

Tall Zirā'a

THE GADARA REGION PROJECT (2001-2011)

Dieter Vieweger | Jutta Häser (eds.)

8 Wādi al-'Arab Survey





German Protestant Institute of Archaeology
(GPIA)



Biblical Archaeological Institute Wuppertal
(BAI)



Tall Zirā'a

The Gadara Region Project (2001-2011)

Final Report

Volume 8.1

Wādī al-'Arab Survey

Katja Soennecken – Patrick Leiverkus

With contributions by

Benjamin Schröder, Stefanie Hoss, Linda Olsvig-Whittaker,

Avi Shmida, Sabine Kraushaar and Marwan Al-Raggad

Editors of the Tall Zirā'a Final Reports

Dieter Vieweger and Jutta Häser



Bibliografische Information der Deutschen Nationalbibliothek

Die Deutsche Nationalbibliothek verzeichnet diese Publikation in der Deutschen Nationalbibliografie; detaillierte bibliografische Daten sind im Internet unter <https://portal.dnb.de> abrufbar.



www.talziraa.de



1. Auflage

Copyright © 2021 by Deutsches Evangelisches Institut für Altertumswissenschaft des Heiligen Landes/
Biblich-Archäologisches Institut Wuppertal, Jerusalem/Amman/Wuppertal

Dieses Werk einschließlich aller seiner Teile ist urheberrechtlich geschützt. Jede Verwertung außerhalb der engen Grenzen des Urheberrechtsgesetzes ist ohne schriftliche Zustimmung des Deutschen Evangelischen Instituts für Altertumswissenschaft des Heiligen Landes (DEI) und des Biblich-Archäologischen Instituts Wuppertal (BAI) unzulässig und strafbar. Das gilt insbesondere für Vervielfältigungen, Übersetzungen, Mikroverfilmungen und die Einspeicherung und Verarbeitung in elektronischen Systemen.

No part of this publication may be reproduced in any form (print, photography, CD-ROM, DVD, BLUERAY, Internet or any other medium) without written permission of the German Protestant Institute of Archaeology (GPIA) and the Biblical Archaeological Institute Wuppertal (BAI).

All Tall Zirā'a-Final Reports (Volumes 1–9) are available free of charge: http://www.talziraa.de/Endpublikation/0_470.htm (PDF-Version for download) © Jerusalem/Amman/Wuppertal 2017–2021

Sollte diese Publikation Links auf Webseiten Dritter enthalten, so übernehmen wir für deren Inhalte keine Haftung, da wir uns diese nicht zu eigen machen, sondern lediglich auf deren Stand zum Zeitpunkt der Erstveröffentlichung verweisen.

Cover-Layout: Patrick Leiverkus

Front and back cover: Tall Zirā'a and Wādī al-'Arab; aerial view, looking from east to west; by courtesy of APAAME, David Kennedy, 2011

Standard-Layout: Based on the template of the DAI-volumes ›Menschen – Kulturen – Traditionen‹/Forschungscluster

Editorial work: Jutta Häser/Ute Wielandt

Typesetting: Ute Wielandt

Druck und Einband: Books on Demand GmbH, Norderstedt

Printed in Germany

ISBN 978-3-579-08297-4

www.gtvh.de

To Prof. Siegfried Mittmann

TABLE OF CONTENTS

Volume 8.1

LIST OF FIGURES	XI
LIST OF TABLES	XXXIII
LIST OF PLATES	XXXVI
LIST OF GRAPHS	XXXVI
ABBREVIATIONS	XXXVII
PREFACE <i>by Dieter Vieweger/Jutta Häser</i>	1
INTRODUCTION AND ACKNOWLEDGEMENTS <i>by Katja Soennecken/Patrick Leiverkus</i>	11
1. THE WĀDĪ AL-‘ARAB SURVEY <i>by Katja Soennecken/Patrick Leiverkus</i>	13
1.1. Introduction	13
1.2. Previous Surveys in the Area	14
1.2.1. N. Glueck—1932–1947	14
1.2.2. S. Mittmann—1963–1966	15
1.2.3. J. W. Hanbury-Tenison—1983	16
1.2.4. L. El-Khourī—2005	17
1.2.5. T. Kerestes, J. Lundquist, B. Wood, K. Yassine—1978	17
1.3. Methodology and Aims of the New Wādī al-‘Arab Survey	18
1.4. Seasons	20
1.4.1. 2009 Season	20
1.4.2. 2010 Season	23
1.4.3. 2011 Season	24
1.4.4. 2012 and 2014 Study Seasons	25
1.5. Sites	25
1.5.1. General Remarks	25
1.5.2. Zones	25
1.5.2.1. Tall Zīrā‘a	26
1.5.2.2. Zone A	26
1.5.2.3. Zone B	26

