K O M M O S

An Excavation on the South Coast of Crete
by the University of Toronto and the Royal Ontario Museum
under the auspices of the
American School of Classical Studies in Athens

Joseph W. Shaw
Maria C. Shaw
EDITORS

Volume IV, Part 1: Text
KOMMOS IV

The Greek Sanctuary, Part 1

EDITED BY JOSEPH W. SHAW AND MARIA C. SHAW

WITH CONTRIBUTIONS BY

Princeton University Press: PRINCETON AND OXFORD
DEDICATED BY THE EDITORS
IN MEMORY OF THEIR PARENTS

Alfred Phillips Shaw
Rue Winterbotham Shaw

Emmanuel Coutroubakis
Vasileia Coutroubaki
Contents

Part 1: Text

Preface ix
Abbreviations xiii
List of Tables xv

CHAPTER 1
The Architecture of the Temples and Other Buildings by Joseph W. Shaw 1

CHAPTER 2
The Iron Age Inscriptions by Eric Csapo, Alan W. Johnston, and Daniel Geagan 101

CHAPTER 3
The Sculpture from the Sanctuary by Maria C. Shaw 135

CHAPTER 4
The Iron Age Pottery from Kommos by Peter J. Callaghan, Alan W. Johnston,
Patricia Maynor Bikai, John W. Hayes, and Richard E. Jones 210

CHAPTER 5
Miscellaneous Finds by John W. Hayes, Alan S. Walker, Mary K. Dalney,
Nancy J. Skon-Jedele, Joseph W. Shaw, Deborah K. Harlan, Katherine A. Schwab,
David S. Reese, and Paul J. Anderson 336

CHAPTER 6
The Iron Age Fauna by David S. Reese, with contributions by Mark J. Rose
and Deborah Ruscillo 415
Contents

CHAPTER 7
The Charcoal and Seeds from Iron Age Kommos by C. Thomas Shay and Jennifer M. Shay 647

CHAPTER 8
Ritual and Development in the Greek Sanctuary by Joseph W. Shaw 669

References 733
Concordance 769
Index 797

Part 2: Plates

List of Plates v
List of Foldouts xix
Preface

The present volume describes and interprets the remains of the Greek Sanctuary at Kommos. The discovery of these well-preserved strata of temples and related buildings, set above the earlier Minoan civic structures, adds dimension to the Kommos site and will enrich our understanding of Cretan culture during the Greek period.

These excavations of the University of Toronto and the Royal Ontario Museum were carried out under the aegis of the American School of Classical Studies at Athens, with the cooperation of the Greek Antiquities Service. Financial backing for the enterprise has been provided by the sponsoring institutions in Canada (above), the Social Sciences and Humanities Research Council of Canada (lately, Grant 410-97-1485), the Institute for Aegean Prehistory, and the SCM Corporation of New York, as well as by Leon Pomerance (in cooperation with the Institute of Nautical Archaeology), Louise Stone, Lorne Wickerson, and other private donors over the years. Corporate support in goods was provided loyally by Eastman Kodak, Canada, Ltd., as well as by Keuffel and Esser of Canada; Olivetti Canada, Ltd.; the Polaroid Corporation of America; and Staedtler-Mars, Ltd. For subsidy making possible the publication of this volume, we are particularly indebted to Carl Amrhein, Dean of Arts and Science, and Heather Munroe-Blum, Vice President for Research and International Relations, both at the University of Toronto.

Volume I in this series, published in two parts (J. W. Shaw and M. C. Shaw 1995; 1996), presents the evidence for the history and development of the Kommos area, compiled from studies of the distribution of sites and artifacts by means of survey and of the geology, geomorphology, flora, fauna, and land use. It also contains detailed examination of the Minoan houses and their artifacts. Volumes II (Betancourt 1990) and III (Watrous 1992) present Minoan pottery deposits from representative areas of the site.

