WILLIAM PENGELLY CAVE STUDIES TRUST



Newsletter

Number 144
September 2026

WILLIAM PENGELLY CAVE STUDIES TRUST

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William Pengelly Cave Studies Trust Newsletter

Issue 144
September 2026

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The William Pengelly Cave Studies Trust is registered as a Charitable Incorporated Organisation (CIO) number 259303. The registered address for the Trust is
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All articles, notes, comments, reviews and news items are most welcome and should be sent to the Newsletter Editor.

Authors are responsible for the contents of their articles which do not necessarily reflect the policies of the William Pengelly Cave Studies Trust.

This Newsletter is published online in pdf format on https://pengellytrust.org where copies can be downloaded

Front cover: In the unnamed cave above Rock Farm Cave. Photo by Richard Vooght - see the editorial on page 1

From the editor

One of the good outcomes of the guided walks programme (described on page 7) is that several people first told us how much they enjoyed the experience but then went on to say that they'd like to be involved in the Trust's work. We had a variety of offers: to look after publicity, to train up as guides, to help out with maintenance or to manage the garden. Integrating these offers is now down to us and will start with a welcoming letter from the secretary (accompanied by a copy of this newsletter), to be followed by separate meetings that will depend on the specific experience and interests that come with each offer. In an age when recruiting volunteer help has become increasingly difficult, this is a very welcome development and we look forward to the benefits that these new recruits will bring to the Trust and to the Studies Centre.

John Wilmut

Many Devon caves are small and quite muddy though often richly decorated. You can get some idea of this from the information in the Devon and Cornwall Underground Council's Cave registry on https://dcuc.org.uk/registry/r/index.php

Richard Vooght has kindly provided a selection from his large collection of photographs of Devon caves, one of which is on the cover of this newsletter, another is here and several others are on the back cover.

Our thanks for these.



Photo: In the main Chamber in Kerswell Cave

The Annual Meeting, 6th June 2026



The constitution of the Trust as a CIO does not provide for a conventional annual general meeting of members. We have, however, retained an annual meeting as an opportunity for Friends of the Trust to meet and for reports of Trust activities and accounts to be available for comment.

The 2026 annual meeting was held at the Centre on 6th June 2026.

Secretary's Report

2025 was a year with some difficulties: friends/membership steadily declined despite efforts to prevent this. The membership secretary resigned and this role was passed to the secretary as an interim solution. People available to undertake maintenance and repairs are fewer. On the positive side bookings have been fairly stable supporting our income and ability to run the Centre at Higher Kiln Quarry. Visits and education talks continue to provide a beneficial input into the community. Visits to the Centre by schools dropped dramatically mostly due to supervision and safety issues that are imposed on schools.

The Summer Cave Walks along with the evening Bat Walks were again very successful. Much credit must be given to those Trust volunteers who supported these days and evenings during August: these are planned again for 2026. Some work was done to rectify faulty wooden parts of the boardwalk and steps but more is still needed.

The 'Friends' programme associated with our change from a limited company in guarantee to a Charitable Incorporated Organisation causes concerns for the future operation of the Trust. It is from this base that people should be available to sustain the Trust, help organise visits, walks and indeed maintain the fabric of the Centre.

The museum continues to look very presentable and there have been many favourable comments received from our visitors. Efforts have been made to promote the Trust by using a visiting/travelling display at various events which has proved relatively successful.

The Centre buildings on the whole are in reasonable condition but need constant and regular maintenance. Often problems are not properly reported to the management and this does have a knock-on effect to the next group using the Centre.

During 2025 the Trust website was redesigned by a contractor and it now has better provision for information and bookings. John Wilmut supervised the transition and keeps a weather eye on the day to day running.

The Higher Kiln Quarry Management Committee has been running fairly well with regular meetings to discuss the well-being of the site. There always remains concern over ash trees in the quarry regarding their condition for safety reasons.

The Trustees of the William Pengelly Cave Studies Trust have, under the chairmanship of Dave Warne, continued to meet regularly four times a year. The use of on-line meeting facilities continues to allow those who live too far away or unable to attend on the day to participate. In 2025 we met all our obligations under the Trust's Articles of Association and Charity Law.

The Trust still remains one of the constituted bodies of the British Caving Association (BCA). Meetings are held on-line thus removing the need for expensive travel. However, the networking that once took place at 'face to face' meetings has declined and old contacts are being lost which is detrimental.

Richard Vooght, the Trust librarian, continues cataloguing and reappraising the ever-expanding contents through exchanges and donations. He has been currently working on the Boylan collection, a large amount of publications donated to the Trust by the wife of the late Patrick Boylan. Richard also manages the access to the caves of Buckfastleigh and supervises the approval of Reeds cave leaders. In addition to those duties he looks after access to other important Devon caves on behalf of the Trust.

Sheila Phillips continues overseeing the education work of the Trust and co-ordinates the many requests for talks, guided walks and visits both on site and off. John Wilmut has produced regular newsletters which were circulated to Friends of the Trust, exchanged with other caving and karst organisations, some abroad. He also creates attractive leaflets along with hand bills for distribution.

I would like to thank all those who quietly help behind the scenes in all manner of ways sometimes not very glamorous although often essential to the smooth running of the Trust.

