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# SECRETARIES' REPORT

## MARCH 2013 – MARCH 2014

### Research

This year Christopher Smith has continued his research into dating speleothems by U-Pb methods for materials older than 500,000 years. Research into the Ogof Draenen cave system was presented at the 2013 William Smith Meeting in London, celebrating the first century of isotope geology, where the first U-Pb dates for Ogof Draenen were unveiled. Dating from several stalactites indicates that the oldest parts of the cave system, Megadrive and War of the Worlds, are at least 1,299,000 years old, making it the oldest Quaternary age cave system in the UK. Christopher Smith also presented further results from his research into U-Pb speleothem dating by laser ablation at the Goldschmidt conference in Florence, Italy. The emphasis of this talk was on the development of the laser ablation dating technique with several key samples, including material from Derbyshire, Southern Australia and the Canadian Rockies.

Meanwhile, Anya Keatley has been working on testing the heterogeneity in uranium ores from the South-West with the aim of identifying the extent of the heterogenity within single uranium deposits and how this can affect nuclear forensic fingerprinting. To do this she has been collecting sample suites from disused mines in the south-west with the aid of full respirator kit to avoid breathing in the high radon concentrations associated with these mines. Results so far show large variation on a cm scale in mineral texture, major element concentration key identifier elements such as the Rare earth elements. Upcoming work will show if this variation is carried through from ore to uranium ore concentrate.

Scientific presentations given by UBSS members at this year's Hidden Earth included "How old are Britain's Caves?" By Dr Andy Farrant, and "Speleothems: unlocking secrets from the past" by Christopher Smith.

Scientific publications from UBSS members this year include "*U–Th dating of speleothems to investigate the evolution of limestone caves in the Gunung Mulu National Park, Sarawak, Malaysia*", authored by Gina Moseley, David Richards, Christopher Smith, Peter Smart and Andy Farrant.

### Caving

We have had weekend trips to all of the usual places in the UK, including a healthy amount of SRT, especially considering the lack of our usual training venue. This year has also seen a decent amount of new recruits caving on Mendip during the week.

With others, Ali Moody has continued her enthusiastic digging on Mendip. Discoveries include Early Grave and Alzheimer's Pool and sump in Read's Cavern, which she has completely re-surveyed with Andrew Atkinson. She has also been digging in Brimble Pit and Reservoir Hole, and has started to dig Longwood Valley Sink. Andrew and Ali have also continued contributing to the Cheddar Catchment Survey Project (Award winning at Hidden Earth) , this year surveying Long Hole, Great Oone's, Gough's Old Cave, Pride Evans' Hole and Attic, Sun Hole, Bake Hole, Yew Tree Cleft, Bridged Rift Cave, Canyon Cave and Longwood Valley Sink. They have also surveyed Brimble Pit and Locke's Hole, and started surveying in the Buddle's Wood area. Andrew has finished the survey of Gough's (Award winning at Hidden Earth) by diving through to Bishop's Palace with the Welsh Cave Diving Group. With Clive Owen, he has found another 500+ metres of passage in Reservoir Hole. Pete Hann continues his hard work digging in Spider Hole and Limekiln Dig.

Further afield, we returned to Ireland once more, this time with the weather on our side. The expedition was a success, building on last year's work in Co. Mayo. A team of 8 led by Stuart Alldred returned with complete surveys of caves including Wolves Hole, Ladies Buttery and Horse Discovery, with notes on several other caves, and fresh leads to be investigated this summer. We plan to return once more to Co. Mayo, with the aim of eventually expanding the scope of *Caves of County Clare and South Galway* for another edition.

As before, we were also involved in CUCC's annual expedition to the Loser Plateau in Austria. The latest episode was led by UBSS member Alex Crow, who was joined by Chris Burnley, Stuart Walker and Cameron Bullen.

