

COMMUNITIES IN TRANSITION

The Circum-Aegean Area During the 5th and 4th Millennia BC



EDITED BY

Søren Dietz, Fanis Mavridis, Žarko Tankosić and Turan Takaoğlu



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THE CIRCUM-AEGEAN AREA DURING THE 5TH AND 4TH MILLENNIA BC

Edited by

SØREN DIETZ,
FANIS MAVRIDIS,
ŽARKO TANKOSIĆ
and
TURAN TAKAOĞLU.

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Preface

The volume before you represents a collective effort that brings together scholars from different countries and backgrounds united by a common interest in the transition between the Neolithic and the Early Bronze Age in the lands around the Aegean. We chose a title containing the word “communities” because we think that the changes that occurred in the 5th and 4th millennia in south-eastern Europe and western Anatolia changed the way people were organised, how they understood their place in society, and how they interacted with other social entities on a day-to-day basis. The Neolithic community was transformed, at some places incrementally and at others rapidly, into one that was, by the end of this period, more similar to what we would commonly associate with the Bronze Age.

Terminology used to describe this period presented a special topic for consideration. Many different names (e.g. Final Neolithic, Chalcolithic, Eneolithic, Late Neolithic [I]–II, Copper Age) are used by colleagues with different scholarly backgrounds. To some extent, they reflect diverse archaeological evidence from varied geographical regions. During this long heterogeneous period spanning two millennia, developments occurred that led to significant changes in material culture, use of space, adoption of metallurgical practices, establishment of far-reaching interaction and exchange networks, and increased social complexity. The 5th and 4th millennia BC transition, notwithstanding the variability inherent in a section of prehistory this long, is one of inclusions, entanglements, connectivity, and exchange of ideas, raw materials, finished products and, quite possibly, worldviews and belief systems.

Largely, we kept the nomenclature used for regional archaeological cultures to show the variety and differences

related to the period. However, after some deliberation, we settled on using the general term “Later Neolithic Stages” (not to be confused with the Late Neolithic phase) to describe the chronological focus of the conference itself. By using this somewhat neutral term, we wished to both advertise the focus on the fourth and later part of the 5th millennium as crucial for understanding the entire period and the intention to not include the earlier phases of the Late Neolithic or the developed phases of the Early Bronze Age, unless particularly pertinent to the discussion. The title of the volume, we felt, should be even more neutral and inclusive, which is the reason why we settled on the definition of the period in purely chronological terms. Inclusiveness was also high on the list of our priorities when organising the conference; we selected participants based purely on the criterion of scientific contribution.

Most of the papers presented here are multifaceted and complex in that they do not deal with only one topic or narrowly focus on only a single line of reasoning or group of data. Hence, it was difficult to section them off into meaningful chapters based exclusively on their thematic content. After much consideration, we settled on geography as the overarching principle by which to structure this book, as being the least contentious and controversial. Hence, the papers are arranged in a roughly north–south direction (i.e., the Balkans, northern Greece and Thessaly, west, central, and southern Greece, the Aegean Islands, Crete and Cyprus and west Anatolia), preceded by introductory and synthetic contributions that either transcend regional divisions, span more than one region or address general topics related to this period. We, however, provide an overview of the papers according to their topical and thematic character in the introduction to this volume.

Acknowledgements

The list of people who contributed to the success of the conference, which had more than 130 participants, and the succeeding volume of this size and scope is necessarily very long. Unfortunately, we cannot thank everyone individually here but we are truly grateful to them all and we strongly believe that without them this work would not have been possible.

We, of course, first and foremost thank all the participants and contributors to the conference for finding the time in their busy schedules to take part in the event. We wish to particularly thank the Danish Institute at Athens, which provided institutional support and a side venue for the conference and for recognising its scholarly potential. Dr Popi Sarri was irreplaceable as the conference secretary and her tireless and enthusiastic work was essential for holding together the various practicalities of conference organisation.

We thank Dr Maria Vlazaki Andreadaki, the current General Secretary of Culture at the Hellenic Ministry of Culture and Sports, who greeted the conference on behalf of the Ministry, and the Embassy of the Republic of Turkey and the Royal Danish Embassy in Athens for organising a reception for all conference participants.

The Acropolis Museum at Athens provided the main conference venue. Our volunteers, namely Paschalis Zafeiriadis, Vasiliki Anevlavi, Athina Gerochristou, Alexandra Koutsoulou, Dimitris Lambropoulos, Georgia Loukopoulou, Eleni Papadopoulou, Irini Paraskevopoulou and Zaneta Tsambi ensured the smooth running of the conference.

An excellent pool of anonymous reviewers, consisting of an international group of scholars established in the field, safeguarded the high scientific standards of the contributions to this volume. Ms Danaï Vlachou was responsible for the visual identity of the conference, a job she performed marvelously, and our proofreader, Ms Freya Evenson, is responsible for the high linguistic quality in papers mostly written by authors whose first language is not English.

Economic support for the conference was provided by The Danish Research Council for the Humanities, INSTAP, the Institute of Cross-Cultural and Regional Studies, University of Copenhagen and the Danish Institute at

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We thank our colleague Christina Televantou for graciously providing the images from her excavation project at Strophilas on Andros to use for the cover of this book.

And finally, the members of the Organising and Scientific Committees provided invaluable advice and served as a pool of reviewers for the paper contributions.

