Association *for* Environmental Archaeology

AEA Newsletter 159 May 2023

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Hello, and welcome to the May 2023 AEA newsletter. Instinctively, I am tempted to start by making a comment about the changing seasons and warming weather. But I was recently reminded just how diverse and international our membership is during the Spring Conference. Friends and colleagues joined the online conference from all over the world, with some crack-of-dawn and late-night attendees. So, wherever you are in the world, I hope you are doing well and that the weather is being kind to you.

The Spring Conference is the recent highlight in the Association's calendar. The theme was 'Data Science in Environmental Archaeology', with the aim of highlighting major innovations and advancements in our discipline. The conference built upon the previous 2021's 'Open Science Practices in Environmental Archaeology', and it was heartening to see that the principles of open science continue to be nurtured across the discipline and are yielding fascinating results. This year's conference provided a really stimulating insight into the variety of approaches and ideas being explored in environmental archaeology - a real testament to how the discipline is thriving. The event was orchestrated by two of our managing committee members – Emma Karoune and Matt Law – and we are indebted to them for doing such a wonderful job. The conference was one of our best-attended spring meetings, and there were a multitude of ways to engage and interact through the online platform. Unfortunately, the follow-on R training workshop could not go ahead as planned, and I am very sorry that we had to disappoint some of you. Rest assured the workshop will be rescheduled soon.

At the end of the conference we heard from our Taylor & Francis representative Peter Gane on Data Notes, a new kind of article that we hope to be bringing to the journal soon. Data Notes offers a new way for authors to make their data more accessible, to make it easier to get credit for their data, and to provide a bridge between data repositories and academic articles. The feedback we got from delegates was helpful, and it will go on to inform the implementation of Data Notes in Environmental Archaeology. In other journal news, we have decided to move book reviews to the Newsletter as a members' benefit. You will be seeing more reviews from this issue onwards and, as ever, if you are interested in writing a review please get in touch.

My final comment related to the journal is to say that we have several exciting special issues in the pipeline. In this Newsletter you will see a call for 'Commercial Driven Research in Environmental Archaeology'. I'm sure this will be a fantastic issue, bringing much-deserved light to the research excellence within the commercial sector. Appropriately, you can read about an example of such excellent research in this very issue of the newsletter. Turn the page to find the Archaeology Wales report on the Roman conflagration assemblage from Carmarthen.

Next, I am delighted to say that the call for the 43rd Autumn Conference is now live. You will find full details of the call in this issue. The theme is 'Telling Environmental Archaeology Stories'. This theme follows on from our data-centric spring conferences; and, for me, is a fitting next step on the path that begins with gathering data and ends with building compelling narratives.

As a discipline, we are at our most persuasive when we take fragmentary, sterile data and transform it into stories about the trials and tribulations of human existence. The stories we will hear there will surely inspire, provoke and entertain. I look forward to seeing many of you there in the idyllic Tarragona later this year, and I wish lead organiser Alex Livarda and her team at the Institut Català d'Arqueologia Clàssica all the best in their organisational efforts.

My final note is to say that the AEA will be extending its stay on the Iberian Peninsula. The 2024 Spring Conference is set to be in Faro at the University of Algarve's Interdisciplinary Center for Archaeology and the Evolution of Human Behaviour, and in collaboration with Spanish National Research Council's Milà i Fontanals Institute for Humanities Research. You will soon be hearing from organisers Ceren Kabukcu and Aroa García-Suárez about the call and dates!

Michael Wallace

Rare Roman Archaeobotanical Assemblage

A Rare Roman Assemblage for Wales: Archaeobotany Related to Excavations at 113-117 Priory Street, Carmarthen

Rhiannon Philp (Archaeology Wales: rhiannon.philp@arch-wales.co.uk)

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In 2018, Archaeology Wales conducted excavations at 113–117 Priory Street, Carmarthen, the full analysis of which has now been completed. The excavations encountered deeply stratified deposits that indicated occupation on the site from the early Romano-British period through to the present day. In total, 11 phases of occupation were encountered, with six of these spanning the Romano-British period. The archaeobotanical assemblage from this site has produced some interesting, and apparently rare, results for Wales. The main components are discussed briefly below.

The earliest evidence of activity within the site dated to the last quarter of the 1st century and the early 2nd century AD, with continual occupation until the last quarter of the 4th century AD. During this time 14 buildings were constructed within the site, with evidence indicating that at least eight other buildings had also been present during this period. Other structures of Romano-British date excavated across the site included a bread oven, two drying ovens, and a street surface. The nature of the evidence suggested that the buildings identified were related to commerce and industry rather than domestic uses. This was most obviously the case for Building 9, which functioned as a ceramics shop, to the rear of which was a potential bakery. This building became the centre of an archaeobotanical analysis because of the large amount of charred plant remains recovered from its associated contexts. It had been subjected to a catastrophic fire in AD 170, dated from the abundant pottery forms of that date present within the shop, some of which were recovered still stacked from where they had likely been displayed on shelves (Fig. 1).

Fig. 1: Large quantities of Roman pottery, some still in stacks, within Building 9 .

The main component of the archaeobotanical assemblage was an abundance of charred spelt (*Triticum spelta*; identification based on grain morphology and chaff fragments). This was recovered from deposits directly related to the fire in Building 9 (Fig. 2) but had also subsequently been reworked into later phases, increasing the spread of the material to other areas of the site.

Fig 2: Spreads of charred material within Building 9 .

While other grains were present in the assemblage, including barley (*Hordeum vulgare*) and oat (*Avena* sp.), they were in very low quantities and likely to be contaminants. Most of the spelt showed signs of sprouting, indicating that the grain had likely been malted, given the quantity observed.

Within the most productive samples, a figure of over 17,000 sprouted grains was extrapolated from sub-sample counts and it is likely that this represented the contents of a sack or wooden container of about 2 litres in volume that was present within Building 9 at the time of the fire. It should be noted that the sample was constrained by the limit of excavation and the charred deposit was seen to continue into the trench edge. This, coupled with the evidence that the material has been reworked into later deposits, means a full estimate of original volume cannot currently be obtained.

It appears that the spelt was kept in the room to the rear of the pottery shop, which was also associated with oven-like structures within an adjacent courtyard. Within one of the ovens a bread-like material was recovered alongside several similar sized, angular, fragments of grain that could have been malted grits that had fallen from bread being baked in the oven.

The presence of these ovens, and bread-like material, has led to the suggestion that this area of the building was used as a bakery and that the sack of malted spelt was related to this activity. While malted grains are well known for their use in brewing they can also be used in bread-making. The adding of malted grains to bread dough helps to break down the starch in the flour and release sugars that can then be used by yeasts. Amylase produced by malted grains also produces a water-binding carbohydrate, 'dextrin', which helps to produce a softer, moister, crumb. Use of malted grain also affects the flavour, producing a sweeter nutty bread without the need for added sugars.

