

## The development of archaeozoological research in Israel and the west bank

LIORA KOLSKA HORWITZ

Department of Evolution, Systematics and Ecology  
The Hebrew University of Jerusalem  
Jerusalem 91904, Israel



**ABSTRACT:** Israel and the West Bank has held a special attraction to archaeologists and historians because of its importance as a religious center and the existence of a long and rich human and fossil record going back some 1.4 million years. Consequently, archaeological and archaeozoological research has been carried out by a large number of international as well as local scholars and has resulted in a rich and multi-faceted corpus of publications on both topics.

Following the establishment of the state in 1948, research and teaching in archaeology in Israel expanded in association with an increase in the scale and scope of excavations. However, much of the early archaeozoological research was carried out solely on prehistoric material, and it is only in recent years that faunal analysis has been recognized as an integral part of archaeological research by proto-historians and those working on Biblical and Classical material. This has led to increased specialization on the part of archaeozoologists who tend to focus on problems associated with a specific period.

The recent establishment of archaeology departments in West Bank universities has served to stimulate archaeozoology among Palestinian researchers. Their focus has been the study of material from new excavations carried out in areas controlled by the Palestinian Authority.

The future of zooarchaeology in the region depends upon the creation of permanent posts for archaeozoologists as well as on the political and economic stability of the region.

**KEY WORDS:** ISRAEL, PALESTINE, THE WEST BANK, ZOOLOGY, ARCHAEOLOGY, ARCHAEOZOOLOGY

**RESUMEN:** Israel y la Ribera Occidental han tenido desde siempre una especial atracción para arqueólogos e historiadores debido a su importancia como centro religioso y por su dilatado y rico registro fósil y humano que se remonta a 1,4 millones de años. Las investigaciones arqueológicas y arqueozoológicas han sido llevadas a cabo por un gran número de estudiosos locales y extranjeros proporcionando un ingente y diversificado corpus de publicaciones hasta la fecha. Tras la creación del estado en 1948, la investigación y docencia en arqueología se expandieron en Israel como resultado del aumento cuanti- y cualitativo de las excavaciones. De todas formas, gran parte de los estudios iniciales en arqueozoología sólo se llevaban a cabo en materiales prehistóricos, no siendo hasta hace unos años que los análisis faunísticos fueron reconocidos como parte integral de la investigación arqueológica por parte de los protohistoriadores y los estudiosos de materiales bíblicos y clásicos. Ello ha conducido a una mayor especialización por parte de los arqueozoólogos que se están circunscribiendo cada vez más al estudio de los problemas en determinados periodos.

El reciente establecimiento de departamentos de arqueología en universidades de la Ribera Occidental ha servido para estimular la arqueozoología entre los investigadores palestinos. El enfoque de estos últimos viene siendo el del estudio de materiales en excavaciones nuevas realizadas en áreas bajo el control de la Autoridad Palestina.

El futuro de la arqueozoología en la región dependerá tanto de la creación de puestos de trabajo permanentes para arqueozoólogos como de la estabilidad política y económica de la zona.

**PALABRAS CLAVE:** ISRAEL, PALESTINA, LA RIBERA OCCIDENTAL, ZOOLOGÍA, ARCHAEOLOGÍA, ARQUEOZOLOGÍA

## INTRODUCTION

The palaeontological, archaeological and archaeozoological record of Israel attests to a rich and varied past. One of the major contributing factors has been the unique geographic position of Israel at the inter-section of the African and Euro-Asian continents (Figure 1). This has meant that for much of its history, this region has served as a biogeographic cross-roads for animals and plants moving between the two land masses in northwards or southwards dispersal's (Tchernov & Yom-Tov, 1988). Together with the development

of endemic species, this has resulted in the creation of a rich and varied faunal complex which characterises Israeli palaeontological and archaeozoological assemblages (Tchernov, 1968, 1988, 1992). Furthermore, this narrow strip has served as a land-bridge for human populations between the continents, and probably served as the primary dispersal route out of Africa for early *Homo*. This is evidenced, in part, by the presence of stone artefacts associated with animal remains from the sites of Erq el-Ahmar and Ubeidiya dated to circa 1.7-2 Ma. and 1.4 Ma. respectively (Bar Yosef, 1998a; Tchernov, 1999; Ron & Levi, 2001).