Organising Committee

Søren Dietz, The Danish Institute at Athens
Fanis Mavridis, Ministry of Culture and Sports, Greece
Žarko Tankosić, Norwegian Institute at Athens/Indiana University
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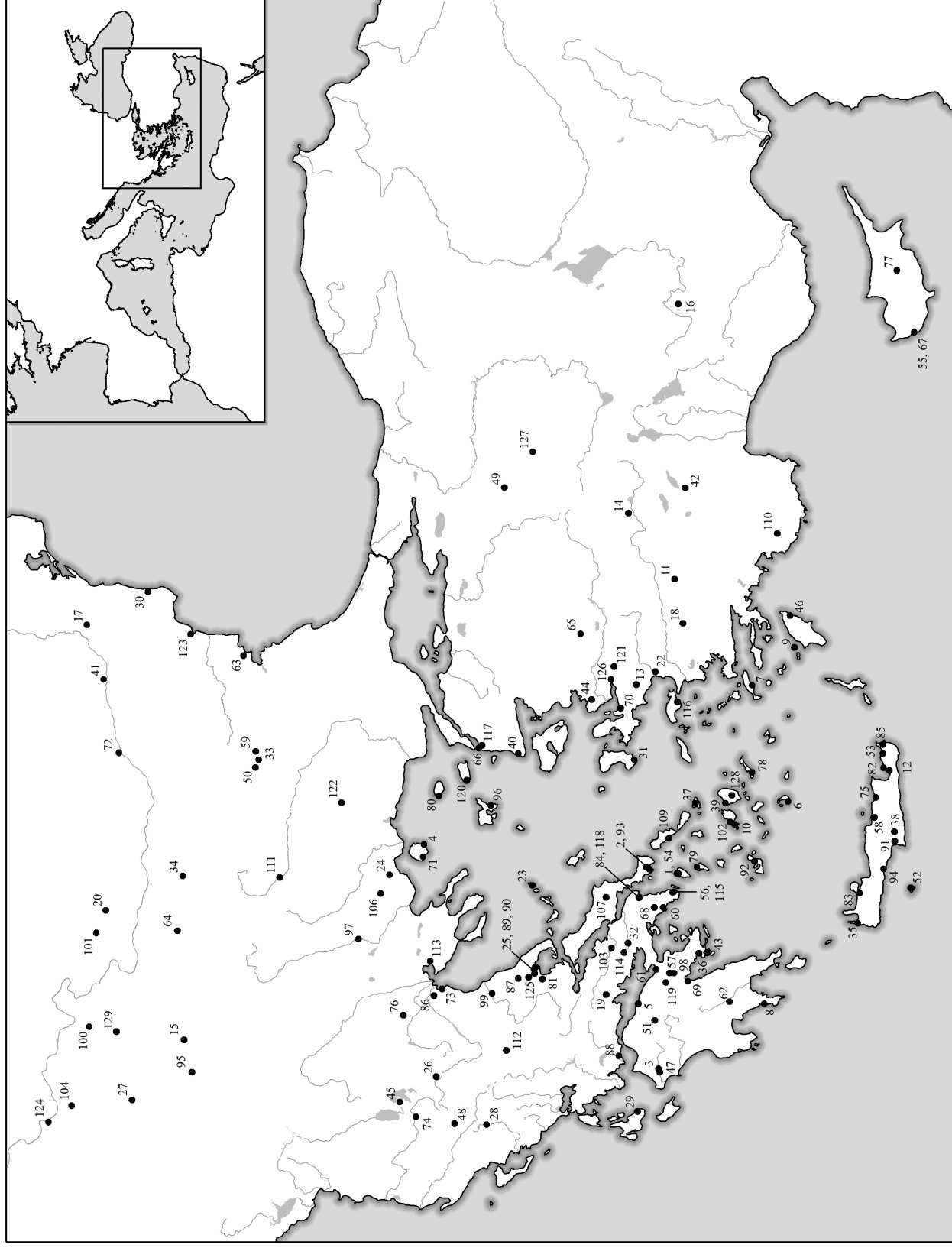
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Lucia Vagnetti, CNR, Rome
Karen D. Vitelli, Indiana University
Søren Dietz, Fanis Mavridis, Žarko Tankosić and Turan Takaoğlu

List of contributors

Alram-Stern Eva	eva.alram@oeaw.ac.at	Mavridis Fanis	fanismavridis@gmail.com
Aslanis Ioannis	iaslanis@eie.gr	Merkyte Inga	merkyte@hum.ku.dk
Bamyacı Onur	aobamyaci@gmail.com	Metaxas Odysseas	odymetaxas@hotmail.com
Bangsgaard Pernille	pernille.bangsgaard@snm.ku.dk	Milanović Dragan	draganarh@gmail.com
Bintliff John	j.l.bintliff@arch.leidenuniv.nl	Mina Maria	m.mina@ucy.ac.cy
Boyadzhiev Kamen	kamenyb@abv.bg	Mishina Tatyana	tnmishina@mail.ru
Boyadziev Yavor	yavordb@abv.bg	Nanoglou Stratos	stratos.nanoglou@gmail.com
Bulatović Aleksandar	abulatovic3@gmail.com	Nazou Margarita	nazoumarg@yahoo.com
Carter Tristan	stringy@univmail.cis.mcmaster.ca	Nedelcheva Petranka	pnedelcheva@nbu.bg
Caymaz Tayfun	tayfuncaymaz@nevsehir.edu.tr	Nowicki Krzysztof	erganos@hotmail.com
Çevik Özlem	arkeocevik@yahoo.com	Oberweiler Cécile	Cecile.Oberweiler@efa.gr
Coleman John E.	jec13@cornell.edu	Özdemir Abdulkadir	akadir23@gmail.com
Danov Veselin	azgard@abv.bg	Palli Ourania	opalli@culture.gr
Darcque Pascal	pascal.darcque@mae.u-paris10.fr	Papadopoulos Stratis	epapadopoulos@culture.gr
Derin Zafer	zaferderin@gmail.com	Pappa Maria	mpappa@culture.gr
Dietz Søren	soren.dietz@gmail.com	Parkinson William A.	wparkinson@fieldmuseum.org
Di Tonto Serena	serenaditonto@yahoo.it	Perlès Catherine	catherine.perles@mae.u-paris10.fr
Erdoğu Burçin	berdogu@gmail.com	†Peltenburg Edgar	diane.bolger@ed.ac.uk
Facorellis Yorgos	yfacorellis@yahoo.com	Popova Margarita	margarita_po@abv.bg
Gatsov Ivan	igatsov@yahoo.com	Pospieszny Łukasz	l.pospieszny@wp.pl
Gauss Walter	walter.gauss@oeai.at	Psathi Eleni	epsathi@culture.gr
Georgiadis Merkouris	merkourisgeorgiadis@hotmail.com	Pullen Daniel	dpullen@fsu.edu
Georgieva Petya	petyageorg@gmail.com	Rambach Jörg	joergrambach@yahoo.gr
Günel Sevinç	sgunel@hacettepe.edu.tr	Reingruber Agathe	agathe.reingruber@fu-berlin.de
Gyucha Attila	gyuchaa@gmail.com	Renfrew Colin	acr10@cam.ac.uk
Horejs Barbara	Barbara.horejs@oeaw.ac.at	Ridge William P.	wridge2@uic.edu
Işın Gül	gulisin@akdeniz.edu.tr	Riebe Danielle	driebe2@uic.edu
Kapuran Aleksandar	a.kapuran@gmail.com	Şahoğlu Vasıf	vasif.sahoglu@ankara.edu.tr
Karali Lilian	likarali@yahoo.com	Sampson Adamantios	adasampson@gmail.com
Katsarou-Tzevekeki Stella	stella@stellakatsarou.gr	Sarri Kalliope	Kalliope.Sarri@gmail.com
Kopaka Katerina	kopaka@phl.uoc.gr	Schwall Christoph	christoph.schwall@oeaw.ac.at
Korkut Taner	tkorkut@akdeniz.edu.tr	Stratouli Georgia	gstratouli@gmail.com
Kotsakis Kostas	kotsakis@hist.auth.gr	Tankosić Žarko	ztankosic@gmail.com
Koukoulis-Chryssanthaki Haido	ckoukouli@gmail.com	Takaoğlu Turan	turantakaoglu@gmail.com
Kufel Mariusz	mariuszkufel02@gmail.com	Televantou Christina	chtele@otenet.gr
Kyparissi-Apostolika Nina	nkyparissi@hotmail.com	Terzijska-Ignatova Stoika	ignatovatony@gmail.com
Lambropoulos Dimitris	dimitrioslamb@gmail.com	Theou Efthimis	efthimis80@hotmail.com
Lera Petrika	petrika_lera@yahoo.it	Todaro Simona	svtodaro@unict.it
Malamidou Dimitra	dimitra_malamidou@hotmail.com	Touchais Gilles	touchais.gilles@wanadoo.fr
Mari Aleksandra	marichar70@gmail.com	Treuil René	rtreuil2@gmail.com
Mastrogianopoulos Vagia	vagia.mastro@gmail.com	Tsirtsoni Zoi	zoi.tsirtsoni@mae.u-paris10.fr
Matsanova Velichka	mazanova@abv.bg	Tuncel Rıza	rtuncel@gmail.com
		Turkcan Ali Umut	aturkcan@anadolu.edu.tr
		Vakirtzi Sophia	sophiavakirtzi@hotmail.com
		Voskos Ioannis	ivoskos@hotmail.com

