

**PROCEEDINGS
OF THE
SEMINAR FOR ARABIAN STUDIES**

**VOLUME 51
2022**

Papers from the fifty-fourth meeting of the
Seminar for Arabian Studies
held virtually on 2–4 and 9–11 July 2021

SEMINAR FOR ARABIAN STUDIES

**ARCHAEOPRESS
OXFORD**

Orders for copies of this volume of the *Proceedings* and all back numbers should be sent to
Archaeopress Publishing Ltd, Summertown Pavilion, 18–24 Middle Way, Oxford OX2 7LG, UK.
Tel +44(0)1865-311914 Fax +44(0)1865-512231
e-mail info@archaeopress.com
<http://www.archaeopress.com>

For the availability of back issues see <http://www.archaeopress.com>

For more information on the Seminar for Arabian Studies and the Proceedings please visit the International Association for the Study of Arabia (IASA)'s website: <https://www.theiasa.com/seminar/>

Seminar for Arabian Studies

c/o Department of Archaeology, University of Durham

Lower Mount Joy, South Rd, Durham DH1 3LE

e-mail psas@theiasa.com

The International Association for the Study of Arabia (formally the The British Foundation for the Study of Arabia):

<https://www.theiasa.com/>

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

STEERING COMMITTEE

Dr Julian Jansen van Rensburg (Chairperson, Assistant Editor of PSAS)

Dr Steven Karacic (Editor of PSAS)

Dr Catherine Ayres-Kennet (Secretary)

Dr Robert Wilson (Treasurer)

Dr Valentina Azzarà

Dr Knut Bretzke

Professor Robert Carter

Dr José Carvajal López

Dr Bleda Düring

Dr Nadia Durrani

Dr Daniel Eddisford (Assistant Editor of PSAS)

Dr Orhan Elmaz (Assistant Editor of PSAS)

Dr Derek Kennet

Helen Knox (Copy-editor of PSAS)

Michael C.A. Macdonald

Dr Harry Munt (Assistant Editor of PSAS)

Dr Irene Rossi

Dr Timothy Power (Assistant Editor of PSAS)

Dr Janet Watson

EDITORIAL COMMITTEE: ADDITIONAL MEMBERS

Professor Alessandra Avanzini

Professor Soumyen Bandyopadhyay

Professor Ricardo Eichmann

Professor Clive Holes

Professor Khalil Al-Muaiikel

Professor Daniel T. Potts

Professor Christian J. Robin

Dr Janet Starkey

Professor Lloyd Weeks

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

© 2022 Archaeopress Publishing, 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 978-1-78969-890-9

Contents

<i>Guidelines and Transliteration</i>	iii
<i>Editor's Foreword</i>	v
<i>In memoriam Alasdair Livingstone, 1954–2021</i>	vii
<i>The sixteenth-century Portuguese Suma Oriental and the Arab pilots: a comparative summa orientalis?</i>	1
Juan Acevedo	
<i>Neolithic settlement patterns and subsistence strategies on Marawah Island, Abu Dhabi Emirate, United Arab Emirates</i>	7
Mark Jonathan Beech, Noura Hamad Al Hameli, Richard Thorburn Cuttler, Kevin Lidour, Howell Roberts, Rémy Crassard, Nurcan Yalman & Talfan Davies	
<i>The stars in sixteenth-century nautical literature: a comparative study</i>	25
Inês Bénard	
<i>Multi-species analysis of stable carbon and nitrogen isotope data from Qal'at al-Bahrayn</i>	35
Caitlin Bonham Smith & Judith Littleton	
<i>Petrographic analysis of ceramics from Murwab, an early Islamic site in Qatar</i>	55
José C. Carvajal López, Alexandrine Guérin & Myrto Georgakopoulou	
<i>Al-Arid, an Early Bronze Age settlement site in the interior of the Oman peninsula. Results of the second season's excavations (2020)</i>	71
Corinne Castel, Jacques É. Brochier, Olivier Barge, Blandine Besnard, Elsa Ciesielski, Lionel Darras, Yasmine Kanhoush, Georges Mouamar, Frédéric Rivière, Séverine Sanz, Margareta Tengberg & Pauline Vézy	
<i>Traditional architecture of Ras al-Khaimah: digital mapping and characterization of a key heritage resource</i>	87
David Connolly & Hana Kdolska	
<i>New evidence from excavations at the Iron Age settlement of Shimal (Ras al-Khaimah)</i>	107
Michel de Vreeze, Samater Ahmed Botan, Tibor Paluch & Stefan Weijgertse	
<i>Late Bronze and Iron Age animal exploitation in Masāfī, Fujairah, UAE</i>	123
Delphine Decruyenaere, Marjan Mashkour, Kevin Lidour, Karyne Debue, Thomas Sagory, Maria Paola Pellegrino, Julien Charbonnier & Anne Benoist	
<i>Renewed excavations at Tell Abraç, Umm al-Quwain, 2019–2020 — insights into the site's occupation from the mid-second millennium BC to the late pre-Islamic period</i>	141
Michele Degli Esposti, Federico Borgi, Maria Paola Pellegrino, Simona Spano, Camille Abric & Rania Houssein Kannouma	
<i>Walk the line: the 2020 field season of the Al-Mudhaybi Regional Survey</i>	157
Stephanie Döpper	