A subsequent volume is planned for the architecture, finds, and stratigraphy of the Minoan civic buildings south of the east-west road that appears to divide the houses from monumental public construction. Although the latter partly underlie the area of the Greek Sanctuary, the separation of Minoan from Greek in the publication series seemed necessary. One reason was simply the bulk of Greek material, which requires a volume by itself. Another was that individual volumes could be consulted separately by those interested in the respective periods. Moreover, although most of the material related to the Greek Sanctuary was available by 1985
and could therefore be studied for publication, excavation of the monumental civic Buildings
AA, T, and P could not be completed until 1995. If the excavation of the Minoan structures
had determined the publication date, the publication of the volume on the sanctuary would
have been substantially delayed.

Work in the sanctuary, which was carried out chiefly during summer excavation seasons
1977–86, involved many people in the field, at the site, and in the nearby Pitsidia storeroom
complex, as well as at various home bases in Greece, England, the United States, and Canada.
At the University of Toronto the original records are currently stored in the Department of
Fine Art, which has served as the base for activities on the North American continent since
the excavation began. For their services to the excavation we thank especially Frederick E.
Winter, Hans-K. Lücke, Robert Welsh, Philip L. Sohn, and Margaret C. Miller, chairs of the
Department.

Acknowledgments are made in a more formal and detailed manner in the introduction to
Volume I of the Kommos series. In the field, perhaps the most basic personnel were the trench
supervisors, each of whom kept a notebook and wrote the reports that form the base for much
of the text and structure of this volume. The trenchmasters in the sanctuary area, who usually
dealt with both Greek and Minoan levels, were Jorge Bravo, Erin Campbell, John Critchly,
Leda Costaki, William Cox, Susan Cronkite, Eric Csapo, Mary K. Dabney, Susan Downie, Rod
Fitzsimons, Elizabeth Hedeen, Guy Hedreen, Robert Henrickson, Sonia Hewitt, John McEnroe,
Elizabeth McGowan, Christopher Monroe, Gordon Nixon, Lucia F. Nixon, Douglas Orr, Amy
Raymond, Deborah Ruscello, Josée Sabourin, Maria C. Shaw (also Assistant Director), Steven
Shubert, Barbette Spaeth, Lara Tabac, and Kathryn Walsh. All the trenches they supervised
are shown graphically in Plates 1.7 and 1.8. The Director, Joseph W. Shaw, helped coordinate
the excavation and usually did the site photography. His yearly notebooks, in the same series
as those of the trenchmasters, kept a running record of the work. Special recognition is due
to Giuliana Bianco, our excavation architect for over two decades, whose ability to make
exact architectural drawings, and talent in surveying in the field, are clear throughout our
preliminary reports and final volumes.

Also in the field were our Greek workmen, mostly from the village of Pitsidia, but also
from Margaritaki, Moires, Petrokephali, and Siva. We single out here for their many seasons
of loyal work Aristoteles Fasoulakis, Iannis Fasoulakis, and, especially, our successive foremen
the late George Beladakis and, until the present, Sifis Fasoulakis, with whom it has been a
pleasure to work. We are also indebted to George Manisoudakis for his painstaking and
careful removal of sand and excavated earth from the site. Pitsidia–Matala mayors who showed
special interest were Manolis Kyprakis, Ioannis Androulidakis, and Michalis Kotsifakis, as
did the secretary of the town, Maria Kadianaki. Helpful with accommodations in Pitsidia
were Petros Kyprakis, Petros and Fofo Spinthaki, Iakovos and Maria Kadianaki, and Manolis
and Theonifi Kadianaki. George Sphakakis and his family made it possible for us to store our
equipment near the site for many years.
For his professional help with pottery we are particularly indebted to Peter J. Callaghan, University of Cambridge, who wrote much of Chapter 4, Section 1, on the Greek pottery, and who was, almost from the time of the discovery of the Greek Sanctuary, our chief interpreter of the Greek pottery. Alan W. Johnston, University College London, helped complete that work when Callaghan was no longer able to continue. Special thanks are due also to Philip P. Betancourt, Temple University, and L. Vance Watrous, State University of New York at Buffalo, authors of the volumes on Minoan pottery in this Kommos series, as well as to Nicolas J. Coldstream, University of London, all of whom advised us about the Greek pottery in 1977 and 1978. For their help with the handling of various aspects of the Greek pottery in particular we are indebted to Richard Allibone, Peter Citron, Michael Norris, Eoin Petterson, and David Turner. We are especially indebted to conservators Catherine Sease, Field Museum of Chicago; Barbara Hamann, Oriental Institute; and Katharine Hall, University of Texas at Austin. Other helpers with conservation included Lynn Grant, Clarissa Hagen-Plettenberg, Marta Lesgard, and Brenda Lee Smith. Profilers during the years were Helen Besi, Patricia Conner, Danaé Cotsis, Frank DeMita, Jenny Doole, Valerie Gilmore, Lori Grove, Nicolle Hirshfield, Guy Hedreen, Christina Luke, Rosemary Manderson, Julia Pfaff, Jacke Phillips, Elizabeth Safran, Eric Silverman, and Linda Zernask. Joseph P. Clarke, who did many of the drawings in this volume, worked as our artist for numerous seasons.

