ICAZ 2023 UPDATES

This issue includes some final updates about the 2023 ICAZ conference in Cairns, and a notification about the Open Zooarchaeology Prize 2023. There is also still time to take part in two surveys, the preliminary results of which will be presented at Cairns.

News from the Committee includes the financial report for 2021–2022, and presents our Code of Professional Conduct. This issue rather sadly includes obituaries for four colleagues, but members have also contributed various working group, conference and laboratory reports. Publication highlights and reviews can be found towards the end of the issue, along with the usual calendar of future events.
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About the Newsletter

ICAZ welcomes submissions to its bi-annual Newsletter. Submissions can be emailed to the editor, Eva Fairnell: the deadlines for copy are 15 May and 15 November. Past issues of the Newsletter can be downloaded from the Publications section of the ICAZ website, http://www.alexandriaarchive.org/icaz.

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Cover image: Small mammal skulls from the collection at the Archaeozoology Laboratory, Natural Science Department, Deutsches Archäologisches Institut, Berlin, Germany
Dear ICAZ members

It has been a busy six months for ICAZ as we gear-up for the 14th International Conference in Cairns, Australia! After only seeing people in little Zoom squares for a few years, I’m really looking forward to seeing friends and colleagues in person. This is also going to be a special time to belatedly celebrate ICAZ’s 50th birthday (there will be cake!).

Recognizing that Australia is very far away for most ICAZ members, we tried to find ways to support conference attendees, and particularly students and colleagues from non-US/UK/EU countries. The conference organizers were awarded a $20,000 grant from the Wenner-Gren Foundation (congratulations!) to support attendees, and ICAZ’s Executive Committee (EC) voted to commit similar financial help. As the ICAZ 2023 organizing committee points out in this Newsletter, this funding has gone to more than 70 attendees. We had a huge response from attendees seeking support, and we had to make some difficult decisions about how to equitably distribute the funds. In the end, the amount of support we could offer was not enough for some delegates to be able to attend. As far as I am aware, this is the first time that ICAZ has donated its own funds toward supporting conference attendance. The EC agreed that such support from ICAZ on a more regular basis is necessary for making the membership and leadership more diverse and inclusive. Learning from this experience, we will continue to explore better ways to make the international conference accessible to as many people in the ICAZ community as possible.

As my term as president comes to an end, I want to thank all the people who make ICAZ the great organization that it is – the members of the current and incoming International Committee (IC) and EC and all the members who organize working group meetings. Through the COVID-19 pandemic, you all managed to keep things running by being creative and flexible. As a result of the pandemic and the necessary postponement of the international conference, we made a decision to extend the terms of the EC and IC into a fifth year. I want to recognize all the people who graciously served 20% longer than expected – thank you for your service! Many of you will be returning in the new term and you will be joined by several enthusiastic newcomers. I am looking forward to welcoming the new IC members next month in Cairns!

I am also very much looking forward to passing the presidential Bos tibia along to Mariana Mondini (2023 president) and Hitomi Hongo (2023 vice-president). As the first leadership team from non-US/UK/EU countries, they reflect the expanding membership of ICAZ, which now has nearly 700 members from more than 60 countries. This expansion of ICAZ, which accelerated with our ‘first year free’ campaign, means that we must continue to support travel to expand access and offer opportunities for participation to members around the world. Thus, I’d like to close with an appeal for your help with two tasks. The first is to please consider making a donation to ICAZ beyond your membership dues. Donations will help us continue to support working group meetings, increase the number of free memberships we can sponsor, and offer travel support for members to attend future meetings.

The other task is to help us build up an archive of video interviews with long-standing ICAZ members. This idea came up in discussions among the IC about how to celebrate ICAZ’s 50th birthday. As ICAZ enters into its second half century and becomes a mature organization, it’s important to recognize and remember its founding. Many colleagues have been long-term members of ICAZ and we would like to document their stories and memories. The IC has put together a list of questions and guidelines for these videos. Videos will be saved in a private archive, and we will take short excerpts from these videos (with the interviewee’s permission and approval) to stitch together into a video that will be available publicly on the ICAZ website. Please reach out to me or to any member of the IC if you’d like to participate in this effort.

In this issue’s heartfelt tributes to colleagues that we have lost in the past several months, a theme runs through them all – of these individuals as committed and compassionate scholars, mentors and friends. ICAZ seems to be blessed with an exceptional number of such people. I feel honoured to have had the opportunity to serve this engaged, kind and supportive community as president. Thank you all for your support and commitment to zooarchaeology!

See (many of) you in Australia!

Sarah W. Kansa, ICAZ President
July 2023
Treasurer’s report for the fiscal year 2022

Contributed by Suzanne E. Pilaar Birch, Treasurer

The 2022 fiscal year seems a distant memory in the midst of 2023. The transactions summarized here are for the dates 1 October 2021–30 September 2022. We ended the year with a total of $76,265 in our two accounts, thanks to increased memberships in what would normally have been a meeting year.

Many thanks to those who renewed their memberships, or indeed became new members this year. Thanks also to those who donated to cover memberships for those who could not afford them. In total, we received $13,900 in membership fees and donations last fiscal year. We also earned $101 in interest.

Our main expenditures in 2021–2022 were the Newsletter and conference support funds. The working groups that received funding last year included Neotropical Zooarchaeology, Taphonomy, Microvertebrate, and the Medieval Period. We spent $8,606.

At the time of writing this report in June 2023, we have a current balance of about $80,000.

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<th>2022 Fiscal year summary</th>
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<td>Income</td>
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BAR Publishing discount for ICAZ members

BAR Publishing is offering a special discount to ICAZ members! Use the code ICAZ20 to receive a 20% discount on all BAR titles. Check out their zooarchaeology titles.
Code of Professional Conduct for ICAZ members and working groups

Contributed by Kat Szabó

ICAZ has a Code of Professional Conduct, which is posted on our website and reprinted below. Please read it and consider ways you can support it through your actions and words. We also encourage all ICAZ working groups to adopt this Code of Professional Conduct and post it to their websites and in their conference programmes.

The following Code of Professional Conduct is posted here: https://alexandriaarchive.org/icaz/about-policies

The International Council for Archaeozoology (ICAZ) strives to create a positive, collaborative and supportive environment for all zooarchaeologists in which they can develop and thrive. As an international organization, we value diversity and acknowledge the benefit that a range of backgrounds, knowledge and experiences can bring to scholarship. To harness this diversity for the benefit of all members, and to provide a welcoming environment for all, we are dedicated to providing a harassment-free community and require that all members treat each other professionally and respectfully in all forms of communication [this includes, but is not limited to, professional conferences and workshops (face-to-face and virtual), networking, fieldwork, laboratory work, advising, emailing, texting and social media engagements]. The ethical treatment of colleagues, collaborators and communities is a central pillar of ICAZ and all members are expected to uphold the values of the organization.

First posted: June 2021. Last updated: June 2021

Any thoughts, ideas or feedback can be passed on to Kat Szabó (kat.szabo1@gmail.com)

The Open Zooarchaeology Prize

Contributed by Sarah Kansa

The Junior Researcher Open Zooarchaeology Prize competition recognizes excellence in the production or reuse of open access zooarchaeological data and reproducibility of research outcomes based on those data. The award is given for research presented at an ICAZ conference by an early career researcher (current student or degree in the past 10 years). The 2023 competition is the fifth time the contest has been held, the first being at the 2006 ICAZ meeting in Mexico City.

The Open Zooarchaeology Prize competition takes place after the conference. ICAZ 2023 conference attendees should look out for an email with further instructions about how to apply.

Read about past winners of the Open Zooarchaeology Prize here: https://alexandriaarchive.org/oa-prize/.

Questions? Contact Sarah Kansa at sarah@opencontext.org
August is fast approaching, and we look forward to welcoming many of you to Cairns, Australia, for the long-awaited ICAZ23 conference. Planning is nearly complete, and we urge all of you to continue to look to the conference website for all relevant information https://www.icaz2023.org. Please especially note information for international guests https://www.icaz2023.org/international-guests/ and be certain to check visa requirements.

In keeping with our theme for the conference, we would like to highlight the importance of sustainability for us and the future of our planet. To this end, we are making every effort to be zero waste and will be plastic free. To support this approach, we have chosen to use a conference app, which will be available to all to download in advance of the conference. The app will enable you to manage all sessions and plan your days, with free wifi provided at the conference venue. A pdf of the full programme will also be available for delegates to download from the session page should anyone need a hard copy. A draft programme can be viewed here https://www.icaz2023.org/full-program.

We are also pleased to announce the receipt of $20,000 USD grant from the Wenner Gren Foundation, which we have used to assist delegates with conference costs. ICAZ has also generously donated funds towards travel assistance. We are grateful to both, and with their generosity financial assistance was offered to 70 delegates!

At this time, there are still spaces available on the optional Tuesday excursions to the rainforest centre and eco walk, as well as to Sunday’s trip to the Great Barrier Reef. If you are interested in joining any of these, please email Julie directly asap at ICAZ@watermarkevents.org.au. We also would like to highlight the many things you can do in Queensland if you are staying longer https://www.icaz2023.org/visiting-qld/.

We look forward to welcoming you in Cairns, and to see you all at the opening ceremony on Tuesday evening, 8 August. Safe travels!

Best wishes

The organizing committee
Best practices in making zooarchaeological data ethically accessible: survey participants wanted

Contributed by Kitty Emery, Florida Museum of Natural History, University of Florida, Gainesville, FL (kemery@flmnh.ufl.edu)

On behalf of colleagues from the Florida Museum of Natural History (FM) at the University of Florida (UF), we invite you to complete a research survey (UF IRB 202300946) to share your experiences and opinions about making zooarchaeological data ethically accessible for interdisciplinary research reuse. We aim to gather information from anyone who creates or uses zooarchaeological data to understand current best practice, particularly with reference to the implementation of FAIR (Findable, Accessible, Interoperable, Reusable) and CARE (Collective Benefit, Authority to Control, Responsibility, Ethics) data principles. The survey results will inform best practices in making zooarchaeological data ethically accessible for its vital contributions to the future of knowledge about human-animal-environment relationships. Preliminary results from the survey will be presented in a round-table discussion session at the ICAZ 2023 conference in Cairns, Australia, and will form the basis of discussion in that session about the current landscape of ethical data principles. This survey will also allow us to solicit interest in forming a collaborative network of zooarchaeologists and other researchers to improve on the use of FAIR and CARE principles. The final anonymized results of the survey and workshop discussions will be made available on the ZooArchNet website at zooarchnet.org.