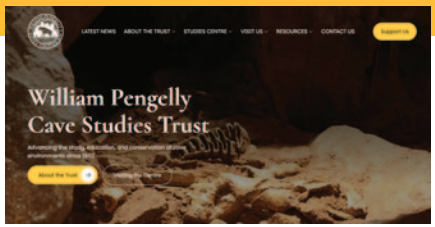
Alan Finch

Accounts summary

INCOME AND EXPENDITURE

	2025	2024
INCOMING RESOURCES	£	£
Subscriptions	225.00	242.71
Donations and Grants	163.10	317.85
Accommodation Charges	6,646.84	7,079.00
Day Visitors	1,809.75	2,173.56
Sundry Sales	482.95	720.81
Repayment of Overpayment	6,350.00	
Sundry Interest Received	566.00	186.20
TOTAL INCOMING RESOURCES	16,243.64	10,720.13
RESOURCES EXPENDED		
Direct Charitable Expenditure	11,522.31	4,937.16
Management Expenditure	1,726.23	8,027.52
TOTAL RESOURCES EXPENDED	13,248.54	1,2964.68
RETAINED PROFIT (LOSS) FOR THE YEAR	2,995.10	(2,244.55)
BALANCE BROUGHT FORWARD	38,216.52	40,461.00
BALANCE CARRIED FORWARD	41,211.62	38,216.52

The Trust website



The new website has now been functioning for more than a year and its advantages are now becoming evident.

First, we now have an up-to-date calendar of bookings and events that more adequately reflects Trust activities at the Centre and elsewhere.

Then, as in previous years, we took bookings for the July/August guided walks through our website. Previously, we used Eventbrite to handle these bookings and payments but, in 2026, we created a customised booking system that used plug-ins Amelia (to handle bookings) and Stripe (to manage payments). This was done by Dave Hallett and it worked very well and costed us less in fees than with Eventbrite. This arrangement also gives us the future capacity to manage and take payments for sales and bookings.

BALANCE SHEET AT 31st DECEMBER 2025

	2025		2024	
	£	£	£	£
FIXED ASSETS				
Tangible Assets		12.00		12.00
CURRENT ASSETS				
Cash at Bank				
Centre (Devon) a/c	16,242.80		13,813.70	
General Fund	6,431.62		6,431.62	
Shawbrook a/c	18,537.20		17,971.20	
	41,211.62		38,216.52	
NET CURRENT ASSETS		41,211.62		38,216.52
LIABILITIES		0.00		0.00
TOTAL ASSETS LESS CURRENT LIABILITIES		41,211.62		38,216.52
FUNDS (unrestricted)		41,211.62		38,216.52

As before, Newsletters are available for download from the website.

Finally, we are seeing a slowly increasing level of hits on the site; many of these are for making guides walk bookings but others are seeking general information about the Trust or checking out the availability of the Centre for residential bookings.

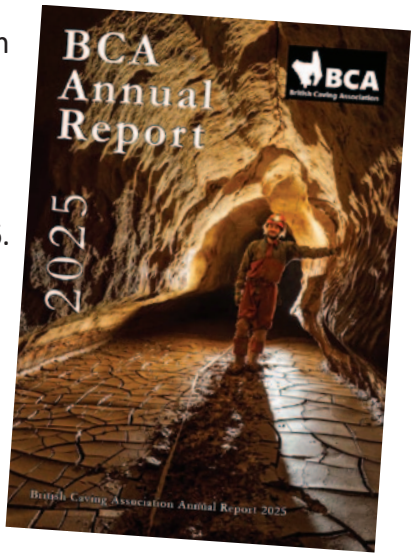
We need a new website manager. Can you help?

Dave Hallett developed the website and continues to provide support as we manage it. At present John Wilmut is acting as site manager but doesn't wish to continue indefinitely. The job requires diligence and care but is not unduly technical and not onerous. Could you help with this? Contact John Wilmut (johnwilmut@btinternet.com) for more information.

Friends of the Pengelly Trust

Having investigated possible locations for a travelling exhibit, publicising the Trust, it was clear that there were very few places able to accommodate such an exhibit. We have agreed to participate in Hidden Earth in 2027 and are considering whether we will organise talks and lecture programmes in centres such as Exeter or Plymouth, although some talks have already been held elsewhere in Devon (see page 8).

The first BCA Annual Report



At the request of BCA the Trust generated a report of its activities during 2025, for inclusion in a wider report being compiled by the British Caving Association (of which the Trust is a founder member). This was created by Richard Vooght (who represents the Trust at the BCA) and John Wilmut and submitted in March 2026.

This is the first BCA Annual Report, replacing the former Newsletter of the Association. The report includes contributions from the BCA executive officers, employees and specialist organisers, most regional caving councils, specialist organisations (of which the Trust is one) and BCA working groups and specialists, with some guest contributions. This is a very comprehensive overview of current caving and cave studies developments in Britain and provides links with cave-related activities across the world. It is very well edited and presented.

A pdf version of the report can be downloaded from a link on https://british-caving.org.uk/news/newsletter/ and paper copies can be bought from BCA - see the note inside the front cover of the online version.

INTERESTED IN JOINING THE COUNCIL?

The Council is looking to expand its membership and to develop its range of experience and expertise. If you'd be interested or would like more information, contact the secretary, Alan Finch at alan@alanfinch.net

The Centre in 2026

Guided walks

Another season of guided walks at Pengelly has been and gone. The first thing is to thank all of the volunteers who gave up their time, knowledge and enthusiasm to make it happen, and all of the people who visited us.

We run two types of walk, all of them on Wednesdays and Thursdays in late July and all of August. The first, in the daytime, covers local geology, wildlife and industrial archaeology, and takes visitors through some of our quarries, the lime kilns and Joint Mitnor cave. We aim to inform our visitors about what happened in the quarries, why limestone is so important, its uses, and something about the people who worked in the industry and the local area. There is much other geological background to cover, and we aim also to set the current situation in its geological historical context.



We would know little of the caves had it not been for quarrying, and they are, of course, vitally important for the local bat populations. Our evening bat walks aim to show these astonishing flying mammals to people, and let them identify them by making their calls audible to us. These walks are very popular.



