

**PROCEEDINGS**  
**OF THE**  
**SEMINAR FOR ARABIAN STUDIES**

**VOLUME 44**  
**2014**

Papers from the forty-seventh meeting of the  
Seminar for Arabian Studies  
held at the British Museum, London,  
26 to 28 July 2013

**SEMINAR FOR ARABIAN STUDIES**

**ARCHAEOPRESS**  
**OXFORD**

Orders for copies of this volume of the *Proceedings* and all back numbers should be sent to Archaeopress, Gordon House, 276 Banbury Road, Oxford OX2 7ED, UK.  
Tel +44-(0)1865-311914 Fax +44(0)1865-512231  
*e-mail* [archaeo@archaeopress.com](mailto:archaeo@archaeopress.com)  
<http://www.archaeopress.com>  
For the availability of back issues see The British Foundation for the Study of Arabia's website:  
<http://www.thebfsa.org/content/seminar-proceedings>

### **Seminar for Arabian Studies**

c/o the Department of the Middle East, The British Museum  
London, WC1B 3DG, United Kingdom  
*e-mail* [seminar.arab@durham.ac.uk](mailto:seminar.arab@durham.ac.uk)  
The British Foundation for the Study of Arabia: [www.thebfsa.org](http://www.thebfsa.org)

The Steering Committee of the Seminar for Arabian Studies is currently made up of sixteen academic members. The Editorial Committee of the *Proceedings of the Seminar for Arabian Studies* includes seven additional members as follows:

#### **STEERING COMMITTEE**

Dr Derek Kennet (Chairman)  
Dr Robert Wilson (Treasurer)  
Prof. Robert G. Hoyland (joint editor of PSAS)  
Ms Sarah Morriss (Secretary and joint editor of PSAS)  
Dr Mark Beech  
Dr Rob Carter  
Dr Nadia Durrani  
Dr Orhan Elmaz  
Dr Julian Jansen van Rensburg  
Mr Michael C.A. Macdonald  
Dr Harry Munt  
Dr Venetia Porter  
Dr St John Simpson  
Dr Janet C.M. Starkey  
Dr Lucy Wadson  
Prof. Janet C.E. Watson

#### **EDITORIAL COMMITTEE: ADDITIONAL MEMBERS**

Prof. Alessandra Avanzini  
Prof. Soumyen Bandyopadhyay  
Dr Ricardo Eichmann  
Prof. Clive Holes  
Prof. Khalil Al-Muaikel  
Prof. Daniel T. Potts  
Prof. Christian Robin

**Opinions expressed in papers published in the *Proceedings* are those of the authors and are not necessarily shared by the Editorial Committee.**

The *Proceedings* is produced in the Times Semitic New font, which was designed by Paul Bibire for the Seminar for Arabian Studies.

© 2014 Archaeopress, Oxford, UK.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior permission of the publisher.

ISSN 0308-8421

ISBN 978-1-905739-80-6

# Contents

Transliteration .....	iii
Editors' Foreword .....	v
M.F. al-Hamad, <i>Nabataean in contact with Arabic: grammatical borrowing</i> .....	1
Hatem Arroq, Frédéric Abbès & Faisal Al Naimi, <i>Excavations at Deroisa, Al Khor, Qatar (poster)</i> .....	11
A. Avanzini, A. Prioleta & I. Rossi, <i>The Digital Archive for the Study of Pre-Islamic Arabian Inscriptions: an ERC project</i> .....	15
Émilie Badel & Ulrich Kramm, <i>Mineralogical investigations of Ra's al Jinz 2 bitumen (Ja'alān, Sultanate of Oman)</i> .....	25
Kate Bain, Richard Cuttler, Eoghan Kieran & Saif Al Naimi, <i>Wreck and ruin — mapping the shipwreck resource of Qatar</i> .....	35
Cassandra Bennett, <i>Geographic and religious trends in the pre-Islamic religious beliefs of the North Arabian nomadic and semi-nomadic tribes</i> .....	43
Lucy Blue, Nasser Said Al-Jahwari, Eric Staples, Lorena Giorgio, Paolo Croce, Alessandro Ghidoni, Ayyoub Nagmouh Al Busaidi & Luca Belfioretti, <i>Maritime footprints: examining the maritime cultural landscape of Masirah Island, Oman, past and present</i> .....	53
Knut Bretzke, Nicholas J. Conard & Hans-Peter Uerpmann, <i>Excavations at Jebel Faya — The FAY-NE1 shelter sequence</i> .....	69
Julien Charbonnier, <i>In the shadow of the palm trees: time management and water allocation in the oasis of Ādam (Sultanate of Oman)</i> .....	83
Chiara Condoluci, Michele Degli Esposti & Carl Phillips, <i>Iron Age settlement patterns at Salūt c. 1300–300 BC</i> .....	99
Christian Darles, <i>Typologie des sanctuaires de l'Arabie du Sud antique : tentative pour une nouvelle classification</i> .....	121
William M. Deadman, <i>Investigating the orientation of Hafit tomb entrances in Wādī 'Andām, Oman</i> .....	139
Caroline Durand & Yvonne Gerber, <i>The pottery production from Hegra/Madā'in Sālih (Saudi Arabia) during the Nabataean period. Preliminary results, 2008–2011</i> .....	153
W.D. Glanzman, <i>Pottery, people, and politics: a case from southern Arabia</i> .....	169
Ronald Hawker, Michael Whiteley & Thomas Tucker, <i>Computer-based analysis of the performance and spatial organization of a historic town in Qatar</i> .....	181
Robyn Inglis, Anthony Sinclair, Andrew Shuttleworth, Abdullah Alsharekh, Maud Devès, Saud Al Ghamdi, Matthew Meredith-Williams & Geoff Bailey, <i>Investigating the Palaeolithic landscapes and archaeology of the Jizan and Asir regions, south-western Saudi Arabia</i> .....	193
Christine Kainert & Philipp Drechsler, <i>An interplay of imports and local traditions? The pottery assemblage from Dosariyah, Saudi Arabia</i> .....	213
Yasuhisa Kondo, Tara Beuzen-Waller, Takehiro Miki, Atsushi Noguchi, Stéphane Desruelles & Éric Fouache, <i>Geoarchaeological survey in the Wādī al-Kabīr basin, Wilāyāt Ibrī, Oman: a preliminary report (poster)</i> .....	227

Lapo Gianni Marcucci, Émilie Badel, Francesco Genchi, Olivia Munoz, Antonio Todero & Maurizio Tosi, <i>New investigations at the prehistoric shell midden of Ra's al-Hamra 6 (Sultanate of Oman): results of the 2012 and 2013 excavation seasons</i> .....	235
Lynne S. Newton & Juris Zarins, <i>A possible Indian quarter at al-Baleed in the fourteenth–seventeenth centuries AD?</i> .....	257
Eric Olijdam, <i>From rags to riches: three crucial steps in Dilmun's rise to fame (poster)</i> .....	277
Zacharie Mochtari de Pierrepont, <i>Aḥmad Ibn ʿUjayl and Bayt al-Faqīh: the birth of a sacred site</i> .....	299
Axelle Rougeulle, H��l��ne Renel, G��lsu Simsek & Philippe Colomban, <i>Medieval ceramic production at Qalh��t, Oman, a multidisciplinary approach</i> .....	287
Julie E. Scott-Jackson, William Scott-Jackson, Faisal Abdulla Al Naimi, Emma Tetlow & R��my Crassard, <i>The Stone Age of Qatar: new investigations, new finds; interim report (poster)</i> .....	317
James Edgar Taylor, <i>Vikings in the Gulf: fact or fancy?</i> .....	325
William Gerard Zimmerle, <i>Ethnographic light on the form, function, and decoration of 'Arabian-style' cuboid incense burners from first-millennium BC Nippur</i> .....	337
Titles of papers read at the Seminar for Arabian Studies held at the British Museum, London, 26–28 July 2013 .....	353