1.5.3.	Outline of the Settlement Types Characteristic of the Different Periods	27
1.5.3.1.	Paleolithic/Chalcolithic Period.....	30
1.5.3.1.1.	Lithic Scatter	30
1.5.3.1.2.	Dolmens	30
1.5.3.2.	Bronze Age	34
1.5.3.2.1.	Early Bronze Age	34
1.5.3.2.2.	Middle Bronze Age	35
1.5.3.2.3.	Late Bronze Age	35
1.5.3.3.	Iron Age.....	36
1.5.3.3.1.	Iron Age I.....	36
1.5.3.3.2.	Iron Age II.....	36
1.5.3.4.	Hellenistic – Roman Periods.....	37
1.5.3.4.1.	Hellenistic Period.....	37
1.5.3.4.2.	Early Roman Period.....	37
1.5.3.5.	Late Roman – Byzantine Periods	38
1.5.3.5.1.	Late Roman Period	38
1.5.3.5.2.	Byzantine Period.....	38
1.5.3.6.	Islamic Period	39
1.5.3.6.1.	Umayyad Period	40
1.5.3.6.2.	Ayyubid-Mamluk Period	40
1.5.3.6.3.	Ottoman Period	41
1.6.	Selected Finds.....	43
1.6.1.	Ceramics.....	43
1.6.1.1.	“Galilean bowls”	43
1.6.1.2.	Stamp Impression.....	44
1.6.1.3.	Oil Lamps	45
1.6.2.	Stone Finds	47
1.6.2.1.	Assessment of the Lithic Finds <i>by Benjamin Schröder</i>	47
1.6.2.1.1.	Introduction.....	47
1.6.2.1.2.	The Finds	49
1.6.2.1.3.	Assessment.....	52
1.6.2.2.	Stone Vessels.....	56
1.6.3.	Glass Finds <i>by Stefanie Hoss</i>	58
1.6.3.1.	Introduction	58

1.6.3.2.	The Finds	58
1.6.3.3.	Analysis	62
1.7.	Destructions	68
1.8.	Bibliography	70
2.	RELATED RESEARCH PROJECTS IN THE WĀDĪ AL-‘ARAB	83
2.1.	Landscape Archaeology by <i>Linda Olsvig-Whittaker/Patrick Leiverkus</i>	83
2.1.1.	Landscape Archaeology in the Wādī al-‘Arab Region	83
2.1.2.	Roman Settlements and Single Complexes in Relation to Habitat in the Wādī al-‘Arab region	84
2.1.2.1.	Introduction	84
2.1.2.2.	Methods	85
2.1.2.3.	Results	88
2.1.2.4.	Summary and Discussion	94
2.2.	The Vegetation of Northern Jordan: Two Transects from the Jordan Valley to the Eastern Highlands by <i>Avi Shmida/Linda Olsvig-Whittaker/Katja Soennecken</i>	
2.2.1.	Introduction	96
2.2.1.1.	First Geomorphological Pattern	97
2.2.1.2.	Second Pattern: From the Ridge, Moving East with Decreasing Rainfall	97
2.2.1.3.	Third Pattern: Rift Valley	98
2.2.2.	First Transect: From Šūna to Irbid	99
2.2.2.1.	Lower Belt: Pseudo-savannah of <i>Ziziphus Spina-Christi</i>	99
2.2.2.2.	Middle Belt: Open Shrubland	99
2.2.2.3.	Upper Belt: <i>Quercus Ithaburensis</i> Woodland	100
2.2.2.4.	Wādīs within the <i>Q. Ithaburensis</i> Woodland	100
2.2.2.5.	Anthropogenic Communities	101
2.2.3.	Second Transect: From the Area of Kufringā to ‘Aḡlūn	101
2.2.3.1.	Belt a	101
2.2.3.2.	Belt b. <i>Ziziphus Lotus</i> and <i>Retama Raetam</i> Open Shrubland	101
2.2.3.3.	Belt c: Species Rich Transitional Belt with Scattered <i>Q. Ithaburensis</i>	102
2.2.3.4.	Belt d: <i>Q. Calliprinos</i> Chaparral	102
2.2.3.5.	Belt d2 (Edaphic): <i>Pinus Halepensis</i> Forest	102
2.2.3.6.	Belt e: <i>Q. Calliprinos</i> Mixed Evergreen and Deciduous Chaparral	102
2.2.3.7.	Belt f: Transitional Dwarf Shrub Community	103
2.2.4.	Discussion	103

