

A note on molluscs from a Late Islamic desert site in Abu Dhabi

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Over the last fifteen years or so, an extensive amount of archaeological survey work has been undertaken in the desert areas of the Emirate of Abu Dhabi. This was carried out initially largely by the Abu Dhabi Islands Archaeological Survey, ADIAS, with some work also being undertaken by the former Department of Antiquities and Tourism in Al Ain, now part of the Abu Dhabi Authority for Culture and Heritage, ADACH, and by members of the Abu Dhabi and Al Ain chapters of the Emirates Natural History Group. Since 2006, most, though not all, survey work has been undertaken by ADACH.

During these surveys, numerous sites have been identified. These are, for the most part, small scatters of worked flint from the Arabian Neolithic (Late Stone Age) period or scatters of pottery from the Late Islamic period, although a very few sites have been identified that suggest possible use of the deserts of the Western Region of Abu Dhabi during the early to mid-Islamic periods and a number of sites in the vicinity of Al Ain, in the Eastern Region, are of Iron Age or later date.

Little information has been published on most of these inland sites, with the exception of the well-reported Arabian Neolithic sites at Kharimat Khor al-Manahil and Khor al-Manahil, in south-eastern Abu Dhabi (e.g. Kallweit *et al.*, 2005, Beech *et al.*, 2006, Kallweit 2006, Cuttler *et al.* 2007). Summary information on some Late Islamic sites can be found in Czastka and Hellyer (1994), Hellyer (1998 and 1999) and King & Hellyer (2002), with Harris (1998) reporting on a Late Stone Age site south of Liwa and Holmes (2001) on an Iron Age site near Al Ain.

Gardner (2005) has reported on mollusc shells found at two sites close to Al Ain, but just across the border into Oman, one of which is a now-abandoned terraced field system but the other, Qarn Safwan, being a desert site comparable, at least in its Late Islamic component, to many desert sites in Abu Dhabi.

Published information on the Late Islamic sites relates primarily to the pottery, with unglazed wares from the Julfar horizon and glazed Khunj/Bahla and 'Manganese Purple' wares being those most commonly present. Coinage is known to have been found on several Late Islamic sites close to Al Ain, (e.g. Gardner 2005) but the information has not yet been published. Little data appears to have been published on environmental remains associated with these Late Islamic sites, with the exception of Gardner (2005). This paper, although dealing with an area that lies just outside the borders of the UAE, in neighbouring Oman, deals extensively with the molluscs found at two sites, and provides a useful yardstick against which to measure data from other sites.

As far as the sites in Abu Dhabi's Western Region are concerned, the lack of publication of environmental data is due largely to the fact that in many cases the sites recorded have produced very few potsherds (10 or less sherds each), probably representing single usage, with no visible environmental remains. In this area, sites with

extensive pottery scatters are rare. The sites with the most substantial number of sherds, often well in excess of 1,000, a group near the Al-Shbayka area, north-east of the Sahil oilfield, where both mollusc shells and fish-bones are present, have not been studied in detail.

Studies of environmental remains of a marine origin on archaeological sites in Abu Dhabi Emirate have previously been confined primarily to sites in coastal areas or on islands (e.g. Beech 2004).

It may, therefore, be useful to place on record a note of the marine mollusc species found at an extensively-used desert campsite south-west of Al Wathba, at Tawi Beduwa Shwaiba, which was first visited by the authors in 1997, with the assistance of the Ruler's Representative in the Western Region of Abu Dhabi, H.E. Sheikh Mohammed bin Butti Al Hamed, following the recovery from the area of a number of complete Late Islamic pottery vessels, both glazed and unglazed.

