

The aim of the archaeological guide to the territory of Hierapolis in Phrygia (Pamukkale) is to present the results of the research conducted by the Italian Archaeological Mission since 2005. This research has sought to reconstruct the pattern of settlement in this area from Prehistory to the Byzantine epoch and to draw an archaeological map. The investigated area includes the northern side of the valley of the river Lykos (the current Çürüksu), where Hierapolis was located, and the plateau of Uzunpınar, delimited to the north by the course of the river Maeander. The research has also covered part of the nearby plateau of Çal, which might have fallen within the territory administered by Hierapolis, at least during the mid-Imperial period. After presenting the main archaeological evidence regarding the period before the foundation of Hierapolis, chronologically corresponding to the period from the Bronze Age to the Phrygian epoch, the volume provides a detailed description of the organisation of the *chora* of Hierapolis from the Hellenistic to the Byzantine periods, including the extensive quarries (of marble, travertine, alabaster and polychromatic breccia), the aqueducts that supplied the city, the ancient road network, the sacred areas, and the farms and villages with their relative necropolises.



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THE TERRITORY OF HIERAPOLIS IN PHRYGIA • GIUSEPPE SCARDOZZI

ARCHAEOLOGICAL GUIDE

# THE TERRITORY OF HIERAPOLIS IN PHRYGIA

GIUSEPPE SCARDOZZI



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AN ARCHAEOLOGICAL GUIDE

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GIUSEPPE SCARDOZZI

# THE TERRITORY OF HIERAPOLIS IN PHRYGIA

AN ARCHAEOLOGICAL GUIDE

with contributions by Laura Castrianni, Giacomo Di Giacomo,  
Immacolata Ditaranto and Ilaria Miccoli



HIERAPOLIS KAZIM

MAIER - MUSEO DI ARCHITETTURA ITALIANA A HIERAPOLIS



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## **E G E Y A Y I N L A R I**

Series "Hierapolis. Archeological Guide"  
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### **THE TERRITORY OF HIERAPOLIS IN PHRYGIA AN ARCHAEOLOGICAL GUIDE**

Giuseppe Scardozzi

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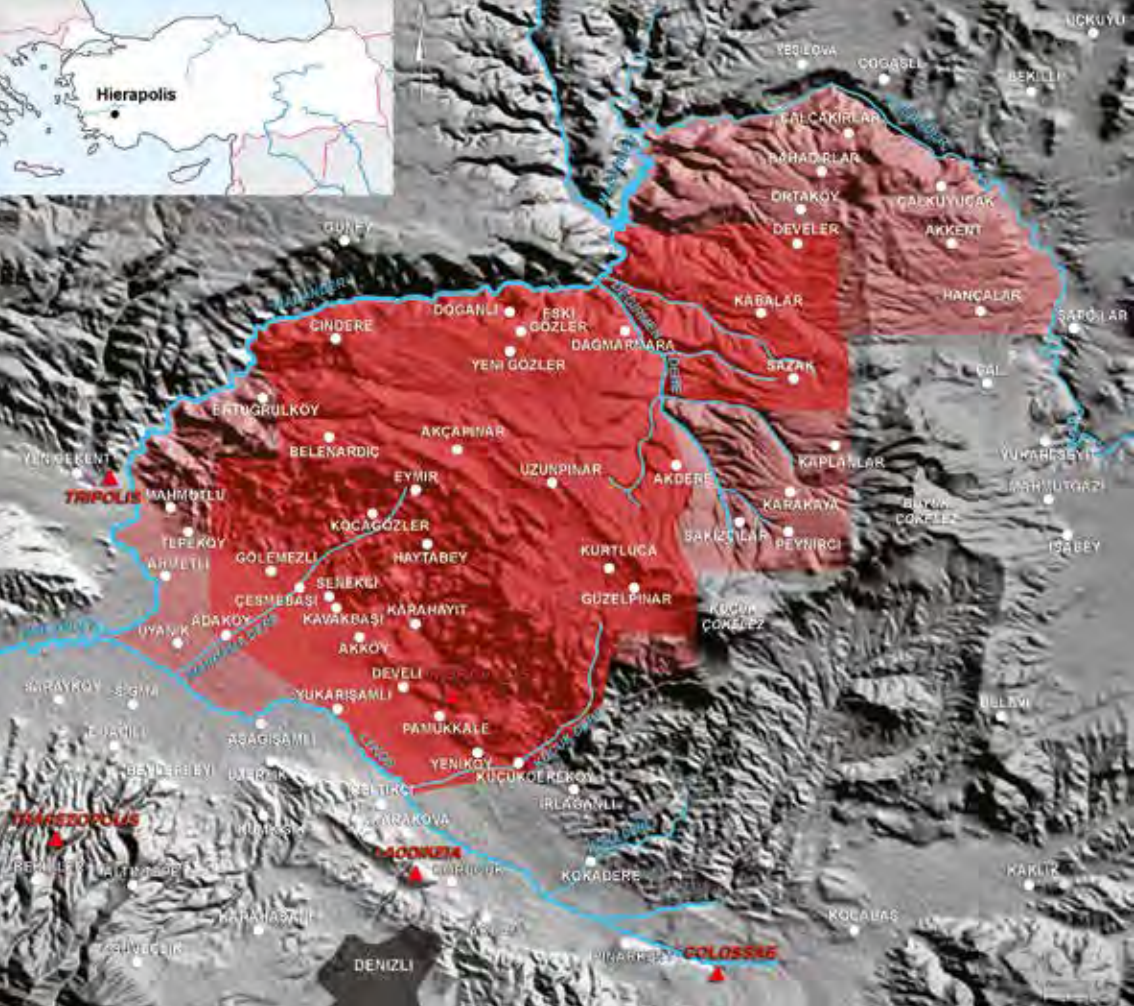
# INTRODUCTION

The present volume contains the results of the research into the territory surrounding Hierapolis in Phrygia (Pamukkale, Denizli) conducted by the Italian Archaeological Mission since 2005. The objective of the research is to reconstruct the ancient pattern of settlement of the area from the prehistoric period to the Byzantine epoch and to draw an archaeological map that brings together all the ancient remains in a single framework.

The area investigated corresponds in the first instance to the northern flank of the valley of the river Çürüksu, the ancient Lykos, where Hierapolis is situated (fig. 1). Specifically, it includes the territory of the modern villages of Pamukkale, Karahayıt, Develi, Yeniköy, Küçükdereköy, Akköy, Haytabey, Eymir, Senekci, Çeşmebaşı, Gölemezli, Tepeköy, Mahmutlu, Adaköy and Ahmetli. From here the research was extended to the plateau of Uzunpınar and the north-western sector of the plateau of Çal, which, according to the epigraphical evidence of the Roman-Imperial period, is believed to have fallen within the district controlled by Hierapolis<sup>1</sup>. On the former plateau, Uzunpınar and Yeni Gözler are today the biggest villages, while the smaller settlements include Cindere, Ertuğrulköy, Belenardıç, Doğanlı, Dağmarmara, Akçapınar, Akdere, Güzelpınar and Kurtluca. On the plateau of Çal, the territories of the villages of Sazak, Kabalar and Develer were systematically investigated, while targeted inspections were conducted in the territories of Ortaköy, Bahadırlar, Akkent, Sakızlılar, Peynirci, Karakaya and Kaplanlar. Overall therefore, we are dealing with an extensive area, corresponding to the south-western portion of the ancient Phrygia, which had never been systematically investigated. Indeed, the research conducted by various European scholars in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries was confined to specific sectors, while the last few decades have been

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<sup>1</sup> Ritti 2002a, 41-43; see below pp. 21-30.



**Fig. 1** Digital elevation model of south-western Phrygia: areas investigated by systematic survey (red) and targeted on-site research (pink) are highlighted; ancient cities along the Lykos valley are marked in red.

marked by occasional discoveries of ancient artefacts, above all epigraphs, and ad hoc excavations conducted by archaeologists from the Museum of Denizli-Hierapolis<sup>2</sup>.

With the exception of the plain of the Lykos, heavily affected by land reclamation projects and the digging of irrigation and drainage channels carried out in the course of the 20<sup>th</sup> century, the area under investigation is characterised by a high

<sup>2</sup> On the history of studies and research see below pp. 15-20.

degree of conservation of the ancient landscape. This has enabled the identification and the documentation of numerous pieces of archaeological evidence that make it possible to reconstruct the dynamics of ancient settlement from as far back as the Early Bronze Age and in greater detail for the whole of the period in which Hierapolis was in existence, i.e. from the Hellenistic to the Byzantine epochs. It should be pointed out however that in the last few years, the expansion of urban areas, the spread of mechanised agriculture and the increased quarrying of alabaster, travertine and marble have transformed broad swathes of territory, resulting in the irreversible destruction of many ancient remains. In addition, there are also clandestine excavations, which damage and impoverish the archaeological heritage of the region.

In this volume, the results of the research, some of which have already been the object of specific papers focusing on individual areas and themes<sup>3</sup>, are arranged in a single framework. In addition, the findings have been updated by integrating the data acquired in the course of the most recent investigations. The result is a holistic treatment of the historic development of the territory of Hierapolis from the period preceding the city's foundation until its definitive abandonment in the 13<sup>th</sup> century<sup>4</sup>.

The research was conducted by the Italian National Research Council's Institute for Archaeological and Monumental Heritage (IBAM-CNR, today the ISPC, Institute of Heritage Science) on behalf of the Italian Archaeological Mission in Hierapolis, headed by Professor Francesco D'Andria, who is responsible for initiating the investigations of the territory surrounding Hierapolis. I thank Professor D'Andria for his constant support and helpful suggestions, as well as the interest with which he has always followed the research.

I also thank the current head of the Mission, Professor Grazia Semeraro, and officials from the Turkish Directorate General of Antiquities (in particular those of the years 2005-2007, when the systematic investigation of the territory was carried out): Drs. Cumali Ayabakan, Salim Yılmaz and the late Haşim Yıldız, who facilitated the research in numerous ways. Decisive for the exploration of the territory was the help of Sadi Yaren (2006), Mehmet Özel and Hassan Özel (2007).

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<sup>3</sup> For a recent summary of the results see Scardozzi 2019a and 2019b, including bibliography.

<sup>4</sup> On the history of Hierapolis see D'Andria 2003, 9-13; Arthur 2006, 11-31; Ritti 2017, 269-459.

I would also like to express my gratitude to my colleagues at ISPC-CNR's Laboratory of Ancient Topography, Archaeology and Remote Sensing in Lecce who participated in the research: Drs. Laura Castrianni, Giacomo Di Giacomo, Immacolata Ditaranto and Ilaria Miccoli; the latter also contributed to the processing of the images in this volume.

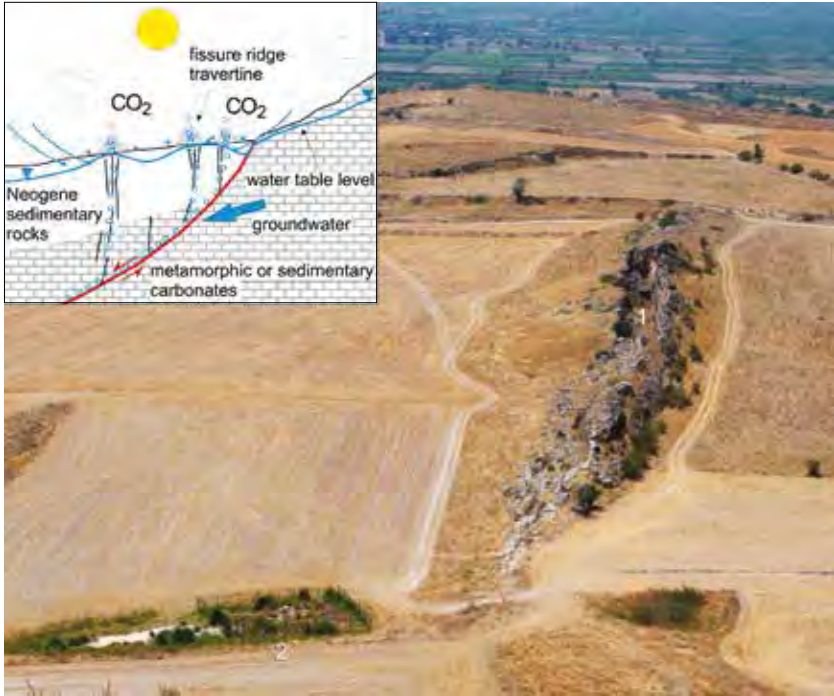
Lastly, I would like to remember Maurice Anthony Byrne (1940-2016), who generously shared with me a large quantity of data arising from his research activities in the northern sector of the plateau of Uzunpinar between 2005 and 2011, which have unfortunately remained unpublished as a result of his death.



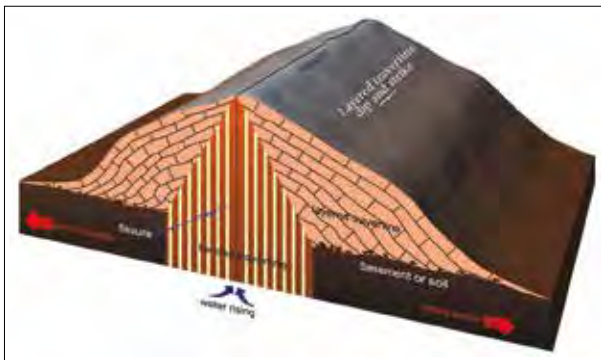
The valley of the Lykos corresponds to the basin of Denizli, a graben delimited to the north and south by normal faults running north-west/south-east, about 70 km long and up to 50 km wide. The central part of the valley consists of an alluvial plain at an elevation of 160 and 280 metres, delimited to the north-west by a slope composed of a succession of terraces resulting from further faults. At the foot of this slope, which rises to 900-1000 m a.s.l., lies Hierapolis (fig. 2). The main fault in this sector of the basin of Denizli runs just above the site of the city: this stretch is called the fault of Pamukkale-Karahayıt, while its continuation to the north-west is called the fault of Akköy and then the fault of Tripolis-Yenice. Below this fault, especially in the area of Hierapolis, there are extensive beds of travertine, also present, albeit to a lesser degree, further to the north-west, in the area to the north of Gölemezli and the area to the east of Yenicekent, near the east bank of the Maeander. These sedimentary Holocene rocks are accompanied by thermal springs, particularly abundant in the area between Hierapolis and Karahayıt. Of the various depositional forms of this travertine, the most characteristic on the northern side of the Lykos valley are the fissure-ridges, consisting of mounds from a few dozen to several hundred metres long and up to a few dozen metres high. These formations arose from the precipitation of calcium salts caused by the rapid evaporation of carbon dioxide-rich thermal waters welling up through cracks in the subsoil created by earthquakes (fig. 3)<sup>6</sup>. A distinct characteristic of the travertine fissure-ridges (fig. 4) is the presence of a central vertical deposit composed of compact and laminated calcite alabaster (so-called *banded travertine*), whose thickness varies from a few decimetres to a few metres. It constitutes the chemical deposit that sealed the seismic fissure when the subterranean flow of thermal waters slowed and finally ceased. In its upper portion, the vertical deposit of calcite alabaster constitutes the elongated crest of the ridge, sandwiched between older deposits of travertine, which in contrast is composed of slightly sloping vacuolar calcareous layers (so-called *bedded travertine*), deposited by the thermal waters when they flowed at high velocity from the seismic fissures, releasing dissolved gases as they did so.

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<sup>6</sup> De Filippis et alii 2012; Mesci et alii 2013; Özkul et alii 2013; Brogi et alii 2014; Marabini, Scardozzi 2015, 257-259, including bibliography.



**Fig. 3** The travertine fissure-ridge of Çukurbağ from east: an ancient alabaster quarry opened along its longitudinal axis (1) and a nearby spring (2) are indicated. In the inset, the fissure-ridges evolution (after De Filippis et alii 2013, fig. 11).



**Fig. 4** Structure of a travertine fissure-ridge above an extensional fissure (after Mesci et alii 2013, fig. 2a): banded travertine (i.e. alabaster) is the central vertical deposit, and it is sandwiched between layered travertine or bedded travertine.

In the areas between Pamukkale and Akköy and around Tepeköy, at the foot of the slope that descends towards the plain, below the Holocene travertines lie conglomerates, sandstones and more ancient travertines belonging to the so-called Tosunlar formations, dated to the Middle and Upper Pleistocene. In contrast, above the main fault there are extensive formations of metamorphic rocks made up of marbles and schists (so-called Göktepe and Ortaköy formations, dated to the Palaeozoic), present above all to the north of Hierapolis and to the north of Gölemezli, from where they also reach the valley of the Maeander. The rest of the northern side of the valley of the Lykos is composed of conglomerates, sandstones, marls, clays and sands belonging to the so-called Kızılburun formations (Lower and Middle Pliocene), in the area to the north and north-east of Hierapolis, and to the more recent Sazak and Kolankaya formations, further to the north-west, dated to the period from the Middle Pliocene to the Lower Pleistocene.

The plateau of Uzunpınar, characterised by the presence of numerous cold springs, reaches elevations of 1000-1250 metres in the southern part and 850-950 m in the northern part. It is delimited to the south-east by the massif of Küçük Çökelz (1734 m), made up of dolomitic and metamorphic rocks of the so-called Çökelz and Selcen formations (dated to the Mesozoic), and to the north and west by the Maeander, which flows here in a deep valley. In contrast, to the east, it is separated from the plateau of Çal by another deep valley, into which flow various water courses that descend from the northern slopes of Küçük Çökelz towards the Maeander, joining the intermittent stream called Değirmen Dere. Most of the plateau is characterised by the already-mentioned Kolankaya formations, while schists and marbles are found along its northern edge and the slope below it. In addition, in the south-east sector of the plateau there are more recent Holocene travertines south of Kurtluca, and conglomerates and sandstones of the Tosunlar formations in the area of Güzelpınar.

Lastly, the north-western portion of the Çal plateau, which is delimited to the north and east by the Maeander and to the south by the Büyük Çökelz massif (1841 m), slopes gently down towards the north and is mostly 850-1000 m a.s.l. Here too, there are extensive outcrops of the already-mentioned Sazak formations.

# HISTORY OF STUDIES AND RESEARCH

Before the systematic research launched in 2005 by the Italian Archaeological Mission, knowledge of the ancient topography of the territory surrounding Hierapolis was essentially based on the results of the explorations conducted by W.M. Ramsay, especially during his journeys in 1883 and 1887<sup>7</sup>. Although the earliest descriptions of the ancient sites found in this region were written by F.V.J. Arundell, who visited the area as part of his travels in 1826 (fig. 5) and 1833<sup>8</sup>, it was Ramsay who produced the first description of the historic topography of the valley of the Lykos and the plateaus of Uzunpınar and Çal (fig. 6). Ramsay's meticulous and wide-ranging explorations were initially conducted on behalf of the *Asia Minor Exploration Fund*, with the participation of J.R.S. Sterret, D.G. Hogarth and J.G.C. Anderson<sup>9</sup>. Also of great interest are the results of the journey undertaken in 1901 by A. Philippson on behalf of the *Berlin Akademie der Wissenschaften* with the aim of drawing a geological map of western Asia Minor<sup>10</sup>. Indeed, despite a few inaccuracies, this represents the first detailed map of the region of Hierapolis (fig. 7), which the German geologist enriched with archaeological annotations, making it a valuable source for the study of the ancient road network and the palaeo-environment. The description of this territory arising from the research headed by Ramsay was then completed with the results of the exploration of the plateau of Çal conducted by

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<sup>7</sup> On the explorations of the territory of Hierapolis in the 19<sup>th</sup> and the first half of the 20<sup>th</sup> centuries see Castrianni, Scardozzi 201.

<sup>8</sup> Arundell 1828 and 1834.

<sup>9</sup> Ramsay 1883, 1887, 1889, 1890, 1895, 1897, 1928, 1930; Hogarth 1887; Anderson 1897.

<sup>10</sup> Philippson 1914, 85-107, pl. out of text.



**Fig. 5** Route taken by F.V.J. Arundell during his 1826 journey in western Anatolia (after Arundell 1828, pl. out of text): the names of ancient cities are underlined.



**Fig. 6** Map of south-western Phrygia drawn by W.M. Ramsay: a stretch showing the suggested location of ancient settlements in the middle Maeander valley and Lykos valley: ancient cities are in large capital letters and ancient villages are in small capital letters, while modern settlements are in small italic letters (after Ramsay 1895, pl. out of text).

W.H. Buckler and W.M. Calder during a journey to Phrygia in the spring of 1930 as part of the ambitious *Monumenta Asiae Minoris Antiqua* project<sup>11</sup>.

Although they were not systematic, the explorations conducted by European scholars in the 19<sup>th</sup> and early 20<sup>th</sup> centuries enabled the identification of some of the main ancient settlements and sacred areas of the *chora* of Hierapolis. They also documented numerous inscriptions, enabling an initial reconstruction of the settlement of the area from the Hellenistic to the Byzantine periods. The picture set out thus far was subject to general revision by L. Robert in the mid 20<sup>th</sup> century, essentially based on an examination of the epigraphical documentation<sup>12</sup>. The results of these studies, which have made it possible to locate various ancient villages and towns in this region, were subsequently accepted with a few modifications, albeit without accurate cartographical positioning of the archaeological remains<sup>13</sup>. The northern sector of the plateau of Uzunpınar was investigated by M.H. Ballance in 1953, although his research remained unpublished<sup>14</sup>. Following this, in the late 20<sup>th</sup> and early 21<sup>st</sup> centuries the region of Hierapolis saw limited excavations<sup>15</sup> and sporadic and occasional discoveries of archaeological artefacts, above all epigraphs, by the staff of the Archaeological Museum of Hierapolis-Denizli, who have significantly enriched our knowledge of this region<sup>16</sup>. In addition, the last few years have seen other ad hoc excavations, again conducted by Turkish archaeologists, yielding data that are very interesting for the reconstruction of the ancient pattern of settlement of the territory<sup>17</sup>.

The research conducted by the Italian Archaeological Mission in the territory of Hierapolis includes systematic archaeological surveys from 2005 to 2007 and

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<sup>11</sup> Buckler, Calder, Guthrie 1933, ix-xvi, xix, 95-121.

<sup>12</sup> Robert 1962, 1963, 1983a, 1983b, 1985.

<sup>13</sup> Ritti 2002a, 41-44.

<sup>14</sup> In this regard see Ritti, Scardozzi forthcoming.

<sup>15</sup> Ceylan 1999; Yıldız 1999 and 2001; Akıncı, Yıldız 2007; Baysal 2007.

<sup>16</sup> In this regard see Sheppard 1981, 23-24; Malay 1994, 177, 179-180; Ceylan, Ritti 1997; Şimşek 2001; Ritti 2002a; Şimşek 2007a; Kayhan et alii 2008; Ritti, Miranda, Guizzi 2008, 68-72, 98-100, 118-124, 140, 222, 290, 296. Many of the epigraphic materials discovered concern the sanctuary of Apollo Helios Lairbenós: Ritti, Şimşek, Yıldız 2000; Akıncı Öztürk, Tanrıver 2008, 2009 and 2010.

<sup>17</sup> Karabay, Altuntaş 2014; Çamoğlu Günaydın 2016; Uyar 2016; Uyar, Tarhan 2016; Ok 2017.



**Fig. 7** Detail of the geological map of western Asia Minor drawn by A. Philippson: archaeological evidence is indicated in red, while the various geological formations are rendered in other colours (after Philippson 1914, pl. out of text).

subsequent targeted inspections until 2015. The investigations were designed to support the drawing of an archaeological map of the territory and the reconstruction of settlement patterns from prehistory to the Ottoman epoch<sup>18</sup>. The investigation adopted the methodology used for research into ancient topography, characterised, given the lack of aerial images and the inadequate cartography (the existing maps being out of date and drawn to a scale that was not suitable for working in the field), by extensive use of high-resolution satellite images (acquired from the Ikonos-2, QuickBird-2, GeoEye-1, WorldView-2 and Pleiades platforms), available for practically the entire area investigated. They were used as both substitutes for aerial photographs, in order to identify anomalies and traces of buried archaeological elements, and for the creation of ortho-images and topographical maps based on data remotely acquired by satellite. On scales of between 1:10,000 and 1:5,000, these maps were used for the exploration of the territory and for positioning the documented archaeological evidence, which entailed the use of GPS receivers with accuracy of a few metres<sup>19</sup>. In addition to recent satellite images, cosmic medium- and high-resolution photographs taken in the 1960s and 70s by the American spy satellites Corona KH-2, KH-3, KH-4A and Hexagon KH-9 were also recovered. The images provide a vision of the territory as it was before the recent transformations resulting from the expansion of urban areas, the building of infrastructure and the spread of mechanised agriculture with the use of diggers<sup>20</sup>. In addition, digital terrain models were processed, on the basis of data from the Shuttle Radar Topography Mission of 2000, as well as data extracted from a stereo-pair of images acquired in 2004 by the ASTER sensor (*Advanced Spaceborne Thermal Emission and Reflection Radiometer*) of the Terra satellite. Lastly, as a base for the archaeological map of the territory of Hierapolis, official maps of the Republic of Turkey (*Harita Genel Müdürlüğü*), on a scale of 1:25.000 and last updated in the 1990s, were used.

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<sup>18</sup> Scardozi 2007c.

<sup>19</sup> Lasaponara, Masini, Scardozi 2007, 187-207; Castrianni et alii 2008; Scardozi 2009; Castrianni, Di Giacomo, Ditaranto 2010-2011; Scardozi 2010-2011; Di Giacomo, Ditaranto, Scardozi 2011; Scardozi 2012d.

<sup>20</sup> Scardozi 2008; Scardozi 2010c, 448-460.

The investigations enabled the acquisition of important data for the reconstruction of the ancient pattern of settlement of the territory of Hierapolis. This made it possible to identify many of the archaeological sites and epigraphs documented in previous studies, in addition to numerous archaeological remains and materials for which published descriptions are not yet available, and many new inscriptions studied by T. Ritti and E. Miranda De Martino<sup>21</sup>. The accurate positioning of the archaeological evidence on an up-to-date and metrically correct cartographic base thus made it possible firstly to precisely locate settlements, necropolises and sacred areas, secondly to examine the relationships between them and thirdly to study them in their geomorphological context<sup>22</sup>. The research thus contributed considerably to the reconstruction of the ancient topography of the area, in greater detail than in the past. The studies that have arisen from this, aimed at locating the quarries<sup>23</sup>, land divisions<sup>24</sup>, rural settlements and villages of the *chora* of Hierapolis<sup>25</sup>, as well as reconstructing the associated networks of roads<sup>26</sup> and aqueducts<sup>27</sup> and the distribution of the sacred areas<sup>28</sup>, now make it possible to draw a much more detailed picture of the dynamics and organisation of human settlement in the area from the protohistoric period to the Byzantine epoch.

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<sup>21</sup> Miranda De Martino, Ritti, Scardozi 2012; Miranda De Martino 2014; Ritti, Scardozi, Nocita 2016; Ritti, Scardozi forthcoming.

<sup>22</sup> Scardozi 2019a.

<sup>23</sup> Scardozi 2010a; Scardozi 2012a, 117-125; Cantisani, Scardozi 2016; Ditaranto 2016; Scardozi 2016c, 2016d, 2016e, 2019b.

<sup>24</sup> Scardozi 2013b.

<sup>25</sup> Scardozi 2011; Castrianni, Scardozi 2012; Scardozi 2012a, 126-134; Scardozi 2014; Castrianni, Scardozi 2016; Ritti, Scardozi, Nocita 2016; Scardozi 2019a. Specifically, on the necropolises see Scardozi 2016a and 2016b. On the installations for the production of olive oil and wine see also Scardozi 2010b, and Limoncelli, Scardozi 2016.

<sup>26</sup> Scardozi 2012b.

<sup>27</sup> Scardozi 2007a; Scardozi 2012a, 111-117.

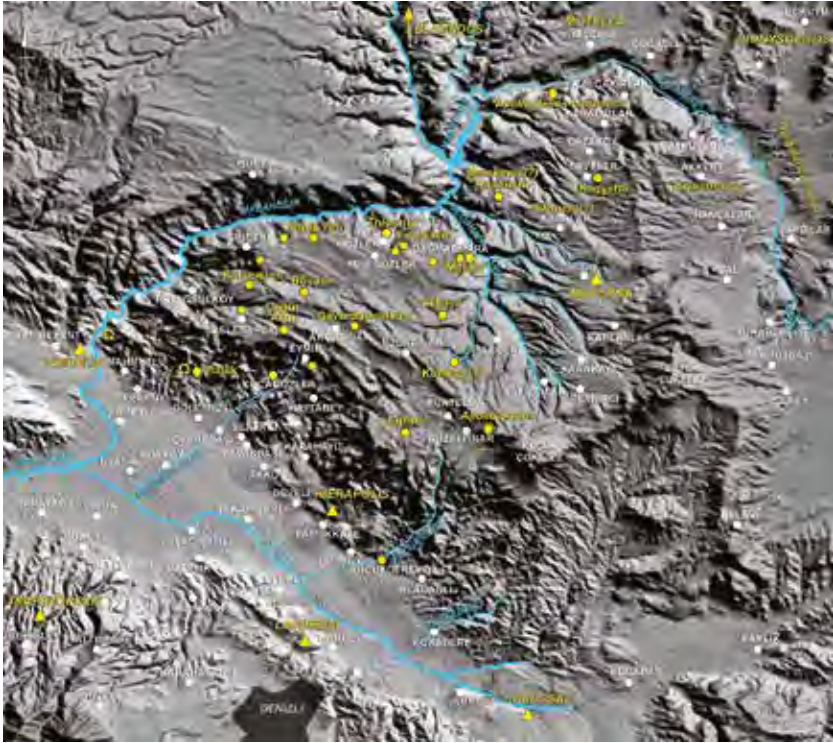
<sup>28</sup> Miranda De Martino, Ritti, Scardozi 2012; Scardozi 2013a.

# THE TERRITORY OF HIERAPOLIS: TOPOGRAPHY AND BOUNDARIES

Geographically, the territory administered by Hierapolis from the Hellenistic to the Byzantine periods is highly heterogeneous. Indeed, it included part of the northern sector of the plain of the Lykos, at elevations below 280 metres, the terraced slope that delimits the valley to the north, rising to about 900 metres, the plateau of Uzunpınar and part of that of Çal, both with terrain between 900 and 1000 metres. This pronounced orographic variety was matched by the uneven state of the road network: while the valley of the Lykos was crossed by important long-distance highways linking the area to the eastern and southern coasts of Anatolia as well as its central and eastern hinterland, the two plateaus contained within the great bend in the upper course of the Maeander were relatively isolated, with a more limited road network that was strongly affected by the terrain, providing links to the nearby towns of Lydia and northern Phrygia.

The extreme geomorphological and geological variety resulted in a region that was rich in natural resources, with land suitable for both crops (depending on the altitude and exposure of the terrain) and pasture, with possible transhumance routes between the plateaus and the alluvial plain of the Lykos, used for summer and winter grazing respectively.

The results of the recent research, integrated with what was already known, make it possible to reconstruct a detailed picture of the complex ancient topography of the *chora* of Hierapolis (fig. 8) and the evolution of the dynamics of settlement. The latter was characterised – at least from the Hellenistic to the proto-Byzantine periods – by the presence of numerous small rural settlements that may be interpreted as farms, particularly concentrated on the northern side of the Lykos valley, in the area closest to the city, on the terraces of the slope that rises towards the



**Fig. 8** Digital elevation model of south-western Phrygia: ancient features are marked in yellow (cities = triangles; main villages and inhabited areas = points; sacred areas = asterisks; quarries = Ω, located north-west of Gölemezli and north-east of Tripolis, the latter corresponding to the so-called Yenice quarries); ancient place names are marked in small italic letters.

plateau of Uzunpınar<sup>29</sup>. In addition to these, there were larger settlements, located further apart, interpreted as small hamlets or in some cases as villages, present on both the northern side of the Lykos valley and on the two plateaus to the north<sup>30</sup>. The most significant of these in terms of the volume of archaeological evidence (which includes the remains of structures in marble) are the one corresponding to the modern village of Küçükdereköy in the valley of the Lykos, the ones identified

<sup>29</sup> In this regard see below pp. 129-140.

<sup>30</sup> In this regard see below pp. 148-161, 179-205, 212-231, 249-264.

on the hill named Gavurdamıarkası Tepe and in the Boyallı district on the plateau of Uzunpınar, Thiounta near Eski Gözler on the same plateau (definitely the most important in the territory of Hierapolis), the one on the hill of Yüksektepe just beyond the north-eastern edge of the same plateau (probably called “Motala” in ancient times) and lastly Kagyetta, identified near Develer, and Salouda and Melokome in the area of Kabalar, all three in the north-western sector of the plateau of Çal. Also in the latter district were Mossyna, just east of Sazak, which in terms of the volume of archaeological evidence and the size of the area over which its remains were discovered can be identified as a fully-fledged city, and the ancient village of Atyochorion, located near Akkent, although whether the latter belonged to the *chora* of Hierapolis uncertain<sup>31</sup>.

As we have seen, thanks to the epigraphical documentation, for some of the settlements the ancient names are known (Thiounta, “Motala”, Kagyetta, Salouda, Melokome, Mossyna, Atyochorion) and it is also possible to identify their location. In addition, from inscriptions of the 2<sup>nd</sup> century and first half of the 3<sup>rd</sup> century AD, we know the names of some other villages of the *chora* of Hierapolis (Lagina<sup>32</sup>, Mamakome, Masakome and probably Kroula/on<sup>33</sup>), for which however it has not been possible to establish the exact location. These settlements can probably be identified with some of the ancient sites identified during the field research whose names could not be established. Some of these sites no doubt hosted the Mailoueis and Mamoleis, two communities belonging to the territory of Hierapolis documented by funerary inscriptions in the North Necropolis, one dated to the 2<sup>nd</sup> or more probably the 3<sup>rd</sup> century AD and the other no earlier than the 4<sup>th</sup> century AD<sup>34</sup>. In addition, another toponym probably referring to the territory of Hierapolis is documented by an inscription of the 2<sup>nd</sup> century AD carved on a travertine sarcophagus from

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<sup>31</sup> In this regard see below pp. 262-264.

<sup>32</sup> Ritti 2017, 35, from the North Necropolis of Hierapolis.

<sup>33</sup> Ritti 2002a, 43, 55; Ritti, Şimşek, Yıldız 2000, 8-10, 22, 28, D6 (Kroula/on), K4 (Mamakome) and K28 (Masakome), names of the places of residence of citizens of Hierapolis who had left inscriptions in the sanctuary of Apollo Helios Lairbenós, on the north-western edge of the Uzunpınar plateau (see below pp. 265-275).

<sup>34</sup> Judeich 1898, nos. 70 and 81; Ritti 2002a, 55-57.

the same necropolis, which mentions two sarcophagi, one in Thiounta marble and the other, probably also in marble, from a settlement called Tauriskon or Tauriske, not mentioned elsewhere nor identified on the ground<sup>35</sup>.

Although the archaeological and epigraphical evidence makes it possible to determine the approximate extent of the territory of Hierapolis, it is not possible to precisely identify its boundaries, which may have varied over the centuries<sup>36</sup>. From the moment of its foundation, Hierapolis is believed to have controlled the nearby northern side of the Lykos valley. To the west and south, the river plausibly represented the boundary with the territories of the nearby cities of Trapezopolis<sup>37</sup> and Laodikeia<sup>38</sup> (and Hydrela, if its proposed location between the modern villages of Siğma and Beylerbeyi is correct)<sup>39</sup>. To the south-east, the seasonal water course of Küçük Dere, or alternatively the Koka Dere, may have formed a natural boundary between Hierapolis and Colossae<sup>40</sup>. In contrast, the north-western boundary of the territory of Hierapolis, in the direction of Tripolis, is less certain<sup>41</sup>. It may have been marked by the course of the Maeander, but more plausibly it was further south, possibly corresponding to the seasonal stream called Mandama Dere/Pınarbaşı Dere, which is the main water course to the south of the Maeander itself; its route was modified in the second half of the 20<sup>th</sup> century as a result of various hydraulic engineering works. In addition, the theory that the territory of Tripolis extended to the south bank of the Maeander is supported by the fact that the city, together with Hierapolis, enjoyed fishing rights in the lake (which has now dried up) that was situated near the Lykos about 2 km north of Laodikeia. Traces of the

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<sup>35</sup> Ritti 2002a, 55-56.

<sup>36</sup> In this regard see Ritti 2002a, 41-43; Scardozi 2011, 129-133; Scardozi 2014, 105-109; Scardozi 2019a, 155-162.

<sup>37</sup> On Trapezopolis see Şimşek 1999, 318-321 and 328-332; Baysal 2000, 32-36; Şimşek 2002b and 2002c.

<sup>38</sup> On Laodikeia see Şimşek 2013, 2014b, 2019a, 2019b and 2020.

<sup>39</sup> Ramsay 1895, 6, 174; Baysal 2000, 30-32.

<sup>40</sup> On Colossae see Şimşek 2002a; Duman, Konakçı 2006; Konakçı, Duman 2007; Cadwallader, Trainor 2011; Cadwallader 2015.

<sup>41</sup> On Tripolis see Scardozi 2013c; Duman 2017, 2018a, 2018b, 2019a and 2019b.

lake, still shown on Philippson's geological map (fig. 7, no. 1)<sup>42</sup>, are visible in recent satellite images<sup>43</sup>. The lake is mentioned in an inscription of 131 AD discovered in Hierapolis which represents the marble copy of a letter sent to the emperor Hadrian calling on him to settle a dispute between this city, Tripolis and Laodikeia over the fishing rights to its waters<sup>44</sup>: the emperor decreed that the latter city enjoyed exclusive rights, but also that trading relations with the other two cities should be reorganised on a more equitable basis.

Regarding the plateau of Uzunpınar, beyond which was the district of Blaundos (a city further north, in the province of Uşak near the modern village of Sülümenli)<sup>45</sup>, the epigraphical documentation seems to attest that at least in the first few centuries of the imperial epoch Hierapolis controlled it entirely<sup>46</sup>. Interesting in this regard are the attestations of the *paraphylakes* (officials who travelled on horseback charged with enforcing order in the territory of Hierapolis), which are dated to the period from the 1<sup>st</sup> to the 3<sup>rd</sup> centuries AD<sup>47</sup> and are found throughout this area (fig. 9). Specifically, the *paraphylakes* are mentioned in four epigraphs from the sacred area of Apollo Karios<sup>48</sup>, in the southern sector of the plateau, and in some texts from locations in its northern sector. The latter include four inscriptions from Thiounta<sup>49</sup>, an epigraph from Boyallı (currently set in a modern wall in Cindere) containing their statute of regulation<sup>50</sup> and a decree issued in Hierapolis discovered in Fadılöreni re-

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<sup>42</sup> Philippson 1914, pl. out of text. The presence of a salty area north of Laodikeia is also mentioned by European travellers who crossed the Lykos valley between the 18<sup>th</sup> and 19<sup>th</sup> centuries (see for example Arundell 1828, 78, and Fellows 1839, 283).

<sup>43</sup> Scardozi 2007b, 83-85.

<sup>44</sup> On the inscription see Ritti, Miranda, Guizzi 2007, 589; Ritti 2017, 388-395. About this lake see also Şimşek 2017, 2, and Şimşek, Yılmaz Konakçı 2019.

<sup>45</sup> On Blaundos see Filges 2006 and 2011.

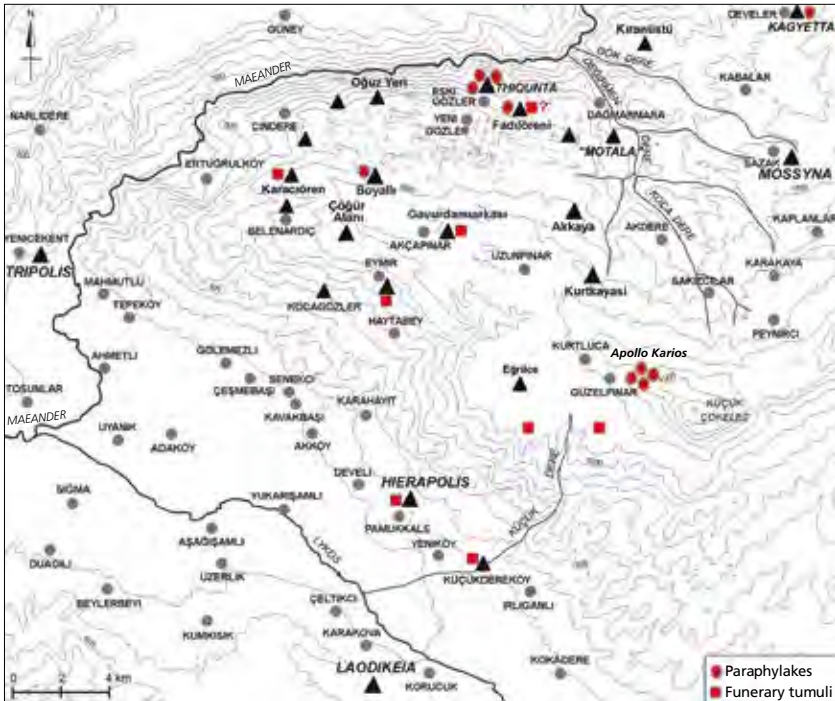
<sup>46</sup> Ritti 2002a, 41-43. The inscriptions from the imperial period also clearly document the Hellenisation and Romanisation of these rural areas, where the onomastics of the populations shows a suggestive mixture of Greek and Roman names, while there are very few indigenous names (Ritti 2017, 36).

<sup>47</sup> On the *paraphylakes* of Hierapolis see Ritti 2017, 72-73.

<sup>48</sup> Miranda De Martino, Ritti, Scardozi 2012, 718-722, nos. 8, 9a, 9b, 10.

<sup>49</sup> Ramsay 1895, 143-144, no. 31; Ritti 2002a, 50-51, B; Ritti, Scardozi, Nocita 2016, 821-823; Ritti, Scardozi forthcoming.

