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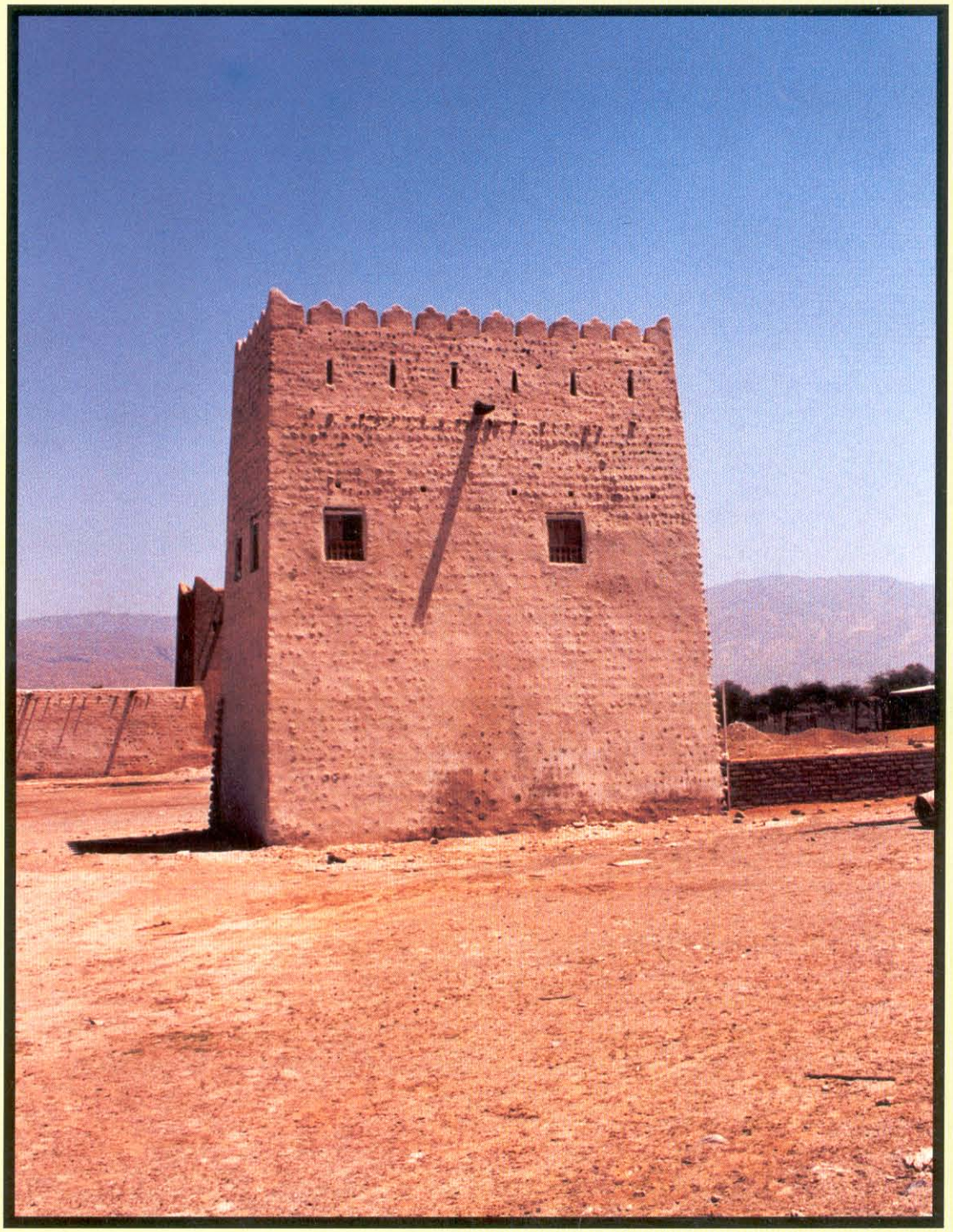

NOTES FOR CONTRIBUTORS

TRIBULUS is the name of the Bulletin of the Emirates Natural History Group. The Group was founded in 1976, and over the next fourteen years, 42 issues of a duplicated Bulletin were published. The revised format of TRIBULUS, introduced in 1991, permits the inclusion of black and white and colour photographs, not previously possible.