<i>Boats, horses, and moorings: maritime activities at al-Balīd in the medieval period</i>	169
Alessandro Ghidoni & Alexia Pavan	
<i>Settlement patterns in Qatar during the early Islamic period (7th–10th century) – house, mosque, and complex in the North Qatar Region</i>	183
Alexandrine Guérin	
<i>Mapping the Shimal plain, Ras al-Khaimah: introducing the Shimal Plain Palm Gardens Project</i>	201
Hana Kdolska & David Connolly with contributions from Michel de Vreeze, Therese McCormick, Andrew Blair, Samatar Ahmed Botan & Tibor Paluch	
<i>Study and mapping of wells in the oasis of al-ʿUla (poster)</i>	221
Céline Marquaire, Julien Charbonnier, Gaël Gourret, Ahmad Fraidoon Said, Vincent Bernollin & Yasmin Kanhoush	
<i>Documentation and evaluation of maritime endangered archaeology in the Kingdom of Bahrain (the MarEA project)</i>	231
Rodrigo Ortiz-Vazquez, Robert Carter, Lucy Blue & Salman Al-Mahari	
<i>Eleventh–twelfth century – political and economic balances in the western Indian Ocean in the light of historical and ceramic evidence from the site of Banbhore/Daybul</i>	247
Valeria Piacentini Fiorani & Agnese Fusaro	
<i>The inscriptions in Ancient South Arabian script from Ḥimā: a preliminary historical and cultural appraisal</i>	271
Alessia Prioretta	
<i>From raw materials to finished products: pottery production at Sumhuram (Khor Rori, Sultanate of Oman)</i>	283
Carlotta Rizzo, Stefano Pagnotta, Marco Lezzerini, Alexia Pavan & Giulia Buono	
<i>On the root NHY in Ancient South Arabian inscriptions: an etymological and contextual study</i>	297
Irene Rossi	
<i>Funerary archaeology in Qatar: old data and new discoveries</i>	313
Ferhan Sakal, Marica Baldoni, Muna Al-Hashmi, Sara Tomei, Cristina Martinez-Labarga & Faisal Al Naimi	
<i>Kalba: new insights into an Early Bronze Age trading post on the Gulf of Oman</i>	329
Christoph Schwall, Michael Brandl, Mario Börner, Katleen Deckers, Susanne Lindauer, Ernst Pernicka, Eisa Yousif & Sabah A. Jasim	
<i>Al Ain Museum: an ancient landscape beneath the carpark</i>	353
Peter Sheehan, Timothy Power, Steve Karacic & Sophie Costa with Mohammed Khalifa, Hamad Fadel, Abdullah Al Kaabi, Ali Al Meqbali, Jaber Al Merri, Peter Magee, Anne Mortimer, Waleed Omar, Firas Othman, Dia Al Tawalbeh, Malak Al Ajou & Ona Vileikis	
<i>Navigating the Gulf: Aḥmad b. Mājid’s poem on Gulf navigation</i>	371
Eric Staples	
<i>Foodstuffs and organic products in ancient south-east Arabia: preliminary results of ceramic lipid residue analysis of vessels from Hili 8 and Hili North Tomb A, al Ain, United Arab Emirates</i>	379
Akshyeta Suryanarayan, Sophie Méry, Arnaud Mazuy & Martine Regert	