The site was described to us as having formerly been a campsite five days distant from the eastern end of the Liwa Oasis, on an old cross-desert route to Abu Dhabi. We were advised by a guide from the Manasir tribe, provided by Sheikh Mohammed bin Butti, that there was formerly a water well at the site, and that it had been in use until around fifty or sixty years ago. The extensive amount of pottery present on the surface at the site indicated that it had certainly been in use from the late 18th Century AD onwards, with Julfar ware, Khunj/Bahla ware and 'Manganese Purple' ware all being present.

Species of marine molluscs collected from the site included the following:

Gastropods:

Trochus erithreus
Euchelus asper
Osilinus kotschyi
Hexaplex kuesterianus
Strombus persicus
Oliva bulbosa
Ancilla castanea

Bivalves

Pinctada radiata
Acrosterigma lacunosa
Tivela ponderosa

Some species, such as *Pinctada radiata* and *Hexaplex kuesterianus*, are of a sufficient size to have been of value for food, and are known to have been used as such and could have been easily transported inland from the coast. The presence of small species such as *Euchelus asper* and *Osilinus kotschyi* is, however, somewhat surprising, since they are quite small (the maximum diameter of both is 20 mm, but 15 mm is more normal). Presumably they must have been considered as something of a delicacy.

Some of the *Pinctada radiata* shells were very large. There were several pieces of shell which we estimate must have been between 80 and 120 mm diameter when they were intact. Bosch *et al.* (1995) gives a maximum size of 65 mm. The largest *P. radiata* shells seen by RH in natural surroundings on the coast of the UAE would have been about 70 cm in diameter. Shells of up to 75 mm in diameter have been noted (by RH) on archaeological shell middens on the Arabian Gulf coast of the UAE, although the middens concerned have not been dated and could pre-date the Late Islamic period.

It would seem, therefore, that either there may have formerly been access to a good supply of larger *P. radiata* along the Abu Dhabi coastline than appear to be present today or that these larger shells were harvested offshore, perhaps in connection with the pearling industry, with some then being collected intact and taken inland for use as food.

A comparison with the marine mollusc shells recorded by Gardner (2005) at the desert site at Qarn Safwan, near Al Ain, is appropriate. Although most of the molluscs from this site are generally in a good state of preservation, suggesting a fairly recent origin, it should be noted that this site appears, from other finds, to have been in use, at least intermittently, from the Arabian Neolithic period to the Late Islamic period. A minimum of at least 44 species were recorded from the Qarn Safwan site, compared to only 10 from the Tawi Beduwa Shwaiba site. *Euchelus asper*, *Osilinus kotschyi* and *Ancilla castanea* were not recorded at Qarn Safwan, all of the other species from Tawi Beduwa Shwaiba being present in some numbers, except for *Trochus erithreus*, of which only two specimens were noted. Specimens from Tawi Beduwa Shwaiba were not counted.

Qarn Safwan is closer to the Gulf of Oman than to the Arabian Gulf, and species present at this site may well have been brought through the mountains from the East, while the much smaller number of species at the Tawi Beduwa Shwaiba site are more likely to have been brought from the Arabian Gulf coast, less than 40 kilometres away. It should be noted, however, that only one of the species identified at Qarn Safwan, *Cardia crassicosta*, is present in the Gulf of Oman, but not, according to Bosch *et al.* (1995) in the Arabian Gulf, at least today.

No conclusions can yet be drawn about the contrast between the number of species collected at the two sites, although possible reasons could include the relative abundance, or lack of abundance, of the species concerned on the Gulf of Oman and Arabian Gulf coasts.

The purpose of the collection of the shells and of transporting them inland would appear to be two-fold. In some cases at Qarn Safwan, the shells appear to have been collected from beaches, when the animals would already have been dead. These were presumably collected for use as decoration, or perhaps as items to keep. Of the others, some species were probably collected for food, but it would appear unlikely that this was the reason in all cases, particularly for the smaller species.

Further information on species of marine molluscs collected on archaeological sites in the inland areas of Abu Dhabi and other parts of the United Arab Emirates would be of interest.

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Tribulus: Volume 17 2007