

Jakub Niebieszczanski

Landscapes of Prehistoric Settlement in the Anthemous Valley (Central Macedonia, Greece)

In the Light of Archaeological
and Palaeogeographical Data



ADAM MICKIEWICZ UNIVERSITY IN POZNAŃ
FACULTY OF ARCHAEOLOGY

Jakub Niebieszczanski

Landscapes of Prehistoric Settlement in the Anthemous Valley
(Central Macedonia, Greece)

LANDSCAPES OF PREHISTORIC SETTLEMENT
IN THE ANTHEMOUS VALLEY
(CENTRAL MACEDONIA, GREECE)
IN THE LIGHT OF ARCHAEOLOGICAL
AND PALAEOGEOGRAPHICAL DATA

LANDSCAPES OF PREHISTORIC SETTLEMENT
IN THE ANTHEMOUS VALLEY
(CENTRAL MACEDONIA, GREECE)
IN THE LIGHT OF ARCHAEOLOGICAL
AND PALAEOGEOGRAPHICAL DATA

POZNAŃ CONTRIBUTIONS TO AEGEAN ARCHAEOLOGY

VOL. 4

FACULTY OF ARCHAEOLOGY
ADAM MICKIEWICZ UNIVERSITY IN POZNAŃ

EDITOR

Janusz Czebreszuk (Poznań)

EDITORIAL COMMITTEE

Stelios Andreou (Thessaloniki)

Maria Pappa (Thessaloniki)

ADAM MICKIEWICZ UNIVERSITY IN POZNAŃ
FACULTY OF ARCHAEOLOGY

JAKUB NIEBIESZCZAŃSKI

LANDSCAPES OF PREHISTORIC SETTLEMENT
IN THE ANTHEMOUS VALLEY
(CENTRAL MACEDONIA, GREECE)
IN THE LIGHT OF ARCHAEOLOGICAL
AND PALAEOGEOGRAPHICAL DATA



POZNAŃ 2021

Reviewed by:

JANUSZ CZEBRESZUK (Poznań)

MATEUSZ JAEGER (Poznań)

©Author

All rights reserved: No part of this book may be reprinted or reproduced or utilized in any form or by any electronic, mechanical or other means, now known or hereafter invented, including photocopying and recording or in any information storage or retrieval system, including the Internet, without written permission of the author.

The publication was financed by the Faculty of Archaeology, Adam Mickiewicz University in Poznań Poland. Research conducted by the author was financed by the National Science Centre Poland grant no. 2013/09/N/HS3/01092, title: Landscapes of prehistoric settlement in the Anthemoundas Valley (Central Macedonia, Greece) in terms of archaeological and paleogeographical data.

Frontpiece includes photo of a fluvial sediments recorded in a tributary stream of Anthemous, photo by Author. All photos were taken by Author, unless otherwise stated.

Translations: Author, Asta Rand, Hanna Kossak-Nowocień

Technical layout: Scriptor s.c.

Cover design: Jacek Grześkowiak

ISBN: 978-83-946591-6-5

Publisher: Faculty of Archaeology, Adam Mickiewicz University in Poznań

Druk i oprawa: Totem.com.pl, 88-100 Inowrocław, ul. Jacewska 89

TABLE OF CONTENTS

| | |
|--|----|
| ACKNOWLEDGEMENTS | 9 |
| 1. INTRODUCTION | 11 |
| 2. ENVIRONMENTAL SETTING | 17 |
| 2.1. Introduction | 17 |
| 2.2. Physiogeographical setting | 17 |
| 2.3. Geological setting | 21 |
| 2.4. Climate | 22 |
| 2.5. Land use in the Anthemous Valley | 23 |
| 3. ENVIRONMENTAL AND ARCHAEOLOGICAL CONTEXT OF THE ANTHEMOUS VALLEY | 27 |
| 3.1. Introduction | 27 |
| 3.2. Palaeogeographical data | 27 |
| 3.2.1. Geology and tectonics | 27 |
| 3.2.2. Vegetation history | 32 |
| 3.2.2.1. Pleistocene | 33 |
| 3.2.2.2. Late Pleistocene and Holocene | 34 |
| 3.2.3. Palaeoclimate | 36 |
| 3.2.4. Marine transgression | 39 |
| 3.2.5. Geomorphology and hydrography | 45 |
| 3.3. History of archaeological research in the Anthemous Valley | 50 |
| 3.4. Archaeological data | 52 |
| 3.4.1. Early Neolithic | 52 |
| 3.4.2. Middle, Late and Final Neolithic | 56 |

