

Archaeology and Urban Settlement in Late Roman and Byzantine Anatolia

The site of medieval Euchaïta, on the northern edge of the central Anatolian plateau, was the centre of the cult of St Theodore Tiro ('the Recruit'). Unlike most excavated or surveyed urban centres of the Byzantine period, Euchaïta was never a major metropolis, cultural centre or extensive urban site, although it had a military function from the seventh–ninth centuries. Its significance lies precisely in the fact that as a small provincial town, something of a backwater, it was probably more typical of the 'average' provincial Anatolian urban settlement, yet almost nothing is known about such sites. This volume represents the results of a collaborative project that integrates archaeological survey work with other disciplines in a unified approach to the region both to enhance understanding of the history of Byzantine provincial society and to illustrate the application of innovative approaches to field survey.

JOHN HALDON is Shelby Cullom Davis '30 Professor of European History and Professor of Byzantine History and Hellenic Studies at Princeton University and the overall director of the Avkat Archaeological Project. His research focuses on the social-economic, institutional and cultural history of the medieval Eastern Roman Empire in the seventh-twelfth centuries; on state systems across the Eurasian world from late ancient to early modern times; on environmental stress and societal resilience in pre-modern societies; and on the production, distribution and consumption of resources in the late ancient and medieval world. He is the author of many articles, monographs and edited volumes, including, with Leslie Brubaker, *Byzantium in the Iconoclast Era* (Cambridge, 2011) and *The Empire That Would Not Die: The Paradox of Byzantine Survival*, 640–740 (Harvard, 2016).

HUGH ELTON is a Professor in Ancient Greek and Roman Studies at Trent University and served as permit holder for the Avkat Archaeological Project. He has been Director of the British Institute at Ankara and also directed the Göksu Archaeological Project. His research focuses on the ways in which the Roman state worked in Late Antiquity. He has published numerous works examining the practicalities of ruling the empire, the impact that the Roman state had on Anatolia, especially on rural areas and the effectiveness of the Roman army. His most recent book



is The Roman Empire in Late Antiquity: A Political and Military History (Cambridge, 2018).

JAMES NEWHARD is a Professor of Classics at the College of Charleston and served as the field director for the Avkat Archaeological Project. His fieldwork experiences include excavations and survey projects in Turkey, Greece, Albania, and the United States. His research focuses on the development of geospatial methods within landscape archaeology, the emergence of complex state systems, archaeological informatics and ancient economic processes.



Archaeology and Urban Settlement in Late Roman and Byzantine Anatolia

Euchaïta-Avkat-Beyözü and Its Environment

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Contents

List of Figures, Maps and Tables [page vii] List of Contributors [xi] Preface [xvii] A Note on Figures, Maps and Tables [xxi] List of Abbreviations [xxiii] Introduction [1] (JOHN HALDON, HUGH ELTON AND JAMES NEWHARD) 1 Physical and Historical Introduction [8] (HUGH ELTON) 2 Geology, Geomorphology and Palaeoenvironments [25] (WARREN J. EASTWOOD AND HAKAN YIĞITBAŞIOĞLU) 3 The Survey: Methods of Survey, Data Collection and Management and Artefactual Patterning [49] (JAMES NEWHARD) 4 Travel and Communication [70] (SARAH CRAFT) 5 The Countryside [97] (PETER BIKOULIS) 6 The Ceramics, Agricultural Resources and Food [134] (JOANITA VROOM) 7 The Archaeology of the City and Its Hinterland [185] (HUGH ELTON) 8 Euchaïta: From Late Roman and Byzantine Town to Ottoman Village [210] (JOHN HALDON) Some Concluding Remarks [255]

(JOHN HALDON)



vi Contents

Appendix 1: Remote Sensing and Geophysical Prospection [257]
(MARGARET WATTERS WILKES)

Appendix 2: The Coins [269]
(ALAN STAHL)

Appendix 3: Assigning Function to Survey Data Using Heuristic Geospatial Modelling [274]
(JAMES NEWHARD, NORMAN S. LEVINE AND OLIVIA ADAMS)

Appendix 4: Epigraphy [283]
(PAWEŁ NOWAKOWSKI AND FRANK TROMBLEY†)