In addition to the spelt, a number of less prominent species were identified within the archaeobotanical assemblage related to the fire deposit in Building 9, some of which appear to be very early examples for Wales.

A minimum number of 184 Celtic beans (*Vicia faba* var. *minor*) were recovered from the deposits associated with the fire, and a further 27 possible peas (cf. *Pisum sativum*; no hila were preserved) were found in a gully related to a later phase. It is impossible to determine whether the peas were redeposited from the fire deposit or were contemporary with later activity. The presence of the pulses in this location could again be related to the bakery setting, as they can also be ground into flour and mixed with grain flours to make bread. Alternatively, they may have been remnants of stored food within the building.

Very few Roman sites have produced more than one or two peas or beans in Wales, so comparative sites in the area are hard to find. The burnt destruction layer of a timber hut at Caerleon (Helbaek 1964) contained three Celtic beans and around 40 lentils.

Another site at Caerleon, the cremation cemetery of Ultra Pontem (Jones 2015), produced two cf. peas from two cremation burial pits, and Celtic beans in four cremation burial pits. The minimum number of whole beans was 53 plus 198 fragments. Hazelnut shell fragments and frequent wheat (hulled and free-threshing) and barley grains were also recovered from some of the pits at Caerleon. It was suggested that the remains may have represented food offerings burnt on funeral pyres. Though not a funerary deposit in the case of Priory Street, these findings suggest that pulses were an important part of the Roman diet both at Caerleon and at Moridunum.

The scarcity of these legume species in Wales was further highlighted in the results from a large study of sites of all periods along a gas pipeline from Milford Haven, Pembrokeshire, to Tirley in Gloucestershire, where it was found that the earliest confirmed evidence for both peas and Celtic bean were 7th–9th century AD (Rackham 2020). It is possible, therefore, that away from sites with Roman influence pulses were not widely grown prior to the early medieval period. However, the problem of under-representation is a possible factor in the scarcity of charred pulse remains.

Also found within the Building 9 deposits was a total of four fragments of beet (*Beta vulgaris*) fruits. These were found in the same deposit as the possible sack of malted spelt within Building 9 and are notable additions to the record for Roman sites in Wales since, to the knowledge of the archaeobotanist, this is the first record for Wales.

Small numbers of these distinctive and robust fruits have been recovered from several Roman sites in England, such as the Roman barracks at Rocester, Staffordshire (Moffett 1989), an aisled building on the M6 Toll site, Warwickshire (Clapham 2008), Druce Farm Roman villa, Dorset (Carruthers 2022) and the Roman occupation site at Causeway Lane, Leicestershire (Monckton 1999). The fact that most of the sites were highly Romanised settlements, some military and others civilian, suggests that beet was either favoured by the Roman population, was a luxury vegetable that could only be purchased by them, or perhaps beets were used for specific purposes or in specific recipes. The Romans are said to have cultivated root beets since the 1st century AD although the roots at this time were probably more carrot-like in form, the swollen, deep red beetroots having been developed in the post-medieval period (de Rougemont 1989, 243).

A single fruit of fennel (*Foeniculum vulgare*) was recovered from the beamslot of Building 12, which was constructed over the remains of Building 9. The context in which it was found also contained the charred sprouted spelt found in abundance in the previous phase contexts, indicating likely intercutting and mixing of the underlying demolition deposits. This would indicate that the fennel dates anywhere between the 2nd and 3rd centuries AD.

Fennel was introduced by the Romans (Alcock 2001, 69) and is often recovered from waterlogged and mineralised deposits on Roman urban sites, and occasionally, from charred plant assemblages. Waterlogged deposits from Roman wells at Caerleon (Caseldine and Busby 1993), Caernarvon (Hillman 1985) and the Roman civil settlement at Prestatyn (Jones 1989), produced a range of introduced flavourings and foods, including dill, coriander, fig, grape, and stone pine, but no fennel. The fennel from Priory Street appears, once again, to be the first Roman record for Wales.

Due to the confined physical parameters of the excavation, and the reworked nature of the site, it is difficult to say with certainty what the archaeobotanical assemblage represents. However, with the presence of a probable bakery towards the back of the ceramics shop, it is quite possible that they were stored ingredients related to the production of bread. The apparent early examples of fennel and beet are particularly interesting and the authors would welcome any leads on other early examples in Wales that may have been missed.

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Fossil Insect Sites ARIADNE Portal

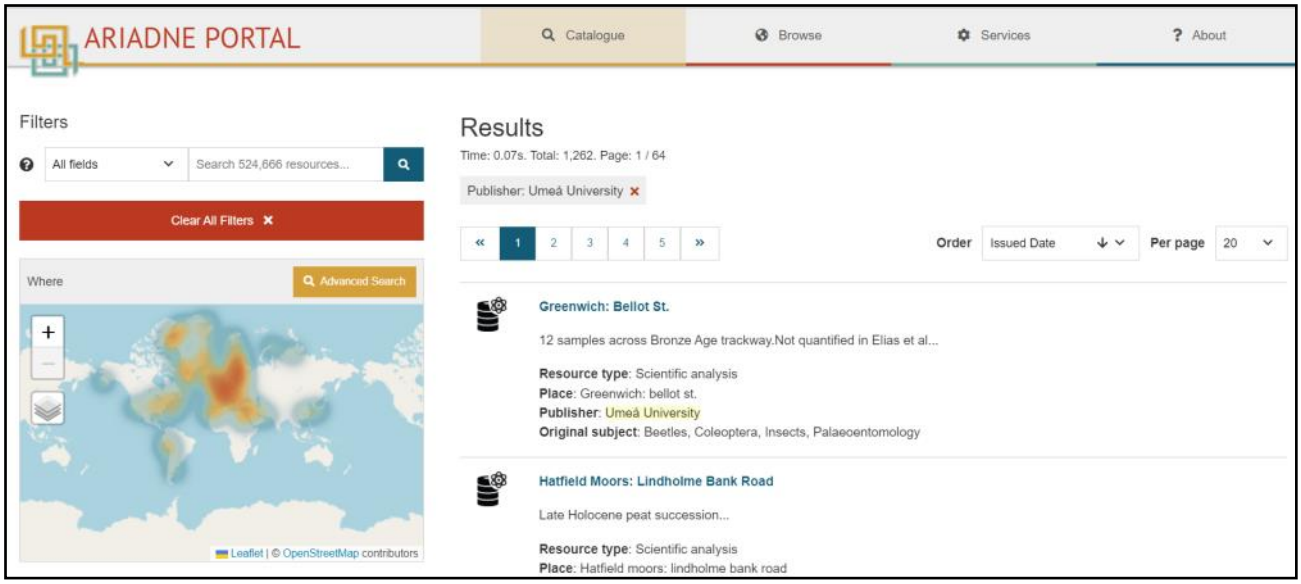
It is now possible to find most fossil insect sites using the ARIADNE+ data portal, which can be accessed here.