# Maritime footprints: examining the maritime cultural landscape of Masirah Island, Oman, past and present

LUCY BLUE, NASSER SAID AL-JAHWARI, ERIC STAPLES, LORENA GIORGIO, PAOLO CROCE, ALESSANDRO GHIDONI, AYYOUB NAGMOUSH AL BUSAIDI & LUCA BELFIORETTI

## Summary

This interdisciplinary paper explores the potential of the maritime cultural landscape approach to a recent preliminary study of the island of Masirah in south-eastern Oman. Masirah Island is known for its extended occupation and rich archaeological record and in particular for its intensive use of marine resources from the Neolithic period up to the modern day. The Maritime Footprints project sets out to explore this dynamic maritime cultural landscape through a variety of methodologies. It employs a range of terrestrial and maritime archaeological survey techniques and approaches, mapping selected sites, their geographical context, and associated coastal features; it undertakes maritime ethnographic inquiry, studying the traditional boats, their use and change over time; it records oral traditions and explores memory and practice relating to the sea and maritime activities. Three case studies are identified to explore the changing maritime cultural landscape of the island from prehistory to the modern day in order to reveal a more nuanced appreciation of maritime activity, seafaring, and changing use of the marine resource over time and between the island's two geographically distinct coastlines. Essentially, this project aims to identify the maritime character of Masirah Island noting continuity and change over time and space.

**Keywords:** Masirah Island, maritime, cultural landscapes, ethnography, multi-disciplinary

## Introduction

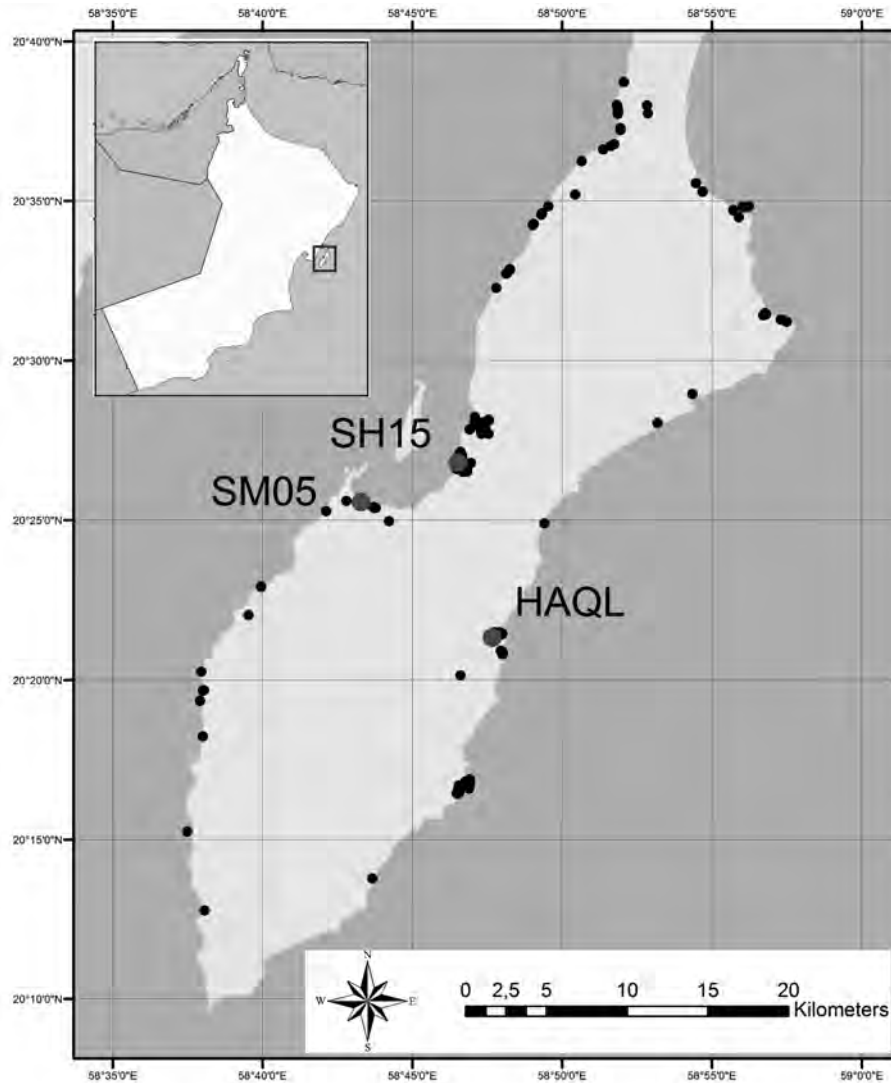
This paper presents the results of a collaborative project that aims to characterize the maritime cultural landscape of the island of Masirah in south-eastern Oman, through a variety of interdisciplinary approaches. In January 2013 a preliminary season of work was conducted on the island as part of a one-year British Academy International Partnership and Mobility Scheme (IPM) grant. Masirah Island was targeted because of its extended occupation and rich archaeological record, and in particular its intensive use of marine resources from the Neolithic period up to the modern day. It was known as an island of fish eaters, mollusc gatherers, and turtle hunters and had a role in trade on a local and international scale for millennia (Al-Shanfari 1987; Charpentier et al. 2013) (Fig. 1).

The primary collaborators and grant holders the University of Southampton — the Centre for Maritime Archaeology (CMA, UK) and the Maritime Archaeological Stewardship Trust (MAST) — and the Department of Archaeology at Sultan Qaboos University (SQU, Oman), worked together with the Traditional Boat

Building Centre in Qantab, Oman, and a team of three archaeologists from the Ministry of Heritage and Culture, Oman, as well as students from Sultan Qaboos University and Dr Ismail from the Ministry of Foreign Affairs, who joined us for the last few days to help with interviews. The collaboration presents an ideal partnership to promote a project of this nature, and provides an opportunity to train and enthuse SQU students in the study of maritime archaeology, an area of expertise that is currently lacking from the SQU portfolio.

## Research context, aims, and objectives

The overall research objective is to characterize the maritime cultural landscape of the island of Masirah. Previous survey was conducted on the island in the 1980s by Al-Shanfari (1987). This resulted in the first comprehensive overview of the island mapping over seventy-five sites that ranged chronologically from the Neolithic to the modern day. Subsequently, smaller-scale surveys have been undertaken including a very recent and informative survey of the prehistoric landscape of



**FIGURE 1.** A map of Masirah Island noting its geographical location off the coast of south-eastern Oman and the sites recorded as part of the Maritime Footprints (MF) 2013 survey. The three case study sites are highlighted (MF 2013).

the island (Yule et al. 1994; Charpentier et al. 2013). A reconnaissance to the island undertaken by Blue in January 2012 revealed an unsurprisingly extensive, but relatively unexplored, maritime cultural landscape along the coastal littoral and in the intertidal zone (Al-Shanfari 1987: 10–25).

