The archaeological site of Wadi Faynan, with its fluvitail sequences and well-developed travertine sequences, will be the framework of detailed sampling in October 2006. The Dead Sea shore area was more intensively examined, due to the huge amount of travertine carbonates observed in this location. A selection of samples were collected from major groups of travertine deposits, which probably cover most of the Late Quaternary period. Another interest of the Dead Sea shore area lays in the presence of highly-laminated, extensive series of lacustrine carbonates related to the former Lake Lisan, which cover the time period comprised between ~ 70,000 and 15,000 BP. Detailed stratigraphic descriptions have been realized for several little sections within this formation; corresponding samples will be analysed by Rachel Goodship as a research project for her degree.

The travertine deposits and other carbonate samples, with the exception of the Lake Lisan sequences, will be analysed during the forthcoming year. The carbonates are currently being dated prior to further analysis. When possible, additional dating will be obtained, for example by analysing charcoal remains and gastropod shells included into the limestone sequences. A high-resolution sampling will then be scheduled for each travertine group covering periods of time which present the best interest for the project's area of research.

Information obtained from these carbonates will be integrated with a review of already available data (sedimentological and botanical studies, marine records, lake levels, paleosols evidences...). This review will enable us to prepare palaeo-climatic maps of the Levant area, including those for estimated rainfall, for selected time periods and play a major role in refining the palaeo-climatic models being developed by the WLC meteorologists.

Water and food resources use in Jordan by stable isotope analysis of human and faunal skeletal remains

Michela Sandias, Archaeology sub-project

The study of water and food consumption by stable isotope analyses of human and faunal remains is a key element of the WLC Project. This study will analyse material from archaeological sites from areas of Jordan, selected to differ in their geographical and environmental characteristics. The carbon, nitrogen and oxygen isotopic compositions of skeletal remains from those sites will interpreted in relation to the estimated availability and source of water and food resources, drawing on research being undertaken elsewhere within the WLC project.

A field visit in July 2006 in Jordan acquired a first series of human and faunal bone and tooth samples for analysis from assemblages curated in the Department of Anthropology, of Yarmouk University, Irbid. This followed a two-week trip in April 2006, during which I was able to meet various Jordanian archaeologists and assess which skeletal assemblages were available and of potential interest for my study.

The ideal material for performing stable isotope analysis for palaeodiet and environmental reconstruction is well-contextualized and dated skeletal remains. Ideally, data relating to sex, age-at-death and health should be available. Archaeologists and anthropologists at Yarmouk University have already excavated and studied skeletal remains from numerous Jordanian archaeological sites. They have shown great interest in the istotope project and made some of those skeletal collections available for us to study.

My current focus is on skeletal remains from the archaeological site of Tell Ya'mun. This site is located in northern Jordan approximately 25 Km from the city of Irbid, at an altitude of 828m. Excavations started in 1999 and have revealed a continuous occupation of this site from the Early Bronze Age to the Byzantine period. This prolonged occupation represents one of the most interesting features of this site along with its geographical position. Its skeletal remains were recovered from the numerous tombs, the chronology of which has been based on pottery, grave goods, and tomb architecture.

The first days at Yarmouk University in July 2006 were used to examine the excavation

reports relative to Tell Ya'amun in order to plan sampling, so to have all the periods of occupation would be represented, Fragments of bone were taken from forty five human individuals, dating from the Middle Bronze Age to the Byzantine period. Teeth were taken from 28 individuals from the same time periods. Samples from faunal remains were also collected.

Preparation and analysis of this first series of samples will be performed the autumn 2006. In the meantime, a second field session in Jordan which aims to collect a second series of samples is being planned. The preliminary contacts with the archaeologists responsible for the skeletal assemblages from Pella, in the Jordan Valley, and Roman Jerash will be developed. The study of Pella, with its geographical setting and long sequence of inhabitation, and of Jerash, a big complex Roman city, will shed light on other aspects, related to food and water consumption habits, of ancient settlements in Jordan. Furthermore, data from Pella and Jerash will represent the provide useful comparative material for the data from the multi-period site of Tell Ya'mun.

Figure 1: Michela Sandias analyses samples in the lab.

Notices and Reminders

Autumn 2006 Meetings and Seminars

28th September	WLC Data Management Discussion	1 - 2 pm	Internal Meeting
19th October	Dr Carol Palmer from The University of Sheffield and CBRL	2 - 4 pm	External Seminar
25th October	'Bring a Plot'	1 - 2 pm	Internal Meeting
8th November	Claire Rambeau	1 - 2 pm	Internal Meeting
29th November	Emma Jenkins	1 - 2 pm	Internal Meeting
13th December	Nicola Flynn	1 - 2 pm	Internal Meeting
20th December	Environmental Stress (including talks by Emily Black Stephen Nortcliff and Steven Mithen)	All afternoon	Royal Meteorological Society Meeting to be held at the Zoological Society of London Meeting Rooms

WLC Annual Meeting ***22nd January 2007***