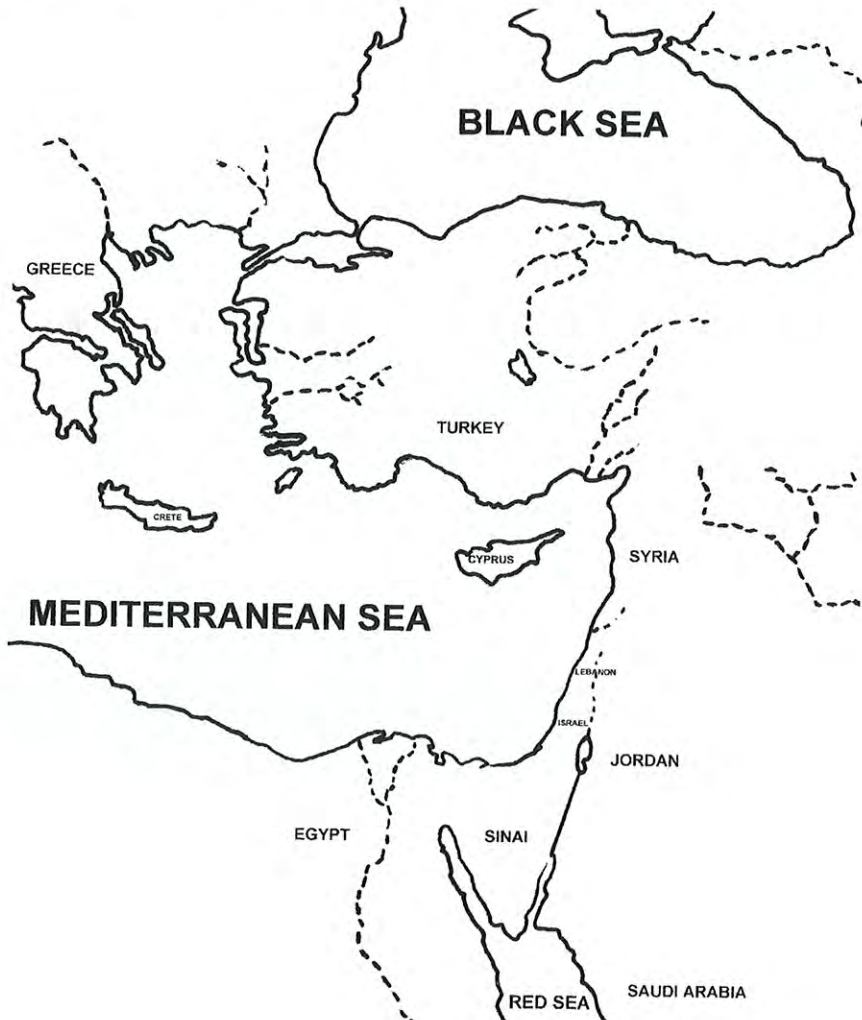


FIGURE 1  
Map of Eastern Mediterranean.



FIGURE 1A  
Map showing Israel, the West Bank, Gaza Strip and adjacent regions.

Israel, as the southern-most part of the Levantine corridor (Bar-Yosef, 1998a, b; Tchernov, 1999), has served as a highway for pre-urban and urban populations. For empires and empire builders it provided the most convenient route for social and economic contact as well as military operations between Africa and Eurasia. Conquerors, colonists and visitors including the Egyptians, Babylonians, Greeks, Romans, Crusaders and the French Republic under Napoleon Bonaparte, all recognised the strategic importance of this strip of land in the control of the region as a whole (Silberman, 1982).

In historic periods, the recognition of the Holy Land, and specifically of Jerusalem, as the focal centre for the three main religions of the world contributed to the creation of a complex and heterogeneous socio-cultural record which continues to this day. From very early on, the holy sites in the region served as a focal point for pilgrims, Biblical scholars and subsequently for archaeological investigation, attracting adventurers, explorers, pilgrims, naturalists and of course numerous archaeologists (Silberman, 1982, 1995; Mazar, 1992).

While the region was still under Turkish rule, the field of "Biblical Geography" developed and encompassed the detailed exploration and documentation of the landscape of the Holy Land, its people, flora and fauna (Ben-Arieh, 1979; Silberman, 1982, 1995). As early as the 16<sup>th</sup> century the region had attracted naturalists (Silberman, 1995). This interest reached new zeniths in the 19<sup>th</sup> century spurred by the rediscovery of the Holy Land by western powers (Ben-Arieh, 1979) and the curiosity of researchers to discover and describe the plants and animals of the Bible. Prominent among these naturalists was the Reverend Henry Baker Tristram (Figure 2) who has been dubbed 'the father of natural science in the Holy Land' (Hepper, 1997). In Palestine, Tristram managed to combine his two passions- religion and natural science. He published several beautifully illustrated volumes in which he named and described the flora and fauna of the region: *The Land of Israel* (1865), together with J. Fergusson, *The Land of Moab* (1873) and the encyclopaedic *The Flora and Fauna of Palestine* (1884). His legacy lives on in the taxonomic nomenclature of the region as several plants and animals are defined by the suffix - *tristrami*.

