

On both sides the outline of the animal is depicted with a drawn-out line with the exception of the dorsal line. The back is engraved with oblique parallel hatched lines, which are clearly longer on the standing animal. These hatched lines remind Roussot (1985, 1996) of a chamois. But as both ani-

mals show no horns Roussot (1996) rather assumes that they are hinds.

In my opinion, however, they are chamois in both cases. The question is whether at least one horn is figured in both cases or whether it is the second ear. Even though the pointed head is not depicted in great detail in each case, the jugal band is possibly indicated by short engraved lines. According to oral information by P. Lüps (Braun 2022, Braun in preparation), the oblique parallel lines on the back represent the so-called "chamois beard". In contrast to the females, males have longer hair on the dorsal line which erect in certain body positions and situations of behaviour (Fig. 04). They are called "chamois beard". Males, for example, will erect their dorsal hair especially when imposing another male

Site	Portable art	Cave / Rockshelter art	Open air rock art	Engraving	Sculpture	Painting
La Madeleine	X			1		
Villepin	X			1		
Laugerie-Basse	X			2		
La Roche-de-Lalinde	X			1		
Badegoule	X			1		
Mège	X			3		
Le Placard	X			1		
Gourdan	X			8		
Le Mas d'Azil	X			1		
Le Tuc d'Audoubert	X			1		
La Vache	X			1		
Isturitz	X			1		
Labastide	X			1	18	
Montastruc	X			3		
La Colomnière	X			2		
Altamira	X			2		
Collubil	X			1		
Torre	X			1		
Las Caldas	X			1		
El Parpalló	X			1		
Peña de Candamo		X		3		
El Castillo		X		1		1
La Pasièga		X				1
Las Chimeneas		X		1		
Altxerri		X				1
Ker de Massat		X		5		
Marsoulas		X		3		
Cosquer		X		4		
Roc-aux-Sorciers (Bourdois)		X			1	
Domingo García			X	2		
Foz Côa			X	3		
Fornols-Haut			X	2		

Tab. 01: Representations of chamois in European Upper Palaeolithic art.

chamois, by slightly curving their backs to appear larger. This phenomenon is especially common during the rutting season (Baumann 2005; Deutz et al. 2017).

### **Le Mas d'Azil (Ariège, France)**

The large cave of Le Mas d'Azil, over 400 metres long and up to 80 metres wide, is located in the community of Le Mas d'Azil in the French Pyrenees (Fig. 2 no. 9). The river Arize flows through the cave. The first

archaeological finds were made in 1857 during the construction of a road through the cave. The first archaeological excavations were carried out between 1887 and 1894 by E. Piette. They were continued by H. Breuil from 1901 to 1902. From 1935 to 1942 further important excavations were carried out by M. and S.-J. Péquart. From 1950 onwards A. Alteirac investigated the cave of Le Mas d'Azil. On the right side of the river, finds from the Aurignacian, Solu-



Fig. 03: Laugerie-Basse. Bone disk with an engraving of a chamois on both sides; a and c: photo (© collection Ville de Périgueux, Musée d'Art et d'Archéologie du Périgord, Inv. Pr.A.1905, Photo: Bernard Dupuy); b and d: drawing (Roussot 1996).



Fig. 04: Male chamois with erected dorsal hair, the so-called "chamois beard" (modified from Schnidrig-Petrig 2009).

Fig. 05:  
Le Mas d'Azil.  
Limestone plaquette with an engraving of a chamois (Péquart and Péquart 1962).



trean and Magdalenian periods were made. Numerous and important portable art objects were discovered in the Magdalenian layers. The finds from the left bank of the river, on the other hand, date to the Late Palaeolithic, the Azilian, and the Neolithic. The term Azilian was defined on the basis of the finds from Le Mas d'Azil (Chollot 1964; Péquart and Péquart 1962 ; Piette 1907 ; Schwab 2008). Upper Palaeolithic parietal art is known in the cave (Alteirac and Vialou 1980; Vialou 1986).

According to Péquart and Péquart (1962) the presented engraving of an izard is on a fine-grained heavily calcined limestone plaquette (Fig. 05). The plaquette is broken in the area of the body and the hind legs and it can therefore be assumed that it was originally a complete representation of the animal. The front body can be seen with the head turned backwards and with the eye, the two horns and the left ear. The typical jugal band is not depicted. The two characteristic horns allow the animal to be identified as an izard. According to Braun (2022) it can be assumed that it is a male because of the strongly curved horns. For Crémadès (1997) the almost vertically parallel lines in the chest area represent the winter coat. The animal sticks out its tongue. The outstretched tongue could indicate that this is a flehming male (oral information by H. Anderegg and P. Lüps; Braun 2022). Flehmen is a typical behaviour in many male hoofed mammals (Ungulata), especially during the rutting and mating seasons. The males open

their mouths and stick out their tongues to detect sexual odours from female animals.