Bibliography [319]

Index [369]



Figures, Maps and Tables

Figures

3.5	Number of domestic structures by (a) period a	
	(b) generation	[page 68]

- 5.4 Heads (*baş*) of goat, cattle and sheep in Mecitözü, 1990–2008 (Source: Turkish Statistical Institute, www.turkstat.gov.tr) [111]
- 5.8 Hypothesised wheat production and sow rates in the Mecitözü valley [124]
- 6.1 Diagnostic examples of glazed and unglazed white ware of Constantinopolitan and N. Anatolian (Pontic) provenance [135]
- 6.24 Mediterranean diet pyramid [158]
- 6.25 Reconstructed diet pyramid for Byzantine Anatolia [175]
- A1.13 GPR and magnetic gradient interpretations for F0204 [261]
- A1.14 Village area geophysical survey interpretations (overlain on magnetic gradient survey results) [262]
- A1.16 2007 geophysical survey interpretations for Kale Tepe [264]
- A1.18 Orientation of features on Kale Tepe. (a) GPR data with interpretations, (b) magnetic gradient survey results with interpretations, (c) combined survey results, and (d) interpreted alignments on the satellite image [265]
- A2.1 Comparison of the coin finds from Avkat with those from Amorium and Kalenderhane [270]
- A3.1 Examples of idealised functional types, as expressed as radar graphs [278]

Maps

- 1.1 Locational map: Avkat and its hinterland [14]
- 2.1 General geology map for northern Turkey (from Piper et al. 2010) [27]
- 2.3 Physical relief of Çankırı-Çorum region (redrawn from Türkiye Coğrafya Atlası, D.B.R. Doğan-Burda-Rizzoli, İstanbul 2004) [29]

vii



viii Figures, Maps and Tables

- 3.8 Concentration of artefacts, showing feature boundaries as determined by spatial modelling [62]
- 4.1 Euchaïta's connections to İskilip, Tavium, Amasya, Amisos [77]
- 4.6 The intersection of LCPs running between Amasya and Euchaïta, respectively (A), and the meeting of the proposed ancient, modelled, and modern roads (north) east of Mecitözü (B) [92]
- 5.1 Showing 1- and 2-hour catchments around selected sites in Mecitözü valley [119]
- 7.1 Church Area GPR imagery (A) and interpretation (B) [191]
- 7.8 Sites in the Mecitözü valley (with architectural features) [204]
- 8.2 Major centres in Byzantine Anatolia seventh–eleventh centuries CE [235]

Tables

- 2.1 Land-use for Çorum province (Çorum Valiliği 2009) [31]
- 2.2 Average annual climate data for Çorum (1983–2011) (*TuTempio.net 2012*) [33]
- 3.1 Periodization used by the AAP, reflecting historical divisions [63]
- 5.1 Field crops in Mecitözü *ilçe* 1991 and 2010 (Source: Turkish Statistical Institute, www.turkstat.gov.tr) [107]
- 5.2 Comparison of wheat and barley yields (kg/hectare) for Çorum and neighbouring provinces in the Late Ottoman period (1900, 1913–1914) and Early Republic (1928–1936) (Sources: Güran 1997; Republic of Turkey, Ministry of Food, Agriculture and Livestock 1937) [108]
- 5.3 Heads (*baş*) of livestock for the Province of Çorum, 1970–1976 (Source: TYÜ 1975, 1978, 1979) [112]
- 5.4 Seasonal agricultural activities for the Province of Çorum [120]
- 6.1 Archaeobotanical research in Turkey [160]
- 6.2 Archaeozoological research in Turkey (showing the relative magnitude of faunal data totals per site) [166]
- 6.3 The availability of food in Byzantine-Medieval Anatolia, based on environmental evidence and on written sources. X = mentioned in the (regional, general) written sources, but without specific information [174]
- 6.4 Four ethno-archaeological case studies of pottery production in rural Anatolia [178]



Figures, Maps and Tables

ix

- 6.5 The relation of ceramic shapes to specific functional practices from four ethno-archaeological case studies in rural Anatolia [180]
- A3.1 Activity types potentially reflected in the archaeological record [276]
- A3.2 Characteristics of all functional types with ranked values [277]
- A3.3 Distance (in walking hours) broken down into 7 classes [280]
- A3.4 Examples of features in the AAP, measured against potential functional criteria for 'house' [281]