Safe to say that the day walks were not always well attended in 2026. We experienced the hottest and driest summer on record, and people preferred the beach or Dartmoor. Bat walks happen in the evening when it is much cooler, and were much better attended. Perhaps we should make more of the coolness of the cave? We'll be running both the day and bat walks in 2027, probably at the same sort of times and dates. Do come and see us, or better still, think about joining us as a volunteer!

John Brodribb

Individual and group visits and external talks

2026 has been a good year for visits by specialist groups (of all sorts) and talks about the Trust given to organisations elsewhere in the region. Sheila Phillips continues to manage these sessions; for details see the Trust website (https://pengellytrust.org/). During 2026 there will have been 9 group visits to the Centre and 4 external talks about the Trust, all to groups in Devon. Two examples of Centre visits illustrate the range of activities.

Ivybridge U3A group



Hello Sheila,
Once again thanks to you & John for a really interesting visit yesterday. I was surprised that nobody (apart from me) remembered coming here before & a lot of members were unaware of your existence. Anyway I have attached a copy of our group photo as requested. Please feel free to use it as you wish.

This was a group of mixed interests with several geologists. Their leader visited the Centre 10 years ago and thought, as there are many new members, another visit was timely.

WI group outside the museum. Photo by John Brodribb

Dartmoor National Park children's club

The DNP's 'Ranger Ralph Club' is an initiative designed for children aged 5 - 12 for up to 12 outdoor events and activities each year. In July the Trust was pleased to host a 'fossil making day' at the Centre. After visiting the bone cave and handling real fossils, children made their own fossils using Plaster of Paris and could then take home their trophy.



This is a Plaster of Paris mould made in a plastic bowl which is lined with modelling clay into which small bones are impressed. The bones come from household foods, such as chicken which have been sterilised. The bones are removed and Plaster of Paris is mixed by the children and poured into the bowl. Setting time is 30 minutes while the children visit the bone cave. The mould is then removed.

The work of the Trust is explained and it's suggested that if they want a 'fossil' 1000 years hence which shows animal bone with human artefacts, they can incorporate items such as buttons, tile spacers or half clothes pegs.

We have been asked to do a similar exercise with a local Scout group.

Children visiting the Centre in 2026



There have been many visits to the Centre by groups of children and young people over the years - the report on page 8 is typical of the sorts of programmes that have been provided for them. If any children's group would enjoy activities related to caves, to the fossil deposits found in them or to other related topics, please take a look at the Pengelly Trust website, https://pengellytrust.org and follow the links to Visit Us/Group visits. Whilst visits that involve going into caves at the Centre are restricted to the period from early April to late September, the museum and work rooms are available for use throughout the year.

Residential use of the Centre in 2026

So far this year the Centre has been booked by residential groups for a total of 32 days with 6 more days already booked for the rest of the year. Such groups will normally be organising their own programmes. It is good to report that these bookings have recently increased; for information and arrangements for booking go to https://pengellytrust.org

Other Centre users

The Devon and Cornwall Underground Council (DCUC) meets at the Pengelly Centre, as do Devon Cave Rescue Organisation (DCRO), Plymouth Caving Group (PCG) and Devon Speleological Society (DSS) who have held trips into Reeds Cave, while Devon Wildlife Trust (DWT) and Natural England have used the Centre for meetings. The Trust would like to expand these uses of the premises; contact the secretary for information (see inside back cover).

We still need helpers

The Centre Management Committee cannot function fully without more help with repairs and routine maintenance. You do not need special skills, just a willingness to get stuck in.

The Council also needs help to expand the range of events that we run outside the Centre, with guiding at the Centre during the summer, and with the website.

Managing the Centre

In recent Newsletters we have reported the discussions that led up to the establishment of a new Centre Management Committee, taking over the role of the earlier Centre Executive Committee (CEC). This committee has worked through the last few months to repair some of the defects at the Centre and to establish a list of maintenance tasks that need regular attention.

The first stage was to address the inventory of immediately obvious and known defects, made in the autumn of 2025. Here is a summary of work that has been done or of work that is planned or in progress.

Boardwalk maintenance

There is no doubt that the quarry boardwalk is nearing the end of its useful life. The posts that support it above the quarry floor have almost all rotted, some to the point of near-collapse, and some sections of decking and handrails have also deteriorated quite badly. It was alarming to hear that one part of the decking collapsed under a member of a visiting group, fortunately without injury.



Tree fallen across the boardwalk

Alan Finch and John Wilmut had two repair sessions during the summer and it was gratifying that the boardwalk survived the groups of visitors that came during 2026. It is unfortunate that accumulated leaf fall creates ideal conditions for decking rot and we expect to have to do more repairs next year.



The information boards along the boardwalk are also showing their age, particularly where they are in full summer sun. Replacing these is a likely task before next summer's visits.

Faded display board at Reeds Cave. Photos by John Wilmut

Quarry issues

We are pleased that the intrusions into the field above the quarry have now stopped and that the field gate has been secured.

The fencing of the main quarry continues to deteriorate, and some sections need urgent repair, while the gate at the north end of the Centre has now fallen apart. These matters have been raised with Devon Wildlife Trust.

Some management of trees in the quarry has been done and, during visits in 2026, ash die-back has not created a hazard for visitors accessing the caves. This is being kept under review.

General Centre upgrades

The Centre Management Committee has managed a number of repairs and maintenance activities, including

- repairs to damaged lighting and electrical power outlets
- repairs and upgrades to the alarm systems
- PAT testing (of portable electrical appliances)
- rebuilding the two showers in the male toilet
- repairs to some damaged bunks
- thorough drain and gutter cleaning
- repairs to the boiler room door (which will shortly be replaced)
- creating a screen locker and repainting the lecture room.