The base in Pitsidia was managed during 1976–99 by a succession of excellent chief cataloguers: Betsy Comstock (with the help of Cathy McEnroe), Mary K. Dabney (with the help of James C. Wright), Katherine A. Schwab (with the help of Janet Tenody), Deborah K. Harlan (with the help of Elisabeth Duckworth and Barbara Hayden), Rebecca Duckles (with the help of Helene Whittaker), Niki Holmes Kantzios (with Deborah Ruscillo), and Leda Costaki. Photographers based in Pitsidia were Robert K. Vincent, Jr. (with the help of Fran Vincent), Timothy DeVinney, Taylor Dabney, Edwin Burke, Alexander C. Shaw (helped by Robin A. Shaw), and Ann Perron.

We are all indebted to the American School of Classical Studies, which, aside from providing us with the precious excavation permit, was generous with numerous other services. To be singled out are the directors during the period 1976–99: James R. McCredie (and his Assistant Director, C. W. J. Eliot), Henry R. Immerwahr, Stephen G. Miller, William D. E. Coulson, and James D. Muhly. Of the staff of the school, Ioanna Drivas and Panayiotis Asiatides helped manage financial matters; the late Harry Bikakis was instrumental in purchasing land for excavation in the name of the Greek State and gave valuable advice. Marian H. McAllister, editor of Hesperia, edited the preliminary reports, of which we have made use in this volume.

The Greek Antiquities Service aided our work in many ways. Among those who helped and showed interest were Ephors Stylianos Alexiou, Manolis Bourboudakis, Angeliki Lembessi, Iannis Tzedakis (and, later, as Director of Antiquities), Ioannis Sakellarakis, Charalambos Kritas, and Alexandra Karetziou. Spyridon Marinatos and Nikolaos Kondoleon, Directors of Antiquities, showed special interest in our progress. Among the observers on the Kommos
site at intervals during the various years were Antonis Vasilakis, George Rethymniotakis, Alexandra Karetsou, Despina Vallianou, Aphrodite Giorgoulaki, and Irene Antonakaki.

For their advice with aspects of the present text we would like to thank Nancy Bookidis, Walter Burkert, Nicolas J. Coldstream, Leslie Preston Day, Theodore Eliopoulos, Michael Jameson, Angeliki Lembessi, Alexander Mazarakis, Margaret C. Miller, Polly Muhly, Eliezer Oren, David W. Rupp, and Homer A. Thompson, although they are in no way responsible for the errors that remain.

Barbara Ibronyi, C. Dawn Cain, Barbara Liguori, and Cy Strom have shown dedication and professionalism as editorial assistants in seeing this volume through to its publication; Laurie Burton was our patient and skilful proofreader. Lori Holland of Bytheway Publishing Services led the team that transformed a complex manuscript into a finished book. Annie Igoe, Aikaterini Janetseas, and Amy Raymond, students in the Ancient Studies Collaborative Program at the University of Toronto, helped with the proofreading. Thanks are also due to Karen Fortgang, who ably coordinated the stages of production of this volume and, along with Martin Ahermaa, the production of Volume 1, Part 2, which appeared in 1996.

