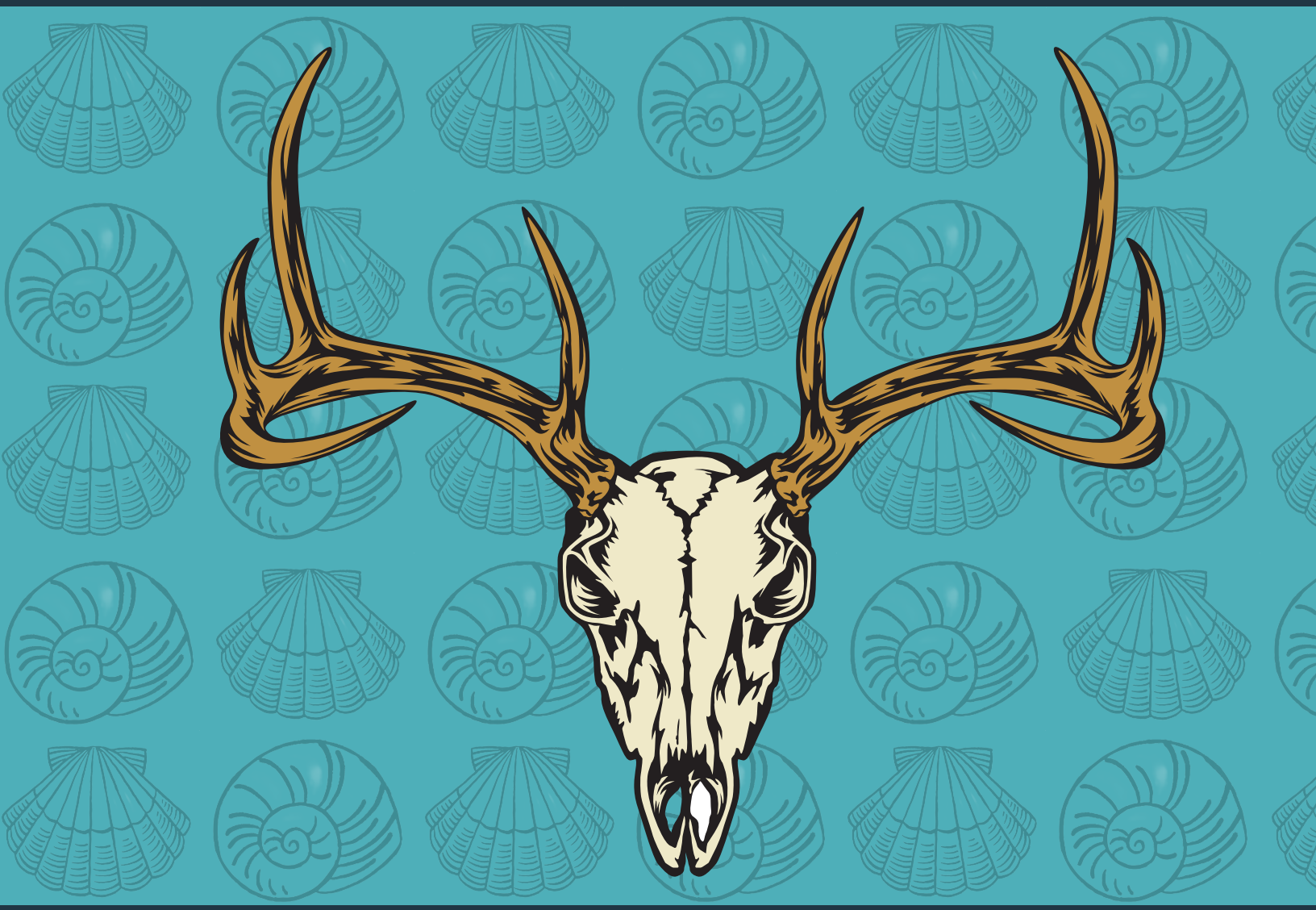
Archaeobiology 6

Zooarchaeology

Past Developments and Future Directions

edited by Sarah Whitcher Kansa and Pam J. Crabtree



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ZOOARCHAEOLOGY

Past Developments and Future Directions

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Sarah Whitcher Kansa
Justin E. Lev-Tov