2.3. A Geoscientific View of the Natural Prerequisites of Wādī al-‘Arab	108
2.3.1. OSL Dating of Cisterns in Wādī al-‘Arab <i>by Sabine Kraushaar et al.</i>	108
2.3.1.1. Abstract	108
2.3.1.2. Introduction	108
2.3.1.3. Historical Background	109
2.3.1.4. Study Area	109
2.3.1.5. Methods	111
2.3.1.6. Results	112
2.3.1.7. Discussion	114
2.3.1.8. Conclusion	116
2.3.1.9. Acknowledgements	116
2.3.2. Natural Resources in Wādī al-‘Arab <i>by Sabine Kraushaar/Marwan Al-Raggad</i>	117
2.3.2.1. Introduction	118
2.3.2.2. The Geological Genesis of the Wādī al-‘Arab	118
2.3.2.3. The Geology of the Wādī al-‘Arab and their Resources	119
2.3.2.4. Clays as Important Resource for Ceramic Production	124
2.3.2.5. Soils in Wādī al-‘Arab and their agricultural potential	125
2.4. Bibliography	129

Volume 8.2

3. CATALOGUE OF SITES	1
3.1. Information on the Catalogue of Sites <i>by Katja Soennecken/Patrick Leiverkus</i>	1
3.2. Catalogue of Sites <i>by Katja Soennecken</i>	2
3.3. Register	827
3.3.1. Abbreviations	827
3.3.2. Site Names and Numbers	827
3.4. Bibliography	831

LIST OF FIGURES

Volume 8.1

Figures of Preface and Introduction

Fig. 0.1	Tall Zirā'a. View from east to west. Photograph taken in 2011	1	Fig. 0.3	Tall Zirā'a and its geographic location	3
Fig. 0.2	Map showing the area around Tall Zirā'a.....	2	Fig. 0.4	The Wādī al-'Arab.....	11
			Fig. 0.5	Survey team walking along the Wādī al-'Arab	12

Figures of Chapter 1: The Wādī al-'Arab Survey

Fig. 1.1	The survey area.....	13	Fig. 1.18	Dolmens in the survey area	31
Fig. 1.2	Sites documented by N. Glueck.....	14	Fig. 1.19	222/215-2.....	31
Fig. 1.3	Sites documented by S. Mittmann	15	Fig. 1.20	222/215-2 overview (looking south) ..	31
Fig. 1.4	Sites documented by J. W. Hanbury-Tenison.....	16	Fig. 1.21	222/216-1.....	32
Fig. 1.5	Sites documented by L. El-Khourī.....	17	Fig. 1.22	224/217-1 overview	32
Fig. 1.6	Zones A and B with documented sites	18	Fig. 1.23	224/217-2 overview	32
Fig. 1.7	Excerpt from the database.....	19	Fig. 1.24	224/217-3	32
Fig. 1.8	Participants mapping an Ottoman mill.....	20	Fig. 1.25	224/217-3 overview	33
Fig. 1.9	The three large tells within the survey area	21	Fig. 1.26	225/215-1.....	33
Fig. 1.10	Sites 211/225-7 and 211/225-8 in relation to Tall Zirā'a and Gadara.....	21	Fig. 1.27	225/215-1 overview.....	33
Fig. 1.11	Sites 211/225-7 (Roman-Byzantine) and 211/225-8 (Bronze Age).....	22	Fig. 1.28	226/213-2.....	33
Fig. 1.12	S. Kraushaar during the campaign in 2010.....	23	Fig. 1.29	226/213-2 overview (looking north) ...	33
Fig. 1.13	K. Soennecken.....	24	Fig. 1.30	Sites with Early Bronze Age remains.	34
Fig. 1.14	P. Leiverkus.....	24	Fig. 1.31	Sites with Middle and Late Bronze Age remains	35
Fig. 1.15	Sites newly recorded during the Wādī al-'Arab survey.....	26	Fig. 1.32	Sites with Iron Age remains	36
Fig. 1.16	Sites in a 500 m radius around Tall Zirā'a.....	27	Fig. 1.33	Sites with Hellenistic to Early Roman remains.....	37
Fig. 1.17	Sites with lithic scatter	30	Fig. 1.34	Sites with Late Roman-Byzantine remains.....	38
			Fig. 1.35	Sites with Islamic remains.....	39
			Fig. 1.36	Sites with Umayyad remains.....	40
			Fig. 1.37	Sites with Ayyubid-Mamluk remains	41
			Fig. 1.38	Sites with Ottoman remains	42