Joseph W. Shaw
Maria C. Shaw
Department of Fine Art
University of Toronto
4 March 2000
Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>silver</td>
</tr>
<tr>
<td>AWJ</td>
<td>Alan W. Johnston</td>
</tr>
<tr>
<td>B</td>
<td>bronze</td>
</tr>
<tr>
<td>BA</td>
<td>Bronze Age</td>
</tr>
<tr>
<td>BG</td>
<td>black-glaze or black-gloss</td>
</tr>
<tr>
<td>(Chap. 4)</td>
<td></td>
</tr>
<tr>
<td>BM</td>
<td>British Museum</td>
</tr>
<tr>
<td>Bo</td>
<td>bone</td>
</tr>
<tr>
<td>C</td>
<td>clay</td>
</tr>
<tr>
<td>ca.</td>
<td>circa</td>
</tr>
<tr>
<td>CH</td>
<td>Central Hillside</td>
</tr>
<tr>
<td>CIA</td>
<td>Corpus Inscriptionum Atticarum</td>
</tr>
<tr>
<td>CIG</td>
<td>Corpus Inscriptionum Graecarum</td>
</tr>
<tr>
<td>cm</td>
<td>centimeter</td>
</tr>
<tr>
<td>CS</td>
<td>chipped stone tool</td>
</tr>
<tr>
<td>d</td>
<td>diameter</td>
</tr>
<tr>
<td>DG</td>
<td>Daniel Geagan</td>
</tr>
<tr>
<td>dim</td>
<td>dimension</td>
</tr>
<tr>
<td>EA</td>
<td>Early Archaic</td>
</tr>
<tr>
<td>EB</td>
<td>Early Bronze</td>
</tr>
<tr>
<td>EC</td>
<td>Early Corinthian</td>
</tr>
<tr>
<td>EG</td>
<td>Early Geometric</td>
</tr>
<tr>
<td>EH</td>
<td>Early Hellenistic</td>
</tr>
<tr>
<td>EI</td>
<td>Early Iron</td>
</tr>
<tr>
<td>EIA</td>
<td>Early Iron Age</td>
</tr>
<tr>
<td>EM</td>
<td>Early Minoan</td>
</tr>
<tr>
<td>EN</td>
<td>Early Neolithic</td>
</tr>
<tr>
<td>EO</td>
<td>Early Orientalizing</td>
</tr>
<tr>
<td>EPC</td>
<td>Early Protocorinthian</td>
</tr>
<tr>
<td>EPG</td>
<td>Early Protogeometric</td>
</tr>
<tr>
<td>ER</td>
<td>Early Roman</td>
</tr>
<tr>
<td>est</td>
<td>estimated</td>
</tr>
<tr>
<td>ext</td>
<td>exterior</td>
</tr>
<tr>
<td>F</td>
<td>faience</td>
</tr>
<tr>
<td>FB</td>
<td>fine buff</td>
</tr>
<tr>
<td>FN</td>
<td>Final Neolithic</td>
</tr>
<tr>
<td>G</td>
<td>gold</td>
</tr>
<tr>
<td>GS</td>
<td>ground stone tool</td>
</tr>
<tr>
<td>h</td>
<td>height</td>
</tr>
<tr>
<td>HM</td>
<td>Herakleion Museum</td>
</tr>
<tr>
<td>HT</td>
<td>Hilltop</td>
</tr>
<tr>
<td>I</td>
<td>inscription</td>
</tr>
<tr>
<td>IA</td>
<td>Iron Age</td>
</tr>
<tr>
<td>IG</td>
<td>Inscriptiones Graecae</td>
</tr>
<tr>
<td>int</td>
<td>interior</td>
</tr>
<tr>
<td>ISJ</td>
<td>inscribed stirrup jar</td>
</tr>
<tr>
<td>kg</td>
<td>kilogram</td>
</tr>
<tr>
<td>L</td>
<td>lead</td>
</tr>
<tr>
<td>LA</td>
<td>Late Archaic</td>
</tr>
<tr>
<td>LB</td>
<td>Late Bronze</td>
</tr>
<tr>
<td>LBA</td>
<td>Late Bronze Age</td>
</tr>
<tr>
<td>LC</td>
<td>Late Cypriot</td>
</tr>
<tr>
<td>LG</td>
<td>Late Geometric</td>
</tr>
<tr>
<td>LH</td>
<td>Late Hellenistic</td>
</tr>
<tr>
<td>LIMC</td>
<td>Lexicon Iconographicum</td>
</tr>
<tr>
<td>Mythologiae Classicae</td>
<td></td>
</tr>
<tr>
<td>LM</td>
<td>Late Minoan</td>
</tr>
<tr>
<td>LN</td>
<td>Late Neolithic</td>
</tr>
<tr>
<td>LO</td>
<td>Late Orientalizing</td>
</tr>
<tr>
<td>LPC</td>
<td>Late Protocorinthian</td>
</tr>
<tr>
<td>LPG</td>
<td>Late Protogeometric</td>
</tr>
</tbody>
</table>
xiv  Abbreviations