The results of this survey will be completely anonymous and no identifying information will be collected. The survey should take approximately 15–20 minutes to complete and will consist of multiple-choice questions with some free response or short answer questions. Participation is entirely voluntary, and you may choose to end participation at any point during the survey. There are no direct benefits for participation.

If you agree to participate, please go to https://docs.google.com/forms/d/1HEb_Z3Tg0uEcYrMZeYjIOZqNFtA4DfZldlauzWWio0I/edit?pli=1 to contribute. Thank you for your participation.

For questions regarding your rights as a research participant, please contact the IRB-02 office at 352-392-0433.

Thank you!

Public outreach: your opinions wanted

Angelos Hadjikoumis (angelicus@hotmail.com)

Whether you do a little or a lot of public outreach (or even none at all), I’d like to hear your views about it in this very (very!) short anonymous survey. The survey will be open at least until the end of August, but preliminary results will be presented at the ICAZ conference in Cairns and an article will follow. The results will therefore be shared with the zooarch community of the world.

There are instructions and more info within the survey but feel free to get in touch with if you have any unaddressed concerns or feedback about the survey.

The link to the survey requires no sign-ins, and a google account is not necessary: https://forms.gle/F6a6BVipmdSh95Xq6.

Many thanks
New osteoarchaeology short courses at the University of Sheffield

Contributed by Lenny Salvagno on behalf of the organizers (zooarchshortcourse@sheffield.ac.uk)

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 11–13 September. Human and animal remains: a comparative approach will then follow, 14–15 September. These courses feature practical activities, lectures and discussions, and are ideal for anyone with an interest in bioarchaeology, whether you are a professional, a student or an enthusiast.

To book your place please follow this link: https://onlineshop.shef.ac.uk/conferences-and-events/faculty-of-arts-and-humanities/archaeology

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 human–animal interactions, how to age and sex animals, how to identify modifications and pathologies, and how to carry out a biometric analysis.

If you would like to know more, please visit us at:

- Web page https://www.sheffield.ac.uk/archaeology/short-courses/zooarchaeology
- Facebook Sheffield Zooarchaeology Short Course
- Instagram @zooarchlabsheff
- Twitter @zooarchlabsheffield

Or get directly in touch by email at zooarchshortcourse@sheffield.ac.uk

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.
Reconstructing past monastic life.
Inferences from archaeological, bioanthropological and documentary perspectives

Contributed by Luis Lloveras Roca, on behalf of the organizers
(monbones24@gmail.com)

The University of Barcelona (Barcelona, Spain) and the Royal Monastery of Santa Maria de Pedralbes (Barcelona, Spain) will host the conference Reconstructing past monastic life. Inferences from archaeological, bioanthropological and documentary perspectives, on Thursday 25 and Friday 26 January 2024.

The call for papers will be issued on broad themes including all aspects related to monastic life in the past. The intention is to bring together specialists from different disciplines who will contribute new developments on this topic from different fields of study. Zooarchaeological studies informing about any aspect of lifestyle (diet, health, economy, society, etc.) in monastic communities in the past are very welcome.

The planned programme includes two days of meetings, with paper and poster presentations and a guided tour of the Monastery of Pedralbes.

Registration and submission of papers will be possible from 1 June 2023 onwards. The deadline for submission of proposals for papers and posters is 15 September 2023. The deadline for registration is 30 November 2023. Peer review of abstracts submitted will determine acceptance and the results of the review will be communicated by 15 October 2023.

Further information of the meeting will be announced on the web page: https://monbones.com/conference/.

The conference is organized by the researchers of the MonBones research project:

- Lluís Lloveras, University of Barcelona
- Carme Rissech, University Rovira i Virgili
- Jordi Nadal, University of Barcelona
- Anna Castellano, Royal Monastery of Santa Maria de Pedralbes

Please feel free to inform any colleagues that you think may be interested in attending this meeting. If you have any questions or proposals, do not hesitate to write us at the conference email address: monbones24@gmail.com

We look forward to seeing you in Barcelona, 25–26 January 2024.
4th ICAZ Roman Period Working Group meeting

Contributed by Sonja Vuković on behalf of the organizers (rpwg2024@gmail.com)

The 4th ICAZ Roman Period Working Group meeting, organized by the Laboratory for Bioarchaeology, University of Belgrade, Belgrade, and the Institute of Archaeology, Belgrade, will be held in Belgrade, Serbia, 9–12 April 2024.

The topic of the conference is Social archaeozoology and the role of animals in Roman period societies: social differences, the impact of Rome on animal–human relationships, and changes in the human diet.

The abstract submission is open and will run until 30 September 2023.

For additional information regarding abstract submission and other relevant data, please see https://bioarchlab.rs/icaz-4thrpwg/.

11th ICAZ Bird Working Group meeting

Contributed by Lisa Yeomans on behalf of the organizers (BWG2024@hum.ku.dk)

The call for papers is open for the 11th meeting of the ICAZ Bird Working Group (BWG), to be hosted by the Faculty of Humanities, University of Copenhagen, Denmark, 5–8 June 2024. The theme of the workshop is open but we are especially interested in papers on the topic of ‘Birds in changing habitats: archaeological and historical evidence’ to reflect on the importance of understanding the effects of environmental change on avifaunal communities today and in the past.

The planned programme includes two days of meetings with paper and poster presentations, a visit to the quaternary collections at the Natural History Museum of Denmark, University of Copenhagen, and a post-conference excursion. The website will be updated with more details in the future: https://events_signup.ku.dk/bird_working_group_2024/conference.

The conference fee (covering coffee and lunch on both days and an icebreaker reception on Wednesday 5th June) will be 160€ for researchers or 110€ for students and unsalaried participants. Additional details and costs for the conference dinner and excursion will be announced at a later date.

Abstracts should be emailed to BWG2024@hum.ku.dk by 1 December 2023. They should include:

- a list of contributors, affiliations and email address of presenting author
- up to 250 words in length
- four keywords
- whether the paper is an oral presentation or a poster.

Oral presentations are planned to be 20 min in length. Posters will need to be printed in A1 format, portrait orientation.

Information on possible funded places will follow later in the year, pending outcomes of funding applications.

We look forward to seeing you in Copenhagen 5-8 June next year.

- Lisa Yeomans, Department of Cross-Cultural and Regional Studies (ToRS), Faculty of Humanities
- Pernille Bangsgaard, Department of GeoGenetics, Globe Institute, Faculty of Health
- Anne Birgitte Gotfredsen, Department of GeoGenetics, Globe Institute, Faculty of Health
The second meeting of the Stable Isotope Research in Zooarchaeology Working Group (SIZWG) was held 22–25 May 2023 at the Museum für Naturkunde (MfN) and Freie Universität (FU) in Berlin, Germany, and also was accessible online. It was co-organized by Dr Jana Eger, Professor Elke Kaiser, Dr Maaike Groot (FU) and myself (Deutsches Archäologisches Institut; DAI). The focus of the meeting was (1) the state of the art; (2) the reconstruction of palaeoenvironments; (3) herding and hunting strategies. The meeting brought together over 60 participants in person and many more online. It was a huge success, with contributions from archaeozoologists, archaeologists and bioanthropologists but also ecologists, organic chemists, geochemists, palaeontologists and geologists from across the globe. The full scientific conference programme can be found online at https://zooarchisotopes.com/sizwg-22nd-to-25th-march-2023-berlin/. Videos of some of the posters and presentations can be found on YouTube via www.youtube.com/@SIZWG-ICAZ/videos. This report is a snapshot of the event to provide a taste of the conference, so apologies to those who are not mentioned.

The meeting began with an evening welcome reception on Wednesday 22 March at the MfN, with keynote talks from Professor Julia Lee-Thorp (University of Oxford, Oxford, UK) and Professor Christian Voigt (Leibniz Institute for Zoo and Wildlife Research, Berlin, Germany). These keynotes summed up the state of the art of stable isotopic research in archaeology, archaeozoology and ecology. Professor Lee-Thorp provided us with an overview of key methodological advances in stable isotopes during her research career. Given her extensive research achievements during her career, the talk was packed. We then took a quick refreshment break and returned to hear from Professor Voigt. His talk covered his research into modern ecology using stable isotopes, particularly using historical samples from golden orioles, and the doubt that one can have during the research process. More details about his research can be found at www.izw-berlin.de/en/christian-voigt-en.html.

The scientific programme provided lively debate. The Thursday morning began with session 1, state of the art, chaired by Dr Vanessa Navarrete (Universidade de Évora, Portugal). There were a number of excellent presentations in this session, including international speakers, namely Pricilla Wehl and Alejandro Hiram, who provided talks on small dogs of New Zealand and Mexican megafauna, respectively. Other talks included state of the art research from Dr Rhiannon
Stevens (UCL, UK) on oxygen isotopes from Pleistocene contexts in the UK, as well as integration of faunal and absorbed residue analysis to detect fish consumption during the Neolithic in central Europe (Davies et al.). A particularly highlight for me was the papers given by Karolina Varkuleviciut [Christian-Albrechts-Universität zu Kiel (CAU), Germany], whose presentation tackled the thorny question of whether to treat bioapatite samples or not. While there is still no clear conclusion to be made, it is obvious that this question requires further consideration by the community to move forward to standard approaches.

The second session of the day focused on the reconstruction of palaeoenvironments, chaired by Dr Sarah Pederzani (Universidade de Laguna, Tenerife). Here topics chimed with the keynote given by Professor Lee-Thorp concerning African contexts during the late Pleistocene (Asrat Mogesie et al.) and Holocene (Pollit et al.) but also other regions such as Spain (Jones et al.) and Turkey (Irvine et al.), as well as a very interesting and amusing study of cats from urban medieval contexts from Maciej T. Krajcarz (Instytut Nauk Geologicznych Polskiej Akademii Nauk, Warsaw, Poland) and colleagues. Pederzani presented her research using zinc isotopes as a novel approach to studying herbivores, which I hope to see applied to more recent contexts in the future. Moving away from bones, Samuel Johns (University of Bristol, UK) presented his current PhD research reconstructing climatic history from the UK parliament role using δH from compound-specific stable isotope analysis. This paper, as well as those from the previous session by Roffet-Salque et al. and Davis et al., highlight the fact that animal fats are a component of zooarchaeological research.