<sup>50</sup> Ritti, Scardozi, Nocita 2016, 821-823.



**Fig. 9** Distribution of epigraphic references to *paraphylakes* and Hellenistic funerary tumuli within the investigated area (the main ancient sites are marked by a black triangle; remains of ancient sites identified in the northern sector of the Uzunpinar plateau are shown in grey colour).

garding the protection of the vineyards from damage caused by grazing animals<sup>51</sup>. In addition, the content of the Fadlöreni text is very similar to that of an epigraph from Develer-Kagyetta in the north-western sector of the plateau of Çal, dated to the mid 3<sup>rd</sup> century AD, including the references to the *paraphylakes*<sup>52</sup>.

It is not possible however to determine whether the plateau of Uzunpinar had been part of the *chora* of Hierapolis ever since the city's foundation in the 3<sup>rd</sup> century BC rather than being progressively absorbed into the territory administered

<sup>51</sup> Ritti 2002a, 66; Ritti, Miranda, Guizzi 2008, 68-72, no. 15.

<sup>52</sup> Buckler, Calder, Guthrie 1933, 111-112, no. 297; Ritti, Miranda, Guizzi 2008, 68-70, no. 15; Ritti, Scardozzi, Nocita 2016, 839. On these decrees of Hierapolis see also Filippini 2010, 461-462.

by the city over the subsequent centuries. However, evidence that Hierapolis had taken control over the plateau by the Hellenistic period seems to emerge from an examination of the distribution of funerary tumuli (fig. 9), which plausibly constituted fully-fledged landmarks in the *chora* of Hierapolis<sup>53</sup>. Generally found singly or in pairs in the necropolises of the settlements or isolated in the territory, they are similar in construction and size to the tumuli present in the necropolises of Hierapolis itself and may have been built by aristocratic Greek families who had settled in the *chora* in order to supervise agricultural production, either in their own interest or on behalf of the city. Alternatively, perhaps less plausibly, the tumuli may have belonged to high-ranking members of the local community who had adopted the same funerary customs and forms of representation of power as the aristocracy of the *polis*. Based on the currently available archaeological evidence, on the northern side of the Lykos valley, the tumuli are found in the ancient villages close to Küçükdereköy and Eymir, suggesting that at least in this phase the boundaries of the *chora* corresponded to the Küçük Dere to the south and the Mandama Dere to the north. In addition, in terms of the northern boundary on the plateau of Uzunpınar, Hellenistic funerary tumuli seem to be attested near the ancient settlements of Gavurdamıarkası Tepe and Karacıören Tepe, although the recognition of another possible tumulus in Fadılöreni, on the northern edge of the plateau, remains uncertain. It thus seems possible to recognise an original northern boundary in the chain of hills that crosses the central part of the plateau from south-east to north-west, although the general lack of excavation data (only the tumulus to the south of Güzelpınar has recently been investigated)<sup>54</sup> means that we do not have reliable chronological elements on these important monuments. In addition, in the northern part of the plateau, where there is an apparent absence of tumuli, it is important to highlight the presence, between the large ancient villages of Boyallı and Thiounta-Fadılöreni, of a well-ordered division of agricultural land probably instigated by Hierapolis, which can also be dated to the Hellenistic period, although its precise chronology has yet to be determined.

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<sup>53</sup> Scardozzi 2016b, 597-598; Scardozzi 2019a, 155-156.

<sup>54</sup> See below p. 233.

Also problematic is the situation regarding the plateau of Çal, since the epigraphical documentation tells us little about whether it belonged to the territory of Hierapolis in the Hellenistic and early imperial periods. In addition, no funerary tumuli based on the Hierapolis model have yet been identified in this region, and further doubts on how far the *chora* di Hierapolis extended into this area in the centuries following the city's foundation also arise from the presence of the large ancient settlement of Mossyna. Recent research here has revealed the extent of the archaeological remains, which are markedly greater than any of the other settlements in the territory of Hierapolis, to the point that we may speak of a fully-fledged city<sup>55</sup>. It is indeed possible that this settlement, whose *demos* is cited in inscriptions dated to the mid imperial period, enjoyed some degree of administrative autonomy, which is also suggested by its elevation to a diocese by the mid 5<sup>th</sup> century AD (see below). An honorary epigraph, dated to the second half of the 1<sup>st</sup> or the 2<sup>nd</sup> century AD, dedicated to a certain Q. Plautius Ouenoustos (Venustus) by the inhabitants of Hierapolis, Blaundos, Dionysopolis (located between the villages of Bekilli and Üçkuyu, north-east of the Maeander)<sup>56</sup> and the Hyrgaleis federation (also located east of the Maeander, in the area of Şapçılar)<sup>57</sup>, seems however to show that at least in the early centuries of the imperial period their territories bordered each other. In this epoch therefore, it appears that there was no city enjoying administrative autonomy on the plateau of Çal, which, together with the district of Mossyna, may have fallen within the territory of Hierapolis<sup>58</sup>. The course of the Maeander would thus have constituted the

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<sup>55</sup> In this regard see pp. 249-254.

<sup>56</sup> On Dionysopolis see Ramsay 1895, 126; Buckler, Calder, Guthrie 1933, xiv-xvi and 95-115; Belke, Mersich 1990, 210, 234, 294 s., 412; Ritti 2002a, 41-43 and 66-69; Ritti, Miranda, Guizzi 2008, 14-17.

<sup>57</sup> On the League of the Hyrgaleis, an association of villages perhaps having its common centre near the modern village of Şapçılar, see Ramsay 1895, 127-129; Buckler, Calder, Guthrie 1933, xiv; Robert 1962, 127-149 and 356-363; Belke, Mersich 1990, 343-344; Ritti 2002a, 41-42; Ritti, Miranda, Guizzi 2008, 16.

<sup>58</sup> On the inscription of Ouenoustos, who according to scholars was honoured by the four communities for the construction of a road through their territories, or for the resolution of border disputes, or even for his intervention after a seismic event or a pestilence, see Ramsay 1883, 387, no. 10; Ramsay 1895, 142, no. 29; Judeich 1898, 179-180, no. 4; Ramsay 1930, 283, no. 4; Buckler, Calder, Guthrie 1933, xiv and 118, no. 315; Robert 1962, 132 and 69, no. 2; Ritti 2002a, 41; Ritti 2017, 84, 283, 460-461.

boundary between the communities mentioned in the inscription, and the *chora* of Hierapolis would also perhaps have included Atyochorion, a settlement that hosted a political community with a council, a people's assembly and a *gerousía*, located near the modern village of Akkent<sup>59</sup>. The theory that the whole of the plateau of Çal belonged to the territory of Hierapolis, proposed by Ramsay and then by Robert<sup>60</sup>, is also supported by the recent discovery of an inscription of the imperial period that mentions a citizen of Hierapolis resident in Mossyna<sup>61</sup>. In contrast, Buckler and Calder argued that the plateau of Çal belonged to Dionsopolis, which the two scholars erroneously located near Sazak<sup>62</sup>, in what is actually the site of Mossyna<sup>63</sup>.

On the northern edge of the plateau stood the important sanctuary of Apollo Helios Lairbenós, which, based on the epigraphical documentation, in the early imperial period was controlled by the city of Motella. The latter, located near the village of Yeşilova (once Medele) immediately to the north of the Maeander<sup>64</sup>, fell under the control of Hierapolis no later than the mid 3<sup>rd</sup> century AD<sup>65</sup>. In this period, the above-mentioned decree of Hierapolis found in Develer-Kagyetta protecting the vineyards also seems to show that at least the north-western part of the plateau of Çal (including the settlements of Melokome and Salouda) lay within the territory of the city, which may also have included the districts of Atyochorion and Mossyna. Regarding the latter, it should be remembered that by the mid 5<sup>th</sup> century AD it was

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<sup>59</sup> On this village see below pp. 262-264.

<sup>60</sup> Ramsay 1895, 122; Robert 1962, 136.

<sup>61</sup> Ritti 2017, 35.

<sup>62</sup> Buckler, Calder, Guthrie 1933, xiv.

<sup>63</sup> See below p. 249.

<sup>64</sup> On Motella, whose boulè and demos are mentioned in inscriptions from the first half of the 2<sup>nd</sup> cent. AD, see Buckler, Calder, Guthrie 1933, xv-xvi, 100-101, 116-117, nos. 276 and 309; Robert 1983a, 48-49; Belke, Mersich 1990, 339; Dinç, Meyer 2004, 305-314.

<sup>65</sup> Cf. Robert 1962, 137-138, 140-142, 362; Ritti, Şimşek, Yıldız 2000, 4 and 54-55; Ritti, Miranda, Guizzi 2008, 12-14; Ritti 2017, 35, 282-283.

a bishopric<sup>66</sup>, on the same level as Hierapolis<sup>67</sup>, Dionysopolis<sup>68</sup> and Motella<sup>69</sup>. This suggests that in the proto-Byzantine epoch, the district of Mossyna included all or at least a large part of the plateau of Çal, as the *Synékdemos* (655, 1-4) of Hierokles also seems to confirm. Indeed, showing the administrative divisions of the Byzantine Empire in around 530 AD, the *Synékdemos* lists Mossyna after Laodikeia and Hierapolis and before Dionysopolis. Subsequently, in 535, Hierapolis, whose diocese is believed to have included the northern sector of the valley of the Lykos and the plateau of Uzunpınar, became a *metropolis* of *Phrygia Pacatiana secunda*, incorporating, among others, the dioceses of Dionysopolis, Metelopolis and Mossyna<sup>70</sup>. Under Justinian therefore, the inclusion of the latter towns within the *Eparchia* of Hierapolis seems to have re-established the pre-eminence of the latter over the settlements on the plateaus situated to the north.

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<sup>66</sup> The diocese of Mossyna is attested for the first time in the Council of Chalcedon in 451; subsequently, bishops of Mossyna were at the Councils of 787, 869-870 and 879-880 (Ramsay 1883, 371-374; Ramsay 1895, 121; Belke, Mersich 1990, 343).

<sup>67</sup> The bishops of Hierapolis were first mentioned in the second half of the 1<sup>st</sup> cent. AD (Silvestrelli 2000, 380-382; Ritti 2017, 190-207). In the *Notitiae Episcopatumum*, the metropolis is mentioned until the 14<sup>th</sup> century (Darrouzès 1981: I, 450; II, 518; III, 593; IV, 471; VII, 41; VIII, 43; XI, 43; XII, 41; XIV, 44; XV, 41; XVI, 41; XVII, 49; XVIII, 49; XIX, 54), but the bishops probably resided in Constantinople perhaps as early as the second half of the 7<sup>th</sup> century.

<sup>68</sup> The bishops of Dionysopolis were at the Councils of 451, 553 and 787 (Belke, Mersich 1990, 234).

<sup>69</sup> Motella is mentioned as a diocese only from the mid 6<sup>th</sup> century; its bishops are mentioned in a 7<sup>th</sup> century inscription and were at the Councils of 869-870 and 879-880 (Belke, Mersich 1990, 339).

<sup>70</sup> In the following centuries, Dionysopolis, Metelopolis and Mossyna remained within the Hierapolis *Eparchy* (Darrouzès 1981). The diocese of Mossyna is mentioned from the 7<sup>th</sup> to the 12<sup>th</sup> centuries in the *Notitiae Episcopatumum* I, II, III, IV, VII, IX, X, XIII, that of Dionysopolis occurs from the 7<sup>th</sup> to the 9<sup>th</sup> centuries in the *Notitiae* I, VIII, IX, while that of Motella is mentioned from the 7<sup>th</sup> to the 12<sup>th</sup> centuries in the *Notitiae* I, III, VIII, IX, X, XIII.

# HISTORIC TIMELINE OF THE TERRITORY OF HIERAPOLIS

- 1.1 million years ago First evidence of the presence of human beings in the Lykos valley (remains of *Homo erectus* discovered north of Kocabaş).
- 30,000-20,000 years ago Dated to the period between the Middle Palaeolithic and the beginning of the Upper Palaeolithic are the first attestations of the presence of human beings near the site of Hierapolis (a flint scraper found in a layer of palaeosol in the Öküzini district).
- 5500 BC From the late Neolithic to the early Chalcolithic, the presence of various settlements in the Lykos valley is recorded.
- 3000-2000 BC The Early Bronze Age I to III is marked by an increase in settlements in the Lykos valley; dated to this phase are the most ancient settlements identified in what was to become the territory of Hierapolis, including those of Höyük Tepe near Akköy, on the north side of the plain, and Can Pınar, on the plateau of Uzunpınar.
- 2000-1200 BC The Middle and Late Bronze Age is marked by the substantial continuity of settlements in the Lykos valley and on the plateau of Uzunpınar, where the occupation of the sites of Höyük Tepe near Akköy and Can Pınar is still attested; in the 2<sup>nd</sup> millennium BC the region is believed to have fallen under the control of the Hittite kingdom.
- 12<sup>th</sup>-4<sup>th</sup> centuries BC In the Iron Age the settlement of Can Pınar seems to have been abandoned, while the settlement of Höyük Tepe near Akköy continued; on the site of Hierapolis stood a Phrygian village linked to a place of worship centred on the cave of Ploutonion; in the 7<sup>th</sup> and 6<sup>th</sup> centuries BC the use of the

tumulus of Alaburun, situated 3.5 km north-east of Hierapolis, for funerary and perhaps also cult purposes, is documented; Herodotus attests that in the Archaic period the main cities of the Lykos valley were Colossae and Kýdrara, the latter of uncertain location, perhaps on the site where Hierapolis was later founded.

- 3<sup>rd</sup> century BC The region falls under the control of the Hellenistic kingdom of the Seleucids and Hierapolis is founded.
- 190 BC In the battle of Magnesia, Rome and its ally Eumenes II king of Pergamon defeat king Antiochus III of the Seleucid dynasty.
- 188 BC With the peace of Apamea, Asia Minor as far as the Taurus mountains is assigned to the Attalid dynasty and Hierapolis becomes part of the Kingdom of Pergamon.
- 133 BC Attalus III of Pergamon leaves his kingdom to the Romans, including Hierapolis, in his will; inserted in the new Province of Asia, the city is assigned to the juridical district (*conventus*) of which Kíbyra is the capital. The city remains in this district until just before the mid 2<sup>nd</sup> century AD, when it becomes the diocesan capital of its own administrative district.
- 2<sup>nd</sup>-1<sup>st</sup> centuries BC Hierapolis extends its control over the northern side of the Lykos valley and the plateau of Uzunpınar, where there is a growing presence of farms and rural villages in which the indigenous population is integrated with the Macedonian Greek colonists; the presence of members of the aristocracy of Hierapolis in the *chora* is attested by the discovery of various funerary tumuli; it is probably in this phase that the northern sector of the plateau of Uzunpınar is divided into a regular agricultural land division and the main (i.e. the north-eastern) aqueduct supplying the city with drinking water is constructed; the quarries near the urban area begin to be exploited, especially for travertine.
- 1<sup>st</sup> half of 3<sup>rd</sup> century AD The monumental development of Hierapolis entails the intense exploitation of the quarries near the city (in addition to travertine, marble, breccia and alabaster are now extensively

extracted and even exported). The same period is characterised by the development of industrial activities, especially those linked to the production of wool and textile dyes, for which the thermal waters available near the city are also exploited, and intense exploitation of the land, with a rising number of farms and the widespread presence of villages including that of Thiounta enjoying relative administrative autonomy. The other two aqueducts serving the city are probably built in this phase; the main road network undergoes significant maintenance works on the orders of the imperial authorities, as documented by the milestones on the road to Tripolis dated to the reigns of Domitian (84/85 AD), Nerva (97 AD) and Septimius Severus and Caracalla (200/201 AD). The territory is characterised by the presence of various sacred areas, such as those of Apollo Karios and the deities of the Motaleis.

- Mid 3<sup>rd</sup> century AD Based on the epigraphical documentation, Hierapolis seems to extend its control to the north-western sector of the plateau of Çal; here, in addition to several villages, lie the city of Mossyna and the important sanctuary of Apollo Helios Lairbenós.
- 4<sup>th</sup> century AD After the Edict of Milan (313 AD) Christianity takes hold in the territory of Hierapolis, where the presence of bishops is documented from the early decades of the 2<sup>nd</sup> century AD; the *chora* of Hierapolis conserves the layout of the preceding centuries, but the exploitation of the quarries is considerably reduced as a consequence of the increased reuse of materials; the imperial power continues to show an interest in the maintenance of the main road network, as attested by the milestone on the road to Laodikeia, which bears inscriptions by Constantius II and Constans I (340-350 AD), as well as a later one by Julian while still Caesar (355-360 AD).
- 5<sup>th</sup>-6<sup>th</sup> centuries AD As Hierapolis is transformed into a Christian city, in the course of the proto-Byzantine epoch its territory continues to maintain the layout of preceding centuries, characterised by the presence of a scattered population, with farms and rural villages, by then gradually declining.

- 535 AD Hierapolis, until this time a suffragan diocese of Laodikeia, becomes the *metropolis* of *Phrygia Pacatiana secunda*, including the diocese of Mossyna, documented from 451 AD onwards.
- First half of 7<sup>th</sup> century AD As part of a general reform of the Byzantine Empire, the organisation of the territory of Hierapolis undergoes a crisis accompanied by profound transformations, with a sharp drop in population that leads to the disappearance of the farms and scattered settlements; the region is also affected by the Persian invasion of 616 AD, which entails raids and pillages.
- Second half of 7<sup>th</sup>-10<sup>th</sup> centuries AD After having been struck by a terrible earthquake in the mid 7<sup>th</sup> century AD, Hierapolis is affected by a process of transformation that sees the abandonment of some areas and the reorganisation of others in accordance with the “agro-town” model; in the surrounding territory, the mid-Byzantine period is characterised by the presence of villages inhabited by peasants who go to the fields outside the settlement each day to perform agricultural activities; it is probable that by this time the bishops of Hierapolis and Mossyna, inserted in its *Eparchia*, no longer reside in these two cities but in Constantinople.
- 11<sup>th</sup>-12<sup>th</sup> centuries AD After a further ruinous earthquake in the late 10<sup>th</sup> or early 11<sup>th</sup> century AD, Hierapolis begins a definitive decline and undergoes a process of ruralisation; in the territory, which the Byzantines seek to defend from the attacks of the Seljuq Turks, some of the villages are still occupied.
- 13<sup>th</sup> century AD Hierapolis is definitively abandoned and the Seljuq Turks control the region; part of the plain of the Lykos, where the caravanserai of Akhan is constructed (1253-1254), falls under the control of the principality of Tunguzlu/Denizli (1261-1278).

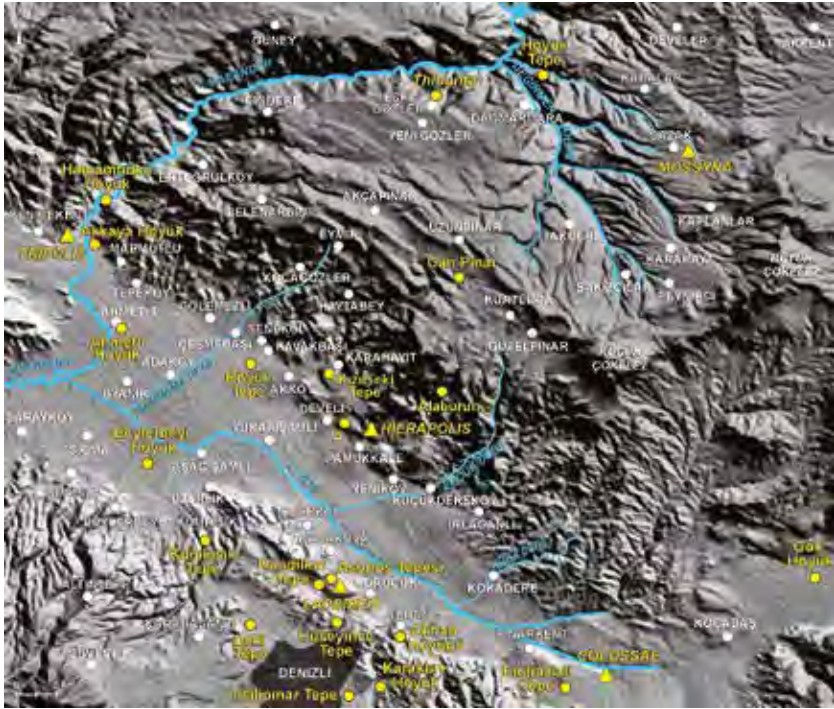
## BEFORE HIERAPOLIS

The research in the Lykos valley and the plateaus of Uzunpınar and Çal has made it possible to acquire very interesting data on the phases of occupation of the territory before the foundation of Hierapolis in the Hellenistic period. Concerning the prehistoric period, of interest is the discovery in 2015 in the Öküzini district (fig. 10, A), just over a kilometre west of Hierapolis, of a chipped flint tool dated to the Middle Palaeolithic or the beginning of the Upper Palaeolithic (about 30,000-20,000 years ago)<sup>71</sup>. The artefact is sub-triangular in shape, pointed and thin (about 6 x 4 x 1 cm), with skilfully retouched edges, and can be typologically classified as a scraper (fig. 11). The flint tool was found at a depth of two metres, in the upper part of a buried detritic palaeosoil, a few decimetres thick, resting on conglomerates of the Neogene substrate, visible in cross section following works to widen the Pamukkale-Karahayıt road. The palaeosoil was directly sealed by layers of bedded travertine, which constituted the flank of a fissure-ridge that includes a vein of alabaster (banded travertine) dated by the Uranium-Thorium technique ( $^{230}\text{Th}/^{234}\text{U}$ ) to a period between about 25,200 and 21,500 years ago<sup>72</sup>. Considering that the period of time from the formation of the banded travertine to that of the bedded travertine in which it is incorporated is relatively short, this dating constitutes a valid *terminus ante quem* for the palaeosoil, confirming the chronology of the artefact proposed on the basis of the typological analysis. This is a highly important discovery relating to an as-yet little studied phase of the settlement of the Lykos valley, where the most ancient attestation of the presence of human beings is the remains of *Homo erectus*

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<sup>71</sup> Marabini, Scardozzi 2015, 260-261.

<sup>72</sup> Altunel, Karabacak 2005 (3c); Uysal et alii 2007 (P1); Uysal et alii 2009 (CB-1A/B and CB-2); De Filipis et alii 2012 (Cuk1). On these geological formations see above p. 12.



**Fig. 10** Digital elevation model of south-western Phrygia: main sites of the prehistoric and protohistoric periods are marked in yellow.

dated to 1.1 million years ago. These were discovered north of Kocabaş<sup>73</sup>, about 20 km south-east of Hierapolis, in an area where the remains of mammals dated to the Middle Pleistocene have also been recorded<sup>74</sup>.

Regarding the protohistoric epoch, archaeological surveys in the territory of Hierapolis have enabled the identification of a settlement on a small *tell* (Höyük Tepe) situated in the north-eastern sector of the plain of the Lykos, north-west of the village of Akköy, and a larger settlement in the Can Pınar district south of the village of Uzunpınar, on the plateau of the same name, active in the Bronze Age and part of the

<sup>73</sup> Kappelman et alii 2008; Lebahard et alii 2014.

<sup>74</sup> Erten, Sen, Özkul 2005.



**Fig. 11** Öküzini district: flint scrapers of the Middle Palaeolithic or the beginning of the Upper Palaeolithic, found in the upper part of a layer of palaeosoil.

Iron Age. To these may be added the discovery of a large tumulus on the promontory of Alaburun, located just below the edge of the same plateau, on the terraced slope that descends towards the Lykos valley. Here, the excavations conducted by archaeologists from the Museum of Hierapolis-Denizli have documented funerary and perhaps also cult practices dated to the 7<sup>th</sup> century BC onwards, including the Phrygian and later Hellenistic-Roman periods.

These new discoveries, combined with the results of the recent research conducted in the area of Denizli by Turkish archaeologists,

enrich the pre-existing knowledge of the protohistoric period in the area investigated and in south-western Phrygia more generally. The settlement of Höyük Tepe near Akköy was not an isolated case in the Lykos valley, where there were other even larger settlements in this period. Indeed, this broad flat area played a fundamental role in the traffic between the Anatolian hinterland and the Aegean coast and was already settled in the Neolithic, with a growing number of settlements in the Chalcolithic and Bronze Ages<sup>75</sup>. By the 2<sup>nd</sup> millennium BC, the Lykos valley is believed to have fallen under the control of the Hittite kingdom, first as part of the territory of Arzava and subsequently Myra<sup>76</sup>. The settlements exploited the fertile soil of the plain and were located along the routes that crossed it or led towards the plateaus that delimited it to the west and east. In addition, the lake situated to the north of the hill of

<sup>75</sup> Kılıç 2007; Yiğit 2007; Castrianni, Scardozzi 2016; Konakçı 2017a; Ozan, Dedeoğlu, Konakçı 2017.

<sup>76</sup> Konakçı 2017a, 74-79.

Laodikeia along the course of the Lykos<sup>77</sup>, today reclaimed, is believed to have represented an important source of food, providing opportunities for hunting and fishing.

On the western side of the plain, about 8.5 km south-west of Höyük Tepe near Akköy, about 2.5 km north-east of the village of Beylerbeyi, 6 km south-east of Sarayköy and 2 km from the Lykos, is the settlement of Beylerbeyi Höyük (Koca Höyük) (fig. 10). At about 20 metres above the surrounding terrain and covering an area of about 2.2 hectares, the site was occupied in the Early Bronze Age I-II<sup>78</sup> and again in the Middle and Late Bronze Age<sup>79</sup>. Coeval with Beylerbeyi Höyük is another settlement situated about 5 km to the south-east, on a *tell* near the village of Kumkısıık, inhabited from the Early Bronze Age I to the Middle Bronze Age<sup>80</sup>.

On the northern edge of the plain, another protohistoric settlement has been found on the south side of the village of Ahmetli, near the Maeander, on a small hill (Ahmetli Höyük)<sup>81</sup>, today mostly occupied by a cemetery, at an elevation of about 10 metres above the surrounding terrain a short distance from the east bank of the river. Unfortunately, given the concealed surface and the current function of the area, the survey was not able to recover data that might help to determine its chronology. Also on the Maeander is Akkaya Höyük, a small patch of high ground (0.3 hectares) less than 1 km south-east of Tripolis, near the east bank of the river. The oldest materials discovered here were dated to the late Neolithic/early Chalcolithic. Other finds indicate continuous occupation from the Middle and Late Chalcolithic to the Early Bronze Age I-II and again in the 2<sup>nd</sup> millennium BC<sup>82</sup>. In the stretch of the Maeander valley north-east of Tripolis, at about 1.5 km from the area of the city, is the settlement of Hamambükü Höyük, which occupied a patch of high ground in a strategic position near the river, which at this point flows between the mountains and represents a natural point of entry to the Anatolian hinterland. The settlement,

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<sup>77</sup> See above pp. 24-25.

<sup>78</sup> Baysal 2000, 32; Ozan, Dedeoğlu, Konakçı 2017, 58.

<sup>79</sup> Konakçı 2017a, 80.

<sup>80</sup> Konakçı 2017a, 80; Ozan, Dedeoğlu, Konakçı 2017, 58.

<sup>81</sup> D'Andria, Silvestrelli 2000, map 2.

<sup>82</sup> Konakçı 2017a, 79; Konakçı 2017b, 24-32; Ozan, Dedeoğlu, Konakçı 2017, 51-53, 58.

which covers an area of 0.8 hectares and was also inhabited in the Early Bronze Age I-II and the 2<sup>nd</sup> millennium BC<sup>83</sup>, was located close to some minor routes running perpendicular to the course of the Maeander, where there was a ford.

Another small settlement that has yielded materials from the protohistoric period has been identified on the western edge of Karahayıt, where the hill of Kızılseki Tepe (Karahayıt Höyük)<sup>84</sup> has now been almost completely obliterated by the expansion of the modern village. At an elevation of about 10 metres above the surrounding terrain, it looked on to the Lykos valley from the east. A similar fate has befallen some settlements situated in the southern part of the plain, in the area in which the city of Denizli has expanded in the last few decades<sup>85</sup>. We may cite here Deki Tepe (Gümüşler), today surrounded by the expanded urban area, which is at an elevation of about 30 m above the surrounding terrain and is situated on the western edge of the city, 1 km east of Kayaköy; nearby Hüseyince Tepe, a little way to the east; and Karakurt Höyük, on the western edge of the village of the same name, near the south-eastern suburbs of Denizli, at an elevation of about fifteen metres above the surrounding terrain and today almost reached by the expanding built-up area and by the waters of an artificial lake. Discovered in the last two sites were materials dated to the Neolithic and the Early Chalcolithic, with a subsequent period of occupation until the Early Bronze Age III<sup>86</sup>, which in the case of Karakurt Höyük continued into the Middle and Late Bronze Age<sup>87</sup>. In addition, Bronze Age tombs were discovered near the latter site on the edge of Bağbaşı, a village today incorporated into the south-eastern suburbs of Denizli<sup>88</sup>, while nearby, on the *tell* of Incilipınar, a settlement in use throughout the Bronze Age has been identified<sup>89</sup>.

Occupying the central-southern part of the plain of the Lykos are the two main protohistoric settlements of the area, both situated a short distance from the river and

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<sup>83</sup> Konakçı 2017a, 79; Konakçı 2017b, 33-37; Ozan, Dedeoğlu, Konakçı 2017, 58.

<sup>84</sup> D'Andria, Silvestrelli 2000, map 2.

<sup>85</sup> D'Andria, Silvestrelli 2000, map 2.

<sup>86</sup> French 1965, 18; Duman, Konakçı 2006, 85; Ozan, Dedeoğlu, Konakçı 2017, 51, 53, 58.

<sup>87</sup> Konakçı 2017a, 79-80.

<sup>88</sup> Şimşek 2017, 7.

<sup>89</sup> Konakçı 2017a, 79-80; Ozan, Dedeoğlu, Konakçı 2017, 58.

in a strategic position overlooking the routes running along the valley, which were subsequently used in the historic period<sup>90</sup>: Asopos Tepesi, on the hill of Laodikeia, and the hill of Höyük Tepe in Colossae. The former is located in the northern part of the upland which would be occupied in the Hellenistic period by the urban area of Laodikeia, near the so-called Hierapolis Gate. Its northern slopes host a water course, the Kuzgun Dere or Gümüşçay (the ancient Asopos), a tributary of the Lykos, just 2 km away. The excavations conducted here since 2007 in two sectors of the upland (Asopos Tepesi I-II) have brought to light a settlement dated to the Middle and Late Chalcolithic (first half of the 5<sup>th</sup> millennium BC), which was also continuously occupied in the Bronze and Iron Ages<sup>91</sup>. In addition, about 1 km to the south-west (Kandilkırı Tepe), ceramics from the Early Chalcolithic (5500 BC) and a settlement and tombs dated to the Early Bronze Age II and III were discovered<sup>92</sup>. In the eastern part of the Lykos valley, Colossae is the most ancient city in the region, cited by Herodotus (VII, 30) and in the *Anabasis* by Xenophon (I, 2, 6). Indeed, the armies of Xerxes and Cyrus rested here in 480 BC and 401 BC respectively<sup>93</sup>. The city is situated near a modest water course (called Aksu), which further west flows into the Lykos, and it occupies a hill at an elevation of about 30 m above the surrounding plain, with a flat area on the top of more than 9 hectares. On the northern edge of this hill is a higher area of about 1.5 hectares called Höyük Tepe, which is the oldest part of the settlement. Indeed, the ceramic materials scattered over the surface document an occupation of the site from the Middle/Late Chalcolithic that lasted throughout the Bronze Age, with a continuity of settlement documented for the Iron Age and the Classical period, and from the Hellenistic age to the Byzantine epoch<sup>94</sup>.

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<sup>90</sup> See below pp. 111-113.

<sup>91</sup> Şimşek 2009, 409-411; Şimşek 2010, 101-105; Şimşek 2011, 447-450; Şimşek 2012, 569-570; Şimşek 2013, 70-77, 467-476; Şimşek, Konakçı 2013; Konakçı 2014; Dedeoğlu, Konakçı 2015; Konakçı 2015; Konakçı 2016a; Konakçı 2016b; Konakçı 2017a, 80-85; Ozan, Dedeoğlu, Konakçı 2017, 51, 54-55; Konakçı 2018; Semiz, Şimşek, Konakçı 2018.

<sup>92</sup> Şimşek 2012, 586-590; Şimşek 2013, 400-407, 467-471; Şimşek 2014a, 91-94; Ozan, Dedeoğlu, Konakçı 2017, 52, 58-59; Şimşek 2017, 7; Şimşek 2018a, 359-363; Şimşek 2019a, 445-447; Şimşek 2020, 579-582. On the archaeological findings see Oğuzhanoglu 2014; 2015; 2019a; 2019b.

<sup>93</sup> Mellaart 1954, 230-231; Şimşek 2002a; Duman, Konakçı 2006; Konakçı, Duman 2007; Cadwallader, Trainor 2011.

<sup>94</sup> Duman, Konakçı 2011; Ozan, Dedeoğlu, Konakçı 2017, 53.

Other small settlements of the Early Bronze Age I-II, a period that saw a greater density of occupation of the territory, have been identified on *tells* situated near Irlıganlı and in the eastern part of the Lykos valley near Emirazizli and Kocabaş (with a continuity of occupation in the Middle and Late Bronze Age), as well as on Gök Höyük<sup>95</sup>, while a necropolis with 60 burials in *pithoi* dated to the Early Bronze Age I-II was discovered in Akhan, between Laodikeia and Colossae, probably belonging to the nearby settlement of Akhan Höyüğü<sup>96</sup>. A settlement of the Middle and Late Bronze Age has been identified near Kocadere<sup>97</sup>.

This framework has been enriched with new elements arising from recent discoveries made in Hierapolis. These include the discovery of sporadic ceramic fragments of the Phrygian epoch on the north-eastern edge of the North Agora<sup>98</sup> (fig. 12, B) and the identification of a sacred area dated to the Archaic period near the Ploutonion<sup>99</sup> (fig. 12, A), seeming to confirm the existence of a village in the area where the city would later be founded in the Hellenistic period<sup>100</sup>. In addition, in 2017-2018, further to the north-west, a funerary area dated to the Early Iron Age and Archaic period was partially brought to light, together with traces of cult activities<sup>101</sup>. Situated near the northern entrance of the archaeological area, on the north bank of the Gök Dere water course (fig. 12, C), which here marks the limit of what would later be the Hellenistic and Roman-imperial necropolis of Hierapolis, it was probably associated with a settlement that might have been located slightly further uphill. This area would subsequently be disturbed by the presence of farms and travertine quarries in the Hellenistic and Roman-imperial periods.

We shall conclude this summary of the archaeological evidence in the Lykos valley of the phases preceding the foundation of Hierapolis with a reminder that the

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<sup>95</sup> Konakçı 2017a, 80; Ozan, Dedeoğlu, Konakçı 2017, 58.

<sup>96</sup> Duman, Konakçı 2006, 85-86; Şimşek 2013, 471; Şimşek 2017, 7; Ozan, Dedeoğlu, Konakçı 2017, 58-59.

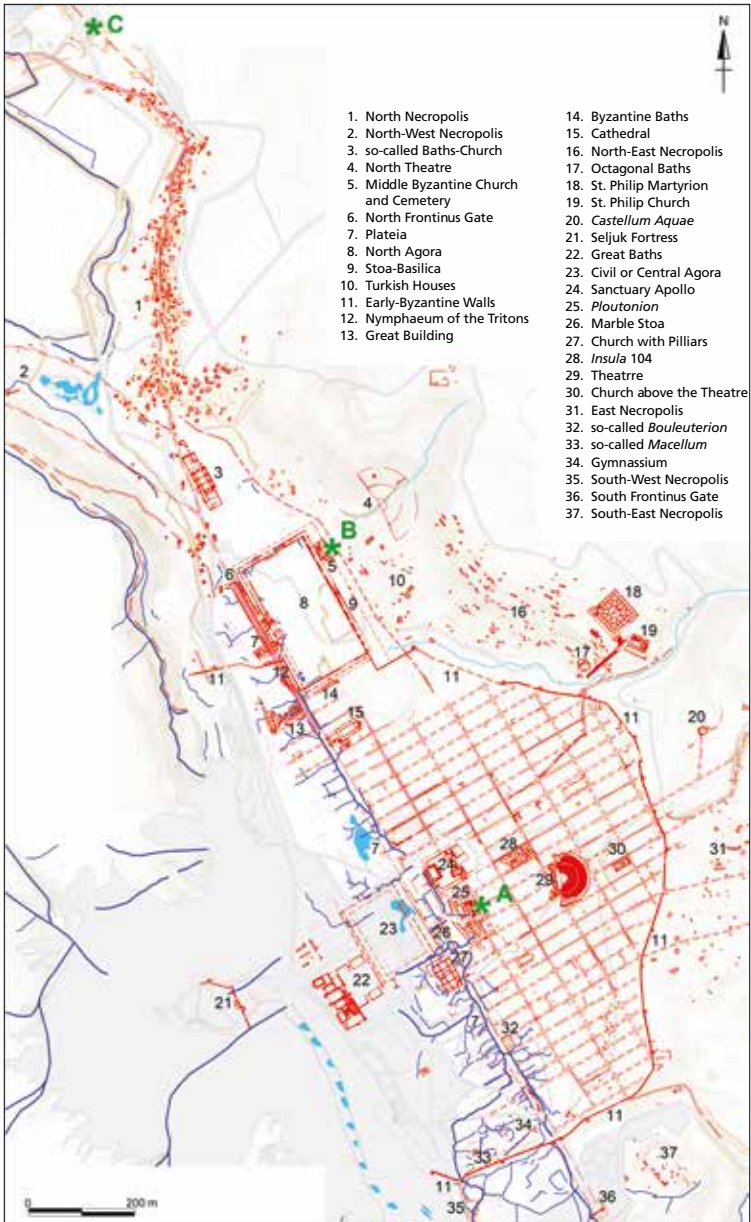
<sup>97</sup> Konakçı 2017a, 80.

<sup>98</sup> Silvestrelli 2000, 423.

<sup>99</sup> D'Andria 2017b, 197-199; D'Andria 2018b, 102-103.

<sup>100</sup> Ritti 2017, 270.

<sup>101</sup> D'Andria 2018b, 103; Semeraro 2020, 211-212.



**Fig. 12** Archaeological map of Hierapolis: places of discovery of structures and artefacts dated to the Phrygian period are highlighted in green.

study of the dynamics of settlement in the area in the Archaic and Classical periods is closely connected to the attempts to identify the city of Kýdrara, situated according to Herodotus (VII, 30) in the Lykos valley between Colossae and the Maeander<sup>102</sup>. In 480 BC, Xerxes' army is said to have reached the city before crossing the river on their way to Sardis. However, Kýdrara, near which the king of Lydia Croesus is reported to have placed the cippus marking the boundary of his kingdom beyond the Maeander, has not yet been identified. In the past, scholars suggested that it was located in the south-western sector of the Lykos valley, south of the confluence with the Maeander, in the area between the modern villages of Siğma and Beylerbeyi, where the city of Hydrela would be built subsequently<sup>103</sup>. More recently, based on the assumption that the Persian army would have found it easier to cross the Lykos valley by following the road along the foot of the mountains on its northern side (which would subsequently become the road linking Colossae to Hierapolis and Tripolis)<sup>104</sup>, it has in contrast been suggested that Kýdrara might have stood on the terrace subsequently occupied by Hierapolis, or in any case inside what would later become its territory<sup>105</sup>. However, archaeological surveys in the Lykos valley have failed to find evidence that might help to locate Kýdrara. In this regard, the only interesting element is the discovery a few years ago of sarcophagi and walls that seem to have belonged to a settlement of some importance, brought to light during agricultural work in an area north-west of Tepeköy, in the plain between this village and the course of the Maeander, in an area that has been heavily impacted in the last few decades by the digging of drainage and irrigation channels.

Lastly, for the plateaus of Uzunpınar and Çal, there is still little information regarding the settlement of the area in the prehistoric and protohistoric periods. Of considerable importance therefore is the already mentioned identification of the settlement of Can Pınar, active throughout the Bronze Age at least. There have also been reports of the discovery of chipped flint tools and a few fragments of non-wheel-made

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<sup>102</sup> Ritti 2002, 87-88 and note 4; Vannicelli 2014.

<sup>103</sup> Ramsay 1895, 6, 174. For another hypothesis regarding the location of Hydrela see below pp. 145-146.

<sup>104</sup> Scardozi 2012b, 746-756. See also below p. 111.

<sup>105</sup> Ritti 2017, 2, 33, 270.

“impasto” ceramics in the areas of the Hellenistic-Roman and Byzantine settlements of Thionta and Mossyna, situated respectively immediately to the north of Eski Gözler, on the northern edge of the plateau of Uzunpınar, and 1 km east of Sazak, in the central-western part of the plateau of Çal<sup>106</sup>. Of great interest is the identification of a settlement on the small hill (about 0.4 hectares) called Höyük Tepe (950 m a.s.l.), situated about 1.5 km to the north-west of Dağmarmara (fig. 10), on the north-western edge of the plateau of Çal<sup>107</sup>. The site is on the northern edge of an upland of about 7 hectares, delimited by steep slopes that descend towards the Değirmen Dere (to the south-west) and the Saz Dere (to the north), both tributaries of the Maeander, less than 2 km away. On the upland and on the small northern hill, which has been the object of limited excavations for which no description has been published, conducted by archaeologists from the Museum of Hierapolis-Denizli, various fragments of non-wheel-made “impasto” ceramics dated to the Bronze Age and Iron Age have been discovered, mixed with mid-Byzantine and Ottoman ceramics, attributable to a later occupation of the site. The settlement was in a strategic position controlling a route along the ridge that rose from the Maeander in a south-easterly direction and continued towards the central part of the plateau of Çal, i.e. the area of the modern villages of Sazak and Kabalar.

