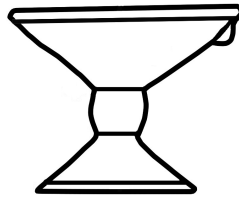


Gournes, Pediada
A Minoan Cemetery in Crete



Gournes, Pediada

A Minoan Cemetery in Crete

by
Calliope E. Galanaki

with contributions by

Chrysa Apostolaki, Yannis Balis, Yannis Bassiakos, Anastasios Eleftheriou, Doniert Evely,
Georgios Fanourakis, Charalambos Fassoulas, Eleni Filippaki, Ioannis Iliopoulos,
Lilian Karali, Alexandros Kastanakis, Danae Z. Kontopodi, Evangelos Kyriakidis,
Argyro Nafplioti, Eleni Nodarou, Georgia Pachaki, Georgios Pantermarakis,
Christina Papadaki, Yiannis Papadatos, Vassilis Perdikatsis, Kostas Sbonias,
Sophia Sotiropoulou, Charalambos Stratigis, and Joanna Triantafylidi



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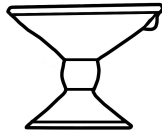
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*Dedicated to
Emmanuel A. Galanakis*



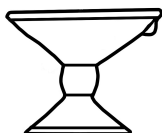


Table of Contents

List of Illustrations in the Text	ix
List of Tables	xiii
List of Figures	xv
List of Plates	xix
Preface	xxv
Acknowledgments	xxix
List of Abbreviations	xxxix
PART I: EARLY MINOAN IB CEMETERY	
1. Early Minoan I–III Domestic and Burial Sites in North-Central and East Crete, <i>Calliope E. Galanaki and Joanna Triantafylidi</i>	3
2. Early Minoan IB Cemetery, <i>Calliope E. Galanaki</i>	9
3. Catalog of the Early Minoan IB Tombs and Their Finds, <i>Calliope E. Galanaki, Danae Z. Kontopodi, and Joanna Triantafylidi</i>	11
4. Catalog of the Early Minoan IB Pottery Sherds, <i>Joanna Triantafylidi and Georgios Pantermarakis</i> ...	55
5. Burial Architecture and Funerary Practices at the Early Minoan IB Cemetery, <i>Kostas Sbonias</i>	69
6. Human Skeletal Remains in the Early Minoan IB Cemetery: The Question of the Missing Bones, <i>Argyro Nafplioti</i>	107
7. Early Minoan IB Pottery, <i>Yiannis Papadatos</i>	117

8. Petrographic Analysis of the Early Minoan IB Pottery, <i>Eleni Nodarou</i>	141
9. Analysis of the Early Minoan IB Pottery with Scanning Electron Microscopy, <i>Ioannis Iliopoulos</i> ..	151
10. Metal Objects from the Early Minoan IB Cemetery: Jewelry and Implements, <i>Calliope E. Galanaki</i> ..	153
11. Technological Observations Based on the Analyses of Metal and Steatite Finds from the Early Minoan IB Cemetery, <i>Yannis Bassiakos, Chrysa Apostolaki, Vassilis Perdikatsis, Eleni Filippaki, and Sophia Sotiropoulou with Georgia Pachaki, Georgios Fanourakis, and Yannis Balis</i>	161
12. Small Finds of Stone from the Early Minoan IB Cemetery: Obsidian, Chert, and Stone Jewelry, <i>Doniert Evely</i>	171
13. Material of Marine Origin from the Early Minoan IB Cemetery, <i>Anastasios Eleftheriou, Joanna Triantafylidi, Lilian Karali, and Calliope E. Galanaki</i>	181
14. Discussion I: The Early Minoan IB Cemetery as Part of the Aegean World, <i>Yiannis Papadatos and Calliope E. Galanaki</i>	185

PART II: MINOAN BUILDING

15. Protopalatial to Neopalatial Domestic and Burial Sites in North-Central Crete, <i>Calliope E. Galanaki, Joanna Triantafylidi, and Christina Papadaki</i>	197
16. Minoan Building, <i>Calliope E. Galanaki</i>	201
17. Architecture of the Minoan Building, <i>Calliope E. Galanaki and Christina Papadaki</i>	203
18. Introduction to the Pottery from the Minoan Building, <i>Christina Papadaki and Calliope E. Galanaki, with Statistics by Charalambos Stratigis</i>	207
19. Pottery from the Minoan Building, <i>Christina Papadaki, Eleni Nodarou, and Calliope E. Galanaki</i> ..	209
20. Petrographic Analysis of Pottery from the Minoan Building, <i>Eleni Nodarou</i>	219
21. Discussion II: Stratigraphy, Dating, and Use of the Minoan Building, <i>Calliope E. Galanaki, Evangelos Kyriakidis, and Christina Papadaki</i>	227

PART III: REGION OF GOURNES

22. Region of Gournes during the Historic Period: A Hidden Rural Landscape? <i>Alexandros Kastanakis</i>	233
23. Geological Observations on the Area of Gournes, <i>Charalambos Fassoulas</i>	239
24. Discussion III: The Gournes Region throughout Time, <i>Alexandros Kastanakis and Charalambos Fassoulas</i>	241

Epilogue: Gournes and Its Landscape, <i>Calliope E. Galanaki</i>	243
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Concordance: Excavation or Herakleion Museum Numbers, Preliminary Publication Numbers, and Final Catalog Numbers	245
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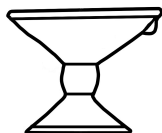
References	249
------------------	-----

Index	269
-------------	-----

Tables

Figures

Plates



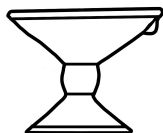
List of Illustrations in the Text

Illustration 3.1.	Vases from Tomb 1 (P1, P12, P93, P95)	12
Illustration 3.2.	Plan of Tomb 1	12
Illustration 3.3.	View of Tomb 1 from the south	12
Illustration 3.4.	Objects from Tomb 2 (P13, P23, P48, P49, P102, St2, St3, St12, St22)	13
Illustration 3.5.	Plan of Tomb 2	13
Illustration 3.6.	View of Tomb 2 from the south	13
Illustration 3.7.	Selection of objects from Tomb 3 (P9, P20, P50, P105, T.S2)	14
Illustration 3.8.	Plan of Tomb 3	15
Illustration 3.9.	View of Tomb 3 from the south	15
Illustration 3.10.	Selection of objects from Tomb 4 (P2, P14, P29, P30, P51, P70–P72, P85, P94, P96, St4, St5, T.S4)	16
Illustration 3.11.	Plan of Tomb 4	16
Illustration 3.12.	View of Tomb 4 from the north	16
Illustration 3.13.	Detail of the cavity in the burial chamber of Tomb 4	17
Illustration 3.14.	Selection of objects from Tomb 5 (P3, P25, P92, St13)	17
Illustration 3.15.	Plan of Tomb 5	18
Illustration 3.16.	View of Tomb 5 from the southwest	18