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PREFACE

Inspired by the 50th anniversary of the establishment of the International Council for Archaeozoology (ICAZ), this book brings together papers addressing the past, present, and future of the discipline of zooarchaeology. Most of the chapters were presented in a special session at the 14th International Conference in Cairns, Australia, "Where Have We Been and Where Are We Going? Papers Celebrating 50 Years of Archaeozoology." In fact, ICAZ "turned" 50 in 2021, but its anniversary celebration and the international conference itself were both delayed by the COVID-19 pandemic. ICAZ members finally gathered in Cairns in August of 2023 for a belated anniversary celebration (Figures 1 and 2). In addition to the conference presentations, two more papers in this volume (those by Russell and by Morales-Muñiz and colleagues) were solicited by the editors, who asked those authors to write to specific themes within their areas of expertise that had not been discussed during the ICAZ conference session.

The book's diverse chapters, most being at once historical, having praxis recommendations, and being forward-looking in terms of the discipline's future, form a guide for zooarchaeologists in the many different taxonomic, laboratory, and other subject areas of the field. We intend for this volume to serve as a resource for students of archaeology as it provides a history of developments in several aspects of zooarchaeological research (including many of the current ICAZ working group subdisciplinary themes like archaeomalacology, fish remains, paleopathology, etc.) and several cross-cutting themes (digital data, reference collections, ethics, collaboration, and outreach). The chapter bibliographies are extensive, contribution subjects are up-to-date yet open-ended, and their histories offer succinct but insightful guides to how some of the discipline study areas developed and became what they are today.

The field of zooarchaeology has expanded methodologically, theoretically, and geographically over the past 50 years. This volume is designed to summarize the progress we have made in many aspects of zooarchaeology, and we hope that it will serve as a starting point for future research in this rapidly changing field.

Pam J. Crabtree, Sarah W. Kansa,
and Justin E. Lev-Tov
July 2026



Figure 1. ICAZ's 50th anniversary cupcakes. Photograph by Sarah Whitcher Kansa.

Figure 2. Umberto Albarella presents in the session "Where Have We Been and Where Are We Going? Papers Celebrating 50 Years of Archaeozoology" at the 2023 International Conference of ICAZ in Cairns, Australia. Photograph by Sarah Whitcher Kansa.



DEDICATION

This volume is dedicated to the memory of one of the founding members of ICAZ, Dr. Richard H. Meadow, who passed away on July 10, 2026. Richard was the Director of the Zooarchaeology Laboratory at the Peabody Museum of Anthropology and Ethnology at Harvard University, which he founded in 1981. He received his B.A., M.A., and Ph.D. degrees from Harvard University, specializing in zooarchaeology. He was a talented archaeologist who worked extensively in both the Middle East and South Asia, including in Iran at Tepe Yahya and as the project director of the Harappa Archaeological Research Project in Punjab, Pakistan.

In addition to Richard's own research and archaeological field work, he played a major role in training zooarchaeologists, and his many students have gone on to carry out important archaeological research throughout the world. Richard was a generous mentor, offering advice, access to skeletal collections, lab space, and publication opportunities to his Harvard students. That welcome was extended to visitors from around the world (SK spent several years there honing her skills in the early 2000s). For example, in 1983, he collaborated with Professor Hans-Peter Uerpmann of the University of Tübingen on a zooarchaeology course that was taught at MIT and included students and young professionals from Canada, the United States and Mexico. One of us (PC) was fortunate to have been a student in that course.

Richard was among the small group of zooarchaeologists whose first meeting led to the establishment of ICAZ over 50 years ago and was actively engaged in the organization since its inception. He was a member of the ICAZ Executive Committee from 1976 to 2023, and ICAZ Treasurer from 1998-2006. Over the course of his career, and in his long service to ICAZ, Richard had far-reaching impacts on many scholars. Every contributor to this volume has memories of the time they spent with Richard—whether they trained in his lab, collaborated on a research project, served on committees together, or shared delicious meals and fun excursions at international conferences—Richard was everywhere in the world of zooarchaeology and he will be greatly missed.