List of sites



map author: Dr. Rebecca Seifried

<i>Number</i>	<i>Site name</i>	<i>Number</i>	<i>Site name</i>	<i>Number</i>	<i>Site name</i>	<i>Number</i>	<i>Site name</i>
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Interaction as a stimulus? Çukuriçi Höyük and the transition from the Late Chalcolithic to the Early Bronze Age in Western Anatolia

Barbara Horejs and Christoph Schwall

Introduction

Regarding Western Anatolia itself, many studies concerning the Chalcolithic period have been carried out over the past few decades. The discovery and excavation of several new sites have provided finds which have allowed us to assume that the region was already part of a regional and supra-regional communication and exchange system before the beginning of the EBA. The question arises as to whether interaction can be seen as a stimulus for socio-cultural processes in general. Therefore, it would be helpful to take a closer look at the theoretical aspects of exchange and communication. Focusing on this topic, it is necessary to consider several layers of communication in order to understand the significance of communication in prehistoric times.¹ Based on material analyses, St. Schwenzer adjusted E. Gringmuth-Dallmer's construct of five partially overlapping thematic levels of *communication*: the social, the religious, the technical, the political and the economic level.² To this Schwenzer also added a social and a spatial level. Following the model of J. Rüsç and G. Bateson the *social* aspect can be subdivided into four distinct levels. Intra- and interpersonal communication form the basis of this model and are super-ordinated by the more advanced group and cultural communications.³ Moreover, the *spatial* structure of communication is a crucial factor in distinguishing between local, regional, interregional and supra-regional communication and thus potential exchange systems.⁴ With regard to Western Anatolia, the case study of Çukuriçi Höyük allows us to show that different types of communication existed during the Chalcolithic period. The results of the excavations carried out at this tell settlement on the Central Aegean coast of Western Anatolia reveal contacts within Anatolia and abroad.

Çukuriçi Höyük: Late Chalcolithic remains

The excavations carried out at Çukuriçi Höyük uncovered three distinct occupation levels in the northern and central areas of the tell settlement pointing to Late Chalcolithic activities at the site (Fig. 54.1). Radiocarbon dating allowed us to date these levels to the second half of the 4th millennium BC. The oldest level (ÇuHö VII) represented a phase during which the settlement had been surrounded by a ditch. The upper levels (ÇuHö VI–Vb) contained a sequence of layers that represented the infilling of the ditch⁵ and above the subsequent construction of the settlements ÇuHö VIb to Vb. The investigations in general yielded several architectural remains (rectangular and stone row structures), a cist grave, and also finds which point to various advanced craft activities in the Late Chalcolithic period. Besides animal husbandry and agriculture, metallurgy and textile production as well as evidence of food storage indicate that society was becoming more differentiated. Moreover, the presence of a Kilia type figurine found recently at the site and a large quantity of imported obsidian from the Aegean island of Melos attest to constant contact with communities in Western Anatolia and in the Aegean, possibly extending as far as the Cyclades. Contact with the island of Melos has already been confirmed by obsidian finds recovered from Neolithic and EBA layers at Çukuriçi Höyük.⁶

Evidence of communication and exchange in 5th millennium BC Western Anatolia

Signs of specialised craft activities, raw materials, and finished products as well as the distribution of mat-impressed pottery could be seen as evidence attesting to communication and exchange systems having existed

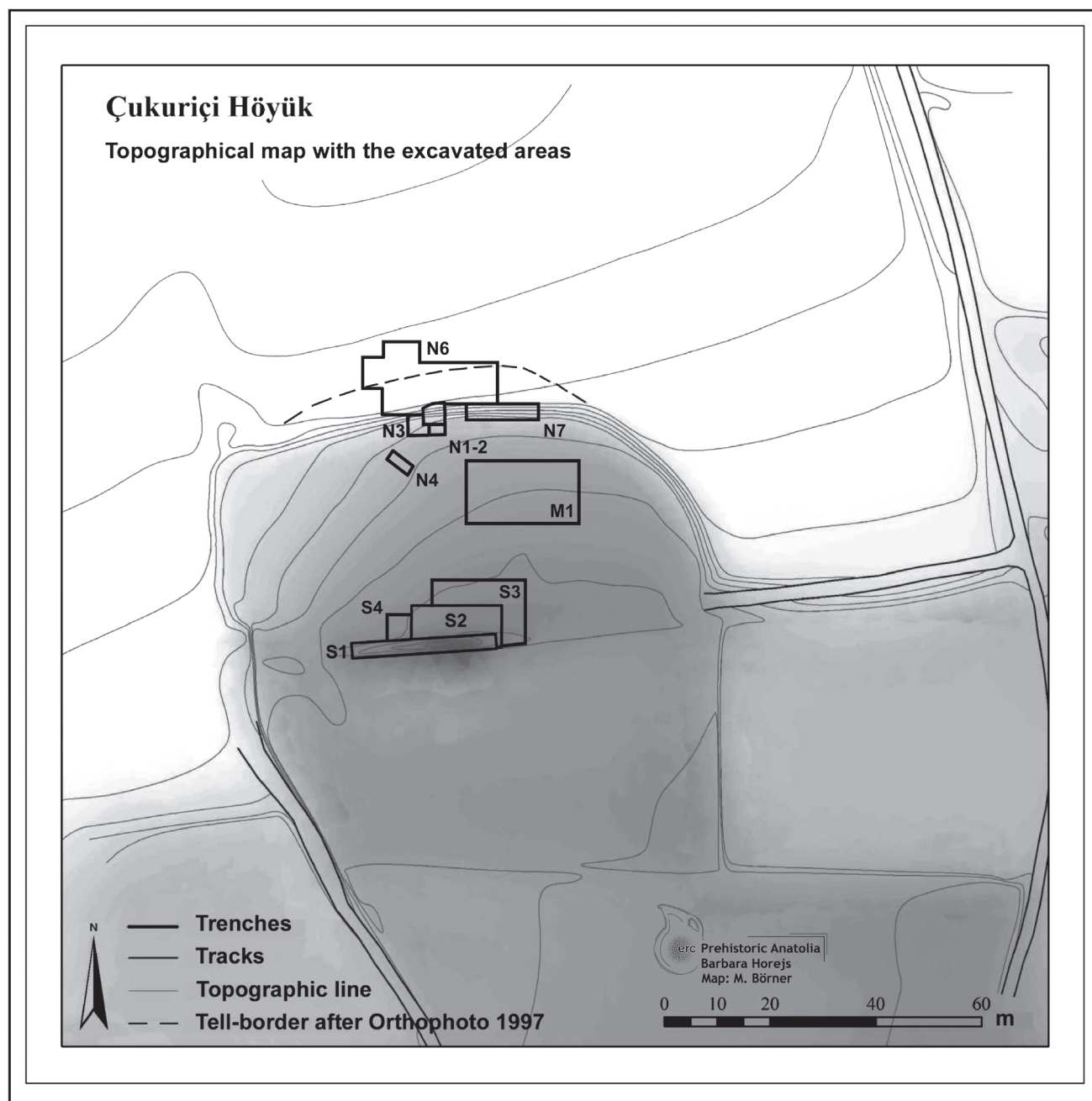


Figure 54.1. Topographical map of the tell site Çukuriçi Höyük with trenches excavated since 2006 and reconstructed settlement size (ERC Prehistoric Anatolia: M. Börner)