Illustration 3.17.	Selection of objects from Tomb 6 (M1, M2, P33, P34, P52, P53)	19
Illustration 3.18.	Plan of Tomb 6	19
Illustration 3.19.	View of Tomb 6 from the south	19
Illustration 3.20.	Detail of Tomb 6 showing finds in situ	19
Illustration 3.21.	Vases from Tomb 7 (P10, P54)	20
Illustration 3.22.	View of Tomb 7 showing P54 , from the south	20
Illustration 3.23.	Plan of Tomb 7	20
Illustration 3.24.	Plan of Tomb 8	21
Illustration 3.25.	View of Tomb 8 from the southwest	21
Illustration 3.26.	Selection of objects from Tomb 8 (P21, P97, St45)	21
Illustration 3.27.	Detail of the antechamber of Tomb 8 showing P21 and P97 in situ	21
Illustration 3.28.	Selection of objects from Tomb 9 (P7, P55, P73, P74, St14, T9.6)	22
Illustration 3.29.	Plan of Tomb 9	23
Illustration 3.30.	View of Tomb 9 from the east	23
Illustration 3.31.	Detail of the burial chamber of Tomb 9	23
Illustration 3.32.	Skeletal remains from Tomb 9	23
Illustration 3.33.	Pyxis (P35) from Tomb 10	24
Illustration 3.34.	Plan of Tomb 10	24
Illustration 3.35.	View of Tomb 10 showing P35 in situ, from the north	24
Illustration 3.36.	View of Tomb 10 showing P35 in situ, from the south	24
Illustration 3.37.	Selection of objects from Tomb 11 (P4, P31, P36, P37, P75, P76, P86, P87, St15)	25
Illustration 3.38.	Plan of Tomb 11	25
Illustration 3.39.	View of Tomb 11 from the west	26
Illustration 3.40.	View of Tomb 11 showing vessels in situ, from the north	26
Illustration 3.41.	Vases from Tomb 12 (P18, P32, P56, P77, P88)	26
Illustration 3.42.	Plan of Tomb 12	27
Illustration 3.43.	View of Tomb 12 showing vessels in situ, from the north	27
Illustration 3.44.	Plan of Tomb 13	27
Illustration 3.45.	View of Tomb 13 showing P38 and P57 in situ, from the south	27
Illustration 3.46.	Vases from Tomb 13 (P38, P57)	27
Illustration 3.47.	Selection of objects from Tomb 14 (P24, P58, P78, P99, T.S10)	28
Illustration 3.48.	Plan of Tomb 14	28
Illustration 3.49.	View of Tomb 14 taken from the southwest	28
Illustration 3.50.	Selection of objects from Tomb 15 (P59, P79, P80, St23, St29, St36)	29
Illustration 3.51.	Plan of Tomb 15	29

Illustration 3.52.	View of Tomb 15 from the west.....	29
Illustration 3.53.	Selection of objects from Tomb 16 (P5, P39, P60, St6, St37)	30
Illustration 3.54.	Plan of Tomb 16	30
Illustration 3.55.	View of Tomb 16 from the southwest	30
Illustration 3.56.	Selection of objects from Tomb 17 (P17, P40, P41, P61–P63, St16, St27)	31
Illustration 3.57.	Plan of Tomb 17	32
Illustration 3.58.	View of Tomb 17 from the southwest	32
Illustration 3.59.	Selection of objects from Tomb 18 (M3–M7, P42, P64, P101)	33
Illustration 3.60.	Plan of Tomb 18	33
Illustration 3.61.	View of Tomb 18 showing vessels in situ, from the southwest	33
Illustration 3.62.	View of Tomb 18 showing vessels in situ, from the east	33
Illustration 3.63.	Vase from Tomb 19 (P65)	34
Illustration 3.64.	View of Tomb 19 from the southwest.....	34
Illustration 3.65.	Plan of Tomb 19	34
Illustration 3.66.	Selection of objects from Tomb 20 (P11, P81, St7, St19)	35
Illustration 3.67.	Plan of Tomb 20	35
Illustration 3.68.	View of Tomb 20 from the north.....	35
Illustration 3.69.	Selection of objects from Tomb 21 (P6, P8, P82, P90, T.S18)	36
Illustration 3.70.	Plan of Tomb 21.....	37
Illustration 3.71.	View of Tomb 21 from the south	37
Illustration 3.72.	Selection of objects from Tomb 22 (P26, P43, P91, St8, St28, St43)	38
Illustration 3.73.	Plan of Tomb 22	38
Illustration 3.74.	View of Tomb 22 from the south	38
Illustration 3.75.	Plan of Tomb 23	39
Illustration 3.76.	View of Tomb 23 from the south	39
Illustration 3.77.	Vases from Tomb 23 (P27, P66, P100)	39
Illustration 3.78.	Selection of objects from Tomb 24 (M8, M9, P19, P44, P83)	40
Illustration 3.79.	Plan of Tomb 24.....	40
Illustration 3.80.	View of Tomb 24 from the south	40
Illustration 3.81.	Pyxis (P45) from Tomb 25	41
Illustration 3.82.	Plan of Tomb 25	41
Illustration 3.83.	View of Tomb 25 showing P45 in situ, from the south.....	41
Illustration 3.84.	Bowl (P15) from Tomb 26	42
Illustration 3.85.	Plan of Tomb 26.....	42
Illustration 3.86.	View of Tomb 26 from the south	42

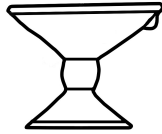
Illustration 3.87.	Plan of Tomb 27	43
Illustration 3.88.	View of Tomb 27 from the south	43
Illustration 3.89.	Plan of Tomb 28	44
Illustration 3.90.	View of Tomb 28 from the south	44
Illustration 3.91.	Objects from Tomb 29 (M10, P28, P67, St20, St33, St46, T.S23)	45
Illustration 3.92.	Plan of Tomb 29	45
Illustration 3.93.	View of Tomb 29 from the south	45
Illustration 3.94.	Obsidian (St21) from Tomb 30	46
Illustration 3.95.	Plan of Tomb 30	46
Illustration 3.96.	View of Tomb 30 from the southwest.....	46
Illustration 3.97.	Selection of objects from Tomb 31 (P46, T.S25)	47
Illustration 3.98.	Plan of Tomb 31	47
Illustration 3.99.	View of Tomb 31 from the southwest.....	47
Illustration 3.100.	Objects from Tomb 32 (P89, P104, St47)	48
Illustration 3.101.	Plan of Tomb 32.....	48
Illustration 3.102.	View of Tomb 32 from the southeast	48
Illustration 3.103.	Spouted bowl (P22) from Tomb 33	49
Illustration 3.104.	Plan of Tomb 33	49
Illustration 3.105.	View of Tomb 33 from the southeast	49
Illustration 3.106.	Alabastron (P103) from Tomb 34	50
Illustration 3.107.	Plan of Tomb 34	50
Illustration 3.108.	View of Tomb 34 from the south	50
Illustration 3.109.	Objects from Tomb 35 (M11, P16, P68, T.S29)	51
Illustration 3.110.	Plan of Tomb 35	51
Illustration 3.111.	View of Tomb 35 from the south.....	51
Illustration 3.112.	Vases from Tomb 36 (P69, P84).....	52
Illustration 3.113.	Plan of Tomb 36.....	52
Illustration 3.114.	View of Tomb 36 from the southeast.....	52
Illustration 3.115.	Plan of Tomb 37.....	53
Illustration 3.116.	View of Tomb 37 from the east.....	53
Illustration 4.1.	Sherds from tombs and their surrounding areas	56
Illustration 4.2.	Sherds from Tomb 26, Tomb 27, and the Minoan Building.....	62
Illustration 4.3.	Sherds from the wider area of the cemetery (Sectors 1 and 2)	63