By the end of the 19<sup>th</sup> century, the major Western powers (America, England, France, Germany,



FIGURE 2

Photograph of the 19<sup>th</sup> century naturalist, Henry Baker Tristram.

Italy) had established permanent archaeological missions in the Holy Land aimed at exploration of the countryside, including survey and excavation of archaeological sites. By the early decades of the 20<sup>th</sup> century, excavations had been undertaken at most of the major Tells in the country, including Tel Beth Shemesh, Tel Hesi, Gezer, Megiddo, Taanach and Jericho (Mazar, 1992; Silberman, 1982, 1995). Following the British conquest of the region during the 1<sup>st</sup> World War, the Palestine Department of Archaeology was created with the goal of regulating all archaeological work in the area. This period was characterised by an unprecedented increase in the number and scale of excavations undertaken. It also heralded the advent of professional archaeology in the country. The excavations carried out in this period were the first to be conducted by professionals using more standardised and controlled excavation methods. Thus, the earliest organised excavations in the region were undertaken prior to the founding of the State of Israel in 1948 (Mazar, 1992).

The period between the two world wars saw the development and establishment of archaeozoological research in the region. This was not, however, a result of the more professional approach being taken in the excavation and publication of materials, nor the mounting interest in Biblical archaeology as so eloquently documented by Ziadeh (1990) and Silberman (1982, 1990, 1995). Instead, as in Europe, archaeozoology came into being in the Holy Land through its alliance with prehistoric research. The timing of its appearance relates to the increased quantity and scope of excavations carried out in the region by European powers.

## RESEARCHERS

The British paleontologist D. M. A. Bate deserves to be acknowledged as the founding mother of archaeozoological research in Palestine-Israel (Figure 3). Indeed, the earliest archaeozoological publications of sites from this region date to the 1920's and 1930's when Dorothea Bate published



FIGURE 3

Drawing of D.M.A. Bate, the British paleontologist and founding mother of Israeli archaeozoology. (Based on a painting held by the Museum of Natural History, London).

her seminal works on the fossil fauna from Pleistocene deposits in Palestine, including those from Zuttiyeh Cave (1932), Bethlehem (Figure 4) (Bate, 1937a) and the Mount Carmel Caves (Bate, 1937b). Her pioneer research, often in association with the archaeologist D.A. Garrod, set high standards for those following in her footsteps. Little professional research on Biblical or later fauna was undertaken at this time. The few exceptions included M. Hilzheimer (1929) who published a short note on the animal sacrifices from excavations at Shechem.

From the 1930's onward the number of local researchers working on fossil and archaeozoological assemblages increased significantly. The first Israeli researchers included F.S. Bodenheimer (Figure 5), H. Epstein and G. Haas (Figure 6). All had been trained abroad, and all came from a background in the natural sciences rather than one based in the humanities and archaeology. They all took up posts at The Hebrew University, the only academic institution in the country at that time. Both Bodenheimer and Epstein concentrated on documenting the present and past fauna of the region, although neither were directly involved in archaeozoological work. However, they each produced a large body of publications which are of immense value to zoologists and archaeologists to this day. Bodenheimer's publications include *Animal Life in Palestine* (1935) and *Animal and Man in Bible Lands* (1960) while Epstein (1969, 1971, 1977) published seminal volumes on the history of domestic animals in China, Africa and Nepal. Similarly, the contributions of Profs. I. Aharoni (Aharoni, 1923), M. Dor (Dor, 1997) and Y. Felix (Felix, 1955) to the contextual and linguistic identification of animals mentioned in the Bible, have been of immense value to archaeozoologists working in the region.