The final session, on Friday 24 March, was jointly chaired by Dr Richard Madgwick (Cardiff University, Cardiff, UK) and myself. The session was packed, considering the focus of much of stable isotope studies on human–domesticate animal relationships, including commensal animals such as cats (Brozou et al.) and foxes (Chidimuro and Black) and animals used for sport, such as presented in the brilliant Box Office Bears (BOB) project (Wright et al.). We were treated to hearing about the latest in innovate research, taking us on a journey from the movement of horses in the Baltic (French and Madgwick), feasting with Romans in Wales, and stopping for a break in the hills in Archaic Italy (Trentecoste et al.). Networks of trade in the Near East were discussed online by Abreu de Sousa about cattle in Egypt, and more long distance travel using asses by Arnold et al. The work from the ERC ZooMWEST project led by Silvia Valenzuela-Lamas (UAB, Spain) was show cased in two papers, the first providing a snapshot of the work her team have carried out with herders in the Lleida Pyrenees (Nieto-Espinet et al.) and the work at the site of Empúries over systemic regime changes (Valenzuela-Lamas et al.). Animal–human relationships in early prehistory were not ignored, with excellent papers from early career scientists (Bakarat et al.; Heddell-Stevens and Roberts). Given the length of the session, I would like to thank the last speakers for providing a fitting end to the conference, the first online exploring elites in the Andes (Alacia et al.), and another thought-provoking contribution from an early career scientist about strontium isotopes and caprine movement in the Balearics (Valenzuela-Suau et al.).

Student prizes of book vouchers from either Oxbow Books or Sidestone Press, to the value of 50 euros for the 1st prize and 25 euros for the runners-up, and a FU bag, were awarded, only possible via ICAZ funding. These were awarded for both oral presentations and posters. For the oral presentation, the winner was Karolina Varkuleviciut and the runner up Samuel Johns. For the posters, the winner was Gaia Mortier (University of Reading, Reading, UK) and runner-up Celia Diez-Canseco (IPHES, Universidade de Tarragona, Tarragona, Spain). After a full two days of presentations, discussions and much coffee drinking, the conference finished with the
dinner at the Brewdog, Marienfielder. On Saturday 26 May, the conference trip was a small informal trip to the Tierpark, which provided much entertainment for all attendees, in spite of the rain (if any one has pictures please contact me).

The conference was only possible with the collaboration between FU and DAI: thank you to my co-organizers. The meeting was assisted by postgraduate and doctorate helpers: Maria Rocio, Matteo Bormetti, Simone Hein, Anika Krause, Bastien Duwell and Maximilian Muschner. The meeting was funded by the DFG, ICAZ, FU and DAI. Travel costs for the chairs and accommodation for PhD researchers (a regulation of the DFG funding) was funded by the DFG Internationale wissenschaftliche Veranstaltungen (grant number GI 1407/2-1). Therefore most participants were based at the International Stieglitz hotel, which offered water beds! Lunches and coffee breaks were funded partly by the participants’ fee and a grant awarded to Jana Eger from the Ernst Reuter Gesellschaft fund from the FU. Student researchers were supported via conference prizes and assistance to travel in the form of cash, thanks to the participants’ fee and ICAZ funding. Conference bags and note books (Maria Rocio and myself) were funded by the DAI, with additional stationary materials from the DAI and MfN. The conference would also not been possible without the help of the administration support at DAI and FU. Finally thank you to those who attended online and in person, without who the conference would not have been a success.
Integrating ZooMS and zooarchaeology: methodological challenges and interpretive potentials

Contributed by Geoff M Smith (University of Kent, UK), Karen Ruebens (Collège de France, France), Virginie Sinet-Mathiot (University of Bordeaux, France) and Frido Welker (University of Copenhagen, Denmark)

Since its development in 2009, zooarchaeology by mass spectrometry (ZooMS) has been applied to a wide array of archaeological bone remains to identify the type of animal (including human) they belonged to. Besides targeted ZooMS studies to identify special objects or find human remains, untargeted ZooMS studies are now being undertaken to identify large portions of the non-diagnostic fauna in archaeological assemblages. These large-scale analyses of morphologically unidentifiable bone remains are generating vast amounts of taxonomic and complementary data. While it is clear that ZooMS identifications can enhance our understanding of human subsistence practices at a site, its quantitative integration with zooarchaeological and taphonomic data and indices [such as minimum number of elements (MNE), minimum number of individuals (MNI) and minimum number of animal units (MAU)] remains underexplored.

We organized a workshop at the School of Anthropology and Conservation (University of Kent, Canterbury, UK) in April 2023 aimed at starting a closer collaboration between zooarchaeologists and archaeological scientists in an effort to overcome some of the current methodological problems.

The workshop opened with two keynote talks. The first talk was by palaeolithic zooarchaeologist Dr Geoff M. Smith, who presented on the integration of zooarchaeological and biomolecular datasets to enhance our understanding of the ecology, subsistence and diet of 45,000-year-old Homo sapiens at Bacho Kiro Cave (Bulgaria). Second, palaeoproteomics expert Dr Frido Welker presented on the potential of proteomic approaches to study middle and late Pleistocene Europe.

Over the next two days, 17 researchers, including master students, PhD students, postdocs and senior staff, presented on their recent work, and on-going struggles, with combining ZooMS and zooarchaeological data. They represented 13 different institutes, predominantly from across Europe, but some had travelled from as far as Canada. The ZooMS studies, while having a predominant focus on the Pleistocene, covered a broad range of geographic locations, covering western Europe but also Tajikistan, Japan, Australia and New Guinea. The abstracts of all talks can be accessed through https://www.palaeozooarch.com/workshops

After a good evening with British pub food, the majority of the second day was devoted to open discussion sessions centred on the topic of optimizing ZooMS data for zooarchaeological studies. Firstly, various aspects of the ZooMS protocol were debated, including sample selection criteria, sampling strategies, optimization of collagen and peptide extractions and various ways to assess biomolecular preservation [e.g. near-infrared (NIR) versus Fourier transform infrared spectroscopy (FTIR) pre-screening]. The second part was devoted to what zooarchaeological and taphonomic features can be recorded on ZooMS fragments, how we can use general categories to assign body regions and how ZooMS taxonomic data is best reported in publications. Various ways to integrate and quantify ZooMS and zooarchaeological data were discussed, especially in relation to taking into account the weight of the fragments to calculate adjusted number of identified specimen (NISP) values. Finally, we discussed the best ways to make ZooMS data publicly available on public repositories (preferably as unprocessed mzml files).
To finish off the day, Dr Chris Dunmore showed us around the various laboratories of the School of Anthropology and Conservation at the University of Kent. The highlight was his tour of the Imaging Centre for Life Sciences (ICLS), which houses a state-of-the-art Diondo microCT scanner that can produce high-resolution 3D images of objects, including tens of ZooMS fragments at a time.

Overall, this workshop was thought provoking and opened up a range of suggestions for future research directions, including experimental studies, automatization methods, database building and targeted studies of specific skeletal elements. The organizers will now gather together all the ideas and suggestions and prepare a website where people interested in ZooMS and zooarchaeology can more easily communicate. Moreover, we plan to make this a recurring event, so keep your eyes open for the next call for papers!

We would like to thank all 27 participants for travelling to Kent, presenting their research and contributing to the discussions. For any further questions about this (and future) events you can contact Dr Geoff M Smith: G.Smith-548@kent.ac.uk.

The ICAZ membership registration site has a searchable member database, which is accessible only to current ICAZ members. The database contains contact information, interests and brief bios for all members. This is an opt-in database, so please take a moment to log in to the system and add yourself to the database.

Here’s how to add yourself to the member database.

2. If you know your login info, enter it here and go to Step #6.
3. If you do not have login info, enter your username, which is the email address at which you receive email messages from ICAZ. Leave the password field blank.
4. Scroll down to below the orange Log In button and click on ‘Reset Password’.
5. You will receive an email with a new password. Log in with this information.
6. Go to ‘Member Database Addition’ (http://alexandriaarchive.org/icaz-wp/member-database-addition/) to add yourself to the database (using your membership email address)
7. You are done! If you wish, you can go to ‘My Account’ (http://alexandriaarchive.org/icaz-wp/account/) to update your mailing address and country.

Please contact Sarah with any questions: sarahkansa@gmail.com

Thank you!
10th meeting of the Postgraduate ZooArchaeology Forum

Contributed by Goran Tomac, Department of Archaeology, University of Zagreb Faculty of Humanities and Social Sciences, Zagreb, Croatia

From 24 to 26 May 2023, the Faculty of Humanities and Social Sciences in Zagreb, Croatia hosted the 10th Postgraduate ZooArchaeology Forum (PZAF). The conference was organized by Goran Tomac from the Faculty’s Department of Archaeology, and Antonela Barbir from the Institute of Archaeology in Zagreb. The organizational team also consisted of Maja Grgurić Srzentić (Department of Archaeology, University of Zadar), Magdalena Kolenc, Kim Korpes (both from the Faculty of Veterinary Medicine in Zagreb), Ana Škreblin (independent researcher) and Lia Vidas (Institute for Anthropological Research, Zagreb). Mislav Godanj, Marko Kušan, Jan Nikolić and Borna Sabljak, undergraduate students of archaeology in Zagreb, also helped in the organization process. More than 30 participants from 15 countries presented their research through oral presentations, posters and keynote talks. All the sessions were also made available to attend online via the Zoom platform.

The conference was opened with welcoming speeches by the organizers, the Dean of the Faculty, Professor Domagoj Tončinić, and the Head of the Department of Archaeology, Professor Nikola Vukosavljević. The first keynote lecture was given by Dr Siniša Radović from the Institute for Quaternary Palaeontology and Geology at the Croatian Academy of Sciences and Arts. As one of the first Croatian archaeozoologists, he shared his personal perspective on the development of this discipline in Croatia and its growing number of young scientists and overall potential. The session that followed, titled ‘Palaeolithic hunting party’ featured presentations by Ivo Verheijen (Tübingen University, Germany), Megan Saunders (Tübingen University, Germany), Sara Silvestrini (Università di Bologna, Italy), Wouter Bonhof (University of Exeter, UK), Aristidis Strimenopoulos (Universitat Rovira i Virgili, Spain) and Alexandre Paya (independent researcher). Their talks included topics ranging from Palaeolithic bear exploitation, reconstructing subsistence strategies via ZooMS analyses, stable isotope research at the Yana site complex in Russia, to new insights into earliest domestication of dogs and taphonomical patterns at LGM sites in Portugal.

The session ‘Ironing the antiquity’ was opened by the keynote talk from Dr Borut Toškan from the Institute of Archaeology in Ljubljana, Slovenia, who took everyone on a journey through the human–horse relationship in the Early Iron Age of the south-eastern Alpine region. His lecture was followed by presentations by Stella Nikolova (National Archaeological Institute of Bulgaria), Holly Young (University of the Highlands
and Islands, UK), Jessica Peto (University of Exeter, UK), Zuzanna Majbrodzka (Nicolaus Copernicus University, Poland), Ana Beatriz Santos (Universidade de Lisboa, Portugal) and Mladen Mladenović (Institute of Archaeology, Belgrade, Serbia). Their topics covered a range of different themes, from ritual patterns in north-eastern Bulgaria, marine molluscs in the Scottish Iron Age, dog use in Iron Age Britain and their diversity during the La Tene period in Poland, to ZooMS analysis of equids in Portugal and dietary habits in the Late Antiquity of Western Serbia, and each produced a lively discussion among the participants as well as the audience. This session and the first day itself were concluded by Professor Tajana Trbojević Vukičević, from the Faculty of Veterinary Medicine in Zagreb. In her keynote lecture, she gave a brief overview of the archaeozoological research at her institution.