List of Tables

- Table 1. Comparison of tomb dimensions from the cemeteries of Gournes, Hagia Photia, Agrilia, and Manika.
- Table 2. Size and weight of bone fragments from Tomb 9.
- Table 3. List of cataloged vases.
- Table 4. List of samples selected for thin-section petrography.
- Table 5. Results of the SEM-EDS analyses.
- Table 6. Metal objects: jewelry and implements from the Gournes cemetery.
- Table 7. X-ray fluorescence surface analyses of metallic finds from the excavation at Gournes.
- Table 8. Laboratory XRF analyses of irregular ferrous sample **M2**.
- Table 9. Multiple SEM-EDX analyses (“window”) on a worn silver bead and on a tiny bead of blue stone from necklace **M5**.
- Table 10. Cataloged stone objects and their findspots in and around the tombs.
- Table 11. Cataloged stone objects and their findspots from the surrounding area of the cemetery.
- Table 12. Cataloged seashells from the EM IB cemetery.
- Table 13. Cataloged seashells from the surrounding area of the cemetery.
- Table 14. Frequency of shell material found in the EM IB cemetery tombs.

- Table 15. Excavation data of the Minoan Building.
- Table 16. Correspondence between fabric groups and shapes.
- Table 17. Sherds of the historic period.



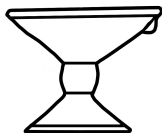
List of Figures

- Figure 1. Early Minoan I–III sites of North-Central and East Crete.
- Figure 2. Early Minoan I sites of Hagioi Theodoroi, Pyrgos, and Gournes in the Pediada.
- Figure 3. Plan of Sector 1 of the EM IB cemetery.
- Figure 4. Plan of the western portion of Sector 2 of the EM IB cemetery.
- Figure 5. Plan of the eastern portion of Sector 2 of the EM IB cemetery.
- Figure 6. Map of Sectors 1 and 2 of the EM IB cemetery and the Minoan Building, showing numbered tombs.
- Figure 7. Cross-sections of Sector 1 of the EM IB cemetery.
- Figure 8. Cross-sections of Sector 2 of the EM IB cemetery.
- Figure 9. Plan of EM IB sherds found within tombs/pits and surrounding areas in Sector 1.
- Figure 10. Plan of EM IB sherds found within tombs/pits and surrounding areas in the eastern portion of Sector 2.
- Figure 11. Plan of EM IB sherds found within tombs/pits and surrounding areas in the western portion of Sector 2.
- Figure 12. Plan of tombs in Sector 1.
- Figure 13. Plan of tombs in Sector 2.
- Figure 14. Graph of tomb types in Sectors 1 and 2.

- Figure 15. Graph of dimensions of tombs and pits in Sectors 1 and 2 (depth and maximum length).
- Figure 16. Graph of dimensions of tombs and pits in Sectors 1 and 2 (length, width, depth).
- Figure 17. Graph of the shapes of burial chambers at the Gournes and Hagia Photia cemeteries.
- Figure 18. Charts showing the depth of tombs at the Gournes (a) and Hagia Photia (b) cemeteries.
- Figure 19. Charts showing the length (a) and width (b) of burial chambers at the Gournes cemetery.
- Figure 20. Graph showing the depths of built tombs and pits in Sectors 1 and 2.
- Figure 21. Graph comparing offerings deposited in the rock-cut tombs and pits of Sector 1.
- Figure 22. Plan showing the locations of offerings in the tombs and pits of Sector 1.
- Figure 23. Graph showing dimensions (width and length) of burial chambers at Hagia Photia.
- Figure 24. Graph showing dimensions (width and length) of burial chambers at Gournes.
- Figure 25. Charts showing the lengths of burial chambers at Gournes (a) and Hagia Photia (b).
- Figure 26. Plan showing the distribution of offerings in the tombs of Sector 1.
- Figure 27. Plan showing the density of broken sherds from the excavation of Sector 1.
- Figure 28. Graph showing the number and types of finds in the pit tombs of Sector 1.
- Figure 29. Plan of the distribution of pottery in the tombs of Sector 2.
- Figure 30. Plan of the distribution of non-pottery finds in the tombs of Sector 2.
- Figure 31. Plan of the density of broken sherds from the excavation layers of Sector 2.
- Figure 32. Graph of the distribution of offerings in tombs of Sectors 1 and 2.
- Figure 33. Graph of the distribution of pottery types in the chambers of tombs in Sectors 1 and 2.
- Figure 34. Graph of the distribution of pottery types in the antechambers of Sectors 1 and 2.
- Figure 35. Graph of the distribution of obsidian at Gournes.
- Figure 36. Graph of the distribution of obsidian in the tombs of Hagia Photia.
- Figure 37. Dark Burnished ware chalices: **P1–P3**.
- Figure 38. Dark Burnished ware chalices: **P4–P6**.
- Figure 39. Dark Burnished ware chalices (**P7, P8**) and bowls (**P9–P11**).
- Figure 40. Dark Burnished ware bowls: **P12–P19**.
- Figure 41. Dark Burnished ware spouted bowls (**P20–P22**), bottle (**P24**), and cups (**P25–P28**).
- Figure 42. Dark Burnished ware jars with fenestrations: **P29–P32**.
- Figure 43. Dark Burnished ware conical pyxides: **P33–P39**.
- Figure 44. Dark Burnished ware conical pyxides: **P40–P46**.
- Figure 45. Dark Burnished ware spherical pyxides: **P47–P54**.
- Figure 46. Dark Burnished ware spherical pyxides: **P55–P62**.
- Figure 47. Dark Burnished ware spherical pyxides: **P63, P64, P66–P68, P70**.