Following his emigration from Germany to Palestine in 1932, Prof. G. Haas undertook a life-long active role in palaeontological and archaeozoological studies in this country, in addition to his research on modern fauna of the area, especially the reptiles, rodents and molluscs. He published widely on archaeofauna, from the most ancient archaeozoological remains (Haas, 1951, 1966, 1972) to recent periods (1953). Haas worked in close contact with local archaeologists, especially the Israeli prehistorian M. Stekelis and his students. In the 1950's and 1960's, Haas identified most of the fauna recovered from the sites they investigated, though these identifications are often

**Nature, 1934. II August, p. 219.**

**Discovery of a fossil elephant in Palestine.**  
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Quite recently a discovery of remains of an extinct elephant has been made in Palestine. This is the first time that such remains have been discovered there, nor have they yet occurred in Syria, and it will be of interest to see if this find has any connection with the faunas of so-called African type which have been found in several Palestinian caves associated with a Mousterian culture and human remains.

The newly found specimens were obtained in digging a well in a garden at Bethlehem but unfortunately the value of the remains was not at first recognised, and thus, except for a section of tusk 8 cm. in length, the bones and teeth are in a very fragmentary condition. During a recent stay in Jerusalem, I was able, with the co-operation of the Museum authorities, to collect a few fragments from the material dug out of the well. All the specimens have now been sent by the Director Department of Antiquities of Palestine to the British Museum (Natural History) for study. It is hoped that a detailed description of these remains will shortly be published, and that it may be possible for further excavations to be made at this locality. The deposit in which these elephant remains occur is doubtless Pleistocene, but information as to the precise age of the beds is still needed.

Dorothea M.A. Bate.  
Department of Geology,  
British Museum (Natural History)  
Aug. 3.

FIGURE 4

Original typed note by D.M.A. Bate to the journal *Nature* (1934) reporting new finds of an extinct elephant from Bethlehem.

merely cited in the body of the archaeological report (for example: Yizraeli, 1967).

The first Israeli student to be trained by Haas in archaeozoology was the late S. Angress, who published only three works in this field (Angress, 1956, 1959; Angress & Reed, 1962), before he was tragically killed in a motor car accident in 1958. Of the subsequent generation of Israeli students trained by Haas who undertook graduate research in archaeozoology, including J. Heller, H. Frenkel and E. Tchernov, only Tchernov continued in the field, following his landmark PhD thesis on the *Succession of Rodent Faunas during the Upper Pleistocene of Israel* (Tchernov, 1968). Since he joined the teaching staff of the Department of Zoology of The Hebrew University of Jerusalem in 1965, he has continued to undertake research and supervision of students in archaeozoology, and has published a valuable and rich corpus of papers and monographs on all aspects of Israeli archaeozoology (Tchernov, 1986, 1988, 1992, 1994, 1995, 1999).

With the subsequent appointments of Dr. D. Hakker-Orion (Hakker-Orion, 1975, 1984) followed by Dr. S. Hellwing (Hellwing, 1984; Hellwing *et al.*, 1993) to a part-time position the Institute of Archaeology at the University of Tel Aviv, more local students underwent training in archaeozoology. Many of these students, and those who studied at The Hebrew University, continue to work in the field today. These archaeozoologists include S.J. Davis (Davis, 1981, 1987), T. Dayan (Dayan, 1994a, b), L.K. Horwitz (Horwitz & Smith, 1990; Horwitz *et al.*, 1999), R. Rabinovich (Rabinovich & Horwitz, 1994; Rabinovich, 1998) and M. Sadeh (Hellwing & Sadeh, 1985; Sadeh, 1991).

Following the appointment of T. Dayan to the Department of Zoology at the University of Tel-Aviv, the teaching and training archaeozoologists has increased. Currently, a new generation of Israeli archaeozoologists are engaged in graduate studies at universities in the country. Several Israeli researchers have specialised in archaeomalaco-



FIGURE 5

Photograph of F.S. Bodenheimer author of *Animal and Man in Bible Lands*.

logy; H.K. Mienis (Mienis, 1977, 1987) and D.E. Bar-Yosef (Bar-Yosef, 1991, 1997), and others in the study of fish remains; the late H. Lernau (Lernau, 1986, 1986/87), O. Lernau (Lernau *et al.*, 1996; Lernau, 2000) and I. Zohar (Zohar & Cooke, 1997; Zohar *et al.*, 2001).