On the second day of the conference, an excursion was organized for the participants. The destination was Krapina Neanderthal Museum. This state-of-the-art museum is located near the world famous site of Krapina, which is undoubtedly one of the most important locations for Croatian archaeozoology, as it was one of the first Croatian sites ever where faunal remains were systematically collected during excavation. The visit provided the chance for the conference participants to learn about its research history, the excavations led by Dragutin Gorjanović Kramberger, as well as the general importance of this site, its Neanderthal inhabitants and what it provided in the history of the study of human evolution. After the museum, the bus took us to Trakošćan, a 19th century castle where everyone was given a free afternoon to tour the castle, have lunch or just wander around the beautiful surroundings.

The session ‘Historical beasts (and where to find them)’ marked the beginning of the third and final day of the conference. It was opened by Professor Vlatka Ćubić Ćurik, from the Faculty of Agriculture in Zagreb. As an animal genetics specialist and the director of the newly opened laboratory for archaeogenetics, in her keynote lecture she talked about the development of faunal aDNA studies and many mutually beneficial projects on which she has cooperated with different archaeologists in Croatia and abroad. Her talk was followed by Noé de Segovia de Kraker (Leiden University, Holland), Megan Leake (Newcastle University, UK), Céline Erauw (University of Cambridge, UK) and Maja Kokanović (University of Belgrade, Serbia). In these presentations, the audience had the opportunity to hear about the roles of domestic geese and ducks in the Netherlands, the impact of Vikings on Anglo-Saxon monastic diet in Northumbria, guinea pigs in pre-colonial Peru and the dietary changes caused by the arrival of the Ottomans in Belgrade in the 16th century.

Prior to going on a lunch break, a short poster session took place in the break area. In total, four posters were displayed, authored by Patricia Aleixo (independent researcher), Gillian Scholz (University of Cardiff, UK), Alexander Symons (Cornell University, USA) and Ismini Venetatou (Freie Universität, Germany). The posters gave brief summaries on research into animal resource management in the medieval kingdom of Portugal, the effect of social status on food resource access in medieval Wales, subsistence strategies during the late Bronze Age in Georgia and animal husbandry practices in the pre-Roman Iron Age Moldova.
The fourth session, titled ‘Neolithic workshop’ began with the keynote lecture by Dr László Bartosiewicz from the Stockholm University in Sweden. He presented his work on animal paleopathology and the ways human–animal relationships can cause various phenomena observed on the bones of wild and domestic species. The keynote talk was followed by presentations by Hector Kelly (University of Cardiff, UK), Danica Grujić (Institute of Archaeology, Serbia), Alessia Monticone (Università degli Studi di Torino, Italy) and Cátia Delicado (Universidade de Lisboa, Portugal). The topics of their presentations included the investigation of transition to husbandry practices during the Mesolithic–Neolithic transition in the Basque Country, the patterns of animal management and settlement seasonality in the early Neolithic of the Pannonian Plain, the implementation of ZooMS in the reinterpretation of previous archaeozoological studies of Italian Neolithic, and the question of origin and function of perforated animal teeth during the Neolithic and Chalcolithic on the Iberian Peninsula.

While the four aforementioned sessions concentrated on particular time periods in the past, the fifth and the final session was envisioned as a ‘look into the future’. Titled ‘Archaeozoology: making the world a better place’, it featured talks by Elena Armaroli (University of Modena and Reggio Emilia, Italy), Kath Page (University of the Highlands and Islands, UK), Hannah Britton (University of Exeter, UK), Jack Sudds (University of Exeter, UK) and Dimitrije Marković (University of Belgrade, Serbia). From applying stable isotope research in studying modern moose mobility in Scandinavia, investigating prehistoric human relationship with red deer in Scotland in order to develop a sustainable response to ecological emergency, synthesizing data on British raptors and integrating it into analyses of contemporary falconry birds, to looking into biocultural histories in order to improve modern management methods of fallow deer and researching Holocene wild animal paleoecology as a way of improving modern conservation of wildlife, these topics dealt with different methods and ideas by which archaeozoological research can help and better our lives, and more importantly, the living world around us.

After such a serious, but also uplifting, session and the concluding remarks made by the organizers, the formal part of the conference was finished and, once a group photograph had been taken on the steps opposite the Faculty, a somewhat less formal, but no less important part, began in the Fakin craft bar. Over a large and definitely well-deserved meal and drinks, discussions about archaeo(zoo)logy, but also other, less serious, topics continued well into the night.

Based on exclusively positive feedback that has continued to arrive from the participants, even weeks after the 10th PZAF ended, we believe the meeting was very successful. As archaeozoology is still a young discipline in Croatia, and the number of archaeozoologists has only relatively recently
started to grow, one of our principal motives for hosting the conference was to introduce this discipline to our colleagues and especially younger students, many of whom have never had the chance to get to know different research questions, methods and scientific developments in this field, as well as possible interpretations that can be obtained through it. We are very honoured that we were able to provide an opportunity for some of the participants to present their work for the first time in front of their peers, and hopefully this will serve as a springboard in their careers. Finally, we also feel very fortunate that, after the height of the COVID-19 pandemic, which prevented so many conferences from happening live, the global conditions finally improved in order for us to organize an in-person meeting. Being able to spend time together outside the conference hall, whether it was over drinks in a pub after the first and third day, or on the day-trip to Krapina on the second day, perhaps demonstrates a much anticipated return to how conferences used to be and what they provide: a medium for scientists of all ages to show their work, but also to build a network of professional relationships and friendships for the future.

On behalf of the whole organizing team, I would like to thank all of the participants and keynote speakers for taking part in the conference. Furthermore, we would like to express our gratitude to all of our partners and sponsors, without whom the organization of the conference would not be possible: ICAZ, the Department of Archaeology at the Faculty of Humanities and Social Sciences in Zagreb, the Department of Archaeology at the University of Zadar, Institute of Archaeology in Zagreb, the Croatian Archaeological Society, the Archaeological Museum in Zagreb, the Krapina Neanderthal Museum, the Zagreb Tourist Board, Čazmatrans Promet L.L.C. and the Croatian Science Foundation.

Finally, our plan is to publish the proceedings for the conference. The call for manuscripts will open in the summer months. Also, during the latter half of the year, we will open the call for hosting the 11th PZAF, to be held in 2025. All the details will be provided on our conference [https://pzaf2023.ffzg.unizg.hr/](https://pzaf2023.ffzg.unizg.hr/), as well as all the social media profiles ([https://www.facebook.com/PZAF1](https://www.facebook.com/PZAF1), [https://twitter.com/2023Pzaf](https://twitter.com/2023Pzaf), [https://www.instagram.com/pzaf_2023/](https://www.instagram.com/pzaf_2023/)). We invite all interested to apply and we are available for any questions regarding the submission of manuscripts or hosting the conference.
The Archaeozoology Laboratory at the Deutsches Archäologisches Institut (DAI), Berlin, Germany

Contributed by Roz Gillis, Archäozoology, Deutsches Archäologisches Institut, Berlin, Germany (rosalind.gillis@dainst.de)

After the retirement of Professor Norbert Benecke, I had the unenviable task of taking up the reins at the beginning of 2022. The Archaeozoology Laboratory within the Natural Sciences unit of the DAI was founded by Professor Benecke in 1993 and houses an extensive reference collection of mammals (161 specimens), birds (179 specimens) and fish (177 specimens). This collection was developed by Professor H.-H. Müller [Zentralinstitut für Alte Geschichte und Archäologie within the Akademie der Wissensharfen, in the former German Democratic Republic (DDR)] and continued by Professor Benecke and Michael Hochmuth, the laboratory technician. We also host a unique bibliographical collection of archaeological research from the late 1950s to the 1990s, collected by Professor Müller, which are currently being digitized for virtual use. In addition, we house a diverse collection of analysed site material, which is available for collaborative projects with permission from the project directors’ for sampling. All our collections are open to students and researchers for consultation and study, and I encourage you to get in touch.

Alongside working on DAI projects at sites such as Zambujal (Portugal), Balbek (Lebanon) and Chimtou (Tunisia), the team is involved in the development and implementation of national and international training courses and workshop activities. We are active partners in international third party-funded projects about the domestication of dogs, pigs and horses using ancient DNA (Toulouse University, France; Trinity College, Dublin, Ireland; and Oxford University, UK), palaeozoones with the Key Lab for Evolutionary Pathogenomics at the Max Planck Institute for Infection Biology, Berlin, Germany, as well as several stable isotopic studies.

We are always interested in building new partnerships and collaborations: please get in touch with me with your ideas as well as to arrange a visit to the collections.
Examples of the variety of specimens held in the collection at the Archaeozoology Laboratory, Deutsches Archäologisches Institut (DAI), Berlin, Germany
Erich Thenius (1924–2022)

Contributed by Günther Karl Kunst

Erich Thenius was born in Abbazia/Opatija (then Italy) in 1924. Four years later, his family moved to Baden (Lower Austria) where he spent most of his childhood and adolescence. Still an Italian citizen, he started his study of zoology, palaeontology, botany and physical anthropology at the University of Vienna (then Germany, now Austria) in 1942. In 1946, he completed his dissertation on the plantigrady of bears. Despite the situation of the immediate post-war period, he was able to include most of the available relevant literature. He finally was appointed a full professor at the palaeontological department of his university in 1962, where he stayed until his retirement in 1985. Even though parts of his work may be confined to a German-language readership, Thenius is known internationally for his work on Cenozoic, mostly Neogene and Quaternary, mammals, on mammalian phylogeny, systematics and biogeography, including handbooks such as his monumental, richly-illustrated Zähne und Gebiss der Säugetiere (teeth and dentition of mammals) from 1989 (de Gruyter, Handbook of Zoology 8), which he worked on for about two decades. An equally important part of his oeuvre comprises books and articles for a wider audience, such as contributions in the German popular scientific journal Kosmos, and the palaeontological sections in Grzimek’s Animal Life Encyclopedia (1967–1972, translated into English 1972–1975). Other titles include monographs on topics such as living fossils and fossils in popular belief and magic. Artwork was always central. Recently, a whole chapter of the The Evolution of Paleontological Art (Rowland 2022) was devoted to a cycle of posters painted by F. Zerritsch for Thenius’ 1955 Die Geschichte Des Lebens Auf Der Erd [The History of Life on Earth]. Some of the line drawings of Pleistocene mammals authorized by him were – and still are – copied/recycled for all kinds of purposes.