- Figure 48. Dark burnished ware lids from conical and spherical pyxides (**P71, P73, P75–P79, P82–P84**) and spool pyxides (**P86–P88**).
- Figure 49. Dark Burnished ware spool pyxis (**P85**), cylindrical pyxis (**P89**), alabastra (**P90, P91**), and jar (**P92**).
- Figure 50. Dark Gray Burnished ware chalices: **P93, P94**.
- Figure 51. Dark Gray Burnished ware chalices: **P95–P97**.
- Figure 52. Dark Gray Burnished ware chalices (**P98, P99**), bowl (**P100**), jar (**P101**), lid (**P102**), and alabastron (**P103**).
- Figure 53. Dark on Light Painted ware pyxis (**P104**) and tankards (**P105, P106**), and Red Slipped and Burnished ware tankard (**P107**).
- Figure 54. Aluminum oxide-iron oxide biplot showing compositional difference between clay body and surface of analyzed pottery samples.
- Figure 55. Map of locations of FN–EBA metal objects in the Peloponnese, the Cyclades, and Crete.
- Figure 56. Plans of the distribution of metal objects in tombs at Gournes.
- Figure 57. Silver necklace **M5**.
- Figure 58. Silver beads from Gournes: **M6, M10, M11**.
- Figure 59. Copper awls (**M3, M4, M8**); bronze shank (**M7**); bronze earring (**M9**).
- Figure 60. Metal objects **M1** and **M2**.
- Figure 61. X-ray powder diffraction spectrum of a stone bead from necklace **M5**.
- Figure 62. Raman spectra acquired under 50x magnification on a steatite bead from necklace **M5**.
- Figure 63. Fourier-transform infrared spectrum acquired in transmission mode on KBr pellets of the 1–2 mg sample from stone bead from necklace **M5**.
- Figure 64. Map of Crete showing sampling locations of steatite.
- Figure 65. Obsidian blades: **St2–St5, St12, St22**.
- Figure 66. Obsidian blades: **St7, St8, St17–St19, St28**.
- Figure 67. Obsidian tools: bladelet (**St6**), blades (**St13–St16, St21, St23, St27, St29**), and chunk (**St36**).
- Figure 68. Stone tools: obsidian blades (**St1, St9–St11, St24–St26**), obsidian bladelet (**St20**), obsidian blades/flakes (**St30–St32**), obsidian flake (**St33**), obsidian chunks (**St34, St35, St37**), and chert (**St38, St39**).
- Figure 69. Possible stone tools (**St40–St42**), stone bead (**St43**), and stone pendants/beads (**St44–St47**).
- Figure 70. Plan of tombs in Sector 1 showing findspots of stone objects.
- Figure 71. Plan of tombs in the eastern part of Sector 2 showing findspots of stone objects.
- Figure 72. Plan of tombs in the western part of Sector 2 showing findspots of stone objects.
- Figure 73. Plan of the Early Minoan IB cemetery and the Minoan Building showing the distribution of seashells.
- Figure 74. Plan of the distribution of seashell material in and around the tombs of Sector 1.

- Figure 75. Plan of the distribution of seashell material in and around the tombs of the western part of Sector 2.
- Figure 76. Plan of the distribution of seashell material in and around Tombs 17 and 19 of Sector 2.
- Figure 77. Percentages of different mollusk species in the entire marine assemblage.
- Figure 78. Map of Protopalatial, Neopalatial, and Postpalatial sites in North-Central Crete.
- Figure 79. Plan of the Minoan Building with labeled balk sections and grid squares.
- Figure 80. Distribution of pottery forms in layer 1 of the Minoan Building.
- Figure 81. Distribution of pottery forms in layer 2 of the Minoan Building.
- Figure 82. Distribution of pottery forms in layer 3 of the Minoan Building.
- Figure 83. Distribution of pottery forms in layer 4 of the Minoan Building.
- Figure 84. Pithoid jars (**P108, P109**), jugs (**P110–P115**), jar (**P116**), bridge-spouted vessels (**P117, P118**), hole-mouthed jar (**P119**), and indeterminate medium-/large-sized closed vessels (**P120, P121, P123**).
- Figure 85. Basins (**P124–P130**), indeterminate medium-sized open vessel (**P131**), indeterminate small-sized vessel (**P132**), and cooking dishes (**P133–P142**).
- Figure 86. Cooking dishes (**P143–P146**), cooking jars (**P147–P149**), bowls (**P150–P161**), and indeterminate small-sized open vessels (**P162, P163**).
- Figure 87. Cups (**P164–P171**), straight-sided cups (**P172–P184**), and decorated conical cups (**P185–P191**).
- Figure 88. Plain conical cups (**P192–P197**), rounded cups (**P198–P204**), goblets/footed cups (**P205–P207**), and Vapheio cup (**P208**).
- Figure 89. Roman sherds: hemispherical bowls (a, b), cooking pots (c, d), basins (e, f), and jugs (g, h).
- Figure 90. Portion of the Mochlos geological map.



List of Plates

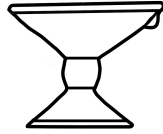
- Plate 1A. Aerial photograph of Sector 1 of the EM IB cemetery.
- Plate 1B. Aerial photograph of Sector 2 of the EM IB cemetery with the Minoan Building.
- Plate 2. Sherds: **S1.1–S1.3, S1.5, S1.7, S1.9–S1.16.**
- Plate 3. Sherds: **S1.17–S1.22.**
- Plate 4. Sherds: **S1.23–S1.39.**
- Plate 5. Sherds: **S1.40–S1.43, S1.45–S1.56.**
- Plate 6. Sherds: **S1.57–S1.59, S1.63, S1.67–S1.71, S1.75, S1.82, S1.84, S1.85.**
- Plate 7. Sherds: **S1.87–S1.91, S1.93–S1.97, S1.99–S1.110.**
- Plate 8. Sherds: **S1.112–S1.115, S2.117, S2.118, S2.121, S2.122, S2.124.**
- Plate 9. Sherds: **S2.125–S2.130, S2.132, S2.134, S3.135–S3.150.**
- Plate 10. Sherds: **S3.151–S3.181, S3.184–S3.191.**
- Plate 11A. Views of the visible upper portions of the vertical slabs that closed the entrances: (a) Tomb 23; (b) Tombs 31 and 32.
- Plate 11B. Blocking stones of entrances visible on the surface in triangular or linear arrangements: (a) Tomb 21; (b) Tomb 22; (c) Tomb 24.
- Plate 11C. Preserved beginning of the sloping roof of Tomb 17 from the north.

