

Birrigai Rock Shelter, Tidbinbilla **A human history from 21,000 years ago**

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If you take the time to visit the Birrigai Aboriginal rock shelter at Tidbinbilla you may be disappointed. You will stand on a platform and see a small, dusty patch of earth in a space formed by two large boulders leaning against each other. It is not visually spectacular nor very inspiring. But the information it divulged makes it one of the most important archaeological sites in Australia. An excavation of the shelter's sediments produced a radio-carbon date of charcoal from a fireplace that showed Aboriginal people were using the rock shelter and living in the southern highlands as early as 21,000 years ago.



Birrigai Rock Shelter, Tidbinbilla (photo Peter Dowling 2002)

Now, we archaeologists are a sceptical lot. If that 21,000 years dating was just the only radio-carbon date that was obtained from the shelter we would be very wary. By itself it could very well be interpreted as an inaccurate result derived from charcoal that had been contaminated before or during the excavation. But the cultural sediments of the shelter revealed a sequence of radio-carbon dates ranging from that time right up to the nineteenth century. The earliest dates were near the bottom of the sediments and the later dates were near the top - just what we would expect if the dating sequence accurately reflected the long use of the site.

The beginning of the dating sequence indicates that the Aboriginal people first used the shelter around 21,000 years ago. This at first seems like a very long time ago, but when we consider that archaeologists are now seriously talking about human antiquity in Australia well in excess of 60,000 years, it is not so long ago. So if humans were in Australia before 60,000 years, what makes the dating of Birrigai at 21,000 years (one third of the time length) so important?

To understand the importance of Birrigai we must take into account the climate in this area of the southern highlands 21,000 years ago. Around this time Australia, and most of the world, were experiencing the extreme conditions of the last Ice Age. The warmest month mean temperature would have been lower by as much as 10°C. During the colder months snow would have covered the rock shelter and valley floor below. The small streams and creeks running from the highlands would often turn to ice and the nightly frosts would have been severe. The annual rainfall was probably less than it is today. Below the rock shelter the water flow in the creeks and the Murrumbidgee River would be reduced during the winter months just as it is today, but 21,000 years ago there would often be large sheets of ice in the stiller waters. A westerly wind blowing from the high country over small glaciers near Mount Kosciusko would have made the lower lands around the rock shelter a very chilly place. During the summer months snow thaws would increase the flow of the streams and the Murrumbidgee would regularly run at a level that is seen today only at high flood peaks.

The vegetation around the rock shelter would have been much different to that of today. There would have been few trees on the slopes above Birrigai and in the valley. The landscape would have been one of open lands with grasses and alpine herb-field vegetation, much as we see around Kosciusko today. Standing on the slopes in front of the rock shelter, its inhabitants would have had a largely unimpeded view down into the valley.

While many of the animal species inhabiting the area around Birrigai and the south-east highlands during Ice Age would have been the same as today, others would have been very different. One of the largest and most obvious animals was the Diprotodon, a wombat-like marsupial with a long snout. It was a browser, weighing in at up to 2,000 kilograms - about the size of a rhinoceros. There was a large flightless emu-like bird (*Genyornis*), weighing around 100 kilograms with a large beak 300 centimetres in length and several species of a bulky, snub-faced kangaroo (*Sthenurus*) with a one-toed foot and almost hand-like front paws. All these animals were herbivorous and were quite likely used as part of the Aboriginal diet. Whether they were deliberately hunted or whether their fresh carcasses were taken for food is not certain.

Large carnivores inhabited the area. The most formidable was *Megalania* a massive lizard. It was far bigger than the Komodo dragon of Indonesia, growing up to 7 metres in length with razor sharp teeth and claws. A large possum-like marsupial (*Thylacoleo*), the size of a lion, was well adapted to climbing. The third large carnivore was the thylacine (or Tasmanian tiger) which had a wide range across Australia before it became extinct on the mainland. It was largely replaced by the dingo which was introduced to the continent sometime around 6,000 years ago. There was also a giant snake, (*Wonambi*) 5 metres in length and weighing up to 50 kg

The environmental conditions around Birrigai would have been very different indeed for those early hunters and gathers, and quite uncompromising even during the warmer months. But people were still using the area. A further indication of their use of the shelter during the Ice Age comes from a small, but clearly defined hearth site within the sediments of the shelter dated to 15,930 years ago. The hearth was assessed as an in-ground oven rather than a warming fire as cooking stones and a

possible butchering tool were associated with charcoal remains. What they were cooking and eating is unfortunately lost to the archaeological record.

Up until 3,000 years ago the shelter appears to have been occupied sporadically and probably for only short periods of time. The amount of charcoal from fires and the density of discarded stone artefacts is low when compared to the later levels of the sediments. These periods of use were most likely during the warmer months of year. Nevertheless, the Birrigai shelter shows quite definitely that Aboriginal people were using and occupying this marginal environment during the height of Ice Age conditions, a point that had previously been doubted by many of Australia's archaeologists. It was well known that Aboriginal people had occupied most of Australia during the Ice Age but their presence in the colder and bleaker highland areas was open to conjecture. The dates of Birrigai showed once and for all that Aboriginal people were able to utilise the marginal highland environment, albeit below 1,000 metres, during the Ice Age. Such a feat shows the strong biological and cultural adaptability of these early people.

Around 3,000 years ago the use of the shelter increased. The archaeological record shows a higher number of stone artefacts and the charcoal quantities increased dramatically indicating that more fires were being lit within the shelter. The reason for this probably acquaints to improved climatic conditions. Around 15,000 to 10,000 years ago the climate became warmer and wetter; the Ice Age was drawing to a close. By 3,000 years ago the seasons were much the same as they are today.

Use of the shelter continued up until the arrival of European settlers west of the Murrumbidgee in 1839-40. When excavations began it was noticed that the upper sediment layer contained masses of charcoal and rabbit bone but very few stone artefacts. This probably reflects intensive use of the rockshelter in the mid-nineteenth century, when Aboriginal people were being pushed back from the low-lying valley regions into the highlands by the spread of European pastoralism.

So, if you do take the time to visit the rock shelter do not be disappointed in what there is to see. Take a moment and think of what it would have been like living there 21,000 years ago.

You can visit the Birrigai rock shelter any time by taking the Birrigai Time Trail. The trail begins at a small car park by the road into Tidbinbilla Nature Reserve before the main entrance and visitors centre. There is a guide pamphlet available from the visitor centre.

References:

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