Section 1

ICAZ from Formation to the Future

1 | Zooarchaeology

Changes over Time Seen through the History of ICAZ

Pam J. Crabtree*

Abstract

When the International Council for Archaeozoology (ICAZ) was formed just over 50 years ago, it was initially designed as a way for archaeozoologists on both sides of the Iron Curtain to share their research and to collaborate. Until the end of the Cold War in 1991, the Iron Curtain was a term that was used to distinguish the Soviet Union and the countries that were aligned with it from the countries that were aligned with NATO as well as the unaligned countries. Most of the contributions to the first ICAZ volume published in 1974 focused on questions of animal domestication and the history of domestic livestock. Not surprisingly, most of the participants who attended the first ICAZ conference were from Europe. Today ICAZ members come from over 60 different countries on all six inhabited continents. The working groups and their members address zooarchaeological questions that were only beginning to be addressed in the mid-twentieth century, such as human ecology, animal paleopathology, hunting and scavenging practices of early hominins, bone taphonomy, and animal use in historic periods. Archaeozoologists now use methods that were unheard of in the 1970s, from aDNA studies to isotopic research and complex biometrical studies. This chapter will use the history of ICAZ to explore broader questions about the history of zooarchaeological research during the past 50 years.

Keywords

zooarchaeology, International Council for Archaeozoology, history, methods, animal domestication, publication

Introduction

In honor of the fiftieth birthday of the International Council for Archaeozoology (ICAZ), it makes sense to look back at how the field of archaeozoology (or zooarchaeology) has developed and changed over the past 50+ years. Twenty-first-century zooarchaeologists use biochemical and advanced statistical methods along with traditional methods of bone identification and description to study sites from all around the world. ICAZ conference programs and publications provide important testaments to the ways the field has changed since the 1970s in terms of the questions we ask, the types of zooarchaeological and archaeological data we collect, and the methods we use to answer these questions. By examining selected conference programs and ICAZ publications, this chapter will study the development of the field of archaeozoology from the early 1970s to the present.

Beginnings

The origins of what was to become the International Council for Archaeozoology can be traced to an international symposium that took place in Budapest in 1971. The introduction to the resulting conference volume, by the editor János Matolcsi, indicates that the organizers and participants viewed archaeozoology as a branch of zoology, and, as the conference title indicates, the focus was on questions of animal

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domestication and research on domestic animals (Matolcsi 1973). The volume includes articles on the domestication process, prehistoric food economies, the histories of specific domestic animals (including the ferret), and chapters that call for standardized methods for the study of animal bones.

Most of the participants at the conference came from Europe, although there were also a small number of participants from Asia and the United States (Figure 1.1 and Table 1.1). International collaboration, especially among scholars on both sides of the Iron Curtain, was one of the goals that led to the formation of ICAZ, and today ICAZ includes more than 600 members from over 60 different countries (Figure 1.2 and Table 1.2). Since 1971, ICAZ has held 14 quadrennial international conferences. The most recent ICAZ conference took place in Australia in 2023, and the next conference is scheduled for Canada in 2027.

Many of the participants in the Budapest conference played important roles in training the next generation of zooarchaeologists—those who carried out PhD research in the 1970s and early 1980s. I was part of the first zooarchaeology course ever taught at the University of Pennsylvania (USA). It was taught by Dexter Perkins, Jr., and Pat Daly in 1974. Jennie Coy headed up the zooarchaeology lab at the University of Southampton (UK) when I carried out my PhD research there (1977–1979), and Hans Peter Uerpmann taught the zooarchaeology seminar with Richard H. Meadow at MIT and Harvard that I attended in 1983. Perkins, Daly, Coy, and Uerpmann all took part in the 1971 Budapest meeting.

Several important publications from the 1970s helped address the question of standardization of methods. In terms of measurement, the publication of von den Driesch's *A Guide to the Measurement of Animal Bones from Archaeological Sites* (1976) led to increasing standardization of measurements on mammal and bird bones. The guides to recording dental eruption and wear on sheep, goat, cattle, and pig mandibular teeth (see Grant 1982; Payne 1973) provided standardized methods for recording mammalian ageing based on mandibular dentition.