**Peña de Candamo cave (Asturias, Spain)**

The Peña de Candamo cave is located in San Román, in the municipality of Candamo in Asturias in Northern Spain.

The cave has been known since the 19<sup>th</sup> century, but the cave paintings were discovered in 1914. An initial study was carried out by E. Hernández-Pacheco and Count de la Vega de Sella. A monograph by Hernández-Pacheco with drawings of the parietal

Fig. 06: Peña de Candamo. Two engraved chamois on the Muro de los Grabados (modified from Berenguer 1988).





Fig. 07: Peña de Candamo. Almost complete engraving of a chamois (Hernández-Pacheco 1919).

figures by J. Cabré and F. Benítez Mellado was published in 1919.

During these studies, two very finely engraved chamois were identified on the main panel of the cave known as the *Muro de los Grabados* by Hernández-Pacheco (1919) (Fig. 06). During recent research at Peña de Candamo a third figure of chamois was discovered (Corchón et al. 2014).

The first figure shows an almost complete chamois (Fig. 07). It is probably the best-known representation of a chamois in Palaeolithic cave art. The characteristic horns and also the jugal band that shows the difference in fur colour at the head are well indicated. Part of the forequarters and belly show hatched areas. The back is indicated with small parallel oblique lines. A small eye is also engraved. The legs and ventral line also show traces of black paint, already described by Hernández-Pacheco (1919).

Berenguer (1988) considers it to be a pregnant female because of the accentuated belly. As for the two engravings of chamois on the bone disk from Laugerie-Basse the small parallel oblique lines for the dorsal line indicate, however, probably the "chamois beard" of a male animal (Braun 2022).

From the second chamois, engraved directly below the first, only the head and chest are represented (Fig. 08). As with the first, the typical horns and jugal band are shown. The chest is made up of several parallel engraved lines. The circular eye is larger than that of the almost complete

Fig. 08: Peña de Candamo. Engraved head of a chamois (Hernández-Pacheco 1919).



chamois. As the figure of Le Mas d'Azil, the animal sticks out its tongue. This figure can therefore also be interpreted as a male in the attitude of flehmen like the engraving of a chamois from Le Mas d'Azil.

### **El Castillo cave (Cantabria, Spain)**

The famous cave of El Castillo was discovered in 1903 by H. Alcade del Rio. With the caves of La Pasiega, Las Chimeneas and Las Monedas, the El Castillo cave is part of the decorated caves of Monte Castillo at Puente Viesgo in Cantabria. The parietal works were studied by H. Alcade del Rio, H. Breuil and L. Sierra. Their results were published in their major work *Les cavernes de la région cantabrique* (Alcade del Rio et al. 1911). Between 2003 and 2016, new research was carried out under the direction of M. and M.-C. Groenen (Groenen & Groenen 2015; personal communication by M. Groenen).

The here described figure is a painting of a nearly complete black chamois (Fig. 09). It was copied by H. Breuil. According to M. Groenen (personal communication), this drawing was originally with other black figures, now effaced, at the entrance to Gallery C. Breuil's copy shows that the right-hand horn first goes up vertically and finishes behind in a hooked shape, as is typical of a chamois. Part of the back is shown with short oblique lines which could be interpreted as the "chamois beard".

### **Conclusion**

The chamois is an animal rarely represented in Upper Palaeolithic art. It is particularly the characteristic horn shape for both sexes



Fig. 09: El Castillo. Black painting of a chamois (modified from Alcade del Rio et al. 1911)

and sometimes also the colour difference of the head, the facial stripe, that enables a determination of the animal shown. When present, these characteristics enable a distinction from the representations of ibex. The males of chamois are characterised by longer hair on the dorsal line which they can erect in certain body positions and situations of behaviour. It is called "chamois beard". The dorsal lines of some known figures of chamois in European Upper Palaeolithic art is indicated with oblique parallel lines. These representations can therefore be regarded as males from an ethological view. Two of the known figures of chamois are represented sticking out their tongue which is a typical behaviour of male animals, too.

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