

ISMEO
ASSOCIAZIONE INTERNAZIONALE DI STUDI
SUL MEDITERRANEO E L'ORIENTE

SERIE ORIENTALE ROMA
n.s. 12

MATTEO DELLE DONNE

AGRICOLTURA, ALIMENTAZIONE E PALEOAMBIENTE
DELLA JAZIRA SIRIANA TRA IV E III MILL. A.C.
LE EVIDENZE DA TELL MOZAN

with an English summary



ROMA 2018

UNIVERSITÀ DEGLI STUDI DI NAPOLI "L'ORIENTALE"

DISSERTATIONES

VIII

MATTEO DELLE DONNE

**AGRICOLTURA, ALIMENTAZIONE E PALEOAMBIENTE
DELLA JAZIRA SIRIANA TRA IV E III MILL. A.C.
LE EVIDENZE DA TELL MOZAN**

with an English summary



NAPOLI 2018

Questo volume è stato pubblicato con un contributo del Progetto MIUR "Studi e ricerche sulle culture dell'Asia e dell'Africa: tradizione e continuità, rivitalizzazione e divulgazione" diretto da Adriano Rossi.

Urkesh/Mozan Studies, 7

This volume is published as number 7 within the series of reports of the Mozan Urkesh Archaeological Project, *Urkesh/Mozan Studies*, under the aegis of IIMAS – The International Institute for Mesopotamian Area Studies.

DISSERTATIONES

Università degli studi di Napoli "L'Orientale"
Collane di Ateneo / UniorPress

Comitato scientifico-editoriale

Simonetta de Filippis (coordinatrice)

Guido Cappelli, Flavia Cuturi, Andrea De Benedittis,
Giancarlo Lacerenza, Roberta Montinaro, Andrea Pezzè

SERIE ORIENTALE ROMA

ISMEO – Associazione Internazionale
di Studi sul Mediterraneo e l'Oriente

© 2018 Matteo Delle Donne

ISSN 1723-8226

ISBN 978-88-6719-166-6



UniorPress

Via Nuova Marina 59, 80133 Napoli

INDICE

Prefazione	11
Introduzione	13
1. Un sito archeologico nella piana del Khabur	
1.1. Inquadramento geografico	23
1.2. Inquadramento vegetazionale	25
1.3. L'indagine archeologica a Tell Mozan	26
1.4. La strutturazione del sito	26
1.4.1. Il tempio	27
1.4.2. L' <i>ābi</i>	28
1.4.3. Il palazzo reale	28
1.4.4. Intorno alla <i>plaza</i> : il settore J1	30
2. Un aspetto della paleobotanica: la carpologia, storia, teoria e metodi	
2.1. Definizione e cenni storici	31
2.2. La conservazione dei resti carpologici nei depositi archeologici	36
2.2.1. Carbonizzazione	36
2.2.2. Imbibizione	37
2.2.3. Mummificazione	38
2.2.4. Mineralizzazione	38
2.2.5. Impronte	39
2.3. Metodologia di recupero e studio dei resti carpologici	40
2.3.1. Il campionamento archeologico	40
2.3.2. Tecniche di estrazione dei resti archeobotanici	42
2.3.3. Analisi di laboratorio	45
2.3.4. Presentazione e interpretazione dei risultati	47

3. L'indagine archeobotanica a Tell Mozan: conservazione e recupero delle evidenze	
3.1. Campionamento per l'analisi archeobotanica	49
3.2. Tecniche di estrazione dei resti archeobotanici	50
3.3. Preparazione e analisi dei carporesti	51
4. Sezione analitica: identificazione delle specie rinvenute	
4.1. Risultati dello studio sui carporesti	55
4.1.1. Modalità di conservazione	55
4.1.2. Le specie rinvenute	55
5. Sezione diagnostica: le specie rinvenute	
5.1. Cereali	71
5.1.1. <i>Hordeum</i> L.	74
<i>Hordeum vulgare</i> L.	75
5.1.2. <i>Triticum</i> L.	82
<i>Triticum monococcum</i> L. ssp. <i>monococcum</i>	84
<i>Triticum turgidum</i> L. ssp. <i>dicoccum</i> (Schrank) Thell.	86
<i>Triticum monococcum/dicoccum</i>	92
<i>Triticum durum/aestivum</i>	93
<i>Triticum turgidum</i> L. ssp. <i>durum</i>	98
<i>Triticum</i> L. sp.	99
5.1.3. Cerealia	99
5.2. Legumi	99
5.2.1. <i>Lens culinaris</i> ssp. <i>culinaris</i> Medik.	101
5.2.2. <i>Lathyrus sativus</i> L.	103
5.2.3. <i>Vicia faba</i> L.	106
5.2.4. <i>Vicia ervilia</i> (L.) Willd.	108
5.2.5. <i>Vicia/Lathyrus</i>	109
5.2.6. <i>Pisum sativum</i> L.	109
5.2.7. Fabaceae indet.	111
5.3. Frutti	111
5.3.1. <i>Vitis vinifera</i> L.	111
5.3.2. <i>Ficus carica</i> L.	114
5.3.3. cf. <i>Olea</i> L. sp.	115
5.3.4. cf. <i>Punica granatum</i> L.	116