Metadata only has been uploaded currently, and pages link back to SEAD for data visualisation and downloads.

The most up-to-date data are always available through the (ageing) Access version of the BugsCEP database.

With time other proxies will be uploaded to the portal.

Dr Philip Buckland



FeedSax Digital Archive

Between the 7th and 13th centuries AD, medieval England witnessed steep demographic growth, transformative urban expansion, and the rise of local lordship. These changes were fuelled by an expansion of agricultural production, especially cereal farming, but debates surrounding the exact nature of these agrarian transformations – this supposed 'agricultural revolution' – have run for more than a century without consensus. From 2017 to 2022, the 'Feeding Anglo-Saxon England' (FeedSax) project, based at the Universities of Oxford and Leicester, assembled and interrogated a vast bioarchaeological dataset, providing a new perspective on this pivotal aspect of early medieval history. This dataset, together with a wealth of supporting documentation, has now been published as an open-access digital resource, not only to serve as supplementary material underpinning the FeedSax publications, but in the hope that it will be used in future projects.

The main FeedSax Digital Archive, hosted by the Archaeology Data Service, contains 123 files, including 26 radiocarbon dating reports, a technical paper on stable isotope variability, palynological syntheses, 215 pages of archaeobotanical analysis, and 'Haystack': the project's core database comprising archaeological, archaeobotanical, zooarchaeological, radiocarbon, and crop and animal isotope data. The core elements of Haystack can be queried through an interactive map-based interface, while the complete raw datasets are also available to download. In addition, the FeedSax Photographic Archive, hosted by the University of Oxford's Sustainable Digital Scholarship service, contains 6,599 microscope photographs of charred grains, constituting both a record of destructively analysed material and a resource for future geometric morphometric studies.

We encourage you to delve into FeedSax's abundant harvest of digital data, and build on our results to gain fresh insights in medieval studies, agricultural history, and environmental archaeology.

The FeedSax project was supported by the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme under grant agreement no. 741751.

EAI Conference Review 6th May 2023

The Environmental Archaeologists of Ireland (EAI) held a day conference in The Royal Society of Antiquaries, Dublin on the 6th May. The conference was entitled *From Landscape to Streetscape-Environmental Archaeology in Ireland*. It was dedicated to Dr Eileen Reilly, a scholar of international renown for her ground-breaking work primarily on archaeoentomology. She pioneered archaeoentomological research in Ireland. She was an accomplished and engaged scholar and also produced papers beyond this scope. Dr Reilly sadly passed away in 2018 leaving archaeologists, especially environmental specialists, in shock. Eileen was preparing a book based on her post-doctoral analysis of samples from Viking Fishamble Street, Dublin. This will be brought to publication in the very near future and it is the result of sheer determination on the part of her family, especially her husband Rónán, and close colleagues including Dr Lorna O'Donnell, Dr Aidan O'Sullivan and Dr Stephen Davis.

The conference aimed to draw together environmental archaeologists, both in commercial and research sectors, to present topics which would have been close to Eileen's heart, as well as to promote the work currently being carried out on environmental material. The day saw a variety of speakers talk about their recent research on commercial and research assemblages.

Prof. Aidan O'Sullivan opened the proceedings with his talk based upon Dr Reilly's work. He discussed the complex nature of dirt and what it represents to contemporary societies. He explained how Eileen's work, especially that of her IRC-funded post-doctoral research, added a complex dimension to our knowledge of houses and spaces in the past. This research, entitled 'Dirt, dwellings and culture: reconstructing living conditions in early medieval Ireland and north-western Europe AD 600–1000' allowed her to build up a methodology to uncover and create a comprehensive picture of how past populations felt about and dealt with dirt. Amongst other discoveries, Eileen noted that there may have been distinct toilet areas in Deerpark Farms, Co. Antrim and that lice were generally low in frequency in Viking Dublin.

Dr Ellen OCarroll introduced the Transport Infrastructure Ireland (TII) Guidelines for Palaeoenvironmental Sampling. They were produced in 2001 and are currently under review by Ellen and IAC Ltd. The guidelines have been extremely important in outlining a comprehensive set of steps for sampling on site and the procedures following this. Eileen was an integral part of the original guidelines and has left a legacy enshrined within them with an introduction to sampling for, and analysis of, archaeoentomological remains. The case study included an excavation carried out on the N4 Castlebaldwin 4-6, which was directed by Bruce Sutton.

The third speaker of the day was Nikolah Gilligan. Nikolah spoke about how archaeobotanical analysis can fill in gaps about flora and fauna when the proxies were not preserved in the archaeological record. Examples include the presence of waterlogged *Rubus* sp. seeds in burnt mound assemblages where charcoal and waterlogged wood does not produce *Rubus* sp. Nikolah also talked about rodent gnaw marks and weevil exit holes on fruit-stones, which indicated the presence of the fauna when none of their remains were identified.

Finally, Nikolah explained how an old site type produced new results; assemblages from cereal-drying kilns she analysed turned out to be flax-drying waste. This indicated that the sites were used for flax-drying rather than cereal-drying. They were also fuelled by peat rather than wood.

Following a lovely coffee break with scones, jam and cream, the second session of the day commenced with Prof. Fraser Mitchell and his talk about the use of beetles to understand the development of forests. Ireland proved to be an excellent study site due to its lack of large grazing herbivores which affected the development of forests across Europe. Prof. Mitchell applauded Eileen's pioneering work, as well as congratulating two of his other former PhD students who also have excellent careers in the environmental sector; Dr Ellen OCarroll and Dr Bettina Stefani.

Dr Lorna O'Donnell then introduced us to how the composition of Irish woodland changed throughout time. This affected wood choice, which can be tracked in the species identified on post-medieval sites. Dr O'Donnell discussed post-medieval sites in Dublin which produced imported woods; Ireland relied on imports from c. 1720. Lorna indicated there were a variety of reasons for the depletion of woodland, including the demand for ships to build up the English navy and the rebuilding of London after the Great Fire of 1666. She also showed how oak appeared to have been re-used in a variety of manners proving its durability and strength.

The third talk of the session was prepared by Dr. Rebecca Boyd who kindly stepped in at the last moment to fill on for Mick Monk who had become ill during the week. Rebecca beckoned the audience to follow her on the path to Viking Dublin where we were told to look and listen to the sights and sounds around us. She brought the town to life, using information gathered from excavations to furnish our imaginations with the details of everyday life. Rebecca urged there to be targeted methodologies and theoretically-driven research questions going forward in order to ascertain details about Viking life and homes which we currently don't know.

The conference broke for lunch, whereupon people went to various local eateries in the city, passing a crowd waiting on the steps of Bruce Springsteen's hotel in advance of his concert that evening. No sightings were made!