Rebuilding the male showers
Photo by John Wilmut

Arrangements are being made for

- the installation of curtains in the bunk rooms
- repairs to the flat roof.

Centre cleaning

There have been improvements to the cleaning at the Centre. Whilst residential visiting groups continue to clean the bunkrooms and public spaces before they leave, the ongoing need for periodic in-depth cleaning is being done by a local cleaning company.

Volunteers (notably Sheila Phillips) are responsible for keeping the museum clean which continues to be a significant attraction for visiting groups.

Buckfastleigh SSSI

As well as being the home of the William Pengelly Cave Studies Trust Higher Kiln Quarry and the area around it is listed and described by a number of other organisations, some with statutory powers.

Higher Kiln Quarry was included within a Site of Special Scientific Interest (SSSI), described by the Trust's first President George Black in 1964.[1] This designation was originally because of the importance of the caves in Buckfastleigh Hill, threatened by a proposed expansion of Bully Cleaves Quarry. It was part of a process that led to the establishment of our cave studies centre (Sutcliffe, 1965).[2] The Joint Nature Conservation Committee (JNCC, the statutory nature advisor to all 4 countries of the UK) describes the importance of the site in Volume 14 of the Geological Conservation Review series, *Quaternary of South-West England*, published in 1998.[3]



Natural England has now assumed statutory responsibility for the SSSI and the current boundary of this can be seen on the map on the right where the cave studies centre is shown as a red dot.[4] It coincides with its designation as part of the South Hams Special Area of Conservation which relates more specifically to the flora and fauna of the site, features also highlighted by the Devon Wildlife Trust which treats Higher Kiln Quarry as a local nature reserve.[5] Much of the emphasis is on the conservation of the bat population.

1 Black, G.P. (1964) The Conservation of Caves in Britain. *Studies in Speleology* 1.1, 16-21

2 Sutcliffe, A.J. (1965) Planning England's First Cave Studies Centre. *Studies in Speleology* 1.2-3, 106-124

3 The relevant site description can be seen on https://data.jncc.gov.uk/data/965f9190-c00b-4a6b-aa9f-8e3855492404/gcr-v14-quaternary-of-south-west-england-c5.pdf

4 Go to https://www.planning.data.gov.uk/map/ and enter postcode TQ11 0DY to highlight the SSSI

5 See https://www.devonwildlifetrust.org/nature-reserves/higher-kiln-quarry

So what's the point of all this information? In a recent copy of *Descent* there's an article by Bob Meyhew relating to damaging activities in caves.[6] It refers to a successful prosecution in Scotland in 2025 where the court considered the question of what constituted a potentially damaging operation (PDO) to an SSSI; Mehew suggests that this could be, in the case of a cave, the removal for sale of a geological specimen, for example.

The law covering SSSIs is a devolved right so that Scottish and English law differ in some respects. But there does seem to be a common understanding that a PDO is seen as an intentional or reckless act in relation to geological and physiological features as well as to fauna and flora. What are less clear in many SSSI citations are explicit descriptions of features of a cave that are included, though it is possible that simply identifying a cave could mean that all of its features (including, for example, archaeological deposits and bats) would be subject to a PDO.[7]

Mehew says that he has located 276 SSSIs that mention caves or mines and that these cover over 4000 entrances. It is possible that any actions in these caves or mines might be considered by the statutory authority to be a PDO and that that the authority may consider a particular action to warrant a prosecution, perhaps in order to clarify the law or to create a precedent or example.

In recent times the Trust has been careful to notify Natural England of activities in the caves in Higher Kiln Quarry that might be likely to change (or perhaps even damage) cave features. I suppose that the work in Joint Mitnor Cave (mostly done in or before the mid 1960s) might now be seen to be damaging when considered in the context of the current legislation. There can be little doubt that disturbance of bat colonies could easily be seen to be a PDO whilst physical damage in the course of a caving trip into somewhere like Reeds Cave might be equally unacceptable.

Mehew's article is a reminder that UK conservation policies have evolved markedly during the Trust's lifetime and that we (and others involved in speleology) need to tread much more carefully than used to be the case.

John Wilmut

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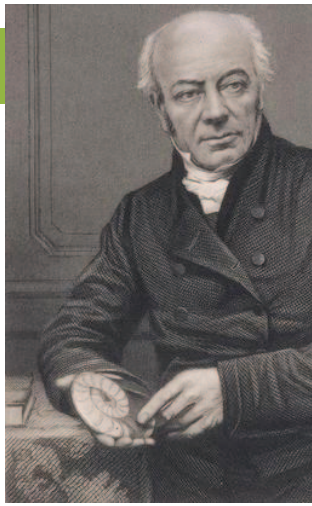
6 Mehew Bob (2026) Protection of SSSIs. *Descent* 311. 4

7 The citation for Buckfastleigh SSSI can be found on https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1002275.pdf It includes a short description of caves within the area but the only cave mentioned by name is Joint Mitnor

The other side of William Buckland



In the 1967 issue of *Studies in Speleology* Patrick Boylan wrote a very thorough and well-researched paper on the life and work of William Buckland.[1] In an era when geology was a new science, struggling for recognition, Buckland became the first Professor of Geology at Oxford University and was at the centre of the developing understanding of the antiquity of human and animal species and the conflict with those who advocated the diluvial theory that placed the earth's creation at around 4000 BC. Much of Buckland's work was done through the excavation and study of caves in Britain (including a considerable amount in South Devon, though he probably never visited caves at Buckfastleigh) and elsewhere, notably Kirkdale Cave in Yorkshire and Paviland Cave in Gower. He was known as a passionate and eloquent advocate for geological sciences and an inspiring speaker and lecturer.