As a result, the Maritime Footprints (MF) project 2013 set out to explore the dynamic maritime cultural landscape of Masirah through a variety of methodologies, engaging both terrestrial and maritime archaeological

survey techniques and ethnographic inquiry. Essentially the aim is to identify the maritime character of Masirah Island, noting continuity and change over time and space.

An evaluation of the recent maritime traditions is an important aspect of this research. The introduction of motorized engines and fibre boats, large-scale fishing, and rapid coastal development has witnessed huge changes in traditional fishing practice and maritime activities. Much of these traditional practices are now dying out and it is essential that a record of these materials and practices is

made before they vanish entirely. Thus, an ethnographic approach is integral to this research and essential to record the last days of maritime traditions in Oman.

## Methodology and approaches

Prior to the field season a workshop was conducted in Muscat in October 2012 that engaged all project members, academics and students alike. Its objective was to recognize the range of expertise that the collaboration represented and to ensure that all team members were armed with the basic skills necessary to undertake the survey season.

A range of methodological approaches was adopted to enhance an understanding of the dynamic maritime cultural landscape of the island, including:

- recording, as part of a coastal survey, a large number of coastal and inter-tidal features involved in the trapping and catching of fish, specifically beach-rock fish traps. Research via Google Earth and comparative studies in the region (Breeze, Cuttler & Collins 2011; Blue et al. 2013), had raised the possibility that such installations may yet be identified on the island. A comprehensive inventory of all the coastal and intertidal features associated with fishing and fish trapping was initiated;
- a comprehensive ethnographic survey of the complete range of traditional vessels was undertaken, noting their use and change over time. Traditional vessels were noted on both coasts of the island, largely hauled up on the beach, apparently abandoned. Basic documentation was noted of all traditional vessel types, including a number of shipwrecks. One *huri* log boat was recorded in detail;
- a socio-linguistic record was initiated of oral traditions, memory, and practice relating to the sea and maritime activities both past and present. Interviews with the local fishing community were conducted to learn about fishing practice, operations, and techniques. This inquiry explored the diversity of marine resource extraction and the materials, tools, and technologies employed, and took note of seasonal and regional changes in traditional fishing practice. Interviews also asked about other maritime-related activities on the island, harbours, shipwrecks, maritime trade, and navigation. Informants were also asked about changes over time;

- archaeological survey was conducted of selected areas and sites on the island. Selected sites were mapped, particularly those of the Islamic/late historic period, which have received limited attention to date. Three case studies were identified to explore the changing maritime cultural landscape of the island from prehistory to the modern day in order to reveal a more nuanced appreciation of maritime activity, seafaring, and changing use of the marine resource over time and between the island's two geographically diverse coastlines.

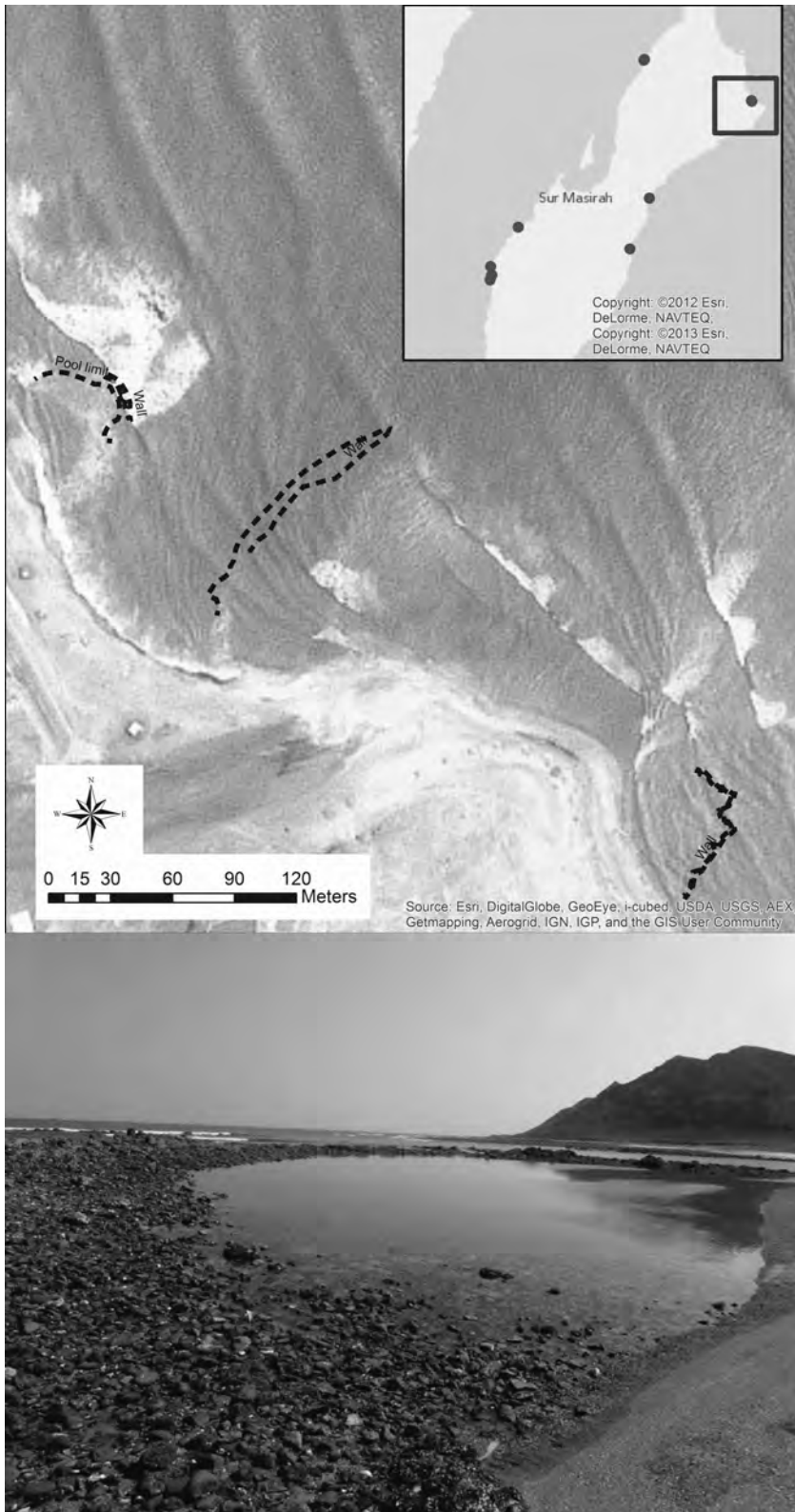
## Results

### 1. Coastal survey

Coastal survey was conducted along both coasts of the island by foot and by car. A comprehensive survey on foot was conducted of the west coast from Masirah Town to Sur Masirah; around the rest of the island targeted sites were visited based on previous observations and Al-Shanfari's survey. The location of new sites was noted on hand-held GPS, each site given a unique site number and photographed, and surface finds collected when necessary. Each site was also briefly described, noting its physical setting and any visible archaeological features. All data was recorded in an Excel database and subsequently entered into a GIS. Sites were noted within an organized numbering system, which includes the name of the nearest village or area (e.g. Haql), followed by the defined area number (e.g. Ras Gidi RG 1), and then by the specific feature number (e.g. Ras Gidi RG 1.1). In total some 325 archaeological sites and features were recorded, ranging from small areas of cultural activity including extensive evidence for shell collecting, fish traps, boats, and graves, to archaeological sites dating from prehistory through to the modern era.

