

Abu Dhabi Islands Archaeological Survey Project

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More questions, and answers, from work on al-Aryam and Bahrani islands

One of the somewhat frustrating, but fascinating, aspects of archaeological research is the fact that however many questions get answered, there are always new questions being thrown up.

Work undertaken by ADIAS in November and December made the point clear once again.

In mid-November, during geological and geomorphological studies of a series of rock outcrops in the shallow lagoon between the islands of al-Bahrani, Futaisi and al-Aryam (Bu Khushaishah), (see Page Three), groups of small cairns were identified on the top of three of the outcrops, known locally as *Qassar* (singular), *Qasasir* (plural). No sites of this type had previously been identified by ADIAS anywhere in the coast and islands of Abu Dhabi.

The work in the lagoon was carried out with the support of Minister of State for Foreign Affairs HH Sheikh Hamdan bin Zayed Al Nahyan, who is also Deputy Chairman of the Environmental Research and Wildlife Development Agency, ERWDA.

Following presentation of a preliminary report to Sheikh Hamdan, he kindly approved further work by ADIAS in the area, which was undertaken by ADIAS Academic Director Dr. Geoffrey King, Executive Director Peter Hellyer, MA student Philippa Loates and field assistant Nissar Hoath in late December.

The short season of work showed that four of the *Qasasir* between al-Aryam and Futaisi contain a total of 36 individual small cairns, three in groups of 8, 10 and 17, and one single cairn. There are also a number of water

catchment systems, comparable to that found on a small *Qassar* in the Dabb'iya area.

Our initial conclusion was that all of the cairns were man-made, although in the absence of any pottery or other finds nearby, it was impossible to suggest a date. Although small, it seemed possible that they might represent pre-Islamic graves. The single cairn, which was also the largest of the 36, was chosen for a test excavation.

The test excavation, completed in the three days before Christmas, showed that the cairn was certainly man-made, but that there was no burial, and it was not possible to determine its purpose. Further work is planned on some of the other cairns at a later date, to see if the reason for their construction can be established.

The discovery of the cairns represents an interesting addition to our knowledge of the archaeology of Abu Dhabi. Of particular interest is the fact that they are all a considerable distance away from areas of possible settlement. What was their purpose and when were they built? More questions to be answered in the future!

During the process of the December, significant new data was also gained on the pattern of settlement on this group of Abu Dhabi's offshore islands.

With the permission of HH Sheikh Hamdan, a survey was first undertaken on the northern and western coasts of al-Aryam. Two groups of sites were identified, one a collection of four shell middens, of probable Late Islamic date, and the other the remains of a large Late Islamic village site on the eastern side of al-Aryam,

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overlooking the lagoon. Pottery from the village, which will be examined later by our ceramics expert, Dr. Robert Carter, suggests occupation from the 17th or 18th Centuries until the early 20th Century.

One major discovery at the site, which is now to be protected and fenced by Sheikh Hamdan, was the presence of a number of shells of the large edible marine gastropod *Terebralia palustris*, which now survives in the UAE only on the East Coast, at Khor Kalba and Khor Fakkan.

Terebralia is well-known from archaeological sites in the northern Emirates, from sites ranging in date from the 1st Millennium AD back to the Late Stone Age, but has never before been identified on sites in the Emirate of Abu Dhabi. It is also very rare for *Terebralia* to be found on Islamic sites, an indication, perhaps, that it was over-exploited by the former coastal inhabitants of the Emirates.

Studies into the distribution and dating of *Terebralia* in the UAE are currently being carried out by ADIAS environmental archaeologist Mark Beech and by Gary Feulner, Chairman of the Dubai Natural History Group, and the discovery of the species on al-Aryam is a major extension of its previously-known range. It also underlines the value of environmental data from archaeological sites in terms of complementing current environmental research.

Following completion of the work on al-Aryam, HH Sheikh Hamdan proposed that a preliminary visit also be made to the western shoreline of the island of al-Bahrani. A total of four sites from the Late Islamic period were identified, including an area of occupation, although the extent of the site was noticeably less than at the al-Aryam village site. A preliminary interpretation is that the al-Aryam village was the major centre of occupation in and around the lagoon between the three islands. Further work is planned, including discussions with members of the Al Bu Muhair sub-section of the Bani Yas, who traditionally used the area.

The results of the work are not dramatic, but show, once again, that there are still many archaeological sites on the coast and islands of Abu Dhabi that have yet to be recognised. Details of the newly discovered sites will be provided to ERWDA for incorporation in its expanding environmental database.

ADIAS is grateful to HH Sheikh Hamdan for his interest in our work. As usual, logistic support in the form of the loan of a 4WD car was provided to ADIAS by one of our sponsors, the Abu Dhabi Company for Onshore Oil Operations, ADCO.