in Western Anatolia and the surrounding areas. The intensification of communication networks seems to have started as early as the Middle Chalcolithic Period (5500–4250 BC)⁷ in Western Anatolia and the East Aegean islands and presumably also stimulated the later formation of settlements of supra-regional importance. One

important indication for these contacts can be recognised in architectural patterns. Comparable architecture can be observed in the 5th and 4th millennium BC where rectangular, apsidal/elliptic and circular buildings as well as stone row structures were used, the latter especially in the coastal regions and on the East Aegean islands.⁸

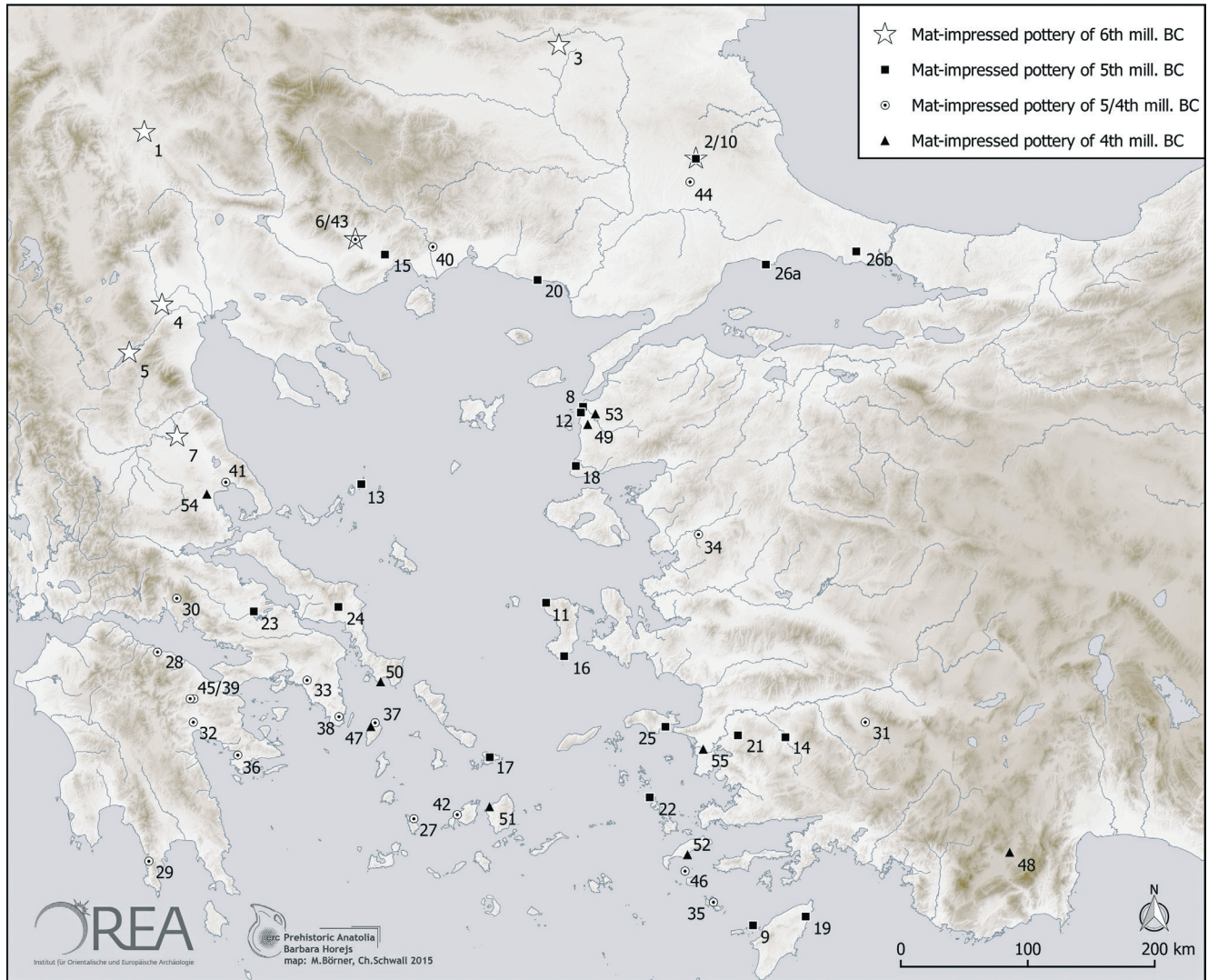


Figure 54.2. Findspots of mat-impressed pottery dating to the 6th, 5th and 4th millennium BC in Mainland Greece, Turkish Thrace, the Aegean Islands and Western Anatolia (after Labriola 2008 with additions; references cf. catalogue; ERC Prehistoric Anatolia: M. Börner, Ch. Schwall).

Specialised crafts and exotic raw materials

Specialised crafts and the exchange of exotic raw materials could indicate communication spheres in the 5th and 4th millennia BC. Early evidence of specialised craft activities is known from Western Anatolia in the Middle Chalcolithic period. Metalworking can be dated back to the second half of the 5th millennium BC based on objects found at Orman Fidanlığı VII and Aphrodisias-Pekmez VIIIA (LC 1) in Western Anatolia.⁹ Two objects from Emporio IX–VIII on Chios probably date from an earlier period.¹⁰ In addition to metalworking, textile production, attested to by a loom weight found at Kumtepe IA2, is a further indication of early specialised crafts in the Middle Chalcolithic period.¹¹ These crafts were inextricably linked

with raw material exchange. A trade network of Melian obsidian, attested at Çukuriçi Höyük during the 7th to 3rd millennia BC,¹² represents continued access to the raw material sources on the Cycladic islands. Examples dating from the Middle Chalcolithic period were found at Beşik-Sivritepe,¹³ Gülpınar¹⁴ and Liman Tepe VII.4.¹⁵ Obsidian finds, presumably of Melian provenance, are known for example from Alimnia¹⁶, Emporio VIII on Chios,¹⁷ Kalythies II–III on Rhodes,¹⁸ Kumtepe IA1,¹⁹ Partheni on Leros,²⁰ and Tigani II–IV on Samos.²¹ The question arises as to whether other finds besides obsidian might represent early interaction between Western Anatolia and the border regions. The surface finds recovered from a marble workshop at Kulaksızlar in the province of Manisa