<i>A new example of proto-hamzah in the early Islamic graffiti of Wādī al-Khirqah (poster)</i>	403
Risa Tokunaga	
<i>The Jabal al Yamh tombs (Hatta, Dubai, UAE): the architecture, spatial distribution, and reuse of prehistoric tombs in south-east Arabia</i>	413
Tatiana Valente, Fernando Contreras, Bernardo Vila, Adrián Fernández, Domingo Lopez, Ahmed Mahmud, Mansour Boraik Radwan Karim, Mahra Saif Al Mansoori & Hassan Mohammed Zein	
<i>Cross-cultural maritime technological exchange in the first-millennium Indian Ocean</i>	433
Tom Vosmer	
<i>Reconstructing a changing landscape of human activities in the Iron Age II at Saruq al-Hadid (Dubai)</i>	449
Zuzanna Wygnańska, Otto Bagi, Joanna Rądkowska, Iwona Zych, Sidney Rempel, Karol Juchniewicz & Mansur Radwan Boraik	
<i>Titles of papers read at the Seminar for Arabian Studies held on 2-4 and 9-11 July 2021</i>	465

Guidelines and Transliteration

Guidelines for Authors

For details on the submission of papers and the preparation of papers for publication, authors are requested to consult and follow the latest *Guidelines for Authors*. These are available on the International Association for the Study of Arabia website at <https://www.theiasa.com/seminar/publication/>. Please contact the editors on <https://www.theiasa.com/seminar/publication/> for further information.

Fonts

Electronic versions of papers being submitted for publication should be set in Times New Roman 12-point typeface if at all possible, with double-line spacing on A4-paper size and 2.45 cm margins all round.

The IASA System of Transliteration of Relevant Characters

Quotations, single words, and phrases from Arabic or other languages written in non-Roman alphabets, are transliterated according to the systems set out below.

- We firmly encourage authors to use the correctly transliterated form of any place name, but the names used for types of pottery, archaeological periods, and cultures which have become archaeological standards should be used in that form: Umm an-Nar, Julfar ware, etc. If any place name needs to be given in a non-standard format, the correctly transliterated form should be added in the first instance in any paper (see *Guidelines for Authors* for more details).
- Personal names, toponyms, and other words that have entered English or French in a particular form, should be used in that form when they occur in an English or French sentence, unless they are part of a quotation in the original language, or of a correctly transliterated name or phrase. In the latter cases, they should be correctly transliterated, even when they occur in an English or French sentence.

1. Arabic

ء	M	ج	j	ذ	dh (dh)	ش	sh (sh)	ظ	ẓ	ق	q	ن	n
ب	b	ح	ḥ	ر	r	ص	ṣ	ع	K	ك	k	ه	h
ت	t	خ	kh (kh)	ز	z	ض	ḍ	غ	gh (gh)	ل	l	و	w
ث	th (th)	د	d	س	s	ط	ṭ	ف	f	م	m	ي	y
Vowels		a i u ā ī ū		Diphthongs		aw ay							

The underlined variants can be used to avoid any ambiguity, e.g. *lam yushir* vs. *lam yushir*.

Initial *hamzah* is omitted.

Alif maqṣūrah is transliterated as ā.

The *lām* of the article is not assimilated before the ‘sun letters’, thus the form should be *al-shams* but not *ash-shams*.

The *hamzat al-waṣl* of the article should be shown after vowels except after the preposition *li-*, as in the Arabic script, e.g. *wa-^ll-wazīr*, *f^ll-bayt*, but *li-l-wazīr*.

Tāʾ marbūṭah (ة) should be rendered *-ah*, except in a construct: e.g. *birkah*, *zakāh*, and *birkat al-sibāḥah*, *zakāt al-ḥiṭr*.

2. Persian, Urdu, and Ottoman Turkish

Please transliterate these languages using the system set out for Arabic above with the additional letters transliterated according to the system in the *Encyclopaedia of Islam* (<http://referenceworks.brillonline.com/entries/encyclopaedia-islamica/system-of-transliteration-of-arabic-and-persian-characters-transliteration>) except that ž is used instead of zh. There is a useful table to convert Ottoman Turkish to modern Turkish characters on http://en.wikipedia.org/wiki/Ottoman_Turkish_language.