TRIBULUS is published twice a year, in April and October. The aim of the publication is to create and maintain in standard form a collection of recordings, articles and analysis on topics of regional archaeology and natural history, with the emphasis on the United Arab Emirates and adjacent areas. Papers, short notes and other contributions are welcomed from anyone but should not have been published elsewhere. Guidelines are set out below. The information carried is as accurate as the Editorial Board and Advisory Panel can determine, but opinions expressed are those of the authors alone.

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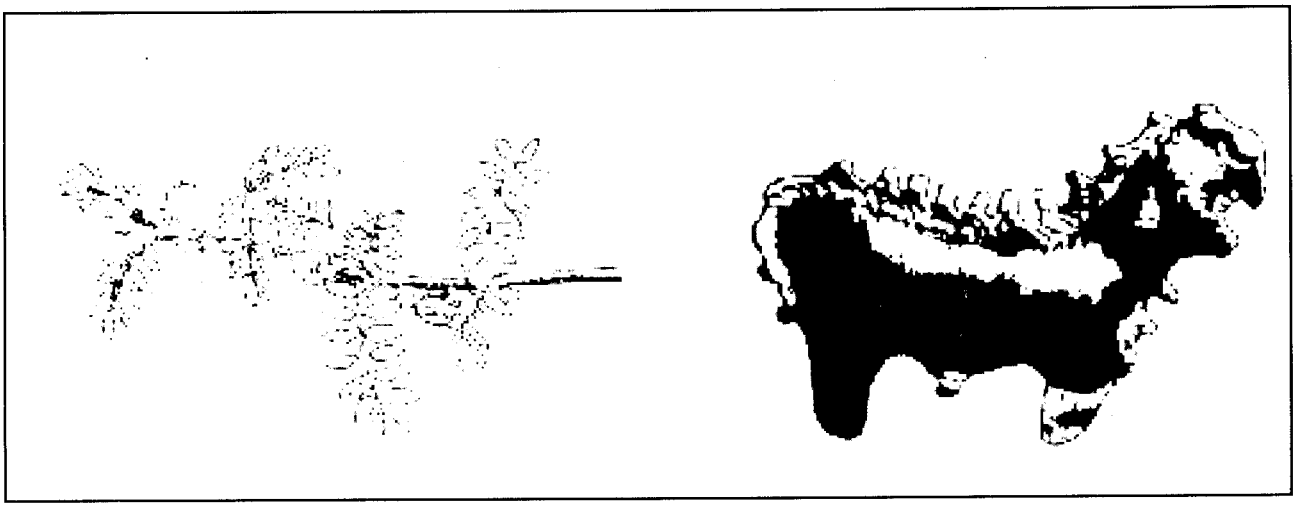

The plant motif above is of the genus Tribulus, of which there are six species in the UAE. They all have pinnate leaves, yellow flowers with free petals and distinctive five-segmented fruits. They are found throughout the country, except in coastal *sabkha.*

The animal motif above is of a tiny golden bull, excavated from the early Second Millennium grave at Qattarah, Al Ain. The original is on display in Al Ain Museum, and measures above 5 cm by 4 cm.

Manuscripts should be typed, on one side only, and double-spaced, and should be accompanied by a disc for material in excess of 500 words in length. A short abstract should precede the article, with the address(es) of the author(s) at the end.

Photographs may be submitted and should be either glossy black-and-white or colour prints or colour slides, which should be clearly captioned. Line drawings and maps should be in black ink on strong white or translucent paper.

References should give the author's name, with the year of publication in brackets, and with the list of articles, showing title and publisher, in date order.

Scientific names should follow customary nomenclature in Latin, while the English and, if appropriate, available Arabic names should also be supplied.

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Front: The restored stone tower at Falayah, Ra's al-Khaimah. *(See P.5)*
.....***Picture by Robert Carter***

Back: A relief of ***Arabian Oryx*** on the Third Millennium BC round tomb at Hili, Al Ain.
.....***Picture by Simon Aspinall***

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A Note on the Archaeological and Environmental Remains from Site JH57, a 5th-4th Millennium BC shell midden in Jazirat al-Hamra, Ra's al-Khaimah

by Mark Beech and Heiko Kallweit

Introduction

Site JH57 is located in the Jazirat al-Hamra region of Ra's al-Khaimah Emirate, United Arab Emirates, at UTM E 03 80 876, N 28 42 690. The site was first identified and described by Burkhardt Vogt during his archaeological survey of the region (Vogt 1994) and is situated approximately a kilometre inland from the present day coastline. The site lies on top of a low dune and extends over a 50 sq. m sandy area covered with light vegetation. With the exception of modern garbage such as glass and plastic, no major disturbance was visible when the site was visited in February 2000. The site was examined as part of a wider survey of Late Stone Age midden sites in the UAE, a project being carried out by team of German archaeologists financed by the German Research Foundation, "Deutsche-Forschungs-Gemeinschaft Bonn".