- Plate 12A. Modes of blocking tomb entrances at Gournes: (a) Tomb 5; (b) Tomb 18; (c) Tomb 21.
- Plate 12B. Flat stones on the antechamber floor, probably for paved anteroom: (a) Tomb 25; (b) Tomb 31.
- Plate 12C. Pits in Sector 1: (a) Tomb 11; (b) Tomb 12; (c) Tomb 13; (d) Tomb 15.
- Plate 13A. Shallow pit Tomb 14 with offerings in situ.
- Plate 13B. Two views (a, b) of a pit filled with smashed sherds within Tomb 4.
- Plate 13C. Pit Tomb 11 with offerings in situ and nearby pebbled area.
- Plate 13D. Lithic formation near pit Tomb 11.
- Plate 14A. Wall near Tomb 20.
- Plate 14B. Chamber of Tomb 3 with offerings in situ.
- Plate 14C. Chamber of Tomb 6 with offerings in situ.
- Plate 14D. Antechamber of Tomb 8 with finds in situ.
- Plate 14E. Antechamber of Tomb 1 from the south.
- Plate 15A. Pit Tomb 12 with finds in situ.
- Plate 15B. Offerings in pit Tomb 11.
- Plate 15C. Position of offerings in burial chambers: (a) Tomb 21; (b) Tomb 22; (c) Tomb 29; (d) Tomb 35.
- Plate 16A. Smashed sherds on blocking stones in the antechamber of Tomb 22.
- Plate 16B. Skeletal remains (T9.6) in Tomb 9, Sector 1.
- Plate 16C. Detail of skeletal remains (T9.6) in Tomb 9, Sector 1.
- Plate 16D. Bone fragments visible in the larger of two soil masses recovered for analysis from Tomb 9.
- Plate 17. Dark Burnished ware chalices (**P1–P3, P5, P7, P8**).
- Plate 18. Dark Burnished ware bowls (**P9, P10, P13, P16–P18**), spouted bowls (**P20, P21**), and bottle (**P24**).
- Plate 19. Dark Burnished ware cups (**P25–P28**) and jars with fenestrations (**P29, P30**).
- Plate 20. Dark Burnished ware jars with fenestrations (**P31, P32**) and conical pyxides (**P33–P38**).
- Plate 21. Dark Burnished ware conical pyxides (**P40–P46**) and spherical pyxides (**P48–P51**).
- Plate 22. Dark Burnished ware spherical pyxides (**P52–P62**).
- Plate 23. Dark Burnished ware spherical pyxides (**P63, P64, P66–P68, P70**) and pyxis lids (**P71, P73, P75, P76**).
- Plate 24. Dark Burnished ware pyxis lids (**P77–P79, P82**), spool pyxides (**P85–P88**), cylindrical pyxis (**P89**), and alabastron (**P91**).
- Plate 25. Dark Gray Burnished ware chalices (**P93–P97**).
- Plate 26. Dark Burnished ware chalice (**P99**), jar (**P101**), and alabastron (**P103**); and DoLPW pyxis (**P104**) and tankard (**P105**).
- Plate 27A. Fabric Group 1a, x50.
- Plate 27B. Fabric Group 1a, x50.

- Plate 27C. Fabric Group 1b, x25.
- Plate 27D. Fabric Group 1c, x50.
- Plate 27E. Fabric Group 2, x50.
- Plate 28A. Fabric Group 3, x50.
- Plate 28B. Fabric Group 3, sample GOU03/34, x50.
- Plate 28C. Sample GOU03/12, x25.
- Plate 28D. Sample GOU03/63, x25.
- Plate 28E. Sample GOU03/64, x25.
- Plate 29A. Sample GOU03/58 (surface and body).
- Plate 29B. Sample GOU03/39 (**P96**; body).
- Plate 29C. Sample GOU03/12 (**S1.37**; body).
- Plate 29D. Sample GOU03/12 (**S1.37**; surface).
- Plate 29E. Photograph of Sector 1 with Tomb 6, from the east.
- Plate 30A. Photograph of Sector 2 with Tombs 18, 24, 29, and 35, from the south.
- Plate 30B. Silver necklace **M5** before conservation.
- Plate 31A. Silver necklace **M5** after first stage of conservation.
- Plate 31B. Silver necklace **M5** after final stage of conservation.
- Plate 32A. Detail of silver necklace **M5** with the three cast squat and spherical beads.
- Plate 32B. Detail of silver necklace **M5** with one of the miniscule cylindrical beads of dark gray (bluish) steatite.
- Plate 32C. Steatite bead from silver necklace **M5**.
- Plate 33A. Silver necklace from Tomb 26 of the cemetery at Louros, Naxos.
- Plate 33B. Silver necklace from Alepotrypa, Diros Mani.
- Plate 33C. Silver beads from Gournes: **M6**, **M10**, **M11**.
- Plate 34A. Bronze awls/borers (**M3**, **M4**, **M8**); bronze shank (**M7**); bronze crescent-shaped earring (**M9**).
- Plate 34B. Bronze awls/borers from Tomb 26 of the cemetery at Louros, Naxos.
- Plate 35A. Irregular corroded copper object (**M1**) and irregular ferrous masses (**M2**).
- Plate 35B. Characteristic microstructure of the badly corroded silvery inlay from silver necklace **M5**.
- Plate 35C. Microscopic image of a bead from the Alepotrypa Cave silver necklace.
- Plate 35D. Scanning electron microscopy of stone bead from necklace **M5**.
- Plate 36A. Scanning electron microscopy of stone bead from **M5** in fine structure.
- Plate 36B. Average SEM-EDX spectrum of **M5**.
- Plate 36C. Point SEM-EDX spectrum of **M5**.

- Plate 37A. Photomicrograph of exterior (left) and interior (right) of the tiny, broken stone bead from necklace **M5** under stereomicroscope.
- Plate 37B. Photomicrograph detail of the section of the bead from necklace **M5** under optical microscope.
- Plate 38. Obsidian tools (**St1–St27**).
- Plate 39. Obsidian tools (**St28–St39**), potential stone tools (**St40–St42**), and stone jewelry (**St43–St47**).
- Plate 40A. Seashells: **T.S4, T.S18, T.S25, T.S34**.
- Plate 40B. General view of the excavation of the Minoan Building from the south.
- Plate 41A. Excavation of the Minoan Building from the west.
- Plate 41B. Minoan Building and Tombs 26–28 from the north.
- Plate 42A. Minoan Building and Tombs 26–28 from the south.
- Plate 42B. Rooms 1 and 3 of the Minoan Building from the north.
- Plate 43A. Detail of the Minoan Building and Tombs 26–28 from the north.
- Plate 43B. General view of the Minoan Building from the southeast.
- Plate 44A. General view of the Minoan Building and the EM IB cemetery from the east.
- Plate 44B. General view of the Minoan Building and the EM IB cemetery from the northeast.
- Plate 45A. General view of the Minoan Building and the EM IB cemetery from the south.
- Plate 45B. Tomb 26 in Room 1 of the Minoan Building, from the east.
- Plate 46A. Tomb 27 in Room 1 of the Minoan Building, from the north.
- Plate 46B. Tomb 28 in Room 3 of the Minoan Building, from the north.
- Plate 47. Sherds **P108–P120**.
- Plate 48. Sherds **P121** and **P123–P128**.
- Plate 49. Sherds **P129–P145**.
- Plate 50. Sherds **P146–P160**.
- Plate 51. Sherds **P161–P181**.
- Plate 52. Sherds **P182–P194**.
- Plate 53. Sherds **P195–P208**.
- Plate 54A. Fabric Group MB1a, x25, low fired.
- Plate 54B. Fabric Group MB1a, x25.
- Plate 54C. Fabric Group MB1a, x25, used for basins.
- Plate 54D. Fabric Group MB1b, x25.
- Plate 54E. Fabric Group MB1c, x25.
- Plate 55A. Fabric Group MB1d, x25.
- Plate 55B. Fabric Group MB1e, x25.
- Plate 55C. Fabric Group MB2a, x25.