Despite the development of a local community of Israeli archaeozoologists, the tradition of international archaeozoologists working on Israeli material has continued unbroken since Bate. International scholars active in the country during the 1950's included D.A. Hooijer (The Netherlands) (Hooijer, 1958, 1959), R. Vaufrey (France) (Vaufrey, 1951), T. Josien (France) (Josien, 1955) and F.E. Zeuner (U.K.) who worked on material from the West Bank site of Jericho (Zeuner, 1955, 1958). The 1960's and 1970's saw a further increase in overseas scholars working in the region such as B. Kurten (Finland), J. Bouchud (France), A.N. Legge, M. Jarman and E.C. Saxon (U.K.) and P. Ducos (France). The latter's PhD thesis entitled *L'Origine des Animaux Domestiques en Palestine*



FIGURE 6

Photograph of a young G. Haas, Professor of Zoology at The Hebrew University of Jerusalem, with one of his herpetological friends.

(Ducos, 1968) together with research carried out by J. Clutton-Brock (U.K.) on the Jericho fauna (Clutton-Brock, 1969, 1979), have served as cornerstones for modern archaeozoological research of Neolithic through Biblical fauna, with a special contribution to the process of animal domestication.

Among the foreign scholars active in Israeli prehistory in recent years are: D. Campana, P. Crabtree, D. Liebermann, T. Simmons, J. Speth, M. Stiner and N. Monroe (USA); B. Martinez-Navarro (Spain), A. Lister (UK) and P. Ducos, M. Faure, J. Pichon, C. Guerin (France). Research into Proto-historic, Biblical, Classical and historical fauna has also been undertaken by C. Cope, M. Craig, A. Fradkin, B. Grantham, J. Klenck, J. Lev-Tov, E. Maher, D. Reese, T. Tessaro, S. Witcher and M.A. Zeder (U.S.A). The long-term contributions to Israeli archaeozoology of Prof. B. Hesse, Dr. P. Wapnish (USA) (Wapnish & Hesse, 1991; Hesse & Wapnish, 1996) and Dr. C. Grigson (UK) (Grigson, 1995a, b) deserve special note, as these scholars have contributed greatly to the development of local interest in zooarchaeology.

## TEACHING & POSITIONS

Archaeozoology is not recognised as an academic discipline by any of the universities in Israel, and archaeozoologists in university positions are primarily employed to teach other subjects in departments of zoology. Semester-long courses in archaeozoology are taught by visiting lecturers on a bi-annual basis at the Institutes of Archaeology of The Hebrew University of Jerusalem, University of Tel Aviv and University of Haifa. Most training in archaeozoology is therefore offered on a graduate level through supervision of students for MA, MSc and PhD theses. Graduates who wish to continue in this field must find employment either teaching general courses in archaeology or as freelance researchers in contract archaeology. The growth of contract archaeology in the past decade has offered new employment opportunities for graduates and students interested in continuing working in archaeozoology. However, the future prospects of such freelance work is uncertain, depending as it does on industrial development and local economic conditions.

## COLLECTIONS

### *Recent Fauna*

As in Israel there is no national museum of natural history, two university-based osteological collections, at the University of Tel Aviv and The Hebrew University of Jerusalem, provide archaeozoologists with the necessary comparative material.

The osteological collection of the University of Tel Aviv (Department of Zoology), is comprised of mammals (primarily skulls and skins) birds, amphibians and reptiles representative of Israel and neighbouring regions (curator Prof. Y. Yom-Tov). In addition, a large collection of preserved local fauna including fishes, mollusca, crustacea and insects are held by the Museum as well as a palaeontological collection containing local and international material. The collections were established by Profs. Y. Margolin and H. Mendelsohn and are currently under the direction of Prof. T. Dayan. Details concerning these collections are available on-line at:

[http://www.tau.ac.il/lifesci/nat\\_museum/The-Collections.html](http://www.tau.ac.il/lifesci/nat_museum/The-Collections.html)

The second comparative osteological collection is held by The Hebrew University (Department of

Evolution, Systematics and Ecology), and consists primarily of mammals, reptiles and birds from Israel and countries in the southern Levant. This collection (under the direction of Prof. E. Tchernov, curated by Dr. R. Rabinovich) is primarily intended for archaeozoology, and focuses on complete skeletons and skeletal series. Also held at The Hebrew University of Jerusalem are collections of terrestrial, marine and freshwater Israeli and Near Eastern molluscs (curators Prof. Y. Heller and Dr. H. Mienis), and preserved collections of reptiles, fish and invertebrates.

All collections in the country are open to scholars from Israel and abroad conducting zoological and archaeozoological research.

### *Palaeontological and Zooarchaeological Collections*

According to the Israel Antiquities law of 1978 (section 1, part 3), all animal remains recovered from archaeological sites in the country from before 1300 AD are recognised as antiquities and fall under the jurisdiction of the Israel Antiquities Authority. In theory therefore, animal bones that are excavated by local and foreign institutions are protected by law.