As in the case of many other midden sites in the region, Site JH57 shows evidence of two main periods of occupation. Flakes, blades and tools recovered at the site, made from different kinds of flint, match well with known examples belonging to the Qatar D industry. This dates to the late Neolithic or 5th to 4th Millennium BC and marks the earliest occupational level so far known in Jazirat al-Hamra. The second later period is indicated by numerous potsherds found on the surface of JH57. A number of these were collected and identified by Dr. Robert Carter, to whom we are grateful for their identification. All the collected potsherds date to the late Islamic period. The presence of flint flakes and raw material does not necessarily point to great antiquity of the site. Flint was used for several purposes such as lighting fires right up until the middle of the 20th century. The presence of particular typical tool types suggests, however, the likelihood of a Late Stone Age date for much of the site's deposits.

Comparable sites with preserved bones of mammals and fish, lithic artefacts and sometimes also Ubaid potsherds are recently recorded from several sites in the northern Emirates (Prieur and Guerin 1991; Sabah 1996; Uerpmann 1996). The reason for the Ubaid presence in the Gulf area still remains unclear. Although Burkhardt Vogt recorded the co-occurrence of Qatar B blades and Ubaid potsherds on the Jazirat al-Hamra middens (Vogt 1994: 122), this has not been confirmed by this most recent recent survey or by the analysis and documentation of finds collected by Vogt during his 1987-88 survey. Similar examples of Qatar D tools were however found at Site JH6 (Fig. 1). These are typical Qatar D related projectile points, retouched blades and scrapers which are now on display in the National Museum of Ra's al-Khaimah.

On 28 April 2000, Mark Beech accompanied Heiko Kallweit and his team on a brief return visit to the site. It was discovered that recent bulldozing to make way for a new road track across the dunes had partially bisected Site JH57. As the site was seemingly under substantial threat the decision was made to collect all archaeological material from the surface of the site. This was subsequently catalogued and stored in the archives of the National Museum of Ra's al-Khaimah. This short report provides some details concerning the environmental material. Representative samples of marine mollusca were collected by hand from the surface of Site JH57, along with all visible animal bone and crustacea fragments. These were subsequently examined to evaluate what kinds of resources may have been typically exploited.

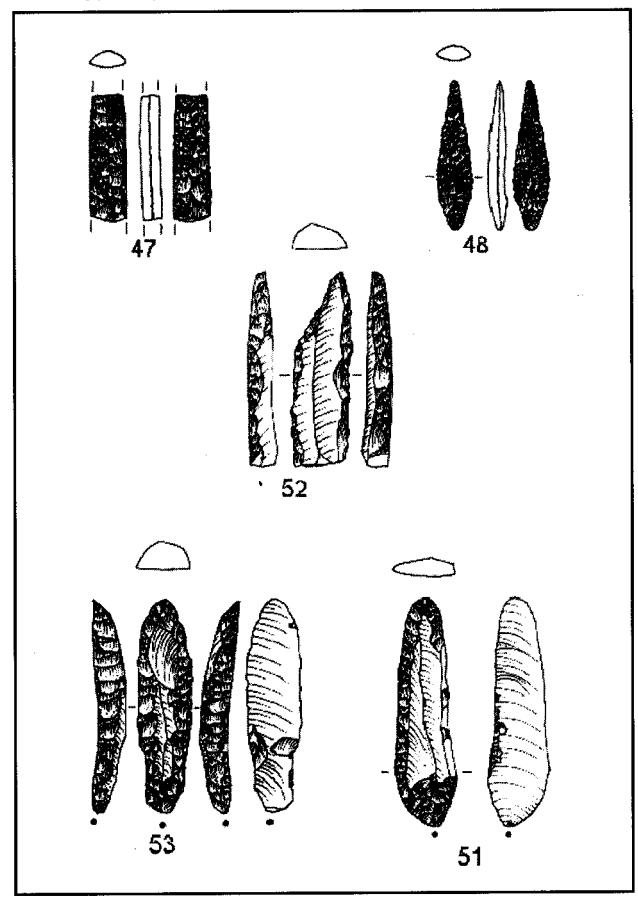

Fig 1: Jazirat al-Hamra. Lithic artefacts of Qatar D type from shell midden JH6.