## The hill of Höyük Tepe near Akköy

The small *tell* known as Höyük Tepe (163 m a.s.l.) is situated about 2 km north-west of Akköy, just beyond the alluvial fan on which the modern village stands, a short distance from the eastern edge of the Lykos valley<sup>108</sup>. It is about 10 metres above the surrounding terrain, which is mostly flat, and occupies a small area of about a hectare. The archaeological materials from the settlement were brought to light during the construction of two roads, which entailed digging a cutting across the *tell* in both cases (figs. 13-14). In contrast, very little was discovered on the surface of the hill, which has been left uncultivated. Visible in cross section in the

<sup>106</sup> See below pp. 179-196 and 249-254.

<sup>107</sup> Castrianni, Scardozzi 2016, 46-47.

<sup>108</sup> Castrianni, Scardozzi 2016, 37-44.



**Fig. 13** View of Höyük Tepe from the west.



**Fig. 14** Höyük Tepe seen in a Corona KH-4A space photo taken in 1968 (A) and in a WorldView-2 satellite image acquired in 2011 (B).

walls of the cuttings are numerous ceramic fragments that attest to various phases of occupation of the site in the 3<sup>rd</sup> and 2<sup>nd</sup> II millennia BC, although it is not known whether they followed each other in succession or were separated by periods of abandonment. Indeed, materials from the Bronze and Iron Ages, as well as from the Hellenistic and Roman-imperial periods, have been discovered. There are also grindstones and a chipped flint blade.

Although the specific circumstances of the discovery do not allow the reconstruction of the settlement's complex evolution, it is possible to formulate certain hypotheses regarding its phases of occupation. The most ancient materials consist of fragments of “*impasto*” ceramics, which can be generically dated to the Bronze Age.



**Fig. 15** Höyük Tepe: ceramic fragments dated to the Bronze Age (A) and Early Iron Age (B).

They are without decoration and partly burnished, with surfaces generally beige or brown in colour (fig. 15, A). The Final Bronze Age and the subsequent early Iron Age are documented by fragments of vessels (so-called black on red ware) painted with geometric and linear motifs (fig. 15, B), very similar to the decorative motifs seen on coeval ceramic fragments discovered during the excavations of the hill of Asopos Tepesi in Laodikeia<sup>109</sup>. Indeed, these decorative motifs, for example the wavy lines between bands of horizontal lines, belong to the traditional repertoire of local painted ceramics<sup>110</sup>. In contrast, there are no data for the subsequent Iron Age phases, which preceded the creation of a rural settlement consisting of a farm built on the hill no later than the Late-Hellenistic period, which would last throughout the imperial epoch.

The analysis of the available materials thus seems to place the birth and development of the settlement of Höyük Tepe near Akköy in the late 3<sup>rd</sup> or early 2<sup>nd</sup> millennium BC, the same period as the nearby and more important protohistoric sites

<sup>109</sup> Cf. for example Şimşek 2011, 468, fig. 3, and Şimşek 2012, 569, fig. 2.

<sup>110</sup> Dedeoğlu, Konakçı 2015, 211, fig. 9.

of the Lykos valley, which, as documented by the excavations of Asopos Tepesi in Laodikeia in particular, do not seem to date back any further than the Chalcolithic<sup>111</sup>. The settlement occupied a marginal position with respect to the alluvial plain, less than 2 km from the westernmost slopes of the hills that rise towards the plateau of Uzunpınar, inside the fertile Lykos valley and thus able to exploit it agriculturally, but at the same time some distance from the river itself (which flowed 5-6 km to the south and south-west) and from its floods. This position also proved to be highly strategic, close to important roads including the route running south-east/north-west along the eastern edge of the plain which would later become the Royal Road between Susa and Sardis, in use for many centuries<sup>112</sup>. In addition, the settlement was situated just 2 km south of the road leading up to the plateau of Uzunpınar, partially following the valley of the Mandama Dere seasonal stream, a natural highway along which, at least from the Hellenistic age to the Byzantine period, stood various settlements. Today reduced to no more than a mule track, at the end of the 19<sup>th</sup> century the road was still considered by Ramsay to be one of the best ways of accessing the plateau of Uzunpınar; he called it the “horse road” indicating its unsuitability for carts<sup>113</sup>.

## The settlement of Can Pınar (Uzunpınar)

The settlement of Can Pınar stood in the south-western sector of the plateau of Uzunpınar, about 2 km south of the modern village of the same name, on an upland (1118 m a.s.l.) delimited to the west and south by steep slopes that descended about 50 m towards the confluence of two water courses (figs. 16-17)<sup>114</sup>. The smaller one flows from north to south, while the main one, called Değirmen Dere or Uzunpınar Dere, flows from north-east to south-west, reaching the plain of the Lykos near the village of Akköy via a narrow valley that forms a natural access route to the plateau, along which today there are mule tracks. To the north and east, the promontory is delimited by shallow slopes, currently terraced for agricultural

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<sup>111</sup> Şimşek 2012, 569-570. In this regard see above pp. 38-41.

<sup>112</sup> See below p. 111.

<sup>113</sup> Ramsay 1895, 122-124; Castrianni, Scardozi 2012, 99-101.

<sup>114</sup> Castrianni, Scardozi 2016, 44-50.

**Fig. 16**

Can Pinar: the site of the protohistoric settlement in a view from the south.



**Fig. 17**

The area of the protohistoric settlement of Can Pinar in a QuickBird-2 satellite image acquired in 2005.



purposes with retaining walls made of irregular stones. In addition, on the southern slopes of the promontory there is a spring, also called Can Pinar, from which ran the longest of the aqueducts that supplied Hierapolis from the Hellenistic age to the Byzantine period<sup>115</sup>.

The remains of the settlement cover an area of almost 3 hectares, disturbed by ploughing in some cases right down to the limestone bedrock, and consist of materials

<sup>115</sup> Scardozzi 2012a, 111-117; see below pp. 94-100.

scattered over the terrain or piled up on the edges of the fields. They include numerous ceramic fragments, some grindstones and a large quantity of pebbles, the latter plausibly belonging to walled structures damaged by agricultural work. These were probably small buildings with stone foundations and walls made of perishable materials and clay, with light thatched roofs, of the type documented in coeval contexts in the Lykos valley<sup>116</sup> and the upper Maeander valley<sup>117</sup>.

The ceramic materials discovered here enable us to date the settlement to the Bronze Age. They include some of the typical forms of this phase, with close parallels in the region's better known settlements, especially Asopos Tepesi in Laodikeia, Colossae and Beycesultan. The most ancient materials are datable to the Early Bronze Age I (3100/3000-2700/2650 BC). These include bowls with a vertical or slightly tapering rim (fig. 18, nos. 1-2), many of which have been found in Beycesultan<sup>118</sup>, Colossae<sup>119</sup> and Laodikeia<sup>120</sup>. In contrast, an olla with a slightly everted rim (fig. 18, no. 3) that has close parallels in Colossae<sup>121</sup>, a medium-sized vessel with flared sides (fig. 18, no. 4) and a bowl with straight sides and a rounded rim (fig. 18, no. 5), which has parallels with exemplars from Laodikeia<sup>122</sup>, are from the Early Bronze Age II (2700/2650-2300 BC). To the final period of the Early Bronze Age (2300-2000 BC) seem to belong the numerous three-legged supports for kitchen containers (fig. 18, no. 6), both plain and decorated, which have very close parallels with exemplars from Beycesultan<sup>123</sup> and Colossae<sup>124</sup>. The incised decoration (straight, wavy or zigzag lines, fig. 19), which is also found in the

<sup>116</sup> Especially in the Asopos Tepesi (see above p. 40).

<sup>117</sup> Especially at Beycesultan, the important site located in the upper Maeander valley (5 km south-west of Çivril) and dated to a period from the late Chalcolithic to 1200 BC (Lloyd, Mellaart 1962; Lloyd, Mellaart 1965; Mellaart, Murray 1995; Dedeoğlu 2008; Abay 2011; Abay, Dedeoğlu 2012; Dedeoğlu, Abay 2014; Abay et alii 2017, 2018, 2019).

<sup>118</sup> Lloyd, Mellaart 1962, fig. P.14, nos. 10-19.

<sup>119</sup> Duman, Konakçı 2011, 256 ff., cat. no. 4; Ozan, Dedeoğlu, Konakçı 2017, 71, fig. 4.20.

<sup>120</sup> Şimşek 2009, plate 3, L07-AT-S1-396.

<sup>121</sup> Duman, Konakçı 2011, 257-258, cat. no. 6.

<sup>122</sup> Cf. respectively Şimşek 2009, plate 3, L07-AT-S1-03, and Şimşek 2012, plate 14, L10-BN-S5-PT05.

<sup>123</sup> Lloyd, Mellaart 1962, fig. P.46, no. 11-12, and fig. P.49, no. 11-12.

<sup>124</sup> Duman, Konakçı 2011, 257-258, cat. no. 11.

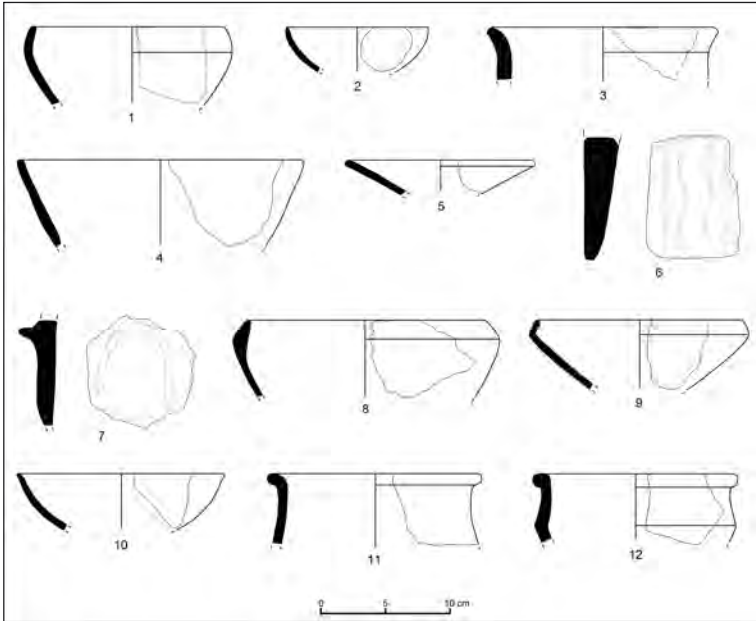


Fig. 18 Can Pinar: ceramic fragments dated to the Bronze Age.



Fig. 19 Can Pinar: fragments of three-legged supports dated to the Bronze Age.

decoration of the handles, can also be attributed to the same chronological horizon, and to the Early Bronze Age II and III in particular. Also from this period are the crescent-shaped handles of large *pithoi* (fig. 18, no. 7), which find close parallels with exemplars from Beycesultan<sup>125</sup>.

The subsequent phases of the Middle Bronze Age (2000-1600 BC) and Late Bronze Age (1600-1200 BC), which also seem to be the most frequently attested, are mainly represented by large containers (ollas, basins and *pithoi*), in addition to various types of cup, with flat, everted and inverted rims, as well as carenated vessels with both curved and straight walls (fig. 18, nos. 8-9), which find close parallels in coeval exemplars from Colossae<sup>126</sup> and Laodikeia<sup>127</sup>. Most of the discoveries dated to the Middle Bronze Age consist of red-varnish ceramics, while to the Late Bronze Age belong fragments of bowls, ollas and cooking pots (some of which are carenated), with rims that are slightly or more markedly flared (fig. 18, nos. 10-12). The latter find close parallels with materials from the Lykos valley (Asopos Tepesi)<sup>128</sup> and the upper Maeander valley (Beycesultan)<sup>129</sup>.

Much rarer in contrast are materials from the Iron Age, when the occupation of the settlement of Can Pınar seems to have ceased. A medium-to-large farmstead, in use from the Hellenistic to the proto-Byzantine periods, was subsequently built over the northern and eastern parts of the Bronze Age settlement. To this later occupation may be attributed the many parallelepiped travertine blocks now piled up on the edges of the fields and the numerous fragments of ceramics and tiles that have been discovered on the terrain, together with a few fragments of terracotta pipes, bricks, *dolia*, marble slabs and polychromatic plaster. The more recent settlement makes it hard to precisely determine the northern and eastern boundaries of the Bronze Age settlement.

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<sup>125</sup> Lloyd, Mellaart 1962, fig. P.35, no. 5.

<sup>126</sup> Duman, Konakçı 2011, 259-260, cat. no. 15; Konakçı 2017a, 97, fig. 4.7 and 100, ÇT6.

<sup>127</sup> Şimşek 2011, plate 3.

<sup>128</sup> Konakçı 2017a, 101, fig. 8, ÇM6.

<sup>129</sup> Abay 2011, 85-86, figs. 17.21 and 18.7; Abay, Dedeoğlu 2012, fig. 9.

## The tumulus of Alaburun

The ridge of Alaburun is situated about 3.5 km north-east of Hierapolis, at an elevation of 900 to 1000 metres, just below the edge of the plateau of Uzunpinar. It is characterised by the presence of a large tumulus on its southern end (fig. 10; see also below fig. 26, no. 135)<sup>130</sup>. The site consists of a narrow elongated upland stretching along a north-east/south-west axis for about 200 m. Thanks to its raised position, it looks on to an extensive stretch of the Lykos valley (fig. 20).

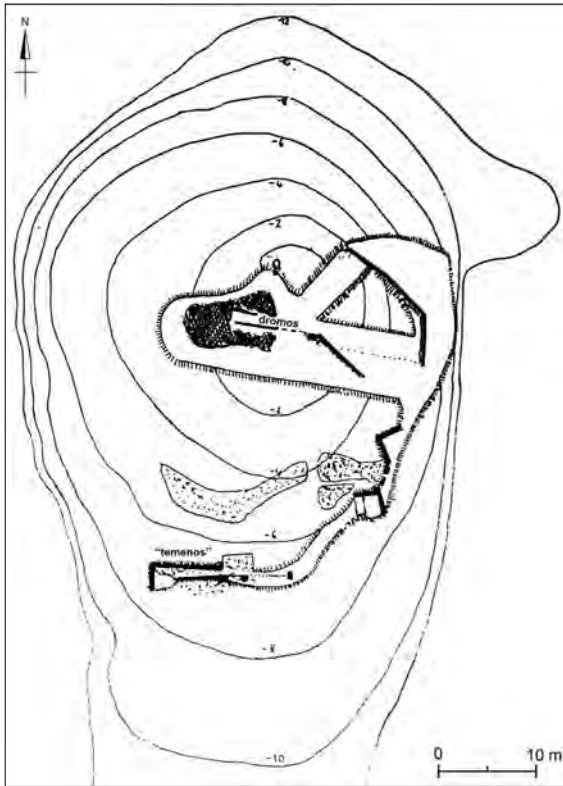
The tumulus, partially investigated in 1996-1997 by archaeologists from the Museum of Hierapolis-Denizli<sup>131</sup>, is characterised by a base about 50 m wide and 80 m long on a north-south axis (figs. 21-22). The investigations have highlighted a funerary use of the tumulus in the Phrygian epoch, from the 7<sup>th</sup> to the 5<sup>th</sup> centuries BC, but also in the Hellenistic and Roman-imperial periods. Specifically, at the base of the tumulus at the southern end, some walls consisting of large parallelepiped limestone blocks (figs. 23-24) were partially brought to light. Laid without mortar (in some cases there were recesses for  $\Pi$ -shaped cramps), they have been tentatively interpreted as a *crepidoma* or the *témenos* of a sacred area. These



**Fig. 20** General view of the Lykos valley from the site of Alaburun: the arrow points Hierapolis.

<sup>130</sup> Scardozzi 2019a, 114.

<sup>131</sup> Ceylan 1999.



**Fig. 21** General plan of the tumulus of Alaburun (modified after Ceylan 1999, 268).



**Fig. 22** Alaburun: view of the mound from the north.



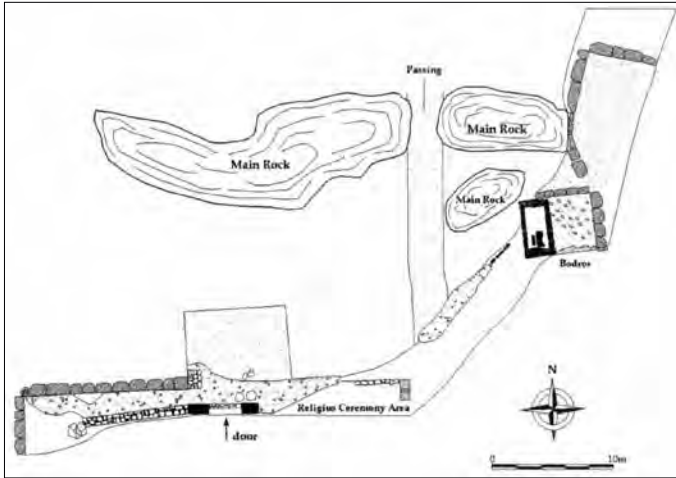
**Fig. 23**  
Alaburun:  
structures at  
the southern  
base of the  
tumulus.



**Fig. 24**  
Alaburun:  
structures at  
the south-  
eastern base of  
the tumulus.

walls, some of which are also arranged in an ‘L’ shape suggesting the presence of rooms, are conserved up to 7 m long and 1.60 m high. According to a more recent hypothesis, these structures and those found at the base of the tumulus on the south-east side (fig. 25) can be attributed to an open-air sacred area, of the Phrygian epoch, dedicated to Cybele<sup>132</sup>. Subsequently, in the Roman-imperial

<sup>132</sup> Şimşek 2009, 674.



**Fig. 25**  
Alaburun:  
plan of the  
structures at  
the southern  
and south-  
eastern sides  
of the base of  
the tumulus (after  
Şimşek 2009,  
fig. 3).

period, the cult of Apollo is believed to have been introduced, as would appear to be attested by the discovery, about 100 m further south, of a marble basin with the inscription ΑΠΟΛ[- -]<sup>133</sup>.

<sup>133</sup> Ceylan 1999, 266.



# THE *CHORA* OF HIERAPOLIS IN THE VALLEY OF THE LYKOS

The topographical research on the northern side of the Lykos valley has made it possible to reconstruct the characteristics and dynamics of settlement in the *chora* of Hierapolis from the Hellenistic to the Byzantine periods (fig. 26)<sup>134</sup>. Although it is not possible to precisely determine the boundaries of the territory administered by the city<sup>135</sup>, it is believed to have extended southwards at least as far as the valley of the Küçük Dere and northwards at least as far as that of the Mandama Dere, and possibly further, incorporating the plain as far as the Lykos river and the terraces north and east of Hierapolis, following the slope up to the plateau of Uzunpınar. Whether the territory of Hierapolis included the archaeological evidence in the area north of Gölemezli and along the Ballık Dere, as well as the structures in the area of Ahmetli, where the remains of a bridge over the Maeander are conserved, remains uncertain. In contrast, it is almost certain that the north-western end of the Lykos valley, the part closest to Tripolis, lay outside it. This area contained the so-called Yenice alabaster quarries (see above fig. 8)<sup>136</sup>, which were extensively exploited by Tripolis, as recently demonstrated on the basis of archaeometric investigations<sup>137</sup>.

The *chora* of Hierapolis was crossed by important highways that linked the city to nearby towns (Laodikeia, Colossae, Tripolis, Trapezopolis) but were also part of more long-distance routes between the Anatolian hinterland and the Aegean coast. The territory immediately surrounding Hierapolis offered abundant natural

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<sup>134</sup> In this regard see Scardozi 2019a, 155-162.

<sup>135</sup> See below pp. 21-30.

<sup>136</sup> Preliminary data on these quarries are presented in Scardozi 2019b, 534, including bibliography.

<sup>137</sup> Koralay et alii 2016, 2017 and 2018.

resources, the most significant among which were the extensive quarries yielding marbles, travertines and breccias, widely used in the city's construction sites, and calcite alabaster, which as well as being used locally was also copiously exported to the cities of western Asia Minor and beyond, to Greece, North Africa and Italy.

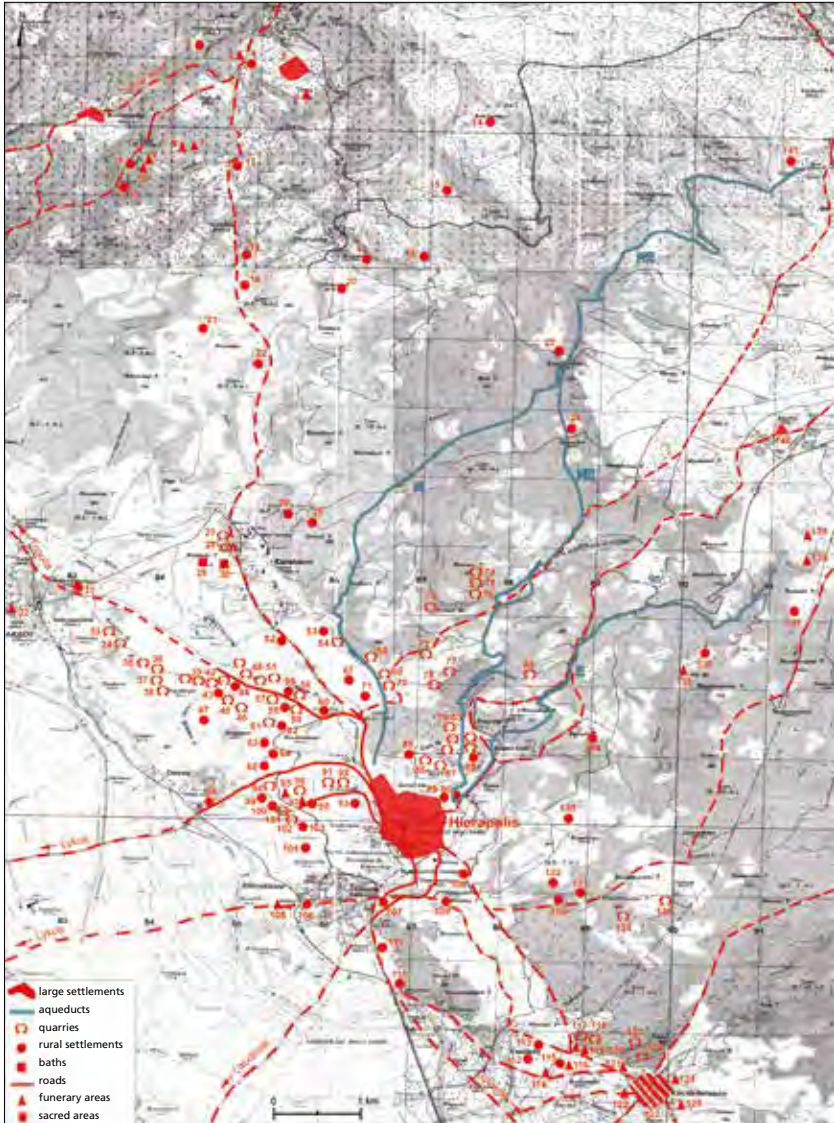
As for the pattern of settlement, the northern side of the valley was characterised, from at least the late Hellenistic period, by the presence of three villages, whose ancient names are unknown, and numerous rural settlements interpretable as farms. Of the former, the largest, at least judging from the size of the funerary areas, was a short distance from the city, near the modern village of Küçükdereköy, close to the proposed southern boundary of the *chora* and a road that led from the Lykos valley up to the plateau of Uzunpınar. The other two villages, smaller and further from the city, were in similar positions, along a road that made use of the valley of the Mandama Dere, near Kocagözler and Eymir. We do not know whether there was an ancient village near the modern town of Karahayıt, where two baths structures that used the many hot springs in the vicinity were recently brought to light.

The numerous farms present on the terraces immediately surrounding the city and on the slope leading up towards the plateau of Uzunpınar show the intense exploitation of the territory, at least from the Late-Hellenistic to the proto-Byzantine periods, to which these farmsteads, which are believed to have supplied the city, are dated. The materials that they have yielded, among which are numerous remains of grindstones and presses, document the spread in this portion of the *chora* of olive cultivation and probably also viticulture. Strabo (XIII, 4, 14) records the presence of vegetable gardens and vineyards around Hierapolis, while three inscriptions in the North Necropolis and one in the North-East Necropolis, datable to a period from the late 2<sup>nd</sup> to the first half of the 3<sup>rd</sup> century AD, attest to the existence in the city of the association of market gardeners<sup>138</sup>.

It may be hypothesised that in the plain of the Lykos, for which fewer archaeological data are available<sup>139</sup>, the prevalent crop was cereals. In this case too, indirect testimony comes from epigraphical documentation in Hierapolis. Various funerary

<sup>138</sup> Ritti 2016, 483-485, 543-544, 562-565, no. 18, 41, 47b, 47c; Ritti 2017, 151.

<sup>139</sup> In this regard see below pp. 129 and 131.



**Fig. 26** Archaeological map of the northern Lykos valley between the villages of Eymir and Küçükdereköy.

inscriptions from the North Necropolis, dated to the 2<sup>nd</sup> and 3<sup>rd</sup> centuries AD, record the presence in the city of the bakers' guild<sup>140</sup>, among whose members was a personage who sold flour<sup>141</sup>. In addition, in the late 2<sup>nd</sup> and first half of the 3<sup>rd</sup> centuries AD there is evidence for the association of the bread kneaders<sup>142</sup>, and in the second half of the 3<sup>rd</sup> century AD for the operators of water mills<sup>143</sup>.

Another important sector in the economy of the *chora* of Hierapolis was livestock rearing and herding. In this regard, the existence in the city of a stock-breeders' association is confirmed in five funerary inscriptions from the North Necropolis, dated to the 2<sup>nd</sup> and 3<sup>rd</sup> centuries AD<sup>144</sup>. Herding was important not only for the production of milk and meat, but also the high-quality wool that was used in one of the city's key economic industries, i.e. textiles and cloth dyeing<sup>145</sup>. In this regard, it should be remembered that a passage by Strabo (XII, 8, 16) praises the quality of the wool of Laodikeia, appreciated for both its shiny black colour and its softness, and attests that the inhabitants of that city and the nearby Colossae derived a good income from it. Given the contiguity of the territory of these two cities with that of Hierapolis, it may be supposed that the herds of the latter also provided wool of high quality. In addition, the widespread presence of herds in the Lykos valley was recorded by the European travellers who passed through it in the 18<sup>th</sup> and 19<sup>th</sup> centuries<sup>146</sup>.

The textile industry in Hierapolis employed various professional figures, who also formed guilds that are attested in funerary epigraphs<sup>147</sup>: the *gnaphalistái*, i.e. carders; the *eriplutái*, responsible for washing the wool; the *peilopòioi*, i.e. the fullers; the *porphyrabàphoi*, who dyed the cloth using the roots of the rose madder (*rubia tinctorum*), from which a purple-red dye was obtained; the *baphèis*, who conducted

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<sup>140</sup> Ritti 2016, 510-523, 533-541, 555, no. 28, 37, 38, 39, 44.

<sup>141</sup> Ritti 2016, 547-555, no. 43; Ritti 2017, 151.

<sup>142</sup> Ritti 2016, 541-543, no. 40.

<sup>143</sup> Ritti 2016, 559-561, no. 47a; Ritti 2017, 151-152.

<sup>144</sup> Ritti 2016, 493-497, 525-533, no. 23, 33, 34, 35, 36; Ritti 2017, 152.

<sup>145</sup> In this regard see Thonemann 2011, 186-195; Sanidas 2011; Ritti 2017, 20-21.

<sup>146</sup> See for example Pococke 1745, 74; Arundell 1828, 91.

<sup>147</sup> On these associations see Ritti 1995, 72-76; Ritti 2016, 482-519, 533-534, nos. 17-30a, 37; Ritti 2017, 18-20, 153-156.

the dying in every other colour; and the *porphyropòlai*, i.e. sellers of wool, cloth and garments dyed the colour purple. Also present in the city were the *linotòi* and *linourgòi*, who made linen. Regarding the use of madder dye in particular, it should be remembered that this was widespread in the ancient world and persisted until the 19<sup>th</sup> century<sup>148</sup>. The dried roots of the plant were boiled together with potassium alum, which served to fix the dye to the fibres of the fabric. In this way, a fervent red colour was obtained, also called “madder purple” or, in more recent epochs, “Turkish red”. Highly important for the territory of Hierapolis is another report by Strabo (XIII, 4, 14), who records that thanks to the composition of the thermal waters present in the area of the city, madder could be used to produce a dye of particular beauty. This was not inferior to cochineal or Tyrian purple, but was much less expensive and thus highly competitive on the market, to the point that products from Hierapolis were widely available in the region and are believed to have been exported over long distances. This is indicated by the funerary inscription of the *ergastés* Titus Flavius Zeuxis, identified as a manufacturer and merchant of these textile products; dated to the late 1<sup>st</sup> or early 2<sup>nd</sup> century AD, it states that he rounded Cape Malea (today Cape Matapan, the southernmost point of the Peloponnese) 72 times<sup>149</sup>. The use of Hierapolis’ thermal spring waters for the production and dying of cloth is confirmed by the discovery of two large tanks immediately to the north of the city, constructed next to two channels that drained these waters towards the fields<sup>150</sup>. Madder may also have been cultivated in the territory of Hierapolis, in order to meet the demand from the local textile industry, considering that the supply of wild specimens may not have been sufficient. Interesting in this regard is the account of Pedanius Dioscorides (*De materia medica*, III, 154), who wrote in the 1<sup>st</sup> century AD that madder, which was also used in the production of medicines, was sown among the olive trees in nearby Caria, a situation that may well have been replicated in the territory of Hierapolis.

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<sup>148</sup> Martuscelli 2003, 26-30 and 171-172. For the territory of Hierapolis see also Marabini, Scardozzi 2015, 239-240, 257.

<sup>149</sup> Pleket 2003, 94; Thonemann 2011, 189; Benda-Weber 2013, 186; Ritti 2017, 158-160; Ronchetta 2017, 252-254.

<sup>150</sup> In this regard see pp. 108-111.

The organisation of the *chora* of Hierapolis, consisting of rural villages and scattered farms, seems to have suffered a sharp decline after the proto-Byzantine period. Indeed, the rural settlements have not yielded significant archaeological data for the mid-Byzantine period, when the region saw a general decline in population and probably a concentration of the remaining communities in small inhabited clusters based on the former villages, in accordance with a pattern of settlement seen elsewhere in Byzantine Anatolia<sup>151</sup>. The key moment in the mode of occupation of the territory was probably the early decades of the 7<sup>th</sup> century AD, when the Lykos valley was affected by the incursions of the Sassanians<sup>152</sup>, Laodikeia was abandoned<sup>153</sup> and Tripolis saw a sharp fall in population<sup>154</sup>. In the mid 7<sup>th</sup> century, Hierapolis was struck by a terrible earthquake, after which the urban layout that had characterised the city ever since the Hellenistic period was modified, assuming – as recently proposed<sup>155</sup> – the form of an “agro-town”, which it maintained at least until the 10<sup>th</sup>-early 11<sup>th</sup> century. In this period, the population worked in the fields outside the settlement each day, returning to their dwellings in the evening. Thus the mid-Byzantine period saw the appearance inside the urban area of structures for the storage and processing of agricultural products, including oil presses and perhaps also installations for the production of wine<sup>156</sup>. In addition, in what had been the *chora* of Hierapolis on the northern side of the Lykos valley, among the little archaeological evidence we have from this phase, worthy of mention is what may have been a coenobitic monastery near Beyinli, in use from the 6<sup>th</sup> to the 11<sup>th</sup>-12<sup>th</sup> centuries AD, located away from the plain, on the hills above the city<sup>157</sup>.

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<sup>151</sup> Niewöhner 2017, 57; D’Andria 2018a, 168-169.

<sup>152</sup> Arthur 2006, 16-17; Greatrex 2018.

<sup>153</sup> In this regard see Şimşek 2014b, 1-32, and Şimşek 2018b.

<sup>154</sup> In this regard see Duman 2017, 17-22, and Duman 2018a.

<sup>155</sup> D’Andria 2018a, 167-169. On the earthquakes that struck Hierapolis see Kumsar et alii 2016.

<sup>156</sup> D’Andria 2016; Limoncelli, Scardozzi 2016, 91-104; Panarelli 2016, 307-311; D’Andria 2018a, 160, 163, including bibliography.

<sup>157</sup> In this regard see below pp. 161-165.

## The quarries

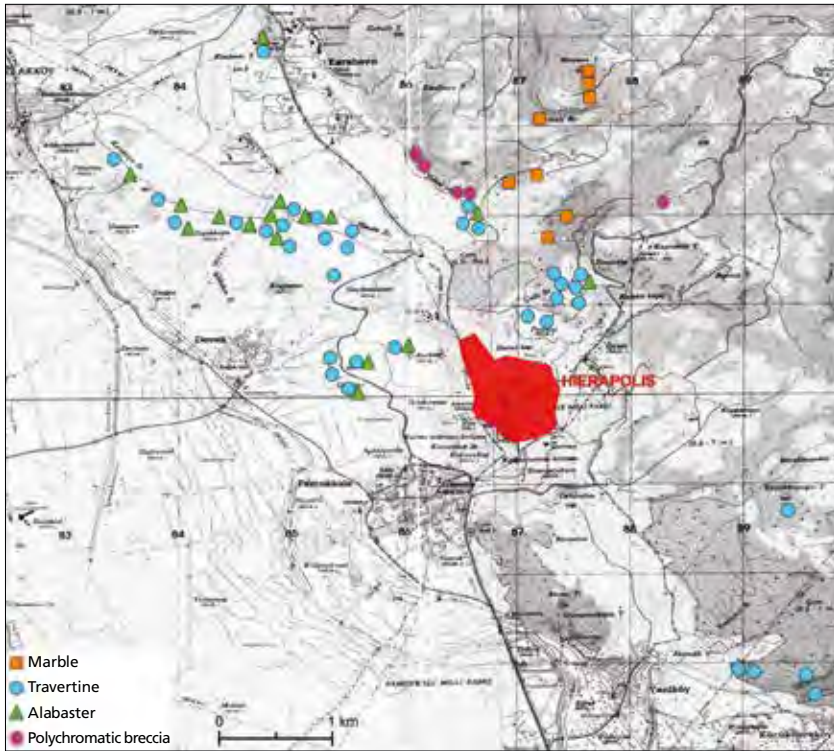
The distinctive geological characteristics of the site on which Hierapolis was founded meant that various types of building stone were available within 3 km of the city. Both white and coloured, they were systematically extracted from the moment of the city's foundation in the 3<sup>rd</sup> century BC. Indeed, the landscape surrounding the urban area and the necropolises is dotted with quarries (fig. 27), which supplied the city's building sites for many centuries and were extensively used for the funerary monuments of the necropolises and the thousands of sarcophagi found in them. Specifically, there were quarries of marble (white, veined white and grey), travertine (both whitish and with more yellowish and reddish shades), alabaster (both white – so-called “ghiaccione” – and coloured, with brown, yellowish and reddish bands or patches – so-called “listato” and “fiorito”) and a polychromatic breccia typical of the region of Hierapolis (with a reddish matrix containing large grey, yellow-ochre and white clasts). The research conducted in the last few years as part of the *Marmora Phrygiae* Project has enabled not just their study and documentation, but also precise archaeometric characterisation, achieved by integrating minero-petrographic determinations, stable isotope analyses (carbon and oxygen) and cathodoluminescence<sup>158</sup>. The results of these investigations provided the basis for the study of the origin of these materials and their dissemination after extraction. Specifically for the marbles, the archaeometric analysis of almost 350 archaeological artefacts from the urban area and the necropolises of Hierapolis made it possible to determine their provenance and thus to reconstruct the procurement strategies adopted by the city's building sites. It also shed light on the dynamics underlying the exploitation of its extractive resources from a diachronic perspective, from the Hellenistic to the Byzantine periods<sup>159</sup>.

The exploitation of the quarries began with the foundation of the city. The first to be opened up were almost certainly those of travertine, the most widely used material in the architecture of Hierapolis, which is found in the funerary tumuli that represent the most exemplary and best conserved monuments of the Hellenistic phase. Although the more valuable stones, particularly the marbles, were extracted during the first few

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<sup>158</sup> On the *Marmora Phrygiae* Project (2013-2016), focused on the study of the extractive district of Hierapolis and the city's stone procurement strategies, see Scardozi 2016h.

<sup>159</sup> Scardozi 2016f; Scardozi 2018; Scardozi 2019b, 528-533.



**Fig. 27** The marble, travertine, alabaster and breccia quarries in the area surrounding Hierapolis.

centuries of the city's existence, as shown by artefacts discovered in the course of the excavations, they were systematically extracted above all in connection with the large monumentalisation projects that were continuously implemented in Hierapolis from the Augustan age until the later years of the Severan dynasty. In the same period, the polychromatic breccia and alabaster quarries were also extensively exploited. From the late 1<sup>st</sup> century BC to the mid 3<sup>rd</sup> century AD, these materials were widely used in public building projects in Hierapolis and were also used for a few private buildings (including funerary monuments) and numerous sarcophagi belonging to the wealthier classes. Whereas the marble from the quarries surrounding Hierapolis was essentially used in the city, the polychromatic breccia was also employed in the other towns of the Lykos valley, albeit to a very limited extent. However, by far the most

valuable stone extracted from the quarries of Hierapolis was alabaster, which was exported not only on a regional level but even as far as Rome itself. Indeed, coloured varieties of alabaster (“listato” and “florito”) have been recognised as corresponding to the “coloured marble” of Hierapolis, which according to Strabo (IX, 5, 16) was exported to Rome from as early as the Augustan age<sup>160</sup>. It has also been identified with the λίθος Ἱεραπολίτης subsequently mentioned in Byzantine literary sources, which was used for the balustrades of the steps leading up to the ambon of Hagia Sophia in Constantinople<sup>161</sup>, as well as the sarcophagi of Justinian’s wife Theodora (500-548 AD), and the wife of emperor Anastasios II, who ruled from 713 to 715 AD, both of which were once kept in the Church of the Holy Apostles in Constantinople<sup>162</sup>. It has been proposed that at least in the early imperial period the alabaster quarries of Hierapolis were not municipal property but were under the control of the imperial administration<sup>163</sup>, like the famous quarries of Docimium in north-eastern Phrygia.

On the northern side of the Lykos valley, alabaster was extracted not only near Hierapolis, but also further north-west, near the village of Gölemezli, and near Tripolis<sup>164</sup>, although the quarries of Hierapolis are by far the largest, which explains why the stone is referred to in the sources as “Hierapolis marble”. From Hierapolis it could be brought to the port of Ephesus by river, along the Maeander, and then exported by sea. A complete study of the dissemination of Hierapolis alabaster in the Mediterranean basin is still some way off. However, in addition to the other towns of the Lykos valley, it is reported in various cities of Asia Minor (such as Sagalassos, Aphrodisias, Nysa, Magnesia on the Maeander and Ephesus), Macedonia (Philippi), various towns on the coast of North Africa (Cyrene, Ptolemais, Leptis Magna, Cherchell) and numerous cities in peninsular Italy (including Rome, Portus, Tibur, Pompeii and Herculaneum)<sup>165</sup>.

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<sup>160</sup> Bruno 2002, 23.

<sup>161</sup> Paulus Silentiarius, *Descriptio ambonis*, verses 76-104, 264-274 (Gnoli 1988, 46-48, 223-224).

<sup>162</sup> Constantine Porphyrogenitus, *De cerimoniis aulae Byzantinae*, vol. II, chap. 42 (*In Heroo Magni Iustini-ani*), verses 6 and 22 (Gnoli 1988, 46-48, 87-88).

<sup>163</sup> Pensabene 2013, 394-397.

<sup>164</sup> See above p. 57 and below pp. 165-169.

<sup>165</sup> Scardozi forthcoming.

After intense exploitation during the Hellenistic period and the first few centuries of the Roman-imperial period, extraction from the quarries of Hierapolis is believed to have fallen drastically in the second half of the 3<sup>rd</sup> century AD. This was partly a consequence of the sharp reduction in building projects that was to last until the mid 4<sup>th</sup> century AD, but above all it was due to the growing preference for using building stone recovered from previous buildings, by then in ruins or demolished. The practice of reuse, which had already started in the Severan era, would be a feature of many of the large proto-Byzantine building sites in Hierapolis, which were in operation in the second half of the 4<sup>th</sup> and the first half of the 5<sup>th</sup> centuries AD. Indeed, this phase saw a sharp reduction in the number of blocks being extracted, although fresh stone was quarried for the central octagon of the *Martyrion* of St. Philip, while recourse to reused building stone, for example in the construction of the city walls, often appears to have been systematic<sup>166</sup>.

### The marble quarries

The marble quarries of Hierapolis are located a short distance from the city (1 to 3 km), in two main areas whose extracted varieties (essentially white and veined marbles, but also grey marbles) differ significantly both on the macroscopic level and concerning their archaeometric features. The area closest to the city was situated in the valley of the Gök Dere seasonal stream (fig. 26, nos. 71 and 77-78), while the other, more extensive, was on the hill of Marmar Tepe (fig. 26, nos. 73-76)<sup>167</sup>. The archaeometric characterisation of these quarries and the analysis of almost 350 archaeological artefacts from the city and its necropolises<sup>168</sup> made it possible to establish that 73% of the marble used in Hierapolis in the course of the Roman-imperial era came from these two extractive areas<sup>169</sup>. Their exploitation seems to have begun as early as the 2<sup>nd</sup> or 1<sup>st</sup> century BC, but it peaked between the early imperial period

<sup>166</sup> On the *Martyrion*, which documents the continued presence in the first half of the 5<sup>th</sup> century AD of skilled masons who were familiar with Imperial-era techniques used for cutting and laying travertine blocks, see D'Andria 2017a, 13. On the city walls see Castrianni et alii 2010; Scardozi 2010a, 366-374; Bozza et alii forthcoming.

<sup>167</sup> Scardozi 2016c, 69-82.

<sup>168</sup> On the quarries see Attanasio, Brilli, Ogle 2006, 177-179; Koralay, Kılınçarslan 2015, 267-270, 274-286; Brilli et alii 2015, 133, 137; Brilli et alii 2016, 103-110. On the archaeological artefacts see Quarta et alii 2016.