Born at Axminster in 1784, Buckland studied at Oxford and, in 1809, was awarded his MA degree and was ordained in the Anglican church. His early work in cave excavations resulted in his appointment as Reader in Mineralogy at Oxford and, in 1820, as Professor of Geology at the University. He was later appointed as a Canon of Christ Church Cathedral in Oxford (this was one of the richest governmental rewards for academic distinction) and then, in 1845, on the recommendation of the prime minister Robert Peel, he became the Dean of Westminster.

There's little doubt that Buckland was an extremely energetic academic, a very strong personality and an original thinker.[2] His academic status and popular celebrity were reinforced in 1823 through the publication of his treatise *Reliquiae Diluvianae, or, 'Observations on the Organic Remains attesting the Action of a Universal Deluge'*, in which he argued that the remains of animals found in caves provided clues as to the inhabitants and character of the earth before the Great Flood. Later, he never quite abandoned his commitment to this diluvial theory but went a very long

1 Boylan, Patrick J. (1967) Dean William Buckland 1784-1856. *Studies in Speleology* 1.5, 232-253

2 See, for example O'Connor Ralph (2006) Kirkdale Cave and the Poetry of William Buckland. *Studies in Speleology* 14, 39-41



way towards accepting that humans and animals had co-existed on the planet for far longer than a literal interpretation of the Biblical creation story suggested. Had illness and disability not clouded his later years he would, in Boylan's words

> … certainly have been near the centre of the ensuing battles … [and] might have been on the winning side

Boylan hints at some of Buckland's eccentricities but does not go into detail. Rather more information about some of his odder behaviours appears in the official biography published by the Oxford University Museum of Natural History.[3]

However, in his very enjoyable and rather extraordinary book *Field Guide to the English Clergy*, Fergus Butler-Gaillie includes a section about William Buckland.[4] The book is described as ' a compendium of diverse eccentrics, pirates, prelates and adventurers, all Anglican, some even practising' and, whilst celebrating Buckland's geological achievements, concentrates on some of the odder aspects on his behaviour.

Central to these was Buckland's stated intention to eat at least one of every species of animal alive in the world. He seems to have fallen short in this intention but there is a celebrated report that, one one occasion, he served mouse on toast to a dinner guest. Then, while on a visit to a French cathedral, he was told that the blood of a local saint would appear on the flagstone floor; Buckland knelt down, licked the floor and declared that the stain was certainly bat urine. Then, as Dean of Westminster, he was a guest at a stately home where he was shown the embalmed heart of King Loius XIV of France. Having examined it, Buckland ate it.

His fieldwork, conducted in full academic garb, requiring journeys on horseback that often involved the carriage of large and heavy fossils. His lectures were said to be legendary and much admired for both the quality of the science and of the performance, whilst his home, which included a large family, was littered with his huge collection of cave fossil material.

This was clearly a man who made a very significant impact on the world.

John Wilmut

3 https://oumnh.ox.ac.uk/william-buckland

4 Butler-Gaillie, Fergus. (2018) *Field Guide to the English Clergy*. One World Publications

The new research project at the Centre



In Newsletter 143 we reported the creation of a PhD studentship at the University of Aberdeen that would involve work at the Pengelly Centre. The project is entitled: *Hippo and Hyena Haven: Exploring the Isotope Palaeoecology of a Non-analogue Ecosystem in MIS 5e Britain* and Andrew Chamberlain provided a description of the project.

This has now moved on a stage and Andrew has now provided a brief description of progress, clarifying the scope of the work and the involvement of the Trust.



This is an exciting development, taking the story of Joint Mitnor Cave forward, and we are delighted to be involved, particularly since Andrew suggests that there will be a linkage between the research work and the Trusts's education programme.

On 15 September Andrew Chamberlain and Professor Kate Britton from the University of Aberdeen visited the Cave Studies Centre in order to see the Centre's facilities and to view the section through the bone deposit in Joint Mitnor Cave. Kate and Andrew also visited Torquay Museum where the majority of the palaeontological finds from Joint Mitnor are curated. The aim of their visit was to assess the suitability of the material from Joint Mitnor for a major study of the palaeoecology of Marine Isotope Stage 5e faunas which will be the focus of a PhD research project at the University of



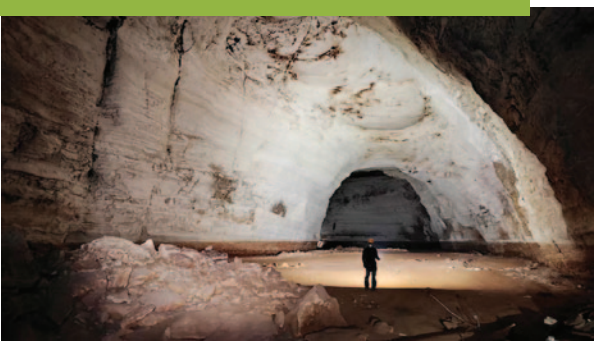
Kate Britton and Andrew Charmberlain in Joint Mitnor Cave. Photo by Richard Vooght

Aberdeen starting at the end of September 2026.

Torquay Museum holds over 6000 numbered specimens from Joint Mitnor Cave. The bones and teeth from the cave are exceptionally well preserved so they are ideal for the range of isotopic analyses and proteomic studies that will form the core of the research. A smaller sample of a few hundred specimens from Joint Mitnor Cave are held at the Natural History Museum in London, but these are not currently available for study due to relocation of the Natural History Museum's collections. In addition to studying and sampling the specimens at Torquay Museum the student assigned to the research project will be spending some time working at the Cave Studies Centre and participating in the Centre's education programme.