| | |
|--|----|
| 3.4.2.1. Vassilika-Kyparissi | 56 |
| 3.4.2.2. Thermi | 59 |
| 3.4.2.3. Galatista | 59 |
| 3.4.2.4. Nea Raedestos | 60 |
| 3.4.2.5. Summary | 61 |
| 3.4.3. Early and Later Bronze Age..... | 62 |
| 3.4.3.1. Early Bronze Age..... | 64 |
| 3.4.3.2. Middle and Late Bronze Age (Later Bronze Age)..... | 65 |
| 3.4.3.3. Toumba Galatista | 65 |
| 3.4.3.4. Toumba Agia Tetradi..... | 66 |
| 3.4.3.5. Toumba Panikova | 67 |
| 3.4.3.6. Toumba Agios Kyrikos | 67 |
| 3.4.3.7. Toumba Amalara | 67 |
| 3.4.3.8. Toumba Metamorfosi..... | 68 |
| 3.4.3.9. Vassilika – Toumba Agia Paraskevi | 68 |
| 3.4.3.10. Prototoumba Vassilika-Kyparissi | 69 |
| 3.4.3.11. Toumba Loutra Thermis | 69 |
| 3.4.3.12. Toumba Nea Raedestos | 70 |
| 3.4.3.13. Toumba Thermi | 70 |
| 3.4.3.14. Toumba Gona | 71 |
| 3.4.4. Early Iron Age | 71 |
| 3.5. Written sources | 72 |
| 3.6. General record of landscape changes in the light of palaeogeographical data | 74 |
| 3.7. General record of settlement changes in the Anthemous Valley in the light of archaeological data | 76 |
| 4. METHODS..... | 79 |
| 4.1. Field survey | 79 |
| 4.2. GIS and cameral studies | 80 |
| 4.3. Geomorphological reconnaissance | 81 |
| 4.4. Documentation of profiles | 83 |
| 4.5. Hand drillings | 83 |
| 4.6. Vibracoring | 84 |
| 4.7. Stratigraphical and lithological descriptions | 84 |
| 4.8. Detailed geochemical analysis | 86 |
| 4.9. Palynology | 86 |

| | |
|---|-----|
| 4.10. Diatom analysis | 87 |
| 4.11. Dating methods | 87 |
| 5. GEOARCHAEOLOGICAL RECORD | |
| OF THE ANTHEMOUS VALLEY | 89 |
| 5.1. The Upper Basin | 89 |
| 5.1.1. Galatista | 90 |
| 5.1.2. Stratigraphy | 93 |
| 5.1.3. Summary of the Upper Basin characteristics | 96 |
| 5.2. The Lower Basin | 96 |
| 5.2.1. Water pipeline construction | 97 |
| 5.2.2. Loutra | 101 |
| 5.2.2.1. Stratigraphy and lithology | 103 |
| 5.2.2.2. Electrical resistivity tomography research | 114 |
| 5.2.2.3. Conclusions | 116 |
| 5.2.3. Nea Raedestos | 117 |
| 5.2.3.1. Electrical resistivity tomography | 121 |
| 5.2.3.2. Stratigraphy | 124 |
| 5.2.3.3. Lithology | 137 |
| 5.2.3.4. Geochemistry | 147 |
| 5.2.3.5. Palynology | 149 |
| 5.2.3.6. Diatom and malacological analysis | 154 |
| 5.2.3.7. Conclusions | 156 |
| 5.2.4. Summary of the Lower Basin characteristics | 159 |
| 5.3. Transition zone | 161 |
| 5.3.1. Kyparissi | 161 |
| 5.3.1.1. Stratigraphy and lithology | 166 |
| 5.3.1.2. Palynology | 172 |
| 5.3.1.3. Conclusions | 174 |
| 5.3.2. Agia Tetradi | 175 |
| 5.3.2.1. Stratigraphy and tectonics | 178 |
| 5.3.2.2. Conclusions | 181 |
| 5.3.3. Summary of Transition Zone characteristics | 183 |
| 5.4. Slopes | 183 |
| 5.4.1. Amalara | 183 |
| 5.4.1.1. Morphology | 186 |
| 5.4.1.2. Stratigraphy | 189 |

| | |
|---|-----|
| 5.4.1.3. Present formation processes | 192 |
| 5.4.1.4. Conclusions | 197 |
| 5.4.2. Other mountainous sites – quarries | 198 |
| 5.4.3. Summary of the slopes | 200 |
| 5.5. Summary of the environmental changes record in the Anthemous Valley | 200 |
| 6. DISCUSSION | 205 |
| 6.1. Geoarchaeological remarks | 205 |
| 6.1.1. Environmental changes and the settlement dynamics | 205 |
| 6.1.2. Natural resources | 210 |
| 6.1.3. Environmental changes and the archaeological record | 212 |
| 6.2. Regional scale discussion | 215 |
| 7. SUMMARY AND CONCLUSIONS | 217 |
| 7.1. Project summary | 217 |
| 7.2. Research perspectives | 220 |
| LITERATURE CITED | 225 |