Besides the three case-study sites (see below), one of the largest sites surveyed is on the east coast and is known as Ras Gidi (20 16.874/58 46.882). The site was first noted by Al-Shanfari (1978) and was referred to as Jabal Kidah, SH 23.<sup>1</sup> Al-Shanfari recorded an oval structure built of heavy black blocks, some smaller shell accumulations, and stone structures with Lizq-type pottery sherds dating to c. 1300–300 BC. The MF survey

<sup>1</sup> All sites first noted and recorded by Al-Shanfari (1987) were coded by the MF team as 'SH' followed by the unique number determined by Al-Shanfari in 1973.



**FIGURE 2.** *The site of Raasiya, located on the east coast of Masirah Island. Top: the survey location and dimensions of the three fish traps; insert: the location of all the fish traps surveyed on the island; bottom: photograph of the north-westerly fish trap from the north-west (MF 2013).*



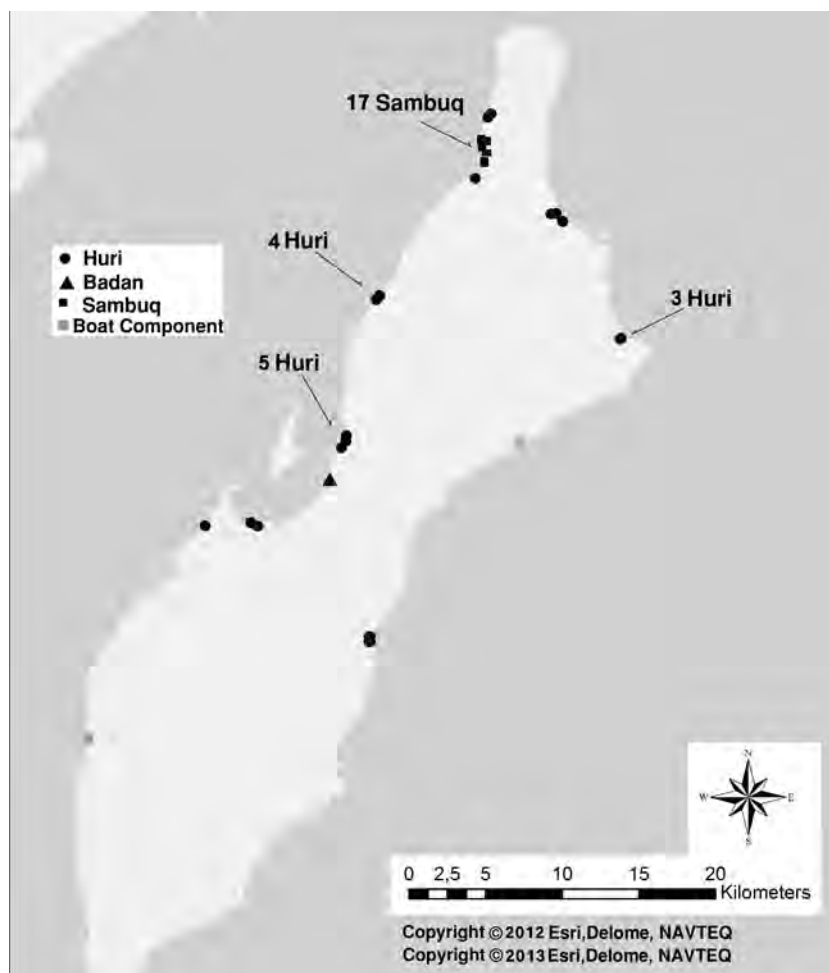
noted eighteen new sites in three distinct areas of the site including stone structures, a series of distinct burial areas, small areas of shell processing, and numerous circular stone structures. Ceramics and small finds were collected from RG 3, including late Islamic Bahla and Julfar wares, worked shells and stones, perforated stone, worked shell beads, and a pounding stone.

### *Coastal installations/fish traps*

A large number of coastal features involved in the trapping and catching of fish were noted, specifically beach-rock fish traps. Stone fish traps essentially consist of medium-sized, roughly hewn, unworked fragments of limestone and beach rock (known locally as *farush*). These features were erected on the seabed in the inter-tidal zone, and acted as ‘artificial barriers that trap fish through the rise

and fall of the tide’ (Breeze, Cuttler & Collins 2011). Fish traps were recorded on both coasts and some twenty were noted although the survey was not exhaustive. Few if any, were still operational, most were associated with fishing villages, others connected with more isolated fishing camps. The fish traps located on the island amount to some of the most southerly fish traps found in the wider Gulf region to date.

Three fish traps were recorded immediately in front of the east coast fishing village of Raasiya (20 31.259/58 57.407) that is protected to the south by a large rocky promontory (Fig. 2). Three *huris* were also registered (see below) and a short coastal survey was conducted immediately to the south and east of the village along the base of the rocky promontory. Two undated sites with flint scatters and circular shell-processing areas and small units enclosed with stones, were noted.



**FIGURE 3.** A map showing the distribution of the wooden boats recorded on Masirah Island as part of the ethnographic survey (MF 2013).



FIGURE 4. **Top:** *the sambuq*; **bottom:** *the cargo badan* (MF 2013).

## 2. Ethnographic survey

### *Boat recording*

Traditional vessels were noted on both coasts of the island and a comprehensive record of the complete range of traditional wooden vessels was undertaken to varying degrees of detail, noting seventeen larger boats and twenty-three *huri* log boats (Fig. 3). The survey consisted of measuring the basic dimensions (LOA and maximum beam), marking their location, photographing them, and

assessing their condition. There were three main types of vessel recorded: the *sambuq*, the cargo *badan*, and the *huri*. This survey did not include the larger working *shu'i*, a modern wooden fishing vessel, as they were all afloat and actively engaged in fishing at the time.

### *The sambuq*

Arabic terminology for craft has a multiplicity of meanings, with significant regional and even generational differences often applied to what appears to be the same

vessel type. This is the case with the modern Masirah *sambuq* (Fig. 4) — occasionally referred to as a *huri* by the older generation (not to be confused with the southern Arabian *sambuq*) — which appears to be merely a smaller version of the Suri *shu'i/lanji*. The term *sambuq* is used here as it was more commonly used to describe this particular vessel type in Masirah.

The *sambuq* vessel type documented in Masirah was a motorized wooden fishing craft, 10–14.35 m long and 3–4 m in beam. Fifteen were measured and photographed, with the highest concentration on the beaches just south of Masirah town. Its features include the straight raked stem, distinctive stem head profile, and transom wings similar to the larger *shu'i* still in use in the harbour. The main distinction from the *shu'i/lanji* is its smaller size and a transom stern capable of mounting an outboard engine.

Due to their state of deterioration, it is evident that the majority of *shu'i/lanji* are no longer used as fishing vessels. They represent a transitional phase in the processes of modernization on the island. These wooden motor craft were created after the introduction of marine engines to Oman in the 1970s and 1980s, but their abandonment indicates that they have been superseded by the recent mass introduction of lighter fibreglass fishing craft, which require less maintenance and fewer crew and can be more easily beached.