<sup>169</sup> Scardozi 2016f.

**Fig. 28**

Marble quarry along the Gök Dere, subject to a partial resumption of extraction activities: the arrows point the remains of the ancient quarry faces.

**Fig. 29**

Marble quarry along the Gök Dere, characterised by a quarrying face about 10 m high.

and the late Severan age, i.e. when the monumentalisation of Hierapolis was most intense. It is to this phase that many of the more than 400 marble sarcophagi in the city's necropolises, mainly produced locally, are dated. In this period the quarries seem to have been mostly controlled by the city authorities, although it is possible that some *loci* or *bracchia* were managed by private citizens, who also supplied the local workshops responsible for the production of sarcophagi<sup>170</sup>.

<sup>170</sup> On the legal and administrative aspects of the quarries of Hierapolis see Fortinguerra 2016.



**Fig. 30**

Marble quarry located on the hill just north-west of the Gök Dere valley.

The extractive area along the Gök Dere, about 1.5 km north of the city, includes five quarries situated along a roughly 500-m stretch of the water course's narrow valley. Dry for many months of the year, the valley also constituted the main transport route for the material<sup>171</sup>. The quarrying faces were located on the southern side of the valley (figs. 28-29). Up to 40 m long and 10-12 m high, they are excavated up to 20 m into the side of the mountain in a series of steps. Another two quarries are situated on the hill immediately to the north of the water course (fig. 30). Overall, it is calculated that at least 9,000 m<sup>3</sup> of marble were extracted from the quarries of this area. In macroscopic terms, the stone is both compact and soft, variegated in colour with shades ranging from white (the most frequent) to yellowish and grey (including dark grey), with grey veining and in some cases alabastrine, rusty orange and reddish patches. For the marble extracted along the water course, the grain is fine (crystals generally no larger than 1.55 mm), while for the stone from the hill immediately to the north it is medium (up to 3.40 mm)<sup>172</sup>.

<sup>171</sup> Scardozi 2012a, 118-120; Ditaranto 2016, 88-93; Scardozi 2016c, 72-79; Scardozi 2017, 176-177; Di Giacomo, Ismaelli, Scardozi 2018, quarries M1-M7.

<sup>172</sup> Scardozi 2016d, 132-134.

The quarries of the Gök Dere were exploited from the Hellenistic period onwards<sup>173</sup>. From the Augustan to the Flavian periods they accounted for no more than 18% of the total marble used in the urban building sites of Hierapolis and the monuments of the necropolises. Their marble is found for example in the monumentalization works of the Sanctuary of Apollo, specifically the staircases connecting the terraces, the north and south Doric porticoes and the eastern Corinthian portico, while their contribution to the Civil Agora, the Gymnasium and the Stoa of the Springs appears to be much more limited. These quarries were exploited most intensely in the Hadrianic and Antonine periods, when they supplied the stone for the construction of the North Theatre, the production of sarcophagi and especially the enormous building site of the North Agora<sup>174</sup>, where the North, West and South Stoiæ surrounding the gigantic square seem to have been built entirely with Gök Dere marble. This material was also used for many of the architectural elements of the Stoa-Basilica, the enormous two-storey building that formed the square's long eastern side. Such was the contribution of these quarries in the 2<sup>nd</sup> century AD, when 30 % of the marble used in Hierapolis was extracted here, that by the end of this period they seem to have been almost worked out, probably with a substantial reduction in the area of the workable quarry faces and a corresponding reduction in output. This would explain the sharp fall in the use of this marble in the Severan period, when it accounted for only 10% of the total, being attested only in a few sarcophagi, the four columns on podia flanking the Porta Regia of the Theatre, the balustrade and some parts of the façade of the Nymphaeum of the Tritons, and Temple A of the Sanctuary of Apollo.

The extractive area of Marmar Tepe ("marble hill" in Turkish) is situated about 2.5 km north of the city and includes the southern and south-western slopes of the mountain and above all the summit (fig. 31)<sup>175</sup>. Overall, the extractive area covers an area of almost 6.5 hectares, in which 47 quarries have been identified (fig. 32),

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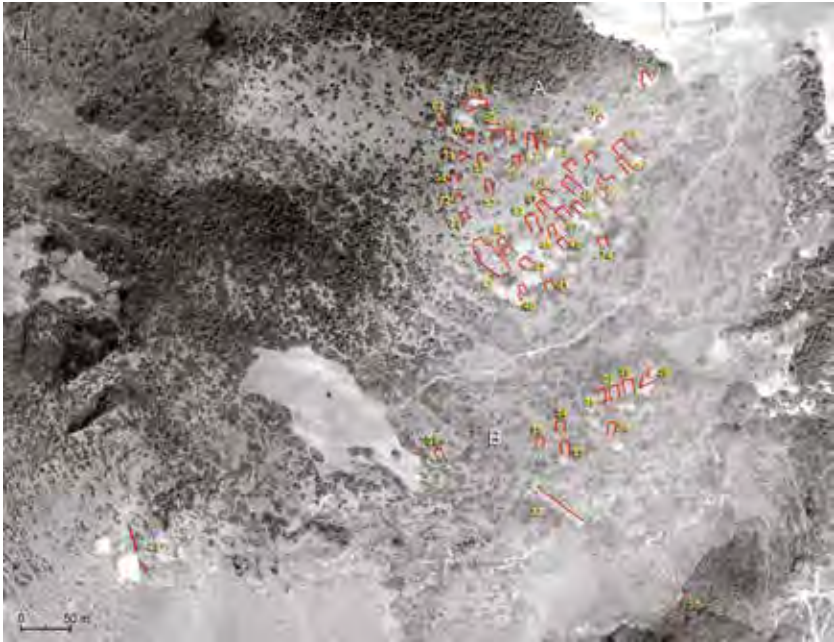
<sup>173</sup> Scardozi 2016f, including the bibliography concerning the monuments of Hierapolis mentioned in this paragraph.

<sup>174</sup> Indeed, North Agora is a very large square of about 170 x 280 m.

<sup>175</sup> Scardozi 2012a, 120; Ditaranto 2016, 93-96; Scardozi 2016c, 79-82; Scardozi 2017, 177-178; Di Giacomo, Ismaelli, Scardozi 2018, quarries MT29-MT75.



**Fig. 31** Marmar Tepe seen from the south: the marble quarries are located on the top and on the southern slope of the hill.



**Fig. 32** Marble quarries located on the top (A) and on the southern slope (B) of Marmar Tepe, visible in a QuickBird-2 satellite image acquired in 2002.



**Fig. 33** One of the marble quarries at the top of Marmar Tepe.

from which at least 21,000 m<sup>3</sup> of material was extracted. From these quarries the city could easily be reached via a road to which chutes led down from the quarry faces. The road then led down the southern side of the mountain. The quarries on the summit of Marmar Tepe consist of trenches carved out of the bedrock, of varying dimensions (up to 6 m deep, 20 m wide and 50 m long), generally accessible from the south and the south-east and worked in a stepped pattern (fig. 33). The quarries on the slopes were also worked in a series of steps, up to 20 m long and 10 m high. The marble from Marmar Tepe is medium-grained (with crystals generally 2.10-3.20 mm in size) and is either white, often with greyish veining, or grey in colour, although the latter is less common. The stone is highly heterogeneous and its macroscopic aspect is highly variable, with some parts compact and others less so.

The marble quarries of Marmar Tepe thus constituted the main extractive area of Hierapolis, exploited from as early as the Hellenistic period<sup>176</sup>. Its size enabled it to supply more than half of the marble that was used in the public building sites and necropolises of Hierapolis from the Augustan to the Severan epochs. Its quarries were thus constantly exploited during the various phases of monumentalisation of

<sup>176</sup> Scardozzi 2016f, including the bibliography concerning the monuments of Hierapolis mentioned in this paragraph.

the city in the first three centuries of the imperial period. Specifically, from the Augustan to the Julio-Claudian periods, Marmar Tepe marble was widely used in the monumental buildings of the Sanctuary of Apollo (especially in the building sites of Temple A, Temple B and the north and south porticoes), as well as in the coeval building sites of the Civil Agora, the Ploutonion, the Marble Stoa and the Gymnasium. In the necropolises in this phase, Marmar Tepe marble may have been used to face the “Tomba Bella”, built in the Claudian period, as well as in the socle and the chest of the relative sarcophagus. In the late Neronian and Flavian periods it began to be used more frequently: it is by far the most common type of marble used in the portico of the Ploutonion, the eastern portico of the Sanctuary of Apollo and the Stoa of the Springs. It began to be used relatively less frequently in the course of the 2<sup>nd</sup> century AD, when, as we have seen, extraction from the quarries of Gök Dere peaked. In this phase, Marmar Tepe marble was used to build the Dodekateion and to make numerous sarcophagi, and was widely used in the Stoa-Basilica of the North Agora and the nearby North Theatre. In addition to sarcophagi, in the Severan period it was widely used in the large urban building sites of the Sanctuary of Apollo (Nymphaeum and Temple A), the Theatre and the Nymphaeum of the Tritons.

### **The quarries of travertine and alabaster**

The territory immediately surrounding Hierapolis is characterised by the widespread presence of outcrops of various types of travertine, which were extensively extracted in ancient times to obtain building materials. Travertine is certainly the most widely used stone in both the urban area, for private buildings and the structural parts of public buildings, which would then be faced with marble, and in the necropolises, for funerary monuments and sarcophagi. There are numerous travertine quarries to the north, north-west, east and south-east of the city, to which they were linked via various routes<sup>177</sup>.

There were two main types of travertine, one brown-yellowish with an earthy appearance, and another more compact, varying from white to reddish and yellowy, both cited in inscriptions from the 2<sup>nd</sup> and 3<sup>rd</sup> centuries AD in the necropolises of

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<sup>177</sup> Scardozzi 2010a, 360-365; Scardozzi 2012a, 120-121; Marabini, Scardozzi 2015, 257-268.



**Fig. 34** Travertine cylindrical block (perhaps intended for the production of a basin) found in a quarry in the Öküzini district.



**Fig. 35** Öküzini district: travertine cylindrical block not completely detached from the bedrock.

Hierapolis<sup>178</sup>, which mention sarcophagi in simple limestone (*soròs pòros* or *soròs porinós*)<sup>179</sup> and pale limestone (*soròs leukóporos* and *soròs leukoporinós*)<sup>180</sup>, the latter probably considered more valuable.

The first variety, geologically more recent (so-called bedded travertine)<sup>181</sup>, was mainly quarried on the sides of the fissure-ridges found on the terraces that descend

<sup>178</sup> In this regard see Ritti 2017, 26-28; Scardozzi 2019a, 98.

<sup>179</sup> Judeich 1898, nos. 105, 118, 225-226; Ritti 2017, 26-27.

<sup>180</sup> Pennacchietti 1966-1967, 303, no. 20; Ritti 2017, 28.

<sup>181</sup> In this regard see above p. 12.

towards the Lykos to the west (Çukurbağ and Öküzini districts: figs. 26, nos. 91-92, 94, 101-102) and north-west of the city (Karakaya, Yarıkkaya and Hanife districts: fig. 26, nos. 33-42, 45-46, 48-51, 56-57, 59, 61). These broadly coincided with the areas in which alabaster was extracted (see below). In some cases, this travertine had alabaster veining which conferred on it distinctive chromatic properties that are still highly sought-after even today. Also worthy of note is the presence, in numerous



**Fig. 36** Travertine quarry in the Yokuşyol district.



**Fig. 37**  
Travertine  
quarry north of  
Küçükdereköy.

travertine outcrops in the north-eastern sector of the Öküzini district, of various cylindrical elements that have not yet completely detached from the rock (fig. 34-35). In terms of their shape and size (80-140 cm high, 170-215 cm in diameter), they recall the monolithic grindstones used for pressing olives found in the rural settlements of this area that were active from the late Hellenistic to the proto-Byzantine periods<sup>182</sup>.

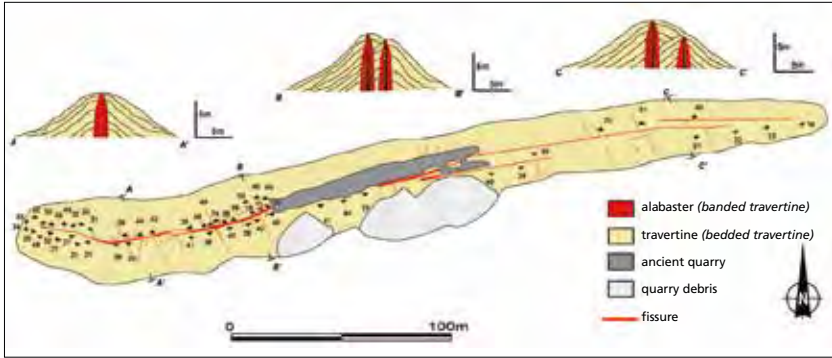
The second variety, geologically more ancient, was in contrast extracted from the outcrops immediately to the north-east (in the Pirciini district and on the south-western slopes of Tingirtaş Tepesi: fig. 26, nos. 79-82, 86-87) and north (in the Yokuşyol district: fig. 26, nos. 69, 71) of the urban area of Hierapolis, just below the fault of Pamukkale-Karahayıt, where there are extensive quarrying faces that were worked in a stepped pattern (fig. 36). Other travertine quarries are found lastly to the south-east of the city (fig. 26, nos. 128-129), perhaps associated with the rural settlements of this area, while broad extractive areas are conserved (fig. 37), despite the recent resumption of quarrying, immediately to the north of the modern town of Küçükdereköy (fig. 26, nos. 117-118, 126-127), the site of an ancient village in the *chora* of Hierapolis<sup>183</sup>.

The quarries of calcite alabaster (so-called banded travertine), which as we have seen were often associated with those of travertine, are situated within 3 km of the city and consist of narrow trenches 2-8 m wide, 5-10 m deep and a few dozen metres long (in one case more than 100 m), generally excavated along the top of the fissure-ridges (fig. 38)<sup>184</sup>. The largest and best conserved trenches are concentrated in two broad sectors spread over terraces looking on to the Lykos valley from the west, from which it has been calculated that at least 37,500 m<sup>3</sup> of material was extracted: one immediately to the west of Hierapolis (fig. 26, nos. 91-92, 96, 101-102), in the districts of Çukurbag (fig. 39) and Öküzini, and another to the north-west of the city, which was larger and included two bands of fissure-ridges pointing towards the villages of Akköy and Karahayıt (fig. 26, nos. 33-42, 45-46, 48-51), in the districts of Karakaya, Yarıkkaya (fig. 40) and Hanife (figs. 41-42). In the latter

<sup>182</sup> In this regard see below pp. 131-132.

<sup>183</sup> See below pp. 150-155.

<sup>184</sup> Scardozi 2010a, 360-364; Scardozi 2012a, 121-124; Scardozi 2016c, 95-103; Scardozi 2016e, 142-157; Brilli et alii 2018; Brilli, Giustini, Scardozi 2019; Scardozi 2019b, 533-543.



**Fig. 38** Plan and cross-sections of the fissure-ridge of Çukurbağ and the ancient quarry opened along its longitudinal axis (modified after Brogi et alii 2014, fig. 4a).



**Fig. 39**  
The alabaster quarry of Çukurbağ seen from the east.

areas, the recent resumption of quarrying activities is gradually destroying the ancient trenches (figs. 43, 44, 45). Some quarries are also found immediately to the west of Karahayıt (fig. 26, nos. 27-28), where they have been largely obliterated by the recent expansion of the village<sup>185</sup>. Smaller areas of extraction, from which it is

<sup>185</sup> On the problems affecting the static of the buildings and arising from the presence of fissures-ridges inside the village see Akyol et alii 2018.



**Fig. 40**  
A sector of the largest alabaster quarry in the territory of Hierapolis, located in the Yarıkkaya district: along the edge of the trench there are recesses for wooden *machinae elevatoriae* used to bring out the extracted blocks.



**Fig. 41** Aerial photo of the main alabaster quarry in the Hanife district taken by a drone.



**Fig. 42** Detail of the main alabaster quarry in the Hanife district: note the recesses for housing beams in the wall, used for accessing the deepest part of the trench and perhaps also to bring out the extracted blocks.

calculated that at least 3,000 m<sup>3</sup> of material were extracted, are found among the open fissures along the Karahayıt segment of the fault zone of Pamukkale north of Hierapolis (fig. 26, nos. 68, 70), in the Yokuşyol district (fig. 46), and immediately below the fault itself, north-east of the urban area (Çallı district: fig. 26, no. 83).

The calcite alabaster of Hierapolis, which as we have seen, as well as being used in the city was also exported on both the regional and Mediterranean level<sup>186</sup>, is present in three varieties. One (“ghiaccione”), rarer than the others, is completely white, and is sometimes used together with white marble (with which at first sight it may be confused). Another variety (“listato”) is coloured and is characterised by the presence of more or less densely-packed bands, both linear and undulating, with a broad variety of tones (yellow, reddish brown and rusty red). A third variety (“fiorito”), also coloured, has round concretions in similar tones. As with the marble, it is plausible that the exploitation of the alabaster quarries also began in the Hellenistic period, although to judge from the monuments of Hierapolis in which

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<sup>186</sup> See above p. 65.



**Fig. 43** The largest alabaster quarry in the Yarıkkaya district seen in a GeoEye-1 satellite image acquired in 2018: arrows point the remains of the ancient trench, recently subject to a resumption of extraction activities that has destroyed a portion of its central sector.



**Fig. 44** Yarıkkaya district: part of the ancient alabaster quarry destroyed by modern extraction activities.

**Fig. 45** Yanikkaya district: the ancient trench for the extraction of alabaster sectioned after the resumption of quarrying operations.



it is found, the use of alabaster appears to have peaked between the early imperial period and the mid 3<sup>rd</sup> century AD, when this material was mainly used for column drums and shafts (fig. 47), cornices, cladding and paving. Specifically, in the Severan period the whole of cuneus III of the *ima cavea* of the Theatre in the centre of the city (including the slabs of the balteus that separated the *cavea* from the orchestra) and the lower half of cuneus IVb of the *summa cavea* were refurbished with this stone<sup>187</sup>. Lastly, the quarries are believed to have been at least partly still active in the Byzantine epoch, as documented by Byzantine literary sources, which refer to

<sup>187</sup> Masino 2016, 145-146.



**Fig. 46** Trench for the quarrying of alabaster in the Yokusyol district.

its use for the sarcophagi of certain empresses<sup>188</sup>, although the scale of exploitation that continued is not known. In this period, alabaster was also used for the *opus sectile* paving of public buildings, such as the Church of Saint Philip<sup>189</sup>, and private buildings, such as the rich *domus* of Insula 104, where “fiorito” alabaster was also imitated in the frescoes of some rooms that depict colonnades and large panels in coloured marble<sup>190</sup>.

<sup>188</sup> See above p. 65.

<sup>189</sup> Caggia 2016.

<sup>190</sup> Zaccaria Ruggiu 2019, 249-254, 259-260, 264, 286.

**Fig. 47** Fragment of an alabaster column from the urban area of Hierapolis.



### The quarries of polychromatic breccia

The area immediately to the north of Hierapolis is characterised by the presence of quarries of polychromatic breccia with a reddish matrix in which large grey, yellow-ochre and white inclusions, mostly originating from the underlying metamorphic rocks, are embedded, along with a more limited presence of clasts from sedimentary rocks<sup>191</sup>. These deposits of breccia are the fruit of hydrothermal eruptions that took place in areas of fracture within active fault systems and owe their origin to the welling up of thermal waters rich in CO<sub>2</sub>, which led to the cementation of the detritus<sup>192</sup>.

Two varieties of breccia may be distinguished: one with a reddish matrix of a fairly intense colour, variable in terms of both compactness and the size of the clasts, which was extracted in an area 1.5-2 km north of the city, on the Karahayıt fault (Yokuşyol district: fig. 26, nos. 54 and 68; fig. 48), and another with a paler reddish (in some cases whitish) and more compact matrix, which was extracted on the hill of Tingirtaş Tepe (fig. 26, no. 84; fig. 49), uphill from the fault about 2 km north-east of Hierapolis. For the former, the extractive area is extensive, and is calculated to have yielded almost 3,700 m<sup>3</sup> of material. For the second type, the area is smaller and is calculated to have yielded at least 670 m<sup>3</sup>.

<sup>191</sup> Scardozi 2012a, 124-125; Cantisani, Scardozi 2016; Scardozi 2016c, 103.

<sup>192</sup> Uysal et alii 2009a, 447 and 450; Uysal et alii 2009b; Marabini, Scardozi 2015, 262-263.



**Fig. 48** Large polychromatic breccia quarry in the Yokusyol district.

Polychromatic breccia was widely used in the building sites of Hierapolis, at least from the Roman-imperial to the proto-Byzantine periods<sup>193</sup>. Considering the properties of this stone, it was used to create large architectural elements, as also shown by the materials that were roughly prepared and then abandoned in the quarries: blocks, columns (both shafts and drums), pillars, bases, balustrades, sarcophagi and, more rarely, simply carved cornices. It is not possible to determine when the exploitation of these quarries began, but the 2<sup>nd</sup> century and the first half of the 3<sup>rd</sup> century AD can certainly be identified as the period in which polychromatic breccia was used most widely in Hierapolis. Indeed, it was used for pillars with semi-columns and for the balustrades on the façade of the first storey of the Stoa-Basilica (fig. 50), about 245 m long, which was built from the Hadrianic to the Antonine periods along the eastern side of the North Agora. It is calculated that

<sup>193</sup> Cantisani, Scardozi 2016, 172-176; Scardozi 2016c, 104-105, including the bibliography concerning the monuments of Hierapolis mentioned in this paragraph.



**Fig. 49** Polychromatic breccia quarry on the Tingirtas Tepe.

in this building alone a total of about 280 m<sup>3</sup> was deployed. The monolithic pillars in polychromatic breccia, almost 4 m high, which marked the entrances to the rectangular rooms on the sides of the palaestra of the Large Baths, were also erected in the 2<sup>nd</sup> century AD. Columns of the same material are found in the Theatre in the centre of the city that was refurbished in the Severan epoch, in particular in the chambers situated behind the *proscenium* and probably also in the gallery of the *summa cavea*. In addition, numerous breccia columns, perhaps belonging to one or more peristyles, are visible in the south-western sector of the urban area, where there are also several monolithic pillars, such as those of the central atrium of the so-called Bouleuterion. Breccia columns are also present in the north-western sector of Hierapolis, near the Nymphaeum of the Tritons, built in the late-Severan period, but their connection to this monument is uncertain. There is also a monolithic pillar 6.80 m high, today broken into three pieces, in the centre of the city, immediately south of the Stoa of the Springs. Concerning the use of breccia in the necropolises, examples include the threshold of Tomb A20 in the North Necropolis, built in the first half of the 2<sup>nd</sup> century AD, and some smooth sarcophagus chests of the 2<sup>nd</sup> and 3<sup>rd</sup> centuries AD, discovered in the same funerary area.



**Fig. 50** Architectural elements in polychromatic breccia from the North Agora of Hierapolis.

Whether and to what degree the exploitation of these quarries continued in the proto-Byzantine epoch, when numerous architectural elements in polychromatic breccia are found in various monumental complexes of the city, is not clear. Indeed, it is not possible to determine which are the fruit of reuse and which were carved from specially quarried blocks. Specifically, columns of this material were erected in various religious buildings, such as the Baptistery near the Cathedral, the Church with Pillars and the Octagonal Baths on the hill of St. Philip. In addition, in the same period this breccia was used in private buildings, for example in the rich houses of Insula 104, especially for the columns of the first order of the *peristilium* of the so-called House of the Ionic Capitals and the balustrade of a fountain in the so-called House of the Painted Inscription.

### **A relief in the rock face of a breccia and alabaster quarry**

In the Yokuşyol district, about 1.7 km north of Hierapolis, on the Karahayıt fault, is a trench that was excavated for the extraction of alabaster, 32.5 m long on a north-west/south-east axis, 5 m deep and up to 2 m wide (fig. 51). Clearly visible on its eastern side is an extensive outcrop of polychromatic breccia, which was also

partially quarried<sup>194</sup>. Until 2005, near the north-western entrance of the trench at about 2.40 m from the ground on the eastern wall there was a sculpted relief (fig. 52), subsequently removed by persons unknown<sup>195</sup>. Roughly rectangular, 65 cm high and 90 cm wide, set in a recess about 5 cm deep, it showed three divinities side by side (fig. 53)<sup>196</sup>. The relief, broadly datable to the Roman-imperial period, can be compared to other manifestations of the cult in quarries, frequently seen in Italy and the Western Provinces of the Roman Empire, but rare in the Eastern Provinces and North Africa<sup>197</sup>.

The partial erosion of the rocky surface did not however prevent recognition of the three divinities depicted: in the centre was Apollo Citharoedus, wearing a long chiton, on his right was Artemis Ephesia, and on his left was Hercules performing the gesture of *dexiosis* with Apollo<sup>198</sup>. Apollo, the polyadic divinity of Hierapolis<sup>199</sup>, thus occupies a central position, depicted as Citharoedus and Musagetes, in accordance with an iconography seen in the reliefs on the north side of the podium of the first order of the Severan *frons scaenae* of the Theatre<sup>200</sup>, as well as on many of the city's coins minted from the 1<sup>st</sup> to the 3<sup>rd</sup> centuries AD<sup>201</sup>. Artemis Ephesia was also the object of a popular cult in Hierapolis<sup>202</sup>, as attested by the reliefs on the south side of the above-mentioned podium of the Theatre, where the goddess appears twice<sup>203</sup>. In addition, Artemis appears on various coins of Hierapolis minted in the 2<sup>nd</sup> and

<sup>194</sup> Uysal et alii 2009b; Marabini, Scardozi 2015, 262-263; Cantisani, Scardozi 2016, 168.

<sup>195</sup> In this regard see also Altunel, D'Andria 2019, 227, fig. 8.12.

<sup>196</sup> Şimşek 2001; Scardozi 2016c, 105-108.

<sup>197</sup> A large collection of examples is presented in Alfayé, Marco 2014, including bibliography, to which it is possible to add: Montheil, Pinette 1977, 50-51; Kozelj, Muller, Sodini 1981, 963, fig. 2; Angeli Bertinelli 2008, 31-32, figs. 5-6; Yavuz, Bruno, Attanasio 2012, 256, fig. 4; Cambi 2013.

<sup>198</sup> In contrast, Şimşek 2001, and Şimşek 2009, 676, recognise Dionysus in this third figure.

<sup>199</sup> Ritti 2017, 110-111.

<sup>200</sup> D'Andria, Ritti 1985; D'Andria 2003, 161-181.

<sup>201</sup> See for example *BMC, Phrygia*, 229, nos. 8-9; 233, no. 39; 236-238, nos. 54, 60-61, 67; 242, no. 85; 245-247, nos. 102, 110, 112-113; 250, no. 134; 255, no. 161. On the coins of *homonoia* see Franke, Nollé 1997, 68-81.

<sup>202</sup> Ritti 2017, 114-115.

<sup>203</sup> D'Andria 2003, 171-178.



**Fig. 51**  
Yokuşyol district, the southern entrance to a quarry: travertine outcrop on the left and breccia bedrock on the right.



**Fig. 52**  
Yokuşyol district: the relief on the eastern wall of a quarry before its removal by persons unknown.

**Fig. 53** Yokuşyol district: detail of the relief with Artemis Ephesia, Apollo and Heracles.



3<sup>rd</sup> centuries AD, both by herself<sup>204</sup> and in *homónoia* with Ephesus, in which Hierapolis is generally represented by Apollo Citharoedus and in some cases by Serapis<sup>205</sup>. Lastly, Hercules is represented here with the club in his left hand, partially covered by the lionskin. The demi-god was also part of the local pantheon<sup>206</sup> and is found on coins minted in Hierapolis in the 2<sup>nd</sup> and 3<sup>rd</sup> centuries AD<sup>207</sup>. Specifically, his presence on the relief may be linked to the cult of *Hercules saxanus*, practised in the quarries of the Roman Empire, above all in Italy and the Western Provinces, as well as in the Aegean (Thasos)<sup>208</sup>, for which the only known evidence on a rock face in Asia Minor is found in a quarry in Deliktaş, near Iznik-Nicaea<sup>209</sup>.

<sup>204</sup> *BMC, Phrygia*, 233, no. 34; 250-251, nos. 130, 136; 245, no. 150.

<sup>205</sup> Franke, Nollé 1997, 69-79.

<sup>206</sup> Ritti 2017, 123.

<sup>207</sup> See for example *BMC, Phrygia*, 231, no. 24; 240, no. 75; 252, no. 140.

<sup>208</sup> Yavuz, Bruno, Attanasio 2012, 256; Alfayé, Marco 2014, plate 1.

<sup>209</sup> Yavuz, Bruno, Attanasio 2012, 256, fig. 4.

## The aqueducts

The research on the northern side of the Lykos valley has made it possible to reconstruct the complex system of pipes and channels that supplied Hierapolis with drinking water from the Hellenistic to the Byzantine periods. Indeed, the city was served by aqueducts following three main routes (figs. 54-55) that reached the city from the north, north-east and east, from distances ranging from 6.3 to 13.5 km<sup>210</sup>. The thermal springs inside the urban area are not suitable for drinking, being characterised by high concentrations of dissolved salts<sup>211</sup>. The aqueducts brought water from springs found just below the edge of the plateau of Uzunpınar, at elevations of 1065 to 1085 metres. While the north-eastern and eastern aqueducts flowed into the Castellum Aquae, the large basin used for water storage and distribution situated on the hill that looks on to the city from the east, the northern aqueduct supplied the area of Hierapolis that was monumentalised mainly in the period from the Flavian epoch to the 3<sup>rd</sup> century AD, which entailed the northward extension of the *platèia* terminating at the Frontinus Gate and the construction of the large North Agora, the nearby North Theatre and the so-called Baths-Church.

The aqueducts consisted of medium-sized terracotta pipes, whose sections were 20-40 cm in diameter and 52-62 cm long. In some cases, they were simply buried, in others they were set in recesses excavated in the rock or trenches lined with stone slabs, or encased in a coarse concrete, at times covered by large bricks or tiles. Some stretches bear the signs of modifications (including small variations in the route) or the presence of two or three pipes in parallel, next to which there may also have been a channel made of blocks no wider than one metre. In order to ensure that the pipes maintained a constant downward angle, bridges and single arches were built across the narrow gullies in the terrain. Made of travertine, today most of them have collapsed. There were also stretches of tunnel, most of which have now caved in, characterised by a *specus* excavated in the rock and covered by a masonry vault. Some of these were very broad, exceeding 2 m in height and 1.5 m in width, enabling their maintenance, in one case reaching a length of

<sup>210</sup> Scardozzi 2007; Scardozzi 2012a, 111-117. Cf. also Kayhan et alii 2008.

<sup>211</sup> On these springs see the latest study by Alçiçek et alii 2019, including bibliography.



**Fig. 54** The routes of the aqueducts of Hierapolis.

206 m. The thin calcareous incrustations distributed uniformly over the entire surface of many pipe fragments confirm that the water travelled under pressure. In some cases, the calcareous deposits on the inside of the terracotta pipes and the

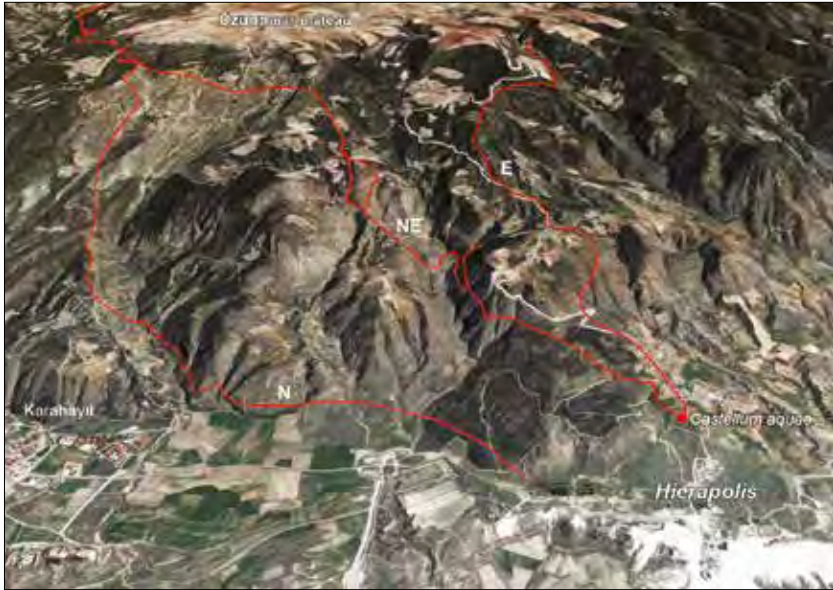


Fig. 55 The routes of the aqueducts of Hierapolis in a 3D view from the west.

stone channels, whose thickness is closely dependent on their slope, the flow of water and its aeration, were so abundant as to almost completely prevent the passage of water, requiring the replacement of the pipes. In addition, in some cases, the incrustations are clearly stratified, due to periods when the supply slowed or stopped altogether.

The **northern aqueduct** (fig. 54, N) originated from a source situated in the Karapınarbaşı district, at an elevation of 1070 metres, and supplied Hierapolis via a route almost 7.5 km long, snaking around the west side of Marmar Tepe. It was composed of pipes 52-54 cm long and 30 cm in diameter. Discovered in some places along the route were fragments of pipes with a diameter of about 35 cm, perhaps belonging to a secondary branch or to a previous pipeline. In the stretch situated on the western and southern slopes of Kızılkaya Tepe, immediately to the south-east of Karahayıt (fig. 54, no. 1), long stretches of the groove excavated in the rock to seat the pipes, 45-50 cm wide and 20-30 cm deep, are conserved (figs. 56-57), in some places along with the terracotta pipes



**Fig. 56** Northern aqueduct: groove excavated in the rock to seat the pipes (about 90-100 cm wide) visible on the side of the slopes east of Karahayit.



**Fig. 57** Northern aqueduct: groove excavated in the rock to seat the terracotta pipes (see fig. 58), visible on the slopes east of Yokuşyol; an arch made of travertine voussoirs (A) is also indicated (see fig. 59).

themselves (fig. 58). In this area (the Yokuşyol district) there is also an arch (figs. 57, A; 59), composed of travertine voussoirs, which enabled the pipeline to bridge a narrow natural ravine. From here, the aqueduct reached the



**Fig. 58**  
Northern aqueduct:  
remains of terracotta  
pipes in a groove  
excavated on the side of  
the slope of the Yokuşyol  
district.



**Fig. 59**  
Northern aqueduct: arch  
composed of travertine  
voussoirs in the Yokuşyol  
district allowing the pipe  
to bridge the narrow  
gorge created by a  
seasonal watercourse.

northern part of the city, passing the North Necropolis on the uphill side, with branches leading off towards it, as shown by pipe fragments discovered in the area. In addition, a buried branch leading from the Yokuşyol district towards the

south-west, probably in the direction of some farms, was identified by means of geophysical prospections<sup>212</sup>.

The **north-eastern aqueduct** (fig. 54, NE) is the longest and plausibly the most important of those that supplied drinking water to Hierapolis. Indeed, several terracotta pipelines, built in various phases, have been discovered, along with minor branches that flowed into the main one. The source is situated 8.5 km to the north-east of the city, in the Can Pınar district, in a narrow valley running across the plateau of Uzunpınar, 2 km south of the village. From here, at an elevation of 1085 metres, the pipeline led to the Castellum Aquae of Hierapolis along a route of about 13.5 km. The complex morphology of the terrain required a considerable number of measures in order to ensure that the pipeline maintained a constant downward slope, the remains of which are conserved along the route in many places. Indeed, it was necessary to carve grooves in the bedrock for seating the pipes, and in two cases to dig tunnels (fig. 54, nos. 3-4), which were excavated near the narrow and deep ravines of two modest watercourses, the Koca Dere and the Zillik Dere, in the Kocapınar district (fig. 60). In other cases, large bridges were built with parallelepiped travertine blocks, of which in some cases, for example in the Akçaoluk district (fig. 54, no. 6) and along the course of the Gök Dere (fig. 54, no. 12), the remains of the abutments are conserved (figs. 61-62).

Along the route, numerous pipe fragments have been discovered, some still in place, others scattered over the terrain, with a range of different measurements and characteristics. In some stretches, the pipes are laid in trenches lined and covered with stone slabs. Visible not far from the source (fig. 54, no. 2) is a short stretch, brought to light by unauthorised excavations, with a pipe 62 cm long and 40 cm in diameter. Almost 1 km further south (fig. 54, no. 3), another unauthorised excavation has highlighted a stretch with two pipes laid next to each other (30 and 28 cm in diameter) in a recess carved in the rock. The pipes are bedded in Roman concrete covered by clay bricks and may have carried water from another source located a few hundred metres to the east. Proceeding along the route, in the Karapınarbaşı district (fig. 54, no. 5), near the source of the northern aqueduct (see above), earthworks have

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<sup>212</sup> Lasaponara et alii 2016.



**Fig. 60**  
North-eastern aqueduct:  
tunnel in the Kocapınar  
district.



**Fig. 61** North-eastern aqueduct: remains of the northern abutment of a bridge in the Akçaoluk district.

brought to light two pipes, not adjacent as in the pair described above, but about 90 cm apart (about 30 and 23 cm in diameter). As with other previous stretches, the pipes do not contain calcareous deposits.

In contrast, further downhill, on the heights situated between Marmar Tepe and the Çaltılı district (fig. 54, no. 8), earthworks and above-ground stretches of aqueduct document the existence of three separate pipelines, one further west and two side by side further east (fig. 63), respectively 34, 36 and 32 cm in diameter (the pipe sections are about 55 cm long). Still further downhill, an isolated stretch of pipeline flanked by a channel made of blocks runs around the western side of a hill immediately to the east of Marmar Tepe (fig. 54, no. 9). On the eastern side of the same hill are two pipelines side by side (fig. 54, no. 10), some stretches of which are encased in the outcropping bedrock (fig. 64). Discovered along the route of these two pipelines, which appear to be made of similar clay to pipelines dated to the proto-Byzantine epoch brought to light in the urban area of Hierapolis, were various fragments of a pipe 40 cm in diameter, removed from their original seating. Without calcareous concretions, they are very similar to the existing pipes near the source in the Can Pınar district (see above). Below the hill (fig. 54, no. 11), the



**Fig. 62** North-eastern aqueduct: southern (A) and northern (B) abutments of a bridge on the course of the Gök Dere.

three pipelines and the channel made of blocks (which appears to have been built in two phases) follow the same route (fig. 65) and all have abundant calcareous incrustations. In addition, the two adjacent pipes seem to obliterate the path of an older pipeline, which is completely blocked by calcareous deposits. It is possible that one or more of these pipelines carried water drawn from one or more springs other than the one in the Can Pınar district, probably situated on the heights below, for example the spring in the Çaltılı district, at an elevation of 990 metres, near which pipe fragments about 36 cm in diameter (fig. 54, no. 7) are sporadically found.

Proceeding in the direction of Hierapolis, numerous sections of the channel that ran alongside the pipes have been discovered (fig. 66), covered in calcareous formations about 50 cm wide and up to 90-100 cm high, conserved in stretches even a few dozen metres long (figs. 67-68). In some points, the partial collapse of the structure on which it rested has made it possible to observe the large terracotta tiles that formed the bed of the channel. In addition, about 600 m north of the Castellum Aquae (fig. 54, no. 14), the channel is flanked by another pipeline consisting of pipe sections 60 cm long and 30 cm in diameter, with thin calcareous incrustations. This pipeline flows into the main aqueduct on the northern slopes of Tingirtaş Tepe (fig.



**Fig. 63** North-eastern aqueduct: terracotta pipe beside a modern road in the area east of Marmar Tepe.

**Fig. 64** North-eastern aqueduct in the area east of Marmar Tepe: section with remains of the two pipes side by side, encased in the outcropping bedrock.



54, no. 13) and may have originated from the Çaltılı district or further downhill, at about 800 m a.s.l., where the spring-head of the Gök Dere is located. In the stretch uphill from the sanctuary of St. Philip, a secondary pipeline branched off from the main aqueduct. Fragments of this secondary branch have been discovered inside the woodland that covers the area. It supplied the buildings on the hill dedicated to the Apostle, which made extensive use of water in both the proto-Byzantine and mid-Byzantine phases<sup>213</sup>, documenting the long period of use of this aqueduct.

<sup>213</sup> In this regard see Caggia 2018.



**Fig. 65** North-eastern aqueduct, remains of terracotta pipes and channels brought to light by modern excavations in the area east of Marmar Tepe: seen in the image are two pipes side by side (A, B), which obliterate a third pipe (C), and the remains of two channels filled with calcareous incrustations, one smaller and poorly preserved (D), the other one (E) characterised by a bed made of terracotta tiles and clearly visible masonry parapets (made of small blocks and limestone pebbles bound with mortar), covered with hydraulic plaster.



**Fig. 66** North-eastern aqueduct in the hills east of Marmar Tepe: channel completely filled with calcareous deposits aligned with terracotta pipes (pointed by the arrow).



**Fig. 67** North-eastern aqueduct in the hills east of Marmar Tepe: long section of the channel completely filled with calcareous deposits.