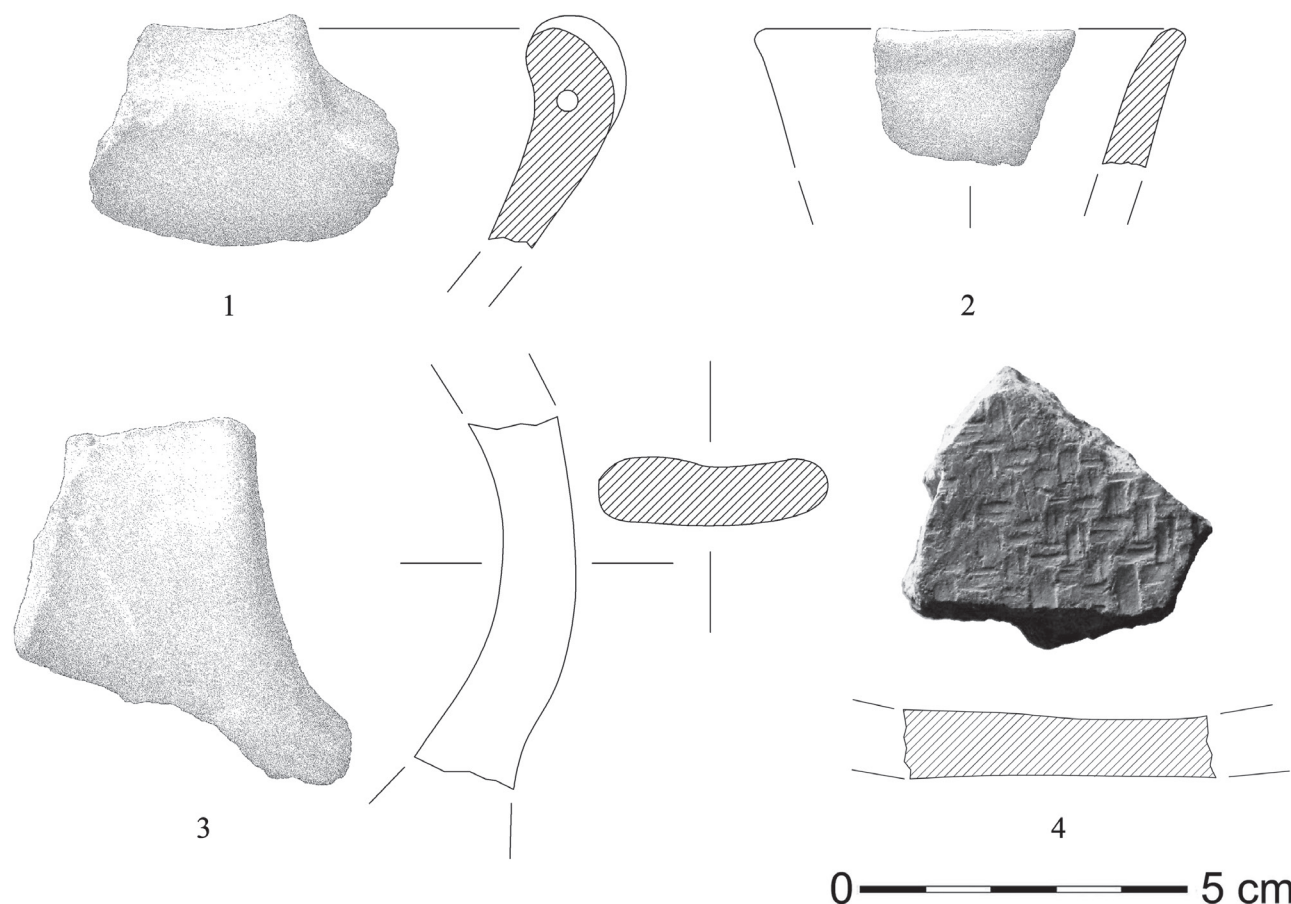


Figure 54.3. Diagnostic pottery finds from Bağlı Tepe in the Gümüş valley including mat-impressed ware (ERC Prehistoric Anatolia: L. Schneider; B. Horejs, Urban and Partner). 1. Find no. GÜM04/12/F3/1/5. Type: Carinated bowl with short kink, regularly rounded lip, horizontal lug at the rim (broken); fabric: 569, fine to medium fine ware: medium burnished, slightly uneven, light brown to dark brown, core grey to black. DmR indeterminate; wall thickness 0.7 cm. 2. Find no. GÜM04/12/F3/1/2. Type: High closed vessel, cylindrical neck, regularly rounded lip; fabric: 562, fine ware: fine burnished and orange to light brown slip, even, slightly shiny, core brown to grey. DmR 6.0 cm (7.0 %); wall thickness 0.6 cm. 3. Find no. GÜM04/12/F3/1/3. Type: Vertical strap handle; fabric: 574, fine ware: fine burnished, shiny, brown, core grey to dark grey. Handle length 6.6 cm; handle width 4.7 cm; handle thickness 1.6 cm. 4. Find no. GÜM04/12/F3/1/9. Type: Base, mat-impressed on the bottom; fabric: 533, fine to medium fine ware: surface coarse burnished, rough, light brown, core grey; Impressed ware. DmR 11.0 cm (6.0 %); wall thickness 0.8 cm.

perhaps provide clues as to the distribution of pointed beakers and Kilia type figurines.²² The pointed beakers in particular were distributed throughout Western Anatolia and the East Aegean islands.²³ Moreover, three beakers of the same type were found on the Aegean islands of Lemnos (Koukonisi), Keos (Kephala), and on Naxos, and another was recovered from Grave 41 at Varna in Bulgaria.²⁴ T. Takaoglu has mentioned that the marble pointed beakers found in Western Anatolia might predate finds from the Aegean islands.²⁵ Kilia type figurines, miniature sculptures popular in the Middle and Late Chalcolithic periods, show a similar distribution, albeit restricted to the Western Anatolian region.²⁶

Mat-impressed pottery as a marker of interaction

Broader pottery studies have revealed wide-ranging communication networks. For example, mat-impressed pottery represents a sphere of interaction in the Middle Chalcolithic period. This specific type of pottery with its distinct mat-impressions on the base of the vessel was widespread throughout the Greek Mainland and the Cyclades in the 5th and 4th millennia BC. Mat-impressions found at early sites in Northern Greece as well as in Turkish Thrace could reflect a possibly older Balkan (*cf.* Anza, Karanovo) tradition (Fig. 54.2; Catalogue of finds).²⁷ Beyond the distribution area on the Greek Mainland in Chalcolithic times, we may add other examples from Turkish

Thrace, the East Aegean islands and the coastal sites of Western Anatolia from the Troad in the north to Lycia in the south. Similar mat-impressions are known from excavated sites such as Beşik-Sivritepe, Gülpınar, Hanay Tepe and surface finds from Alacalıgöl and Bozköy-Hanaytepe in the Troad. Surveys at the site of Bağlı Tepe in the Gümüş Valley also revealed similar finds (Fig. 54.3).²⁸ The survey at Halasarna on Kos, excavations at Emporio and Ayio Gala on Chios, Partheni on Leros, Kalythies on Rhodes, Charkadiko on Tilos, Yali, and Alimnia also yielded similar finds. In Western Anatolia, they are also known from such sites as Milet, Malkayası Cave, Çine-Tepecik Höyüğü, Aphrodisias-Pekmez and Bağbaşı. Several pieces are also known from excavations at Aşağı Pınar, Tilkiburnu, Toptepe or Yarımburgaz (?) and surveys conducted in Turkish Thrace.²⁹ (For references, see Catalogue below.)