#### *The cargo badan*

The cargo *badan* is an older generation of sailing vessel than the motorized Masirah *sambuq*. The *badan* is primarily an Omani boat type, with a smaller fishing variety prominently found until recently in Muscat and the Batinah coast, and the larger cargo *badan* variety, which was also prominent in the Eastern Province of Oman (Sur, Masirah, Mahut, and al-Ashkharah). The *badan* is a double-ended vessel characterized by a blunt 'cutter' bow and a sharp stern fin (*fashin*). Interviews indicated that the cargo *badan* was the most prevalent mid-sized vessel present in Masirah in the mid-twentieth century, and was used for both fishing and regional trade with other parts of the Arabian Peninsula and East Africa.

The only remaining cargo *badan* still found on the island is *al-Khammam*. It is a locally well-known vessel, mentioned by all the interviewees. It was previously recorded (Weismann 1998) and since construction plans already existed, extensive documentation was not undertaken. A photomosaic was made of the vessel, however, and select remnants of rigging were measured and photographed. An oral history of the vessel was

gathered from her former captain, and her overall condition was assessed.

*Al-Khammam*, originally owned by Hamad al-Farsi, was built in the 1940s by master shipwright Abdul Rahman al-Araimi in Sur. The vessel was later sold to the al-Majali family and enlarged in 1956 in Masirah. The ship primarily traded between Sur, Muscat, and the Batinah, although it did also sail to Aden and East Africa.

In spite of efforts by the owners to maintain her, the condition of the vessel is currently in an advanced state of deterioration. Rot has set in the sternpost and most of the deck planking. It is recommended that this historically significant vessel be protected from the elements and restored as soon as possible.

#### *The huri*

The *huri* was the other boat prominent in the maritime landscape of Masirah. Specifically, the MF survey considered the traditional double-ended, log boat type although many were extended, expanded, and drastically altered over the course of their working lives; they were largely adapted before they reached the island but often commissioned or altered by the Masirah Island owners. Traditionally they operated all around the coasts of the western Indian Ocean, representing a vessel of great chronological depth, having existed in the region for at least two millennia (Casson 1989; Schoff 1912; Selvakumar 2011).

The *huri* was formerly the preferred small vessel used for fishing but also operated as a ship's lighter, and as harbour boats. Two main types were identified in interviews. The *huri majadif* was a larger *huri*, propelled by oars (*majadif*), and the *huri jaduf* was a smaller version, propelled by a paddle (*jaduf*). They were up to 8 m in length and previously all would have been adapted for sail.

For the purposes of this survey, twenty-three *huri* were documented in detail. Dimensions, fastenings, framing and planking typology, materials, repairs, location, and condition were all recorded, and each *huri* was photographed. In addition, one *huri* (*Huri 21* at Haql) was fully recorded for the purposes of producing a construction plan, and a photomosaic of the vessel also produced (Fig. 5).

#### *Interviews*

An essential component of this survey was to contextualize the archaeological and boat recording data



FIGURE 5. A photomosaic and photograph of the Huri 21 being recorded at Haql (MF 2013).

with ethnographic interviews. Six formal interviews were conducted in Arabic. A set list of questions was prepared, with photographs and drawings to prompt discussion, but additional topics were addressed when necessary. These interviews were voice-recorded but not filmed.

The interviews were specifically conducted to learn more about the fishing practice, operations and techniques, local boat-building and boat types, maritime trade, and navigational practices, both past and present.

It was clear from all interviews that fishing was and still is, the single most important industry on Masirah Island. All interviewees had engaged in fishing at some point in their lives, and were able to comment on the basic features of the industry in Masirah. There are two distinct zones of fishing on the island, the east coast (al-Dhahiriyah), an area more exposed to the monsoons, and the west coast (al-Khawriyah), which is more protected. Most preferred fishing on the west coast of the island because there are

more fish. Fishing is undertaken all year round, but the best season is between October and December, when a considerable variety of fish such as tuna, kingfish, and shark is available. They used cast nets and fixed pen-type gill nets, but not the beach seine nets prevalent in the northern Batinah coast. They were also familiar with shell collecting, turtle catching, and the intertidal stone fish traps. The older generation interviewees noted the changes that had taken place in the last thirty years with modernization and reduced fish stocks.

Although no wooden boats are built on the island today, the interviewees indicated that even in the past the majority of vessels were not built on the island. They confirmed that the three main types of vessel used on the island were those described above.

Masirah still has several sea captains and sailors of the older generation, who all testified to Masirah's participation in regional trade to other Arabian ports

and East Africa, still prominent in the mid-twentieth century.<sup>2</sup> Four of the sea captains interviewed had participated in the southern Arabia–East Africa ‘dhow trade’. This maritime network, which has been referred to as an ‘informal dhow economy’ (Gilbert 2004), was a twentieth-century continuation of much older trade routes connecting different economies of the western Indian Ocean. All four sea captains interviewed had sailed to Yemen and East Africa. The primary export from Masirah was its fish, in particular dried shark, which they would transport to other ports such as Mutrah, Sakh, al-Mukalla, Mombasa, and Zanzibar. The captain of *al-Khammam* recalls sailing to the Batinah coast north of Muscat for the summer months, where they would gather dates, *barasti* (date-palm ribs), and other essential goods. They would then sail down to East Africa in the autumn, remaining there for one to three months, and then return with the beginnings of the south-west monsoons.

Basic navigational practices were also mentioned during these interviews. In the twentieth century, most long-distance trading vessels possessed a compass, but stars were also used for directional bearings; historical traces of the thirty-two stellar compass rhumbs (*al-akhnan*) are referred to in fifteenth-century Arab navigational literature (Tibbets 1971: 121–156). The North Star Polaris (*Jah*), the Pleiades (*Thurayah*), and Canopus (*Suhail*) were mentioned. One captain also recollected using a sextant and possessed a navigational guide, written by the Kuwaiti navigator Ibn al-Qutaimi.

### ***Fishing practice (tangible)***

Other aspects of fishing, fishing nets, shell collecting, and fish trapping especially at low tide, were also noted along the shores of the island, particularly the west coast (Fig. 6). Extensive areas of shell processing were identified all around the island both along the shores and often unexpectedly, some distance inland. Shell-processing areas were easily recognizable as the shells were processed *in situ*. Usually they were circular in shape, of variable dimension, and common shells present were clams but some oyster and gastropods were also represented, depending on the shores (rocky or sandy) from which they were collected. They were mainly collected as a food resource.<sup>3</sup> No doubt some sites were quite ancient in date.

Other areas such as Al Aijah (20 34.827/58 56.022) on the north-east coast, were renowned beach landing sites. An informal interview was conducted at Al Aijah with a man who collected shells on the rocky reefs around the island with his wife and children. He also collected shells on a small islet to the north of the island, which he accessed by paddling in the inflated rubber inner tube of a car tyre. He also had a boat on the beach landing to the south and confirmed that he and others would collect fish from the larger dhows that moored offshore and transport them to the shore.