Following excavation, faunal material is stored by the excavating institution and storerooms of material exist in all archaeology departments in Israeli universities, the Israel Antiquities Authority and the respective foreign archaeological missions. In addition, the Department of Evolution, Systematics and Ecology of The Hebrew University, holds the most comprehensive collection of Israeli fossils (from the Triassic, Cretaceous, Neogene and Quaternary deposits) as well as a very large, curated collection of faunal remains from prehistoric and archaeological sites in Israel spanning the early Pleistocene through to historic times. Collections of both palaeontological and archaeozoological material are also held by the Department of Zoology, University of Tel Aviv.

## ARCHAEOZOOLOGY ON THE WEST BANK AND GAZA STRIP

Following the 1967 war and Israeli occupation of the West Bank and the Gaza Strip, excavations in these areas were undertaken by Israeli and international archaeologists (Glock, 1985; Ziadeh,



1990; Silberman, 1995). Archaeozoological studies of this material have, on the whole, been on a small scale. However, fauna from several West Bank sites have been studied and published, some derived from excavations undertaken in the immediate post-1967 years (e.g. Horwitz, 2001), others from more recent investigations in the region (e.g. Horwitz, 1986-87).

Until 1967, the local Palestinian population was relatively disinterested in archaeology. Ziadeh (1990) suggested that this stemmed from the Biblical orientation of most local archaeology which appealed to Jewish and Christian communities, but not to the Moslem population. Following the 1967 war, Palestinian archaeologists turned their focus to Islamic archaeology (Glock, 1985), both as a means of ratifying their cultural identity and as a counter-weight to the Biblical bias of Israeli archaeology. With the recent establishment of the Palestine Antiquities Authority, and the active excavation of sites by Palestinian universities and the Palestine Antiquities Authority, archaeology has gained in acceptance as a topic of national interest. In turn this has spurred archaeozoological research, and several papers have been published by Palestinian archaeozoologists based at Bir Zeit University (Ezzughayyar & Al-Zawahra, 1996; Ezzughayyar *et al.*, 1996; Al-Zawahra & Ezzughayyar, 1998). Faunal assemblages from excavations within the jurisdiction of the Palestinian Authority, such as from the new excavations at Jericho (Alhaique, 2000), are also being studied by foreign researchers.

## TRENDS IN RESEARCH

As in most countries, there is a clear dichotomy between research on prehistoric material and investigations on material from later periods i.e. proto-historic, Biblical, Classical and historical periods. Despite similarities in archaeozoological methodology, problems of interpretations and often in results, these later periods of study were often perceived to be distinct research areas. Consequently, most researchers worked in one field and not another, often specialising in a single chronological period. Moreover, there was a tendency for people with a zoological or natural science background to focus on prehistoric periods, while those with an archaeological background worked primarily with material from later periods.

As in the rest of the world, Israeli archaeozoology tended, until recently, to be data oriented, with little application of anthropological theory. This is undoubtedly due to the fact that most archaeozoologists were trained in zoology while those who came into the field from archaeology often had little or no anthropological background. In Israeli universities, Archaeology departments are separate from those of Social and Physical Anthropology, in contrast to the norm in the USA where all three are often taught within the same department. It is not surprising then that the theoretical framework applied in much of the archaeozoological research carried out in Israel originated in evolutionary theory and ecology with an emphasis on issues relating to paleoenvironment, biogeography, biochronology and evolutionary studies. This precedent was set by D.M.A. Bate. Trained as a zoologist, she focused her research on taxonomic and paleoenvironmental issues. In keeping with current trends, the theoretical orientation of archaeozoology is changing and more weight is being given to the study of the cultural and social context of animal bones and their relationship to past human behaviour.

Due to the long European tradition of collaboration between prehistorians and natural scientists, since its inception, prehistoric research in Israel has entailed collaboration with archaeozoologists. However, this was not the case for studies of material from the Proto-historic through historic periods. This has been a late development, allied to the growth of environmental archaeology worldwide. Consequently, interest in paleoenvironment, foodways and diet in these more recent periods is a relatively recent phenomenon in Israeli archaeology. This has currently expanded to include research in areas such as the association between food and ethnic and ideological identity.

## PUBLICATIONS

When examining publication trends in archaeozoology in Israel I have chosen to define an archaeozoological publication as one that is confined to, or based on, the analysis of faunal assemblage/s from the region. Thus, publications dealing with past subsistence and diet in a broader sense have not been included in this census. It should be noted that publications on archaeozoology in Hebrew and Arabic are few, and that the majority of are in

English, and appear either in local or international archaeological or archaeozoological journals.