Marine mollusca

A total of seven families of marine molluscs were noted during this very brief evaluation (Table 1). The most frequently represented taxa were ***Terebralia palustris*** and ***Anadara sp. T. palustris***, at least during their adult phase, live predominantly in mud among mangroves. Most of the ***Terebralia*** were very small at Site JH57, ca 6 cm in length, with only a very few examples attaining a maximum length of 9 cm. It is interesting that the majority appear to be so small. Usually those which occur in the Shimal area to the north are fully grown. This may indicate that the mangroves here were more impoverished than those to the north, and that the people were forced to exploit younger immature specimens. One should be careful however to interpret the presence of juvenile ***Terebralia***, as the young do not feed on mangrove leaves/detritus and they can happily occur in other habitats. Both adult and juvenile ***Terebralia*** have been recently found living in a storm

drain in Khor Fakkan on the UAE's East Coast (Feulner 2000). Mark Beech has also seen juvenile ***Terebralia*** in the Kalba area in a pool full of human domestic refuse some distance away from extensive mangrove areas.
The genus ***Anadara*** is usually found in sand from the intertidal to offshore zone. ***Hexaplex kuesterianus, Isognomon legumen*** and ***Fulvia fragile*** all occurred in moderate numbers. The ***Hexaplex*** shells would have probably been collected on and under intertidal rocks. Several appeared to have been deliberately smashed open. This would have been carried out as food preparation in order to extract their soft inner body parts. Isognomon legumen would have similarly been collected under rocks in shallow waters. ***Fulvia fragile*** inhabits muddy sand along the lower shore. Occasionally there were Cerithiidae and a few cowrie shells (***Cypraea sp.***).

Vertebrate Fauna

Vogt mentions the presence of a dugong tusk used as a tool (Vogt 1994: 122), but unfortunately did not state what other animal remains were recovered at the sites he surveyed.
A total of 75 bone fragments were collected from the surface of Site JH57. These included fragments of sheep/goat (***Ovis/Capra***) and dugong (***Dugong dugon***) (Table 2). The small collection of ovicaprid remains come from a range of body parts indicating that probably whole animals were present at or near the site. The unidentified fraction included cattle-sized long bone fragments as well as some small indeterminate bird and fish fragments.
The presence of dugong here is worth noting, especially as this is generally much further north than its present day distribution in the Gulf, which is centred in the lower Gulf along the Abu Dhabi coastline around the area west of Merawah island towards the eastern shores of Qatar (Tony Preen, *pers. comm.*). In 1994 a dead juvenile dugong was, however, discovered in Ra's al-Khaimah. Its skeleton is now stored in the National Museum of

FAMILY	SPECIES	FREQUENCY	HABITAT
Cerithiidae		Occasional	Intertidal in sand
Potamididae	*Terebralia palustris* (Linnaeus, 1767)	Frequent	Mud among mangroves (when adult)
Cypraeidae	*Cypraea* sp.	Occasional	Among rocks and coral
Muricidae	*Hexaplex kuesterianus* (Tapparone-Canefri, 1875)	Moderate	On and under intertidal rocks
Arcidae	*Anadara* sp.	Frequent	In sand, intertidal to offshore
Isognomonidae	*Isognomon legumen* (Gmelin, 1791)	Moderate	Attached under rocks from midshore to shallow waters
Cardiidae	*Fulvia fragile* (Forrskål, 1775)	Moderate	In muddy sand, lower shore and below

Table 1: Marine molluscs represented on the surface of Site JH57 (taxonomy and habitat descriptions follow Bosch *et al.*, 1995)

TAXON	NO OF FRAGMENTS	WEIGHT (g)
Ovis/Capra (sheep or goat)		
Mandible, left	1	2.5
Loose teeth fragments	4	4.5
radius, left	1	2.0
metacarpal, left	1	2.5
tibia	1	2.5
metatarsal	1	9.0
astragalus, right	1	3.5
Dugong dugon (dugong)		
rib fragment	1	45.0
long bone fragment	2	11.5
Large mammal (Bos-size)	19	103.0
Medium mammal (Ovis/Capra-size)	37	26.0
Unknown fish	1	0.1
Unknown bird	5	1.5
TOTAL	**75**	**213.6**