### **3. Archaeological case studies**

As noted above, three archaeological case studies were selected for more detailed study: Sur Masirah 05, SH 15, and Haql. The criteria for their selection was that they essentially covered a broad chronological range, that would enable observation of the changing use of the maritime cultural landscape in different locations across the island and in different periods.

#### ***Sur Masirah 05 (SM 05) (20 25.392/58 43.745)***

The site of Sur Masirah 05 is located on the west coast to the west of Sur Masirah, on the far south-western shores of Sur Masirah Bay. The area was surveyed by Charpentier’s team in 2012 (Charpentier et al. 2013) and thus was only addressed briefly in the MF survey with the objective of undertaking a Realtime Kinematic (RTK) topographical survey and contextualizing the site in its wider maritime landscape.

The area surrounding this tell site is very low lying, with Sur Masirah lagoon to the north, a small lagoon to the south, and sabkha to the east. The varied marine environment therefore offers a variety of marine resources, which require different fishing strategies. A small rocky promontory extends from the site to the west and it is possible that in the past the site could have been surrounded by water.

Charpentier et al. (2013) determined that occupation in this area dates back to Neolithic times, with possible continuity of settlement up to the Islamic era. His team identified a range of activities and archaeological finds, including shell-bead production, flint, and ceramics. Some material from the Iron Age was noted and most certainly Islamic era remains. The MF survey noted a small amount of additional ceramic varieties including Julfar and Bahla wares, Chinese blue and white, Sgraffiato ware, and a net weight sinker.

<sup>2</sup> We are extremely grateful to Ali al-Awaisi, Shaikh Thabit al-Majali, Hilal al-Shamakhi, Khamis al-Farsi, Muhammad al-Araimi, and Muhammad al-Farsi for agreeing to be interviewed.

<sup>3</sup> Further analysis of the shell types is planned.



**FIGURE 6.** *Fishing practice. Top: fish collecting on the west coast; bottom: a huri at Haql with associated outline mosque (MF 2013).*

Further contemporary fishing practice and boat use was noted along the shore. Two *huris* were registered and a *shu'i* noted on the shore. A few other boat parts were lying discarded on the beach, a woman was observed pulling in a net, and a few abandoned fish huts were noted on the shore.

***SH 15 (15/1 & SH 15/2, SH 15/3–15/22) — Islamic town and cemetery of Safayq (20 26.509/58 46.678)***

Located on the west coast to the south of Marsis and north of Sur Marsirah, the site referred to as SH 15 was first recorded by Al-Shanfari in 1983 (Al-Shanfari 1987) and divided into two main areas SH 15/1 (the cemetery) and SH 15/2 (the late Islamic settlement).

*Settlement*

Al-Shanfari described the settlement SH 15/2 as a ‘vast field of house ruins close to the shore with a central street on both sides but mainly between the street and the coast’. He noted ‘15–20 ruins... All the houses had been built in stone. The ruins are still up to 1 m high... One of the houses is larger than the others.... The place seems to have once been an important settlement for the island where a protruding narrow rock barrier produced good protection for the boats’ (1987: 63).

The MF team used the RTK to produce a topographic plan of SH 15/2 in order to determine the full extent of the site (Fig. 7). In total some sixty-eight structural features (SH 15/2.1–15/2.68) were identified. The vast

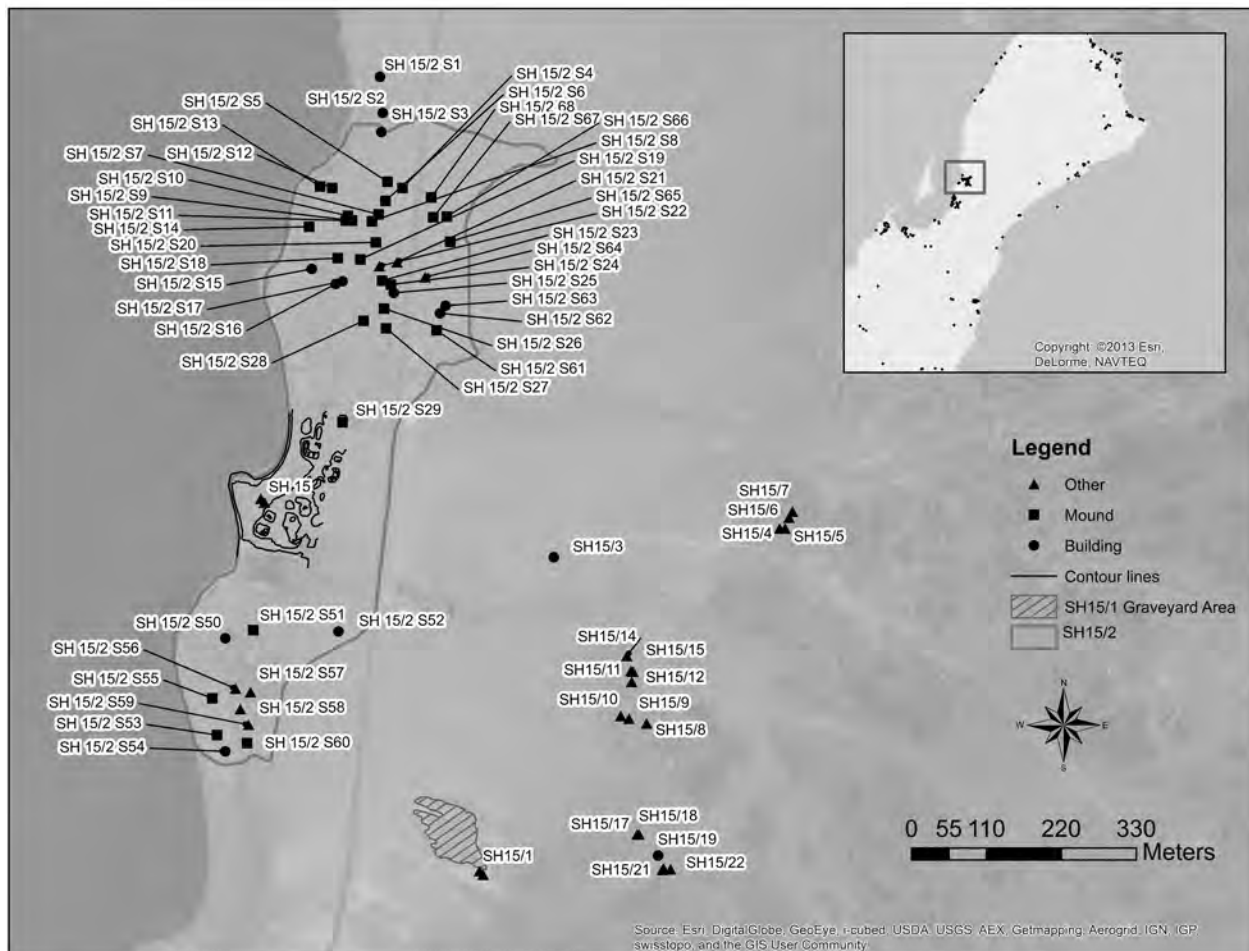


FIGURE 7. A plan of the site area of SH15 showing the location and topographical plan of the settlement SH15/2, the location of the cemetery SH15/1, and other sites located in the area (MF 2013).

majority of these features resembled low mounds the diameters of which varied between 2 and 10 m, with heights around 20 cm to 1 m. They were built of local gravel stones, beach rocks, and sometimes coral. Many of the building units contained piles of shells, together with a small number of late Islamic pottery sherds. Some of them are of irregular shape with possible compact earth and stone floors.