m
M
max
MB
MG
Mi
mm
MM
MNI
N
NISP
O
P
Pauly-
PC
PG

meter
metalworking remains
maximum
Middle Bronze
Middle Geometric
miscellaneous object
millimeter
Middle Minoan
minimum number of individuals
uncatalogued Phoenician sherds labeled by Patricia M. Bikai (Chap. 4, Section 2)
number of identified specimens
organic
plaster

PGB
PJ
pres
Profile
S
SEG
S
MNI
MG
Mi
mm
MM
MNI
N
NISP
O
P

Protogeometric B
Peter J. Callaghan
preserved
The preserved profile of the piece gives . . .
stone
Supplementum Epigraphicum
Gracum
same fabric
Sub-Geometric
shoulder jar
Sub-Minoan
tempered buff
thickness
width
weight

All measurements are given in centimeters unless otherwise specified.
List of Tables

Table 1.1 Chronology chart for the Greek Sanctuary at Kommos.
Table 1.2. List of staff during the years 1991–98, indicating the year, home institution, and role(s) on the Kommos excavation.
Table 1.3. Selected items from within Temple A. See also reports on fauna (Chap. 6) and flora (Chap. 7).
Table 1.4. Selected items from within Temple B and associated structures.
Table 1.5. Selected items from within Temple C and related structures.
Table 1.6. Dates and quantities of iron samples.
Table 1.7. Findspots of seventh-century-B.C. small uncatalogued nails and various large fragments.
Table 1.8. Metallographic samples examined at Toronto.
Table 1.9. Furnace slag composition from Mi 178.
Table 1.10. Figures and figurines from Iron Age Kommos by location.
Table 1.11. Thickness of Phoenician pottery at Kommos.
Table 1.12. The Phoenician pottery at Kommos. Bold numbers refer to the selected catalogue. For fabric descriptions see Table 4.3.
Table 1.13. Fabric groups A–M of the Phoenician pottery from Kommos, in which the sherd from more than one findspot.
Table 1.14. Phoenician sherd from Building Q.
Table 1.15. Compositions of Phoenician sherd expressed as element percentage oxides.
Table 5.1. Glass vessels present.
Table 5.2. Catalogue of loomweights and spindle whorls excavated through 1986. Dimensions and weights in boldface are completely preserved; otherwise measurements are as preserved, except for weights and diameters of perforations, which are restored to the total. Dates are B.C., unless otherwise specified.
Table 5.3. Addenda to the catalogue of loomweights. Dimensions and weights in boldface are completely preserved; otherwise measurements are as preserved, except for weights and diameters of perforations, which are restored to the total. Dates are B.C., unless otherwise specified.
Table 5.4. Sanctuary nails by category, including uncatalogued nails and various large fragments.
Table 5.5. Catalogue of sanctuary nails, both bronze and iron, by type. Measurements are given in centimeters.
Table 5.6. Bronze and iron nail types and their findspots in the Greek Sanctuary. For the post-Archaic period, the listing is continued by interiors and exteriors of associated buildings (A1, B, D, and E) or altars (C).
Table 5.7. Objects listed as both nails and pins in Chapter 5.
Table 5.8. Stone implements found in room interiors and dumps in the Greek Sanctuary. Some tools are catalogued here, and some in Blitzer 1995.