- Plate 55D. Fabric Group MB2a, x25.
- Plate 55E. Fabric Group MB2b, x25.
- Plate 56A. Fabric Group MB2c, x25.
- Plate 56B. Fabric Group MB2d, x25.
- Plate 56C. Fabric Group MB3, with fine clay pellets, x25.
- Plate 56D. Fabric Group MB4, fine with small quartz fragments, x25.
- Plate 56E. Fabric Group MB5, fine calcareous, x25.
- Plate 57A. Conical cups in Room 1 of the Minoan building, from the south.
- Plate 57B. Conical cups in Room 1 of the Minoan Building, from the north.
- Plate 57C. Conical cup in Room 1 of the Minoan building, from the north.
- Plate 57D. View of the Roman cistern north of Gournes, from the east.
- Plate 58A. Roman sherds: basins (a, b), hemispherical bowls (c, d), cooking pot (e), amphorae (f, g), jugs (h, i), pithos (j), and cup (k).
- Plate 58B. Dark dolomite from the Tripolitsa Unit used as construction material in the building at the first site.
- Plate 58C. Various lithologies of the construction materials of the first site: (1) gray limestone of the Tripolitsa Unit; (2) sandstone of the Pindos Unit; and (3) marly limestone from Neogene settlements.
- Plate 59A. Limestone breccias with dark limestone of the Tripolitsa Unit from the walls of the building at the first site at upper right.
- Plate 59B. White and marly limestone, dark limestone, and gray limestone from the construction material of the first site, all belonging to Neogene rocks.
- Plate 59C. Cherty limestone from the construction material of the first site, possibly from the Pindos Unit.
- Plate 59D. Cemented conglomerate with fossil remains from the nearby recent marine terraces used as construction material at the first site.
- Plate 59E. Sandy beach rocks with fossils.
- Plate 59F. Dolomitic boulder with holes of *Lithodomus lithophaga*.



Preface

Calliope E. Galanaki

Early Minoan IB Cemetery

From March to June 1999, a rescue excavation was carried out by the 23rd Ephorate of Prehistoric and Classical Antiquities (EPCA) at the site of the former United States (US) Herakleion Air Station at Gournes, Pediada, Crete, presently occupied by the Hellenic Centre for Marine Research (HCMR; the former Institute of Marine Biology of Crete), which was responsible for commissioning and funding the excavation. The precise position of the excavation lies 415 m from the north coastline, 1,900 m from the location of Pyrgos in the modern village of Kokkini Chani, and 13.5 km from the city of Herakleion.

The excavation revealed an Early Minoan (EM) IB cemetery that included a total of 37 rock-cut tombs and pits arranged in two clusters (Sectors 1 and 2), a three-room rectangular Minoan Building on the northwest side of the cemetery, and a Roman cistern to the northeast. Although the relationship of the EM IB cemetery with a contemporary settlement could not be established, the presence of several domestic or burial remains in the broader area testify to the extent and the character of the communities along the

north-central coast of Crete during the Early Bronze Age (EBA).

The grounds of the existing HCMR installations, comprising an area of 14.085 acres (57,000 m²), were systematically investigated, initially by the removal of the loose surface soil, first using light mechanical means and then manually until the locations of the two sectors of the cemetery were established. Modern interventions and adaptations, undertaken as part of former uses of the area (e.g., metal fencing and the installation of irrigation pipes in Sector 2), were responsible for a partial destruction resulting in the fragmentary condition of both the EM IB tombs and the Minoan Building. In many cases, it was clear that relocation of the stones supporting the fence, alteration of the original shape of the tombs and the complete collapse of their vaults, shifting of the grave offerings, and disturbance of deposits inside and outside some tombs had occurred.

Once the excavation was completed, the Regional Archaeological Council decided that the EM IB cemetery, with the exception of Tombs 26–28 inside the Minoan Building (which at present lies in the parking area west of the HCMR), should be covered.

The aim of the current study is to present the EM IB cemetery at Gournes and compare it with other Early Minoan sites in and outside Crete in order to investigate links between the Prepalatial funerary practices and also to look into settlement sites that display similar characteristics in order to detect possible intercultural relations in the Aegean.

Minoan Building

On the northwest side of the EM IB cemetery, the three-room rectangular Minoan Building was found on the western boundary of the plot. In the surrounding area, between the later building and the EM IB cemetery, many trial trenches were dug in which a large number of sherds from the Early Minoan, Middle Minoan (MM), and Late Minoan (LM) periods and also from historical times were found. No further structures were discovered, except for a Roman cistern located some distance away at the northeast side of the plot.

Once the excavation had been completed, the Minoan Building (including the three EM IB tombs numbering 26–28 in its interior) was made accessible to the general public.

The aim of the current study is to describe the Minoan Building and its role in the area where the EM IB cemetery, with which it is spatially connected, had been established earlier, by reconstructing the topography and history of the broader area from the Protopalatial to the Postpalatial period.

Organization of Volume

Part I of the volume is centered on the EM IB cemetery. Chapter 1 presents an analysis of the spatial distribution of EM I–III domestic and burial sites in North-Central Crete. Their interconnections confirm the existence, since the EM I period, of a dense social network favored by the landscape of the island as well as its social exploitation. The architecture, pottery, and small finds reflect strong affinities with the Cyclades, thereby confirming the existence

of a vast social network and the emergence of contacts with distant areas of Crete. Chapter 2 deals specifically with the Early Minoan cemetery of Gournes, Pediada, which was excavated in 1999 and represents a site of key importance. The analysis of archeological remains supports the hypothesis that this site forms a link with other Prepalatial burial and domestic sites in North-Central and East Crete. Through its excavation and study, we gain a better understanding of the social networks behind both settlements and cemeteries in the EM I–III periods. In Chapter 3, a complete catalog of epigrammatic but methodical descriptions of every tomb in Sectors 1 and 2 of the cemetery is presented, along with a complete list of finds per tomb in alphanumeric order. The lists include all artifacts, whole or mended, associated with each tomb as well as the pottery sherds and seashells found in or outside the tombs. The EM IB pottery sherds from the cemetery are presented in Chapter 4, in a series of tables, according to findspot (i.e., in the tombs, in the area of the Minoan Building, and in the wider area of the cemetery). The tables include basic features of each sherd or group of sherds.