The third session began with Cathy Moore and Dr Ben Geary's presentation about Irish peatscapes. Cathy talked about the riches produced by peatland excavations including the trackways at Corleagh 1, Co. Longford and Edercloon, Co. Longford. The latter produced fragments of wheels, hafts and spears amongst other wooden artefacts. Eileen's work was extremely important on the latter site, including suggesting that one of trackways curved because of a very waterlogged part of this bog. Her work added to the multidisciplinary publication which followed. Cathy also introduced us to a new project entitled Irish peatland archaeology across time (IPeAAT) which is funded by the Irish Research Council COALESCE/INSTAR+ scheme. This seeks to gather data on archaeology across the Irish peatlands and devise strategies for all stakeholders involved in conservation and rehabilitation.

The work on archaeobotanical analysis and insect analysis at Bey More by Dr Penny Johnston, Eva Kourela, Dr Stephen Davis and Michala Nagyova was presented by Penny and Eva. Bey More was the site of a Cistercian grange which was excavated by Dr Geraldine and Dr Matthew and a team of both community volunteers and experienced archaeologists. Charred remains produced were typical of those associated with cereal-drying kilns, while the waterlogged material comprised seeds from ditches and a latrine. The former produced seeds associated with nutrient enriched and damp areas while the latrine produced cess indicators and exotic seeds. These were comparable to the seeds found in Rathfarnham Castle, a 17th–18th century house, which was owned by a man known for his extravagance and luxury.

Insects found in Bey More suggested a waterside cattle-pasture area. Comparisons were made with the insects found in the water-tank at Rathfarnham Castle. Here, the results indicate that Bey More appeared to have been less dirty, but it may have been cleaned from time to time. Penny and Eva called for more multi-proxy analysis from rural sites for future comparisons and understanding.

In the last presentation of the session, Dr Bettina Stefanini talked very poignantly and personally about her close friendship with Eileen while outlining the contributions that Eileen had made towards the Environmental Protection Agency paper "Extreme weather, climate and natural disasters in Ireland". Eileen tracked shipwrecks recorded from 1306 to 1952 and attempted to ascertain if they were associated with recorded storms. She found that four did correlate, while six did not. Eileen also tried to tie historic climatic changes to volcanic eruptions. Bettina peppered the presentation with beautiful images of Eileen, showing what a charismatic and interesting person Eileen was.

Another tea-break followed with time to wipe the tears. Following this, the last session of the day commenced with Margaret Gowen who reflected on the Lisheen Archaeological Project 1995–98. Margaret was the owner of MGL Ltd, which was a commercial company that sought to put best research practices in place. Excavations at Lisheen, in Derryville Bog, Co. Tipperary, comprised an excellent excavation and environmental team who worked together cohesively to produce a landmark publication of the palimpsest landscape in this part of the bog. Analysis included pollen, testate amoeba and worked wood, amongst other. Eileen's insect analysis was a core part of this work and allowed for changes in hydrology to be understood. She also uncovered a rare species of beetle which was not previously recorded in Ireland; *Dirhagus pygmaeus*. The legacy of this project was the proof that a deep understanding of both bog development and anthropomorphic activity can be garnered when the highest level of archaeological excellence is applied.

The final presentation of the day was given by Dr. Stephen Davis. Stephen is an entomological specialist and was a close colleague of Eileen's. He gave everyone a brief outline of Eileen's research on the legacy samples from Viking Fishamble Street; Eileen carried out her post-doctoral research on the samples and her posthumous book on the results will be published this year. Eileen's work on the samples showed how much information can be gathered from decades-old material indicating the importance of retaining samples when budgets are constrained at the time of excavation. She found that Viking houses were generally clean in comparison to the immediate outside environs. However, may insects lived alongside the Vikings indicating, among other things, possible storage of meat within the houses and the build-up of bedstraw. However, conditions began to deteriorate as time went on and this part of the town became dirtier. Stephen and Eva will continue to promote entomological analysis in Ireland, but there will always be a special place in that community for Dr Eileen Reilly.

The conference was deemed a great success by the participants and the audience, who included Eileen's husband and sister. Roughly fifty people attended and there were serious discussions concerning retention of samples, storage facilities, and how to encourage a new generation of specialists. There was also lively and interested chatter and we hope that Eileen would have enjoyed the day, as well as the well-earned drinks afterwards.

Environmental archaeology is flourishing in Ireland.

AEA Winter Conference
24th–26th November 2023

The 43rd Conference of the Association for Environmental Archaeology (AEA) comes to Tarragona, Spain, this autumn!

Members of the Landscape Archaeology Research Group (GIAP) of the Catalan Institute of Classical Archaeology (ICAC) are organising the 43rd edition of the AEA's annual meeting, which will be held in Tarragona (Spain) on 24–26 November 2023.

Title: Telling Environmental Archaeology Stories

Dates: 24th–26th November 2023

Host institution: Catalan Institute of Classical Archaeology (ICAC), Tarragona, Spain

Location: Palau Firal i de Congressos de Tarragona, Carrer Arquitecte Rovira, 2, 43001 Tarragona.

General queries about the conference can be addressed to: Alexandra Livarda at alivarda@icac.cat

Visit the website for more information

Abstract

The interpretation of sites, soils, stratigraphies, cultural artefacts, and bioarchaeological remains using archaeological methods provides a rich source of material to investigate past behaviours and ultimately explain the human stories behind scientific data. The increasing interdisciplinarity and the development of new methodologies to treat primary archaeological data have opened new possibilities to deepen our interpretations and go one step further in understanding our cultural heritage.

Greater engagement in theoretical debates and approaches has further contributed to a multivocality and a proliferation of narratives that entangle different scales of analysis to explain the past. Environmental archaeology has made great strides, moving on from the 'appendix' of site reports listing species, to occupying an important role and shedding light from different angles on key archaeological questions.

In this conference, we seek to explore the contributions of environmental archaeology to these 'stories' of the past. The aim will be to move the focus away from the data, techniques, and methodological advances to the narrative, to explore how our research has helped explain and interpret the past, and our key contributions in creating history.

Another important area will be the examination of effective communication strategies of our stories and research achievements to colleagues of other academic fields, and the public, and how these can contribute real impact on modern society through either a better understanding of the past or lessons and practical guidance for the future.

The call for papers is now open! Submit abstracts here by 31st July 2023, 23:59h CET.

We are calling for papers that employ environmental archaeology in its broader sense to investigate or propose new interpretations/hypotheses on:

- Social relations and the role of different social groups in shaping society and economy
- The role of immigration/movement in changing society, how this took place, and its repercussions
- Past cosmologies and belief systems
- How people or groups of people perceived and acted on issues of health and medicine
- How people or groups of people engaged with their environment: reconstructing rural or urban histories of interactions
- People and societies as main actors impacting landscapes, geographies and environments
- Local versus global narratives
- Key events of the past (agricultural and farming developments, emergence of new forms of socio-economic organisation, and what these meant or how they changed life, etc.)