The **eastern aqueduct** (fig. 54, E) carried water from a spring situated in the Müşteek district, at an elevation of 1065 metres, where the modern water main of Pamukkale also begins, reaching the Castellum Aquae along a route about 6.3 km long. It consists of two pipelines side by side, seated directly in the terrain or incorporated in a coarse concrete. The pipe sections, of which no undamaged specimens have been discovered, are 32-33 and 28 cm in diameter (fig. 69). In soil exposed by earthworks about 1.7 km north-east of Hierapolis (fig. 54, no. 15), it can be seen that they were flanked and perhaps also replaced by a third pipeline, whose sections were 59-60 cm long and also 28 cm in diameter, made of a reddish clay very similar to that of the proto-Byzantine pipes discovered inside the urban area of Hierapolis. It has a thicker calcareous deposit than the other two pipes (probably generated during a period of restricted or interrupted flow) and may carry water from another spring, perhaps from the Çaltılı district, flanking the other two pipelines from the spring of Müşteek. After having gone round the east side of Kayraklık Tepe, encased in the rock, but before reaching the Castellum Aquae of Hierapolis, the terminal

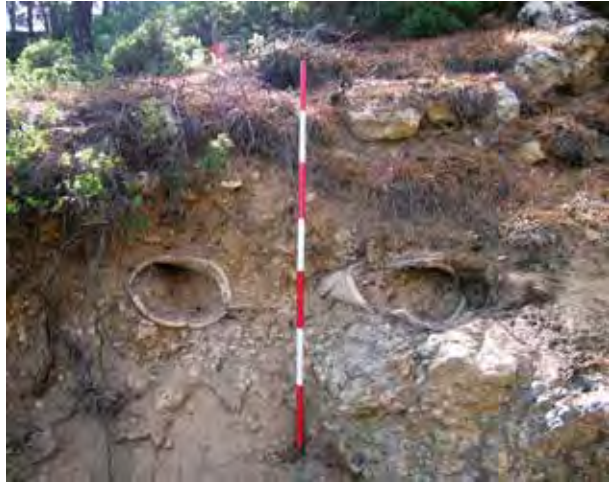


**Fig. 68** North-eastern aqueduct in the hills east of Marmar Tepe: the channel filled with calcareous deposits is supported by a wall composed of limestone pebbles (indicated by the arrow); the inset shows the tiles in the bed of the channel visible thanks to the collapse of the substructures.

stretch of this aqueduct descended through the area occupied by the modern village of Ören, where, as a result of ploughing, earthworks and limited archaeological assays conducted a few years ago, various pipe fragments were discovered, especially in the area just north of the asphalted road that runs through the small village.

In conclusion, there appears to have been a complex system of pipelines and channels guaranteeing the supply of water to Hierapolis; this system, with additions, repairs and substitutions, is believed to have remained in use for a long period of time. Although there are no absolute chronological data available, it is possible to distinguish various phases for each of the three aqueducts, and a time-line of their creation can also be proposed. The main aqueduct is undoubtedly the north-eastern, which included various types of tubing and, at least in its lower part, a channel. It is characterised by a number of phases and refurbishments and it was also fed by secondary pipelines originating from other springs along its route. It was plausibly first

**Fig. 69** Eastern aqueduct: two terracotta pipes side by side, brought to light by a modern excavation on the south-eastern slopes of Domuzburnu Tepe.



built in the Hellenistic period and was probably the first aqueduct to have supplied the city after its foundation. It clearly remained in use for many centuries, during the Roman-imperial and Byzantine periods.

The other two aqueducts were probably added after the north-eastern. Of these, the eastern one also supplied the *Castellum Aquae* and was composed of two adjacent pipelines to which perhaps in the terminal stretch a third was added. Judging from the conserved remains, it underwent little maintenance or refurbishment and seems have been in use for a more limited period than the north-eastern aqueduct. It may be that it was built to support the earlier aqueduct, perhaps in connection with the monumentalisation of Hierapolis in the Roman-imperial period, which included the creation of two large nymphaea in the Severan period (the *Nymphaeum of the Tritons* and the *Nymphaeum of the Sanctuary of Apollo*)<sup>214</sup>. Lastly, the northern aqueduct, which as we have seen was not connected to the *Castellum Aquae* but to the northern part of the city, can be viewed in relation to the northward expansion of the urban area of Hierapolis, which began in the Flavian period and continued in the 2<sup>nd</sup> century AD with the construction of the North

<sup>214</sup> For these monuments see Campagna 2018 and Semeraro 2020, 206-207.

Agora, the nearby Theatre and the so-called Baths-Church. It is characterised by only one pipeline and appears to have undergone little maintenance or refurbishment, indicating that it was in use for a limited period of time, bearing in mind that the urban district it served was left outside the city and largely demolished in the second half of the 4<sup>th</sup> century AD.

## The travertine channels

The territory immediately surrounding Hierapolis was characterised by the presence of various channels that descended from the natural terrace on which the city lay towards the plain below, to the north, west and south<sup>215</sup>. These are the so-called travertine channels, referred to in the geological literature as *self-built travertine channels*<sup>216</sup>, originally consisting of parallel stone kerbs, which subsequently grew to considerable heights (exceeding 10 m in some cases) due to the continuous deposit of calcium carbonate content in the water. The channels were fed by the thermal springs located along the fault of the Ploutonion, which runs longitudinally across the terrace on which Hierapolis stands<sup>217</sup>. Inside the urban area there exists a dense network of channels that reach heights of just over 2 m, dated to the mid-Byzantine period. However, the most spectacular formations, above all in terms of the heights they reach, are seen in the channels that descend from the terrace of Hierapolis to the plain of the Lykos. These are far more ancient than those present inside the city and remained in use for a long period, before at least partly losing their function as a result of the earthquakes of the medieval period, which caused them to collapse in various places. Some of them however, continuously repaired and maintained, remained in use until recent times. Their creation dates back at least as far as the Hellenistic period, and in the early imperial period they were described by Strabo (XIII, 4, 14) and Vitruvius (VIII, 3), who documented their use for irrigating vegetable gardens and fields near the city. In addition, thanks to their “consolidation”, they also served to mark the boundaries between landholdings.

<sup>215</sup> Ditaranto 2015a; Marabini, Scardozzi 2015, 255-257; Scardozzi 2019c, 205-207.

<sup>216</sup> Alçiçek et alii 2019, 4; Altunel, D’Andria 2019, 221-222, including bibliography.

<sup>217</sup> Marabini 2015; Marabini, Scardozzi 2015, 238-240.

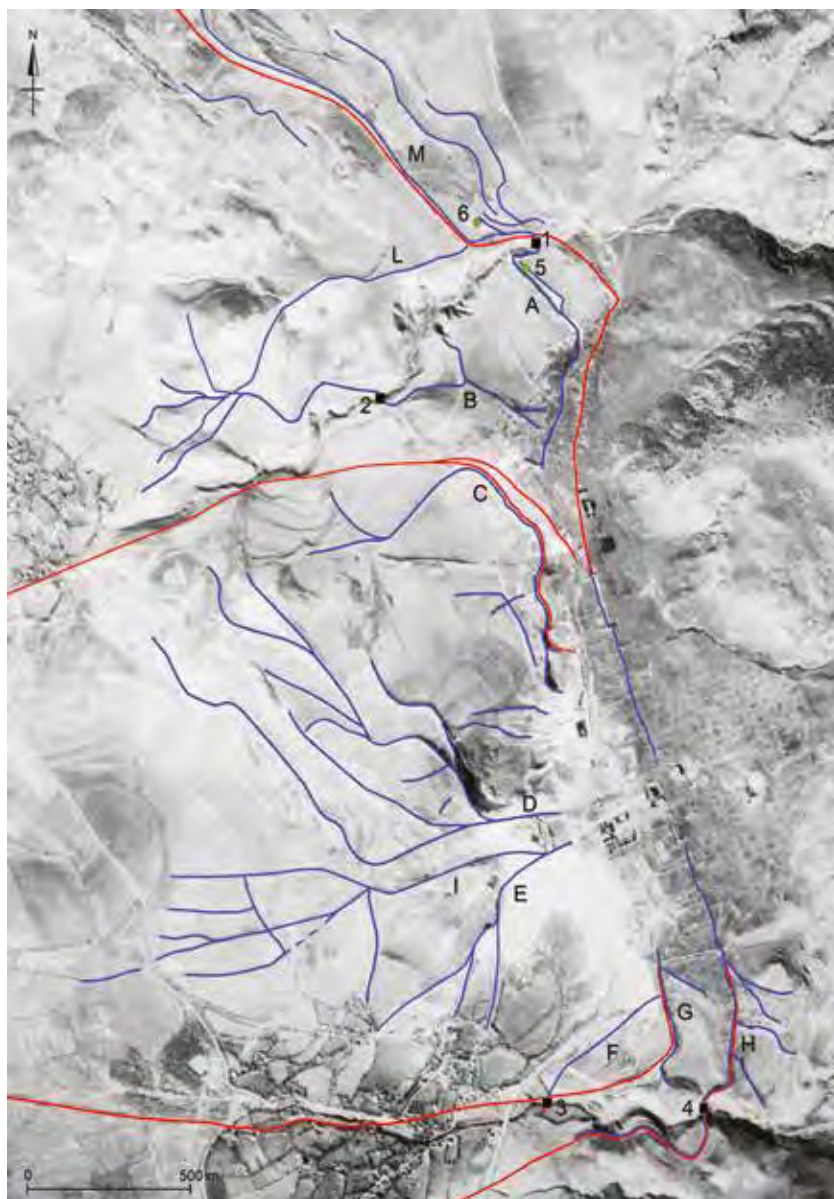
From the terrace of Hierapolis, these travertine channels descended to the nearby flat areas, often flanking the ancient roads that led out of the city<sup>218</sup> (fig. 70). These included the channel that ran alongside the continuation of the *plateia* of Hierapolis outside the city in a south-easterly direction (figs. 70-71, H; 72), towards Colossae. Made of blocks of stone, the channel carried waters to the plain south of the city, crossing the deep ravine of the Kadı Dere seasonal stream by means of a viaduct-aqueduct on two superimposed arches (figs. 70-71, no. 4); dated to the early imperial period, only the southern abutment of this bridge and a few elements belonging to the northern one are conserved (fig. 72, A)<sup>219</sup>. In addition, a little further downhill along the Kadı Dere, another channel (figs. 70-71, F), which descended from the south-western corner of the urban area, partly flanked the route of the ancient road to Laodikeia. Today it still passes the stream via the bridge built with large blocks of travertine used by the road (fig. 70, no. 3). The structure, by now completely covered in calcareous deposits, was still clearly visible in the 1960s (fig. 73).

There were another two bridges north of the city, along the deep ravine of another seasonal stream, the Gök Dere. In both cases however, today only the calcareous concretions are visible; completely covering the structures of the arches, they make examination impossible. One is found along the channel that runs along the west side of the North Necropolis (figs. 70-71, A), near the point in which it begins to flank the ancient road to Tripolis (fig. 70, no. 1). Once across the water course, the channel flanked the east side of the road (fig. 74), today corresponding to a rural track, for some distance (fig. 70, M). A secondary branch led towards the west, descending into the plain of the Lykos (fig. 70, L), while the remains of other secondary channels are conserved in the terrain to the east and west of the road. The final bridge, situated along the route of a still-active channel that crosses the north-west Necropolis (figs. 70-71, B) and also partly flanks an ancient road, is found further downhill from the one just described (fig. 70, no. 2; fig. 75). It also appears in the background of a representation of the necropolis published by Léon de Laborde in 1838<sup>220</sup>.

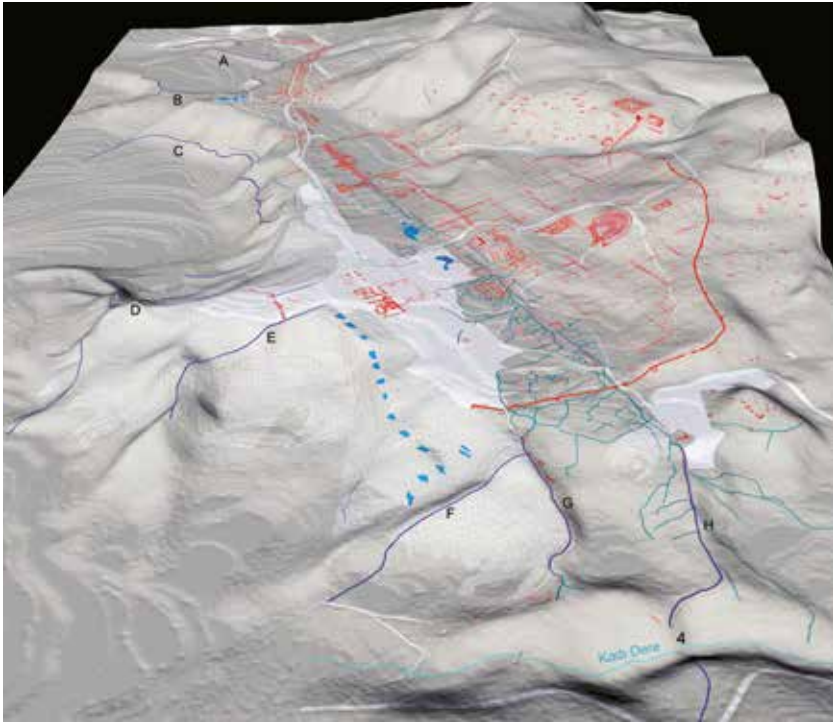
<sup>218</sup> On the ancient road system, partly connected to the routes of the channels, see also below pp. 114-119.

<sup>219</sup> Limoncelli, Scardozzi 2013, 84-95.

<sup>220</sup> de Laborde 1838, pl. XXXVIII, 81.



**Fig. 70** Corona KH-4A space photo taken in 1968, in which the routes of travertine channels (in blue) and suburban roads (in red) in the surroundings of Hierapolis are highlighted.



**Fig. 71** Digital elevation model of the site of Hierapolis (view from the south), in which the routes of travertine channels descending from the terrace of the city are highlighted.



**Fig. 72** The remains of the travertine channel flanking the southward continuation of the *platèia* of Hierapolis; the southern abutment of the bridge, used by both the channel and the road in order to cross the deep ravine of the Kadi Dere, is also visible (A).



**Fig. 73** The remains of the bridge on the Kadi Dere along the road between Hierapolis and Laodikeia, visible in a 1960 photo and now completely covered in calcareous deposits.

Of the other travertine channels that descend from the city, worthy of mention given the imposing nature of their structures, only partly attenuated by the more recent terraced incrustations that form the famous “cotton cascades” of Pamukkale, is the one that leads from the central sector of the city towards the north-west (figs. 70-71, C), which reaches a height of about 11 m (figs. 76-77), and the ones that lead north (fig. 78) and south of the area occupied by the so-called Seljuq Fortress (figs. 70-71, D-E). From the same area (a protrusion of the terrace on which Hierapolis stands) another channel descended towards the Lykos valley (fig. 70, I), with various branches, today mostly destroyed as a result of the expansion of the village of Pamukkale.

The primary functions of the channels were, as previously mentioned, to drain the waters of the thermal springs of Hierapolis and use them for irrigating the fields, as also shown by their clear relationship with the location of the farms surrounding the city. The waters had a further use however, being key to one of the most important sectors of the economy of Hierapolis in the Roman-imperial period, i.e.

**Fig. 74** The travertine channel flanking the road between Hierapolis and Tripolis.



**Fig. 75** The remains of the bridge used by a travertine channel in order to cross the Gök Dere.



textiles, as attested by the presence of archaeological remains<sup>221</sup>. Indeed, along a secondary channel in the area to the west of the North Necropolis (fig. 70, no. 5) is a large rectangular basin (16.60 m x 5.30 m; maximum depth 1.20 m), whose walls are built with slabs of travertine alternating with pillars of the same material, held together with by Π-shaped cramps. The water of the channel entered the pool

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<sup>221</sup> About the textile industry in Hierapolis see Thonemann 2011, 186-190. About the associations involved in these activities see Ritti 1995, 72-76; Ritti 2016, 482-519, 533-534; Ritti 2017, 18-20, 153-156. It is also possible that in some cases water from the channels was conveyed in order to power hydraulic mills, the existence of which in Hierapolis is currently documented only by the epigraphic attestation of the operators of water mills (see above p. 60).



**Fig. 76** The large travertine channel descending in a north-westerly direction from the central sector of the terrace of Hierapolis.



**Fig. 77** The highest stretch of the travertine channel in fig. 76, which here exceeds 10 m.

through an opening on its long side and it has been proposed that it was used for washing wool or for dyeing fabrics<sup>222</sup>. Another basin (3.45 m x 3.70 m; 1.20 m deep),

<sup>222</sup> Ronchetta, Mighetto 2007, 452-453; Ditaranto 2015b. The basin has recently been excavated by the Italian Archaeological Mission directed by G. Semeraro (Semeraro 2017, 108; Semeraro 2020, 210).



**Fig. 78** Travertine channels descending in west direction from the central sector of the terrace of Hierapolis.



**Fig. 79** Small basin flanking a travertine channel.

smaller but with the same structural characteristics (fig. 79) and the same position near a channel, is found about 200 m to the north-west (fig. 70, no. 6), near the remains of a farm of the imperial epoch (fig. 26, no. 60)<sup>223</sup>. The slabs of the walls, about 1.20 m high, vary in length between 1 m and 1.30 m, while the pillars have the same height and a quadrangular base of about 40 x 35 cm. From the channel

<sup>223</sup> Scardozi 2012a, 130; Scardozi 2019a, 105-106.

that flanked it, the water entered the pool via two small entrance channels, today blocked by the calcareous concretions.

## The road network

Hierapolis was connected to a substantial road network, much of which can be reconstructed. Indeed, the Lykos valley was a fundamental node in the connections between the Anatolian hinterland and the Aegean coast, following the valleys of the Maeander and the Hermos (today the Gediz river)<sup>224</sup>. The *platèia* of the city was the urban stretch of the road that led from Antioch in Pisidia, via Apollonia, Apamea Kibotós and Colossae, and continued via Tripolis, Philadelphia, Sardis and Thyáteira to Pergamon. This was the legacy of the royal Persian road from Susa to Sardis<sup>225</sup>, documented in Caracalla's time by the *Itinerarium Antonini*<sup>226</sup> and in the 4<sup>th</sup> century AD by the *Tabula Peutingeriana* (IX,3-X,1)<sup>227</sup>.

The stretch of this road on the northern side of the Lykos valley thus linked Hierapolis with Tripolis to the north-west and Colossae to the south-east. The road to Tripolis, about 19.5 km long, can be reconstructed in its entirety (fig. 80, A; see also above fig. 26)<sup>228</sup>. It led out of the city through the North Frontinus Gate and reached the Lykos valley near the village of Akköy. It then ran towards the north-west, along the foot of the hills on the northern edge of the plain, partly replicated by the road that runs through the modern villages of Senekci, Çeşmebaşı, Gölemezli, Tepeköy and Mahmutlu today, before crossing the Maeander and reaching Yenicekent, on the south-east edge of which are the remains of Tripolis. Long stretches of the ancient route have been discovered, especially in the fields between Hierapolis and Akköy (fig. 80, no. 3); up to 8 m wide, it was paved with compacted limestone pebbles and bounded on each side by two courses of travertine blocks (figs. 81-82). On this road two milestones are recorded. One was discovered in the northernmost sector of the North Necropolis of Hierapolis (fig. 80, no. 4); commissioned by the

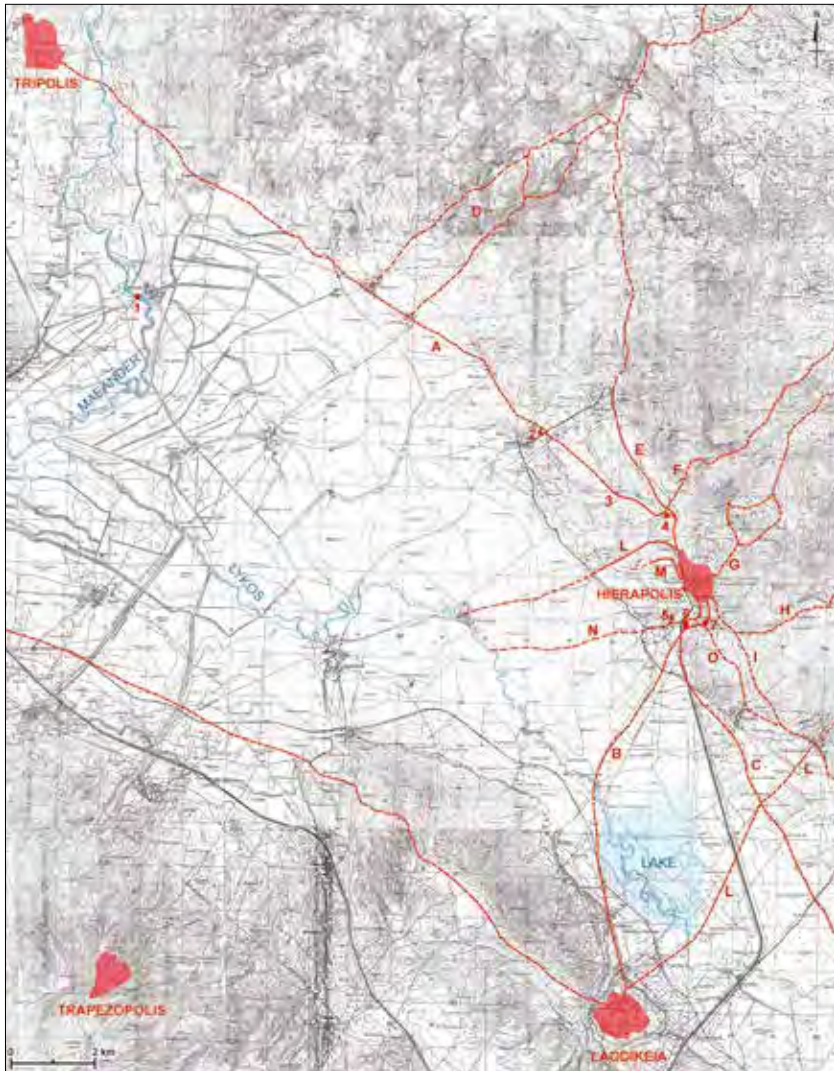
<sup>224</sup> Scardozi 2012b; Scardozi 2019a, 100-103.

<sup>225</sup> See below p. 111.

<sup>226</sup> Cuntz 1990, pls. 333,9-337,2 and pl. out of text.

<sup>227</sup> Miller 1916, cols. 715-716.

<sup>228</sup> Scardozi 2012b, 746-754.



**Fig. 80** The main ancient road system on the northern side of the Lykos valley.

proconsul of Asia Sextus Julius Frontinus during the reign of Domitian (84/85 AD), it was partially erased and freshly inscribed by Nerva (97 AD)<sup>229</sup>. The other

<sup>229</sup> Ritti 2002b, 90-98; Ritti 2006, 76-77; French 2014, 141-142, no. 71B; Ritti 2017, 352-355.

(fig. 83), discovered on the eastern edge of Akköy (fig. 80, no. 2), bears the names of Septimius Severus, Caracalla and Geta (whose name was later erased following his *damnatio memoriae*), and is dated to 200/201 AD; it was derived from a more ancient milestone, with a text that had largely been erased and is also perhaps attributable to Domitian<sup>230</sup>.

Immediately to the north of the North Necropolis of Hierapolis, there is believed to have been a junction from which an ancient road led off from the main highway between Hierapolis and Tripolis towards the area of Karahayıt, roughly corresponding to the modern road that leads to this village (fig. 80, E), where there were two large baths in the Roman-imperial and proto-Byzantine periods (fig. 26, nos. 29-30)<sup>231</sup>. In the initial stretch, the road is flanked by funerary monuments and sarcophagi<sup>232</sup>, and further north by a rural settlement (fig. 26, no. 52)<sup>233</sup>. The presence of other rural settlements (fig. 26, nos. 13, 18, 19, 22) north of Karahayıt suggests that the road continued northwards to the ancient village near Eymir, along a route today replicated by various rural tracks.

In the north-western sector of the Lykos valley, from another junction on the main highway between Hierapolis and Tripolis, in the stretch between the modern villages of Gölemezli and Çeşmebaşı, an important road (fig. 80, D) led away from the plain up towards the plateau of Uzunpınar, partly following the valley of the seasonal stream called Mandama Dere and passing through the ancient settlements near Kocagözler and Eymir<sup>234</sup>. The road, which survives today in the form of a rural track, corresponds to the “horse road” taken in 1883 by Ramsay, who argued that it began in the village of *Ak-Tcheshme* or *Mandama*, which may be identified with Gölemezli, or perhaps more plausibly, Çeşmebaşı<sup>235</sup>. It is also possible that to the north-west, again from the main highway between Hierapolis and Tripolis, roughly

<sup>230</sup> Scardozzi 2012b, 739-745; Ritti 2017, 353, 497-498.

<sup>231</sup> On these structures see below pp. 141-146.

<sup>232</sup> *Atlante* 2008, 59.

<sup>233</sup> On the rural settlements of the territory of Hierapolis, interpretable as farms, see below pp. 129-140.

<sup>234</sup> On these two settlements see below pp. 156-161.

<sup>235</sup> Ramsay 1883, 376-377; Ramsay 1895, 122-124. See also Castrianni, Scardozzi 2012, 99-101.



**Fig. 81** The remains of the road from Hierapolis to Tripolis in the area north of Develi: the arrows point the travertine blocks along the edges of the roadway, which delimit the roadbed, consisting of compacted limestone pebbles.

between the modern villages of Gölemezli and Tepeköy, another road branched off to the west, crossing the Maeander over the Roman-imperial bridge near the village of Ahmetli (fig. 80, no. 1), thereafter continuing westwards along the river valley<sup>236</sup>. However, of this ancient road, partly as a result of the transformations affecting this sector of the plain since the 1950s, including the digging of irrigation and drainage channels, no trace remains, nor is it possible to identify any legacy of it in the modern road network.

The continuation of the *platèia* of Hierapolis outside the city in a southerly direction led towards Colossae and, via Apamea Kibotós, towards the cities of Pisidia and the Anatolian hinterland (fig. 80, C)<sup>237</sup>. Immediately to the south of the city, it ran along the crest of a ridge and was flanked by a travertine channel. It passed the deep ravine of the Kadı Dere seasonal stream by means of a high bridge on two superimposed arches dated to the 1<sup>st</sup> century AD (fig. 80, no. 7), of which the southern abutment and limited remains of the northern abutment are conserved (fig. 84)<sup>238</sup>.

<sup>236</sup> On the bridge of Ahmetli see below pp. 122-124.

<sup>237</sup> Scardozi 2012b, 756-760.

<sup>238</sup> On the so-called South Bridge of Hierapolis see Limoncelli, Scardozi 2013, 84-95. On the travertine channels see above pp. 103-108.



**Fig. 82** The remains of the road from Hierapolis to Tripolis in the area south-east of Akköy: the arrows point the travertine blocks along the edges of the roadway, now covered with vegetation as it is not subject to cultivation.

From here it curved westwards and descended, reaching the plain near the south-east edge of Pamukkale, from where it may have headed south-east, passing close to Yeniköy and remaining on the east side of the modern road to Denizli, where it probably survives in the form of rural tracks. Near the initial part of the route there are three rural settlements (fig. 26, nos. 107, 110, 111).

The road to Laodikeia started from the south-western edge of the urban area of Hierapolis, where there was a gate in the city walls built in the proto-Byzantine period (fig. 80, B)<sup>239</sup>. After crossing the South-West Necropolis and tracing a long curve towards the west, this road also reached the plain near the south-east edge of Pamukkale. Here it crossed the Kadı Dere stream (fig. 80, no. 6) by means of a heavily-built single-arch bridge made from blocks of travertine, dated generically to the Roman-imperial period and today largely covered in calcareous concretions from the channel that ran alongside the road (fig. 85). From here the road, today partly replicated by rural tracks, headed south-west and reached Laodikeia by means of a stretch of about 10 km, going round the west side of the lake situated near the Lykos. Today the lake has dried up, but it is documented by traces visible in

<sup>239</sup> Scardozi 2012b, 760-762.



**Fig. 83** The milestone indicating the second mile of the road between Hierapolis (referred to *caput viae*) and Tripolis, discovered near Akköy: the text largely erased (A), perhaps attributable to the reign of Domitian (84/85 AD), and the inscription bearing the names of Septimius Severus, Caracalla and Geta (B), dated to 200/201 AD, are visible.

the satellite images and by an inscription of 131 AD<sup>240</sup>. The route followed by the road and the lake are still shown in the geological map drawn by Philippon (see above fig. 7, no. 1) at the beginning of the 20<sup>th</sup> century<sup>241</sup>, while no trace remains of the bridge by means of which the road is believed to have crossed the Lykos. Of this road, the first milestone after leaving Hierapolis, dated to the reign of Gordian III (238/239 or 239/240 AD), is conserved (fig. 86). Another inscription was subsequently written on this milestone in the period of Constantius II and Constans I (340-350 AD), with a further addition by Julian while still Caesar (355-360

<sup>240</sup> In this regard see above pp. 24-25.

<sup>241</sup> Philippon 1914, pl. out of text.

AD)<sup>242</sup>. As also documented by the *Tabula Peutingeriana* (IX,5-X,1), Hierapolis was linked to the towns of the coast of Pamphylia via Laodikeia (via the road that led out through the Syria Gate on the south-eastern edge of the city). In addition, the Ephesus Gate of Laodikeia, on the north-western edge of the city, marked the start of the road that led to the Aegean coast and Ephesus in particular, running first along the southern side of the Lykos valley as far as Károura (situated about 11 km west of the modern Sarayköy) and then along the valley of the Maeander via Antioch, Nysa, Tralles and Magnesia<sup>243</sup>.

From the road to Laodikeia, before it crossed the Kadı Dere by the bridge described above, another road probably led off towards the west or south-west, running along the northern side of the water course (fig. 80, N). On this road there is believed to have been at least one funerary monument, to which belong some architectural elements of the early imperial period, discovered in 2003 just west of Pamukkale (fig. 26, no. 105)<sup>244</sup>. The road is then believed to have reached the Lykos, which it may have crossed by means of a bridge of which no remains are conserved, and continued towards Trapezopolis, situated on a broad terrace among the hills on the southern side of the valley.

The south-east corner of the urban area of Hierapolis, where there was a gate in the city walls of the proto-Byzantine period, is believed to have marked the start of the road that led directly to the ancient village that stood on the site of the modern Küçükdereköy, about 4 km to the south-east of Hierapolis (fig. 80, I)<sup>245</sup>. Alternatively, this road may have begun immediately to the south of the bridge by which the road to Colossae crossed the Kadı Dere and then continued south-eastwards, to the eastern edge of Yeniköy (fig. 80, O). As with the road mentioned previously, today this road is replicated by various rural tracks. The presence of both of these routes in ancient times is documented by the vicinity to them of rural settlements: one is found near the former (fig. 26, no. 108) and two near the latter (fig. 26, nos. 109, 113).

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<sup>242</sup> On the milestone, reused in the village of Pamukkale, see Ritti 2002b, 98-103; French 2014, 140-141, no. 71A; Ritti 2017, 550, 580-581, 644-645.

<sup>243</sup> Miller 1916, cols. 724-726.

<sup>244</sup> Scardozi 2019a, 103.

<sup>245</sup> On this village see below pp. 150-155.



**Fig. 84** The remains of the bridge along the southward continuation of the *platèia* of Hierapolis, used by the road and the travertine channel flanking it in order to cross the Kadi Dere (view from the east): the southern abutment and the remains of the northern abutment (A), in addition to portions of the arches which have fallen into the riverbed of the seasonal water course (B-C), are conserved.

From the north-western edge of the urban area of Hierapolis, where there was a gate in the city walls in the proto-Byzantine period, led a road which crossed the North-west Necropolis and turned westwards, descending to the modern village of Develi (fig. 80, L), site of an important sacred area (fig. 26, no. 66)<sup>246</sup>. Conserved in the area immediately to the east of the modern town are the remains of a stretch of this road about 500 m long. Composed of compacted pebbles, the road bed is 6 m wide and delimited by two courses of parallelepiped blocks<sup>247</sup>. From here the

<sup>246</sup> On this sacred area see below pp. 146-148.

<sup>247</sup> Scardozzi 2011, 112, fig. 6b.



**Fig. 85** The remains of a bridge on the Kadı Dere along the road from Hierapolis to Laodikeia, largely covered in calcareous concretions, in a 1959 photo.

road proceeded westwards, reaching the plain of the Lykos, to whose banks many other roads are believed to have led down from the western edge of the terrace on which Hierapolis stands, although the calcareous formations that cover the slope make it hard to reconstruct them. The only exception is a road that descends from the area immediately to the north of the so-called Seljuq Fortress, flanked by a high travertine channel (fig. 80, M). After curving to the west it reached the area of the alabaster and travertine quarries of Çukurbağ and Öküzini, passing close to two funerary tumuli of the Hellenistic period (fig. 26, nos. 95 and 97)<sup>248</sup>.

Lastly, hypotheses may be advanced regarding the routes of a number of roads leading from the area of Hierapolis up towards the plateau of Uzunpınar, which today are mostly replicated by rural lanes and mule tracks. From the central-eastern

<sup>248</sup> On the quarries see above pp. 73-76. On the funerary tumuli see below pp. 125-129.



**Fig. 86** The milestone, indicating the first mile of the road between Hierapolis (referred to *caput viae*) and Laodikeia, found at Pamukkale: the inscription (A) dated to the reign of Gordian III (238/239 or 239/240 AD) and the text (B) added in the period of Constantius II and Constans I (340-350 AD) are visible.

sector of the urban area of Hierapolis, where the so-called Gate above the Theatre was located in the proto-Byzantine city walls, a road crossed the northern sector of the East Necropolis and the area occupied by the modern village of Ören (fig. 80, G). It then rose towards the north-east, constituting the main link between the city and its mountainous hinterland, along a route partly followed today by the modern road between Pamukkale and Kurtluca, flanked in some stretches by the eastern aqueduct (see above fig. 26)<sup>249</sup>. In the stretch closest to Hierapolis, near the road there were rural settlements (fig. 26, nos. 88-90). In addition, some segments of the old road, up to 6 m wide, paved with compacted pebbles and supported by retaining walls, are still visible in the points where the modern road has not been built over it, particularly on the western side of Tingirtaş Tepe, on the downhill side of

<sup>249</sup> On the aqueducts of Hierapolis see pp. 89-103.

the modern road<sup>250</sup>. The main route ran to the west of Tıngırtaş Tepe, but a variant ran to the east of this hill, between Kayraklık Tepe and Beyinli Tepe, where an important Byzantine settlement was situated (fig. 26, no. 134). It then proceeded towards the north-east, flanked along one stretch by the eastern aqueduct and running west of the Çaltılı district, until reaching the plateau in the area of the ancient settlement on the site of Eğrilce<sup>251</sup>.

Another important route led up to the plateau of Uzunpınar after branching off from the above-mentioned road to Karahayıt immediately to the north of the North Necropolis of Hierapolis (fig. 80, F). This is the so-called *Yokuşyol* (“sloping road” in Turkish), today reduced to a mule track, which after reaching the plateau continued northwards towards the area today occupied by Uzunpınar. This route, a stretch of which is also flanked by the north-eastern aqueduct, served to bring the marble extracted from Marmar Tepe to Hierapolis, circling the hill on the east side<sup>252</sup>.

Lastly, a further route up to the plateau of Uzunpınar (fig. 80, H) branched off from the road connecting Hierapolis to the ancient settlement of Küçükdereköy, immediately to the south-east of the city, beyond the Kadı Dere. After passing two rural settlements (fig. 26, nos. 130-131), it continued towards the north-east, reaching the plateau near the hill of Somaklı Tepe. A little further on it joined another route coming from the village of Küçükdereköy (fig. 80, L). The latter was one of the main connections between the southern part of the plain of the Lykos and the plateau. Indeed, after having crossed the settlement it continued towards the south-west, joining the road connecting Hierapolis to Colossae, and it may have even reached Laodikeia, circling to the east the above-mentioned lake near the river<sup>253</sup>.

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<sup>250</sup> Scardozzi 2019a, 114.

<sup>251</sup> On the settlement of Eğrilce see below pp. 218-219.

<sup>252</sup> On these quarries see above pp. 69-72.

<sup>253</sup> See above pp. 24-25.

## The bridge of Ahmetli

The remains of a bridge on the Maeander, dated to the Roman-imperial epoch, are conserved immediately to the west of the village of Ahmetli, on the northern edge of the plain of the Lykos<sup>254</sup>. It may have been on the road from Tripolis (about 6 km away) and the Aegean coast, or it may have belonged to a road running between the latter route and the road linking Tripolis to Hierapolis. In the 19<sup>th</sup> and the first half of the 20<sup>th</sup> century, the bridge, the only one of its kind near this stretch of the Maeander, was part of the old road between Buldan and Sarayköy.

The bridge, oriented north-east/south-west, was in use until a few years ago and is now bypassed by the modern road between Ahmetli and Tosunlar (fig. 87). It originally consisted of five arches, as documented by photographs taken in the late 19<sup>th</sup> century<sup>255</sup> (fig. 88), of which the easternmost and the two westernmost are conserved. In some periods of the year the eastern arch is almost completely covered by detritus transported by the Maeander (figs. 89-90). The other two arches, which collapsed as a result of an episode of particularly intense water flow in the river, were



**Fig. 87** The bridge of Ahmetli in a Pléiades satellite image acquired in 2018.

<sup>254</sup> Scardozzi 2012a, 754-755; Scardozzi 2013c, 51-52.

<sup>255</sup> Sarre 1896, 8, fig. 1.



**Fig. 88** The bridge of Ahmetli in a photograph taken in the late 19<sup>th</sup> century, when the original ancient structure was still completely conserved (after Sarre 1896, fig. 1).

replaced in 1960 by a structure in reinforced concrete that rests on the remains of the original piers. The original structure had a “humpback” profile, with the central span slightly higher and longer than the others, reaching a maximum height above the water of about 4 m. The keystones of some arches were decorated with rosettes in relief. The bridge is originally believed to have been about 75 m long. The road bed had a maximum width of 4.90 m and is believed to have been delimited by parapets that rested on the crowning cornice of the abutments and the piers. The masonry consists of parallelepiped travertine blocks, bound with mortar and laid in irregular courses, which probably contain a core of concrete. Blocks of marble are also present, evidently reused, probably belonging to an ancient restoration. The piers have a rectangular base; to provide reinforcement and defence, they were fitted with triangular cutwaters on the upriver side, about 1 m high and protruding 2



**Fig. 89** The bridge of Ahmetli: general view from the south.



**Fig. 90** The bridge of Ahmetli: general view from the south-west also showing the last eastern arch, still preserved.



**Fig. 91** The bridge of Ahmetli: the upriver side with the triangular cutwaters built to reinforce the piers.

m (fig. 91). The cutwaters have  $\Pi$ -shaped cramps linking blocks laid horizontally side by side. It is also possible that the piers were reinforced by buttresses on the downriver side, as suggested by the semi-submerged base that is clearly visible on the second pier from the west.

## The funerary tumuli of Çukurbağ-Oküzini

In the flat area that includes the western sector of the Çukurbağ district and the eastern sector of the Oküzini district, just below and immediately to the west of the terrace on which Hierapolis stands (see above fig. 26, nos. 95 and 97)<sup>256</sup>, where there are also ancient alabaster and travertine quarries<sup>257</sup>, lie two isolated funerary tumuli of the Hellenistic period. The tumuli have the same characteristics and dimensions as those of the necropolises that surround the city<sup>258</sup>, and they were situated just over 300 m apart along an ancient road that led from Hierapolis towards the west/north-west, descending from the area of the so-called Seljuq Fortress towards the village of Develi and the Lykos valley.

The first tumulus is found about 400 m west of the urban area and has a diameter of 9.50 m. The *crepidoma*, almost entirely conserved (fig. 92, A; 93), has two courses of squared blocks, laid without mortar in close contact. The chamber (figs. 94-95) is built to a square plan 2.74 m on each side and is below ground to the level of the architrave of the door, 73 cm wide and facing south/south-east, so that the funerary beds that are believed to have been arranged on three sides are not visible.



**Fig. 92** WorldView-3 satellite image acquired in 2017, showing the remains of two funerary tumuli (A-B) and an alabaster and travertine quarry (C) in the Çukurbağ-Oküzini area.

<sup>256</sup> Scardozzi 2012a, 135-136; Scardozzi 2016a, 21-22; Scardozzi 2016b, 591-592.

<sup>257</sup> See above pp. 73-76.

<sup>258</sup> D'Andria 2003, 48-62, 66-69, 87-87, 191-192, 205-206; Ronchetta 2016.



**Fig. 93** Funerary tumulus in the Çukurbağ district: general view from the west; in the background, the terrace of Hierapolis is visible.

The walls are built with travertine slabs in close contact, laid without mortar and without the use of cramps or metal dowels. The walls, perfectly vertical, supported a barrel vault, with lunettes on the entrance side and on the back wall (2.74 m long, 1.10 m high, 32-33 cm thick). The inner surface of the walls and the intrados of the vault had been finished with a toothed chisel, while the extrados, which was covered with earth, had been left in the condition in which it was quarried. The vault, partially collapsed, consisted of six monolithic slabs (about 3 m long, 70 cm wide, 36 cm thick). The entrance to the chamber was accessed via a *dromos* (3.20 m long, 1.40 m wide), which is believed to have been covered by slabs that are not conserved. They rested on the walls of the corridor and on the architrave of the door to the chamber.

The second tumulus is found about 330 m to the west/north-west of the first (fig. 92, B; 96), in a position with views over a broad stretch of the Lykos valley. It is in a poor state of conservation, as a result of recent clandestine excavations. Of the *crepidoma* that contained the cone of earth, only a few squared blocks are visible, but a diameter of about 10.50 m can nonetheless be reconstructed. The funerary chamber (fig. 97), partially buried, is built to a square plan (2.20 m on each side) and its walls, on which traces of plaster are visible, are conserved up to the



**Fig. 94** The tumulus in the Çukurbağ district: the entrance and the collapsed remains of the vault of the funerary chamber.



**Fig. 95** The tumulus in the Çukurbağ district: detail of the funerary chamber.



**Fig. 96** Funerary tumulus in the Oküzini district: general view from the east.



**Fig. 97** The tumulus in the Oküzini district: the remains of the entrance and the funerary chamber.

start of the barrel vault. In this case too, the entrance (70 cm wide) is on the south/south-east side and was accessed via a *dromos*, today buried. Inside the chamber the funerary beds are visible (28 cm thick, 65 cm wide), arranged on three sides (fig. 98). They were about 75 cm above the floor of the chamber and were supported by small cylindrical pillars with parallelepiped bases, one of which is still in place.