Especially worth mentioning are the surface finds from Bağlı Tepe, where two fragments of mat-impressed pottery were found. One was found during the work conducted by J. Driehaus in 1955; the other during a recent survey carried out in 2012 (Fig. 54.3).³⁰ Both mat-impressed sherds were found associated with pottery types from the 5th and 4th millennia BC.

Conclusions

As shown by the examples cited, different kinds of communication were already visible in the 5th and 4th millennia BC in Western Anatolia. Obsidian finds of Melian provenance illustrate early access to supra-regional raw material sources on the Cyclades.³¹ Moreover, the distribution of finds such as marble pointed beakers and ceramic vessels with mat-impressed bases indicate that Western Anatolia was part of a supra-regional interaction sphere as early as the 5th millennium BC. Especially the distribution of mat-impressed pottery finds near the sea and on islands suggests trans-Aegean contacts with a strong maritime affinity. However, Kilia figurines seem to have been restricted to the Western Anatolian region and probably represent a distinct regional style and ritual behaviour. Besides the Kilia type figurines, which were also widespread in the 4th millennium BC, an increasing number of metallurgical finds³² as well as evidence for textile production in the form of loom weights³³ show a general interest in and intensified use of new technologies as a result of a dynamic process.

Therefore, the basis upon which the EBA proto-urban societies were formed can already be identified in the Middle and Late Chalcolithic period in Western Anatolia. Particularly the closed character of settlements attested in both periods, as well as specialised craft activities and food storage suggest some kind of social organisation.³⁴ To date, two distinct settlement enclosures dating from the 4th millennium BC, Çukuriçi Höyük and Barcın

Höyük, have been excavated in Western Anatolia.³⁵ It is questionable whether these enclosures could be seen as possible predecessors of fortifications that appeared at the beginning of the 3rd millennium BC in EBA 1 settlements in Western Anatolia and on off-shore islands, including Bakla Tepe EBA 1, Beycesultan XIX, Demircihüyük F, Emporio III, Hanay Tepe upper stratum B(?), pre-Heraion I, Karataş I, Liman Tepe VI, Myrina IV, and Poliochni azzuro on Lemnos, Thermi II on Lesbos, Troy I, and Yenibademli Höyük on Imbros.³⁶

As regards Çukuriçi Höyük, it is interesting that the settlement enclosure, the ditch, was filled in during the Late Chalcolithic period to make way for an expansion of the settlement. Due to the destruction of the tell site after 1995, especially the uppermost and external areas of the site, it was not possible to reconstruct a settlement enclosure system with regard to the EBA 1 contexts. In any case, a reduction of the settlement size was not identified; it seems, rather, to have stayed the same size until its abandonment around 2750 BC. The complete opposite took place at Bakla Tepe to the north-west of Çukuriçi Höyük, where the settlement was considerably reduced during the transition from the fourth to the 3rd millennium BC.³⁷ The fact that one settlement expanded while its contemporary neighbour was considerably reduced seems remarkable. A possible explanation for this phenomenon could be the prosperity of Çukuriçi Höyük with its wide-ranging exchange network during the EBA 1. Melian obsidian in particular reached the settlement in great quantities during this time, so we may assume that the settlement acted as gateway and possessed some kind of distribution function for Melian obsidian.³⁸ Besides the obsidian trade, Çukuriçi Höyük was also an important centre of metal production in the EBA 1, based on various metal workshops studied and metallurgical analyses carried out.³⁹ Lastly, the existence of a Near Eastern metrological system emphasizes the integration of Çukuriçi Höyük in an exchange system that extended beyond the borders of Western Anatolia.⁴⁰

Catalogue of mat-impressed pottery findspots

6th millennium BC

1. Anza (Mock 1976, 110–1, fig. 64; Labriola 2008, 309)
Date: Anza Ia–III (6100–5500 BC, Gimbutas 1976, 30, tab. I).

2. Aşağı Pınar (Parzinger 2005, 41, 222, pl. 116; Özdoğan 2013, 187, 254, fig. 126.255, fig. 127)
Date: 5950–5500 cal BC (AP 6–7, cf. Özdoğan 2013, 190).

3. Karanovo (Seebacher 1997)
Date: Karanovo I–II (first half of the 6th millennium BC, cf. Krauss 2008, 138–9).

4. Nea Nikomedeia (Pyke and Yiouni 1996, 61; Perlès 2001, 243, 245, Abb. 11.5; Labriola 2008, 309)
Date: EN III (Reingruber 2008, 394–6).

5. Servia (Carrington-Smith 2000, 240–7; Ridley and Wadley 1979, 193; Labriola 2008, 309)

Date: MN/LN (Reingruber 2008, 401–2).

6. Sitagroï (Adovasio and Illingworth 2003; Elster 2003, 258, Taf. 6.17)

Date: 5500–5200 BC (Adovasio and Illingworth 2003, 256).

7. Soufli-Magoula (Perlès 2001, 243–5, Abb. 11.5)

Date: late EN/MN (Reingruber 2008, 293–6).

5th millennium BC

8. Alacahgöl – Survey (Özdemir 2007, 73 with reference to Aslan 1997, fig. 30)

Date: 5th millennium BC (Gabriel *et al.* 2004).

9. Alimnia (Sampson 1987, 81–2, 185, fig. 45a–γ; Alram-Stern 1996, 488; Labriola 2008, 316)

Date: LN (Sampson (ed.) 2006, 147, 232; Georgiadis 2012, 12).

10. Aşağı Pınar (Parzinger 2005, 77, cat. no. 2, 107 pl. 1, 2)

Date: Level Aşağı Pınar 2 – MC (Özdoğan 2013, 190; Parzinger 2005, 63 fig. 17)

11. Ayio Gala Lower Cave/Chios (Furness 1956, 197, pl. 21.7; Labriola 2008, 316)

Date: EC or later (See the discussion in Schoop 2005, 229–30, 258–9, 271).

12. Beşik-Sivritepe (Schliemann 1881, 742; Lamb 1932, 128; Hood 1981, 21; Seehr 1985, 174; Schoop 2005, 243; Gabriel 2006, 358, fig. 2)

Date: MC (Schoop 2005, 271).

13. Cave of the Cyclops/Youra (Sampson 2008a, 57).

Date: LN (Sampson 2008a, 32).

14. Çine-Tepecik Höyüğü (Günel 2007, 235; Günel 2014, 87)

Date: MC (Günel 2007, 235; Günel 2014, 89).

15. Dikili Tash (Demoule 2004, 83, pls 21.4–5; 22.1–4)

Date: Néolithique Récent II (Darque and Tsirtsoni 2010, 63).

16. Emporio/Chios (Hood 1981, 21, 217, 248, 289)

Date: MC (Schoop 2005, 271).