His lectorate skills were legendary, as was his ability to include and synthesize virtually all literature on a certain topic available at a given time, well before the age of the internet and the pdf. He donated most of his enormous private library to the university.

It is less well known that Thenius was also engaged in zooarchaeology and domestic animals, especially from the 1950s to the 1970s, when almost nobody else cared for this field of research in Austria: the local tradition of the inter-war period, based on the history of animal domestication and its archaeological evidence, had ceased. As well as his studies on palaeolithic samples, he was also the first to describe a camel bone from Roman Vienna.

Erich Thenius, who had been an active visitor to his former department until very recently, died on 29 December 2022, just three days after his 98th birthday, in Vienna.

References

Jacopo De Grossi Mazzorin (1954-2023)

Contributed by Umberto Albarella and Claudia Minniti

With Jacopo De Grossi Mazzorin’s premature death, the world of zooarchaeology has lost one of its leading lights and a most compassionate and popular friend. His passing is also a reminder of the devastation created by the pandemic and the threat still generated by the COVID-19 virus. Affected as he was by a potentially dangerous underlying condition, Jacopo very carefully avoided the contagion but then the inevitable caught up with him, with lethal effects. The sorrow of his family, friends and colleagues is hard to describe. We miss him badly and are still in disbelief that the man who has given us so much is no longer.

Following the pioneering work of Alfredo Riedel, Pier Francesco Cassoli and a few others, Jacopo belonged to that second generation of Italian zooarchaeologists, also including, for example, Barbara Wilkens, Antonio Tagliacozzo, Patrizia Farello and Elena Bedini, who contributed to the modernization of the subdiscipline and give it a more consolidated status. The creation of the Italian Association of Archaeozoology (AIAZ) in the early 1990s was a milestone, for which Jacopo dedicated much energy and time. Over the course of the following years, the Association remained a core reference point for Jacopo, who contributed massively to its development and promotion. He was a permanent and familiar presence at the Association conferences and workshops, and was also its president from 2011 to 2017 as well as a committee member throughout. But Jacopo’s research links went well beyond the national borders. He was an active member of the International Council of Archaeozoology (ICAZ) and contributed to collaborations and exchanges across the globe, but in particular in the UK, France, Sweden, Denmark, Belgium and the Netherlands. Jacopo was never a linguist and, although he spoke English reasonably well (and read it without any problems), his lack of fluency could be an element of frustration for somebody who was so open and talkative. It is a testament to his gregariousness and strong will that language barriers never prevented him from forging links with international researchers.

Although the bulk of Jacopo’s research was based in Italy, he contributed to many projects across the world. The range of his geographic spread is impressive: he worked in Syria, Turkey, Morocco, Tunisia, Nepal, Dominican Republic, Greece, Malta and South Africa. Jacopo loved travelling and managed to take his enthusiasm where ever he worked. He generally came back from his foreign trips regenerated, his eyes and mind full of the memories that the discovery of new landscapes, cultures, animals and people had given him. The core of Jacopo’s work was, however, built on Italian data, which he painstakingly accumulated for decades. He was a real expert on the Roman period and knew inside out the archaeology as well as the written sources for the period. But he also contributed substantially to the study of later prehistory and the medieval period. In fact, he told us several times that he found the Middle Ages particularly intriguing, especially as he liked to investigate the role of minor species that often played a major role in medieval life. He published accounts of chickens, tortoises and several fish species, alongside his work on the staple domestic mammals.

Jacopo’s approach was archaeological through and through. Unlike many other zooarchaeologists of his generation, his background was in humanities rather than science, and that helped him to identify research questions that were central to archaeological inquiry. Jacopo’s research output is extremely impressive: almost 250 publications, including six monographs. Among these latter, highlights include a textbook for the study of animal bone remains from archaeological sites (2008), and, with his longstanding collaborator, Claudia Minniti, a review of the zooarchaeological work from the city of Rome (2022), largely carried out by the authors themselves.

Jacopo spent the earlier part of his career (1983–2001) employed by the Soprintendenza of Rome. It was in this period that he developed his main interests and cemented
his research base in central Italy and the proto-historic and historic periods. He created a pleasant and welcoming zooarchaeology laboratory at Palazzo Altemps, a historical building in the centre of Rome, near the famous Piazza Navona. He also built a substantial reference collection and trained several young researchers. He was particularly proud of his fish reference collection, which he had prepared himself, without failing to taste every fish! It must be borne in mind that, while he was developing these facilities, zooarchaeology was still underappreciated in Italy, a country whose strong classical tradition had not facilitated the emergence of new archaeological approaches. But Jacopo was determined and, most importantly, passionate about his work. For him work was never a burden: he always had fun with bones, and, to the end, he never lost his sense of wonder.

This represented the ideal attitude to succeed in his next job. In the early 2000s, Jacopo was appointed Associate Professor at the University of Salento (Lecce, Italy). He continued to live in Rome with his lovely family and embarked on a long commute to the southeast of Italy on a regular basis. He built a new, efficient, laboratory in Lecce, but the most important change was that he could now teach, and, given the excellent communicator he had been all his life, he proved to be very good at it. It was not just his ability to explain clearly, or his enthusiasm for the subject, but mainly his empathy for others that gave him the opportunity to engage with the students successfully. He quickly created an excellent research group and placed Lecce firmly on the zooarchaeology map of the world. While in Lecce, he continued a whirlwind of activities, organizing workshops, conferences and exhibitions, as well as contributing to journal editing and endless research projects. A research visit to Japan in 2016 was another international highlight.

Although Jacopo achieved a huge amount in his career and his research output will remain a core reference point for time immemorable, it is the man and his warm humanity that shine through most powerfully in our memories. At conferences, Jacopo would fill the room with his generous personality. He was a tall man, with a big beard, and tended to speak loudly: he was hard to ignore, but not because he sought attention but rather because he loved life and saw every opportunity to engage enthusiastically with others. He liked to laugh and tease; he would torment us incessantly with jokes that he had been using for years. But we knew that it was all good-natured and just a way to reinforce our closeness and friendship. How we are going to miss all this!

Jacopo was also a proud husband and father; he had two children, a girl and a boy, now grown-up. Last year his daughter, after many delays caused by the pandemic, finally managed to organize her wedding, and just a few days before that his son graduated. There is a photograph of Jacopo taking his daughter to the altar and showcasing a huge smile, exuding all the happiness that the event deserved. We would like to remember him as in that photo: an incurable optimist, a sunny personality, and, ultimately, a wonderful human being.
Richard George Cooke (1946-2023)

Contributed by Diana Carvajal Contreras

It is with great sadness that I write these lines in past tense about my mentor Dr Richard George Cooke. I hope that this document will serve to celebrate his life and his multiple academic contributions. Recently, a conference was held at Universidad de Costa Rica ‘Tras una herencia cultural milenaria: contribuciones de Richard Cooke a la arqueología del Área Istmo-colombiana’ (After a millenary cultural heritage: contributions of Richard Cooke to the archaeology of the Isthmus-Colombian Area), the presentations highlighting his contribution as a scientist and mentor (Núñez-Cortés and Sánchez 2019). I want to highlight here his life and humanity.

Richard was a scientist at the Smithsonian Tropical Research Institute, Panama. In addition to being a reference author of important studies in archaeology, he was a recipient of the Most Excellent Order of the British Empire. He died on 22 February 2023, in Panama City, Panama. Although he was born in Guilford, Surrey, UK, on 28 October 1946, his academic, family and emotional ties made him very Panamanian. He was always surprised to be asked, after the multiple lectures he gave to a variety of Panamanian audiences, if he felt comfortable in the country. His attitude was transgressive and decolonial, given that before his work in Panama institutionalism denied the influence of the Indigenous populations on the formation of the modern Panamanian state and its continuity within the history of the nation.

His first archaeological studies were carried out at Bristol and University College London, UK, where he excelled not only in archaeology but his expertise in modern languages. He was introduced to Latin American archaeology by his mentor Warwick Bray, and arrived in Panama as a PhD candidate in 1969 and wrote his doctoral thesis entitled ‘The archaeology of the western Coclé province of Panama’. This work demonstrated how, at the beginning of his academic career, he showed the ability to synthesize and select information, the detailed analysis of artifacts, an interest in human ecology, the use of Spanish chroniclers, and being permanently updated with the literature.

Like all academics, Richard in the 1970s worked as a professor of anthropology, at the University of Panama, Florida State University, and Universidad Santa María la Antigua. He also collaborated in the archaeological studies of the American Museum of Natural History as an assistant to archaeologist Junius Bird. He worked under contract for UNESCO and for Patrimonio Histórico de Panama (Historical Heritage of Panama) in archaeological salvage projects in Fortuna, Chiriquí. In the early 1990s, demonstrating a great commitment to Panamanian deep history, and at the request of the director of Historical Heritage at the time, Marcela Camargo, he conducted archaeological excavations in Cerro Juan Díaz to prevent looting activities and contribute to the knowledge of history in this region in Panama. Cerro Juan Diaz is a large archaeological site located in the coastal lowlands of central Pacific Panama comprising a pre-Columbian village (200 BC–AD 1520). I met Richard in 1995 at this archaeological site, which functioned as a field school.

Richard’s main research interests were early settlement, pre-Columbian fishing in tropical waters, palaeoecology of the isthmus-Colombian region, ethnohistory, archaeozoology and, at the end of his work, archaeogenetics. It was in the late 1970s and early 1980s, with the projects in Chiriquí and Bocas del Toro, with Dr Olga Linares and Santa María together with Dr Anthony Ranere, that his research activities concentrated around these topics and he started as part of the staff at the Smithsonian Tropical Research Institute. There he began, one of Latin America’s best, if not the best, collections of zooarchaeology. That collection combines Richard’s essence as a person, a taste for nature, fishing and his fondness for ornithology. He loved ornithology so much that I still remember Richard chasing cats with a wooden spear in his house to protect the birds. That same reference collection shows his actualistic or ethnoarchaeological work and his link with artisanal fishermen in the Bay of Parita, a proximity that was demonstrated with field trips during the ICAZ Fish Remains Working Group in Panama in 1997. There was also
demonstrated his fun side, his taste for good wine, food and chatting at the table about various topics, particularly football.