A large number of late Islamic pottery sherds were collected, including common types such as local Bahla, Julfar, Nabhani and combed wares, Chinese blue and white, modern porcelain, European porcelain, glazed blue and green, and possible celadon. In addition, Site SH 15/2 S4 yielded an almost complete jar of

possible Julfar ware, which contained a high amount of burning.<sup>4</sup>

On the beach the old *badan Al-Khammam* trading vessel (discussed above) still remains, alluding to the fact that this settlement was engaged with seafaring and trading at some point in the recent past.

#### Cemetery

Al-Shanfari (1987: 62) describes site SH 15/1 as 'an enclosed Islamic cemetery containing 15 graves and nicely worked tombstones of sandstone or beach rock,

<sup>4</sup> Samples were taken for radiocarbon analysis.

many of them fallen down and broken. Many bear inscriptions cut in relief or painted in red colour. The gravestones of this 250-year-old cemetery are unique documents of the island and should be restored. The site is held to be sacred and the local inhabitants have buried their dead in it for centuries' (Fig. 8).

The cemetery at SH 15/1 consists of a central area bounded by a low stone wall. Inside, in contrast to the observations made by Al-Shanfari, the MF survey noted twelve tombs and ten graves. Each was mapped using the RTK, photographed extensively, and a photomosaic of the site produced. The tombstones were also photographed, recorded, and the inscriptions translated.<sup>5</sup> Outside the inner cemetery a large number of additional burials were noted extending beyond and around the central tomb area.

\*\*\*

A wider survey was conducted to the north of the cemetery. A number of new sites were noted including fourteen possible Hafit cairns (Sites SH 15/4–18). These circular cairns are built of limestone and local gravel stones, and each site has one visible ring wall. Their diameter varies between 3 and 8 m, and they are preserved to heights of between 0.2 and 0.8 m, although their small number and the absence of datable materials make it uncertain whether or not they are Hafit in date.

The survey also yielded three stone circular features (Site SH 15/3) — one considerably larger than the other two, being 11 m in diameter — that appeared to form a single unit divided into three sub-units, with two possible entrances. Inside the circles the area was swept clean and a big stone was placed in the middle of each circle along with a burnt shell. In the centre of the three circles was a platform or tomb. Limited finds were recovered largely dating to the late Islamic era.

### ***Haql (SH 37) (20 21.503/58 47.893)***

The site of Haql was selected as the modern analogue, being first surveyed by Al-Shanfari (1987) who recorded limited archaeological finds. Haql is located on the east coast on a small sandy bay bounded by rocky promontories with a reef to the south. It lies at the head of a large wadi system and is backed by a silting lagoon to the north. Seasonally the lagoon dries out and salt is extracted for fish salting. To the south, the rocky reef extends parallel to the sandy beach. Inland, modern farm units were observed. To the



**FIGURE 8.** *SH 15/1: a view of the Islamic cemetery (MF 2013).*

north up the relatively large wadi, the main village of Haql (meaning field) is located. The fresh water from springs and the wadi provides one of the more lush environments on the island with palm trees and fields. Haql was formerly renowned for shark fishing.

The beachfront at Haql was selected as the modern case study because of the wide range of fishing activities that were undertaken here (Fig. 10). Along the shore were seven fishing huts all of which were recorded with the RTK and thoroughly documented with photography both inside and out where possible (Fig. 9). Further evidence of fishing practice was recorded with the RTK including the location of fibreglass boats, two *huris*, piles of fishing nets, fish processing and drying areas, two small stone-built huts apparently used for storing salted fish, and an outline mosque immediately next to *Huri* 7. Two *huris* were registered (*Huri* 7 & 21); *Huri* 21 was planned in detail and a photomosaic plan of the hull produced (see Fig. 5).

<sup>5</sup> The tombstones generally provided information about the deceased on one side and had an extract from the Holy Qur'an on the other.



Along the southern reef offshore, a series of three fish traps was noted. Informal interviews were conducted with three local fishermen (two of whom owned each of the *huris* registered).

More extensive survey was conducted to the west and south of the beach area. Inland to the west, twenty-nine open shell-processing areas (HQ 1–7, HQ 9–15, HQ 23–37) were noted. Further shell-processing areas enclosed within circular stone structures were noted at the back of the long sandy beach to the south (HQ 76–92). Along the edge of the low ridge to the west of the beach inland, small rock shelters (HQ 16–22) were discovered previously blocked by rocks. Enclosed within the shelters were fishing gear, one shelter contained a small human skull (HQ 21), another the lid of a bin and wooden pieces of a boat (HQ 22). Further stone structures and shell-processing areas were located on the surrounding hills overlooking the sea (HQ 08 & HQ 69–75). A small prehistoric site was identified on the low buff above the beach area, which was also mapped with the RTK, and surface finds were collected.

The environmental context of Haql offers a range of marine resources and extraction options; a lagoon with

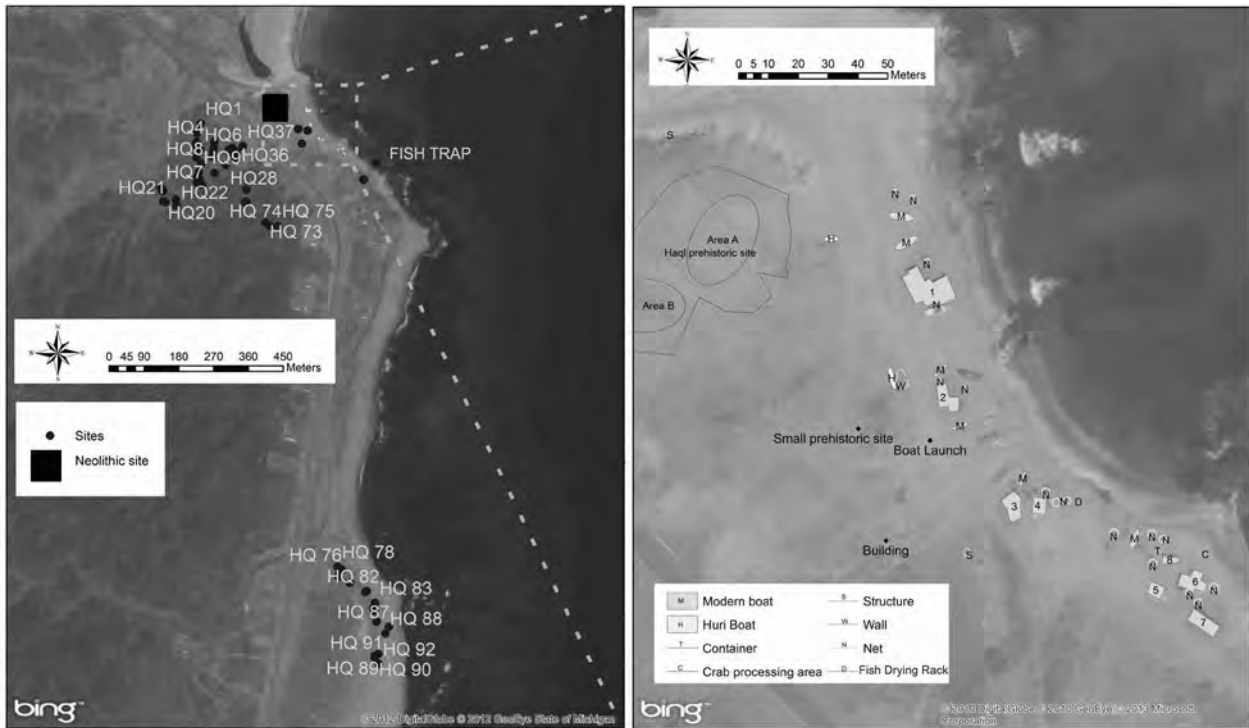
associated salt extraction used in the salting of fish; a sandy bay where open fibreglass boats are beached between fishing trips, and nets and fishing gear are stored in fishing huts. The beach is also an area where fish and shellfish are processed as witnessed by the shell-processing areas and drying racks. A rocky fringing reef supports crabs and other shellfish together with a series of interlocking beach-rock fish traps. While the primary signature equates to modern-day fishing activities, the presence of the prehistoric site on the low mound above the beach and the intensive examples of shell processing indicate that the harvesting of coastal resources may well have been undertaken in this area for some time.