Table 2: Vertebrate fauna represented on the surface of Site JH57

SITE NAME	COUNTRY	AGE	REFERENCE	NOTES
Failaka	Kuwait	Hellenistic	Desse and Desse-Berset 1990	6 fragments reported, including a rib with butchery chop marks.
Al-Markh	Bahrain	4th millennium BC	Roaf 1974	Common in later phase.
Qala'at al-Bahrain site 520	Bahrain	Periods I and II (2150 – 1900 BC)	Uerpmann and Uerpmann 1994	7 dugong bones, including jugular bone, mandibular ramus, 4 rib fragments and a humerus fragment.
Dalma island, Abu Dhabi	United Arab Emirates	Late 6th - Early 5th millennium BC	Beech 2000	Present but quite rare in whole assemblage, mostly rib fragments.
Umm an-Nar, Abu Dhabi	United Arab Emirates	3rd mill. BC	Hoch 1979	Dominant within assemblage. Larger and smaller individuals present (mostly larger). All skeletal parts represented. Many butchered pieces.
Ed-Dur, Umm al-Qaiwain	United Arab Emirates	1st - 4th century AD	Van Neer and Gautier 1993	Present but very rare in whole assemblage.
Akab island, Umm al-Qaiwain	United Arab Emirates	5th-4th millennium BC	Prieur and Guerin 1991; Jousse 1999	Dominant within assemblage. All skeletal parts represented. Many butchered pieces.
Tell Abraq	United Arab Emirates	2200 – 300 BC	Stephan 1995; Potts 2000: 61.	Present in assemblage.
Jazirat al-Hamra, Ras al-Khaimah	United Arab Emirates	5th-4th millennium BC		Rib fragment with traces of butchery chop mark and two other ?post-cranial fragments.
Shimal, Ras al-Khaimah	United Arab Emirates	Iron age (1200-800 BC)	Von den Driesch 1994	10 fragments reported in phase 4.

Table 3: Pre-Islamic archaeological sites with dugong remains in the Arabian Gulf

Ra's al-Khaimah. The dugong remains here consisted of a rib fragment which had traces of a deliberate chopmark on its surface, plus some other long bone shaft fragments. These were all very heavy and dense, typical characteristics of dugong bones.
The modified dugong tusk which Vogt previously reported may have been curated and introduced to the site as an artefact by the site inhabitants. Here though it now seems more plausible that we are actually seeing the remnants of butchered dugongs. As dugongs are heavy animals which are extremely difficult to handle once out of the water, it seems likely that they may have been butchered locally. This is significant in that it implies that perhaps dugong were living locally and that perhaps the marine environment during the site occupation was more attractive to dugongs than at the present day (i.e. perhaps there was a greater abundance of seagrass?).

Crustacea

Five pincer or 'chelae' fragments (total weight = 4.5g) were identified as belonging to blue swimming crab ***Portunus pelagicus.*** This is still one of the main crab species caught for food in the Western Indian Ocean region (Guinot 1966). It is associated with shallow shores and lagoons, particularly with sandy bottoms, although it is also common on hard substrates in the Gulf (Peter Hogarth, *pers. comm.*). Such crabs may have been caught on the coastline close to the site.

Discussion

Site JH57 represents one of the earliest occupation sites so far known from the Jazirat al-Hamra region of Ra's al-Khaimah. It is clear from this brief evaluation that during the 5th-4th Millennium BC its occupants not only maintained their own livestock, domestic sheep/goat (and possibly cattle?), but also exploited the rich marine resources locally available to them.
The butchered dugong rib found at Site JH57 indicates that dugongs may have been hunted in the waters adjacent to Jazirat al-Hamra. This is of some interest as the present day distribution of dugong in the lower Gulf is centred more along the Abu Dhabi coastline around the area west of Marawah island towards the eastern shores of Qatar, as stated earlier. It may suggest that suitable habitats, including extensive seagrass meadows, were more abundant close to Jazirat al-Hamra in the past than at the present time.
The discovery of dugong bones at Jazirat al-Hamra adds to the growing list of pre-Islamic archaeological sites in the Arabian Gulf where such remains have been discovered (*Table 3*). Dugong bones have also been found in association with a number of hearth sites from the Islamic period on the islands of Sir Bani Yas, Marawah and Balghelam, in the Emirate of Abu Dhabi.

Acknowledgements

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