Fig. 1.39	Schematic drawing of a horizontal-wheeled mill with an <i>arubah</i> penstock (Zena Kamash)	42	Fig. 1.45	Fragment of a flint nodule and bands of dark brown and black flint in between layers of limestone and marl lime in the slope profile at the roadside	48
Fig. 1.40	WaA 900084-31	44	Fig. 1.46	Lower city of Tall Zirā'a (211/225-16) in 2011	68
Fig. 1.41	WaA 900084-31	44	Fig. 1.47	Lower city of Tall Zirā'a (211/225-16) in 2017	68
Fig. 1.42	Sites with oil lamps.....	46	Fig. 1.48	Site 233/229-1 Mosque with integrated Roman sarcophagus and architrave	69
Fig. 1.43	WaA 900154-32	46			
Fig. 1.44	Exposed flint deposits in the slope profile along the upper course of the access road in the direction of Umm Qēs	47			

Figures of Chapter 2: Related Research Projects in the Wādī al-‘Arab

Fig. 2.1	Map of the study area with sites. Area A was completely mapped both for sites and for habitat. Area B was checked using historical records of sites, and mapped for habitat at ½ km radius from each site	85	Fig. 2.10	Distribution of <i>Pistacia atlantica</i> in the west Jordan region	107
Fig. 2.2	Habitat mapping of the study area done by hand on QGIS.....	87	Fig. 2.11	Wādī al-‘Arab catchment with the re-visited survey points of S. Mittmann	110
Fig. 2.3	Settlements and single complexes in the study area. Clearly there are many more new complex sites than old complex sites. Distribution tends to follow streams.....	89	Fig. 2.12	C1 and c2 DEM, documented shape and profile position	111
Fig. 2.4	Cisterns in relation to the categorized sites.....	92	Fig. 2.13	Profile pictures, sample locations and sediment ages.....	113
Fig. 2.5	Transect 1, from Shuna to the Irbid plateau. Geomorphological pattern 1: Zarqā' to ‘Aḡlūn mountains to Irbid plateau with basalt at the east end	97	Fig. 2.14	Examples for the anthropogenic use of natural resources in the Wādī al-‘Arab. a: Basalt bowl, TZ 001209-001; b: Flint tool, TZ 001332-001; c: Crude iron nucleoids, TZ 006996-001; d: Bitumen from Dead Sea, TZ 007245-001	117
Fig. 2.6	West escarpments of the ‘Aḡlūn mountains, toward the Jordan valley..	98	Fig. 2.15	Geological map of the Wādī al-‘Arab	120
Fig. 2.7	Vegetation map of Transjordan.....	104	Fig. 2.16	Iron Age workshop, Tall Zirā'a, Square AP 120, Context 4852, view from south.....	120
Fig. 2.8	Bioclimatical map of Transjordan	105	Fig. 2.17	Vertisol above Umm Riḡām Chert Limestone with 0.2 % carbonate and 46 % clay content	125
Fig. 2.9	Schematic general vegetation transect of north Jordan.....	106	Fig. 2.18	FAO soil classification in Wādī al-‘Arab	126