5.4. Infestanti	117
5.4.1. Poaceae	117
<i>Aegilops</i> spp.	119
<i>Lolium</i> spp.	122
5.4.2. Fabaceae	123
5.4.3. Cyperaceae e Polygonaceae	124
5.4.4. Rubiaceae	125
5.4.5. Altre piante	126
5.5. Residui di cibo	126
6. Interpretazione dei dati	
6.1. Discussione e conclusioni	127
6.1.1. La tipologia dei campioni	127
6.1.2. Le piante coltivate	134
6.1.3. Le piante infestanti	137
6.1.4. I cereali: dalla mietitura allo stoccaggio	139
6.1.5. La ricostruzione del paleoambiente	145
Appendice I. Figure	149
Appendice II. I resti vegetali. Tabelle	199
Summary	237
Bibliografia	257

PREFAZIONE

Matteo Delle Donne's research on the archaeobotanical remains from the Urkesh/Mozan excavations carried out under the auspice of IIMAS – The International Institute of Mesopotamian Area Studies is the result of his long interest in our project and his on site analysis of the materials carried out during the excavations. Because his research came during the excavation seasons he was able to familiarize himself first hand with the stratigraphic and architectural contexts from where the samples came. It was particularly helpful for all of us to be able to discuss in person issues relating to the material and its context just as it was being excavated: the collaboration that ensued was exemplary and this book is also the fruit of that collaborative experience.

The results of his research on the Urkesh/Mozan data are of great significance for what they tell us about the local environment in the region and for the care with which he points out the coherence with the data analyzed from nearby sites, located in modern-day northeastern Syria. For instance, he points out, along with others, that northern Mesopotamia is an ideal area for the cultivation of grapes because in antiquity both wild grape vines as well as cultivated grapes existed there. In fact, the data from Mozan/Urkesh indicate that the domestication of the grape in all likelihood occurred in this area because at our site Delle Donne found evidence of an intermediate stage in the long process of development from wild to cultivated grapes. The consumption of grapes as food and the processing of grapes to produce wine is a topic of much current debate. In the third millennium seal impressions dating to the Akkadian period, we have found a large amount of iconographic data showing elites holding up a conical cup, from which they are presumably drinking. From our excavations we have a very large number of these cups and have attempted to determine what these cups contained through residue analysis. Unfortunately these analyses were negative for any type of residue so we can only speculate that the iconography indicates a special type of drink, perhaps including wine.

The results of his research on the plants grown in the fourth and third millennium near the city of Urkesh interestingly reflect the modern situation with which we are very familiar. Delle Donne reconstructs the local environment around the ancient city as open fields with few areas of trees and some water stagnant or running. Until the advent of a large number of dams in southeastern Turkey there was much more water present in the Mozan area than today. The crops grown in the Mozan area today are primarily wheat, some barley and some lentils. There are no fruit trees or grape vines as these are an entirely different type of cultivation activity. The other major crop is cotton which of course was introduced much later.

An extensive English rendering of the main argument will be published in the excavation's website (www.arkesh.org), where the data of Delle Donne's analysis will also be included in the Urkesh Global Record format. For this, too, we are grateful to the author, who has always been keen about integrating his work with that of the project as a whole. The final inclusion of the results of his research in the wider digital framework of the Urkesh record will bring to a successful conclusion our intense and productive scholarly collaboration, which we hope to be able to continue in full force once it becomes possible to resume excavations at Tell Mozan.

Marilyn Kelly-Buccellati Giorgio Buccellati
Directors, Mozan/Urkesh Archaeological Project