Andrew Chamberlain

Caves of the Nullarbor



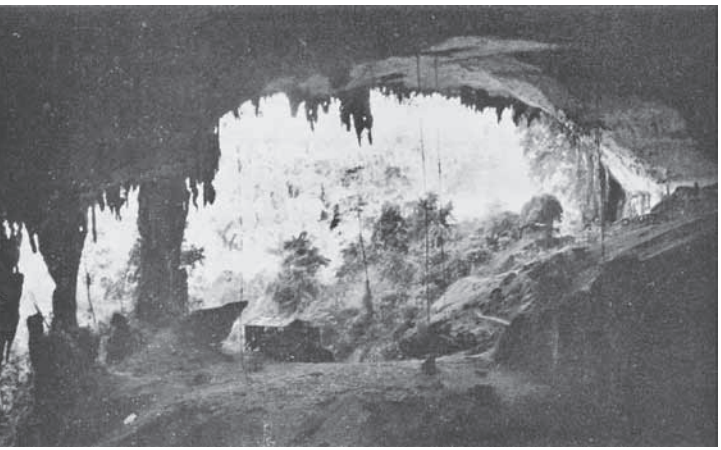
New research has explored the previously unknown relationship between shallow surface trenches on the Nullarbor Plain in South Australia and the caves underneath. Hidden beneath the Plain is a karst landscape consisting of a series of complex cave systems. These caves are largely inaccessible from the surface and have been relatively understudied. "These trenches actually represent the surface footprint of caves that are much, much deeper and may not actually reach the surface just yet," said Dr Milo Barham of Curtin University. They could be 20 km long and hundreds of metres wide, but are only a couple of metres deep and so are almost invisible. There is speculation that the relationship between these trenches and the caves underneath could shed light on cave systems in other environments, including on other planets.



Revisiting Niah Great Cave, Borneo

There was a time (now long past) when the Trust published a Journal. It was called *Studies in Speleology* and it was the brainchild of Antony Sutcliffe - the moving spirit behind the creation of the Pengelly Trust. The first issue of *Studies* contained a dozen short articles by authors involved in a variety of aspects of speleology in the UK, Kenya, the USA, New Zealand and some other places; it included one by archaeologist Tom Harrison, then the curator of Sarawak Museum in Borneo.

It's perhaps more a set of notes than a coherent article but much of it is devoted to a description of Harrison's work in Niah Great Cave and it is illustrated by four mono photographs of what is clearly a very large cave (Harrison suggests that it has a floor area of 27 acres and is 1400 yards long). A view of the entrance, taken from that 1964 article, is below.



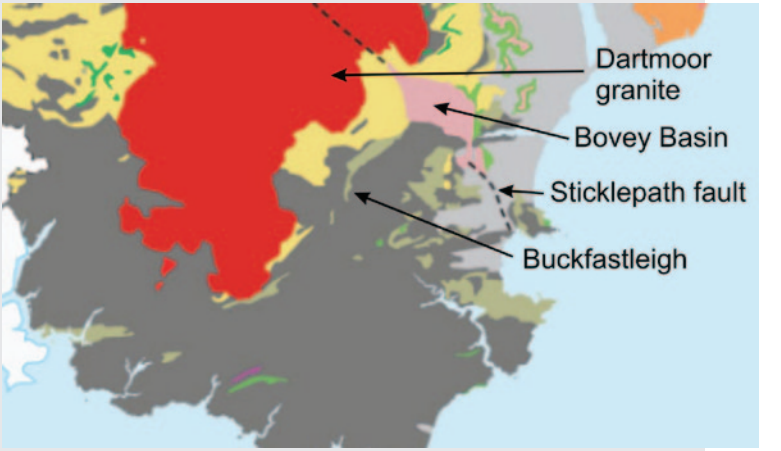
Thumbing through issue 311 of *Descent* I was interested to see that Donald MacFarlane, Guy van Rentergem and Joyce Lundberg had recently done a LIDAR survey of the whole cave system, and were able to provide an authoritative account of the dimensions of its west entrance. This is 148.8 m wide and 54.6 m high. They have also completed a survey of the whole of the known cave which is now about 6 km long - considerably longer than Harrison's estimate.

One of the Trust's publications is a field guide to the natural history of Kents Cavern written by Joyce Lundberg and Donald MacFarlane (see page 23). It is very pleasing that we are able to link back to the very considerable effort that Antony Sutcliffe put into *Studies in Speleology* and to authors who have contributed to our other publications.

John Wilmut

Winning the clay

Not far from the Centre, at the intersection of the A38 and the Newton Abbot to Bovey Tracey roads, is the Bovey Basin which is the largest and highest quality source of ball clay in the UK, and probably the world. It has been worked since the 17th century and it is no surprise that William Pengelly took an interest in this site. In 1862, in a paper read to the Royal Society, he reviewed the geology of the Tertiary lignite deposits of Bovey Tracy and, in the following year, was elected a Fellow of the Society. Much later, in the Transactions of the Devonshire Association (which he had founded), he reviewed his Bovey Basin research.[1]



Travelling from Exeter to the Centre the road crosses the Bovey Basin and, in the early days of the Trust, Antony Sutcliffe was invariably at pains to point out its importance. So it was immediately interesting to meet Rebecca Nunes, one of this summer's guided walks visitors, who explained that she was part of a research team that was examining the economic and social links between the ball clay extraction in the Bovey Basin and the use of the clay in the Staffordshire pottery industry. Although the links between the study of Devonian limestone caves and nearby tertiary clay deposits are tenuous, it seemed worthwhile to include overleaf a short piece about this programme, written by Rebecca. This is not least because the working practices in extracting limestone at Higher Kiln Quarry may have had much in common with the practices of extracting ball clay from the Bovey Basin.