The two tumuli can plausibly be attributed to aristocratic families who may have owned land in the plain below the terrace occupied by the city and chose to build their funerary monuments near one of the main roads leading to Hierapolis from the west.

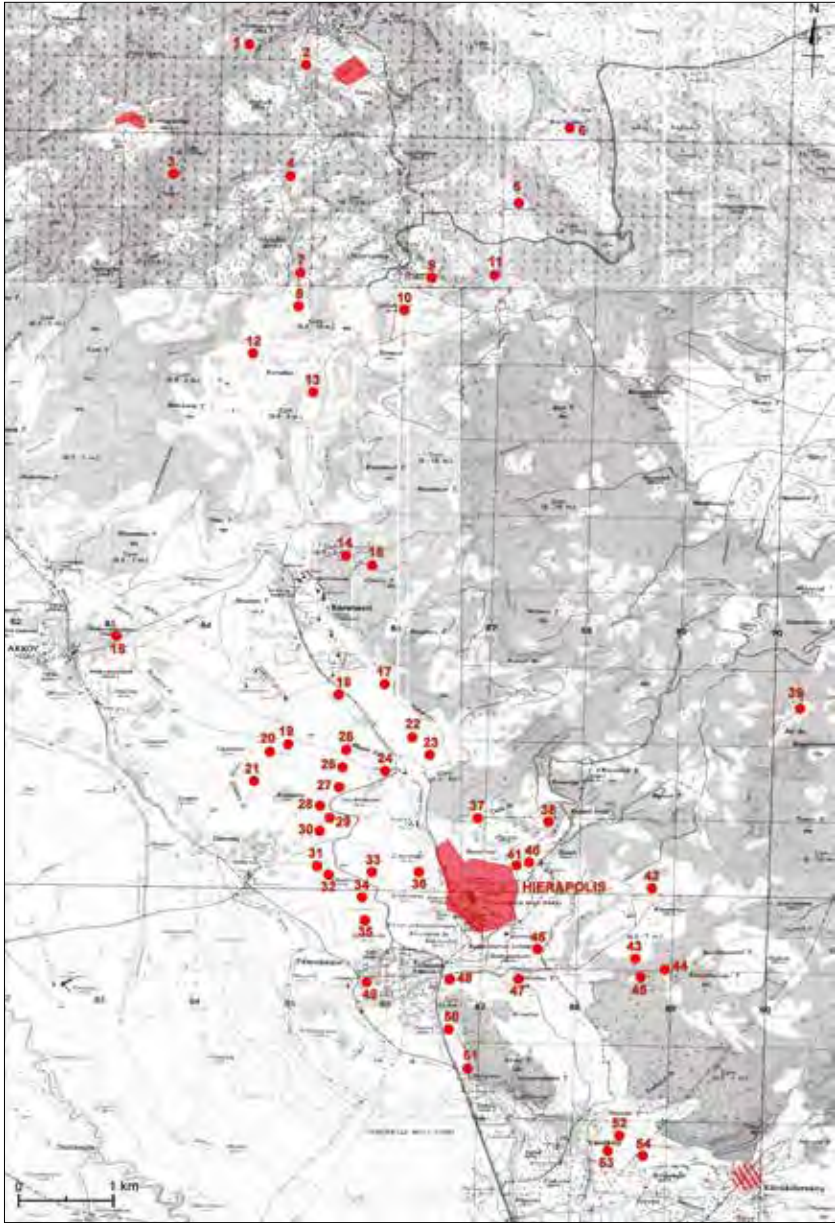


**Fig. 98** The tumulus in the Oküzini district: detail of the funerary beds inside the chamber.

## The farms

In the area immediately surrounding Hierapolis, the archaeological surveys have documented the presence of numerous small to medium-sized rural settlements, interpretable as farms (*òikoi*), which occupied the terraces to the north-west, west, south and south-east of the city (fig. 99), looking on to the plain of the Lykos, as well as the hilly areas situated immediately to the east of the urban area<sup>259</sup>. Other rural settlements have been identified further away from the city, on the various terraces to the north of Hierapolis that rise towards the plateau of Uzunpinar, in the area between the modern villages of Karahayit, Haytabey and Eymir. In the fertile soil of the plain of the Lykos, which in ancient times is believed to have been intensely cultivated, just like it is today, very little ancient evidence has been found, probably due to a combination of factors, including the limited visibility of the surface of the fields in the period of the surveys (July, August and September); the low archaeological visibility of the ancient remains,

<sup>259</sup> Scardozzi 2011, 114-116; Scardozzi 2012a, 126-134; Scardozzi 2019a, 103-105. On the presence of stone elements pertaining to installations for olive oil and wine production see Scardozzi 2010b, and Limoncelli, Scardozzi 2016. On satellite remote sensing investigations and geophysical surveys aimed at the documentation of the buried remains of some of these installations see Lasaponara, Masini, Scardozzi 2008 and 2010; Lasaponara et alii 2016.



**Fig. 99** Northern side of the Lykos valley: location of the ancient rural settlements interpretable as farms.

due to the alluvial layers deposited by the river and the disturbance of the soil during ploughing and the digging of channels over the last half a century; and the possible scarcity of ancient farms due to the fields being used for growing cereals in this area<sup>260</sup>.

The settlements identified are dated to the period from the Hellenistic to the proto-Byzantine epochs, documenting the intense agricultural exploitation of the territory throughout this time. Their remains generally consist of little more than concentrations of ceramic fragments and pieces of building stone (exclusively travertine). In some cases, the remains of buildings are visible *in situ*, brought to light by unauthorised excavations (fig. 100). Some of these rural settlements (fig. 99, nos. 1, 8, 16, 20, 27, 32?, 37, 38, 46?, 48, 53?) are characterised by the presence of the remains of stone structures for grinding olives, consisting of circular monolithic basins (fig. 101) and cylindrical or more frequently convex millstones (fig. 102). Two types of basin are attested in the territory of Hierapolis, both widely used in the Mediterranean from the Hellenistic to the Byzantine periods<sup>261</sup>. The first (type 1; fig. 103, A), widespread in Hierapolis, consisted of a circular monolithic basin with a concave grinding surface (*mortarium*) and a vertical cylindrical element in the centre, carved from the same block of stone (*milliarium*), around which two hemispherical millstones (*orbes*) rotated. These were joined together by a horizontal wooden bar (*cupa*), which passed through the centre of a vertical wooden column (*columella*), attached to the top of the *milliarium* (fig. 104, A). This is the *trapetum* described by Cato (*De agri cultura*, 20-22), common from the Hellenistic to the Byzantine periods<sup>262</sup> and also attested in other areas of Anatolia<sup>263</sup>. The second type, found less frequently in the territory of Hierapolis, differs from the first in that instead of the central *milliarium* (type 2; fig. 103, B) it has a vertical wooden column inserted in a circular or quadrangular socket in the centre of the basin and held in place by metal pins, around which rotated millstones that were

<sup>260</sup> On the hypothesis that the remains of ancient agricultural land divisions can be recognised in the plain north-west of the terrace of Hierapolis see Scardozi 2013b, 131-132.

<sup>261</sup> Limoncelli, Scardozi 2016, 101-102.

<sup>262</sup> On this type of press see Frankel 1999, T331 and T341.

<sup>263</sup> Diler 1994, 507, fig. 7; Lockey 2012, 205-207.

**Fig. 100** Remains of a rural structure built with squared blocks, brought to light by unauthorised excavations.



**Fig. 101** Remains of a rural settlement with a circular monolithic basin for crushing olives.



cylindrical, sometimes with a slightly convex outer surface (fig. 104, B). This type can be assimilated to the olive-crusher described by Columella (*De re rustica*, XII, 52, 6), in use in the Roman and Byzantine periods<sup>264</sup> and documented in nearby Laodikeia<sup>265</sup> and Caria<sup>266</sup>.

In both types, the millstones were turned either manually or by draught animals pushing the *cupa*, which made it possible to crush the olives and obtain the paste for the subsequent pressing. In the territory of Hierapolis this was performed by

<sup>264</sup> On this type of press see Frankel 1999, T31.

<sup>265</sup> Şimşek 2007b, 294-299, fig. 103e (installation dated from the 4<sup>th</sup> to the 6<sup>th</sup> centuries AD).

<sup>266</sup> Diler 1994, 507, fig. 6; Ahmet 2001, 161-162, figs. 5-6; Tırpan, Büyüközer 2010, 232, fig. 6; Büyüközer 2012, 128, figs. 2 and 7.

means of a lever and screw press, provided with a stone counterweight, also known as the first Plinian model (*Historia Naturalis*, XVIII, 317), which was used for both olives and grapes (fig. 104, C) and was in use in the Mediterranean basin from the Hellenistic to the Byzantine periods<sup>267</sup>. This press had a long lever consisting of a wooden beam (*prelum*), one end of which was slotted into a niche carved out of a large stone pillar (*arbor*) or a wall of the *torcularium* and the other was attached to a wooden worm screw, in turn attached to a stone counterweight. The rotation of the screw lowered the lever, which, by means of a board (*orbis*), progressively drove downwards a stack of wicker mats (*fiscinae*) interleaved with the olive paste or the pre-crushed grapes, causing the oil (mixed with moisture from the vegetation and solid residues) or juice to be expressed. The wicker mats were stacked on a pressing base (*ara*), in wood or stone, delimited by a channel that was generally circular (but also square), from which one or more smaller channels, via a spout, drained the liquid into ceramic or wooden containers or into storage tanks. In addition, in some cases, two wooden struts (*stipites*) were fitted in order to guide the lever (fig. 104, D) and prevent it from swinging to the right or left while it was moved up and down. In one case, in a rural settlement identified about 1 km south-west of the village of Haytabey (fig. 99, no. 8)<sup>268</sup>, there was an oil press consisting of a lever linked to a winch, attached in turn to two stone pillars (fig. 105, A)<sup>269</sup>, or it may have been a press with a central or direct screw (fig. 105, B), also known as the second Plinian model (*Historia Naturalis*, XVIII, 317), widespread in the Mediterranean basin from the 1<sup>st</sup> century AD<sup>270</sup>.

Various stone elements belonging to these presses were discovered in the rural settlements on the northern side of the Lykos valley (fig. 106). These were mostly counterweights (fig. 99, nos. 1, 9, 12, 18, 20, 25, 38), but also *arbores* (fig. 99, nos. 8, 24, 25, 27, 32, 38) and *arae* (fig. 99, nos. 8, 49). Since, as we have seen,

<sup>267</sup> Limoncelli, Scardozi 2016, 92-93. On this type of press see Frankel 1997, 74-80; Frankel 1999, 107-111; Decker 2007, 78-80; Lewit 2012.

<sup>268</sup> Scardozi 2012a, 133-134; Limoncelli, Scardozi 2016, 96-97.

<sup>269</sup> For a comparison with Cyprus, concerning an installation dated between the 7<sup>th</sup> and 9<sup>th</sup> centuries AD, see Hadjisavvas 1992, 52-54, figs. 86-87.

<sup>270</sup> On this type of olive press see Frankel 1997, 79; Frankel 1999, 122-137, T131; Decker 2007, 80-82.

these presses may have been used for the production of both olive oil and wine<sup>271</sup>, the buildings can be reliably interpreted as oil mills only in those cases in which their remains were found in association with olive crushers (fig. 99, nos. 1, 20 and 38). Otherwise, considering that the tubs used for the initial crushing of the grapes were often made of perishable materials (wood), the presses could have been used for grapes, given that Strabo (XIII, 4, 14) records the presence of vineyards near Hierapolis<sup>272</sup>.

Concerning the stone counterweights, as well as being by far the most frequently discovered item in these contexts, in Hierapolis and its territory six different types have been identified (fig. 107)<sup>273</sup>. Type 1, which has a cylindrical body with a large circular recess in the centre of the upper face for the insertion of the worm screw and two lateral



**Fig. 102** Convex millstone of a basin for crushing olives.



**Fig. 103** Examples of two types of basin for crushing olives documented in the territory of Hierapolis.

<sup>271</sup> In this regard see Brun 2004, 5-21, and Decker 2007, 82-85.

<sup>272</sup> In this regard see the situation documented in the Uzunpinar and Çal plateaus, where most of these presses can only be interpreted as grape presses (see below pp. 176-178).

<sup>273</sup> Limoncelli, Scardozi 2016, 93-96.



**Fig. 104** 3D reconstructions of olive-crushers (A-B) and lever and screw presses (C-D) used in the territory of Hierapolis. A-B: 1, *mortarium*; 2, *milliarium*; 3, *orbis*; 4, *cupa*. C-D: 1, *arbor*; 2, *prelum*; 3, *orbis*; 4, *fiscinae*; 5, *ara*; 6, *screw*; 7, stone counterweight; 8, *stipites*.

swallow-tail mortises for attaching it, corresponds to the so-called “Samaria” type, widespread in the Mediterranean basin during the Roman and Byzantine periods<sup>274</sup> and also attested in nearby Laodikeia in an oil mill active from the 4<sup>th</sup> to the 6<sup>th</sup> centuries AD<sup>275</sup>. In variant 1a the lateral mortises are closed at the bottom, while in 1b they are open. Type 2 has the same characteristics as type 1, but the body is parallelepiped. In this case too, in variant 2a the lateral mortises are closed at the bottom and in 2b they are open. It corresponds to the so-called “Arginunta” type, documented in the Roman and Byzantine periods in various parts of the Mediterranean basin<sup>276</sup> including Anatolia<sup>277</sup>. Type 3, rather rare but also documented in

<sup>274</sup> Frankel 1999, 111-113, T62111 and T62131.

<sup>275</sup> Şimşek 2007b, 294-299; Yıldırım, Gates 2007, 331; Şimşek 2013, 396-399.

<sup>276</sup> Frankel 1999, 119, T62112 and T62132.

<sup>277</sup> See for example Paton, Myers 1898; Anderson 1903, 14-16, fig. 1; Ortaç 2013.



**Fig. 105** 3D reconstructions of other types of presses potentially attested in the territory of Hierapolis: three (A, C, D) consist of lever and screw presses, while another (B) is a press with a central or direct screw.

other contexts in Anatolia<sup>278</sup>, can be considered a variant of type 2, from which it differs by having a groove on the upper face that connects the central recess to the lateral mortises and probably housed a metal pin that reinforced the system for anchoring the wooden screw to the counterweight. This type also had one variant (3a) with the lateral mortises closed and another (3b) in which they were open. Types 4 and 5, parallelepiped or cubic, differ from the preceding types in not having swallow-tail lateral mortises but having  $\Pi$ -shaped cramps set in recesses on the edges of the upper face, on the sides of the central circular hole in which the head of the screw was inserted. The head of the screw was inserted in turn in a rectangular recess open at both ends (type 4) or square (type 5). These types are also rare but

<sup>278</sup> See for example Anderson 1903, 16, figs. 2-3; Ortaç 2013, 417, fig. 13.



**Fig. 106** Examples of stone elements belonging to presses: A-B, counterweights (types 1a and 2b); C, *arbor* with niche for housing one end of the *prelum*; D, *ara*.

attested, with small variants, elsewhere in Anatolia<sup>279</sup>. Lastly, type 6, also parallel-piped, differs from the preceding types in not having the circular hole on the top, but it still has two swallow-tail lateral mortises. It may be regarded as belonging to the so-called “Semana” type, fairly common in the Mediterranean basin from the Hellenistic to the Byzantine periods<sup>280</sup> and also documented in Bithynia<sup>281</sup> and above all in Caria<sup>282</sup>. This type of counterweight was probably associated with a

<sup>279</sup> See for example Anderson 1903, 16, figs. 6-7.

<sup>280</sup> Frankel 1999, 102-105, T5522, T55320, T55221.

<sup>281</sup> Ortaç 2013, 417-419, figs. 9, 19 and 23.

<sup>282</sup> Diler 1994, 507, fig. 12; Diler 1995, 442, fig. 11; Kuban 2010, 219, fig. 7; Şenol, Walz 2010, 186-187, figs. 5, 7; Söğüt, Gider 2010, 244-245, figs. 3, 5; Tırpan, Büyüközer 2010, 231-234, figs. 5, 8, 10; Büyüközer 2012, 128, fig. 2; Lockey 2012.

second type of lever press, in use in the Mediterranean basin from the Hellenistic to the Byzantine periods and sometimes called the Cato model (*De agri cultura*, IV, 18), in which the *prelum* was lowered between two *stipites* so as to not swing out of position by means of ropes or belts (*suculae*) linked to a wooden hoist anchored to a monolithic counterweight (fig. 105, C)<sup>283</sup>. It has also been proposed however that this type of counterweight was used for lever presses with worm screws in which the wooden anchoring system did not include the hole in the centre of the upper face of the monolith (fig. 105, D)<sup>284</sup>.

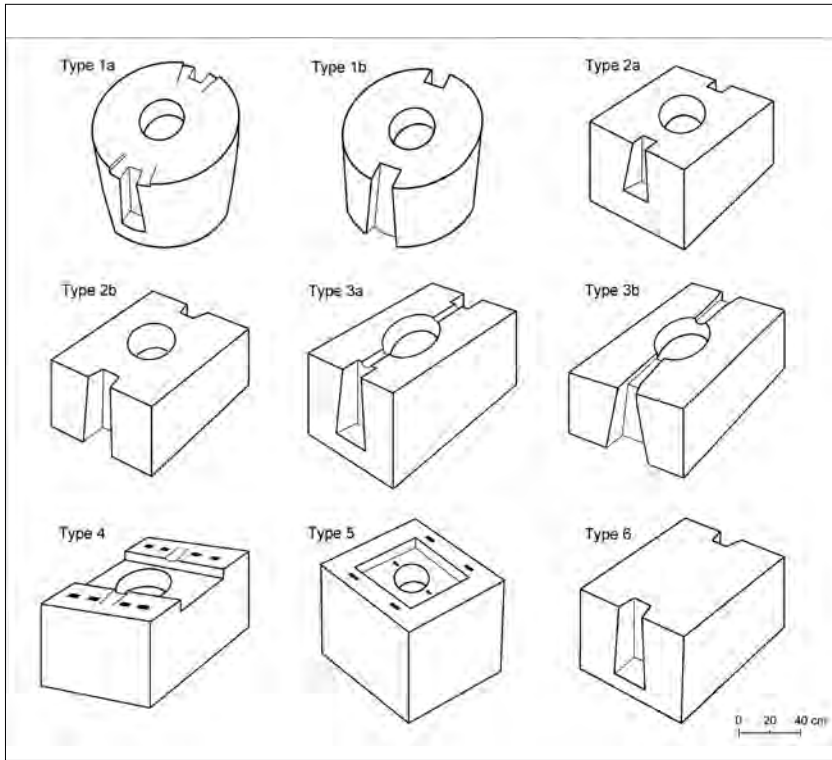
By far the most frequently attested of these counterweights in Hierapolis and its territory (fig. 108)<sup>285</sup> is type 1a, of which 35 exemplars are recorded, discovered on both the northern side of the Lykos valley and above all on the plateau of Uzunpınar, where it is extremely widespread. In contrast, of its variant (type 1b), only four exemplars have been found, discovered in the urban area of Hierapolis, north-west of it (in a rural settlement between the city and Karahayıt), in Fadılöreni (on the northern edge of the plateau of Uzunpınar) and in Mossyna (on the plateau of Çal, where perhaps another exemplar is present in Kabalar). There are about 20 exemplars of type 2, evenly divided between its two variants: both are attested in the city, but type 2a is discovered on the northern side of the Lykos valley and in the central-western sector of the plateau of Uzunpınar and type 2b in its central and north-eastern sectors, as well as on the plateau of Çal (Develer-Kagyetta). In addition, the latter is found in neither the rural settlements nor the villages of the Lykos valley. Type 3 is not documented in the urban area but a few exemplars have been found (one of type 3a and six of 3b) in the central-northern sector of the plateau of Uzunpınar (in the settlement of Çögür Alanı and the ancient villages of Boyallı and Thiounta-Fadılöreni), in addition to one in Mossyna, on the plateau of Çal, which could be considered a local variant of type 2. In addition,

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<sup>283</sup> On this type of press see Brun 1986, 90-92; Frankel 1997, 74; Frankel 1999, T40446304; Decker 2007, 77-78. For another example in Anatolia, found in a Hellenistic installation, see Şenol, Walz 2010, 186-187, fig. 6.

<sup>284</sup> In this regard see Hadjisavvas 1992, 52-54, figs. 86-87, concerning an installation in Cyprus dated between the 7<sup>th</sup> and 9<sup>th</sup> centuries AD.

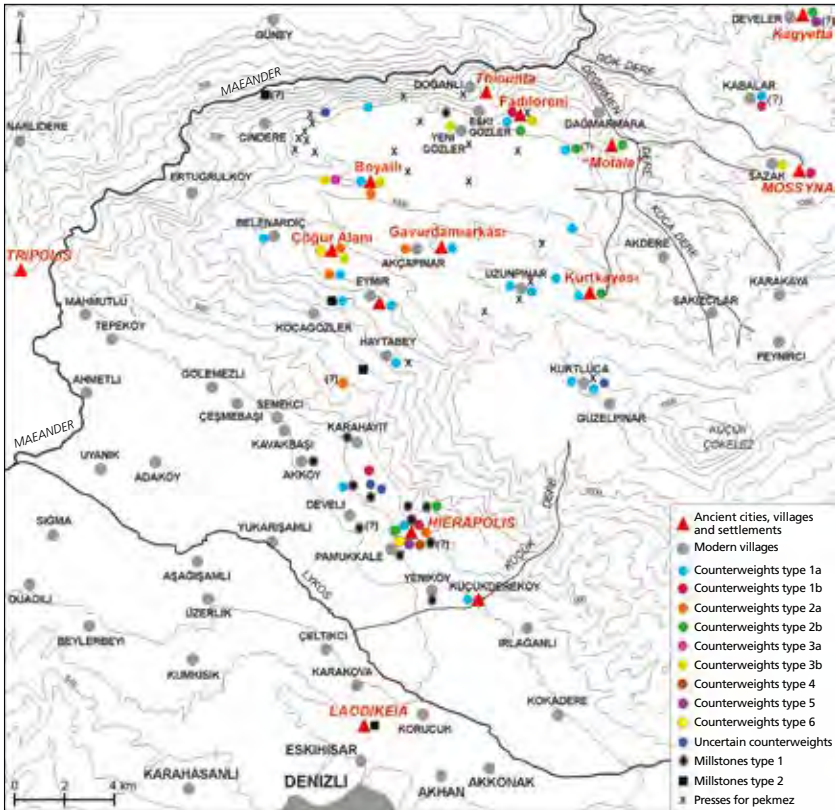
<sup>285</sup> Limoncelli, Scardozi 2016, 97-100.



**Fig. 107** Types of counterweights for presses documented in the urban area of Hierapolis and its territory.

the few known exemplars of types 4, 5 and 6 are attested only in the urban area of Hierapolis for the mid-Byzantine period, the only exceptions being an exemplar of type 6 from the settlement of Çöğür Alanı, in the central-western sector of the plateau of Uzunpınar, and perhaps an exemplar of type 5 from Develer-Kagyetta on the plateau of Çal.

Lastly, the distribution of the olive crushers on the northern side of the Lykos valley shows that olive cultivation was particularly widespread in the band of terraces closest to the city lying between the Küçük Dere stream to the south and the modern villages of Karahayıt and Akköy to the north, where the farmland has an elevation of 200-550 metres and several exemplars of type 1 olive crushers have



**Fig. 108** Map with distribution of stone elements belonging to crushers and presses in the territory of Hierapolis.

been discovered. In ancient times however, and indeed today, olives were also cultivated on the terraces further north, in the area of the modern villages of Haytabey and Eymir, at elevations of 600 to 800 metres (in areas sheltered from the northern winds), where the only two olive crushers that can reliably be attributed to type 2 were discovered (fig. 99, nos. 1 and 8).

## The baths of Karahayit

There are no data to suggest that there was an ancient settlement on the site of the modern village of Karahayit, situated almost 4 km north-west of Hierapolis, nor is there any information on the origin of the large quantity of architectural materials in travertine and marble that have been gathered in various points of the town, whose rapid expansion in the last few decades has significantly transformed the surrounding territory<sup>286</sup>. Recent excavations conducted by archaeologists from the Museum of Hierapolis-Denizli have however documented the existence of two baths complexes of a certain size, in use in the Roman-imperial and proto-Byzantine periods. They show that the thermal springs that characterise the site were already being exploited at that time. Indeed, Karahayit is a key location for thermal springs in south-western Turkey: its waters emerge at higher temperatures than the springs of Hierapolis, reaching 51 degrees Celsius<sup>287</sup>.

The first baths building was investigated from 2013 to 2015 on the western edge of the village near Kızılseki Tepe (see above fig. 26, no. 29). In the investigated area (about 20 x 20 m), on the western edge of a limestone terrace sloping slightly towards the west, the remains of a building were brought to light (fig. 109). The building, dated to the 1<sup>st</sup> or more probably the 2<sup>nd</sup> century AD, is believed to have extended further to the north and south<sup>288</sup>. It was probably abandoned as a consequence of the earthquake that struck the area of Hierapolis in the mid 7<sup>th</sup> century AD, which caused the structure to collapse. The building, which underwent various modifications in the 3<sup>rd</sup> and 4<sup>th</sup> centuries AD, is characterised by the presence of a circular room (internal diameter 5.70 m), containing a round central pool with a step (diameter 3.40 m). A series of travertine pillars with capitals and architraves ran along the perimeter of the room (figs. 109, A; 110) while masonry channels flowed into the pool on its east side.

The main rooms of the baths were arranged north and south of this circular room and were paved with both marble slabs and brick tiles. Specifically, immediately to

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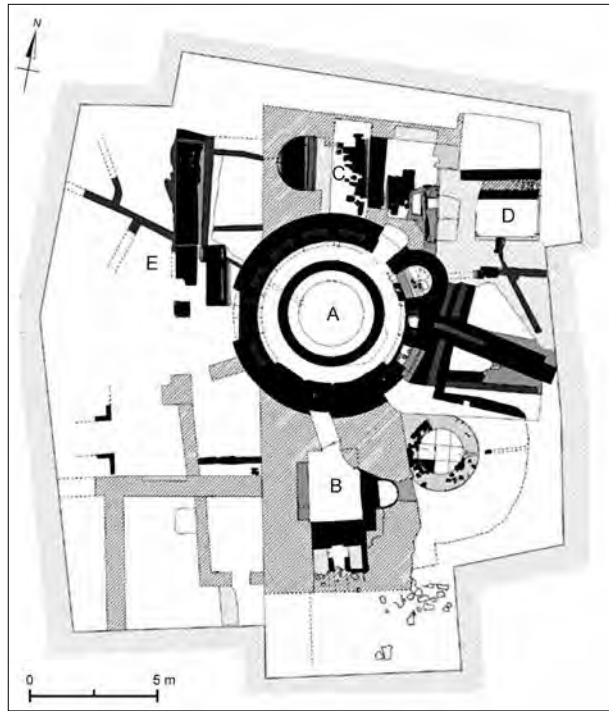
<sup>286</sup> Scardozzi 2019a, 107-112.

<sup>287</sup> Kele et alii 2011; Özkul et alii 2013; Alçiçek et alii 2018.

<sup>288</sup> Uyar, Tarhan 2016; Uyar 2016.

**Fig. 109**

Plan of the baths brought to light between 2013 and 2015 south-west of Karahayit, near the Kızılseki Tepe (modified after Uyar, Tarhan 2016, 175).



the south, a *calidarium* was identified (fig. 109, B). Originally built to a quadrangular plan (2.90 m x 2.80 m) with two small semicircular apses to the east and west (1 m wide and 70 cm deep), each occupied by baths, it was paved and lined with marble. In the 5<sup>th</sup> century AD it underwent a reduction in size, perhaps as a result of restructuring following the earthquake that struck the area of Hierapolis in the second half of the 4<sup>th</sup> century AD. Discovered underneath the floor was a well conserved hypocaust, supported by brick columns spaced about 80 cm apart, which are circular in the central part and square along the perimeter of the room. The ceiling of the room consists of large terracotta tiles 80-100 cm long, above which is a layer of *opus signinum* 17 cm thick, while the *praefurnium* is on the south side.

In the area immediately to the north of the circular room was another rectangular room (1.80 m x 3.70 m; fig. 109, C) with an apse containing a semicircular bath on the west side (2 m long, 1.55 m wide) with a step. Another bath, which



**Fig. 110**  
Karahayıt, Kızılsöğüt Tepesi:  
the central room of the  
baths.



**Fig. 111**  
Structures possibly  
related to a large baths  
complex, brought to light  
in 2013 on the south-  
western outskirts of  
Karahayıt and close to a  
thermal spring (A), visible  
in a WorldView-4 satellite  
image acquired in 2018.

was rectangular (2.45 m x 1.40 m) and also had a step, is found in the north-east sector of the excavated area (fig. 109, D). The investigations also brought to light other service rooms, including one with a circular base for a metal boiler. According to the researchers, this supplied extra hot water in the 5<sup>th</sup> century AD, while in the 2<sup>nd</sup> century AD the building had used only water drawn from a nearby thermal



**Fig. 112** South-western outskirts of Karahayit: view from the north of the structures brought to light in 2013.

spring. Lastly, identified in the north-western sector of the complex was part of a marble Ionic portico (fig. 109, E), which continued northwards beyond the limits of the excavations. Four column bases are still conserved *in situ*.

Overall, the building brought to light is not particularly large. Indeed, the baths are of small dimensions, suitable for a private baths complex rather than a public one. In contrast, the structure identified and partially excavated in 2013 about 450 m to the west/north-west (fig. 26, no. 30), near a spring that has now dried up, is much larger. The excavation, for which no description has yet been published<sup>289</sup>, has brought to light a large rectangular room about 30 m x 9.5 m, oriented NNW-SSE and associated by the researchers with a large baths complex (fig. 111). The walls, about 1 m thick, seem to have been built in various phases and are composed partly of large parallelepiped travertine blocks and partly of smaller limestone blocks bound with mortar, as well as bricks. The short sides of the structure are straight at the south-east end and curved at the north-west end, while on the long sides there are four quadrangular pillars made of large travertine blocks (about 2.50 m x 3 m), spaced about 4 m apart and surmounted by semi-circular arches, also made of blocks (figs. 112-113). Two of the latter are conserved, together with the springers of a third

<sup>289</sup> Some preliminary data in Uyar, Tarhan 2016, 174, and Uyar 2016, 161.



**Fig. 113** South-western outskirts of Karahayit: view from the west of the structures brought to light in 2013.

along the south-western side, lying exposed on the ground before the excavations began. They have a thickness of 2.80-3 m and reach a height of almost 3.5 m. On the long north-eastern side, between the second and third pillar from the north-west, is an apse 4 m wide and 4 m deep. To date, the investigations have reached neither the floor of this room nor its southern edge, where in addition to the arches there are other walls of uncertain function. Given the remains of hydraulic plaster conserved in some places and the visible calcareous incrustations, the structure brought to light can generically be interpreted as a pool. The overall impression is that it belongs to a fairly large complex, which is believed to have extended towards the south.

The presence of these baths complexes, which as we have seen were built to exploit the thermal springs in which the area of Karahayit abounds, suggests the existence of a settlement on the site of the modern village, in which some have proposed to recognise the city of Hydrela<sup>290</sup>, mentioned in various literary sources of the Roman-imperial and Byzantine periods and the source of various issues of coinage in the imperial period. As we have seen<sup>291</sup>, Ramsay located Hydrela in the north-western sector of the plain of the Lykos, in the area of the modern villages of Siğma and

<sup>290</sup> On this hypothesis see Uyar, Tarhan 2016, 174, and Uyar 2016, 160-161.

<sup>291</sup> See above pp. 24 and 43.

Beylerbeyi<sup>292</sup>, a hypothesis that was generally accepted by subsequent studies<sup>293</sup>. In this regard, it should be pointed out that the recent hypothesis of it being located near Karahayıt is not based on archaeological evidence. Indeed, as we have seen, the very existence of an ancient settlement near the modern village is uncertain. Besides, the structures brought to light may also have been used by the rural settlements in the area or, considering its vicinity, by Hierapolis itself.

## The temple of Develi

In 2005, on the south-east edge of the village of Develi (see above fig. 26, no. 66), at less than 2 km from Hierapolis, archaeologists from the Museum of Hierapolis-Denizli brought to light a small sanctuary with a temple built to a rectangular plan (about 7 m x 14 m). The temple has a façade facing north-west (fig. 114) and is decorated by a pediment with travertine cornices and a marble tympanum (fig. 115), at the centre of which is a female figure crowned with a diadem, identified with Aphrodite (Urania) or Demeter (perhaps assimilated to Gaia)<sup>294</sup>. Wearing a thin short-sleeved chiton cinched around the waist with a Herakles Knot, the divinity is emerging from an acanthus bush, framed by plant tendrils animated by three Erotes (one shoots an arrow, while the other two wrestle playfully) and the Graces. The pediment, made from a number of marble slabs, was added during the monumentalisation of the building in the Julio-Claudian period<sup>295</sup>; the head of the goddess is sculpted almost all the way round, probably the result of an ancient restoration. It is believed to have had a distyle *in antis* façade and stood on a podium inside which, below the cella, was a rectangular chamber with a vaulted ceiling, divided into two rooms. The narrow chamber is oriented lengthways with respect to the building, the walls of which are made of small limestone blocks bound with mortar and lined with parallelepiped blocks of travertine. Only the tympanum and the column bases and capitals were made of white marble, while the rest of the

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<sup>292</sup> Ramsay 1895, 172-175.

<sup>293</sup> Baysal 2000, 30-32; Primo 2011, 76.

<sup>294</sup> D'Andria 2011, 129; Yıldız 2011; Scardozzi 2013a, 84-85; Ritti 2017, 121, 138; Scardozzi 2019a, 101-102.

<sup>295</sup> Romeo, Panariti, Ungaro 2014, 190.

structure (the crepis, columns, anta pillars, three-band architraves, frieze, *simā* and *geison*) was in travertine.

On the basis of materials discovered in the excavation, it seems that the area in which the temple stood had already been frequented in the Hellenistic period. It is not known however whether the sacred area was isolated or located near a small settlement (on the site of the modern village of Develi) dependent on Hierapolis, from which the site could be reached via a road that crossed the North-West Necropolis and then descended to the plain of the Lykos. After the temple was abandoned, the area was occupied by a settlement probably of an agricultural nature dated to the proto-Byzantine period. In this phase the building was partly demolished for materials and partly extended to the east of the original temple, where various rooms were brought to light (fig. 116). Also from this period is a pit for the calcination of marble blocks.



**Fig. 114**  
Develi: remains of the  
façade of a temple  
brought to light on the  
south-eastern edge of the  
modern village.



**Fig. 115** Develi: marble tympanum of the temple.



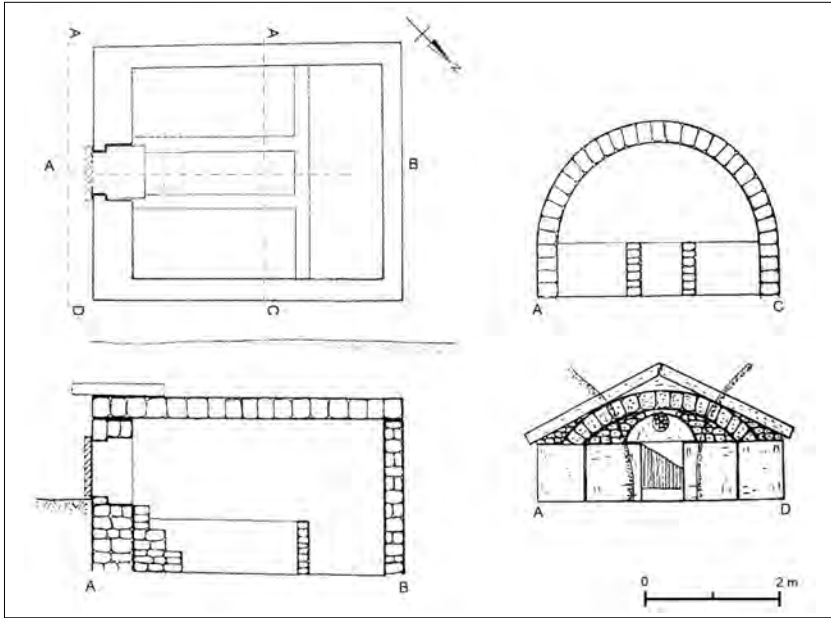
Fig. 116 Develi: structures north of the temple.

## The settlements of the *chora*

On the northern side of the Lykos valley, controlled by Hierapolis, in addition to the numerous rural settlements interpretable as farms<sup>296</sup>, there are the remains of at least three larger settlements, inhabited from the Hellenistic to the Byzantine periods. Two, not particularly extensive (covering 5-8.5 hectares) and of an obviously rural character, are located a short distance from each other (about 2 km) in the most northerly sector of the *chora*, near the modern village of Kocagözler and immediately to the south of the village of Eymir (see above fig. 26, nos. 1 and 5). The third stood on the site of the modern village of Küçükdereköy (fig. 26, no. 123), on the south-east edge of the *chora*. Its size is unknown, since the modern settlement covers it completely, but judging from the architectural elements discovered (which suggest the presence of buildings of a certain importance) and the considerable size of the necropolises, it appears to have been a fully-fledged village (*kòme*) of the type found on the plateaus of Uzunpınar and Çal<sup>297</sup>.

<sup>296</sup> See above pp. 129-140.

<sup>297</sup> See below pp. 179-205, 212-217, 255-264.



**Fig. 117** Chamber tomb brought to light in 1997 close to Akköy: floor plan, elevation and cross-sections (modified after Yıldız 1999, fig. 4).

It is not known however whether there were ancient settlements on the sites occupied today by the modern villages of Karahayıt, near which there were two baths complexes in use in the Roman-imperial and proto-Byzantine periods<sup>298</sup>, and Akköy, located on the ancient road between Hierapolis and Tripolis. Regarding the latter village in particular, the only discovery of importance, apart from the remains of a rural settlement on its eastern edge (fig. 26, no. 31), is a chamber tomb of the proto-Byzantine period on the south-western outskirts (fig. 26, no. 32), discovered in 1997 during the building of a channel. The tomb, excavated by archaeologists from the Museum of Hierapolis-Denizli, was entirely built with small limestone blocks bound with mortar and had a façade in the form of an aedicula, with a two-pitched roof and a triangular tympanum<sup>299</sup> (fig. 117). Above the entrance, facing

<sup>298</sup> See below pp. 141-146.

<sup>299</sup> Yıldız 1999, 249-251.

south-east, was a cross, while the chamber (3.70 m x 3.15 m), which had a vaulted ceiling (max height 2.25 m) and was accessed by means of three steps, had a central corridor (65 cm wide) with two lateral chests (cm 100 x 242) and one frontal chest (100 cm x 315 cm) for the depositions, all 80 cm high. In total the bones of 33 individuals were identified. The grave goods, which include gold jewellery and pieces made of bronze, document the high social level of the family that owned the tomb and demonstrate its use by successive generations from the 6<sup>th</sup> to the 7<sup>th</sup> centuries AD.

### Küçükdereköy

An ancient settlement is believed to have stood on the site of the central sector of the modern village of Küçükdereköy, about 4 km south-east of Hierapolis, on the slopes of the hills that delimit the plain of the Lykos to the north (fig. 26, no. 123). Inhabited from the Hellenistic to the Byzantine periods, it is located at the end of the narrow ravine of the Küçük Dere seasonal stream, which constituted a natural access route to the southern part of the plateau of Uzunpınar and perhaps marked the south-east limit of the *chora* of Hierapolis<sup>300</sup>, unless this boundary corresponded to the Koka Dere stream, further south-east<sup>301</sup>.

There are no reliable data regarding the size of the settlement (fig. 118), but inside the modern village, the masonry of the oldest buildings includes a large quantity of reused architectural materials composed of marble and above all travertine (fig. 119), including a fragmentary funerary inscription of the 3<sup>rd</sup> century AD, plausibly from one of the necropolises in the area immediately surrounding the settlement. These necropolises, which represent the most substantial archaeological evidence of the settlement's existence<sup>302</sup>, are mostly composed of rectangular pit graves (1.80-1.82 m long, 80-81 cm wide, 70-90 cm deep), excavated in the outcropping calcareous bedrock and originally covered by irregular slabs of the same material. The tombs, which have never been the object of archaeological excavations, can be generically dated to the Hellenistic and Roman-imperial periods on the basis of ceramic

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<sup>300</sup> Scardozzi 2011, 104-105.

<sup>301</sup> In this regard see above p. 24.

<sup>302</sup> Ritti, Scardozzi, Nocita 2016, 810-813; Scardozzi 2019a, 112-114.



**Fig. 118** "Space map" processed from a QuickBird-2 satellite ortho-image acquired in 2005, showing the location of the archaeological remains close to Küçükdereköy, including the hypothetical area of the ancient settlement, the necropolis (nos. 1-8) and the main ancient road system.