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хi



xii Contributors

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Contributors

xiii

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xiv Contributors

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Contributors

XV

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Preface

Every team project owes its success to the combined efforts of all those involved, at all levels. We owe especial thanks to those individuals in Turkey without whose contribution the AAP would have been neither as successful nor as effective as a project as it was. They include Mustafa Sarıkaya (Mecitözü Kaymakam), Önder İpek (Çorum Museum Director), Turgay Ünal (Mecitözü Jandarma Komutanı), Ali Özdoğru (Çorum İl Kültür ve Turizm Müdürü), Vahdet Çatal (Çorum Emniyet Müdürlüğü), Metin Öz and Bahri Atar (muhtars of Beyözü). Special thanks are also due to the staff of the Bekir Aksoy Öğrenci Yurdu, Sebaattin Can and our cooks Suheyla and İkbal, and to the population of the village of Avkat/Beyözü in particular, whose inquisitive, enthusiastic and above all friendly support was essential and very welcome. We are equally grateful to the people of the surrounding villages who bore our questions and invasions of their gardens and fields with patience. Logistical and procedural help was provided by the British Institute at Ankara, in particular from Lut Vandeput, Gülgün Girdivan, Yaprak Eran and Yiğit Erbil. The work could not have been conducted as effectively as it was without the help and support of our representatives from the Ministry of Culture and Tourism (Mehmet Demir, Filiz Avan and Pınar Bursa) as well as the Ankara staff of the Ministry. We would also like to thank Gökhan Mustafaoğlu and İsmet Ediz for help in visiting the site in 2006. And last, but by no means least, our indefatigable logistics managers Atakan Akçay and Semih İstanbulluoğlu, whose ingenuity in the face of apparently impossible difficulties with bureaucracy as well as with supplies and resources was both astonishing and invaluable.

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xvii



xviii Preface

administrative support, and he and Allison Sterrett-Krause are owed our thanks for providing random acts of coffee and open ears. At Princeton University the History Department and the Departments of Near Eastern Studies, Classics, Art History and Archaeology, the Seeger Center for Hellenic Studies, the Center for the Study of Late Antiquity and the Dean of Research all invested significantly and over the life of the project in both intellectual and financial support, while Carla Zimowsk rendered invaluable IT assistance and advice both on campus and in the field. The project data (in prior ages, what would constitute multiple auxiliary volumes) is archived with Open Context, and we acknowledge the guidance and support provided by Eric Kansa and Sarah Whitcher Kansa with regard to data archiving and organisation.

Of course, we wish to offer very special thanks to all the members of the project team across the several years of fieldwork, data processing and writingup, without whose hard work, commitment and enthusiasm the project could never have succeeded:1 Specialist team members: Kutlu Akalın (Historian/ Resource manager, Mardin University), Atakan Akçay (Archaeologist, Tokat University), Will Anderson (Ceramics, University of Melbourne), Andy Baker (Birmingham), Peter Bikoulis (super-intensive survey/office manager, Trent University/Toronto), Sarah Craft (GIS/pathways analysis, Brown University), Richard Cuttler (Birmingham University), Andrea De Giorgi (GIS, Case Western University), Warren Eastwood (Palaeoenvironment, Birmingham University), Chris Gaffney (Geophysics, University of Bradford), Chris Goodmaster (Geophysics, University of Arkansas), Minna Heaton (Illustrations, College of Charleston), Mark Kincey (Geophysics, University of Birmingham), Fotini Kondyli (Ceramics assistance, University of Amsterdam), Sarah Legendre (GIS, College of Charleston), Norm Levine (GIS/satellite imagery, College of Charleston), Michael Lobb (Geophysics, University of Birmingham), Sean Lockwood (Archaeologist/ Records manager, Trent University), Marie McMenamin (Illustrations, College of Charleston), Lale Özgenel (Extensive survey, METU), Arzu Özsavaşçı (Architect, Istanbul), Angelina Phebus (GIS/fieldwalker, College of Charleston), Alessandra Ricci (Village survey, Koç University), Shannan Stewart (Ceramics, University of Cincinnati), Frank Trombley† (Epigraphy, Cardiff University), Molly Van Ostran (GIS, College of Charleston), Joanita Vroom (Ceramics, Leiden University), Margaret Watters Wilkes (Geophysics, Birmingham University), Steve Wilkes (GIS/satellite imagery, Birmingham University), Hakan Yiğitbaşıoğlu (Geomorphology, Ankara University).

