

## **Report on the Upland Caves Network Meeting: *Cave exploration and excavation***

**21<sup>st</sup> November 2009, Manchester Museum**

The Upland Cave Network is a discussion group that brings together people with a common interest in caves including cavers, geologists, archaeologists, palaeontologists and museum curators. '*Cave exploration and excavation*' was the Network's first conference. Dr Hannah O'Regan began the proceedings with a brief introduction to the network and a description of the main aim of the meeting, which was to get people with a common interest in caves together to talk and for them to find out new and interesting things. Following the discussions Hannah aims to produce excavation guidelines for cavers and archaeologists.

The morning session was chaired by Sue Stallibrass. The talks were presented from an archaeological perspective and demonstrated the huge amount of information and time depth caves can record.

### **Palaeolithic cave archaeology: current study into domestic and ritual enclosed space – Paul Pettitt**

Dr Paul Pettitt from the University of Sheffield presented his current research into the function of caves within the landscape in the Palaeolithic period. Paul wants to understand how humans used, experienced and moved within caves. In a study of Palaeolithic hand stencils in European caves funded by the Leverhulme Trust, Paul effectively demonstrated the intentional placement of stencils by Palaeolithic artists. Paul showed that hand stencils were often placed in difficult-to-access areas of caves and that artists could be in discomfort whilst stencilling. He also suggested that hand stencils were possibly being used to mark routes, interpret natural phenomena or show a person's status. Importantly, Paul suggested the type site commonly used, such as fossil site, archaeological site or cave art site, are not especially useful, and that a more holistic approach is necessary when studying caves.

### **Long cave sequences in Belgium and Neanderthal – Modern Human transition – John Stewart**

Dr John Stewart from The Natural History Museum gave an interesting talk which demonstrated the detailed chronology that cave sediments can reveal. Focusing on Walou Cave in Belgium, John showed how evidence from small mammal bones can be used to shed light on human transitions. Small mammal bones have been recovered from three horizons containing archaeology, 42ka BP (Mousterian), 28ka BP (Aurignacian) and 23ka BP (Gravettian).

### **Palaeoenvironments of the Lateglacial: new evidence from Ebbor Gorge, Somerset- Danielle Schreve**

Dr Danielle Schreve from Royal Holloway, University of London explained the methodology and preliminary results of a current excavation she is undertaking at Ebbor Gorge in Somerset. Danielle had the unique opportunity to excavate Gully Cave, a site which had never previously

been excavated and is close by to the well known archaeological sites of Ebbor Gorge, Gough's Cave and Wookey Hole. Clear aims were laid out at the start of the project, and in order to fulfil them a massive environmental sampling policy was used. Five tons of material was removed for wet sieving, resulting in the recovery of many animal bones. The breccia was especially rich in small mammal remains whilst large mammal bones were found heavily cemented against the north wall of the cave. Bird bones were also very abundant. The preliminary analysis of these assemblages suggests a cool climate with more sheltered shrubby areas within the gorge, and the possibility of a local water source. Radiocarbon dating indicates it is a Late Pleistocene assemblage. Danielle plans to undertake more exciting work in the future in order to fully understand the cave assemblage.

### **A Tale of Two Caves: Cove Hole and Fairy Hole** – Ben Neil and John Howard

Ben and John presented the findings from the excavations in place of Dr Tim Taylor, who was unfortunately unable to attend the meeting. They described two excavations that took place near the town of Grassington in Yorkshire. Arthur Raistrick gave Cove Hole a brief mention in the 1938-1939 volume of the Yorkshire Archaeological Journal (34:115-150) within the context of broader Iron Age discoveries in the Settle district; to quote "*Cave burials were also found in Dowkerbottom cave near Kilnsey, and in Cove Hole cave near Grassington*". From this, we infer that Cove Hole was excavated prior to 1939 though artefacts and remains from the investigation (if ever found), have so far been elusive. Our excavations concluded that Cove Hole had indeed been excavated, clearly demonstrated by its stratigraphical horizons and intensely pedoturbated cave earth. It did produce a large amount of Victorian pottery, glassware and metal however the cave did not extend back into a cave system as had been hoped.

Unlike Cove Hole, Fairy Hole had never been archaeologically investigated. Because of its close proximity to Cove Hole and likelihood of being part of the same system, it provided an opportunity to investigate a contemporaneous cave stratigraphy and *insitu* artefacts. Despite the generality of extreme variability in cave earth depositional processes, this excavation highlighted the fact that deep, clearly definable stratigraphy can occur in these environments and in this case producing a particularly varied assemblage, especially in regard to animal bone. Human teeth were found in the deeper deposits, typically characteristic of cave earths of the Younger Dryas period.

Both the excavations were transdisciplinary in nature and proved that collaboration between archaeologists and cavers can work very successfully.