**Fig. 119**

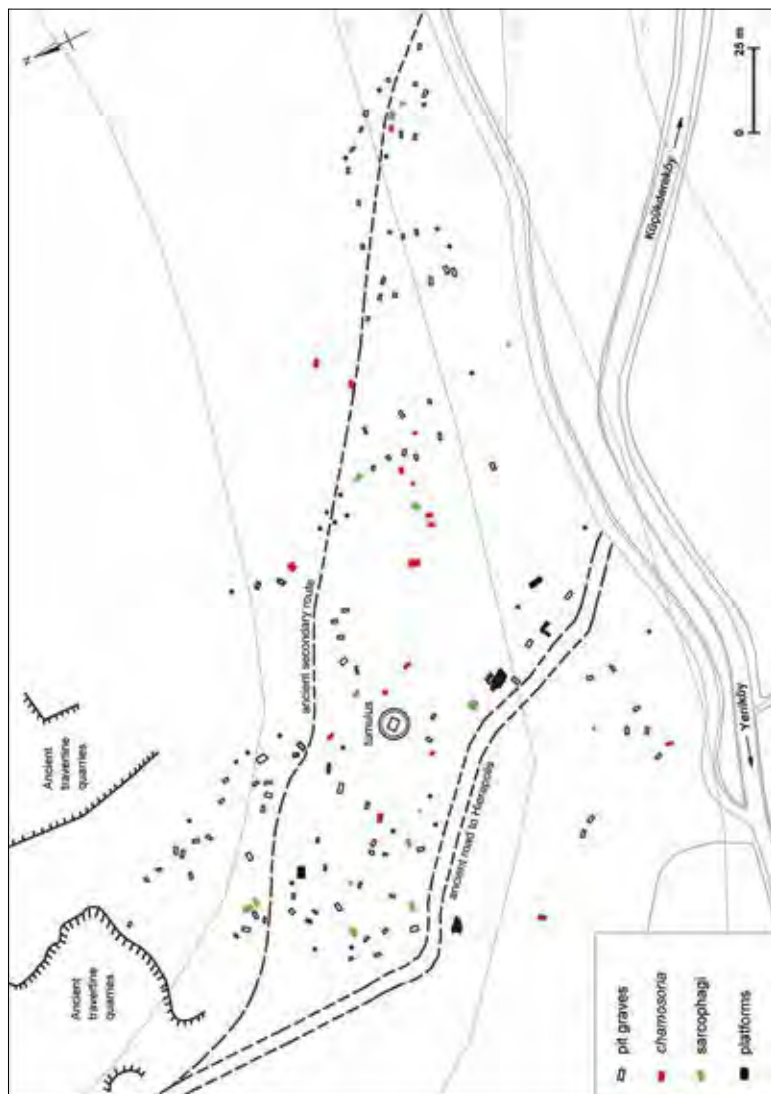
Byzantine architectural elements, decorated with two crosses pattée, reused in the village of Küçükdereköy.

**Fig. 120** General view of the large necropolis north-west of Küçükdereköy: in the foreground the tumulus is visible, with the remains of its *crepidoma* (A) and funerary chamber (B).

fragments in the spoil resulting from the unauthorised excavations conducted on many of these tombs<sup>303</sup>.

Three small burial areas are found on the hills near the eastern outskirts of Küçükdereköy (fig. 26, no. 125; fig. 118, nos. 4-6), and another, smaller in size, is situated

<sup>303</sup> Scardozi 2012a, 136-137; Scardozi 2016a, 22-27; Scardozi 2016b, 592-593.



**Fig. 121** General plan of the necropolis north-west of Küçükdereköy: points represent pit graves and chamosoria, which are largely buried, and fragments of sarcophagi.



**Fig. 122**

Necropolis to the north-west of Küçükdereköy: example of a pit grave brought to light by unauthorised excavations.

380 m to the south-east (fig. 118, no. 7). In these four necropolises, which all look on to an ancient road heading towards Colossae, a total of 50 pit graves were identified. Some burials of the same type were also discovered towards the north-east, not far from the road that is believed to have led up towards the plateau of Uzunpınar (fig. 26, no. 124; fig. 118, no. 8), while some architectural materials belonging to funerary monuments and fragments of sarcophagi were discovered south-west of the village (fig. 118, no. 3), near the road that flanked the north-western bank of the Küçük Dere and continued towards the plain of the Lykos.

The main necropolises are located north-west of Küçükdereköy, near the ancient road leading to Hierapolis. In this area, a cluster of about 30 pit graves is found on the north-western outskirts of the village (fig. 26, no. 121; fig. 118, no. 2), while 200 m further west (fig. 26, nos. 119-120; fig. 118, no. 1), in an area sloping towards the south, about 130 tombs are visible (figs. 120-121). Of these, 80% are pit graves (fig. 122), while the rest are *chamosoria* and sarcophagi with smooth travertine chests (fig. 123), mostly resting on simple bases made of travertine blocks<sup>304</sup>. In a few cases the sarcophagi are placed on more elaborate platforms, with benches whose legs are carved in the shape of lion's paws (fig. 124). The latter are mostly positioned near

<sup>304</sup> Castrianni, Di Giacomo, Ditaranto 2010-2011; Di Giacomo, Ditaranto, Scardozzi 2011.

**Fig. 123**

Necropolis to the north-west of Küçükdereköy: sarcophagus placed on a simple base made of travertine blocks.



**Fig. 124** Necropolis to the north-west of Küçükdereköy: benches with legs carved in the shape of lion's paws, belonging to a funerary building.

the ancient road and, like the sarcophagi, are made from travertine extracted from the nearby quarries situated just uphill from the necropolises. In addition, in the central part of the funerary area, there is a tumulus generically dated to the Hellenistic period. The remains of a circular *crepidoma* (fig. 120, A) and the rectangular funerary chamber (fig. 120, B), accessed via a *dromos*, are conserved.

Lastly, discovered in the plain immediately to the west of this settlement were some rural settlements (fig. 26, nos. 112-113, 115), interpretable as farms, associated with which are small clusters of pit graves excavated in outcropping rock at the edges of the cultivated areas (fig. 26, no. 114, 116).

## Kocagözler and Asar Tepe

The modern rural settlement of Kocagözler, on a flat terrace 580 m a.s.l. (fig. 26, no. 1), on the slope leading up from the plain of the Lykos towards the plateau of Uzunpınar, about 10 km north-west of Hierapolis, is largely built on the remains of an ancient settlement that occupied an area of about 5 hectares<sup>305</sup>. Discovered in the area were structures built with large blocks of limestone that are still visible on the surface, along with numerous fragments of tiles and bricks. Other blocks have been reused in the modern buildings and in the small cemetery nearby. The settlement was on an ancient road that led up from the Lykos valley towards the plateau. On the same road, further north-east, was another settlement of the *chora* of Hierapolis, situated near Eymir<sup>306</sup>.

Very interesting, albeit of uncertain interpretation, are the remains of walls found on the summit of the modest hill of Asar Tepe, situated less than 1 km south/south-east of Kocagözler, on the southern side of the valley of Pınarbaşı Dere (fig. 26, no. 12). Specifically, on the south-western side of the hill, unauthorised excavations have brought to light the remains of various walls, including a structure of which three walls arranged in a  $\Pi$ -shape are conserved. The wall parallel to the slope, conserved to a maximum height of 2.80 m, is 6.50 m long, while the two perpendicular walls extend 3.50 m into the side of the hill (fig. 125). Built with small blocks bound with mortar (which in some places seems to be covered with a waterproof coating made with mortar mixed with fragments of bricks and tiles), the structure may be from the late-imperial or Byzantine periods, at least to judge from the few ceramic fragments that have been discovered in the disturbed soil. On the north-eastern side of Asar Tepe, again as a result of unauthorised excavations, other structures in masonry are visible. Found at various levels along the slope, the walls parallel to the slope are conserved to a maximum height of 2 m and a maximum length of 6.75 m, while the perpendicular walls extend up to 2.90 m into the side of the hill. They are built with large parallelepiped limestone blocks, accurately squared and laid without mortar in close contact (fig. 126), with the later addition of other masonry consisting of small blocks bound with mortar.

<sup>305</sup> Scardozzi 2019a, 115-116.

<sup>306</sup> See below pp. 158-161.



**Fig. 125** Asar Tepe: structures on the south-western slope of the hill.



**Fig. 126** Asar Tepe: structures on the north-eastern slope of the hill.

Asar Tepe occupied a key strategic position granting control over the routes that led up from the plain of the Lykos towards the plateau of Uzunpınar. Generally speaking, until the chronology and function of this context are clarified by stratigraphic excavations, on the basis of the remains visible on the surface and the small quantity of ceramic materials scattered on the ground, it can only be hypothesised that a Late-Hellenistic/early-imperial phase was followed by an occupation of the site in the Byzantine period, when, to judge from the thick walls conserved and from the topography, it may have served as a small *phroúrion*. The same succession

of occupation is observed for the remains of a nearby rural settlement on a small upland situated just 250 m to the north-east (fig. 26, no. 11). Along the K rkuyu ridge, which stretches from here in a north-easterly direction as far as the village of Eymir, other rural settlements were discovered (fig. 26, nos. 2 and 4), together with clusters of pit graves (fig. 26, nos. 7-10), partly excavated in the outcropping bedrock and partly in the soil, lined and covered with limestone slabs<sup>307</sup>.

## Eymir

The village of Eymir lies at the northern end of a small terrace at an elevation of 830-850 metres, about 10 km north of Hierapolis, immediately below the western edge of the plateau of Uzunpınar. The modern town does not cover the ancient remains, but immediately to the south of its outskirts, on flat terrain, the remains of

**Fig. 127** The territory surrounding Eymir in a QuickBird-2 satellite image acquired in 2007: A, area occupied by the ancient settlement; B, funerary tumulus; C-D: pit graves; E, site of discovery of an inscribed stele, located along the route retracing the "horse road" mentioned by Ramsay; F, rock-cut chambers.



<sup>307</sup> Scardozzi 2016a, 28-29.



**Fig. 128** The funerary tumulus close to Eymir: the entrance seen from the north-west.



**Fig. 129** The tumulus close to Eymir: the funerary chamber seen from the south-west.

walls are partly visible and numerous clay fragments (tiles, ceramics and *dolia*) and pieces of building stone are scattered on the ground. The materials belong to an ancient settlement (about 8.5 hectares) inhabited from the Hellenistic to the proto-Byzantine periods (fig. 26, no. 5; fig. 127, A)<sup>308</sup>. The stone materials include pieces from oil and wine presses, while a monolithic basin used for crushing olives is present in a coeval rural settlement identified about 1 km to the west/north-west (fig.

<sup>308</sup> Ritti, Scardozzi, Nocita 2016, 814-817; Scardozzi 2019a, 117.

26, no. 2)<sup>309</sup>. The settlement was on the ancient road that led up from the Lykos valley towards the plateau of Uzunpınar after passing the modern village of Çeşmebaşı, partly exploiting the valley of the Mandama Dere seasonal stream (the “horse road” followed by Ramsay in 1883<sup>310</sup>).

Conserved on the southern edge of the ancient settlement are the remains of a funerary tumulus (Toptaş Tepe: fig. 26, no. 6; fig. 127, B), probably of the Hellenistic period. The rectangular chamber (2.20 m x 1.66 m), built with large parallelepiped travertine blocks, was accessible from the north via a short *dromos*, while the remains of the *crepidoma* are not visible (figs. 128-129)<sup>311</sup>. The tumulus seems to be isolated, but other areas with pit graves excavated in the terrain and lined with stone slabs have been discovered on various points on the western edge of the terrace (fig. 26, no. 3; fig. 127, C-D). Also important is the discovery of a fragmentary marble stele reused in the perimeter wall of the modern cemetery. It bears an honorary inscription of the 2<sup>nd</sup> or 3<sup>rd</sup> century AD which might mention the *demos* of Hierapolis (fig. 127, E; 130)<sup>312</sup>. Lastly, on the steep rocky slope that delimits the terrace of Eymir to the north-west (fig. 131)



**Fig. 130** Eymir: inscribed marble stele reused in the perimeter wall of the modern cemetery.

<sup>309</sup> Scardozzi 2012a, 134.

<sup>310</sup> Ramsay 1883, 376-377; Ramsay 1895, 122-124; see above pp. 47 and 113.

<sup>311</sup> Scardozzi 2012a, 138; Scardozzi 2016a, 28-29; Scardozzi 2016b, 28.

<sup>312</sup> Ritti, Scardozzi, Nocita 2016, 817.



**Fig. 131** Eymir: rock-cut chambers north-west of the village.

there are several rock-cut chambers. Facing south-east, they are arranged on various levels and have been affected by landslides, as have the paths, excavated in the rock, by which the rooms could be reached from above, in particular from the west. The rooms have complex layouts and some are of large dimensions (e.g. 3.50 m x 7 m and 6 m x 7.60 m, 1.80-1.90 m high). There are many recesses in the walls for seating wooden structures. The rock-cut rooms have been reused in the modern epoch as dwellings and agricultural shelters. The ceramics found in the terrain below are mostly from the Ottoman period, mixed with a small quantity of fragments dated to the mid-Byzantine period. There being no evidence of the chambers being used for funerary purposes, it may be assumed that they were used as dwellings.

## The monastery of Beyinli

The complex, which has never been the object of archaeological investigations, has been identified as a coenobitic monastery<sup>313</sup>. It is situated about 2 km north-east of Hierapolis (see above fig. 26, no. 134), on the south-eastern slopes of Beyinli

<sup>313</sup> On this hypothesis see Arthur 2006, 173-174. On this settlement see also Scardozzi 2011, 134; Scardozzi 2019a, 161.



**Fig. 132**  
Beyinli Tepe: general view of the site. The arrow (A) points the current entrance to the rock-cut chambers located at the top of the cave.



**Fig. 133** The settlement of Beyinli Tepe: general view of the remains. It is also possible to see the entrances to the rock-cut chambers located in the upper part of the cave.

Tepe, in a rather secluded location away from the plain of the Lykos. At an elevation of 640 metres a.s.l., it looks on to a narrow valley open to the south and south/south-west, with good views over a broad stretch of the plain in the direction of Laodikeia. In contrast, there was no visual connection with Hierapolis, which could be reached via a route still in use today as a mule track. This reached the city from the east and was part of a road that led up from the plain of the Lykos to the plateau of Uzunpınar (see above fig. 80, G), passing just west of Beyinli Tepe.

The complex occupies a large cave (45 m wide, 22 m deep and up to 30 m high) facing south-east (fig. 132). Running right across the entrance to the cave are the remains of walls in a collapsed state, today largely buried (fig. 133). Without conducting an excavation, it is difficult to determine the floor plan of the complex. However, the visible walls suggest that the entrance to the cave was closed by a continuous series of constructions aligned along a south-west/north-east axis, occupying an area at least 8 m wide. Various quadrangular spaces can be recognised and the structures may have been arranged on at least two levels. The walls (fig. 134) are mostly conserved to a height of 2-2.5 m and vary in thickness from 60 to 80 cm, although the outermost wall has a height of more than 3 m and a thickness of 1.60 m. Built with small stones bound with abundant mortar, they were originally mostly plastered. There are also a number of clay bricks in the walls, generally not arranged in regular courses. Immediately outside the cave, the terrain descends steeply. In the central part of the complex there is believed to have been a doorway to the innermost sector of the cave, where other structures were found. Today the latter are largely buried or covered by material from rock falls, a considerable part of the vault having collapsed. They include two stretches of wall conserved in the easternmost sector of the cave (3.50 m long, 80 cm thick, 1.10 m high; 3.20 m long, 60 cm thick, 1.70 m high), the second of which reaches the ceiling of the chamber, quite low in this area, and is plastered. Also conserved in this area is a short stretch of a channel excavated in the rock and partially lined with bricks and mortar (fig. 134, A). It appears to descend from the area further north, where there are many springs, and it may have served to supply water to the complex.

Scattered on the ground are numerous clay fragments, partly brought to light by unauthorised excavations. In addition to bricks from the walls and tiles from the

**Fig. 134**

The settlement of Beyinli Tepe: detail of the structures in the eastern sector of the cave. The arrow (A) points the housing of a water pipe.



**Fig. 135**

The settlement of Beyinli Tepe: remains of a fresco showing a nimbate head preserved within a rock-cut chamber.



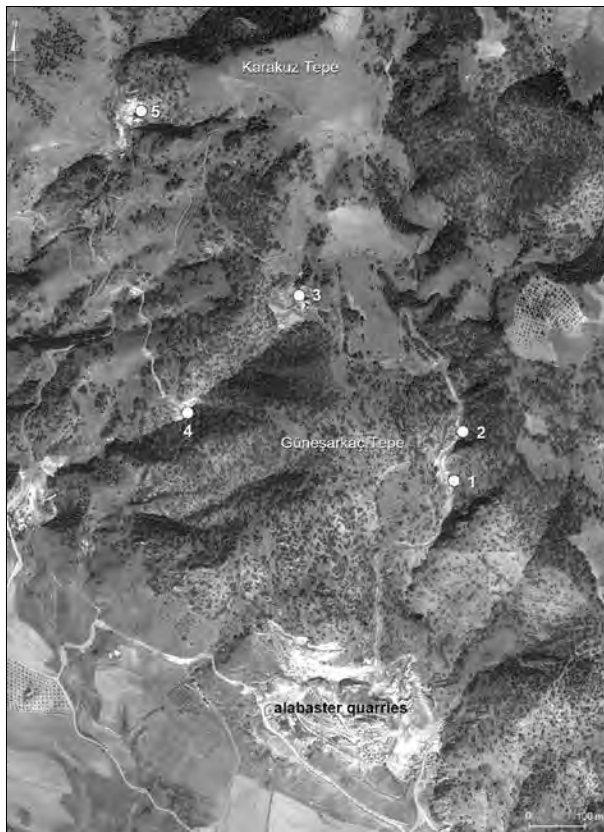
roofing, there is also proto-Byzantine and above all mid-Byzantine pottery (coarse ware, cooking pots and medium-to-large containers for foodstuffs), which seem to document the occupation of the settlement from the 6<sup>th</sup> to the 11<sup>th</sup>/12<sup>th</sup> centuries AD.

On the back wall of the cave, at about 15 m from the floor, there are a number of rock-cut chambers which are originally believed to have been accessed by means of wooden staircases. Today the only way to reach them is via a natural opening in the rock face outside the cave, accessed with the help of ropes (fig. 132, A), which leads to a warren of tunnels and chambers excavated in the heart of the mountain. This complex, explored in 2005 by a team of Turkish speleologists, is characterised

by the use of walls to complete the underground chambers, which in at least two cases appear to be cisterns (2 m x 2 m and 2 m x 3.5 m, 1.5-2 m high). Some of the rock-cut chambers have plastered walls: one of these possibly bears incised Greek inscriptions, while in at least one other the remains of a fresco are conserved, in which two nimbate heads may be distinguished (fig. 135).

## The alabaster and marble quarries of Gölemezli

Situated about 3.5 km north-west of the village of Gölemezli (see above fig. 8), on the northern side of the Lykos valley, 13 km north-west of Hierapolis, are some ancient quarries of calcite alabaster and marble. It is uncertain whether they



**Fig. 136** Pléiades satellite image acquired in 2016 showing the location of the alabaster and marble (nos. 1-5) quarries of Gölemezli.



**Fig. 137** The alabaster quarries of Gölemezli: general view from the south. The arrow (A) points the remains of the ancient extraction area.

lay within the *chora* of Hierapolis or that of Tripolis, which was closer, at a distance of 7 km. As with the marble and alabaster quarries of Hierapolis<sup>314</sup>, archaeometric analyses were performed on those of Gölemezli in order to shed light on their exploitation by the cities of the Lykos valley and the distribution of materials that were extracted here<sup>315</sup>.

The alabaster quarries (fig. 136)<sup>316</sup>, today largely destroyed as a result of the resumption of extraction (figs. 137-138), were on the southern side of Güneşarkaç Tepe. They exploited veins of banded travertine inside the fissure-ridges immediately below the main fault (here referred to as the Akköy or Gölemezli segment), which marks the northern boundary of the plain of the Lykos<sup>317</sup>. Until the late 20<sup>th</sup> century

<sup>314</sup> See above pp. 66-82.

<sup>315</sup> On the alabaster of Gölemezli see Brill et alii 2018; Brill, Giustini, Scardozi 2019; Scardozi 2019b, 535-540. On the marble of Gölemezli see Brill et alii 2015, 133-137; Brill et alii 2016, 111-112.

<sup>316</sup> Waelkens, De Paepe, Moens 1987, 117; Bruno 2002, 20-23; Scardozi 2010a, 355-356; Scardozi 2012c, 578-579; Scardozi 2016c, 95, 97; Scardozi 2016e, 157-159.

<sup>317</sup> Çakır 1999, 73; Marabini, Scardozi 2015, 267-268; Capezuoli et alii 2018.



**Fig. 138** The alabaster quarries of Gölemezli: modern quarry face (documented in 2006).



**Fig. 139** The alabaster quarries of Gölemezli: remains of an ancient quarry face.

four extractive trenches were visible, parallel to each other and oriented transversally with respect to the slope of the mountain. They were 30–40 m long, 3–10 m wide and 8–10 m deep. It is calculated that from these quarries at least 6,400 m<sup>3</sup> of material was extracted. Today only a short stretch of the north wall of the northernmost trench is conserved (figs. 137, A; 139), while numerous fragments from the ancient quarrying faces, bearing clear pickaxe marks, are visible among the detritus of the modern quarry. The varieties of alabaster extracted here were the same as those found near Hierapolis, i.e. white (“ghiaccione”) and coloured (“listato” and “fiorito” or “a rosa”). Recent archaeometric analyses have shown the extensive use of this material in Hierapolis during the imperial period, as well as in Tripolis<sup>318</sup>.

<sup>318</sup> Scardozi 2019b, 537–540.



**Fig. 140** The marble quarries of Gölemezli: ancient extraction area on the eastern slope of the Güneşarkaç Tepe.

The marble quarries are found immediately above the main fault and hence above the alabaster quarries, from which they could be reached via a road partially carved in the rock. This was a modest-sized extractive area, in which five hillside quarries with the extraction faces worked in a stepped pattern were identified on the eastern and northern slopes of Güneşarkaç Tepe and on the south-western slopes of Karakuz Tepe (fig. 136, nos. 1-5). Although the recent resumption of extraction has destroyed many of the ancient quarrying faces, some of these, 10-37 m long and 4-7 m high, excavated in the side of the mountain to a depth of up to 10 m, can still be seen (fig. 140)<sup>319</sup>. Gölemezli marble is generally white, fairly compact and shiny, at times with rust-coloured veining. It is medium-to-coarse grained (maximum size of the crystals 3-5 mm) and a grey variety has also been documented. The archaeometric investigations have shown that this marble was barely used at all in Hierapolis (where it accounted for about 1% of the total marble used), mostly being limited

<sup>319</sup> Scardozi 2010a, 356; Scardozi 2012a, 120; Ditaranto 2016, 98-100; Scardozi 2016c, 85-88; Scardozi 2017, 178-179; Di Giacomo, Ismaelli, Scardozi 2018, quarries GM1-GM5.

to a few sarcophagi produced in the 2<sup>nd</sup> and 3<sup>rd</sup> centuries AD<sup>320</sup>. In contrast, macroscopic examination of architectural marbles suggests that it was used extensively in Tripolis, which was closer.

## The cave of Ballık Dere

Along the north-eastern edge of the Lykos valley, about 3 km north of the village of Gölemezli (see above fig. 8), is a possible rock-cut place of worship situated on the northern side of the narrow ravine of the seasonal stream called Ballık Dere<sup>321</sup>. The site, visited by Ramsay in 1883<sup>322</sup> and reachable via a path carved in the rock about 1.5 m wide, is located 700 m east/south-east of the ancient alabaster quarries of Gölemezli, about 12 km north-west of Hierapolis, and is characterised by the presence of several natural caves. The underground chambers are found in a rock face on the north side of a natural shelf 7-9 m wide and just over 40 m long, oriented south-west/north-east (figs. 141, A; 142) and delimited on the south side by the water course that runs in a groove in the bedrock a few metres further down the slope. On the southern edge of the shelf are the remains of walls built with small



**Fig. 141** A stretch of the narrow gorge of Ballık Dere in a WorldView-3 satellite image acquired in 2018.

<sup>320</sup> Scardozi 2016d, 423, 433-434.

<sup>321</sup> Scardozi 2013a, 84; Scardozi 2019a, 117-119; Ditaranto, Filippini, Scardozi forthcoming.

<sup>322</sup> Ramsay 1883, 375-376, note 1; Ramsay 1895, 89 and 115, note 17.



**Fig. 142** Gorge of Ballık Dere: view of the natural shelf in front of the caves.

irregular limestone blocks bound with mortar. Bearing traces of plaster, these walls partly served to support the shelf itself. Probably built in the Byzantine period, they perhaps belonged to a settlement that also made use of other underground chambers on a lower level, closer to the water course. The ceramics present on the surface are dated to the Roman-imperial and Byzantine periods, documenting various phases of occupation of the site. The remains of a quadrangular walled structure (about 6 m x 7 m), built with small blocks of limestone bound with mortar and laid in a more regular manner than the walls described above, without plaster, are found on a small upland immediately to the south of the water course (figs. 141, B; 143), which here flows in a large bend. This structure, which on the basis of the construction technique can be dated to the Roman-imperial period, could be reached from the above-mentioned shelf via a small bridge, now collapsed, built with the same technique.

In the first cave from the west of those on the northern edge of the shelf (fig. 144), partially filled with detritus and apparently not interfered with, at least five inscriptions are incised (fig. 145). The texts are close together on the western side of the ceiling, sloping and affected by many rock falls, at about 3 m from the ground. The reading of the texts, generically dated to 2<sup>nd</sup> or 3<sup>rd</sup> century AD on the basis of



**Fig. 143** Gorge of Ballık Dere: structures on the small upland to the south of the water course.



**Fig. 144** Gorge of Ballık Dere: the cave with the inscriptions. The arrow points the part of the ceiling where the texts are incised.

the palaeography, is hampered by the shallowness of the carving and the erosion of the rocky surface. One of the inscriptions, positioned inside a *tabella ansata* also incised in the rock (fig. 145, A), was read by Ramsay: it consists of a dedication to a divinity whose name is not given, although for the scholar it could be recognised

**Fig. 145** Gorge of Ballik Dere: the five inscriptions inside the cave.



as *Meter Latona*<sup>323</sup>. However, considering the characteristics of the site, highly integrated in the natural context, the identification of the divinity with *Meter Cybele* cannot be excluded<sup>324</sup>. Lastly, regarding the other inscriptions, it should be pointed out that only one other is inside a *tabella ansata* (fig. 145, B), while the remaining inscriptions are not framed in any way. Worthy of mention are the expression Ἀγαθῆ Τύχη (fig. 145, D), highlighting the sacred character of the site in its earliest phase of occupation, and a text mentioning a ναός (fig. 145, E), perhaps referring to a small sacellum that may have been built inside the cave itself or on the shelf, or to the quadrangular structure immediately to the south of the water course.

<sup>323</sup> Ramsay 1883, 375; Ramsay 1887, 348; Ramsay 1895, 115.

<sup>324</sup> On the worships of *Meter Cybele* and *Meter Latona* in Hierapolis and its territory see Ritti 2017, 100-101 and 106-107.

## THE PLATEAU OF UZUNPINAR

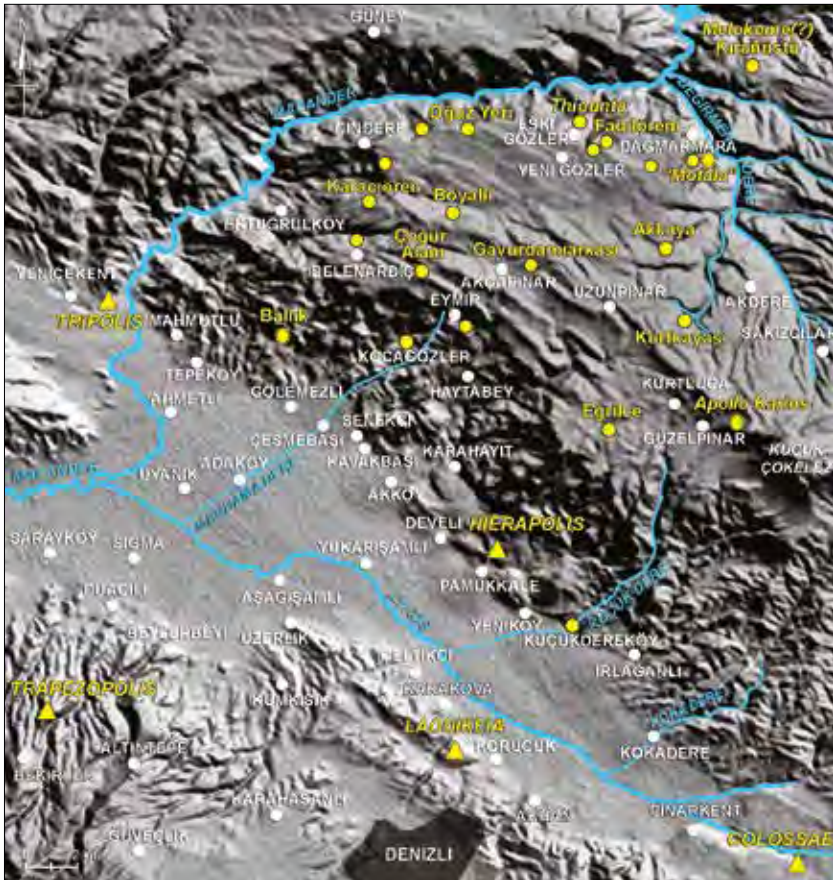
On the plateau of Uzunpinar (fig. 146), the research has shown that from the Hellenistic to the Byzantine periods the area was characterised by the presence of numerous settlements varying in area from 1 to 19 hectares, generally 2-4 km apart<sup>325</sup>. In terms of their size and the quantity of archaeological evidence that they have yielded, some of them can be interpreted as fully-fledged villages (*kòmai*). A prime example is Thiounta, situated near Eski Gözler, on the northern edge of the plateau, about 20 km north of Hierapolis. Mentioned in the epigraphical sources, it is believed to have been the main village in this area. To Thiounta may be added two settlements whose ancient names are unknown, one in the Boyallı district and one on Gavurdamiarkası Tepe, in the central-western sector of the plateau, respectively 16 and 13 km from Hierapolis. Then there is the settlement that hosted the community of the Motaleis (perhaps called “Motala” or “Motaleia”), located just beyond the north-eastern edge of the plateau, on the western side of the valley that separates it from the region of Çal, 21 km north-east of Hierapolis. In addition to these there are some smaller settlements varying in size from 1 to 7.5 hectares, with one reaching 12 hectares. Of an exclusively agricultural character, they yielded no epigraphs nor buildings or artefacts made with marble.

In most of the settlements on the plateau of Uzunpinar, the archaeological materials indicate that they were occupied from the Hellenistic age to the proto-Byzantine epoch. However, in a few cases (such as Thiounta-Fadılöreni, Boyallı, Gavurdamiarkası Tepe, Kurtkayası Tepe, Akkaya, Karacıören Tepe, and those close to Belenardıç and Cindere), there is evidence that they survived until the mid-Byzantine period. In this latter phase, as in the Lykos valley<sup>326</sup>, the scattered model of settlement that had

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<sup>325</sup> Scardozi 2011, 116-126; Scardozi 2014, 97-100; Scardozi 2019a, 120-149.

<sup>326</sup> See above p. 62.



**Fig. 146** Digital elevation model of the Uzunpinar plateau and the Lykos valley below: ancient cities (triangles), major villages and settlements (points) and sacred areas (asterisks) are in yellow; ancient names are in italics.

characterised the preceding centuries was replaced by one in which the population was concentrated in villages, which they left every day to cultivate the surrounding fields<sup>327</sup>. This contrasted with the model that had lasted from the Hellenistic to the proto-Byzantine periods, when the above-mentioned villages were accompanied by rural settlements interpretable as farms, which however seem to have been

<sup>327</sup> In this regard see also D'Andria 2018a, 167-169.

less numerous than in the Lykos valley. In addition, the farms seem to be mostly limited to the southern and south-western edges of the plateau, closer to the slopes that descend towards the plain. The archaeological evidence from the plateau also includes tombs and small and apparently isolated necropolises, which document the existence of further settlements not identified in the course of the surveys. Also identified in this area were some important sacred areas, especially near Thiounta-Fadilöreni, “Motala” and just east of Güzelpınar, where there was a site dedicated to the indigenous god Karios, whose cult was adopted in Hierapolis as Apollo Káreios. Lastly, the ancient road network survives in the form of many country lanes, reflecting the generally good conservation of the historic agrarian landscape.

The epigraphical documentation shows that some of the bigger villages on the plateau of Uzunpinar, including Thiounta and “Motala”, enjoyed a degree of administrative autonomy while remaining subordinate to Hierapolis<sup>328</sup>, which is believed to have acquired control over this area in the Hellenistic period<sup>329</sup>. The archaeological data available document the intense agricultural exploitation of this area, rich in water courses and springs. Indeed, today there are many toponyms that include the Turkish word “*pınar*” (“spring”), although the area is less fertile than the Lykos valley, partly a result of the higher elevation, generally above 1000 metres.

It should be pointed out that the majority of the settlements (including the large ones on Gavurdamarkası Tepe and in the districts of Boyallı and Thiounta-Fadilöreni) are found in its central-northern sector, which is relatively lower, more fertile and able to provide subsistence for a larger number of settlements. Here the type of occupation found mirrors that of the area today, with the population concentrated in villages rather than a more scattered pattern of settlement, characterised by small rural buildings occupied temporarily in accordance with the needs of agriculture. The intensive and systematic exploitation of the territory is also attested by the presence of a regular division of the farmland into lots, which is believed to have arisen in the Hellenistic period. In contrast, the southern sector of the plateau is much less densely-populated. Higher and more mountainous, with the bedrock

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<sup>328</sup> Robert 1983a, 59.

<sup>329</sup> See above pp. 25-27.



**Fig. 147** Uzunpinar plateau: stone elements of a small grape press dated to the 19<sup>th</sup> or first half of the 20<sup>th</sup> century.

outcropping in many places, it is characterised today, as it probably was in ancient times, by extensive areas of woodland and pasture.

Prominent among the archaeological discoveries made in the course of the investigations of the surface are the numerous counterweights for presses. Considering the elevation of this area and the almost total absence of olive crushers (with the exception of the areas around Thiounta and Cindere, where two olive-crushing millstones were discovered and olives are still cultivated today on the slope that descends towards the Maeander), most of them are believed to have been used in grape presses. This is borne out by the presence of small stone presses for grapes (figs. 147-148) dated to the 19<sup>th</sup> and 20<sup>th</sup> centuries that were used for the production of *pekmez* (a drink based on boiled grape juice). Viticulture is thus believed to have been widely practised on the plateau of Uzunpinar, especially in the central and northern sectors, as well as on the nearby plateau of Çal, which has similar features and is still

characterised by the extensive presence of vineyards today<sup>330</sup>. Indeed, given the high elevation and the low winter temperatures, the plateau is unsuitable for the cultivation of olives, with the exception of the valleys offering shelter from the northern winds. Decisive confirmation of the widespread presence of viticulture is also provided by epigraphical documentation dated to the Roman-imperial period. Specifically, three fragmentary inscriptions of the 2<sup>nd</sup> and 3<sup>rd</sup> centuries AD, discovered in Thiounta-Fadilöreni<sup>331</sup> and Yüksektepe-“Motala”<sup>332</sup>, in the north-eastern sector of the plateau of Uzunpınar, and in Develer-Kagyetta<sup>333</sup>, on the plateau of Çal, refer to laws protecting vineyards from damage caused by herds of grazing sheep. In addition, two dedications from the sanctuary of Apollo Helios Lairbenós, further to the north, mention a village called Motellokepos, i.e. “vineyard of Motella”<sup>334</sup>, the latter being a city located beyond the Maeander, immediately to the north of the sanctuary, near Yeşilova (Medele)<sup>335</sup>. Moreover, 19<sup>th</sup>-century European travellers also highlighted the widespread presence of viticulture in these areas<sup>336</sup>.

The three recorded epigraphs with the laws protecting vineyards, plausibly promulgated in Hierapolis, also document, with slight differences between the texts, the presence of livestock rearing and grazing on the plateaus of Uzunpınar and Çal, providing further testimony of the tension between cultivators and shepherds that has characterised much of human history<sup>337</sup>. Another highly fragmentary text from Thiounta seems to contain similar norms, making reference to various agricultural products<sup>338</sup>. These texts were discovered along an ancient route that led from Thio-

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<sup>330</sup> For the presence of viticulture on about half of the agricultural land in the Çal region, in particular in the north-western sector of the plateau, see Kadioğlu 2008.

<sup>331</sup> Ritti 2002, 66; Ritti, Guizzi, Miranda 2008, 68-72, no. 15.

<sup>332</sup> Scardozzi 2014, 100; Ritti, Scardozzi forthcoming.

<sup>333</sup> Ritti, Guizzi, Miranda 2008, 68-70, no. 15; Thonemann 2011, 193-195.

<sup>334</sup> On the epigraphic references to the ancient village of Motellokepos, not yet identified by archaeological research, see Ritti, Şimşek, Yıldız 2000, 10, no. D11; Öztürk, Tanrıver 2008, 105-106, no. 19; Thonemann 2011, 193.

<sup>335</sup> On Motella see above pp. 29-30.

<sup>336</sup> See, for example, Arundell 1828, 233, and Ramsay 1895, 127.

<sup>337</sup> In this regard see also Thonemann 2011, 193-195.

<sup>338</sup> Ritti, Scardozzi forthcoming.

**Fig. 148** Uzunpinar plateau: detail of the ara of a small grape press dated to the 19<sup>th</sup> or 20<sup>th</sup> century.



unta and the north-eastern sector of the plateau of Uzunpinar, crossed the valley of the Değirmen Dere and continued northwards towards the north-western sector of the plateau of Çal. It is possible that other inscriptions of the same kind were present in this territory and along the transhumance routes originating in the Lykos valley. Indeed, the herds of sheep (and cattle, referenced in the text from “Motala”) may have been moved from autumn and winter pastures in the plain to spring and summer pastures on the plateaus. These movements provided an opportunity for the animals, if not carefully supervised by the herdsmen, to graze on the vineyards while they were budding (at the beginning of spring) and when they were laden with fruit (at the end of summer).

The rearing of livestock, especially sheep, must have been important not only for the production of milk and meat, but also for the high-quality wool that was used in one of the main economic sectors of Hierapolis in the Roman-imperial period, i.e. textiles and dying<sup>339</sup>. The text from Develer-Kagyetta also refers to wheat, and cereal cultivation is believed to have constituted another important sector of the agricultural economy of the plateaus. Lastly, another important resource for this region must have

<sup>339</sup> In this regard see Thonemann 2011, 186-195; Ritti 2017, 20-21.

been timber from the forests. As mentioned above, today (and probably in ancient times) these forests occupy above all the southern sector of the plateau of Uzunpinar.

In conclusion, the archaeological discoveries and the epigraphical documentation show that the plateau of Uzunpinar and, to a lesser extent, that of Çal were characterised by a mixed economy based on agriculture and livestock rearing. It is believed to have produced goods for local subsistence, but it may also have supplied Hierapolis and its market, which, as we have seen, was situated on important routes linking the Anatolian hinterland with the Aegean coast via the Lykos valley.

## Thiounta

Considering the extent of the archaeological and epigraphical evidence, the village of Thiounta can definitely be described as the most important in the territory of Hierapolis. It stood on the northern edge of the plateau of Uzunpinar, about 20 km north of Hierapolis, near the modern village of Eski Gözler, destroyed by an earthquake in 1976 (see above fig. 146)<sup>340</sup>. This site has yielded numerous inscriptions of the Roman-imperial period, some of which refer to the *demos* of Thiounta, mentioned in epigraphs from as early as the 1<sup>st</sup> century AD<sup>341</sup>. Among the later texts referring to this village is a Byzantine inscription bearing an invocation to the Lord and the archangels Michael, Gabriel, Israel (*sic*) and Raphael<sup>342</sup>.

As a result of research conducted from 1883 to 1888, Ramsay was able to locate the village of Thiounta just below Eski Gözler, on the terraced slope that descends towards the Maeander. A key piece of evidence in this regard was the discovery, about one mile north of the modern village (fig. 149, G), of two large inscribed stelae (about 2.45 m high, 140 m wide, 40 cm thick) mentioning the *demos* of the ancient settlement<sup>343</sup>. Two inscribed fragments of one of these artefacts, which had

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<sup>340</sup> Ramsay 1895, 124-126; Robert 1962, 140-141; Robert 1963, 247; Robert 1983a, 49; Belke, Mersich 1990, 404; Ritti 2002a, 41-54; Ritti, Miranda, Guizzi 2008, 19, 98-100, 124, 140; Scardozi 2011, 123-124; Castrianni, Scardozi 2012, 87-95; Scardozi 2013a, 76-79; Scardozi 2014, 100-101; Ritti, Scardozi, Nocita 2016, 818-827; Scardozi 2019a, 134-147; Ritti, Scardozi forthcoming.

<sup>341</sup> On two texts from this period mentioning the *demos*, recently discovered, see Ritti, Scardozi forthcoming.

<sup>342</sup> Ramsay 1897, 540-541, no. 404.

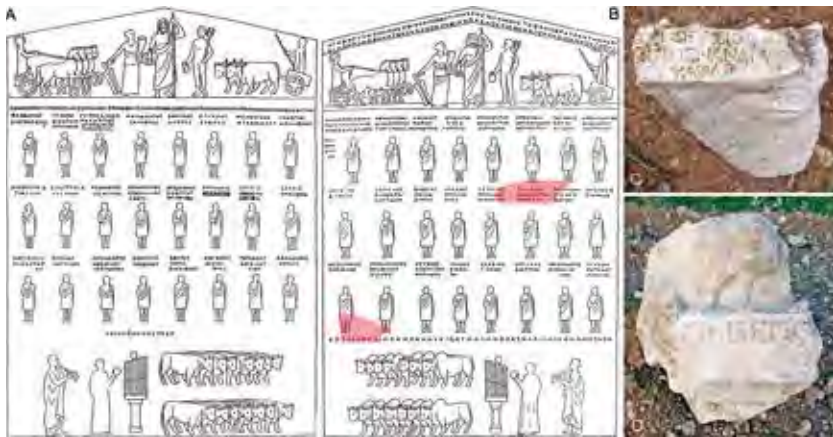
<sup>343</sup> Ramsay 1895, 142-144, nos. 30-31; Ramsay 1928, 196-211. On these inscribed artefacts see also Ritti 2002a, 47-52; Scardozi 2013a, 76-78; Ritti, Scardozi forthcoming.