Toward a World Zooarchaeology

The 1982 ICAZ conference in London (UK), organized by Juliet Clutton-Brock and Caroline Grigson (1983a, 1983b, 1984a, 1984b), revealed the increasingly diverse chronological and geographic interests that developed in zooarchaeology in the 1970s. Papers presented during the conference were not simply focused on animal domestication in Europe and adjacent areas. They ranged chronologically from the early Paleolithic in Africa to historically documented periods. The conference proceedings were published in four volumes in the *British Archaeological Reports* series. The first volume was devoted to hunters and their prey, a topic that was barely mentioned in the Matolcsi volume. The second volume was devoted to shells, fish, and birds. While these topics were not a primary focus of zooarchaeological attention in the 1970s, the interest in these taxa has grown exponentially since the early 1980s. Today ICAZ has separate affiliated working groups for shells, fish bones, bird remains, as well as 15 other groups structured around specific themes.

This diversity is clearly reflected in the publications that resulted from the 8th ICAZ conference, which took place in Victoria, British Columbia, Canada, in 1998. They included volumes on the zooar-

Table 1.1. Count by nationality of the 84 participants at the 1971 conference in Hungary that led to the formation of ICAZ.

Hungary	22
Germany (West)	14
United Kingdom	8
Germany (East)	6
Poland	6
Bulgaria	5
Sweden	5
United States	5
Austria	2
Romania	2
Switzerland	2
Czechoslovakia	1
Denmark	1
France	1
India	1
Iran	1
Japan	1
Netherlands	1

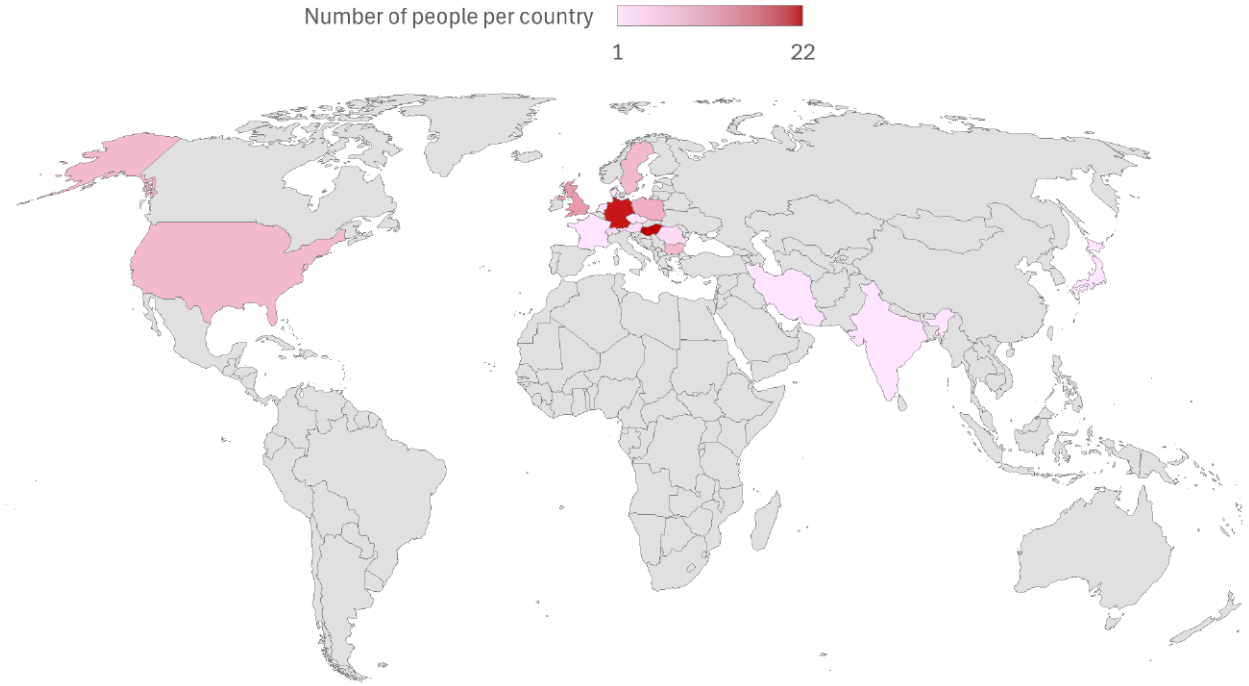


Figure 1.1. Participants (n=84) by nationality at the 1971 conference in Hungary that led to the formation of ICAZ. Data from Table 1.1.