Oldest evidence in Gulf for eating of dugongs

Analysis of animal remains from an archaeological site on Abu Dhabi's Western island of Dalma has shown that they contain the earliest evidence yet known in south-east Arabia for the human consumption of the Dugong *Dugong dugon*

The Dugong, a large marine mammal that is a distant relative of the elephant, is now classed as endangered throughout its world range.

Several hundred dugongs still live in the coastal waters of the UAE, primarily in the area west of Abu Dhabi. This is believed to be the second largest population of dugongs anywhere in the world after Australia.

The Dalma site, first identified in 1992, is a coastal settlement that has been securely dated by radio-carbon dating techniques to around 5000 BC (7000 years BP, Before Present), during the Late Stone Age. The oldest human settlement yet identified in the United Arab Emirates, the Dalma site has yielded a large quantity of environmental remains that provide a good indication of the diet of the local inhabitants at this time. These include the shells of marine molluscs, like the pearl oyster, and bones of several species of fish, turtles, gazelles, sheep and goats.

The animal remains are now being studied by Mark Beech, the ADIAS environmental archaeologist, who has identified several Dugong bones, mainly fragments of ribs. These are immediately recognisable because of their characteristic dense structure and weight. The bones were found during excavations at the site, which examined buried deposits that extend to more than a metre below the present land surface, and which include the remnants of cooking fires.

"These fragments probably represent the remains of the cooking of joints of dugong meat," Beech says. "As excavations at the site continue, we may find evidence of the area where dugongs were cut up for cooking."

Until now, the oldest evidence from south-east Arabia for the human consumption of dugongs came from an archaeological site on the island of Akab, in Umm al-Qaiwain. This has been dated to around 4,000 BC, but the Dalma site is at least 1,000 years older.

The Dalma site has already produced a wealth of important information on the way the early inhabitants of the Emirates lived. The presence of imported high-quality pottery from the 'Ubaid culture in southern Mesopotamia represent the earliest known evidence in the Emirates of

maritime trade. Two burnt date stones found on the site are the earliest evidence from anywhere in the Arabian Peninsula for the eating of dates. The excavations have also uncovered the remains of circular structures that were up to 7 metres in diameter, again representing the earliest evidence of settlement found anywhere in the UAE. Dugong bones have also been found on sites on Sir Bani Yas, Merawah and Balghelam, although these are not as old as the Dalma site.

More archaeological sites found in Dabb'iya area

Two new archaeological sites have been identified on islands in the Dabb'iya area by an ADIAS survey team.

One of the sites is on the small island of Bu Qirmah, just to the west of the Dabb'iya peninsula. The first site identified on the island, it comprises the remains of an ancient fireplace with several associated sherds of pottery, probably Late Islamic. The site is on the northern end of the island, overlooking the creek that runs in towards Dabb'iya peninsula, and was probably used as an occasional campsite by fishermen.

The other site is on the east of the island of Qusabi, a little further west, and is a group of three stone-lined rectangular fireplaces, close together, on a limestone ridge rising a metre or so above the nearby High Water Mark. Like the Bu Qirmah site, that on Qusabi was probably used by fishermen. There was no pottery in association with the fireplaces, which makes them difficult to date. Carbon 14 dating carried out by ADIAS on similar fireplaces found on other islands has suggested that they can date back to as early as 320-200 BC, over 2,000 years ago.

ADIAS carried out a study of the whole of the Dabb'iya area last winter for the Abu Dhabi Company for Onshore Oil Operations, ADCO. Fireplaces and hearths similar to those found last month were also identified on al-Rufaiq, west of Qusabi, as well as several others on Qusabi itself. The latest discoveries, made during a review for ADCO's Safety and Environment Division of migrant birds in the Dabb'iya area, further underlines the importance of Abu Dhabi's inshore islands in terms of the country's history.

Similar sites have been identified by ADIAS from Ras Hanjurah, north east of Abu Dhabi, all the way west to the Sila'a peninsula, as well as on many offshore islands. In some cases, only single fireplaces have been found, but large groups have also been identified. One group on Merawah has over 150 individual hearths.

More studies on old shorelines

As part of continuing work to investigate the evolution of the shorelines of Abu Dhabi over the past few thousand years, along with evidence for changes in sea levels, Professor Graham Evans of Southampton University and Dr. Tony Kirkham paid visits to Marawah, Balghelam and al-Aryam (Bu Khushaishah) islands in mid-November, and also carried out studies on the shoreline to the north east of Abu Dhabi. As part of their work, they also visited three *Qasasir* (rock outcrops) in the shallow lagoon between al-Aryam and Futaisi, being accompanied on that occasion by Abdul Latif al-Hadidi, adviser to HH Sheikh Hamdan bin Zayed, and by the ADIAS Executive Director.

This year's investigations confirmed that Marawah has the most complete sequence of Pleistocene and Holocene geology yet recorded anywhere in the Arabian Gulf. Fossil corals recorded on Marawah have not been identified anywhere else in the region.