3. Ancient North and South Arabian Consonants:

ʾ b t ṭ ḥ g ḥ d ḏ r z s¹ s² s³ š
ḏ ṭ z ʿ ġ f q k l m n h w y

4. Other Semitic languages

Please use the transliteration systems outlined in the *Bulletin of the American Schools of Oriental Research* (BASOR) 262 (1986), p. 3. (www.jstor.org/stable/i258780).

Editor's Foreword

The Seminar for Arabian Studies is the longest continually running academic forum for the presentation of cultural heritage research on the Arabian Peninsula. Meeting for the first time in 1968, the Seminar covers a wide range of subjects including but not limited to archaeology, epigraphy, history, ethnography, art, architecture, linguistics, and literature from prehistory to the early twentieth century.

The Covid-19 pandemic imposed unique challenges on the 54th Seminar for Arabian Studies. Throughout its history, one of the greatest strengths of the Seminar has been its ability to draw together colleagues with aligned interests from across the world, creating a strong sense of community. The Seminar, originally scheduled for the summer of 2020 in Casa Árabe (Cordoba, Spain), was postponed due to the uncertainty of travel. Through the resourcefulness of the Seminar's hosts in Casa Árabe and the Department of Archaeology at Durham University, it was possible to organize virtual meetings for 2-4 and 9-11 July 2021. Though there can be no substitute to gathering in person, the virtual meetings were a success in two ways. First, it resulted in the dissemination and discussion of recent research conducted in the Arabian Peninsula, achieving the primary objective of the Seminar since its founding over 50 years ago. Second, the necessity of using a virtual platform has demonstrated the potential for remote engagement of interested parties who may not be able to attend meetings in person. Combined, these two successes attest to the strength of the community that has formed around the Seminar and point towards future means of growing this community. It is, therefore, with pride in the present and optimism for the future that the editorial team presents the papers of the 54th Seminar for Arabian Studies.

The 54th Seminar for Arabian Studies consisted of 73 papers and 6 posters presented over the course of two weekends. These papers included four special sessions: a session on the recent research in North West Arabia, two sessions on the historical and cultural relations between Iberia and Arabia, and one session on maritime practices. The special sessions on North West Arabia and Iberian-Arabian interactions will be published as supplemental volumes while many of the papers submitted on maritime practices are included in the present issue.

A team effort is required to produce the Proceedings within one year of the Seminar and congratulations and appreciation is to be shared. First and foremost, I wish to thank the many authors and reviewers who dedicated their time and creative energies to the production of each submission. The team of assistant editors Knut Bretzke, Daniel Eddisford, Orhan Elmaz, Julian Jansen van Rensburg, Harry Munt, and Timothy Power deserve recognition for navigating the papers through the review process. I am also thankful for the support of Rajka Makjanic, David Davison, and Patrick Harris of Archaeopress, who have facilitated the publication. Finally, I wish to thank Helen Knox, our copy-editor, whose exceptional effort brought this edition of the Proceedings to completion.

Please contact Catherine Ayres-Kennet (seminar.arab@theiasa.com) for additional information about the Seminar or visit the Seminar website at www.theiasa.com/seminar/.

The International Association for the Study of Arabia (IASA), formally the British Foundation for the Study of Arabia, is a charitable organization that promotes research of the cultural and natural heritage of the Arabian Peninsula. The IASA produces an annual bulletin. For further information about IASA, please contact the Chair, Noel Brehony (contact@theiasa.com) or visit the IASA website at www.theiasa.com.

Steven Karacic
June 2022

Additional Thanks from the Organising Committee of the Seminar for Arabian Studies

The 54th Seminar for Arabian Studies was originally intended to take place in the beautiful Mudéjar House of the prestigious Casa Árabe in Cordoba (Spain) in summer 2020, with two special sessions dedicated to the historical and cultural relations between the Iberian and Arabian peninsulas. The Covid pandemic meant that this was impossible, but Casa Árabe maintained its commitment to host the Seminar in 2021, which was finally celebrated virtually in July 2021. This was kindly hosted online by the Department of Archaeology at Durham University with the full participation of Casa Árabe, which hosted the two special sessions and the keynote lecture of Professor Maribel Fierro online. A special volume of the Proceedings of the Seminar for Arabian Studies presenting the content of the special sessions will be published online by the Casa Árabe. The organising Committee of the Seminar for Arabian Studies wishes to express its sincere thanks for the collaboration and support provided by Casa Árabe.