¹ Institutional affiliations are from the period of the survey.



Preface xix

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A Note on Figures, Maps and Tables

Archaeological reports traditionally and necessarily include a large number of figures, drawings, plans, maps and other illustrative material, which generally means that they appear only in specialist publication series and reach a limited readership. We were keen to reach a wider readership, to which end we decided to approach an academic publisher with a broader remit through which we believed we could achieve this aim. One of the disadvantages of this route, however, is that the commercial expense of reproducing all our visual material in the format that we preferred became prohibitive.

Rather than abandon our strategy, therefore, we have chosen to retain a minimum of illustrative material in the hard-copy publication, but to make all our material available online, and to direct readers to the location at which they will be able to access the imagery. The full locational reference is made in the notes for each and every individual image. While we are aware of some disadvantages attendant upon this system of referencing, we also believe that making our material available to a wider scholarly readership balances any such disadvantages.

For full access to figures, maps and underlying project data, go to: Haldon, J.F., Elton, H.W., and Newhard, J. (Eds.). 2017. "Avkat Archaeological Project". *Open Context*. https://opencontext.org/projects/117-avkat-archaeological-project. DOI: 10.6078/M73J3B1J

xxi





More Information

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Abbreviations

AB Analecta Bollandiana

ACO Acta Conciliorum Oecumenicorum II, 2.1-

2: Concilium universale Constantinopolitanum

tertium, ed. R. Riedinger (Berlin 1990–1992)

AE L'Année Epigraphique
AS Anatolian Studies

AASS Acta Sanctorum (Paris 1863–1940)
BAR British Archaeological Reports

BCH Bulletin de correspondance Hellénique

BHG F. Halkin, Bibliotheca Hagiographica Graeca

(Subsidia hagiographica 8a. 3rd ed. Brussels

1957)

BHG, Auct. F. Halkin, Novum Auctarium Bibliothecae

Hagiographicae Graecae (Subsidia hagiogra-

phica 65. Brussels 1959)

BHL Bibliotheca Hagiographica Latina (Subsidia

hagiographica 6. Brussels 1949)

BIA British Institute (of Archaeology) at Ankara

BMGS Byzantine and Modern Greek Studies

BZ Byzantinische Zeitschrift

CIG Corpus Inscriptionum Graecarum, ed. A.

Böckh (vols.1 and 2), I. Franz (vols. 3ff.) (Berlin

1828-)

CIL Corpus Inscriptionum Latinarum, edd. Th.

Mommsen, O. Hirschfeld, A.von Domas-

zewski et al. (Berlin 1863-)

CIRB Corpus Inscriptionum Regni Bosporani, ed.

V. Struve (Moscow 1965)

CFHB Corpus Fontium Historiae Byzantinae

CSEL Corpus Scriptorum Ecclesiasticorum Latinorum
CSHB Corpus Scriptorum Historiae Byzantinae

xxiii



xxiv Abbreviations

DOC

Catalogue of the Byzantine coins in the Dumbarton Oaks Collection and in the Whittemore Collection, I: Anastasius to Maurice (491–602), ed. A.R. Bellinger (Washington, DC 1966); II, Part 1: Phocas and Heraclius (602–641), ed. P. Grierson (Washington, DC 1968); II, Part 2: Heraclius Constantine to Theodosius II (641–717), ed. P. Grierson (Washington, DC 1968); III, Part 1: Leo III to Michael III (717–867); Part 2: Basil I to Nicephorus III (867–1081), ed. P. Grierson (Washington, DC 1973)