In relation to the theme 'communicating environmental archaeology stories', papers are also welcome on:

- Environmental archaeology's contributions to policy making and impact
- Successful stories of communicating and disseminating environmental archaeology research to researchers of other fields and the public
- Environmental archaeology and the press
- Environmental archaeology and its impact on education
- Inclusive environmental archaeology

Presentation format

Standard format: 15-minute presentations.

Storytelling format: 6-minute presentations based on displaying images or using other visual means with commentary to 'tell your story'. We suggest 2–3 slides per minute (20–30 seconds commentary per slide). The aim is to achieve a concise audiovisual presentation that will convey your aims, means and achievements.

Poster format: A1 size.

Preliminary conference schedule

Friday 24th (16-20 h)	Registration and opening session. To be followed by a wine reception.
Saturday 25th (08- c. 20h)	Registration and full-day conference including the AGM (AEA Annual Meeting); Gala dinner to follow.
Sunday 26th (08-14 h)	Morning sessions and closing of the conference. In the afternoon, guided tours of Roman Tarragona will be offered free of charge (prior registration required)

Registration fees

	Early Bird (deadline 31.08.23)	Regular (deadline 31.10.23)
AEA Member	€80	€100
Non-AEA Member	€100	€120
AEA Member (student/ unemployed/retired)	€40	€50
Non-AEA Member (student/ unemployed/retired)	€50	€60

Organising committee Landscape Archaeology Research Group (GIAP), in alphabetical order:

Giannis Apostolou, Theoni Baniou, Lídia Colominas, Charlotte Diffey, Maria Ferrer Bonet, Abel Gallego, Darío Herranz Rodrigo, Alexandra Eleftheria Kriti, Alexandra Livarda, Alfredo Mayoral, Hèctor A. Orengo, Valentina Pescini, Federica Riso, Laura Strolin & Patricia Vandorpe.

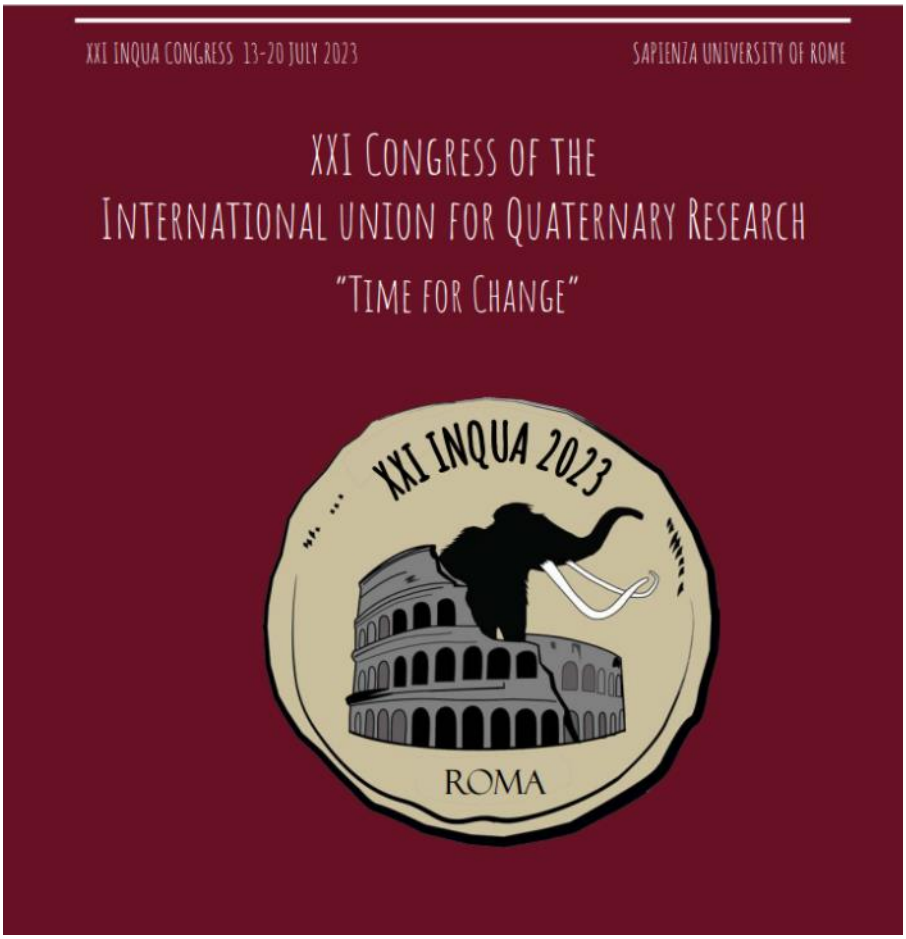
More about Tarragona

Tarragona is a port city located in northeast Spain by the Mediterranean Sea. Tarraco, as it was known in Roman times, provides an eloquent and unprecedented testimony to an important stage in the history of the Mediterranean in antiquity. In 2000, UNESCO declared its archaeological sites a World Heritage Site.

Tarraco was a little Rome, open to the Mediterranean and with a particularly pleasant climate, that is, a good place to live and prosper. This is still the spirit of the city today. Walking through the streets and squares of the medieval city or contemplating the horizons over the Mare Nostrum, you can relive the pleasant and beneficent city that has inspired travellers, artists and chefs. In Tarragona, history comes out of stones and books and comes to life in its people, cuisine and landscapes.

This still holds true nowadays, with the NYTimes including Tarragona as one of the 52 places to go in 2023

INQUA
Sapienza University of Rome 2023



It is our pleasure to invite you to Rome for the XXI INQUA Congress from 13th to 20th July 2023.
The organisers of the INQUA Rome 2023 Congress offer a very ambitious programme around the theme, 'Time for Change', emphasising the critical role of Quaternary sciences in contributing the knowledge we need to face current societal and climate challenges.

The following Themes and Subthemes have been identified.

1. From Natural Processes to Geohazards
2. Landforms, facies architecture and sequence stratigraphy
3. Quaternary environments and human evolution: fossil record, phylogeny, palaeobiology, palaeoecology and cultural models
4. Ecosystems and biogeography from late Pliocene to Anthropocene
5. Climate record, processes and models
6. The Quaternary time machine

Registration fees will cover lunches, morning and afternoon refreshments, the icebreaker party and congress materials including a congress programme and abstracts (on pendrive). We are planning to provide the programme and abstracts on a Congress app, which will be downloadable for tablets and smartphones and will allow users to compile their own personalised programme. Early registration will be available until 20 February 2023, after which the regular registration fees will apply. On-site registration will be possible at higher rate (late registration).