Volume 8.2

Figures of Chapter 3: Catalogue of Sites

Fig. 3.1	Handle of an Early Bronze Age jar WaA 900035-01	5	Fig. 3.24	Goblet rim WaA 990002-06	18
Fig. 3.2	Rim of a Late Bronze Age bowl WaA 900035-03	5	Fig. 3.25	Goblet base WaA 990002-07	18
Fig. 3.3	Rim of an Iron Age jar WaA 900035- 08	5	Fig. 3.26	View of Tall al-Munţār (site 208/224-1, facing south-west)	19
Fig. 3.4	Rim of an Iron Age II jar WaA 900035-13	5	Fig. 3.27	Southern spur of Tall al-Munţār with a view of the Jordan Valley	19
Fig. 3.5	Rim of a bowl or krater from Byzan- tine-Islamic period WaA 900035-12	6	Fig. 3.28	208/224-2 Overview of the cave (fa- cing north-east)	20
Fig. 3.6	Rim of a bowl or krater from Byzan- tine-Islamic period WaA 900035-15	6	Fig. 3.29	208/224-2 Mouth of the cistern (fa- cing north-east)	21
Fig. 3.7	Body sherd of a bowl from Islamic period WaA 900035-18	6	Fig. 3.30	208/224-3 Agricultural installations .	22
Fig. 3.8	Body sherd of a jug from Mamluk period WaA 900035-22	6	Fig. 3.31	Body sherd of a Roman-Byzantine krater or bowl WaA 900009-04	24
Fig. 3.9	View of site 207/224-1	7	Fig. 3.32	Faience fragment WaA 990001-01	24
Fig. 3.10	Substructure inside of site 207/224-1 ...	7	Fig. 3.33	View of 210/224-1	24
Fig. 3.11	208/224-1-001	9	Fig. 3.34	211/224-1-001	27
Fig. 3.12	208/224-1-002	9	Fig. 3.35	211/224-1-002	28
Fig. 3.13	208/224-1-003	10	Fig. 3.36	211/224-1-003	28
Fig. 3.14	208/224-1-004	10	Fig. 3.37	211/224-1-004	29
Fig. 3.15	208/224-1-005	11	Fig. 3.38	Rim of a “Galilean bowl” WaA 900007-01	31
Fig. 3.16	208/224-1-006	11	Fig. 3.39	Cooking pot handle with rim WaA 900007-03	31
Fig. 3.17	208/224-1-007	12	Fig. 3.40	View of site 211/224-1 (facing west) ...	31
Fig. 3.18	ETS rim of a bowl WaA 900034-28 ...	17	Fig. 3.41	View of site 211/224-1 (facing north)	32
Fig. 3.19	Rim of a “Galilean bowl” WaA 900034-20	17	Fig. 3.42	View of the slope in front of site 211/224-1 (facing west)	32
Fig. 3.20	Handle with rim of a cooking pot WaA 900034-14	18	Fig. 3.43	211/224-2-002	34
Fig. 3.21	Rim of a pithos WaA 900034-33	18	Fig. 3.44	211/224-2-003	34
Fig. 3.22	Rim of an Islamic jar or jug WaA 900034-50	18	Fig. 3.45	211/224-2-004	35
Fig. 3.23	Body sherd with handle base of a Mamluk jug or jar WaA 900034-17	18	Fig. 3.46	211/224-2-005	35
			Fig. 3.47	211/224-2-006	36
			Fig. 3.48	211/224-2-008	36

Fig. 3.49	Rim of a Roman – Byzantine bowl (PRSW) WaA 900013-45	42	Fig. 3.73	211/225-1-002	56
Fig. 3.50	Base of a Hellenistic – Roman bowl or plate WaA 900013-32	42	Fig. 3.74	211/225-1-003.....	56
Fig. 3.51	Base of a Roman – Byzantine bowl or plate WaA 900013-33	42	Fig. 3.75	211/225-1-004	57
Fig. 3.52	Handle with body sherd of a Hellenistic – Roman jar or jug WaA 900013-52	42	Fig. 3.76	211/225-1-005.....	57
Fig. 3.53	Rim of an Islamic bowl WaA 900013-16.....	43	Fig. 3.77	Base of a bowl WaA 900006-04	58
Fig. 3.54	Base of a Mamluk bowl WaA 900013-36	43	Fig. 3.78	Rim of a bowl WaA 900006-07	58
Fig. 3.55	Front and back side of tabun fragment WaA 900013-13	43	Fig. 3.79	View of site 211/225-1 (facing north) .	59
Fig. 3.56	Rim of a “Galilean bowl“ WaA 900055-03	44	Fig. 3.80	211/225-2-001	60
Fig. 3.57	Rim of a bowl (PRSW) WaA 900055-21.....	44	Fig. 3.81	211/225-2-002	60
Fig. 3.58	Fragment of an oil lamp WaA 900055-23	44	Fig. 3.82	211/225-2-003	61
Fig. 3.59	Overall view of site 211/224-2 (facing south-east).....	45	Fig. 3.83	211/225-2-004	61
Fig. 3.60	Demolitions in the north-east of the site 211/224-2	45	Fig. 3.84	Body sherd with handle base of an Early Bronze Age jug WaA 900011-24	66
Fig. 3.61	Site 221/224-2 al-Waḥṣā, soil profile (NE) towards the south-east. Two layers of ash are discernible	46	Fig. 3.85	Base ring of a jar MBA/LBA/IA WaA 900011-22.....	66
Fig. 3.62	Site 221/224-3, view of entrance	47	Fig. 3.86	Rim of an Iron Age krater WaA 900011-45.....	66
Fig. 3.63	Site 221/224-3, left: grave entrance; right: grave interior.....	47	Fig. 3.87	Rim of a Roman Byzantine cooking pot WaA 900011-20	66
Fig. 3.64	Body sherd WaA 900070-01	48	Fig. 3.88	Base of a Roman – Byzantine bowl WaA 900011-27	67
Fig. 3.65	Site 221/224-4, grave entrance	49	Fig. 3.89	Handle of a Roman – Byzantine amphora WaA 900011-31.....	67
Fig. 3.66	View of site 211/224-4 (facing east) ...	49	Fig. 3.90	View of site 211/225-3 (facing south-east)	67
Fig. 3.67	211/224-5-001	50	Fig. 3.91	View of the slope at site 211/225-4 (facing north)	68
Fig. 3.68	211/224-5-002	51	Fig. 3.92	Oil press at site 211/225-5 (facing north).....	69
Fig. 3.69	211/224-5-003	51	Fig. 3.93	Site 211/225-6, chute inside the cave..	70
Fig. 3.70	211/224-5-004	52	Fig. 3.94	Site 211/225-6, vestiges of a quarry near the cave	70
Fig. 3.71	211/224-5-005	52	Fig. 3.95	Site 211/225-6, overall view (facing south-west)	71
Fig. 3.72	211/225-1-001	55	Fig. 3.96	211/225-7-001.....	72
			Fig. 3.97	View of site 211/225-7 (facing south-west).....	73
			Fig. 3.98	211/225-8-001	74

