



PALAEOLITHIC FACTSHEET 2  
BOXGROVE & BRITAIN'S OLDEST  
HUMAN REMAINS

**What is Boxgrove?**

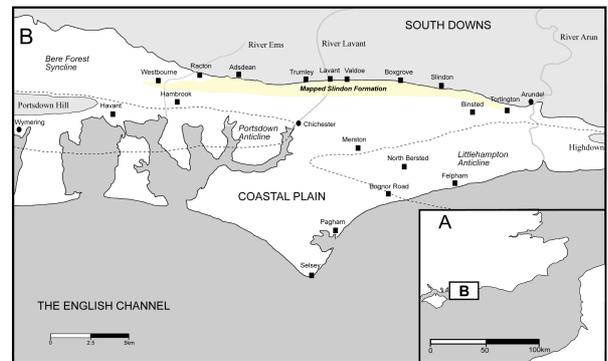
Boxgrove is a world famous archaeological site in southern England. It belongs to a period known as the Palaeolithic or Old Stone Age. The site was discovered in a gravel quarry and archaeological excavations took place there in the 1980s and 90s directed by Mark Roberts. Boxgrove is so rare and important that investigation and research at the site, and on its excavated finds, is still being carried out today. The excavations are probably best known for the human remains. These are the earliest human remains in the U.K. and are often referred to as 'Boxgrove Man'. Scientists consider the lower leg bone was from a male because of its size.



*Excavations at Boxgrove, in the floor of the quarry workings.*

**Where is it?**

Boxgrove is located in the county of West Sussex in southern England, the site is named after the Parish of Boxgrove. The quarry that revealed the finds is situated some twelve kilometres north of the English Channel coast at Bognor Regis and five kilometres east of the county town of Chichester. Boxgrove sits at the foot of the South Downs and at the northern end of the Coastal Plain; a buried sea cliff that is cut into the Chalk, runs along the back edge of the site. Recently, the sediments that are found at the Boxgrove site have been mapped over twenty six kilometres, across the Coastal Plain of West Sussex, between Westbourne on the Hampshire/Sussex border in the west and the town of Arundel in the east.



*Location map for Boxgrove, showing the distribution of Boxgrove type sediments.  
Image: from Roberts and Pope 2017.*

**Why is it important?**

Boxgrove is important for a number of reasons. The preservation of the flintwork and bones is exceptional, the archaeological material has lain undisturbed in the soft sediments for half a million years and many of the flint tools were recovered in exactly the same place that they were discarded. The excellent preservation of the bones, enables us to see how the animals were butchered by the Boxgrove people. The geology at the site covers a period of thousands of years at the end of a warm period, very similar to the one we live in now but we can also see in the sediments the changeover from this warm period, (called an interglacial) to one of extreme cold, (which is called a glacial). Although the ice sheets never reached Boxgrove, the closest they came to the site was where north London is today. Conditions in the glacial would have been extremely harsh, with thick snow and ice cover on the hills.

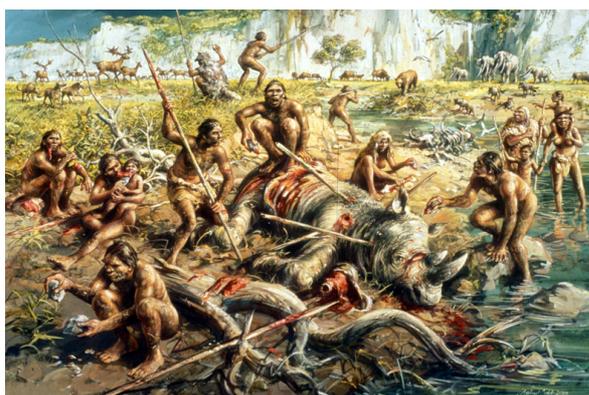
**Hominins: Who lived there?**

The type of human that we found at Boxgrove is known by the scientific name of *Homo heidelbergensis*. It is thought that this species spread from Africa around 600,000 years ago. In Europe *Homo heidelbergensis* are the ancestors of the Neanderthals, who became extinct some 30,000 years ago. However members of the original group of *Homo heidelbergensis* that stayed in Africa evolved into us – *Homo sapiens* or modern humans, so we are distant cousins of

the Boxgrove people. We have very little evidence for what these people were like but taking the Boxgrove shin bone along with evidence from similar aged fossils, we can say that they were strongly built and of a similar height to us.