17. Ftelia/Mykonos (Sampson (ed.) 2002, 89)

Date: LN (Facorellis and Maniatis 2002, 311).

18. Gülpınar (Özdemir 2007; Özdemir 2012; Takaoğlu 2006, 308, fig. 13.37; Takaoğlu and Özdemir 2013, 23, fig. 8)

Date: MC (Takaoğlu 2006, 289).

19. Kalythies/Rhodes (Sampson 1987, 30)

Date: LN (Sampson 1987, 30).

20. Makri (Eustratiou *et al.* 1998, 32)

Date: middle of 6th until beginning of 5th millennium BC (Eustratiou *et al.* 1998, 58).

21. Malkayası Cave (Peschlow-Bindokat 2006, 86, fig. 81b; Peschlow-Bindokat and Gerber 2012, 75)

Date: MC (Peschlow-Bindokat and Gerber 2004, 205).

22. Partheni/Leros (Sampson 1987, 90, 185, fig. 48.α; Alram-Stern (ed.) 1996, 493; Sampson (ed.) 2006, 231; Labriola 2008, 316)

Date: LN (Sampson (ed.) 2006, 147, 230; Georgiadis 2012, 12).

23. Sarakenos Cave (Sampson 2008b, 188–9)

Date: LN IB (Sampson 2008b, 50, tab. 3).

24. Skoteini Cave/Euboea (Mari 1993, 198, figs 194–5; Beloyanni 1993; Labriola 2008, 316, V. Mastrogiannopoulou pers. comm.)

Date: LN (Beloyanni 1993, 354–7; Sampson (ed.) 2006, 147, 149–57).

25. Tigani/Samos (Heidenreich 1935/36, 139, pl. 35.2–3; Furness 1956, 181; Labriola 2008, 316)

Date: MC (Schoop 2005, 271–2).

26. Toptepe (a) or Yarımburgaz (b) (Özdoğan *et al.* 1991, 121, fig. 23i)

Date: time span of both sites (first half of 6th until first half of 5th millennium BC (referring to Schoop 2005, 266, 271, fig. 6.10, 302).

5th/4th millennium BC

27. Ayios Sostis/Siphnos (Gropengiesser 1987, 29, fig. 1, pl. 4; Alram-Stern 1996, 459–60)

Date: LN/FN (Gropengiesser 1987, 5; Alram-Stern (ed.) 1996, 460).

28. Aigeira (Alram-Stern 2001, 65, fig. 2.e, 66; Labriola 2006; Labriola 2008, 316)

Date: FN (Alram-Stern 2001, 64); mixed deposits, Neolithic to MH (Labriola 2006, 150).

29. Alepotrypa Cave (Papathanassopoulos 1996, 223, fig. 29; Labriola 2008, 316)

Date: FN (Papathanassopoulos 1996, 223).

30. Antre Corycien (Touchais 1981a, 109, 114, fig. 11.69; Touchais 1981b, 201, pl. 1.69; Labriola 2008, 316)

Date: FN (Touchais 1981b, 201).

31. Aphrodisias-Pekmez (Joukowsky 1986, 330; Schoop 2005, 159)

Date: LC (Schoop 2005, 188–9).

32. Aspis (Touchais 1980, 20–1, fig. 8.56–7, 23, fig. 11.56–7, 38–9; Labriola 2008, 316)

Date: FN (Touchais 1980, 1).

33. Athens, Agora (Immerwahr 1971, 5, 23, pl. 1.6; Labriola 2008, 316)

Date: Latest Neolithic or EH I (Immerwahr 1971, 23).

34. Bağlı Tepe – Survey (Driehaus 1957, 80, fig. 2, 3; Horejs 2014c, 113, fig. 5.3; Pirson & Horejs 2014, 304, 311, fig. 11.3)

Date: MC/LC (Horejs 2014c, 113).

35. Charkadio Cave/Telos (Bachmayer *et al.* 1976, 140)

Date: LN/FN (Sampson 1987, 115; Alram-Stern (ed.) 1996, 488; Alram-Stern 2004, 950).

36. Franchthi Cave (Jacobsen 1973, 271–2, fig. 8.15, pl. 51.c; Vitelli 1999, 292–3, fig. 73.e, 327; pl. 7b; Labriola 2008, 316)

Date: LN (Jacobsen 1973, 266); FN (Vitelli 1999, 2–3).

37. Kephala/Keos (Carrington-Smith 1977, 120–1, pl. 90.A–H, J, L–P; 91.A–D; Alram-Stern (ed.) 1996, 455; Labriola 2008, 316)

Date: FN (Coleman 1977, 110).

38. Kitsos Cave (Lambert 1981, 285, 323, pl. 24; Labriola 2008, 316)

Date: LN/FN (Lambert 1981, 275).

39. Nemea (Caskey and Blegen 1975, 270–1, pl. 68.17)

Date: LN–EH I (Caskey and Blegen 1975, 271).

40. Paradeisos (Johnson 1987, 50, tab. 4.75, fig. 40.229, fig. 41.249)

Date: LN/FN (Johnson 1987, 39).

41. Petromagula (Alram-Stern (ed.) 1996, 764)

Date: FN (Alram-Stern (ed.) 1996, 764).

42. Saliagos (Evans and Renfrew 1968, 71, pl. 55.6–11; Labriola 2008, 316)

Date: FN (Evans and Renfrew 1968, 90).

43. Sitagroi (Adovasio and Illingworth 2003; Elster 2003, 259–61, 266, pl. 6.15–16)

Date: LN/FN, Sitagroi III–IV (Adovasio and Illingworth 2003, 256).

44. Tilkiburnu (Özdoğan 1982, 10)

Date: Karanovo VI (Özdoğan 1982, 11); dated to first half of 4th millennium BC (Schoop 2005, 270).

45. Tsoungiza (Pullen 2011, 612, fig. 8.7, 12)

Date: FN (Pullen 2011, 611).

46. Yali (Sampson 1988a, 101, figs 83–5, 115, 120, 155–6, fig. 68.β, 261; Alram-Stern (ed.) 1996, 492; Labriola 2008, 316)

Date: LN/FN (Sampson (ed.) 2006, 235, 249–50; Georgiadis 2012, 12).

4th millennium BC

47. Ayia Irini/Keos (Caskey 1972a, 360, pl. 76.A31; Wilson 1999, 13, pl. 41.I–84–7; Labriola 2008, 316)

Date: Ayia Irini I (FN), second half of 4th millennium BC (Wilson 1999, 227).

48. Upper Bağbaşı (Eslick 1992, 17)

Date: LC (Eslick 1992, 101; Schoop 2005, 191).

49. Bozköy-Hanaytepe (Blum *et al.* 2011, 132, pl. 6.8)

Date: LC (Blum *et al.* 2011, 138).

50. Gremenitsa/Euboea – Survey (Cullen *et al.* 2013, 63, pl. 39B)

Date: FN or EH I (Cullen *et al.* 2013, 63).

51. Grotta/Naxos (Kontoleon 1949, 119–20, fig. 13)

Date: 4th until 3rd millennium BC (Kontoleon 1949, 120).

