

Abu Dhabi Islands Archaeological Survey Project

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Carbon 14 dates Marawah's MR-1 Late Stone Age site as the earliest ever found in the UAE - up to 7500 years old

One of the most important sites identified by the Abu Dhabi Islands Archaeological Survey, ADIAS, in its first season of work in 1992 was the Late Stone Age site of MR-1, on the western end of the island of Marawah. The results of C 14 dating analysis on ash from the site have now shown that MR-1 is the oldest site yet to have been scientifically dated anywhere in the UAE.

As reported in previous issues of this *Newsletter*, the site has yielded a major collection of flint tools, including over 150 projectile points (arrowheads), the largest number known to have been identified from any single site in the UAE.

The site is located on the surface of an isolated mesa, which is cut off from the rest of the island by the sea at extreme high tides. On the top of the mesa, more than fifty individual stone structures have been identified, which have been the focus of a major mapping and drawing operation over the last three years, prior to planned excavation.

The typology of the flint tools is that of the Late Stone Age, roughly 8,000 to 5,500 years Before Present, (6,000 - 3,500 BC), the earliest period to which human settlement in the Emirates has thus far been dated. This rough dating was confirmed during the 1998-1999 season by the identification of some pottery from the site as being of a type made during this period in the Mesopotamian town of 'Ubaid, and exported to the southern Gulf. Similar 'Ubaid sherds have also been identified by ADIAS on the islands of Ghagha' and Dalma, while 'Ubaid sherds have also been found on the coast of the northern emirates.

In several parts of the MR-1 site, deposits of ash are visible on the surface of the site, the remains of fireplaces. Such deposits provide one of the

most reliable ways of dating sites and last year, ADIAS arranged with two leading German Late Stone Age specialists Prof. Hans-Peter Uerpmann and Dr. Margrethe Uerpmann, from the University of Tübingen, to have samples from three samples from these hearths radiometrically dated, using the C14 analysis method.

The calibrated radiocarbon dates provided by the analysis are of two types. This is calculated using two formulae called an 'atmospheric terrestrial calibration curve,' and a 'marine calibration curve,' the latter taking into account the possibility of contamination by marine activity, a sensible precaution to take with a site so close to the sea. The marine calibration curve formula provides dates 400-800 years younger than the atmospheric terrestrial calibration curve.

The results, forwarded to ADIAS by Professor Uerpmann recently, are as follows. They are presented using "2-sigma values," which represent a 95.4% probability of the actual date of the site falling within the presented age range (oldest sample first):

Site Code	Calibrated Radiocarbon Date
MR-1 Sample B	5915 +/- 75 BC (Terrestrial) OR 5570 +/- 50 BC (Marine)
MR-1 Sample C	5400 +/- 80 BC (Terrestrial) OR 4985 +/- 155 BC (Marine)
MR-1 Sample A	5270 +/- 200 BC (Terrestrial) OR 4830 +/- 170 BC (Marine)

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The real date may well lie somewhere between the higher terrestrial and lower marine calibration. Reporting the results to ADIAS, Professor Uerpmann noted:

"The dates were measured at the Heidelberg Radiocarbon Lab by Dr. Bernd Kromer. Their calibration is slightly problematic, because the $\delta^{13}C$ values are in the range of marine samples. If that were the case, they would have to be calibrated against the marine calibration curve, which would decrease the age by at least 400 and at most 800 years. In any case, they remain the earliest dates measured up to now for sites in the United Arab Emirates, as far as I know."

The Uerpmanns are currently engaged on the only other major Late Stone Age site under examination in the UAE, at Jebel Buhays, south of Dhaid, where they have obtained radiocarbon dates for a number of samples. All are a few hundred years younger than the MR-1 dates.

The three MR-1 samples indicate a date range of around 700 years, indicating a lengthy usage of the site. Even if the dates provided by the lower, marine calibration curve are used, the oldest hearth, Sample B, is dated to around 5570 BC, or around 7,500 years ago, several centuries earlier than any other date obtained from archaeological sites in the UAE.

The results of the C14 dating have prompted us to continue investigation of MR-1. During the March/April spring season, the Uerpmanns again visited Marawah, for consultations with ADIAS Academic Director Dr. Geoffrey King, the ADIAS Executive Director, and this season's MR-1 Site Supervisor, Elizabeth Shepherd, as well as with our environmental archaeology specialist, Mark Beech. More ash samples have now been taken to Germany, where the Uerpmanns will try to identify environmental remains, such as the kind of wood that was being burned, and whether there are any faunal remains to indicate the diet of the inhabitants. MR-1 now shows every sign of being one of the most sites in the Arabian Gulf.

Marawah Spring Season - more surprises

The main spring season of ADIAS for this year focussed yet again on Marawah, an island which continues to produce surprises.