P Dumbarton Oaks Papers

J. Nesbitt, N. Oikonomidès, Catalogue of Byzantine Seals at Dumbarton Oaks and in the Fogg Museum of Art, I: Italy, North of the Balkans, North of the Black Sea (Washington, DC 1991); II: South of the Balkans, the Islands, South of Asia Minor (Washington, DC 1994); III: West, Northwest and Central Asia Minor and the Orient (Washington, DC 1996); IV: The East, ed. E. McGeer, J. Nesbitt and N. Oikonomidès (Washington, DC 2001); V: The East (continued), Constantinople and environs, unknown locations, addenda, uncertain readings, ed. E. McGeer, J. Nesbitt and N. Oikonomidès (Washington, DC 2005)

Dumbarton Oaks Texts Epigraphica Anatolica

Έπετηρὶς Έταιρείας Βυζαντινῶν Σπουδῶν Keil, J. 1951. Forschungen in Ephesos veröffentlicht vom Österreichischen Archäologischen Institut in Wien: vol. IV 3: Die

Johanneskirche (Baden)

Turkish Statistical Institute/Devlet Istatistik

Enstitüsü 1950–2010 Population Census of Turkey/1950–2010 Genel Nüfus Sayimi (Ankara: Turkish Statistical Institute Publication/Devlet İstatistik Enstitüsü

Yayınları) (quinquennial publication)

DOP DOS

DOT EA EEBS FiE IV 3

GNS 1950-2010



More Information

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Abbreviations xxv

Hunger-Kresten, Register, I H. Hunger and O. Kresten, eds., Das Register

des Patriarchats von Konstantinopel, I: Edition und Übersetzungen der Urkunden aus den Jahren 1315–1331 (CFHB 19. Vienna 1981) Stauber I 1996 Die Bucht von Adramytteion

I. Adramytteion Stauber, J. 1996. Die Bucht von Adramytteion,

vol. 1: Topographie (Lokalisierung antiker Orte, Fundstellen von Altertümern); vol. 2: Inschriften, literarische Testimonia, Münzen (Bonn)

I. Alexandreia Troas Ricl, M. 1997. The inscriptions of Alexandreia

Troas (Bonn)

IAph2007 Reynolds, J., Roueché, C., Bodard, G. 2007.

Inscriptions of Aphrodisias. http://insaph.kcl

.ac.uk/iaph2007

See also:

ala2004 Roueché Ch. 2004. Aphrodisias in Late

Antiquity: The Late Roman and Byzantine Inscriptions, revised second edition, http://

insaph.kcl.ac.uk/ala2004

I. Cilicia Dagron, G. and Feissel, D. 1987. Inscriptions

de Cilicie (Paris, 1987)

I. von Ephesos Wankel, H. et al. 1979–1984. Die Inschriften

von Ephesos, vol. 1–8.2 (Bonn)

I. Iznik/Nikaia Şahin. S., Merkelbach, R. 1979–1987. Katalog

der antiken Inschriften des Museums von Iznik (Nikaia), vol. 1: nos. 1–633 (Stadtgebiet und das nächste Umgebung der Stadt), vol. 2/1–2: nos. 701–1597 (Entfernte Umgebung der Stadt), vol. 2/3: T 1–69 (Testimonia) (Bonn)

I. Mus. Yozgat Wallner, C. 2011. Die Inschriften des Museums

in Yozgat (Vienna)

I. North Galatia Mitchell, S. (with the assistance of D. French

and J. Greenhalgh) 1982. Regional Epigraphic Catalogues of Asia Minor, vol. 2: the Ankara district. The inscriptions of North Galatia

(Oxford)

I. Prusa ad Olympum Corsten, T. 1991–1993. Die Inschriften von

Prusa ad Olympum, vol. 1: Die Inschriften, vol. 2: Die Geschichte der Stadt in der Antike. Inschriften unbekannter Herkunft im Archäologischen Museum Bursa (Bonn)