### Conclusions and future work

The 2013 MF preliminary survey season has further demonstrated the overwhelming connectivity of Masirah Island to the sea. The season not only extended our knowledge of this rich maritime cultural landscape through the identification of over 350 new sites and coastal features, but also began to determine the character of the maritime landscape, its continuity and change



FIGURE 9. A fishing hut at Haql (MF 2013).



**FIGURE 10.** A plan of the site of Haql (MF 2013) locating the surveyed beachfront area, noting the position of the fishing huts, boats, fish traps, and other evidence of fishing practice (right), together with the other sites and features noted in the Haql area (left) (MF 2013).

over time and space, noting among other things, the marked difference between the east and west coasts, the variety of marine resources extracted, and the diversity of extraction. The combined approach of archaeological and ethnographic survey, involving direct recording of the material culture and interviewing contemporary seafarers, permitted an insight into the use of these artefacts and practices through time. This approach highlighted certain *longue durée* continuities within the maritime communities of Masirah, such as the importance of maritime trade and fishing to the local economies. Maritime trade so evident in the interviews with sea captains is also displayed in the array of regional pottery at SH 15/2, while the prominence of natural fish traps and shell processing in the archaeological record echoes fishing activities still in practice today. Recent changes are also evident, as reflected in the modernization of the fishing industry in the last 40 years.

In order to engage with the full breadth of chronological sequences and to understand the context of change, a more nuanced exploration of this complex landscape, both

physical and cultural, is required. This can only happen through collaboration, and thus any future research would require further involvement of specialists and experts, together with more in-depth survey and excavation both on land and underwater. Such a project would provide the scope to explore continuity and change of maritime activity in order to begin to appreciate the dynamic maritime cultural landscape of Masirah Island over time and space.

## Acknowledgements

The MF team would like to thank the British Academy International Partnership and Mobility Scheme for funding this project. It is also grateful to the Ministry of Heritage and Culture in Oman for permission to undertake this work and to the Ministry of Foreign Affairs for their support. Thanks are also due to V. Charpentier and his team for their support during the reconnaissance stages of this project. Finally and importantly, many thanks are expressed to the seafarers of Masirah.

## References

- Blue L., Strutt K., Sheehan P., Jackson P. & Beech M.  
2013. Developing an integrated policy for the maritime and coastal heritage of the UAE: a collaborative approach. *Proceedings of the Seminar of Arabian Studies* 43: 63–76.
- Breeze P., Cuttler R. & Collins P.  
2011. Archaeological landscape characterization in Qatar through satellite and aerial photographic analysis, 2009 to 2010. *Proceedings of the Seminar of Arabian Studies* 41: 13–26.
- Casson L.  
1989. *The Periplus Maris Erythraei*. Princeton, NJ: Princeton University Press.
- Charpentier V., Berger J-F., Crassard R., Borgi F. et al.  
2013. Conquering new territories: when the first black boats sailed to Masirah Island. *Proceedings of the Seminar for Arabian Studies* 43: 85–98.
- Gilbert E.  
2004. *Dhows and the Colonial Economy of Zanzibar, 1860–1970*. Oxford, OH: Ohio University Press.
- Schoff W.H.  
1912. *The Periplus of the Erythraean Sea. Travel and trade in the Indian Ocean by a merchant of the first century*. Delhi: Munshiram Manoharlal. [Reprint, 2001.]
- Selvakumar V.  
2011. Archaeology, literary and ethnographic evidence for traditional boat-building in Kerala, South India. Pages 201–220 in M. Staniforth, J. Craig, S.C. Jago-on, B. Orillaneda & L. Lacsina (eds), *Proceedings on the Asia-Pacific regional conference on Underwater Cultural Heritage, November 8–12 2011*. Manila: [n.p.].
- Al-Shanfari A.A.B.  
1987. The Archaeology of Masirah Island, Sultanate of Oman. PhD thesis, University of Naples. [Unpublished.]
- Tibbets G.R.  
1971. *Arab Navigation in the Indian Ocean Before the Coming of the Portuguese*. London: The Royal Asiatic Press of Great Britain and Ireland. [Reprint, 1981.]
- Weismann N.  
1998. The cargo-beden *Al-Kammam*. *International Journal of Nautical Archaeology* 27/3: 237–257.
- Yule P., Weisgerber G., Kunter M. & Bemmann M.  
1994. Wādī Sūq Burial Structures in Oman. *NUBICA: International Journal for Coptic, Meroitic, Nubian, Ethiopian, and Related Studies* 3/1: 379–415.

### *Authors' addresses*

Lucy Blue, Maritime Archaeological Stewardship Trust (MAST), Centre for Maritime Archaeology, Archaeology, Faculty of Humanities, University of Southampton, SO17 1JB, UK.

*e-mail* lkb@soton.ac.uk

Nasser Said Al-Jahwari, Department of Archaeology, College of Arts & Social Sciences, Sultan Qaboos University, PO Box 42, 123 Al-Khoud, Muscat, Sultanate of Oman.

*e-mail* jahwari@squ.edu.om

Eric Staples, Ministry of Foreign Affairs, the Sultanate of Oman, PO Box 812, Muscat 100, Sultanate of Oman.

*e-mail* eric@maritime.om

Lorena Giorgio, Ministry of Foreign Affairs, the Sultanate of Oman, PO Box 812, Muscat 100, Sultanate of Oman.

*e-mail* lorena@maritime.om

Paolo Croce, Centre for Maritime Archaeology, Archaeology, Faculty of Humanities, University of Southampton, SO17 1JB, UK.

*e-mail* paolocruz@gmail.com

Alessandro Ghidoni, Ministry of Foreign Affairs, the Sultanate of Oman, PO Box 812, Muscat 100, Sultanate of Oman.

*e-mail* ale@maritime.om

Ayyoub Nagmouh Al Busaidi, Supervisor of Underwater Archaeology, Ministry of Heritage & Culture, PO Box 668, Muscat 100, Sultanate of Oman.

*e-mail* alayyoubi83@yahoo.com

Luca Belfioretti, Via Chiaravalle 1, 60127 Ancona, Italy.

*e-mail* belfiorettiluca@gmail.com