One part of the work, carried out by Elizabeth Shepherd and Dan Hull, involved further drawing of the structures on the MR-1 Late Stone Age

site, a laborious process, but one which is essential before excavation takes place. This work will, we hope, be finished next year.

The second part of the work, directed by Dr. Joseph Elders and assisted by John Martin and Philippa Loates, concentrated on the western end of the central island ridge, north-west of the village of Ghubbah. (*The summary details below are extracted by Dr. Elders' Preliminary Survey and Excavation Report*).

The first part of the work concentrated on Site MR-12, where a number of small cairns have been excavated in previous seasons. Four further cairns were excavated. All proved to be man-made, although, as with the other cairns dug at MR-12, there were frustratingly few finds. One contained a flint flake, and another a human tooth. We remain uncertain about the function and date of these cairns. Some, containing fragmentary skeletal remains, are probably graves, of pre-Islamic date. Others, however, although carefully built, have produced no datable finds. Further study is required of this group of cairns, which will, we hope, provide evidence of date and function.

The team then moved to work at Site MR-11, at the north-western extremity of the island's central ridge and plateau. At this site, at least eight large stone mounds are visible. Test excavation of one of the mounds revealed the outline of a building of four rooms, with walls built of large slabs of beach rock, bonded with mud. Gypsum plaster adhered in parts to both faces of the walls, while fragments of plaster were also recognisable on some of the larger, adjacent mounds.

There were very few finds from the excavation, only a tubular shell bead, a small pierced shell disc, a tube of dark green glass, possibly from the stem of a glass, apart from the fragments of plaster, none of which were decorated.

In some areas, the walls survived to a maximum height of 1 metre, with other walls being progressively truncated towards the edge of the mound. There was evidence that the stone of the building had been extensively robbed in the past.

Sufficient remained, however, to be able to trace the outline of the rooms, and to show that the east end of the building was apsidal. The dimensions of the building closely paralleled those of the church in the monastic settlement identified by ADIAS on Sir Bani Yas several years ago.

Further work is required at the MR-11 site, not only on the building identified this year, but also on the other mounds in the immediate area, many of which have plaster fragments on the surface and the possible outlines of walls.

It is not yet possible to date the MR-11 building, since no artefacts or other finds that would permit dating have been found. Stylistically and because of the fine gypsum plaster, it is probable, however, that there are close parallels with buildings from the Sir Bani Yas site.

We do, however, have a possible answer to one of the questions raised by this discovery, the source of the plaster. As will be recalled by regular readers, excavations at Site MR-6 in spring 1999 identified two large kilns used for lime plaster production. At the time, we were puzzled by the fact that no plastered buildings had been identified on Marawah. Now, however, whatever their purpose may have been, a group of several plastered buildings has been identified only a kilometre or so east of the kilns.

Finds from Abu Dhabi's golf course

In the April *Occasional Newsletter*, we reported that a collection of potsherds collected on the site of the Abu Dhabi Golf and Equestrian Club had been handed over for study. A report by ADIAS ceramicist Dr. Robert Carter, of the Institute of Archaeology, University of London, follows.

The report puts Abu Dhabi island firmly within the context of settlement on the coast and islands of the Emirate, and also helps to fill in a puzzling gap in the medieval period. Further study may yield other sites of this date, but, on the basis of current knowledge, the large island of Abu Dhabi seems to have been rather special. Was this, perhaps, due to the presence of the brackish water wells known to have existed?

(Dr. Carter's full paper is published in the Spring/Summer 2000 issue of Tribulus, the journal of the Emirates Natural History Group).

New evidence for the medieval occupation of Abu Dhabi

by R.A. Carter

Recent study of finds from the Abu Dhabi Golf and Equestrian Club has provided new evidence of the medieval occupation of Abu Dhabi Island. Written sources state that Abu Dhabi island was first settled during the 18th century by members of the Bani Yas tribal confederation. Lorimer recounts that water was accidentally discovered there in 1761, after which a small village of twenty houses was established. Ceramics collected by ADIAS from one site on Abu Dhabi,

known as AD-2, appear to confirm the historical record: the pottery dates to the 18th and 19th centuries, and not before.

Evidence from two other sites now shows that occupation began considerably earlier. Although it was apparently empty at the time of the settlement of the Bani Yas, Abu Dhabi island had been inhabited long before. Both these sites, AD-3 and AD-4, have since been destroyed or buried by development. It is thanks to the efforts of amateur enthusiasts, who collected pottery from the sites, that we know of their existence.

Material from the first of these, AD-3, was picked up in the Bateen area during the late 1970's by J.N.B. Brown and was deposited in the collections of the Emirates Natural History Group. It has subsequently been made available to ADIAS for study (*see last Newsletter*).

The chronology of the second collection, from the Golf and Equestrian Club (Site AD-4), is clearer. This material was gathered by ENHG member and golfer Cathy Ryan between the mid 1980s and the early 1990s from a pottery scatter on the golf course. At the time of its first exposure, imported soil and sand had not been brought to the area, so it appears that the pottery relates to a small settlement within the golf course area, rather than having been transported from elsewhere during landscaping activities. No remains are reported other than the surface scatter of ceramics, and the site has since been destroyed.