His work has provided many career opportunities for Panamanian and Latin American archaeologists, as well as archaeologists from other countries. He trained archaeologists and biologists among young Indigenous people, such as Yadixa Mayin del Valle and Máximo Jiménez, university students from the provinces and Panama City. Richard gave abundant evidence that the archaeology of Panama was unique and of great value, while to the students he communicated confidence and a sense of value, as an academic community and as human beings. I remember my first conference of the Society for American Archaeology in Philadelphia in 2000, where, without knowing a word of English, he encouraged me to present a paper about the work at Cerro Juan Díaz.

Richard Cooke went beyond being an excellent archaeologist, to become a caring human being. Despite his academic activities, he had time for his family in Panama and England, to whom he taught by example an appreciation of reading, constant learning, swimming, playing tennis and ping pong.

My last conversation with him was in July 2022 at his home in Panama, after bringing him some ‘alfajores’, which he accompanied with a coffee and where he demonstrated his strength and mental clarity after fighting cancer. After talking about the football world cup and commenting on the future fieldwork in the Coiba archipelago with Dr Ilean Isaza, I ‘rebuked’ him with that he owed me a beer for having won him the identification of sea turtle at the site Cueva de los Vampiros, a site on the Pacific coast of Panama that showed evidence for having been used intensively for fishing and preserving fish between ca. 2200 and 1900 BP.

Like other colleagues, I look forward to continuing his legacy in the archaeozoology of the tropical lowlands of Panama, Nicaragua, Costa Rica, Ecuador and Colombia.

Richard, you don’t owe me any beer. As your student, I have infinite gratitude for you.

References

Richard carrying out fieldwork (photo credits: Juana, Ana and Ian Cooke)
Richard playing ping pong (photo credits: Juana, Ana and Ian Cooke)
Richard William Redding 1947-2023

Contributed by Melinda Zeder

Richard Redding broke the mould as a scholar, administrator, mentor, husband and father. His sudden passing this spring represents a tremendous loss for his family, friends, and legions of students, as well as for the discipline of archaeozoology as a whole.

Richard’s scholarship was shaped first and foremost by his grounding in both anthropology and ecology, as reflected by his dual PhD in Anthropology and Biology from the University of Michigan. Throughout his research career Richard applied this transdisciplinary approach to develop novel, and at times controversial, models of human–animal interaction grounded in his deep knowledge of evolutionary ecology and his mastery of information about animal behaviour and the archaeological record. His dissertation (Redding 1981), for example, blended an encyclopaedic understanding of caprine behaviour, ecology, physiology, production and reproduction to develop models of how ancient pastoralists might have structured and used their flocks. The resulting harvest profiles projected for different goals of herd security and meat maximization have served as two ends of a spectrum of pastoralist strategies that are widely used today in the interpretation of ancient caprine demographic profiles.

Richard went on to take the same approach to modelling the strategies of Early Holocene foraging populations as they took the first steps toward animal domestication (Redding 1988). In particular, his application of a New Guinea model of pig management to the Sus scrofa assemblage from the site of Hallan Çemi in southeastern Anatolia (Redding and Rosenberg 1998) brought an entirely new perspective to the possible alternative strategies available to transitional foraging populations – strategies that fell outside the standard models being applied at the time. The ‘male sink model’ he proposed as a transitional strategy between hunting and herding of sheep in this region was a similar example of Richard’s ability to apply his knowledge of animal ecology to develop an ‘outside the box’ model of the first steps toward caprine management (Redding 2005). In both cases, Richard’s iconoclastic approach served as an impetus to others to look more deeply at faunal data from this key period, sometimes in an attempt to prove him wrong. In both cases subsequent work has provided support (with some modification) to what were then considered controversial proposals (Arbuckle and Özkaya 2006; Zeder and Lemoine 2022).

Richard’s subsequent research on the animal economy of Old Kingdom Egypt is marked by the same blend of careful archaeozoological analysis, understanding of animal economy, and observation of modern-day herding strategies embedded within an evolutionary ecological perspective. In this research, Richard was able to look at both sides of a provisioning system – from the production of animal resources at Kon et-Hisn and other rural sites in the Nile Delta, to the consumption of these products as revealed by his many years of work at Heit el-Ghurab, the village that housed the workers who built the pyramids (Redding 2014). Shortly before his

Richard at the workers’ village at Giza

record using historical and animal husbandry” (Redding 2015) is perhaps the best known, and most influential, example of his general approach. Here he tackles the long-standing question of why pigs fell from general use in the Near East despite their high birth and yield rates. Drawing on his deep knowledge of animal ecology, productive capacities, and the archaeological record, Richard proposed that the replacement of the pig as a primary meat resource for the urban poor can be explained by the introduction of the chicken, originally domesticated in Southeast Asia and arriving in the Middle East in the Late Bronze/Early Iron age. Chickens, he argued, were similar to pigs in that they could be easily raised on a small scale in confined urban settings. But chickens carried additional advantages to pigs in that they yielded a valuable and highly nutritious secondary, and regenerative, product – eggs, while also coming in a smaller package size that could be easily consumed by a family in a day or two.

Richard’s paper ‘The pig and the chicken in the Middle East: modelling human subsistence behaviour in the archaeological
death, Richard submitted the manuscript of his book *Cattle, Sheep, Goats, and Pigs in Pharaonic Egypt: A View from the Herd* to Lockwood Press. This book, representing the culmination of five decades of work on animal economy, is a fitting coda to Richard's research career. Here he once again blends these different strains that have run through all his research – evolutionary theory, animal ecology, archaeology and the ethnology of modern herds – into a synthetic overview of the potential of primary livestock species and the strategies humans employed to extract and distribute key resources from them within the context of a specialized urban economy. This capstone of Richard's long career of innovative interdisciplinary research on animal economy will serve as a critical reference to researchers and a reminder of what the discipline has lost with his passing.

Richard also made major contributions in the creation and oversight of museum and research organizations. This has included his role as Director of Science and Curator of Collections at the Cranbrook Institute of Science from 1986 to 1991, his years at the University of Michigan Museum of Anthropological Anthropology (1993–2011), including serving as Associate Director of the museum from 2008 to 2010, as well as his role in establishing the Bioarchaeology Laboratory at the University of Michigan's Kelsey Museum (2018–2023). Richard was also the spearhead behind the Society for American Archaeology Zooarchaeology Interest Group, guiding it through the difficult pandemic years to the vibrant 2000+ member group it is today, fostering a community for zooarchaeology enthusiasts at all levels.

Perhaps Richard's greatest impact in this arena has been in his joint roles as Chief Operating Officer and Research Scientist, as well as Chairman of the Board, at AERA (Ancient Egyptian Research Association), a non-profit organization dedicated to the study of the origin, nature and development of the Egyptian State with a focus on the Giza plateau. Here, over the past 2 decades, Richard has helped create a new model of archaeological exploration that brings together cutting-edge field work, training and dissemination of research findings to broad audiences, supported by a diverse membership that brings together scholars and members of the public.

Over 22 seasons at Giza, Richard trained dozens of young Egyptian archaeologists in archaeozoology, continuing a long career as a teacher and mentor that began when he was a graduate student at the University of Michigan. As one of his early students, beginning my career working in his laboratory as a 19-year-old sophomore in 1972, I can attest to Richard's skills as a teacher, above all to his patience, perseverance and sense of fun. Richard provided me with a strong grounding in osteology and skeletal identification, as well as in the broader range of questions that could be addressed through faunal analysis. His remarkable ability to identify even the tiniest fragments of animal bone was legendary – at one point identifying a specimen in a sack through feel alone. Also legendary were his horrible puns, with a whole corpus dedicated to a common Michigan vole species (*Microtus pennsylvanicus*) (e.g. Q. What kind of military forces protect populations of *Microtus pennsylvanicus*? A. They have all-vole-unteer armies). Also remarkable was his uncanny recall of long parts of Firesign Theater’s *Nick Danger, Third Eye* routine (e.g. “I knew there was something fishy about the butler. Must be a Pisces working for scale.”).

No one could have had a better friend than Richard. There was no limit to the ends he would go to to help a friend in need – from caring for ailing colleagues, to setting up field camps, bringing medicine across mountains to a nomad’s ailing child, to escorting a naïve 20-year-old (me) across
Europe and Turkey to Iran on a patchwork of planes, trains and ramshackle buses. Over the years he traded his passion for Coca Cola and pizza for a taste for fine wines and French cuisine. He was a founding figure in the creation of the Curator’s Ball at Michigan and is remembered by lucky guests for the Chinese New Year dinners he and his wife Cheri Alexander hosted in their Ann Arbor home.

Which brings me to arguably Richard’s greatest accomplishments – as a husband and father. Richard met his wife, Cheri, in a graduate-level genetics class at Michigan in 1972. They were lab partners. Eight years later, while Richard was completing his PhD and after Cheri had completed her Masters in engineering and was working at General Motors, they reconnected and ventured on a 44-year love affair and marriage that took them to Switzerland, France and back to Michigan. Over this time Cheri rose through the leadership ranks at General Motors while also getting her MBA at MIT; Richard pursued his research and held positions at Hamilton College, Oakland University, Wellesley, and at Cranbrook; and they raised their ‘wicked-smart’ daughter Alexis into the strong and generous woman she is today. Shortly after Richard’s death, Alexis, a developmental psychologist at Harvard's Graduate School of Education, was awarded the Morningstar Family Teaching Award, an award bestowed by students to faculty members that have had and outstanding impact. Clearly, the Richard Redding legacy as a caring and compassionate mentor has left its mark on his and Cheri’s daughter.

In all these ways – in his scholarship, his leadership, his teaching, his friendship and his commitment to his family – Richard Redding has broken the mould of what might be expected for the life of a scholar. His was not the typical academic career path, it wasn’t the typical family life, and he certainly wasn’t the typical mentor and friend. Richard combined all these facets of his personality, his intellect, and his generous spirit, to frame a full and unique life has left an indelible mark on archaeozoology, his students, friends and family that will be felt for years to come.

A fund-raising campaign has been initiated to create a graduate student support fund in Richard’s name. To contribute, go to https://give.communityfunded.com/o/university-of-michigan/i/memorials-and-tributes/s/dr-richard-w-redding.

References


Did you know that ICAZ keeps and regularly updates a database of works related to zooarchaeology? The list contains journal papers, books, book chapters, news, interviews, blog posts, etc. The complete list of works can be consulted on the ICAZ website: https://alexandriaarchive.org/icaz/publications-zooarch.

Moreover, please remember you can view and download the latest zooarchaeology references from our Zotero library: https://www.zotero.org/groups/353233/icaz. You can export complete citations from our library, and use them for your own research!

Almost 320 new zooarchaeology publications have been recently added to the list. We have chosen to highlight just a few of the great works that zooarchaeologists (and from other related fields) all over the world have published recently. These publications provide a very brief sample of the important and very diverse research carried out recently in zooarchaeology.