More Information

xxvi	Abbreviations	
	I. Side	Nollé, J. 1993–2001. Side im Altertum. Geschichte und Zeugnisse, vols. 1–2 (Bonn)
	I. Sinope	French, D.H. 2004. <i>The inscriptions of Sinope</i> , vol. 1: <i>inscriptions</i> (Bonn)
	I. Tyana	Berges, D., and Nollé, J. 2000. <i>Tyana</i> . <i>Archäologisch-historische Untersuchungen zum südwestlichen Kappadokien</i> (Bonn)
	I. Tyr 1	Rey-Coquais, JP., ed., 1977. Inscriptions grecques et latines découvertes dans les fouilles de Tyr (1963–1974), vol. 1: Inscriptions de la Nécropole, Bulletin du Musée de Beyrouth 29 (Paris)
	I. Tyr 2	Rey-Coquais, JP., ed., 2006. <i>Inscriptions</i> grecques et latines de Tyr, vol. 2 (BAAL: Bulletin d'Archéologie et d'Architecture Libanaises, supplement III, Beirut)
	ILS	Inscriptiones latinae selectae, ed. H. Dessau (Berlin 1892-191)
	IGLS 13/1	Sartre, M. 1982. Les inscriptions grecques et latines de la Syrie, vol. 13/1: Bostra (Paris)
	JHS	Journal of Hellenic Studies
	JGR	Jus Graecoromanum, edd. I. and P. Zepos, 8 vols. (Athens,1931/Aalen, 1962)
	JÖB	Jahrbuch der Österreichischen Byzantinistik
	JThS	Journal of Theological Studies
	LGPN	Lexicon of Greek Personal Names, vol. VA: Corsten, T. 2010. Coastal Asia Minor: Pontos to Ionia (Oxford); vol. VB: Balzat, JS., Catling, R.W.V., Chiricat, É. and Marchand, F. 2014. Coastal Asia Minor: Caria to Cilicia (Oxford). With the on-line indexes at www.lgpn.ox .ac.uk/
	MAMA	Monumenta Asiae Minoris Antiqua, edd. W.M. Calder and J. Keil <i>et al.</i> (Manchester 1928–1962)
	Milet VI	Milet. Ergebnisse der Ausgrabungen und Untersuchungen seit dem Jahre 1899, vol. 6: Die Inschriften von Milet: part 2: Herrmann, P. 1998. (Berlin–New York); part 3: Herrmann,



More Information

Cambridge University Press 978-1-108-47115-2 — Archaeology and Urban Settlement in Late Roman and Byzantine Anatolia Edited by John Haldon , Hugh Elton , James Newhard Frontmatter

Abbreviations xxvii

P., Günther, W., Ehrhardt, N., Feissel, D., and

Weiss, P. 2006 (Berlin-New York)

ODB A. Kazhdan, ed. Oxford Dictionary of

Byzantium (Oxford 1991)

Papyri Cited according to Oates, J.F., Bagnall, R.S.,

Clackson, S.J., O'Brien, A.A., Sosin, J.D., Wilfong, T.G., and Worp, K.A. *Checklist of Greek, Latin, Demotic and Coptic Papyri, Ostraca and Tablets*, http://scriptorium.lib.duke.edu/

papyrus/texts/clist.html (January 2017)

PCBE 3 Destephen, S. 2008. Prosopographie chrétienne

du Bas-Empire, vol. 3: Prosopographie du

Diocèse d'Asie (325-641) (Paris)

PG Patrologiae Cursus completus, series Graeca,

ed. J.-P. Migne (Paris, 1857-1866, 1880-1903)

PGL Lampe, G.W.H. 1961. A patristic Greek lexicon

(Oxford)

PLP E. Trapp, ed., Prosopographisches Lexikon der

Palaiologenzeit (Vienna 1976–1996)

PLRE A.H.M. Jones, J.R. Martindale, and J. Morris,

The prosopography of the later Roman Empire I. A.D. 260–395; II. A.D. 395–527; III/A-B.

A.D. 527-641 (Cambridge 1971-1992)

PmbZ R.-J. Lilie, C. Ludwig, T. Pratsch, I. Rochow

et al. *Prosopographie der mittelbyzantinischen Zeit. Erste Abteilung (641–867)*, 6 vols. (Berlin-New York, 1999–2002); *zweite Abteilung (867–1025)*, 8 vols. (Berlin-New York 2009–2013)

REB Revue des Études Byzantines

RIC Roman imperial coinage, X: the divided empire

and the fall of the western parts, AD 395-491,

ed. J.P.C. Kent (London 1994)

RRMAM Roman roads and milestones of Asia Minor.