Fig. 3.99 211/225-8-002	75	Fig. 3.129 211/225-13-006	96
Fig. 3.100 211/225-8-003	76	Fig. 3.130 211/225-13-007	97
Fig. 3.101 211/225-8-004	76	Fig. 3.131 211/225-13-008	97
Fig. 3.102 Rim of an Early Bronze Age bowl WaA 900153-38.....	79	Fig. 3.132 Handle of a Mamluk bowl WaA 900065-01	98
Fig. 3.103 Rim of an Early Bronze Age bowl or krater WaA 900153-39	79	Fig. 3.133 Body sherd of a Roman bowl WaA 900065-05	98
Fig. 3.104 Body sherd of a cooking pot WaA 900153-19	79	Fig. 3.134 211/225-13, view of Contexts 001 and 002 (facing south-east)	99
Fig. 3.105 Body sherd of Middle Bronze Age jug WaA 900010-06.....	79	Fig. 3.135 211/225-13, embossed ashlar in Context 002.....	99
Fig. 3.106 View of site 211/225-8 (facing north)	80	Fig. 3.136 Rim of an Early Bronze Age cook- ing pot WaA 900115-23	106
Fig. 3.107 Site 211/225-9, protective wall (fa- cing north-east)	81	Fig. 3.137 Rim of a Late Bronze Age bowl, possibly also re-used as oil lamp WaA 900115-66	106
Fig. 3.108 211/225-10-001	82	Fig. 3.138 Rim of a Roman-Byzantine cooking bowl WaA 900115-05	106
Fig. 3.109 211/225-10-002	82	Fig. 3.139 Rim of a Late Roman – Byzantine bowl WaA 900115-10.....	106
Fig. 3.110 211/225-10-003	83	Fig. 3.140 Rim of a Byzantine-Umayyad jar or amphora WaA 900115-15.....	107
Fig. 3.111 211/225-10-004	83	Fig. 3.141 Body sherd of a basin from the Byzantine-Islamic period WaA 900115-68.....	107
Fig. 3.112 211/225-10-005	84	Fig. 3.142 Coin WaA 990060-01 obverse and reverse.....	107
Fig. 3.113 211/225-10-006	84	Fig. 3.143 Flint flakes WaA 900064-01	108
Fig. 3.114 211/225-10-007	85	Fig. 3.144 Tesserae WaA 900071-01	108
Fig. 3.115 211/225-10-008	85	Fig. 3.145 Site 211/225-14, view of lower city of the Tall Zirā'a (facing north- west)	108
Fig. 3.116 View of site 211/225-10 (facing north-north-west).....	86	Fig. 3.146 Site 211/225-14, view over lower city of the Tall Zirā'a (facing west) ..	109
Fig. 3.117 View from site 211/225-10 to the Tall Zirā'a.....	86	Fig. 3.147 Rim of a Basins from the Byzantine – Umayyad period WaA 900116-02 .	111
Fig. 3.118 General view of site 211/225-11	89	Fig. 3.148 Rim of an Iron Age II cooking pot WaA 900116-03	111
Fig. 3.119 Site 211/225-12, view of quarry (fa- cing north-east)	90	Fig. 3.149 View of site 211/225-15 as seen from Tall Zirā'a (facing north-west) 2011 .	111
Fig. 3.120 211/225-13-001.....	91	Fig. 3.150 View of site 211/225-15 as seen from Tall Zirā'a (facing north-west) 2017 .	112
Fig. 3.121 211/225-13-002	92		
Fig. 3.122 211/225-13-002	92		
Fig. 3.123 211/225-13-002	93		
Fig. 3.124 211/225-13-002	93		
Fig. 3.125 211/225-13-002	94		
Fig. 3.126 211/225-13-003	95		
Fig. 3.127 211/225-13-004	95		
Fig. 3.128 211/225-13-005	96		