### **Workshop Feedback Session** – Hannah O'Regan

Hannah presented an overview of what had been discussed in the previous day's workshop. There were four discussion groups:

- Health and safety
- Conservation
- Finds
- Excavation

It is felt that both cavers and archaeologists share a common interest in that they want to know what is inside caves. It was also observed that archaeologists have been very reliant on cavers to inform them of finds, and that in return archaeologists must provide information about the discovery back to the caving community. The cavers present also suggested that they were often unsure about what to do if they found something. During the workshop on the previous day, the following guidance had been suggested. Primarily the find should be left where it is found and photographs should be taken. However, if the find must be lifted, ensure photographs are taken, recording the exact location from where it was recovered. Put each find in a different bag unless it is articulated (i.e. one bone that links with another), these should be bagged in one bag. Collect a small sample of sediment from where the find was recovered and put this into the bag. This should then be taken to a local museum. In England legally only human remains and treasure have to be reported, however in Scotland and Northern Ireland everything found has to be reported.

The caving community regards health and safety as particularly important, and cavers have valuable skill that archaeologists do not in regard to health and safety and being underground.

It was also decided that carrying out a successful cave excavation requires a clear plan and a good leader. The excavation group's discussions also highlighted the need for an exit strategy to allow for the publication of the data and results, as some excavations could last for years due to the amount of information contained within the cave.

The afternoon session was chaired by Jamie Woodward.

### **Cave genesis – Tony Waltham**

Dr Tony Waltham from the BCRA (British Caving Research Association) gave an incredibly enthusiastic and fascinating talk on cave formation and development, showing many varied and interesting photos to illustrate his talk. In this fast paced overview of cave formation, Tony described cave formation in terms of the way in which water travels vertically down joints and horizontally along bedding planes in the Yorkshire Dales. He also explained that cave development occurs in many different environments, which results in a whole host of different geological formations. It was pointed out that cave formation results from many variables and therefore caves cannot generally be predicted. An important point that was also raised was that in glacial conditions cave formation and development stop because water is frozen within the cave.

### **Holocene palaeoclimates and cave climate monitoring in the Yorkshire Dales – Phil Hopley**

Research Fellow Dr Phil Hopley from University College London (UCL) demonstrated how speleothems can be used in palaeoenvironmental reconstruction. Phil explained about the 8.2ka climate event where there was a rapid cooling of climate in Europe due a catastrophic release of freshwater into the North Atlantic. Computer programmes used for modelling climate change in the present predicted this event would have caused an oxygen isotope anomaly in the UK of 1-2‰ at this time. To test this prediction made by the climate model Phil collected speleothems from three cave sites in the Yorkshire Dales and incrementally sampled them for

dating and oxygen isotope analysis. The results indicated that two sites recorded the 8.2ka event which lasted for approximately 110 years and caused an oxygen isotope excursion of 1-2‰ as predicted.

### **Northern Caves Monitoring Project (A joint conversation project between Natural England and the Council of Northern Caving Clubs) – Andrew Hinde and Andy Walsh**

Andrew Hinde from Natural England and Andy Walsh from the Red Rose Cave and Pothole Club talked to us about a joint venture funded by Natural England and the Council of Northern Caving Clubs. The project involved the collaboration of cavers with Natural England to assess the condition of features in caves. Cavers could do this by downloading a cave conservation monitoring form from [www.northerncavemonitoring.org.uk](http://www.northerncavemonitoring.org.uk). The cavers also helped with surface conservation by cleaning out cave entrances and stabilising access routes to caves. Caves monitored by Natural England are SSSI sites and therefore need careful conservation. Overall the project has been successful and has used caver's skills very advantageously.

### **Understanding caves in a dynamic karst landscape an antidote to 21<sup>st</sup> century antiquarianism; case studies from north-west England – Tom Lord**

The final talk of the day presented by Tom Lord reminded archaeologists who are undertaking the excavation of caves of the importance of understanding cave geomorphology. It is also equally important for archaeologists to understand the conditions and processes by which sediments within caves are laid down. Tom reminded us that caves are hydrologically active and demonstrated effectively via case studies from Stump Cross Cave and excavations at Bowling Alley how fluvial action was vital to the formation of geological features in the caves of north-west England.

### **End of the Day Discussion**

The discussion at the end of the day brought up a variety of interesting points. Some of the topics that were brought to the attention of the group were:

Not all past cave excavations were poorly executed. The excavation of Victoria Cave is an example of a good excavation where very detailed records were kept and these records were well archived. On occasions it is more likely that the bad archiving of records leads us to believe that no records were actually kept. It was also suggested that old cave excavations could be reassessed and that we could learn new things from doing this. This may be as simple as cleaning up a few sections for recording.

Cavers suggested publishing an article in 'Descent' and 'Speleology' explaining how to recognise cave archaeology would be very useful. It was also suggested that it would be helpful to record areas of archaeological interest onto caver's maps, and that cavers could be trained in basic recording techniques so if they find something it could be passed on to an archaeologist.

The cavers raised the important issue that in the past they have found it hard to get in contact with archaeologists when they have found something of archaeological interest. A list of

contacts for cavers was therefore deemed necessary. It is also essential that feedback from archaeologists is provided to the cavers about their finds.

Many problems would be solved by publishing identical guidelines on cave archaeology for both archaeologists and cavers.

The next Upland Cave Network conference will be on July 1<sup>st</sup>-2<sup>nd</sup> 2010. Awareness of this meeting needs to be raised by both the BCRA and BCA.

The meeting concluded with a massive thank you to Hannah O'Regan for organising such a productive and informative session.

Amy Jeffrey