The organization of the cemetery, the architectural features of the tombs (both built tombs and simple pits cut into bedrock) and their main characteristics (e.g., chambers, antechambers, entrances and ways of blocking them, modes of construction, shapes and dimensions, and burial practices and beliefs) are addressed in Chapter 5. Considering the layout of the Gournes cemetery, some main features that are discussed include the arrangement of tombs in two discrete clusters, the spacing and orientation of the individual tombs, and the possible marking of tombs on the surface. Comparable practices, features, similarities, and differences of other cemeteries in Crete, the Cyclades, and mainland Greece are discussed, and the adoption of specific tomb types and modes of cemetery organization at Gournes are set within a wider Aegean context. The discussion of burial practices at Gournes involves both the significance of several features of the funerary architecture and the consideration of the character and deposition of offerings in the tombs. The distribution of finds in the tombs of Sectors 1 and 2 is presented, and issues related to burial customs are discussed. Disposal of the body is briefly commented upon in relation to the question of the missing skeletal material and the presence of primary burials at Gournes. Finally,

social dimensions arising from the study of Gournes cemetery are commented upon, and insights into many different aspects, such as community size, demography, and social differences reflected in the burial sphere, are briefly mentioned.

In Chapter 6, the paucity of skeletal remains from the site using available osteological evidence is discussed. The result of the X-ray powder diffraction (XRD) analysis of soil samples from select tombs is also dealt with in relation to hypothetical bone mineral dissolution. The question of the missing bones is put into context by means of a systematic review of the relevant literature on Early Bronze Age mortuary contexts on Crete and the author's own observations. Different modes of the disposal of the dead are discussed, in addition to post-depositional practices and manipulation of remains, with a view toward assessing the complexity and diversity of mortuary behavior and practices in Early Bronze Age Crete and shedding light on the absence of bones from such contexts in particular.

The ceramic assemblage of the Prepalatial cemetery is presented in Chapter 7. The vast majority of vessels in the assemblage belong to a single ware, Dark Burnished ware (DBW), which is made of calcite-tempered clay and comprises vases of a rather limited repertoire, mostly chalices and various types of pyxides and bowls. The function and distribution of these vases suggest mortuary practices that involved the deposition of offerings inside closed vases, namely pyxides, which were placed inside the tomb next to the dead, and a small-scale private ceremony of drinking or libations with open vases, namely chalices or bowls, which were deposited inside the tomb or thrown in the antechamber. The entire ceramic assemblage belongs to a single phase, EM IB, and it has strong parallels with several sites in North Crete and the Cyclades. Despite strong Cycladic influence on the vast majority of the pottery in terms of shape, surface treatment, and clay preparation, the analytical and typological evidence suggests that the entire assemblage was most probably made on Crete rather than imported. This Prepalatial assemblage is further analyzed in Chapter 8, wherein thin-section petrography is used for the comparative study of the Cycladic-style Kampos Group pottery against the Minoan repertoire of shapes and wares. An array of fabrics is established, and their possible origins are discussed. In Chapter 9, a more in-depth technological study examines the

chemical composition and firing temperature of the different wares through scanning electron microscopy (SEM).

In Chapter 10, the analysis of a series of objects made of precious metals dated between the Final Neolithic (FN) period and the end of the Early Minoan period and scattered across burial contexts in North-Central and East Crete is presented. Valuable information regarding the social dynamics of the period is presented, in particular a change in local traditions beginning in EM IB. Metal and steatite finds from the EM IB necropolis at Gournes are discussed in Chapter 11.

The small finds of stone from the EM IB cemetery are presented in Chapter 12. This is a relatively restricted body of material, not quite reaching 50 component items and made even slightly less promising by the fact that the vast majority of the obsidian finds are from soils outside the tombs and even potentially connected with a nearby Middle Minoan-Late Minoan structure. The score or so pieces from within the tombs are nothing like the volume found at sites like Hagia Photia. Overall, the material tentatively suggests, at best, a mixed community, and at the least one exposed to Cycladic influences. A total of 125 almost whole seashells and a large number of fragments found in the area of the cemetery are presented in Chapter 13. The material in general was in a very poor state of preservation due to environmental and taphonomic reasons, but the presence of marine species in the tombs seems to derive from their consumption during funerary meals, a kind of symbolic rite of passage common to sacred and funerary areas in Bronze Age Crete. It is interesting to note that the predominant species of mollusks found in the Gournes cemetery are different from most similar, excavated Minoan sites.

A final discussion of the evidence of the cemetery is presented in Chapter 14. The first section deals with the contextualization of the cemetery, with particular reference to the contemporary cemetery of Hagia Photia and the neighboring settlement of Poros-Katsambas. Then, the connection of the cemetery with the Cyclades is addressed. After a discussion of theoretical issues such as the function of material culture as symbols of ethnic identity and origin, and the validity of mortuary practices as reflections of everyday life, special emphasis is given to the place and technology of production of the funerary offerings, tomb architecture, and burial rituals. The

available evidence suggests that the Gournes cemetery served as a social arena to express and communicate the strong links of the people of Gournes with off-Cretan networks of interaction and exchange during EM IB. These networks were related to the acquisition and circulation of imported Cycladic raw materials and their transformation into desirable artifacts, which were then distributed to other neighboring sites and areas.

Part II of the volume involves the Minoan Building. First, the distribution of Protopalatial/Neopalatial domestic and burial sites is presented in Chapter 15. The growth of these sites in North-Central Crete is attested by considerable evidence of various remains close to the coast and also at hilly sites. Destructions that occurred at the end of the Bronze Age caused in some cases the total abandonment of settlements, whereas in other cases, inhabitants continued to populate nearby areas using related domestic or burial sites. The analysis of these sites allows the integration of Middle Bronze Age (MBA) Gournes into this general context.

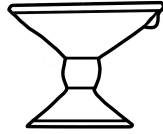
Data derived from the Minoan Building, which was simultaneously excavated alongside the EM IB cemetery, is presented in Chapter 16. The data suggests that tombs were visible during the construction of the building, thus raising questions about chronology and the relationship of the building with the cemetery. The architecture of the Minoan Building is presented in Chapter 17, where it is argued that the building most likely had one architectural phase. Although many areas of the building are unclear due to later destruction, the structure presents a simple plan comparable to many Minoan domestic or burial edifices at various sites scattered throughout North-Central and East Crete.