- Fig. 3.151 211/225-16-001..... 113
- Fig. 3.152 211/225-16-002 114
- Fig. 3.153 211/225-16-003..... 114
- Fig. 3.154 211/225-16-004 115
- Fig. 3.155 211/225-16-005 115
- Fig. 3.156 211/225-16-006 116
- Fig. 3.157 211/225-16-007 116
- Fig. 3.158 Rim of an Early Bronze Age jug
WaA 900117-05..... 128
- Fig. 3.159 Body sherd of an Early Bronze Age
jug WaA 900154-104 128
- Fig. 3.160 Rim of a cooking pot from Middle/
Late Bronze Age WaA 900154-110 .. 129
- Fig. 3.161 Rim of an Iron Age cooking pot
WaA 900117-23 129
- Fig. 3.162 Rim of a jug from Iron Age II WaA
900117-26 129
- Fig. 3.163 Handle of a jug or amphora with
remnants of a stamp impression
WaA 900154-106 129
- Fig. 3.164 Base ring of a Hellenistic bowl WaA
900117-02 130
- Fig. 3.165 Handle of a jug or amphora with
remnants of a stamp impression
WaA 900154-106 130
- Fig. 3.166 Rim of a Hellenistic-Roman bowl or
plate WaA 900117-14 130
- Fig. 3.167 Body sherd of a Roman bowl (ESA?)
WaA 900154-80 131
- Fig. 3.168 Nozzle of “Herodian oil lamp” WaA
900154-32..... 131
- Fig. 3.169 Mirror of Byzantine oil lamp WaA
900154-46 131
- Fig. 3.170 Rim of Byzantine cooking bowl
WaA 900154-19 131
- Fig. 3.171 Rim of a Byzantine-Islamic bowl
WaA 900154-59 132
- Fig. 3.172 Rim of a cooking bowl from the Is-
lamic period WaA 900117-04 132
- Fig. 3.173 Blade fragment WaA 990066-01 132
- Fig. 3.174 Blade fragment WaA 990083-01 132
- Fig. 3.175 Rim of a bottle (Roman – Umayyad)
WaA 990084-05..... 133
- Fig. 3.176 Rim of an Umayyad bottle WaA
990084-04..... 133
- Fig. 3.177 View of site 211/225-16 (facing
north-west) 133
- Fig. 3.178 View of site 211/225-16 from Tall
Zirā’a in 2011 (facing north-west)..... 134
- Fig. 3.179 View of site 211/225-16 from Tall
Zirā’a in 2017 134
- Fig. 3.180 Rim of an Early Bronze Age bowl or
plate WaA 900118-02..... 136
- Fig. 3.181 Rim of an Iron Age krater WaA
900118-03..... 136
- Fig. 3.182 Rim of a bowl from the Late Roman-
Byzantine period WaA 900118-01.... 136
- Fig. 3.183 Body sherd with roller-stamping de-
coration from the Byzantine-Islamic
period WaA 900118-09..... 136
- Fig. 3.184 View of site 211/225-17 (facing west)137
- Fig. 3.185 View of site 211/225-18 from Tall
Zirā’a (facing south-west) 138
- Fig. 3.186 Site 211/225-19, column drum 139
- Fig. 3.187 Ḥirbat al-‘Aḡamī, site 221/226-1,
view of the plateau (facing west) 141
- Fig. 3.188 Ḥirbat al-‘Aḡamī, site 221/226-1,
hewn boulders on the plateau 141
- Fig. 3.189 Ḥirbat al-‘Aḡamī, site 221/226-1,
round (modern) structure, spolia
built into it, possibly remains of a
tower 142
- Fig. 3.190 Site 2132/221-1, cistern on the
northern slope 143
- Fig. 3.191 212/221-2-001..... 144
- Fig. 3.192 212/221-2-002 145
- Fig. 3.193 212/221-2-003 145
- Fig. 3.194 212/221-2-004 146
- Fig. 3.195 212/221-2-005 146
- Fig. 3.196 212/221-2-006 147
- Fig. 3.197 212/221-2-007 147
- Fig. 3.198 212/221-2-008 148