Other

With the union refurbishment still underway, we were forced to move tackle store once more, and lost our SRT training venue. We have now secured a permanent tackle store in the union, which we can hopefully inhabit for the foreseeable future. For training, we were forced to use a tree in a residential park. While this was less than ideal, we were fortunate enough to have a very enthusiastic group of Freshers, who have now enjoyed some decent SRT trips underground. It is hoped that we can eventually return to training in the union, but it is important that we keep pushing in this direction, as finding an alternative venue has proven very difficult, and it is very unlikely that we would find anywhere so well suited to our needs.

The summer of 2013 saw a group of UBSS members working every week in the Longwood valley on a project to prevent a repeat of the severe floods in Cheddar Gorge that had led to a closure of the road through the gorge for four months. Unprecedented levels of rainfall overwhelmed the upper swallet just downstream of the entrance to Longwood-August and caused the stream to flow unchecked to hit the gorge at Black Rock gate, undermining the sides of the road and ripping up the road surface over a considerable distance.

Charterhouse Caving Company Ltd, of which UBSS is a member club, became involved as they hold the lease of the underground from Somerset Wildlife Trust. Linda Wilson, the CCC Ltd Conservation Officer, co-ordinated the floor relief efforts. The upper swallet was excavated by hand, starting in extremely wet conditions at the end of April, with a team of people digging out many layers of silt, leaf matting, rocks and a two meter long tree trunk that had fallen into the hole approximately 20 years ago. The digging efforts have revealed probably the finest natural swallet on Mendip.

The second phase of work was carried out further down the valley at the site of the old cave dig, Longwood Valley Swallet, down which the stream had been diverted to prevent it reaching Cheddar Gorge. Permission was obtained from English Nature to make the temporary dam a permanent feature and to replace the crumbling oil drums that formed the entrance pipe with new road drainage pipes. This was done with the help of a mechanical excavator over the course of two days.

The project entailed many hours work from volunteers over a period of six months. The UBSS members closely involved with this were Linda Wilson, Graham Mullan, Alison Moody and Tony Boycott, with some additional assistance from Andrew Atkinson and Clive Owen. The work has been successful in preventing a repeat performance of the flooding, and Linda Wilson has been asked to accept an award on behalf of CCC Ltd for the cavers' efforts.

Aside from the aforementioned awards won at Hidden Earth, We won a trove of awards at CHECC, including a Plaque proclaiming us this year's Ultimate University Caving Club. At the same event Adam Henry and Stuart Alldred were elected to the CHECC Committee as Treasurer and Training Officer respectively.

This year also saw the publication of a brand new *Mendip Underground.* As before, the impact of our society over the years becomes obvious to any readers of the book, and the acknowledgements section shows the continuing contribution of so many of our members to caving and speleology on the Mendips.

Our thanks are due to the Tratman Fund and the Oliver Lloyd Memorial Fund for grants received this year.

*Simon Hadfield*

## MUSEUM REPORT, 2014

The past year has been another busy one in both the museum and library. Early summer saw Tony Boycott and I start on the long-awaited task of re-shelving the library stack room. The intention was to eradicate old shelving that was no long fit for purpose and replace old with new. Our president kindly donated some glass-fronted bookshelves and the rest were purchased from Ikea. It quickly became apparent that this work was going to be Herculean in scale but, after some initial tears and tantrums, Tony soon got a grip on the task and, over the course of the summer and autumn, he became adept at erecting bookshelf, mostly unaided. However, we were grateful for some help from Pat Cronin, a long-term friend of the Society. Tony's hard work and dedication to this task has made a huge difference to our stack room. The shelves are now all in place, and Tony has made a start on the equally massive task of getting rid of old, damaged storage boxes and replacing them with new ones made to the correct specifications. Once done, this will enable a large filing backlog to be dealt with. Thanks are also due to Graham Mullan and Andrew Atkinson for their help on the first onslaught on the UK material.

In my last report, I stated that the animal remains from the site known as Fishmonger's Hole in South Gloucestershire have now arrived in the museum. The cave was the subject of a Time Team dig, and a large quantity of bones were recovered, both animal and human, and a surprising number of dog bones were found. Preliminary dating places this site in the Iron Age, possibly very soon after the Roman occupation of Britain and theories about the origin of the dog bones range from ritual to purely practical. The initial phase of the project to produce a report on the site has now commenced, with over half of the material being catalogued. Thanks are due to Pippa Churcher for hard work on creating a finds spreadsheet.