OVERALL STRUCTURE OF THE XXI INQUA CONGRESS

Pre-Congress Field Trips	Friday 7 July to Thursday 13 July 2023
Onsite registration opens, Exhibition setup, some business meetings	Thursday 13 July 2023
Icebreaker party	Thursday evening, 13 July 2023
Opening Ceremony and First Session	Friday 14 July 2023
Scientific Programme	Friday 14 July to Thursday 20 July 2023
Mid-Congress Field Trips	Sunday 16 July 2023
Congress Dinner	Tuesday 18 July 2023
General Assembly and Closing Ceremony	Thursday 20 July 2023
Post Congress Field Trips	Thursday 20 July to Tuesday 25 July 2023

Early Registration	450 €
Regular Registration	580 €
Late Registration	750 €
Student Early Registration	180 €
Student Regular Registration	220 €
Student Late Registration	300 €
One-day Registration	350 €

15th June 2023 – Third circular including the final programme

10th July 2023 – Regular registration closes and late registration opens

13th July 2023 – On-site registration opens

EAA Weaving Narratives Session #730

Interdisciplinary Perspectives into Roman Commerce, Economy and the Acquisition of New Tastes during the Roman Period from the 4th Century BC Onwards

From the 4th century BC onwards the expansion of the Roman Empire, eventually, over large parts of Europe, had a significant impact on society. The creation of a new transport network and the emergence of cities were two of the most important and lasting changes brought about. As Rome expanded and developed contacts with other cultures far beyond the Mediterranean, new tastes and social practices were also acquired, often manifested in material culture. This session aims to explore Roman commerce and economy through different lines of evidence (e.g. archaeo-biological remains, ceramics, inscriptions, landscape archaeology). In addition, it aims to investigate the role of the ancient transport network in the process of urbanisation and/or the acquisition of new 'tastes'.

Papers will focus on Roman trade without chronological or geographical restrictions. Points of discussion could potentially, but not exclusively, include:

- The role of cities, harbours, rivers and warehouses in the distribution and reuse of amphorae and other shipping containers
- Social and cultural interactions in trade and exchange
- Economic power and the social status of traders
- Methodological issues when dealing with the investigation of ancient trade
- New technologies to investigate ancient trade, networks and transport
- Income, customs, religious beliefs, and identities conveyed by goods, trade and traders
- Dietary habits and stereotypes in the perception of luxury goods
- Access to luxury goods, the reasons why, and how material culture relates to their trade
- Tradition and innovation in practices related to trade and manufacturing

Keywords: Roman trade, economy, transportation, consumption, networks, exchange

SESSION ORGANISERS:

Federica Maria Riso. Institut Català d'Arquelogia Classica (friso@icac.cat)
Patricia Vandorpe. Institut Català d'Arquelogia Classica (pvandorpe@icac.cat)
Valentina Limina. Université Catholique de Louvain (valentina.limina@uclouvain.be)

The Sheffield Osteoarchaeology short courses are back!

After a long, forced break due to the pandemic, we are ready to resume our well-known face-to-face short courses!

The first course we will offer is our foundational course 'Understanding Zooarchaeology I' which will run from the 11th to the 13th of September. 'Human and Animal Remains: A Comparative Approach' will then follow (14th–15th September). These courses feature practical activities, lectures and discussions and, are ideal for anyone with an interest in bioarchaeology, whether you're a professional, a student, or an enthusiast.

'Understanding Zooarchaeology I' will cover the theory and methods central to the understanding of animal bones in archaeology. We will begin by showing you how to identify different animal species by looking at their bones and teeth. You will learn what different body parts can tell us about the human–animal interaction, how to age and sex animals, how to identify modifications and pathologies and how to carry out a biometric analysis.

Human and Animal Remains: A Comparative Approach will focus on comparing human and animal remains both micro- and macroscopically. You will learn how to separate human and other animal remains, how to identify modifications on human and animal bones as well as about the different excavation and post-excavation practices suited to the two types of remains. We will also discuss the potential of biomolecular investigations. Building on the skills you will learn you will then dive into case studies comparing human osteology and zooarchaeology.

Please click here to book your place.

If you would like to know more, please visit us at our website , Facebook , Instagram @zooarchlabsheff or Twitter @ZooarchLabSheff. Or get directly in touch by email .

Frontiers in Environmental Archaeology
Call for Contributions

Call for contributions to a special issue of *Frontiers in Environmental Archaeology* entitled:

Natural Resource Exploitation in Mountain Environments: New Theoretical and Methodological Approaches

Mountain research during the last five years has seen significant developments in areas related to archaeology survey, archaeozoology, archaeometry, molecular/biomolecular archaeology, micromorphology and the palaeoenvironment, with the integration of new theoretical/conceptual frameworks and the application of new methodologies. Digital image analysis, ancient environmental DNA or proteins, bulk or compound-specific isotopic analyses and molecular biomarkers such as organic compounds (HAP, miliacin, stanol…), are allowing important advances in the characterisation of human activities and practices as well as of landscape changes. This progress is key to the better identification of changes in mountain economies. Therefore, at present, the scientific community has a novel dataset that has the potential to yield significant information about the complex exploitation of natural resources in mountain environments, allowing us to rethink our understanding of past human, animal and landscape interactions in these sensitive environments.

With this research topic we aim to illustrate how these new theoretical and methodological approaches improve the knowledge about the exploitation of mountain natural resources. Any article type dealing with the following topics in mountain environments over time and space will be welcome:
- Large-scale and micro-regional reconstructions of mountain landscape changes.
- Animal exploitation, mobility and transhumance.
- Mountain agricultural activities and practices.
- Exploitation of mineral resources.
- Environmental dynamics and fire use.
- Permanent versus short-term mountain occupations.
- Mountain economies.

Guest Editors:
Dr. Lídia Colominas, Institut Català d'Arqueologia Clàssica
lcolominas@icac.cat
Dr. Gaspard Pagès, CNRS UMR7041 ArScAn
gaspard.pages@cnrs.fr
Dr. Charline Giguet-Covex, EDYTEM lab. CNRS
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DEADLINE FOR SUBMISSION OF MANUSCRIPTS:

28th June 2023 (previous expression of interest to the guest editors is expected).

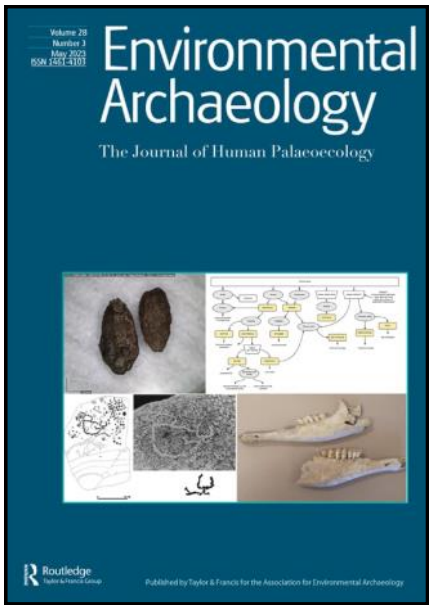
Environmental Archaeology Special Issues

Environmental Archaeology—The Journal of Human Palaeoecology are requesting papers to form a Special Issue, details of which can be found below.