*The sediments at Boxgrove. The sediments up to the thin brown line at the top of the grey silts are from the warm period and are mostly marine; those above the line are from the following cold stage.*



*A reconstruction painting by artist Mike Codd for Chichester District Council. It shows the Boxgrove people at a rhinoceros kill. The old chalk sea cliff can be seen in the background.*

### **Dating: When did they live there and how do we know this?**

Evidence for human occupation at the site probably covers a period of thousands of years but the land surfaces where most of the best preserved archaeological finds were made probably represent a much shorter period of just a couple of hundred years. The earliest stone tools from the site date to a time when the site was by the sea, and the latest tools to the beginning of the last glacial period. In between these extremes, we find most of our stone tools and bones from a period right at the end of warm stage. This warm stage or interglacial falls between 520,000 and 478,000 years ago. The Boxgrove finds date to the last 8000 years of that interglacial. We have dated

the site from the type of animals we find there; many of our mammals, both large and small, become globally extinct after Boxgrove times. We can also separate Boxgrove from earlier warm stages using the same methods. The sediments at Boxgrove contain the remains of tiny marine organisms called coccoliths; these too confirm the date as half a million years ago.



*Excavating the pelvis of an extinct rhino at Boxgrove, note the large numbers of stone tools around the bone, and their perfect condition.*

### **Behaviour: How did they live?**

The most common evidence for past human behaviour at Boxgrove is the people's interaction with their prey animals but by studying this visible activity and analysing the way they made their stone tools we can make other statements about the way that they lived. It is clear from the excavated evidence that they were able to completely butcher and process large mammals. This activity together with the fact that human flint tool cut marks always predate animal gnawing marks, shows that the humans had complete control over their kills and, when in groups, were regarded as a top predator. The position of the cut marks show that the butchers were interested in the most nutritionally valuable parts of the carcass. These would have included items such as the brain, the tongue, the spinal cord, and the internal organs: some scientists even think they might have eaten the part-digested stomach contents. It is clear that the hunting and butchery of large mammals would have required co-operative behaviour within the group. Boxgrove is famous for having the largest number of mint condition handaxes in the world. Despite what the name suggests handaxes were not used as axes but were butchery tools. Learning to make these tools was a key part of the development of younger members of the group. We have found handaxes that were made by complete beginners alongside those who were still in the process of learning, as well as some made by expert knappers.



*Handaxes from Boxgrove*

The Boxgrove people also made tools out of antler and bone, for working flint. There is little doubt that they would have also fashioned implements such as wooden spears out of wood. However, as yet, we still have little idea of whether these people had camp sites or specific areas where they ate and slept.

**Environment: What animals and plants?**

The animals found at Boxgrove half a million years ago, would seem very exotic in southern England today despite the fact that the climate was quite similar. The archaeologists have recovered the remains of rhinoceroses, elephants, lions, hyenas, bears, giant deer, beavers, and many other large and small mammals, as well as reptiles, amphibians, fish and molluscs. Similarly, the vegetation was also identical to that found growing in the present day; so the plant eaters would have been feeding on trees like oak and ash and browsing on wild rose bushes and brambles. You have to remember though that the sediments at Boxgrove cover a long period of time and it eventually became much colder and different animals such as ibex and Norwegian lemmings then appeared to replace the animals of the preceding warmer period.

**Broader context: how does this fit into the bigger picture?**

Current dating evidence shows that humans have been in Europe for around 1.2 million years and in Britain for perhaps three quarters of a million years. Human groups emerged from Africa at different times from two million years ago. Sometimes their presence in Europe is from the areas they settled in, outside the African continent; at other times it is more likely that the groups emerged directly from Africa bringing

stone tool technology such as the handaxe with them. The Boxgrove people are most likely related to this latter group. Boxgrove is an important site because, apart from the superb finds and human remains, analysis of evidence from the site overturned the view that these early humans were behaviourally simple and a helpless part of the mammalian fauna, when compared to us – the modern humans. We now know that they were top predators who were able to control their kill sites, who had the ability to use tools to make tools, whose activities showed planning depth and co-operative behaviour, and who would have used language to communicate.



*A shed red deer antler from Boxgrove.*

They were present in Europe and western Asia for at least half a million years and gradually evolved into the species we know as the Neanderthals; most of us alive in Britain today have a small amount of Neanderthal DNA in our bodies, providing a real link back to the people of Boxgrove.

**Further Reading**

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