Work has also started on a collections audit of the material from Picken's Hole. This initially daunting task was enlivened by the discovery of a small box containing the original teeth that Mr Picken, after whom the site is named, found in spring 1961, whilst studying the habits of badgers at the site. In the same box was the original query form completed in Bristol City Museum by Peter Bird, a member of the society and a curator there, together with his letter to Professor E.K.Tratman, passing the teeth to the society. It's discoveries like that which really bring the history of a site alive.

Rick Shulting, who wrote and coordinated the modern reexamination of the material from Aveline's Hole published in our Proceedings in 2005, has had some of the material on loan to enable some stable isotope dates to be obtained as the nitrogen levels from some specimens appeared to be anomalously low. The information obtained from the recent testing was significantly different from the first runs, and much more in keeping with what would be expected for that time. A report for Proceedings will be forthcoming in due course

I have spent a considerable amount of time this year working with Melissa Marr, a Phd student from Royal Holloway, University of London. Melissa's project aims to answer several key questions regarding the geographical and biological origins of modern mammal taxa and the influence of environmental change on the processes involved in shaping it. In particular, she hopes to be able to comment on colonization routes, phenotypic variation and the geographical origins of the species chosen for this study; European wildcat *Felis silvestris*, European beaver *Castor fiber*, wild horse *Equus ferus*, field vole *Microtus agrestis* and the wood mouse, *Apodemus sylvaticus*. Relevant material was identified from Gough's Cave, Gough's Old Cave, King Arthur's Cave and Sun Hole.

The project was based on two methods a) ancient DNA analysis and b) 3D geometric morphometrics. The 3D morphometrics component was non-invasive and required only manipulation of specimens to be imaged with a portable laser scanner. In addition, some destructive sampling was required for aDNA analysis. That involve taking a very small sample of bone from a suitable area of the specimen. Additionally, where appropriate, she hoped to be able to radio-carbon date particular specimens which involved taking a bone sample of around 1g. All Melissa's samples were taken with a high degree of competency and from areas of the specimen least likely to cause damage, so as not to impede measurements or obscure any morphological characters. Melissa spent almost a week in the museum in total and she was a pleasure to work with.

I have also had the pleasure of spending time in the museum with Sean Borodale, formerly Poet in Residence at the Wordsworth Trust, who now holds a fellowship at Trinity College, Cambridge. Sean is engaged in a project on the Mendip subterranean landscape, and is intending to write a book of poetry on the subject. His research has been extensive, and we have spent a considerable time discussing the material in the UBSS museum and its place in the history of Mendip caving.

Vince Simmonds of the BEC has continued his work in Whitcombe's Hole, and I was able to obtain confirmation from the Wills estate that they are happy for this work to continue.

Perhaps the most bizarre thing I've been involved with in the past year on behalf of the Society was obtaining permission, again from Sir David Wills for a London-based film company to film in and around the entrance to Aveline's Hole. This resulted in Graham and I spending an extremely wet Sunday standing around in Burrington Combe while a German pop star got more bedraggled by the minute. They were filming a video to accompany her next song release.

The low point of 2013 was the death of our former museum curator, Christopher Hawkes. Christopher had a wealth of knowledge about our collection, and I did my best to learn from him over the years we worked together. His death was a sad loss to the society, but his legacy will live on, as he very generously left the sum of £3,000 to us and, after consultation with his widow and those close to him, it was decided to spend part of this money on the refurbishment of the library and museum stack rooms, as well as on obtaining a large stock of museum-quality boxes for use in both stores. We will also be having a replacement desk for the museum store made, as another permanent reminder of everything we owe to Christopher.

Yet again, the sheer range and volume of enquiries and visits the museum receives is a testament to its continuing importance and it is a pleasure to be able to cooperate with researchers in such a wide variety of fields.

*Linda Wilson, Museum Curator*