See French 2013, 1998a, 1980

SEG Supplementum Epigraphicum Graecum, ed.

J.J.E. Hondius, A.G. Woodhead (Leiden 1927-)

SGO Merkelbach, R., Stauber, J. 1998–2004.

Steinepigramme aus dem griechischen Osten,

vols. 1–5 (Stuttgart–Lepizig–Munich)



More Information

Cambridge University Press 978-1-108-47115-2 — Archaeology and Urban Settlement in Late Roman and Byzantine Anatolia Edited by John Haldon , Hugh Elton , James Newhard Frontmatter

xxviii Abbreviations

SP

TIB

Studia Pontica. See Anderson 1903; Anderson, Cumont, and Grégoire 1910

Koder, J. and F. Hild, *Tabula Imperii Byzantini* 1: *Hellas und Thessalia* (Denkschr. d. Österr.Akad. d Wiss., phil.-hist. Kl. 125. Vienna 1976)

Hild, F. and M. Restlé, *Tabula Imperii Byzantini* 2: *Kappadokien (Kappadokia, Charsianon, Sebasteia und Lykandos)* (Denkschr. d. Österr. Akad. d Wiss., philhist. Kl. 149. Vienna 1981)

Soustal, P. with J. Koder, *Tabula Imperii Byzantini* 3: *Nikopolis und Kephallenia* (Denkschr. d. Österr. Akad. d Wiss., phil.-hist. Kl. 150. Vienna 1981)

Belke, K. (with M. Restle), *Tabula Imperii Byzantini* 4: *Galatien und Lykaonien* (Denkschr. d. Österr. Akad. d Wiss., phil.hist. Kl. 172. Vienna 1984)

Hild, F. and H. Hellenkamper, *Tabula Imperii Byzantini* 5, 1/2: *Kilikien und Isaurien* (Denkschr. d. Österr. Akad. d Wiss., phil.hist. Kl. 215. Vienna 1990)

Soustal, P. *Tabula Imperii Byzantini* 6: *Thrakien (Thrakê*, *Rodopê und Haimimontos)* (Denkschr. d. Österr. Akad. d Wiss., phil.-hist. Kl. 221. Vienna 1991)

Belke, K. and N. Mersich, *Tabula Imperii Byzantini* 7: *Phrygien und Pisidien* (Denkschr. d. Österr. Akad. d Wiss., phil.-hist. Kl. 211. Vienna 1990)

Hellenkemper, H. and F. Hild, *Tabula Imperii Byzantini* 8: *Lykien und Pamphylien* (Denkschr. d. Österr. Akad. d Wiss., phil.-hist. Kl. 320. Vienna 2004)

Belke, K. *Tabula Imperii Byzantini* 9: *Paphlagonien und Honorias* (Denkschr. d. Österr. Akad. d Wiss., phil.-hist. Kl. 249. Vienna 1996)

Travaux et Mémoires

TM



Abbreviations xxix

TYÜ 1975	Turkish Statistical Institute/Devlet	
	İstatistik Enstitüsü Agricultural Structure	
	and Production 1970–1972/Tarımsal Yapı	
	ve Üretim 1970–1972 (Ankara: Turkish	
	Statistical Institute Publication/Devlet	
	İstatistik Enstitüsü Yayınları)	
TYÜ 1978	Turkish Statistical Institute/Devlet	
	İstatistik Enstitüsü Agricultural Structure	
	and Production 1973–1975/Tarımsal Yapı	
	ve Üretim 1973–1975 (Ankara: Turkish	
	Statistical Institute Publication/Devlet	
	İstatistik Enstitüsü Yayınları)	
TYÜ 1979	Turkish Statistical Institute/Devlet İstatistik	
	Enstitüsü Agricultural Structure and Produc-	
	tion 1975–1977/Tarımsal Yapı ve Üretim 1975–	
	1977 (Ankara: Turkish Statistical Institute	
	Publication/Devlet İstatistik Enstitüsü	
	Yayınları)	
ZPE	ZPE Zeitschrift für Papyrologie und Epigraphik	