1 Available on the Internet Archive on https://archive.org/details/reportandtransa05artgoog/page/368/mode/2up

By way of a brief introduction, I am an Associate Professor at the University of Staffordshire. I am working on this project in collaboration with Sophy Rickett, a Reader at University of the Arts London. Together over the past couple of years we have been developing a research project exploring South Devon's ball clay industry, focused on the area near Newton Abbot known as the Bovey Basin.

The Bovey Basin in South Devon was once a vast lake surrounded by towering sequoias, cinnamon and oak trees, evergreen figs, and prickly rattan palms. It was fed by a network of rivers carrying mineral-rich sediments from the eroded granite of Dartmoor, which settled on the lake's 1 km deep bed. The minerals combined with the rotting vegetation to form, over millions of years, a unique material with a very unromantic name: ball clay. This particular kind of clay would come to shape the landscape, culture and economies of both South Devon and Staffordshire for hundreds of years.

Ball clay gained its name from the way in which it was 'won' from the ground. Pre-industrialisation, quarrymen used specialist hand-tools to dig huge block of heavy clay from the pits. These blocks of clay became rounded at the edges from handling, turning them into weighty balls. Ball clay.



Quarrying ball clay in about 1900

By the nineteenth century, the clay was playing a crucial role in the development of the global ceramics and sanitary ware industries up in Stoke-on-Trent. The booming Potteries of Staffordshire could use large quantities of their own red clay, as well as the white 'china' clay shipped in from Poole and Cornwall. Josiah Wedgwood and other master potters were developing recipes for new ceramic wares at a feverish pace. So where does ball clay come in? Although only a small percentage of ball clay was used in each of these new recipes it was, in many ways, the 'secret ingredient': ceramics' super-power. Without the superb plasticity and white-burning properties of ball clay, ceramics made using the slip-mould process would not be possible. Bathrooms as we know them would not exist!

So this reserve of clay has been identified as significant for the expansion of Wedgwood, Spode and others' industrial ceramics projects in

Staffordshire, and there currently exists a rather fragile archive relating to this in the cellar of the former director of the mining company in Newton Abbot. However, overall, it seems that not much is known of this quite rare and special material. Hence our bid for funding to do some preliminary research. We were delighted to receive support a few months ago from the UKRI-funded Arts and Humanities Research Council to proceed into Phase 1 of the project. This is a 15 month research project examining the cultural, social, and environmental impacts of the clay industry in each region. The aim is to better understand how local communities experience the clay and its associated infrastructure, and how they are represented in local heritage contexts such as museums and heritage centres.

We have been making several field trips to both areas, and we are keen to connect with people whose expertise spans environmental planning and advocacy, industrial heritage, community engagement, and deep-time geology. We then plan to bring everyone back together in 2027 for an online symposium where we share some of our findings, before collating them all into a publicly available report and website.

Rebecca Nunes

Bats come from Europe?

For decades, researchers have debated where bats first evolved. Africa, Asia, and North America have all been proposed as possible birthplaces. Now, an international consortium of 137 researchers from 64 countries, led by Professor Emma Teeling of University College Dublin, has combined genomic data from every living bat family with evidence from ancient fossils to reconstruct the evolutionary history of the world's only mammals capable of true powered flight.[1] The results suggest that bats first evolved in Europe 65-60 million years ago, then moved into Africa with separate groups expanding into the Americas, Asia, and Australia.



A fossil of Palaeochiropteryx tupaiodon, found in Germany and dated 47 - 48 million years old. Photo: Matthew F Jones

1 https://www.nature.com/articles/s41586-026-11007-3.pdf

Trust publications

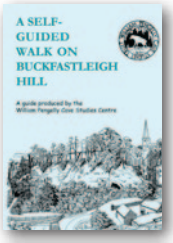
Publications of the Trust may be obtained either from Alan Finch at 'Zennor', Throwleigh Road, South Zeal, Okehampton, Devon EX20 2QA. Telephone 01837 840259. Some will shortly be available to order online at https://pengellytrust.org/ or can be purchased from the Centre bookstall.

Here is a list of the books, booklets and leaflets available.

The first 4 publications can only be purchased at the Centre bookstall since the cost of postage now greatly exceeds their cover price.

Prices of the four books are available to order by post or online and the prices include postage and packing.

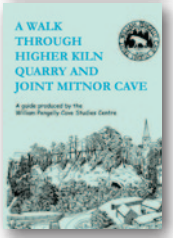
A Self-Guided Walk on Buckfastleigh Hill



John Wilmut, David Jean and Sheila Phillips (2004)

This is one of two guides for use at the Centre and it describes a self-guided route that starts at the Centre and introduces the walker to the principal features, structure and geology of the hill and its caves. It is well illustrated, has a map and is a good summary of the more detailed information in other Trust publications and in the Centre museum. £0-50

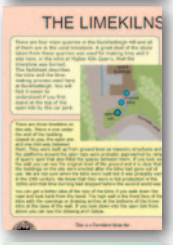
A Walk through Higher Kiln Quarry and Joint Mitnor Cave



John Wilmut, David Jean and Sheila Phillips (2004)

This is the second of two guides for use at the Centre. Over 12 pages it provides a summary of the principal features that visitors see in the guided walk through the quarry, in the bone cave and in the museum. It forms a companion guide to the self-guided walk, limekilns and geological garden publications. £0-50

The Limekilns



Wilfred Joint and John Wilmut (2005)

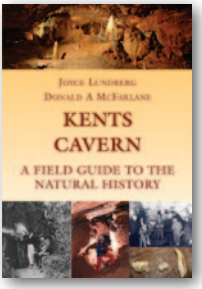
This is a 4-page supplement to the information boards at the Centre. There are four main quarries in Buckfastleigh Hill and all are in the coral limestone. Much of the stone taken from these quarries was burned for making lime in the kilns at Higher Kiln Quarry. This factsheet describes the kilns and the traditional lime-making process that was used at Buckfastleigh. £0-50