The research has been of considerable use to ADIAS in terms of understanding the evolution of the shoreline and coast over the last few thousand years. Clear evidence has been found of a higher sea level, approximately 80 cm. higher than the present, around 4,000 years ago, while studies on Marawah have also showed that the shape of the island has changed considerably over the same period as a result of changes in shorelines and the infilling of bays and inlets.

Evidence was also found on Marawah and on the *Qasasir* of the former presence of forests of large mangrove trees, whose fossilised root casts were identified on the surface of wave-cut platforms. These are now being studied in association with ERWDA.

The results of this work have helped in the interpretation of archaeological sites on Marawah, in particular their location.

A major academic paper is now being prepared for the Gulf's leading geological journal, *GEOArabia*, due for publication in the spring.

Logistic support for the onshore work was provided by the Abu Dhabi Company for Onshore Oil Operations, ADCO.

We are also grateful to our Patron, HH Sheikh Mohammed bin Zayed, HH Sheikh Hamdan bin Zayed and HE Sheikh Surour bin Mohammed for granting permission to be undertaken on Marawah, al-Aryam and Balghelam, respectively, and for providing the logistic support, including boats, without which the work could not have been carried out.

Habshan Archaeological Exhibition

One of the key objectives of ADIAS is to improve awareness among the general public of the country's heritage, not just by identifying and reporting on previously undiscovered archaeological sites, but also by providing information displays that help to inform the public about the kind of sites that can be found in the country.

As part of this process, ADCO provided assistance to the Safety and Environment Division of the Abu Dhabi Company for Onshore Oil Operations, ADCO, at the beginning of November for an environmental exhibition at Habshan, in the heart of the onshore oil and gas fields.

ADIAS support took the form of a small display of some of the archaeological artefacts and associated material to be found in Abu Dhabi, including pottery, pieces of sulphur from the Jebel Dhanna sulphur mines, fossilised ostrich eggshell, flint tools, fishing weights and shells of *Pinctada radiata*, the pearl oyster, and *Hexaplex kuesterianus*, an edible gastropod.

Organised and explained by ADCO Environmental Engineer Abdullah Jasim, the display was visited not only by oilfield personnel, but also by schoolchildren and other residents of nearby Medinat Zayed, a number of whom now have a better idea of what to look out for when wandering in the desert or along the coast.

ADIAS is also working with ADCO on the production of a simple illustrated archaeological site recognition manual and code of practice for use by ADCO staff and by staff of its contractors in the field areas.

Copies will also be distributed to schools and other institutions in the desert areas.

Hearths in Qatar

As regular readers of our *Occasional Newsletter* will know, one of the most common types of site identified by ADIAS on the coast and islands of Abu Dhabi has been old hearths, some of which are relatively recent, but others of which have been dated to more than 2000 years ago. In total, more than 300 individual hearths have probably now been found in Abu Dhabi, with the largest hearth site, on Marawah, containing around 150 hearths.

Curiously, such hearth sites have not been reported anywhere from the northern emirates, or, indeed, from anywhere else in the southern

Arabian Gulf.

This has long been a matter of some puzzlement, since it seemed logical that a cooking technique that was so common in Abu Dhabi would also have been used elsewhere in the region.

Now, however, we have an answer to this question: such hearths exist elsewhere, but have not been reported.

During a visit to Doha at the beginning of November to speak to the Qatar Natural History Group on the archaeology of Abu Dhabi's islands, the ADIAS Executive Director paid a visit to archaeological sites at Al Khor which were dated by excavations in the early 1980s to the Barbar period, around 2,000 BC, and to the Kassite period, around 1300 BC. Clearly visible on the surface of both sites were typical hearths of the Abu Dhabi type. Yet a review of the reports from the archaeologists who dug the sites makes no mention of them.

Clearly, the hearths were overlooked, perhaps being thought to be of little importance. Thanks to work by ADIAS, however, we now know better: this technique of cooking has been used along the Abu Dhabi coastline for more than 3,000 years, probably longer.

Our ADIAS ceramics specialist, Dr. Robert Carter, will be studying these Qatar sites over the course of the next two months, and we hope that his studies may shed further light on our own hearth sites. At least one outstanding question about our local archaeology has been removed!

Emirates Archaeology 2001

The first major conference on UAE Archaeology will take place in Al Ain in April 2001.

Organised by the Zayed Centre for Heritage and History, part of the Emirates Heritage Club, under the patronage of Deputy Prime Minister HH Sheikh Sultan bin Zayed Al Nahyan, the conference is being co-sponsored by the Ministry of Information and Culture.

ADIAS personnel will be presenting papers to the conference, which is expected to be attended by many of the leading Arab and foreign archaeologists who have worked in the country over the last forty years.

ADIAS will also participate in the 1st International Symposium and Workshop on Zone Environments being organised by ERWDA in Abu Dhabi at the end of this month.

An ADIAS paper will stress the importance of protecting Abu Dhabi's coastal zone as an area of archaeological as well as environmental significance.