52. Halasarna/Kos – Survey (Georgiadis 2012, 29–30, 136)

Date: FN or EBA (Georgiadis 2012, 30, 136).

53. Hanay Tepe (Lamb 1932, 118 fig. 5.3; Schachner 1999, 19 fig. 11.3)

Date: LC or EBA (Schachner 1999, 22).

54. Mikrothives (Ch. von Hauff pers. comm.)

Date: 3670–3380 BC (Adrymi-Sismani 2007, 74).

55. Milet (Voigtländer 1981, 121; Voigtländer 1982, 34, 37, figs 2.14–15, 115, pls 15.8, 16.1–3)

Date: LC or EBA (Parzinger 1989, 429).

Notes

- Schwenzer 2009, 12–18.
- cf.* Gringmuth-Dallmer 2000, 32–8.
- cf.* Rüscher and Bateson 1987, 275.
- Schwenzer 2009, 15–17.
- Horejs 2014a, 19.
- Bergner *et al.* 2009.
- Following the chronology of U. Schoop (Schoop 2005, 17; Schoop 2011).
- cf.* Horejs and Schwall 2015.
- Orman Fidanlığı (Ay-Efe 2001, 139; Efe 2002, 50–1); Aphrodisias-Pekmez (Joukowsky Sharp 1986, 287–9). *cf.* Mehofer 2014.
- Hood 1982, 657; *cf.* Mehofer 2014.
- Sperling 1976, 326, pl. 71.236.
- Bergner *et al.* 2009; Galik and Horejs 2011, 88–9; Knitter *et al.* 2012, 362; Knitter *et al.* 2013, 4.
- Korfmann 1986, 310.
- Takaoğlu and Özdemir 2013, 27.
- Kouka 2009b, 143.
- Kaczanowska *et al.* 2006; Sampson 1987, 84–5, 184; Sampson (ed.) 2006, 232.
- Hood 1981, 103.
- Kaczanowska *et al.* 2006, 463; Sampson 1987, 46–8; Sampson (ed.) 2006, 248.
- Sperling 1976, 323.
- Sampson 1987, 91; Sampson (ed.) 2006, 231
- Felsch 1988, 223–36.
- Dinç 1996a; 1996b; Takaoğlu 2001; 2002; 2005; 2011.
- Kouka 2009b, 143; Takaoğlu 2002, 78–9; 2005, 37–8; 2011, 161–2; Takaoğlu and Bamyacı this volume.
- Boulotis 1997, 257, fig. 23; Getz-Gentle 1996, 52–3; Ivanov 1978b, 16; Lichter 2011, 37–9; Takaoğlu 2002, 78–9; 2005, 37–8; Takaoğlu 2011, 161–2.
- Takaoğlu 2002, 79. Sotirakopoulou 2008a, 537 disagrees with this hypothesis.
- Joukowsky 1982, 88, fig. 1; Seeher 1992; Schoop 2005, 269; Takaoğlu 2002, 79; 2005, 38; 2011, 161–2.
- Labriola 2006, 147; 2008, 319, fig. 2.
- cf.* Former name of Bağlı Tepe was “Tepe I im Gümüşovaderesi” (Driehaus 1957, 77; Horejs 2013, 113).
- According to B. Erdoğan a few surface finds of the Neolithic and Chalcolithic period (referring to the chronological sequence of the Balkans) are known from Altağaç; Kocatepe; Tepeyanı; Yağcılı and Yumurta Tepe (Erdoğan 2001, 114). Regarding Töptepe or Yarımburgaz, the provenance of the find is not apparent from the publication (*cf.* Özdoğan *et al.* 1991, 121, fig. 23i).

- 30 Driehaus 1957, 80, fig. 2.3; Horejs 2014c, 113, fig. 5.3. The prehistoric surveys are part of the German excavations at Pergamon (F. Pirson) since 2008 (Horejs 2009a; 2009b; 2010a; 2010b; 2011a; 2011b; 2012; 2013; 2014b; Pirson and Horejs 2014).
- 31 Obsidian finds were also recovered from Ulucak Höyük level III, but no provenance identified (Çilingiroğlu *et al.* 2004, 20).
- 32 Mehofer 2014, 468–71; Yalçın 2000, 23.
- 33 Aphrodisias-Pekmez (Joukowsky Sharp 1986, 379–81); Bağbaşı (Eslick 1992, 35–6); Beycesultan (Lloyd and Mellaart 1962, 268, fig. F.2,22, 275); Bakla Tepe (Erkanal and Özkan 1999b, 136, 198, fig. 39); Çukuriçi Höyük (Horejs and Schwall 2015, 460); Kuruçay Höyük (Umurtak 1996, 53, pls 147.5, 150.2).
- 34 *cf.* Horejs and Schwall 2015.
- 35 Gerritsen *et al.* 2010, 199; Horejs and Schwall 2015, 461.
- 36 Bakla Tepe EBA 1 (Erkanal 1999b, 239; Erkanal and Özkan 1999b, 121–4; Erkanal 2008, 167); *cf.* Ivanova 2008b, 275. Beycesultan XIX (Lloyd & Mellaart 1962, 27); *cf.* Ivanova 2008b, 275–6. Demircihöyük F1 (Korfmann 1983, 46–7, 189); *cf.* Ivanova 2008b, 277. Emporio III (Hood 1981, 131–2; Kouka 2002, 268); *cf.* Atram-Stern 2004, 941; Ivanova 2008b, 280–1. Hanaytepe upper stratum B (?) (Calvert 1859, 3; Calvert 1881, 790; Schachner 1999, 11); pre-Heraion I (Kyrieleis and Weisshaar 1985, 409–18; Kouka 2002, 286); *cf.* Atram-Stern 2004, 945; Ivanova 2008b, 284. Karataş I (Mellink 1973, 293–5; Mellink 1974, 352); *cf.* Ivanova 2008b, 289. Liman Tepe VI (Erkanal 1999b, 238–9; Erkanal 2008, 180; Kouka 2009b, 144); *cf.* Ivanova 2008b, 295–6. Myrina IV (Acheilara 2008, 3); *cf.* Atram-Stern 2004, 930; Ivanova 2008b, 300. Poliochni azzurro (Bernabò-Brea 1964, 117–24; Traverso 1997, 60–1); *cf.* Kouka 2002, 47–8; Atram-Stern 2004, 918; Ivanova 2008b, 308–9. Thermi II (Lamb 1936, 20–1; Kouka 2002, 171); *cf.* Atram-Stern 2004, 937; Ivanova 2008b, 317–18. Troy (Korfmann 1989b); Yenibademli Höyük (Hüryılmaz 1998, 362–4; Hüryılmaz and Sevinç 1999, 312–14); *cf.* Ivanova 2008b, 333.
- 37 Erkanal 2008, 168; Şahoğlu 2008, 485, 496, fig.3.
- 38 Knitter *et al.* 2012; Knitter *et al.* 2013, 4.
- 39 Horejs *et al.* 2010; Horejs *et al.* 2011; Mehofer 2014, 464–6.
- 40 Horejs 2009b, 365–6; Horejs *et al.* 2011, 44.