For this survey, a sample of approximately 300 articles and books published over the past 70 years (1930 -1999) was examined. This represents about half of all archaeozoological material from Israel and the West Bank published during those years. Irrespective of period, there is a clear predominance of data-oriented publications or case studies. An exponential increase in the number of archaeozoological publications in the 1980' and 1990's may be observed (Figure 7). This was the result of both the increased number of researchers working in this field as well as the growing number of sites being excavated.

The publications were then re-grouped into five categories - Prehistoric, Neolithic, Proto-historic, Biblical and Classical - based on their chronological affinity (Figures 8a-e). Although the Neolithic (Figure 8b) and Biblical (Figure 8d) categories follow similar growth curves, they do so for different reasons. In the past, while many Biblical sites were excavated, few archaeozoological studies

were carried out. This is surprising considering that Biblical archaeology constituted the majority of research at that time (Glock, 1985; Broshi, 1987; Silberman, 1990, 1995; Ziadeh, 1990). This oversight is only now being rectified as archaeozoological research is increasingly perceived as an integral part of most Biblical-period excavations. In contrast, although few Neolithic sites were known and excavated in the past, their faunal assemblages were routinely studied and reported. More recently, as the relative proportion of Neolithic sites being studied has risen, so too has the publication of faunal studies relating to these sites. However, the greatest development is evident in Classical archaeology, a period which was totally ignored until the late 1970's. The important contribution of archaeozoology to Classical studies is now recognised and is expressed in the increased number of publications in this field. Similarly, the archaeozoology of historic periods is only now beginning in the region partly due to the renewed interest in the excavation of Crusader and Islamic sites by archaeologists working in the region.

### Number of Publications

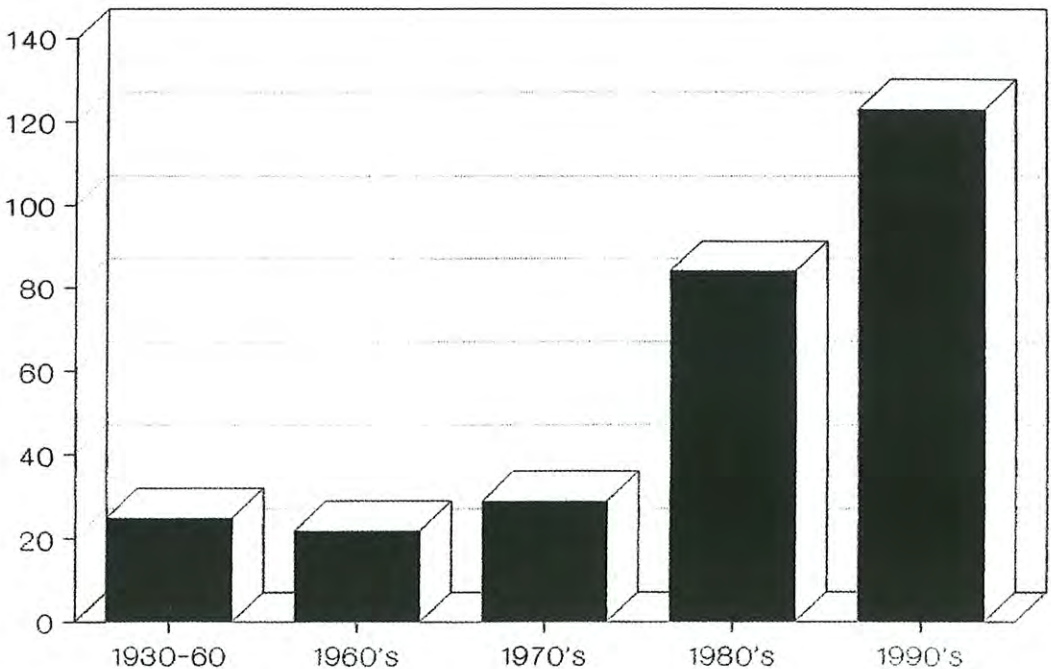


FIGURE 7

Histogram showing diachronic trends in publications on Israeli archaeozoology by decade.