Table 5.9. Worked Ovis/Capra astragal from Iron Age Kommos.
Table 5.10. Fossils from Iron Age Kommos.
Table 5.11. Metric traits of skull Bo 45.
Table 6.1. Summary faunal description of Iron Age Kommos deposits.
Table 6.2. Catalogue of burnt faunal remains from Iron Age Kommos.
Table 6.3. Minimum number of individuals (MNI) of major mammals by period.
Table 6.4. Minimum number of individuals (MNI) and age of major mammals by deposit.
Table 6.5. Age of Ovis/Capra.
Table 6.6. Age of Bos.
Table 6.7. Age and sex of Sus.
Table 6.8. Burnt aged Ovis/Capra.
Table 6.9. Burnt aged Bos.
Table 6.10. Burnt aged Sus.
Table 6.11. Butchered major mammal bones.
Table 6.12. Distribution of Lepus remains.
Table 6.13. Number of identified specimens (NISP) for fish taxa from Iron Age Kommos.
Table 6.14. Presence of fish taxa in contexts from Iron Age Kommos (52 total contexts; 1 Temple A, 43 Temple B, 8 Temple C).
Table 6.15. National Statistical Service catch results for Crete (percentage of total fresh landings by taxa) in 1990 and 1984–86.
Table 6.16. Ratio of Sparidae elements in Iron Age and Minoan Kommos fish assemblages.
Table 6.17. Percentages of Sparidae elements in Iron Age and Minoan Kommos fish assemblages.
Table 6.18. Taxonomic distribution and assemblage size by period. (Data from Reese 1995a–c; Chap. 6, Sections 1–3, 5, and 6, and M. J. Rose 1995, Chap. 6, Section 4)
Table 6.19. Number of identified specimens (NISP) of faunal remains at Kommos. (Data from Reese 1995a–c; Chap. 6, Sections 1–3, 5, and 6, and M. J. Rose 1995, Chap. 6, Section 4)
Table 6.20. Percentage of fish consumed in 1948 by type. (Data from Albaugh 1953: 512, table A 51)
Table 6.21. Number of identified specimens (NISP) of faunal remains from 1994 Corinth De-

meter and Kore Sanctuary excavation. (Data from Bookidis et al. 1999)
Table 6.22. Fish taxa from Iron Age and Minoan Kommos, ritual contexts at other sites, and in reference to fish offerings in ancient authors.
Table 6.23. Context descriptions for fish remains from Iron Age Kommos.
Table 6.24. Bird species present.
Table 6.25. Distribution of bird remains.
Table 6.26. Marine invertebrates from Kommos (94,430 individuals from 135 deposits).
Table 6.27. Marine invertebrates by period.
Table 6.28. Distribution of marine invertebrates at Kommos.
Table 6.29. Percentages of major shell forms by period.
Table 7.1. Percent frequency and abundance of selected charcoal taxa from Iron Age levels at Kommos; derived from Appendix 7.1.
Table 7.2. Percent frequency and abundance of selected charcoal taxa recovered from Iron Age levels at Kommos by major period; derived from Appendix 7.1.
Table 7.3. Charred seed remains in Iron Age levels at Kommos.
Table 7.4. Percent frequency and abundance of charcoal taxa recovered from Kommos and the nearest occurrence of each tree and shrub in modern habitats in the western Mesara.
Table 7.5. Summary of the wood economy at Kommos during Iron Age times.
Table 8.1. Selected architectural forms in the Kommos sanctuary. (Buildings E, F, Q, V, W, and Z and Base Y are not included.)
Table 8.2. Exterior built altars in the Kommos sanctuary.
Table 8.3. Five built hearths in the Kommos sanctuary.