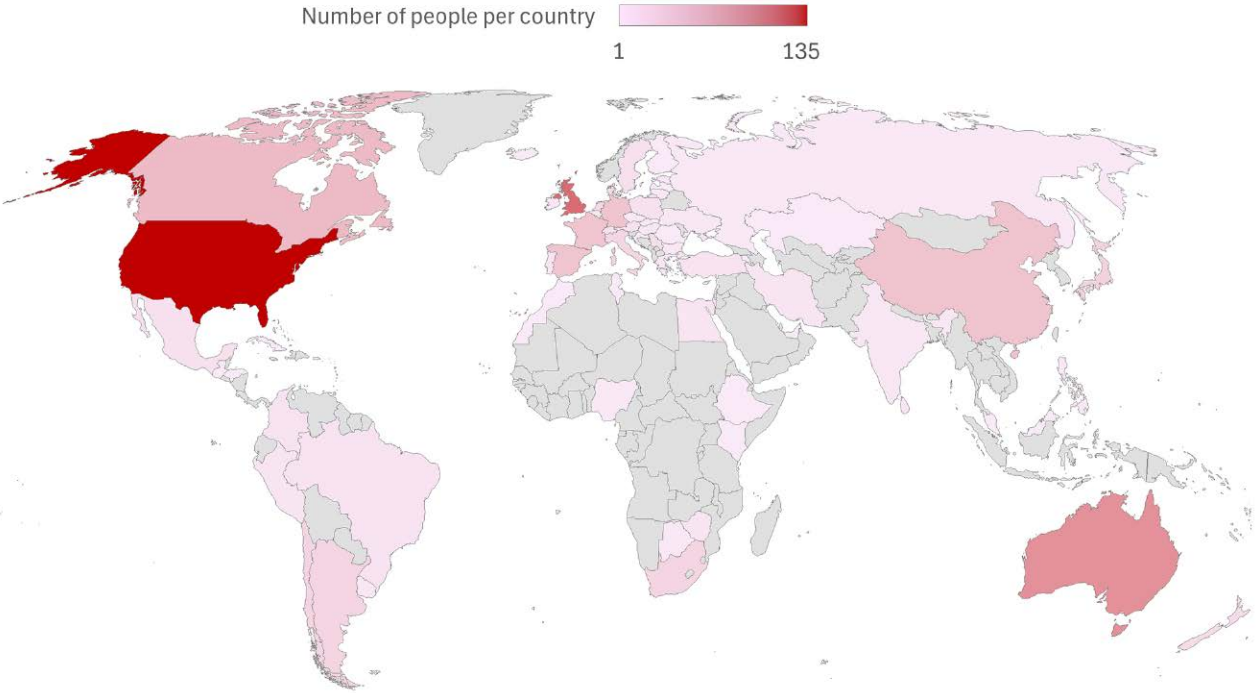


Figure 1.2. ICAZ's membership (n=615) by nationality as of June 2025. Data from Table 1.2.

Table 1.2. Count of ICAZ members by nationality as of June 2025. ICAZ currently has 615 members from 66 countries (data from the ICAZ website, https://alexandriaarchive.org/icaz/about-icaz).

United States	135	Estonia	3
United Kingdom	73	Greece	3
Australia	52	Hungary	3
Canada	28	India	3
China	23	Sri Lanka	3
Germany	23	Ukraine	3
France	22	Uruguay	3
Spain	22	Botswana	2
Japan	15	Czech Republic	2
Argentina	13	Republic of Ireland	2
Chile	13	Lithuania	2
South Africa	13	Nigeria	2
Italy	12	Philippines	2
Netherlands	11	Russia	2
Denmark	9	Slovakia	2
New Zealand	9	Armenia	1
Serbia	8	Croatia	1
Israel	7	Cuba	1
Sweden	7	Ethiopia	1
Austria	6	Finland	1
Mexico	6	Guatemala	1
Poland	6	Honduras	1
Switzerland	6	Iceland	1
Brazil	5	Kazakhstan	1
Colombia	5	Kenya	1
Turkey	5	Latvia	1
Egypt	4	Lebanon	1
Iran	4	Macau	1
Peru	4	Malaysia	1
Portugal	4	Morocco	1
Zimbabwe	4	Romania	1
Belgium	3	Tunisia	1
Bulgaria	3	United Arab Emirates	1