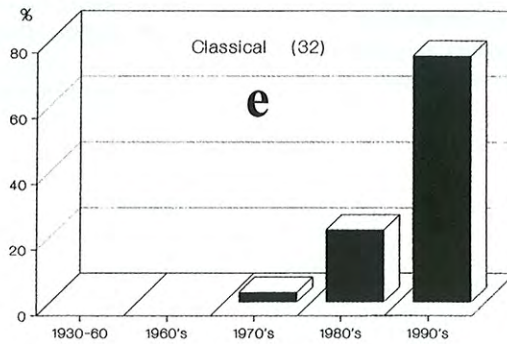
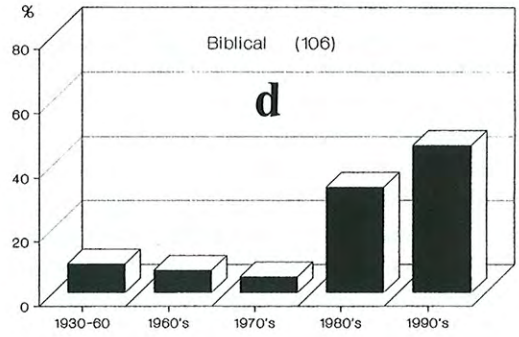
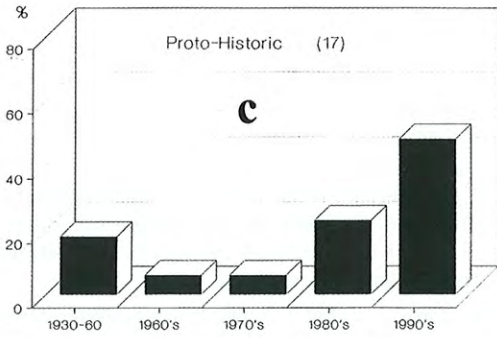
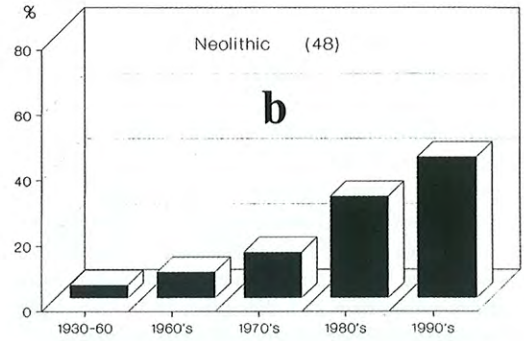
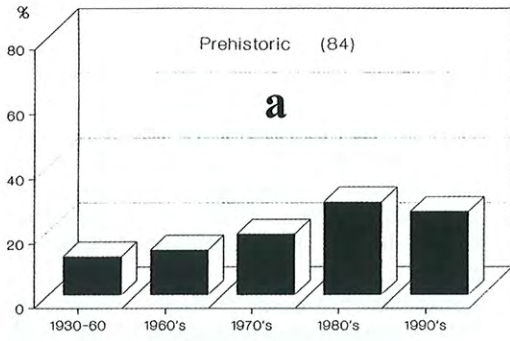


FIGURE 8

The same data set as in Figure 7 re-grouped chronologically. (a) Prehistoric (b) Neolithic (c) Proto-historic (d) Biblical (e) Classical.

## FUTURE DEVELOPMENTS

Despite the long history of archaeozoological endeavours in the region, archaeozoological research in Israel and the West Bank still has a long road to travel before attaining its maturity. There is increasing interest in both the Israeli and Palestinian archaeological and zoological communities, but archaeozoology is in most cases still perceived as a service sector aimed solely at providing bone reports rather than as a discipline in its own right. The absence of permanent posts for archaeozoologists in academic and/or government institutions is perhaps the clearest indication of the status of this discipline. This further manifests itself in:

(1) The use of the terms 'auxiliary' and 'ancillary sciences' to describe archaeozoology, and other disciplines from the natural and exact sciences (e.g. physical anthropology, archaeobotany, metallurgy, dating).

(2) The publication of these reports as appendices rather than as integrated chapters within archaeological monographs (a trend which is currently undergoing a positive change).

(3) The absence of courses in archaeozoology as an integral part of core-curricula in archaeology.

The creation of core-courses in archaeozoology and of permanent academic posts in this field will facilitate the training of future researchers and increase awareness of the importance of this discipline. Only such steps can ensure the growth of archaeozoological inquiry and with this a full appreciation of the rich archaeological and zoological record of the region. Ultimately however, the future of archaeozoology depends upon the political and economic stability of the region. Interest in archaeology in general, and archaeozoology in particular, can only be stimulated and developed under conditions of prosperity and peace.

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