Title: Commercial-Driven Research in Environmental Archaeology

Brief Description: The idea for this special issue is to showcase research funded through commercial archaeology, as this sector is now making a significant contribution in terms of funding high-quality research. The content will hopefully be quite broad to cover the diversity of work done. Ideally the manuscripts will be submitted from people within the commercial sector and possibly by academics who have worked on commercially funded projects.

Please contact Tim Mighall at **t.mighall@abdn.ac.uk** if interested in submitting a paper, or for any general queries.



There is now a dedicated form to fill in for those who whish to submit a proposal for a Special Issue.

Potential guest editors can fill in a dedicated form and email it to the Editor-in-Chief at alivarda@icac.cat. The Editor-in-Chief in consultation with the Association for Environmental Archaeology will assess the Special Issue proposals.

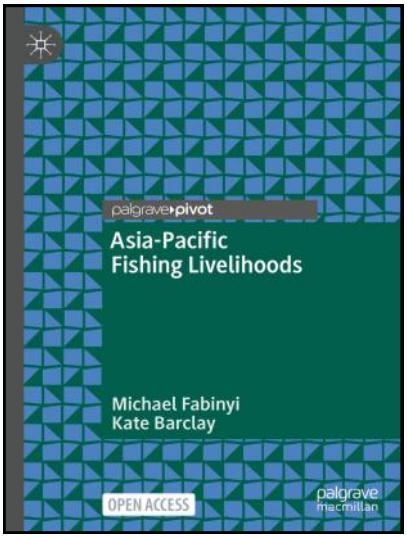
The form can be downloaded here . Upon approval of a Special Issue the guest editors will receive instructions on the editorial process. For more information please click here .

Book Reviews
A new addition to the newsletter

The AEA has a long history of reviewing the latest book releases within the realm of Environmental Archaeology. These reviews have been published in the association's journal – *Environmental Archaeology: The Journal of Human Palaeoecology*.

We will now be publishing these reviews within the AEA newsletter instead. Each newsletter edition you will be given a list of books in need of review, and as a perk of AEA membership, can request to review a book and in doing so receive a free copy of the publication (unless available freely online). The reviews will then be included in following editions of the newsletter for our members to read. Books in need of review may also be circulated around the AEA closed mailing list.

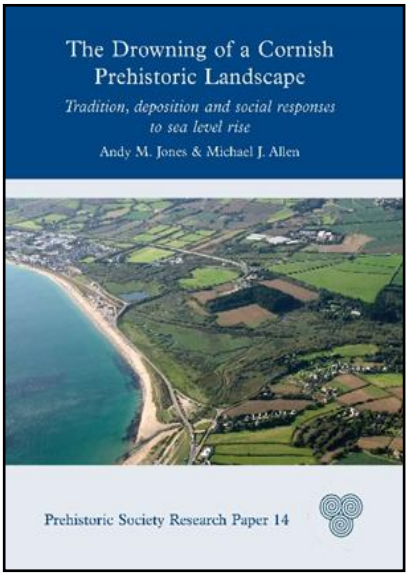
Please email Don O'Meara if interested in reviewing one of the following titles or if you are promoting a new book release and require a reviewer.



Asia-Pacific Fishing Livelihoods

Michael Fabinyi & Kate Barclay

This open access book explores fishing livelihoods within their wider contexts. Drawing on case studies from across the Asia-Pacific region, the book highlights how fishing livelihoods are shaped by globalisation, social relationships and governance. The book concludes by showing how better understanding these relationships can contribute to governance for healthier ecosystems and social wellbeing.