The Geological Garden



Bob Symes, Sheila Phillips and John Wilmut (2007)

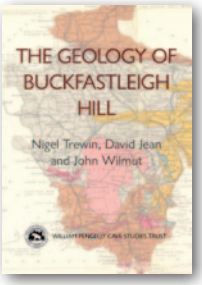
This is another supplementary 4-page leaflet. In the courtyard of the Centre there is a group of rocks from the local area, set out as a geological garden. They give some idea of the range of rocks that visitors see on and close to Dartmoor. The leaflet gives detailed information about the rocks and where they came from. £0-50



Kents Cavern: A Field Guide to the Natural History

Joyce Lundberg and Donald A McFarlane (2008)

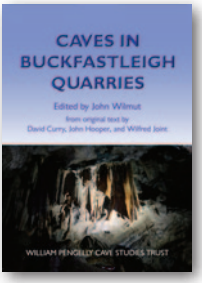
Over more than 150 years researchers at Kents Cavern have discovered a sequence of deposits that cover a half-million year history, making this cave one of the most important cave sites in the world. Here the authors show how the cave first formed and developed and they describe the excavations by William Pengelly. The Guide then takes the visitor on a tour of the show cave. At each stop the authors describe the evidence on which our understanding of its development is built. £4-50



The Geology of Buckfastleigh Hill

Nigel Trewin, David Jean and John Wilmut (2007)

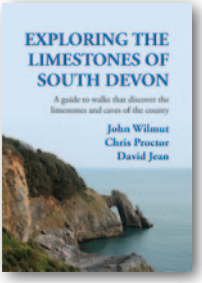
The origins of Buckfastleigh Hill go back 350 million years and its story embraces tropical seas, volcanoes, coral reefs and the building of a massive mountain chain. Caves in the hill's limestone provide evidence of ice age erosion and of warm periods when lion, elephant, hippopotamus and other animals roamed the Dart valley. This illustrated booklet provides a detailed description of the geological history of the hill. £3-50



Caves in Buckfastleigh Quarries

Edited by John Wilmut (2012)

This booklet has been produced by the Trust as an updated and extended replacement for two of its earlier publications. It includes descriptions of the history, geology and exploration of the caves that will be of interest to anyone who has visited the area and particularly for those who have seen some of the caves at the Centre. £5-00



Exploring the Limestones of South Devon

John Wilmut, Chris Proctor and David Jean (2014)

Created when Britain lay south of the equator, Devon's limestones are as exciting and interesting as any rocks in Britain, as are the caves which have been formed by the action of water over thousands of years. Research in the last two centuries has yielded much information about our past climates and about the people, animals and plants that once inhabited this area. The walks are described in great detail and the book can be used to combine the walks in ways to suit the walker. £7-00

Digital articles from back numbers of STUDIES IN SPELEOLOGY or from this NEWSLETTER are available. Please contact the librarian to enquire about copies.

The William Pengelly Cave Studies Trust and Centre:



The William Pengelly Cave Studies Trust is a charity, originating in 1962, when Higher Kiln Quarry at Buckfastleigh became the site of a cave studies centre. The quarry contains several caves including Joint Mitnor Cave where there are the remains of animals dating from the warm period between the last two ice ages. The organisation is named after William Pengelly, a local man who, in the mid-19th century, excavated local cave sites including Brixham Cave and Kents Cavern at Torquay. He was responsible for establishing excavation methods and records that became a model for all modern archaeology.

Joint Mitnor Cave was first entered just before WW2 when bones were found and identified as the fossil remains of animals that had once been present in this location. The cave was excavated in the 1940s and 50s but a large part of the deposit was left in place and this can be viewed by visitors. The picture shows a tooth from a juvenile straight tusked elephant and bones from bison and red deer. Other species include hippopotamus, lion, hyena, wolf, and bear.



Other caves at the Cave Studies Centre are closed to visitors either because of their fragility or because they are used by hibernating bats. There are other local caves that are used for recreational purposes.

What we do

Research
The Trust supports a range of research in areas such as cave water percolation, cave spiders, palaeontology and bat studies.

Education
The Trust provides information about cave studies through visits, lecture programmes, publications and displays in the Centre museum.

Conservation
The management of the quarry and caves is consistent with good cave conservation practice.

what we do and how you can visit us

How you can visit the Centre

Group visits

We welcome visits from student groups, children and special interest organisations. These can be at any time of year although visits to the caves are not possible from mid-autumn until mid-spring. Your visit can be tailored to your specific needs. To arrange, please contact Sheila Phillips on 01752 775195 or email danehurst@tiscali.co.uk

Specialist visits

These are visits from those individuals expressing interest in the Trust's work. Please contact Sheila Phillips, details above.

By joining public day walks

Held during July-August, widely advertised and lasting for a couple of hours including a cave visit; see the website https://pengellytrust.org for dates and times of the walks and to book.

By joining a public bat walk

Held on July-August evenings, these are an opportunity to see bats and hear the ways in which they use echolocation to navigate and catch insects. Booking is required: see the website https://pengellytrust.org

Residential visits

We can accommodate just over 20 people. These visits are especially suitable for groups interested in environmental activities. Book or enquire on https://pengellytrust.org or to David Jean on 01752 700259.

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Council Members	Skip Greenwood	
	Ben Hall	





Above: In the main passage of Rock Farm Cave; Below left: Curtain Chamber in Bunker's Hole; Below right: Coming out of the sump in Castle Cave.
Photos by Richard Vooght