**Integrating Landscapes, Environment and Humans in South Asia**

Edited by Pankaj Goyal, Abhayan G.S and Sharada Channarayapatna

2023 Kerala, India: Department of Archaeology, University of Kerala

Print ISBN 978 93 5810 902 3


These two volumes are a collection of 42 articles written by experts, working in different fields of archaeology, history, and biology, and provide a wealth of information and perspectives on different aspects of human–animal relationships. This allows for a multidisciplinary approach to the study of past human–animal interactions. As these volumes consider several views and approaches, this approach offers a more thorough and nuanced understanding of the subject. These volumes also cover a wide range of time periods and geographic regions, enabling the readers to examine how human–animal interactions have changed through time and across different cultures and historical periods. This, in turn, helps provide a deeper understanding of the complex and dynamic nature of these interactions and how they have evolved over time.

http://www.heritageuniversityofkerala.com/PublicationDetails.aspx?VID=1&fbclid=IwAR07ood4luMeA9a6qIobhmaGAcGcid9WO-eOy-lVxKgsAFOAes5p4wRXU
Los animales y el recinto sagrado de Tenochtitlan
Edited by Leonardo López Luján and Eduardo Matos Moctezuma
2022 Ciudad de México: El Colegio Nacional
ISBN 9786077244509

Los animales son omnipresentes en la vida del pueblo mexica, particularmente en la economía, la religión y el arte. En las ofrendas descubiertas en el Templo Mayor de Tenochtitlan, se han recuperado una cantidad y una diversidad insusitadas de restos faunísticos provenientes de todos los confines del imperio y más allá. Esta obra recoge los análisis realizados tras más de cuatro décadas de excavaciones arqueológicas del Proyecto Templo Mayor del Instituto Nacional de Antropología e Historia.

Las contribuciones aquí reunidas presentan una visión colectiva, intergeneracional y multidisciplinaria que atiende aspectos biológicos, ecológicos, tafonómicos y simbólicos de los animales ofrendados, más de medio millar de especies identificadas hasta la fecha. A lo largo de treinta y cinco capítulos, se examinan la obtención y transporte de estos animales, su cautiverio y crianza en la capital imperial, así como su papel en las ceremonias del recinto sagrado, ampliando con ello nuestra comprensión del mundo de los antiguos mexicanos.

https://libroscolinal.com/products/los-animales-y-el-recinto-sagrado-de-tenochtitlan

Animals and Animated Objects in the Early Middle Ages
Edited by Leszek Gardela and Kamil Kajkowski
2023 Turnhout: Brepols
ISBN 978 2 503 60090 1

Since time immemorial, animals have played crucial roles in people’s lives. In continental and northern Europe, especially in the Migration Period and the early Middle Ages, animals were both feared and revered. Varying and often ambivalent perceptions of fauna were expressed through everyday practices, religious beliefs, and the zoomorphic ornamentation of a wide plethora of objects that ranged from jewellery, weapons and equestrian equipment to wagons and ships. This timely volume critically investigates the multivalence of animals in medieval archaeology, literature and art in order to present human attitudes to creatures such as bears, horses, dogs and birds in a novel and interdisciplinary way.

The chapters gathered together here explore the prominence of animals, animal parts and their various visual representations in domestic spaces and the wider public arena, on the battlefield, and in an array of ritual practices, but also examine the importance of zoomorphic art for emerging elites at a time of social and political tensions across Scandinavia and the oft-overlooked Western Slavic and Baltic societies. This innovative book draws together scholars from across Europe in order to pave the way for a nuanced international and interdisciplinary dialogue that has the capacity to substantially increase our perception of human and animal worlds of the early Middle Ages.

https://www.brepols.net/products/IS-9782503600901-1?fbclid=IwAR1C7Ad192BhZkTJr4y96J209U_hG0aVd2_LJT90QyqdYQ0vNolixAliPz6c
New Trends in Iberian Zooarchaeology
Estudos & Memórias 19
Edited by Maria João Valente, Cleia Detry and Cláudia Costa
2022 Lisboa: UNIARQ/FLUL

In recent decades there have been great developments in the study of past human–animal interactions, clearly demonstrated by the influx of researchers to the meeting of Iberian Zooarchaeology (EZI, or Encontro de Zooarqueologia Ibérica), held in April 2017 in Faro, Portugal. Its organization was a joint effort of three Portuguese research and development units in archaeology, CEAACP1, ICArEHB2 and UNIARQ3, and was hosted by the University of Algarve, Portugal. This volume is the final product of that meeting. In all, this volume shows the diversity of themes in Iberian zooarchaeology, one of the greatest values of the EZI conferences.

http://hdl.handle.net/10451/54939

Where do we come from? What are we? Where are we going? A summary portrait of the Worked Bone Research Group members
By Christian Gates St-Pierre, Beverly A. Thurber, Stephen Rhodes and Markus Wild
2023 Quaternary International

This paper presents the first general portrait of the members of the [ICAZ] Worked Bone Research Group (WBRG), a worldwide community of archaeologists interested in artefacts made of bone, antler, teeth, ivory and shell. Using bibliometric data and the results of an online survey addressed to the WBRG members in early 2022, it focuses on three aspects of the WBRG members: 1) their personal and academic background; 2) the kind of research they do, how they get it funded and where they publish it; and 3) how their work was affected by the COVID-19 pandemic and how they see the future of their subdiscipline.

https://doi.org/10.1016/j.quaint.2023.02.012

Recent work in animal history (and how we got here)
By Harriet Ritvo
2022 The Journal of Modern History 94 (2) 404–419

Although animal history has emerged relatively recently as a recognized sub-field, nonhuman animals are not exactly novel subjects of historical scholarship. After all, they have provided food and labor, entertainment and instruction for thousands of years, and this has not gone unnoticed. But something has changed in the course of the last four decades or so. Our fellow creatures were often relegated to subordinate or peripheral roles in previous historical accounts, even (or especially) those chronicling organizations and enterprises ostensibly focused on them; in addition they have often been submerged in generalizations or abstracted as statistics. For example, in 1926 the author of History of the Smithfield Club, from 1798 to 1925, hoped that the work would be "of much interest to all breeders and feeders of live stock," but most of its contents refer to the owners of livestock rather than to the elite cattle and sheep who represented them in the club’s annual shows; even the glossy photographs feature humans as prominently as their bovine and ovine chattels. In 1929 the Centenary History of the Zoological Society of London similarly emphasized the zoo’s human membership and management over the inhabitants of its pens and cages. The illustrations feature portraits of officials and maps of the grounds, and a graph of the society’s progress tracks only numbers of fellows, numbers of visitors, and income in units of £1,000. Even the apologetic title of the seventy-fifth anniversary history sponsored by the organization founded in 1903 as the Society for the Preservation of the Wild Fauna of the Empire and currently, after several rechristenings in response to the changing politics of conservation, known as Fauna and Flora International – The Penitent Butchers – foregrounds the sportsmen who were its founders and earliest supporters rather than the animals who were their targets.

https://doi.org/10.1086/719446
Isotope Research in Zooarchaeology: Methods, Applications, and Advances

Edited by Ashley E. Sharpe and John Krigbaum
2022 Gainesville, FL: University Press of Florida
Print ISBN 9780813069418
Ebook ISBN 9780813067490

Contributed by Roz Gillis, Archäozoologie, Deutsches Archäologisches Institut, Berlin, Germany (rosalind.gillis@dainst.de)

This volume is a collection of contributions from a conference session, ‘Methodological Advances in Isotopic Zooarchaeology’, held at the Society for American Archaeology (SAA) in Vancouver, Canada, in 2017. It features case studies from around the world split into four sections. The introduction by the editors provides an interesting snapshot of the use of stable isotopes in zooarchaeological research, highlighting that it is no longer a novel approach but one that should become standard practice. Moreover, they highlight the need for stable isotopic results to be more than baselines for palaeodietary studies, which was also echoed at the recent ICAZ Stable Isotopes in Zooarchaeology Working Group meeting in Berlin. While the introduction is not an exhaustive summary of the field, some researchers appear to have been forgotten for their ground-breaking work that allowed certain methodologies to become common practice now, such as sequential analysis (Balasse 1999, 2003).

The first section, Ecological Systems, begins with a contribution from Zangrando et al. on their study of fish and pinniped remains from the southern tip of South America over the last 8000 years. The authors used bulk δ13C, δ15N and δH as well as compound-specific analyses of amino acids for three case studies. It is a study rich in detail about these coastal environments and the potential impact human fishing habits and environmental change have had on these fauna. The first case study of pinnipeds shows that habits of both fur seals and sea lions have changed over time to more off-shore locations, which they propose is related to human activity. The second case study, of fish prey, demonstrates that an increase of pelagic fish predators was related to expansion of fishing ranges in the late Holocene. The third case study attempts to expand the ‘marine diet’ category stating that, while fishing practices may have expanded, the shoreline also offers an abundance of human food resources. The chapter is clearly a summary of a number of papers by the authors; I felt that it was missing archaeological information about the sites where the material was collected. Staying in the ‘New World’, the next contribution comes from Somerville et al. This study integrates the ‘lagomorph index’, the ratio between rabbit and jackrabbit remains, and carbon, nitrogen and oxygen isotopes, to understand the rapid social change between 600 CE and 900 CE in Mexico. The archaeological context is well explained, and provides an introduction for the uninitiated into the world of complex agricultural societies of northwest Mexico. Drilling down to two case study sites, La Ferreria and La Quemada, the authors seek to understand whether severe drought cause the contraction of these communities. The integration of two proxies, the lagomorph index (the difference between jackrabbits and cottontails can indicate changes in local conditions where an increase in jackrabbits suggests more open, arid environments) and stable isotope values, is innovative. The methodology and results are clearly explained, and the discussion integrates well the results from the proxies to suggest that, while drought was a key factor, wetter conditions at La Ferreria may have created a haven for climate refugees.