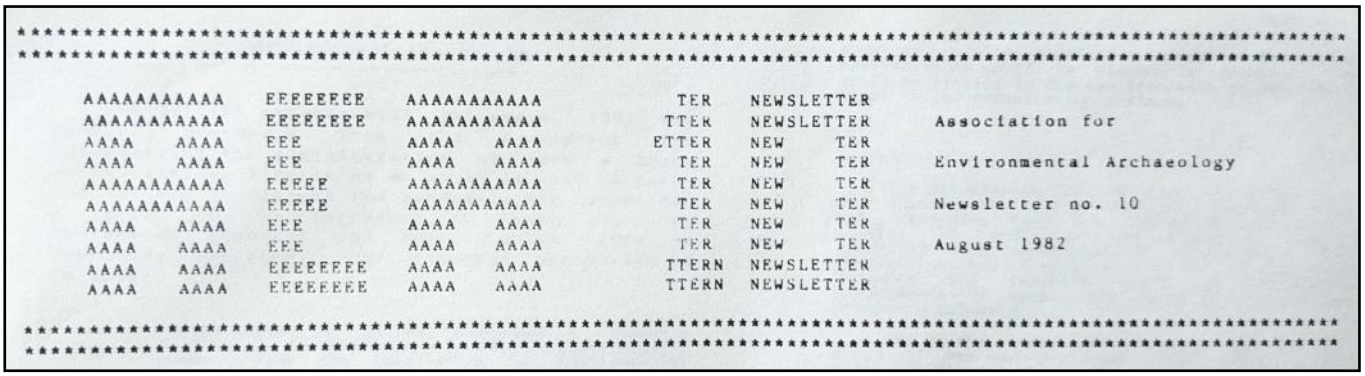


The Drowning of a Cornish Prehistoric Landscape

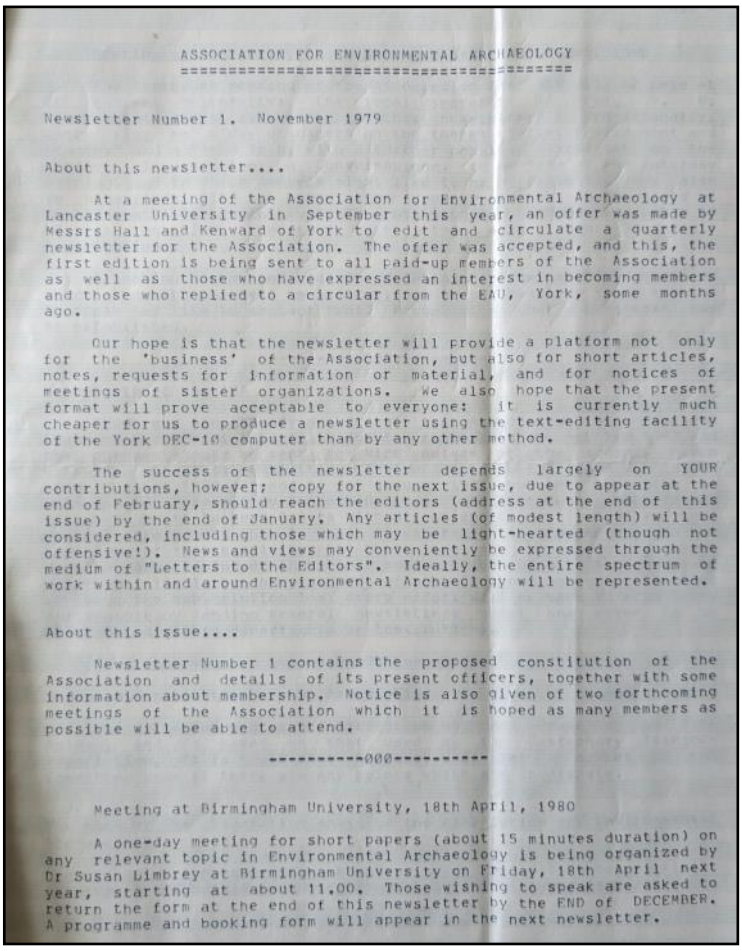
Andy M. Jones & Michael J. Allen

This book explores the progressive social and economic response of local prehistoric communities to sea level rise and environmental change. The excavation and palaeoenvironmental sampling of a Bronze Age barrow demonstrating several phases of activity at Marazion Marsh, Mount's Bay, Cornwall, demonstrate the potential for nationally significant environmental data to survive which demonstrate the long-term effects of climate change and rising sea levels, and people's responses to them, from the Mesolithic to Iron Age and beyond. This book devises a model for the drowning landscape and reconstructs the changing landscape to explore the social and economic response of local communities.

AEA Newsletter Archive



It has been a long-standing intention of the AEA committee to make available the complete run of past AEA newsletters. Recently this was given a great boost by a tranche of past newsletters from Mick Monk, formerly of University College Cork. After providing a series of 20 early newsletters Mick has been able to fill in a big gap in the AEA record, including a very retro AEA #1 from November 1979 printed on green bar paper through a dot-matrix printer! This archive was also evidence of much graphic design ingenuity from the early newsletter editors. A particular favourite of mine was the head banner of AEA #10. We are now in the process of digitising these newsletters to make them available to all.



ASSOCIATION FOR ENVIRONMENTAL ARCHAEOLOGY

Newsletter Number 1. November 1979

About this newsletter....

At a meeting of the Association for Environmental Archaeology at Lancaster University in September this year, an offer was made by Messrs Hall and Kenward of York to edit and circulate a quarterly newsletter for the Association. The offer was accepted, and this, the first edition is being sent to all paid-up members of the Association as well as those who have expressed an interest in becoming members and those who replied to a circular from the EAU, York, some months ago.

Our hope is that the newsletter will provide a platform not only for the 'business' of the Association, but also for short articles, notes, requests for information or material, and for notices of meetings of sister organizations. We also hope that the present format will prove acceptable to everyone: it is currently much cheaper for us to produce a newsletter using the text-editing facility of the York DEC-10 computer than by any other method.

The success of the newsletter depends largely on YOUR contributions, however; copy for the next issue, due to appear at the end of February, should reach the editors (address at the end of this issue) by the end of January. Any articles (of modest length) will be considered, including those which may be light-hearted (though not offensive!). News and views may conveniently be expressed through the medium of "Letters to the Editors". Ideally, the entire spectrum of work within and around Environmental Archaeology will be represented.

About this issue....

Newsletter Number 1 contains the proposed constitution of the Association and details of its present officers, together with some information about membership. Notice is also given of two forthcoming meetings of the Association which it is hoped as many members as possible will be able to attend.

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Meeting at Birmingham University, 18th April, 1980

A one-day meeting for short papers (about 15 minutes duration) on any relevant topic in Environmental Archaeology is being organized by Dr Susan Limbrey at Birmingham University on Friday, 18th April next year, starting at about 11.00. Those wishing to speak are asked to return the form at the end of this newsletter by the END of DECEMBER. A programme and booking form will appear in the next newsletter.

Past newsletters have proven to be a source of important research for members, containing early discussion of later published work, summary reports of conferences, reviews, and obituaries of members. The significance of this information is often only realised much later, which was probably a factor in many early newsletters not being kept.

The remaining missing newsletters are numbers 31, 32, 42, 43, 44, 45, 50 and 55. Should anyone have copies of these we would be very grateful if you could get in touch with the AEA to provide us with a copy to fill in the archive.

Don O'Meara

Trending in Environmental Archaeology

Welcome to our Social Media roundup of all things environmental archaeology! Here you will find snapshots from social media selected by our student representative to provide a flavour of what has been happening online in the world of environmental archaeology during the last quarter. If you have a particular social media campaign that you would like featured on this page, please email the newsletter editor **newsletter@envarch.net**

Dr Hannah Russ FSA @Dr_Fishbones · Apr 26

Mytilus fluffus
Mussel fluff to yous and me.

Commonly mistaken for asbestos when seen in bulk environmental samples actually just degraded mussel shell.

Always best to check though 😊

Dr Hannah Russ FSA @Dr_Fishbones · Apr 28

More microplastics in samples 😕
Image taken at x15 magnification 🔬

Experimental_Archaeology Retweeted

Jens Notroff @jens2go · May 7

Ice Age fashion: An archaeologist's search for the #Paleolithic origins of #clothing - and how #climate data and tailoring tools help to trace invention and evolution of #apparel in the world's colder climates:

sapiens.org/archaeology/pa... by @Gilligan_Sydney via @SAPIENS_org

sapiens.org
My Search for the Origins of Clothing
An archaeologist uses climate data and tailoring tools to trace the origins and evolution of Paleolithic clothing in colder climates.

Kath
@Orkat3

Super packed day peat coring, landscape archaeologying with @UofGArchaeo and @UHIArchaeology professors, peat fire ceilidh, story telling and singing, and all 4 seasons, just fantastic
@sgsah #EARTHScholarship23
#ThinkUHI
@Cammy_biswas @HelenChanges

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The AEA

The AEA promotes the advancement of the study of human interaction with the environment in the past through archaeology and related disciplines.

We hold annual conferences and other meetings, produce a quarterly newsletter for members, and publish our conference monographs, as well as our journal ***'Environmental Archaeology: The journal of human palaeoecology'.***

Key Dates

INQUA Roma

13th – 20th July 2023

EAA Belfast

30th August – 2nd September 2023

AEA Winter Conference Tarragona

24th – 26th November 2023

We are always keen to receive newsletter content, especially from our non-UK members. We accept short research pieces, thesis abstracts, conference announcements and calls for papers, and are always open to other suggestions.

To submit please email word documents and images to:

newsletter@envarch.net

Next deadline for content is 20th July 2023 for inclusion in the August newsletter

Daisy Spencer

With thanks to our proofreader Eva Fairnell