The pottery of the Minoan Building is dealt with in Chapters 18 and 19. The corpus includes a total of 872 badly preserved, mixed Prepalatial, Protopalatial, and

Neopalatial sherds, mainly from undecorated bodies of indeterminate vessels. The catalog (Ch. 19) contains the most diagnostic sherds, which are comprised primarily of small- and medium-sized vessels. Their dating and classification is primarily based on macroscopic morphological and technological characteristics, and secondly confirmed by the petrographic analysis presented in Chapter 20. Characteristic shapes and decorative motifs also allow the dating of the pottery. The array of fabrics and their potential origins are discussed in Chapter 20 in association with the possible character and function of the building.

A synthetic discussion of the stratigraphy, date, and use of the Minoan Building is presented in Chapter 21. Considering the specific location of the building, the duration of its use from EM III–LM IA, and its ritual character in association with funerary contexts, it is proposed that the Minoan Building was originally constructed as a house tomb and was subsequently cleared and reused as a support building for rituals after the abandonment of the EM IB cemetery.

The region of Gournes is discussed in Part III of the volume. Chapter 22 presents the study of sherds from historical times found in the cemetery and provides another way of interpreting this seemingly insignificant aspect of the archaeological record. These so-called common pottery sherds were transported along with manuring material for fertilization. These sherds, in reality thrown away as garbage by ancient inhabitants, enrich data relevant to the chronology and extent of the cultivation of the land. The geological bedrock and construction material used at Gournes is discussed in Chapter 23, and final discussions are presented in Chapter 24 and the Epilogue. In the latter, the coastal landscape of North-Central Crete and its decisive role in the organization of the domestic, burial, and ritual use of the area through time are discussed.



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The rescue excavation of the EM IB cemetery and Minoan Building at Gournes, at the site of the former US Herakleion Air Station, was conducted from March to June 1999 by the 23rd EPCA under the direction of its archaeologist Calliope Galanaki. The excavation was funded by the HCMR (formerly the Institute of Marine Biology of Crete). The research team consisted of archaeologist Joanna Triantafylidi, Nikolaos Koutoulakis and Emmanuel Roumbakis, permanent workers of the 23rd EPCA, and Konstantinos Androulakis, Eleutherios Kavousanakis, Agapios Rethemiotakis, and Philippos Tzouliadakis.

The installations of the HCMR, comprising an area of 14.085 acres (57,000 m²), were systematically investigated by first removing the loose surface soil with light mechanical means, under the strict supervision of the skillful permanent Guard of Antiquities of the 23rd EPCA, Amanakis Stavros.

The poor skeletal remains and the small finds (i.e., pottery, metal jewelry and implements, stone objects, and seashells) from the excavation of the EM IB cemetery and the Minoan Building were placed in the pottery and metal objects laboratories of the 23rd EPCA. The pottery conservation was undertaken by

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After the four-year field project, the preparation of the final publication began in 2000, and it was undertaken more systematically from 2003 onward, funded mainly by the Institute for Aegean Prehistory (INSTAP). Three main reports have been published: the first for the EM IB cemetery in *Archaiologikon Deltion* (Galanaki 1999, 853–856), the second in the proceedings of the Θ' International Cretological Congress (Galanaki 2006), and the third in the proceedings of the Ι' International Cretological Congress (Galanaki et al. 2011b).

The pottery and the small finds were cataloged and classified by the expert archaeologists Christina Papadaki and Joanna Triantafylidi, initially as research

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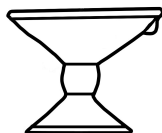
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List of Abbreviations

a	angular	FN	Final Neolithic
AC	antechamber	FTIR	Fourier transform infrared
BA	Bronze Age	g	gram(s)
bop	bulb of percussion or pressure	gr.	greatest
BS	Balk Section(s)	GS	Grid Square(s)
C	chamber	h.	height
cat.	catalog	ha.	hectare(s)
DBW	Dark Burnished ware	HCMR	Hellenic Centre for Marine Research
DGBW	Dark Gray Burnished ware	HM	Herakleion Archaeological Museum
diam.	diameter	HMA	Herakleion Museum Λίθηνα
DoLPW	Dark-on-Light Painted ware	ICP	inductively coupled plasma
EB	Early Bronze	IGME	Institute of Geology and Mineral Exploration
EBA	Early Bronze Age	INSTAP	Institute for Aegean Prehistory
EC	Early Cycladic	INSTAP SCEC	Institute for Aegean Prehistory Study Center for East Crete
EDS	energy-dispersive X-ray spectrometry	int.	interior
EH	Early Helladic	km	kilometer(s)
EM	Early Minoan	kV	kilovolt(s)
EN	Early Neolithic	L.	length
EPCA	Ephorate of Prehistoric and Classical Antiquities		
est.	estimated		
exc.	excavation		
ext.	exterior		

LH	Late Helladic	PPL	plane-polarized light
LM	Late Minoan	pres.	preserved
LN	Late Neolithic	pXRF	portable X-ray fluorescence
lt.	liter(s)	r	rounded
m	meter(s)	RSPW	Red Slipped and Polished ware
M	metal object	S	sherd
mA	milliampere(s)	sa	subangular
m asl	meters above sea level	SA	surrounding area
max.	maximum	SA.S	surrounding area seashell
MB	Minoan Building	SA.St	surrounding area stone objects
MBA	Middle Bronze Age	SEM	scanning electron microscopy
MC	Middle Cycladic	SEM-EDS	scanning electron microscopy- energy dispersive spectrometry
mg	milligram(s)		
min.	minimum	SEM-EDX	scanning electron microscopy- energy dispersive X-ray
MH	Middle Helladic		spectroscopy
mm	millimeter(s)		
MM	Middle Minoan	sr	subrounded
mW	milliwatt(s)	St	stone object
mya	million years ago	T	Tomb
NCSR	National Center for Scientific Research	TCFs	textural concentration features
Nd	not determined	th.	thickness
nm	nanometer(s)	TOC	total organic carbon
NM	National Archaeological Museum of Athens	T.S	tomb seashell
no(s).	number(s)	US	United States
OTEK	Οργανισμός Τουριστικής Εκπαίδευσης και Κατάρτισης/ Organization for Tourism Education and Training	w.	width
P	pottery	wt.	weight
PDF	Powder Diffraction File	XP	cross-polarized light
PIKPA	Πατριωτικό Ίδρυμα Κοινωνικής Πρόνοιας/ Patriotic Foundation for Social Welfare	XRD	X-ray powder diffraction
		XRF	X-ray fluorescence
		Z	atomic number
		μ	micron(s)
		μm	micrometer(s)