Fig. 3.199 212/221-2-009	148	Fig. 3.227 Base of Roman-Byzantine bowl or jar WaA 900000-20	171
Fig. 3.200 212/221-2-010	149	Fig. 3.228 Painted Roman-Byzantine body sherd WaA 900000-66.....	171
Fig. 3.201 Rim of a Byzantine-Umayyad jug or amphora WaA 900123-02.....	150	Fig. 3.229 Hellenistic-Roman body sherd (ETS) WaA 900002-05	172
Fig. 3.202 Bottom of an Islamic bowl WaA 900123-04	150	Fig. 3.230 Body sherd of a jar from Islamic times WaA 900002-01a	172
Fig. 3.203 View of site 212/221-2 (facing north)	151	Fig. 3.231 Body sherd from the Middle Bronze Age with herringbone pattern WaA 900001-106.....	178
Fig. 3.204 Site 212/221-3, overview	152	Fig. 3.232 Rim of a cooking pot from the Iron Age I WaA 900001-29	179
Fig. 3.205 Site 212/221-3, entrance	152	Fig. 3.233 Rim of a cooking pot from the Iron Age II WaA 900001-105	179
Fig. 3.206 Site 212/221-3, two niches in the interior.....	153	Fig. 3.234 Base – base ring from a Hellenistic-Roman bowl WaA 900001-90	179
Fig. 3.207 Site 212/221-3, quarry in the vicinity	153	Fig. 3.235 Base of a Roman-Byzantine bowl or jar WaA 900001-81	179
Fig. 3.208 Site 212/222-1, watermill (facing south).....	154	Fig. 3.236 Rim of a cooking pot from the Middle Bronze Age WaA 900003-61.....	190
Fig. 3.209 Site 212/222-1, watermill (facing north-east).....	155	Fig. 3.237 Chocolate-on-white ware body sherd (MBA/LBA) WaA 900004-64	190
Fig. 3.210 Site 212/222-2, overall view (facing north-east)	156	Fig. 3.238 Base from a jar or jug from the Iron Age WaA 900003-04b.....	191
Fig. 3.211 Site 212/222-2, entrance of the shafts (facing north).....	156	Fig. 3.239 Rim of an Iron Age bowl WaA 900003-45	191
Fig. 3.212 Site 212/222-2, interior of the shaft ..	157	Fig. 3.240 Rim of a Hellenistic-Roman bowl WaA 900004-55.....	191
Fig. 3.213 Site 212/222-2, cistern in the vicinity	157	Fig. 3.241 Rim of a large storage jar (EBAA II/III) WaA 900152-01	194
Fig. 3.214 Body sherd of a “bag-jar” WaA 900142-01.....	158	Fig. 3.242 Rim of a Middle Bronze Age bowl WaA 900151-11	194
Fig. 3.215 View of site 212/222-3 (facing south)	159	Fig. 3.243 Rim of a jar or jug (LBA II) WaA 900151-04.....	194
Fig. 3.216 212/223-1-001	161	Fig. 3.244 Rim of a jar (IA IIC) WaA 900151-12.....	194
Fig. 3.217 212/223-1-002	161	Fig. 3.245 Base ring of an Umayyad jar or jug WaA 900152-26	195
Fig. 3.218 212/223-1-003	162	Fig. 3.246 Mamluk body sherd with handle base WaA 900152-29	195
Fig. 3.219 212/223-1-004	162		
Fig. 3.220 212/223-1-005	163		
Fig. 3.221 212/223-1-006	163		
Fig. 3.222 212/223-1-007	164		
Fig. 3.223 212/223-1-008	164		
Fig. 3.224 Sketch plan of site 212/223-1	165		
Fig. 3.225 Rim of an Early Bronze Age jar WaA 900000-44	171		
Fig. 3.226 Rim of an Iron Age jar WaA 900000-01 (Holemouth)	171		