Two widely separated phases of occupation are evident in the Golf Course collection. The latest relates to the recent historical occupation of the island, and dates to the 19th and possibly the 18th century AD. Five pieces of Far Eastern porcelain belong to this horizon, including a fragment with a brown glaze sometimes known as "dead leaf brown." This variety first became popular during the 18th century. Blue and white porcelain is also present, as are two porcelain cups with black and red paint over the glaze. Other relevant wares include speckled brown-glazed "Bahla Ware", made in Oman from at least the 18th century and up to the present day. Another characteristic ware has a thin speckled bluish or greenish glaze, and geometrical black under-glaze paint. This ware is a common and late variant of a type of pottery sometimes referred to as "Manganese Purple," named after the composition of its paint. This first appears in the 17th century, but the variety found here probably dates to the 19th century. A sherd with a speckled mustard-coloured glaze is also present, a type which often accompanies Manganese Purple at the later end of its range.

The unglazed wares include a fragment of earthenware originating from the Northern Emirates: this known as Julfar Ware, after a site in Ras al-Khaimah. Additionally, there are two pieces of a type probably originating from the kilns at Al-Ali, Bahrain, which are still in use. Finally, three pieces of a buff ware with a roughly grooved external surface were found, a variety of pottery found at numerous recently abandoned villages in the U.A.E. and Oman.

The earlier, medieval phase of occupation took place some time between the 9th and 13th centuries AD. This horizon is represented by at least two types of pottery. One has a turquoise glaze and a cream body, and belongs to a long ceramic tradition of turquoise-glazed vessels stretching from the Hellenistic period (c. 300 BC to 100 AD) to the 14th century AD or later. The external ribbing and *appliqué* under-glaze decoration may indicate that some of these pieces belong to a sub-class of "Sasanian-Islamic" turquoise glazed vessels dated to the 7th/9th centuries, though most sherds are from vessels too small to fall into that category.

The other type, represented by two sherds, has a fine red body and a green glaze, covering a cream slip. Crucially, one of these has had its surface incised below the glaze. Despite its poor condition, this sherd can be identified as *sgraffiato*, a type of decorated pottery which appeared around the start of the 10th century, and became widespread until the 13th century. It is not clear where *sgraffiato* was manufactured, but it does not appear to have been on the Arabian peninsula. Another sherd has an unusual light-brown speckled glaze on one side, with green glaze on the other; it may be a variety of *sgraffiato*.

Unfortunately there is insufficient evidence to discern the nature of the medieval Islamic settlement, for example whether it was a permanent village or a temporary campsite. It seems, however, that people were visiting or living on Abu Dhabi island at least five centuries before the start of its current occupation (in the mid-18th Century), and that these people were in contact with the wide trading networks running through the Gulf.

A further foray into Liwa

More evidence of ancient occupation of the Liwa was identified in early June during survey work carried out with the support of the Abu Dhabi Company for Onshore Oil Operations, ADCO. The evidence was found in south-eastern Liwa,

on plains to the south of Hamim which have not yet been levelled and developed for agriculture, unlike most of the area. The more productive of the two sites identified, on a plain called Awaybir, produced a number of Late Islamic sherds, of Julfar and Bahla types, suggesting occupation between the 18th to early 20th Centuries. Parallels can be drawn with ceramic material collected from sites on the plain of Jaw Sahhab, a couple of plains further to the south. The Awaybir material, although sparse, helps to supplement our understanding of settlement in the Liwa in the Late Islamic period.

Thanks to our sponsors

More support from ADCO, ERWDA

As readers will be aware, ADIAS has long enjoyed support from ADCO, including logistic backing and help in visiting some of the remoter desert areas, as well as assistance with mapping some of our sites, and also from the Environmental Research and Wildlife Development Agency, ERWDA.

Last April, following its move to new offices downtown, ERWDA kindly made a suite of offices in its former Maqta headquarters available to ADIAS, as well as adjoining storage space for finds and equipment.

Equipping of the new offices has been assisted by ADCO, which has donated five computers to ADIAS.

We are grateful to both for their continued support.

The new offices will, we hope, be fully operational in the autumn.

We are also grateful, as always, to other companies that have provided us with logistics and other support over the course of the last year, including the Abu Dhabi Gas Liquefaction Company, ADGAS, BP Amoco, Emirates Insurance Company, the Al Fahim Group, the Kanoo Group and the Emirates Insurance Company.

We are also grateful to those senior Government officials who have kindly permitted us to carry out surveys and other work on their private property.

This season's results, in terms of excavation, the scientific study and dating of finds and the preparation of reports for publication have been highly satisfactory. We hope for another good year when work resumes in the autumn.