The second section, Husbandry and Domestication, starts with a thought-provoking chapter by Price et al. which...
attempts to bridge the gap between theory and practice, using a case study from the late Bronze Age site of Mycenae, Greece. They begin with stating that the use of stable isotopes has been criticized for being too processual, while, given that animals are the sum of decisions made by human agents, stable isotopes can provide access to these experiences. It then goes on to discuss animals as commodities, the role of exchange spheres and values of beasts, socially and economically. Interesting to note is that the authors’ initially state primary products as milk and meat, and secondary products as cheese, hides and bone tools, then primary products as meat and secondary or ‘lifetime’ products as milk and cheese. Focusing on two contexts, Cult center and Petsas house, the authors demonstrate specific husbandry practices, particularly collective herding of caprines with some integration of non-local cattle and pigs based on strontium results. The discussion demonstrates how the case studies can be used in particular theoretical paradigms to understand communities in the past. The next chapter, by Miller et al., provides a multi-species and multi-isotope approach to the zoological remains at Fishbourne Palace, UK, at the ‘edge of the Roman world’. The site is known for providing the ‘first’ evidence of exotic species, such as fallow deer and rabbits, as well as abundant remains of chickens and brown hares. The results and discussions comprehensively explore the different niches held by herbivores/omnivores, wild/domesticated and exotic/local at Fishbourne and in the Roman world in general. It is a shame that the results for the pigs are not included in the overall results, but the authors paint a clear picture of the potential high status value of this species. The fallow deer results show that one individual was imported from Italy. Given the breadth of the study, it drills down into individual life-histories of exotics like fallow deer and more common species like dogs. In the final chapter of the section, Janzen provides a detailed overview of the state of the art of research using carbon, oxygen, nitrogen and strontium isotopes in Africa to study the development of pastoralism. She takes us on a journey from the origins of pastoralism, through the different landscapes of Africa, exploring the role of ecology and the spread of herding to the use of landscapes to feed herds in often hostile environments. I found the section on the potential variation for oxygen and carbon very interesting. The role of herded animals in human diets is briefly touched upon, although she frames it well in light of genetic evidence for lactase persistence in the region. Considering the size of the continent, and for one who does not know the region, she has done an excellent job of providing a comprehensive picture of the use of stable isotopes to explore this important subsistence strategy. It would have been interesting to hear how research of past strategies may help develop future policies about herding.

In the third section, Novel and Emerging Methods, the first two chapters tackle lead and hydrogen isotopes. The first, by Sharpe et al., explores the impact of enamel diagenesis on lead isotopes. This is an important chapter for those interested in using lead isotopes to track mobility in both pre-industrial human and animal populations. The experimental design is excellent; the authors use multi-species material assemblages from three Mayan sites from Belize and Guatemala, which are situated on different geologies. The material is analysed for strontium, lead and trace elements. The use of different fauna species allows the authors to explore the susceptibility of different enamel for diagenesis as well as the effect of different geologies. The second, by Hobson, rather than just providing another review of hydrogen isotope studies, provides much-needed advice on practical aspects of the analysis. Particularly the preparation of hydrogen isotopes from collagen, which I did not realize was so complex nor subject to individual laboratory conditions. While, as Hobson explains, there is much still to be known, including refining models related to animal physiology and the behaviour of hydrogen isotopes, he leaves us with hope that future analysis is possible. The final chapter in this section, by Eusebio et al., moves away from traditional zooarchaeology remains, such as teeth and bones, and turns to animal fats using compound-specific analysis of absorbed residues. The authors report their study of experimental archaeology to provide reference data for animal fats from Southeast Asia, a region where little compound-specific isotope analysis (CSIA) work has been carried out. Pigs and fish were cooked in different mixtures and with additional ingredients such as coconut milk and peanut sauce, and then analysed. The results are surprising in some cases, for example pigs from Vietnam are similar to those of Mediterranean wild boars. However, it is clear that this is a work in progress and it will be interesting to see the results from the analysis of historical and prehistoric pottery in the future.

In the final section, Future Perspectives, the world of isotope synthesis is discussed by Pilara-Birch and Veres. They have been key in establishing a database for stable isotopes within the NSF Neotoma Paleoecology database. They argue that, while other databases exist, if we as zooarchaeologists want to assess and compare isotope datasets with palaeoecological and paleoenvironmental proxies, Neotoma is the best place. The data entry system is then explained in detail as well as case studies. I agree with the authors that it is one of the better options, however, as with all databases, it relies on the community to adopt it. In genetics it is standard practice to place data in one of two databases; it would be good to see it become standard practice for stable isotopic data over the next few years. The final contribution is from Szpak, who asks ‘Why do zooarchaeologists need stable isotopes’. Focusing on human–animal relationships and
different levels of intensity, from wild to extensive, to intensive to companion animals, he argues that zooarchaeologists must use stable isotopes to explore these relationships. Taking a post-processualist perspective, the author illustrates his argument with a range of case studies mainly focused in the Americas but also Europe. I would suggest reading it to those who are not yet convinced of the utility of stable isotope analysis in zooarchaeology.

Overall, the volume is an excellent introduction to the breadth and scope of stable isotope analysis of fauna remains to provide an understanding about past environments and human–animal relationships. It is also useful for those looking for a starting point of research in specific regions such as Africa or for a specific type of analysis. The theoretical perspectives of several authors provided food for thought about how stable isotopic values can go beyond ecology and diet and relate to human and animal identities.

References


https://doi.org/10.5744/florida/9780813069418.001.0001

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**ICAZ Bibliographic Database**

Please remember to submit your publications to Idoia Grau Sologestoa (icaznewsletterassistant@gmail.com) in order to have them included in the database. The database currently holds more than 2700 references related to zooarchaeology, which are searchable via either the ICAZ website, [https://alexandriaarchive.org/icaz/publications-zooarch](https://alexandriaarchive.org/icaz/publications-zooarch), or the Zotero library, [https://www.zotero.org/groups/353233/icaz](https://www.zotero.org/groups/353233/icaz).

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**Proposing a book for review**

We are delighted to now have a section dedicated to critical reviews of books related to any zooarchaeological/archaeozoological topic. Reviews should have a limit of 700–1000 words, and should be submitted by **15 May** (to be published in July) and **15 November** (to be published in January) each year.

If you are interested in writing a review for our *Newsletter*, please send your proposal by email to Idoia Grau-Sologestoa (icaznewsletterassistant@gmail.com).
**CALENDAR**

**2023**

**13–20 JULY**
21st conference of the International Union for Quaternary Research (INQUA)
Conference sessions
Rome, Italy
Internet: inquaroma2023.org

**7–12 AUGUST**
14th International Conference of the International Council for Archaeozoology (ICAZ)
Cairns, Australia
Email: icaz@watermarkevents.com.au
Internet: www.icaz2023.org, alexandriaarchive.org/icaz/meetings-international

**14–15 AUGUST**
IndoPac-Fishnet: A user-friendly digital database for Indo-Pacific fish identifications in archaeology and beyond
Workshop
Canberra, Australia
Email: sofia.samper@anu.edu.au

**30 AUGUST–2 SEPTEMBER**
29th Annual Meeting of the European Association of Archaeologists (EAA)
Conference sessions
Belfast, Northern Ireland
Email: helpdesk@e-a-a.org
Internet: www.e-a-a.org/eaa2023

**3–10 SEPTEMBER**
20th annual meeting of the International Union of Prehistoric and Protohistoric Sciences (UISPP)
Conference sessions
Timişoara, Romania
Internet: uispp2023.uvt.ro

**6–9 SEPTEMBER**
69th Symposium of Vertebrate Palaeontology and Comparative Anatomy (SVPICA) and the 28th meeting of the Symposium of Palaeontological Preparation and Conservation (SPPC)
Lincoln, UK
Internet: https://store.lincoln.ac.uk/conferences-and-events/conferences/college-of-science/school-of-life-sciences/svpca-sppc-2023

**7–9 SEPTEMBER**
Origins of Ireland's Biodiversity
Cork, Ireland

**11–15 SEPTEMBER**
Understanding Zooarchaeology I
Human and Animal Remains: A Comparative Approach
Short courses
Sheffield, UK
Email: zooarch-shortcourse@sheffield.ac.uk
Internet: www.sheffield.ac.uk/archaeology/research/zooarchaeology-lab/short-course

**13–16 SEPTEMBER**
New Horizons in Biomolecular Archaeology
10th conference of the International Society for Biomolecular Archaeology (ISBA)
Tartu, Estonia
Email: isba2023@ut.ee
Internet: www.isbarch.org/meetings

**4–6 OCTOBER**
(Un)Common Worlds III – Navigating and Inhabiting Biodiverse Anthropocene
A human–animal studies conference
University of Oulu, Finland
Email: uncommonworlds3@ykes.org
Internet: uncommonworlds3.wpcomstaging.com

**11–13 OCTOBER**
10th meeting of the ICAZ Archaeozoology, Genetics, Proteomics and Morphometrics (AGPM) working group
München, Germany
Email: agpm2023@sciencesconf.org
Internet: agpm2023.sciencesconf.org

**26–28 OCTOBER**
2nd International Congress on Roman Bioarchaeology
Nicosia, Cyprus
Email: teamicorb@gmail.com
Internet: www.icorb.org
15-17 NOVEMBER
AHEAD: Advances in Human Evolution, Adaptation & Diversity
Conference sessions
Tarragona, Spain
Internet: https://ahead-meeting.org

18 NOVEMBER
The London Menagerie: Animals in London History
6th Local History Conference, London and Middlesex
Archaeological Society (LAMAS)
London, UK
Email: John Price
Internet: www.lamas.org.uk/conferences/20-local-history.html

22-25 NOVEMBER
Big Historical Data Conference, a multidisciplinary hybrid event on the theory and practice of Big Data for the study of past human-environmental systems
Jena, Germany
Internet: https://bhdc.earth/

24-26 NOVEMBER
Telling Environmental Archaeology Stories
43rd Conference of the Association for Environmental Archaeology (AEA)
Tarragona, Spain
Email: aea2023@icac.cat
Internet: https://icac.cat/difusio/activitats-icac/43rd-aea-conference/

25-26 JANUARY
Reconstructing Past Monastic Life. Inferences from Archaeological, Bioanthropological and Documentary Perspectives
Barcelona, Spain
Email: monbones24@gmail.com
Internet: https://monbones.com/conference/

9-12 APRIL
4th Meeting of the ICAZ Zooarchaeology of the Roman Period Working Group (RPWG)
Belgrade, Serbia
Email: rpwg2024@gmail.com
Internet: https://bioarchlab.rs/icaz-4thrpwg/

13-17 MAY
15th Meeting of the ICAZ Worked Bone Research Group (WBRG) meeting
Paris, France

27-31 MAY
International Symposium on Archaeometry
Melbourne, Australia
Internet: https://arcas.org.au/isa2024.melbourne/

5-8 JUNE
11th Meeting of the ICAZ Bird Working Group (BWG)
University of Copenhagen, Denmark
Email: BGW2024@hum.ku.dk
Internet: alexandriaarchive.org/icaz/workbird

DATE TO BE CONFIRMED
2nd Meeting of the ICAZ Medieval Period Working Group (MPWG)
Sofia, Bulgaria
Email: mwg.icaz@gmail.com
Internet: alexandriaarchive.org/icaz/workmedieval