Fig. 149 The area of Thionta in a Pléiades satellite image acquired in 2017.

been lost after the Scottish archaeologist's research, were recently identified (fig. 150)<sup>344</sup>. The stelae were commissioned and erected, each with a crown, by the *demos* of Thionta in honour of two confraternities (*phratrai*) who had organised and borne the relative costs of cult ceremonies officiated by a priest. These feasts, accompanied by music, were held night and day, with banquets, libations and animal sacrifices. The two stelae have the same general scheme, with limited variations. At the top, on the pediment, is a relief showing the divinities venerated by the religious association, whose names are not given. In the centre is a standing Zeus, wearing a tunic and *himation*, with the eagle and the sceptre, flanked by Hermes, nude, with

<sup>344</sup> Scardozzi 2013a, 77-78; Ritti, Scardozzi forthcoming.



**Fig. 150** Reconstructive drawings of the inscribed stelae A and B discovered by W.M. Ramsay immediately downstream of the Aşağı Gözler area and related to Thiounta (after Ramsay 1928, figs. 1-2). Fragments of stela B, recently found in the same site, are highlighted on the drawing and shown in the insets on the right (C-D).

the caduceus and a bag, and Tyche, with the cornucopia and the helm. On the edges are two wheeled vehicles driving towards the centre: on the left the quadriga of Helios and on the right a cart drawn by two oxen driven by a figure who may be recognised as the hero Gordios. Below the pediment on both stelae are three rows of standing male figures representing the members of the association, each identified by their full name. They are offering oil (for nocturnal illumination?) for the eight days of the feast. Lastly, the lower part of the stelae shows the moment before the sacrifice offered by the association during the feast: a flautist, an organ player and two superimposed rows of seven oxen. The stelae are both dated to the 2<sup>nd</sup> century AD, but, on the basis of the family relations of the personages mentioned, Ramsay judged one to be more ancient than the other. Moreover, in the second stela, which is characterised by the presence of oxen with small humps and the scene of the sacrifice facing the opposite way with respect to the first stela, among the members of the *phratra* there is also a *paraphylax*<sup>345</sup>.

<sup>345</sup> On the *paraphylakes* see above pp. 25-26.



**Fig. 151** View from the east of the Aşağı Gözler area (A), site of the ancient village of Thiounta, located below Eski Gözler (B).

The archaeological remains attributable to the ancient settlement, seen by Arundell in 1826<sup>346</sup>, are found on a terrace today called Aşağı Gözler (fig. 149, H; fig. 151, A), which has an area of about 6 hectares. It is situated on the slope that descends towards the Maeander, 300 m north-east of the ruins of the modern village (fig. 151, B), in which many ancient blocks and architectural elements in travertine and marble, as well as fragments of roof tiles and large containers for foodstuffs, were reused. In 1953, Ballance recorded three epigraphs here<sup>347</sup>, one of which included a list of building trades, dated to the 3<sup>rd</sup> century AD, together with an honorary inscription of the 2<sup>nd</sup> century AD commissioned by the confraternity of the Arzimneis, also attested in the sacred area of the Motaleis situated about 5.5 km south-east of Thiounta<sup>348</sup>. The terrace of Aşağı Gözler, on which numerous stone materials and fragments of bricks, tiles and pottery dated to the Roman-imperial and Byzantine periods are scattered, represents only a part of the area occupied by the ancient settlement, much of which has been obliterated by landslides. Also attributable to Thiounta are the fired clay and stone fragments scattered over a terrace of about 2 hectares situated about 500 m to the west (fig. 149, C), in the narrow valley beyond the hill of Bozburun, also on a slope descending towards the Maeander.

<sup>346</sup> Arundell 1828, 231-232; Arundell 1834, 71.

<sup>347</sup> On these epigraphs see Ritti, Scardozzi forthcoming.

<sup>348</sup> In this regard see below p. 215.



**Fig. 152** Stele from Aşağı Gözler dedicated to the priest Theotimos (from Ritti, Guizzi, Miranda 2008, no. 54).

The area of Aşağı Gözler, where unauthorised excavations have also brought to light walls built with large parallelepiped limestone blocks, have yielded various inscribed artefacts, including a fragmentary white marble stele with a bust of Zeus wearing a long-haired woollen garment beneath the himation in relief in the pediment (fig. 152). The stele has an inscription, dated to the 2<sup>nd</sup> century AD, declaring that the artefact, together with a crown, was commissioned by the *demos* of Thiounta in order to honour the priest Theotimos<sup>349</sup>. A representation of Zeus appears on another stele of uncertain provenance, although it is also plausibly from Thiounta, dated to the imperial period, in which the god is standing, holding an eagle and the sceptre surmounted by another eagle, and is accompanied by a small Hermes standing on

<sup>349</sup> Sheppard 1981, 23-24, no. 4; Ritti 2002a, 52-54; Ritti, Miranda, Guizzi 2008, 140, no. 54.

a base holding the caduceus (fig. 153)<sup>350</sup>. The former, wearing a long-haired sheep or goat skin beneath a cloak, venerated especially by the inhabitants of Thiounta (and by the nearby Motaleis)<sup>351</sup>, has been recognised as Bozios, an indigenous god assimilated to Zeus who also appears on coins minted in Hierapolis<sup>352</sup>. In this regard it should be pointed out that the importance of Zeus Bozios among the local cults is documented by a dedication to the god and the emperor Claudius (fig. 154), from Yeni Gözler (fig. 149, no. 3) but discovered in Aşağı Gözler<sup>353</sup>. To this may be added the recent discovery in the same area of two new dedications to the same divinity dated to the



**Fig. 153** Votive relief depicting Zeus, probably from Thiounta.

2<sup>nd</sup> or 3<sup>rd</sup> century AD and the reference to offerings and sacrifices in his honour recorded in an inscription of the late 2<sup>nd</sup> or first half of the 3<sup>rd</sup> century AD<sup>354</sup>. The same village has also yielded representations of Zeus that reflect more conventional iconographical canons, wearing a tunic and *himation* and holding a high sceptre in the right hand and an eagle in the left. Indeed, he is represented this way on a stele

<sup>350</sup> Malay 1994, 177, no. 10; Ritti 2002a, 51-52; Ritti, Miranda, Guizzi 2008, 98-100, no. 32.

<sup>351</sup> In this regard see below p. 215.

<sup>352</sup> Miranda De Martino, Ritti, Scardozi 2012, 705; Ritti 2017, 107-108.

<sup>353</sup> Ritti, Scardozi, Nocita 2016, 823-824.

<sup>354</sup> Ritti, Scardozi forthcoming.



**Fig. 154** Fragmentary slab with a dedication to Zeus Bozios and the emperor Claudius, discovered in Aşağı Gözler.

without epigraphs, together with Tyche, who is holding a helm in his right hand and a cornucopia in the left<sup>355</sup>. In addition, in Thiounta Zeus was also venerated with the appellative *sotér* (“saviour”), as documented by the dedication on a limestone altar, probably from the 2<sup>nd</sup> century AD<sup>356</sup>. The altar has two heads of bulls or rams in the upper corners of the front face and a garland (from which hang two sashes), below which is an eagle holding arrows in its claws (fig. 155). In this regard, it should be noted that Zeus *sotér* is also attested by an inscription discovered in Ortaköy, a village situated 14 km to the north-east of Thiounta, on the plateau of Çal<sup>357</sup>, and by

<sup>355</sup> Ritti, Scardozi forthcoming.

<sup>356</sup> Scardozi 2013a, 78-79.

<sup>357</sup> Ramsay 1895, 155, no. 58.

another epigraph from Yeşilova-Motella<sup>358</sup>, located about 19 km to the north-east, beyond the Maeander.

Many architectural elements and parallelepiped blocks in travertine and marble were reused in the modern village of Yeni Gözler, built after the earthquake of 1976 in what had previously been farmland. These materials are mostly from Thiounta, although in some cases they are perhaps from other nearby archaeological areas in the northern sector of the plateau. Important examples include a marble block on which two double-bitted axes are incised (fig. 149, no. 1; fig. 156)<sup>359</sup>. These are symbols that can be attributed to both Apollo Karios (to whom a sacred area about

16 km to the south-east is dedicated) and Apollo Helios Lairbenós (whose sanctuary is situated about 16.5 km to the north-east<sup>360</sup>). Also found nearby was a type 3 counterweight, which may have belonged to a wine or oil press, considering that about 300 m to the north-west of Yeni Gözler a hemispherical millstone belonging to an olive crusher was discovered<sup>361</sup>. In this regard, it should be pointed out that the valley below, which slopes down towards the Maeander (dropping from 850 m to 300 m



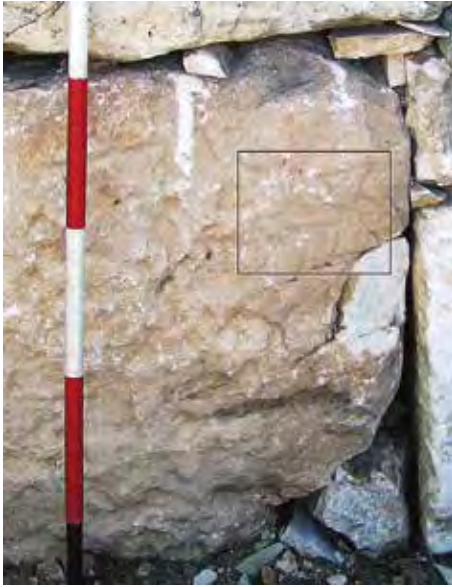
Fig. 155 Altar from Thiounta dedicated to Zeus Sotér.

<sup>358</sup> Ramsay 1887, 394, no. 23; Ramsay 1895, 155, no. 61; cf. also Buckler, Calder, Guthrie 1933, 116, no. 309, and Robert 1983a, 48.

<sup>359</sup> Scardozi 2011, 124; Scardozi 2013a, 80.

<sup>360</sup> On these two sacred areas see below pp. 206-212 and 265-275.

<sup>361</sup> Scardozi 2010b, 294.



**Fig. 156** Double-bitted axes engraved on a marble block reused on the north-western outskirts of Yeni Gözler.

a.s.l.) and is sheltered from the north winds, is still planted with olive trees today. In addition, as we have seen, offerings of oil are also mentioned in one of the stelae discovered by Ramsay in Thiounta. Some archaeological materials were also taken to rural locations near Yeni Gözler, for example those found about 3 km south-east of the village. The latter include a large *dolium* with a long incised inscription, hard to decipher, which perhaps refers to its contents, and a fragmentary marble slab, bearing a relief with a rhombus motif, of the Byzantine epoch.

Also transferred to Yeni Gözler were numerous epigraphs dated to the period from the 1<sup>st</sup> to the 3<sup>rd</sup> centuries AD, which provide further information on the sacred areas and buildings of the village of Thiounta. These include: (i) an inscription of the 2<sup>nd</sup> century AD commissioned by the *demoi* of Thiounta in honour of one Theotimos (fig. 149, no. 2; fig. 157), a relative of the above-mentioned priest of Zeus who belonged to an important family of Hierapolis and had twice been a member of the city's college of *strategoï*, as well as an *agoranomos*, a *paraphylax* and a *sitones*; (ii) the dedication (fig. 149, no. 4), dated to the 2<sup>nd</sup> century AD, of a marble *trápeza* (a slab that is believed to have been used during ritual ceremonies) on the part of the members of a religious confraternity related to some of the personages present in the more ancient of the stelae discovered by Ramsay; and (iii) a marble architrave (fig. 149, no. 5) bearing the dedication, also dated to the 2<sup>nd</sup> century AD, of a small building, perhaps of a sacred nature<sup>362</sup>. To

<sup>362</sup> On these three inscriptions see Ritti, Scardozzi, Nocita 2016, 821-827.

**Fig. 157** Stele dedicated by the demos of Thiounta to the *paraphylax* Theotimos, reused in a building on the north-western outskirts of Yeni Gözler.



**Fig. 158** Fragmentary stele with a number of registers from Yeni Gözler, with a dedication placed by the members of a brotherhood (from Malay 1994, fig. 13).



these may be added some recent discoveries made in the area of Aşağı Gözler<sup>363</sup>, important among which are: (i) a possible decree safeguarding vineyards from damage caused by flocks of sheep, highly fragmentary and dated to the 3<sup>rd</sup> century AD, of the same type as those discovered in Fadilöreni, “Motala” and Develer-Kagyetta<sup>364</sup>; (ii) an honorary inscription, perhaps from the first half of the 3<sup>rd</sup> century AD, for a figure who had held the important posts of *agoranomos* and nocturnal *strategos* and had been a *paraphylax* together with his brother in Hierapolis, significantly referred to here as their “nation”, bringing benefits to the people of Thiounta, who honoured him with a crown and the erection of a marble stele; (iii) a text of the 2<sup>nd</sup> or 3<sup>rd</sup> century AD commemorating the construction of a building in which the limestone pillar bearing the inscription was incorporated; (iv) an honorary epigraph for a personage who contributed, again in the 2<sup>nd</sup> or 3<sup>rd</sup> century AD, to the decoration of the public



**Fig. 159** Fragmentary stele with a number of registers reused in a wall of the southern outskirts of Yeni Gözler, with a dedication placed by the members of a brotherhood.

<sup>363</sup> On these inscriptions see Ritti, Scardozzi forthcoming.

<sup>364</sup> In this regard see above pp. 177-178 and below pp. 196, 217 and 260.



**Fig. 160** Pit graves in the northern sector of the Bozburun hill, related to the ancient village of Thiounta.

archive of Thiounta, offering the princely sum of 100 denarii for its walls to be faced with marble. Then there are five inscribed limestone stelae, probably dated to the 2<sup>nd</sup> or 3<sup>rd</sup> century AD, which may be from either Aşağı Gözler or Boyallı<sup>365</sup>: two show the goddess Hekate and are dedicated to *Meter* Latona, the female *pàredros* associated with the cult of the above-mentioned Apollo Helios Lairbenós; two are dedicated to Nemesis (on the sides of the frame in which the divinity is represented there is also a palm tree and a small Tyche, as well as two ears symbolising the role of the divinity as the “listener” of the worshippers’ prayers); the last is dedicated to Hermes<sup>366</sup>. While Hermes, as we have seen, appears in other votive artefacts from Thiounta, for both Hekate and Nemesis this is the only known attestation in the territory of Hierapolis<sup>367</sup>. Lastly, completing the epigraphical dossier of the area of Thiounta there are two fragmentary stelae on a number of registers, documented in Yeni Gözler, but of uncertain provenance (figs. 158-159). Dated to the 2<sup>nd</sup> or 3<sup>rd</sup> century AD, they

<sup>365</sup> On the ancient village of Boyallı, located approx. 4 km south-west of Thiounta, see below pp. 196-201.

<sup>366</sup> On these stelae see Scardozzi 2019a, 140-144.

<sup>367</sup> On the worship of these three deities in Hierapolis see Ritzi 2017, 117, 122, 125-126.



**Fig. 161** Remains of an ancient marble quarry in the Karaören district.

seem to be of the same type as those belonging to the above-mentioned sacred area dedicated to the divinities of the Motaleis, not far from Thiounta<sup>368</sup>.

The necropolises of Thiounta are situated on the hill of Bozburun on the west side of the valley, where some chamber tombs, today obscured by landslides, were once visible. Pit graves, of uncertain chronology, are found only sporadically (fig. 160); excavated in various places on the summit of the hill (fig. 149, D-E), they are lined with large slabs. Other chamber tombs can be recognised in some of the openings (today used for storage by farmers) visible in the rock face on the southern side of the valley just south of Eski Gözler (fig. 149, I). To these necropolises belong at least five funerary inscriptions discovered in Thiounta and dated to the 2<sup>nd</sup> or 3<sup>rd</sup> century AD<sup>369</sup>.

Near the village of Thiounta were important quarries of white marble, highly prized in Hierapolis, where it is mentioned in various inscriptions of the 2<sup>nd</sup> and

<sup>368</sup> On the first stele, found a few years ago, see Malay 1994, 179-180, no. 15; Ritti 2002a, 52; Ritti, Miranda, Guizzi 2008, 124, no. 45. On the second stele, reused in a wall of the southern outskirts of the village (fig. 149, no. 6), see Scardozi 2013a, 73-76; Ritti, Scardozi forthcoming.

<sup>369</sup> Ritti, Scardozi forthcoming.

**Fig. 162** Ancient marble quarry face documented by M.H. Ballance in 1953 at the northern end of the Bozburun hill.



3<sup>rd</sup> centuries AD which attest to its value<sup>370</sup>. Mentioned by Arundell, who records their size<sup>371</sup>, quarries were identified both on the north-western outskirts of Yeni Gözler (Karaören district: fig. 161), near the edge of the plateau (fig. 149, A) and on the slope below that descends towards the Maeander (fig. 149, B), and at the northern end of the hill of Bozburun (fig. 149, F), where in 1953 M.H. Ballance recorded an ancient quarry face (fig. 162), today largely destroyed by the resumption of extraction<sup>372</sup>. Other ancient quarries were perhaps found to the north-west, where there is a large modern quarry complex facing directly on to the Maeander,

<sup>370</sup> Judeich 1898, nos. 113, 178, 312, 339; Attanasio, Pensabene 2002, 71, 80, 83-84; Ritti 2004, 596-598, no. 42; Ritti 2006, 56-62; Scardozi 2016g, 240-242; Ritti 2017, 25-26.

<sup>371</sup> Arundell 1828, 231; see also Arundell 1834, 71.

<sup>372</sup> Attanasio 2003, 203-208; Attanasio, Brilli, Ogle 2006, 179-183; Scardozi 2010a, 354-355; Castrianni, Scardozi 2012, 94-95; Ditaranto 2016, 96-98; Scardozi 2016c, 82-85; Di Giacomo, Ismaelli, Scardozi 2018, quarries TH1-TH5; Ritti, Scardozi forthcoming.



**Fig. 163** Fadılöreni district: underground chamber lined with limestone blocks.

which, as pointed out by Ramsay himself<sup>373</sup>, is believed to have constituted the main route by which the marble was transported to the cities of the Lykos valley. In this regard, it should be noted that recent archaeometric analyses of this stone<sup>374</sup> have demonstrated that 17% of the marble used in Hierapolis in the Roman-imperial and proto-Byzantine periods came from Thiounta, which was not therefore used only locally and in nearby settlements<sup>375</sup>. This medium-grained marble (with crystals from 2 to 4.5 mm in size), is generally white, compact and shiny, at times with greyish veining.

Two extensive areas of settlement in the Fadılöreni district, immediately to the east of the valley of Eski Gözler, at a higher elevation near the northern edge of the plateau (fig. 149, L-M) are also believed to have been linked to Thiounta. The building stone and fired clay materials scattered over the surface document their occupation from at least the late Hellenistic epoch to the Byzantine period<sup>376</sup>. These two nuclei are found along the old road that linked Eski Gözler to the village

<sup>373</sup> Ramsay 1928, 207, who also mentions the transportation road descending from the quarries towards the river.

<sup>374</sup> Brillì et alii 2015, 134; Brillì et alii 2016, 110-111.

<sup>375</sup> Scardozi 2016f.

<sup>376</sup> Scardozi 2011, 123-124; Castrianni, Scardozi 2012, 93; Scardozi 2019a, 144-147.



**Fig. 164** Fadılöreni district: remains of a building lined with limestone blocks, possibly a temple.

of Dağmarmara and the valley of the Değirmen Dere, thereafter continuing to the plateau of Çal. This route, today reduced to a rural track, probably replicates an ancient road; in the stretch that rises from the valley of Eski Gözler it is partly carved out of the rock<sup>377</sup>. The more westerly of the two areas of settlement (about 12 hectares) is characterised by the presence of semi-outcropping walled structures, built with parallelepiped limestone blocks, but the remains mainly consist of blocks (mostly limestone with a small number in marble) piled up on the edges of the fields, together with numerous fragments of roof tiles, bricks and ceramics, also found scattered across the fields. Among the materials there are at least five counterweights (for oil and/or grape presses), including two of type 1 and two of type 2, while the fifth is too fragmentary to be attributed to a specific type. In contrast, in addition to the same types of material scattered on the ground and piled up on the edges of the fields, the more easterly area of settlement (about 18 hectares) is characterised by the presence of remains of walls built with parallelepiped limestone blocks, the object of unauthorised excavations. The remains are situated in areas left uncultivated, since the buried walls make the soil harder to plough. Also found were two counterweights for presses, one of type 2b and the other of type 3.

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<sup>377</sup> On this road see below p. 243.



**Fig. 165** Marble chest found in the Fadilöreni district bearing an inscription that identifies it as a votive offering.

The more easterly area of settlement in the Fadilöreni district was probably visited in 1826 by Arundell<sup>378</sup> and subsequently in 1953 by Ballance, who stressed the abundance of remains of ancient walls. Ballance described in particular the door jambs of some buildings, whose walls, built with blocks, were recognisable. He also recorded a funerary stele of the Byzantine period<sup>379</sup>. In this regard, it should be pointed out that we have no data on the necropolises of this area, although there is an isolated chamber, on the northern edge of the settlement, below a pile of earth, which may originally have had a funerary function. Partially filled with detritus, it is built to a rectangular plan about 2 m x 3.5 m, with carefully laid limestone blocks and a vaulted roof (fig. 163). Among the remains of walls conserved on the surface in the southern part of the settlement are those of a structure built to a quadrangular plan (13 m x 11.30 m), composed of carefully laid parallelepiped limestone blocks, conserved to a height of 1.80 m (fig. 164). An avant-corps on the eastern side extends the north side by about 4 m. The state of conservation of the structure, covered in vegetation and materials resulting from the clearance of the surrounding fields, prevents a detailed examination. However, this building can perhaps be recognised as having a sacred function, given that discovered nearby was a marble chest (fig. 165), identified by an inscription of the

<sup>378</sup> Arundell 1828, 231-232.

<sup>379</sup> Ritti, Scardozzi forthcoming.

2<sup>nd</sup> or first half of the 3<sup>rd</sup> century AD as a votive offering paid for using the funds of a sanctuary. It was dedicated to a divinity of uncertain identification, perhaps Apollo Karios or Apollo Helios Lairbenós, whose sacred areas, as we have seen, were located about 15 km to the south-east and 15 km to the north-east respectively. In the centre of the front of the chest is a crescent moon resting on an eagle, above which is a bust whose head wears a radiant crown. On the left is a serpent coiled around the handle of a double-bitted axe and on the right is a male figure armed with a club and a hatchet<sup>380</sup>. From the same settlement of Fadılöreni is a fragmentary inscription of the 3<sup>rd</sup> century AD, incised on a marble block, consisting of a decree of Hierapolis with norms designed to defend the vineyards from damage caused by herds of grazing sheep<sup>381</sup>. The text mentions the *paraphylakes*, officials charged with punishing those who damaged or cut the vines, and Apollo Archegetes, perhaps as the beneficiary of a fine<sup>382</sup>. Lastly, it should be pointed out that just 1.5 km north-east of Fadılöreni (fig. 149, no. 7), a white marble stele was discovered, reused in a drinking trough. It bears an honorary inscription of the 2<sup>nd</sup> or 3<sup>rd</sup> century AD commissioned by a village whose name is not given<sup>383</sup>. The personage being honoured may be the brother of one of the heads of the *hetaireia* of the Arzimneis, also attested in Thiounta, who dedicated a stele to the gods of the Motaleis, in the nearby ancient settlement of “Motala”.

## The village of Boyallı

The ancient settlement whose remains are found in the Boyallı district, about 5 km south-west of Yeni Gözler (see above fig. 146), was, after that of Thiounta<sup>384</sup>, the most important in the northern sector of the plateau of Uzunpınar. This is shown by the remains of buildings made of travertine and marble blocks that are visible on the ground and the fired clay and stone fragments scattered over the fields or

<sup>380</sup> Ritti 2002a, 64-66, no. 7; Ritti, Miranda, Guizzi 2008, 118-121, no. 42; Scardozzi 2013a, 80.

<sup>381</sup> Ritti 2002a, 66; Ritti, Miranda, Guizzi 2008, 68-72, no. 15; Filippini 2010, 461-462.

<sup>382</sup> For an inscription from Develer-Kagyetta (approx. 13 km further north-east, in the Çal plateau) having many concordances with this text see below p. 260. On another inscription with similar content from “Motala” (approx. 4 km further south-east) see below p. 217.

<sup>383</sup> Ritti, Scardozzi forthcoming.

<sup>384</sup> On Thiounta see below pp. 179-196.



**Fig. 166** Pléiades satellite image acquired in 2017 showing the area occupied by the remains of the ancient village of Boyall.

piled up on their edges across an area of 19 hectares (fig. 166)<sup>385</sup>. The site of the settlement is found in an area rich in springs on the northern slopes of the chain of hills oriented east-west that divides the plateau into two parts. Chronologically, the materials identified run from the late Hellenistic to the Byzantine periods. They

<sup>385</sup> Scardozzi 2011, 122-123; Scardozzi 2014, 99; Ritti, Scardozzi, Nocita 2016, 841-842; Scardozzi 2019a, 132-133.



**Fig. 167** The ancient village of Boyallı: counterweight of a press (type 3a).

include various stone elements probably belonging to wine presses, given the altitude of the area (900-950 m a.s.l.), its north-facing aspect and the fact that viticulture is still widespread today, unlike olive groves which are practically absent. Specifically, at least three monolithic pillars with a recess for seating the *prelum*, three counterweights of type 1, three of type 2 and another of type 3 were identified (fig. 167).

The main necropolis is found on the north-eastern edge of the area occupied by the settlement (fig. 166, A), beside the ancient road to Thiounta, today a rural track. The necropolis is characterised by the presence of pit graves (some lined with large bricks and tiles) and marble sarcophagi, some of which are of the type with fluted chests. Also discovered in this necropolis was a marble sarcophagus that was transported in 1990 to the Museum of Hierapolis-Denizli, on the chest of which is an inscription dated to the end of the 2<sup>nd</sup> century or more probably the first half of the 3<sup>rd</sup> century AD, together with a relief of the owner, M. Aurelius Diodoros Zeuxion,



**Fig. 168** Sarcophagus chest of M. Aurelius Diodoros Zeuxion from the necropolis of the ancient village of Boyalli.

accompanied by the male members of his family (fig. 168)<sup>386</sup>. Other tombs are found further north-west (fig. 166, B), and there is believed to have been another funerary area on the south-east edge of the settlement (fig. 166, C), the origin of at least two marble funerary stelae bearing inscriptions of the Roman-imperial period<sup>387</sup>.

Among the materials of the Byzantine period is a white marble slab with a Greek cross in relief. The ends of the cross, inscribed in a circle, are flared<sup>388</sup>. The slab was found reused in the masonry of a drinking fountain (fig. 169) on the northern edge of the settlement (fig. 166, D).

From the settlement of Boyalli is an important inscription of the 2<sup>nd</sup> century AD, read in 1897 by J.G.C. Anderson in the village of Cindere, situated about 4.5 km to the north-west, where it was rediscovered in 2007 incorporated in the walls of a dwelling (fig. 170)<sup>389</sup>. It is a marble copy of a decree of Hierapolis regulating

<sup>386</sup> Ritti 2002a, 44-47; Ritti, Miranda, Guizzi 2008, 290, no. 193.

<sup>387</sup> Ritti, Scardozzi forthcoming.

<sup>388</sup> This cross pattée may be compared with those in the proto-Byzantine sculptural decorations of the St. Philip Church in Hierapolis (cf. Pedone 2018, 218, fig. 3, and De Giorgi, Pedone 2019, 372, fig. 1).

<sup>389</sup> Anderson 1897, 411-413, no. 14; Abbott, Johnson 1926, 443, no. 117; Ramsay 1930, 283, no. 5; Robert 1937, 103 and ff.; Magie 1950, I, 647 (II, 988, note 25); Robert 1962, 140, no. 2; Robert 1963, 296; Robert 1983a, 61-63; Robert 1985, 61 and note 44; Petzl 1995, 39-40; Brélaz 2005, C51, 121-145; Levick 2013, 52, note 91; Ritti, Scardozzi, Nocita 2016, 843-846.

**Fig. 169** The ancient village of Boyalli: marble slab with a Greek cross in relief, reused in a drinking fountain.



**Fig. 170** Marble copy of a decree of Hierapolis regulating the behaviour of the *paraphylakes*, found in the area of the ancient village of Boyalli and now reused in a building of Cindere.



the behaviour of the *paraphylakes*, with norms designed to protect the inhabitants of the villages from illegitimate requisitioning. It may be assumed that a number of copies of the decree were produced and displayed in the villages visited by the officials in the course of their duties. Specifically, the decree stipulated that during their patrols the *paraphylakes* could receive only wood for heating, forage for their horses and shelter. In addition, the decree lists three types of sanction in the case of abuses: the first stated that those acting in violation of the general decree were to pay a fine, restore what was illegitimately taken and not receive honours from the

*kòme*; the second established that those who forced the heads of the villages to give them a crown (or extorted from them a sum of money equivalent to the value of a crown) were to repay the money; and the third stated that if a village freely desired to crown a *paraphylax*, the latter would not have to pay a fine, but make a votive offering to Apollo.

## The village of Gavurdamiarkası Tepe

Judging from the quantity of remains conserved on the surface, the most important settlement in the central sector of the plateau of Uzunpinar was definitely the one situated on the southern slope of Gavurdamiarkası Tepe and in the valley below, just 500 m east of the modern village of Akçapınar (see above fig. 146)<sup>390</sup>. The semi-outcropping structures and the materials from this settlement, scattered on the ground or piled up on the edges of the fields, indicate that it covered an area of almost 17 hectares (fig. 171) and was continuously occupied from the Hellenistic to the Byzantine periods, with various buildings composed of parallelepiped travertine blocks, structures for the production of wine and perhaps oil (counterweights for presses of types 1a and 2a were found) and buildings for the storage of foodstuffs in *dolia*. The quantity of remains pertaining to this settlement induced Ramsay, who called the site “Geuzlar-kahve”, to identify it as the ancient city of Mossyna<sup>391</sup>, although today the latter is agreed to be located near Sazak, in the western sector of the plateau of Çal<sup>392</sup>.

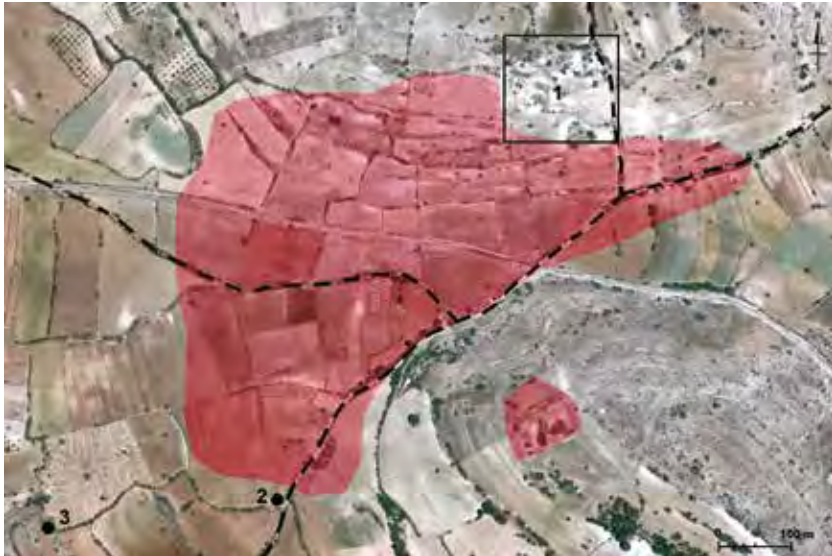
To this settlement belongs a necropolis consisting of at least 12 chamber tombs (fig. 172), disturbed by unauthorised excavations, many of which have collapsed and are filled with earth, arranged randomly (although most have a south-facing entrance) over an area of half a hectare on the flat summit of the hill<sup>393</sup> (fig. 171, no. 1). Another tomb with the same characteristics (figs. 173-174) is found isolated about 300 m south-west of the settlement (fig. 171, no. 3). The chambers, with a

<sup>390</sup> Castrianni, Scardozi 2012, 99-101; Scardozi 2012a, 138-139; Scardozi 2019a, 124-127.

<sup>391</sup> Ramsay 1887, 350; Ramsay 1895, 122-124. The identification is accepted in Philippson 1914, pl. out of text.

<sup>392</sup> See below p. 249.

<sup>393</sup> Scardozi 2016a, 29-33; Scardozi 2016b, 595-597.



**Fig. 171** QuickBird-2 satellite image acquired in 2005 highlighting the extension of the ancient village of the Gavurdamiarkası Tepe: the hypothetical ancient road system, the area of the main necropolis (no. 1) and the sites of two funerary tumuli (no. 2) and an isolated chamber tomb (no. 3) are indicated.



**Fig. 172**  
Gavurdamiarkası Tepe:  
chamber tomb of the  
main necropolis.

**Fig. 173**

Isolated chamber tomb located south-west of the ancient village of Gavurdamiarkası Tepe: entrance.

**Fig. 174**

Isolated chamber tomb located south-west of the ancient village of Gavurdamiarkası Tepe: the inside.

rectangular plan (about 1.70 m x 2.80 m), are built with large limestone slabs and covered by barrel vaults. On the outside they are believed to have been covered by tumuli of earth without a *crepidoma*. Discovered near some of them were fragments of marble sarcophagi. In addition, a fragment of a columnar sarcophagus (2<sup>nd</sup> or 3<sup>rd</sup> century AD) bearing the name Menandros (fig. 175) perhaps also comes from

**Fig. 175**

Fragment of a marble sarcophagus probably found in the necropolis of the Gavurdamarkası Tepe (after Malay 1994, fig. 14): front (A) and the back of the conserved portion of the chest, re-carved in the Byzantine period (B).



this necropolis<sup>394</sup>. Today the fragment is conserved in the Museum of Hierapolis-Denizli and is labelled as coming from the village of Uzunpinar, about 3.5 km to the south-east, where many ancient materials recovered from the surrounding area have been gathered. The sarcophagus was reused in the Byzantine period, as shown by the presence, on the back of the conserved portion of the chest, of a tondo with a cross pattée inside it with highly flared and beaded ends<sup>395</sup>.

Another important funerary area is found on flat land at the south-western end of the settlement (fig. 171, no. 3), where there are two tumuli about 10 m apart, both without a *crepidoma*. The funerary chambers, with a quadrangular plan (2.40 m x 2.40 m and 2.30 m x 2.45 m), are built with carefully laid travertine blocks. In one case the roof, consisting of a barrel vault, is also conserved (fig. 176).

The settlement of Gavurdamarkası Tepe occupied a key position overlooking a broad swath of territory close to the ancient route (the above-mentioned “horse road” recorded by Ramsay) which led from the Lykos valley up to the western sector of the plateau of Uzunpinar, running across it from south-west

<sup>394</sup> Malay 1994, 180, no. 16; Ritti, Miranda, Guizzi 2008, 296, no. 198.

<sup>395</sup> For very close comparisons with the crosses on some decorative slabs of the St. Philip's Church in Hierapolis, dated to the mid-Byzantine period, see De Giorgi, Pedone 2019, 382-383, figs. 8 and 10.



**Fig. 176**  
Gavurdamiarkası Tepe:  
funerary chamber of a  
tumulus.

to north-east in the direction of the plateau of Çal, today partly surviving in the form of rural tracks<sup>396</sup>.

## The sacred areas

In addition to those linked to the village of Thiounta, on the plateau of Uzunpinar there were two other important sacred areas: that of Apollo Karios, on the south-east edge of the plateau, and the one dedicated to the divinities of the Motaleis, a community of the territory of Hierapolis that lived on the hill of Yüksektepe, just beyond the north-eastern edge of the plateau (see above fig. 146). The two sacred areas differed sharply. The former is found in a rather secluded area on the slope of a mountain belonging to the Küçük Çökelz group; it was closely associated with the cult of Apollo Karios/Káreios that was practised in the main sanctuary of Hierapolis and it was frequented by worshippers from the cities of the Lykos valley, especially Hierapolis but also perhaps Laodikeia. In contrast, the latter is found inside the settlement that was home to the Motaleis, perhaps called “Motala”; it was the object of a cult that seems limited to the local community. In both cases, there are few data on the organisation of the sacred areas and their architecture, since the

<sup>396</sup> See below pp. 241-242.

ancient structures are poorly conserved and no archaeological excavations have ever been conducted. However, numerous stelae dedicated to the divinities have been discovered in the two sites, which makes it possible to acquire interesting data on the characteristics of the cults and how they were practised.

## Apollo Karios

The most important sacred area in the southern sector of the plateau of Uzunpınar was the one dedicated to Apollo Karios, identified in 2005 on the north-western slope of Somaklı Tepe (at 1350 m a.s.l.), about 1 km east of Güzelpınar and 11 km north-east of Hierapolis (see above fig. 146)<sup>397</sup>. The divinity venerated was an indigenous god called Karios, who, after the arrival of the Greek colonists who founded Hierapolis, was assimilated to Apollo, taking the name Apollo Karios in the territory and Apollo Kareios inside the sanctuary of Apollo Archegetes in the centre of Hierapolis, where the temple (so-called Building A) used for cleromantic activities was dedicated to him<sup>398</sup>. The god appears on reliefs (fig. 177) and coins as a young horseman wearing a short chiton and chlamys fastened on the chest, while the hair is tied with a characteristic bow and his attribute is the double-bitted axe.

The narrow valley in which the remains of the sacred area of Somaklı Tepe are found (fig. 178), in a site rich in springs called Cennetpınarı, is rather secluded and isolated, on the south-east edge of the plateau. However, less than one kilometre away ran a stretch of the ancient road that led from Hierapolis and the Lykos valley towards the north-east and up to the plateau of Çal. In this stretch, it is currently replicated by the modern road linking Güzelpınar to the villages of Sakızcılar and Peynirci, shown on the geological map drawn by Philippon, who travelled along this road in the early 20<sup>th</sup> century as part of his journey from “Demirdji” (the current Çal) to Hierapolis<sup>399</sup>.

<sup>397</sup> Miranda De Martino, Ritti, Scardozi 2012, 709-732; Scardozi 2013a, 71-73; Scardozi 2019a, 122-123.

<sup>398</sup> On the worship of Apollo Karios/Káreios in Hierapolis and its territory see Şimşek 2009, 677, 679; Kerschbaum 2014, 19-22; Ritti 2017, 104-106.

<sup>399</sup> Philippon 1914, pl. out of text. On the ancient road network the Uzunpınar plateau see below pp. 240-243.

**Fig. 177**

Relief (2<sup>nd</sup>-3<sup>rd</sup> cent. AD) of unknown provenance, kept in the Museum of Fine Arts in Boston and dedicated by a certain *Glykonianòs* to the god Karios, who is represented as a young horseman wearing a short chiton and chlamys fastened on the chest. The hairstyle of the god is characterised by a bow and his attribute is the double-bitted axe. He moves towards Cybele, sitting on the throne while she is feeding a serpent with a patera (after Ceylan, Ritti 1997, pl. 15).



**Fig. 178** General view of the Cennetpinar district, on the north-western side of the Somaklı Tepe, where the remains of the sacred area of Apollo Karios (A) lie.

On the basis of the materials present on the surface, no architectural elements or other structures in the sacred area can reliably be linked to a sacellum or other temple building. The most important find in this regard seems to be a small platform (about 20 m x 10 m) half way up the slope of the mountain, on the southern



**Fig. 179** Cennetpinari district: the collapsed remains of the platform supporting the stelae dedicated to Apollo Karios.



**Fig. 180**  
Cennetpinari district:  
fragmentary stelae.



**Fig. 181** Cennetpinari district: detail of double-bitted axes, one in relief on a stele and one carved on a block.



**Fig. 182** Fragmentary stele reused in a building in the village of Güzelpınar, originally from the sacred area of the Cennetpinari district.

side of the narrow valley, supported by limestone blocks. A few collapsed remnants are conserved, disturbed by unauthorised excavations (fig. 179). Other materials pertaining to the sacred area, in marble and limestone (cornices, capitals, small columns), are conserved slightly further down the slope and on the northern side of the valley. It should be pointed out however that the reconstruction of the context is also hampered by the transformations it underwent as a result of its reoccupation in the Byzantine period, which entailed the construction on the site of a rural building, whose remains were discovered in a state of collapse.

On the artificial platform of the sacred area several stelae dedicated to the divinity were arranged. Made of both marble and limestone, they were originally positioned on parallelepiped blocks with recesses in which the stelae were seated. About 10 have been discovered, almost all in a fragmentary state. Dated to the period from the 1<sup>st</sup> to the 3<sup>rd</sup> centuries AD, six are inscribed<sup>400</sup> (fig. 180), while others have double-bitted axes, either carved or in relief (fig. 181). Another inscribed stele from

<sup>400</sup> Miranda De Martino, Ritti, Scardozzi 2012, 717-725.

this sanctuary was reused in the nearby village of Güzelpınar (fig. 182). In addition, in 1991, a stele was recovered about 500 m west of the sacred area. Today kept in the Archaeological Museum of Hierapolis-Denizli, it was dedicated to Apollo Karios by a certain *Apollophánes* (mid 2<sup>nd</sup> century AD). It has a double-bitted axe between two ears in relief (fig. 183), highlighting the character of the god as a benevolent divinity that listens to and grants the prayers of the devout<sup>401</sup>.

As well as shedding light on various aspects of the cult of Apollo Karios, the inscriptions discovered attest to the restricted distribution of the cult, broadly limited to local communities within the territory of Hierapolis,

extending no further than nearby Laodikeia, about 19 km to the south-west and directly connected to this sector of the plateau of Uzunpınar by a road that is today largely replicated by the road that descends into the Lykos valley via the village of Irlıganlı. The texts generally consist of either votive dedications to the divinity on the part of individuals or texts in honour of certain important personages, generally *strategoı* and *paraphylakes* of Hierapolis, who are praised for having performed their duties without committing abuses or oppressing the population of the villages



**Fig. 183** Marble stele found in the Cennetpınarı district and dedicated to Apollo Karios by *Apollophánes*,

<sup>401</sup> Ceylan, Ritti 1997, 57-58, plate 14; Ritti, Miranda, Guizzi 2008, 118, no. 41; Miranda De Martino, Ritti, Scardozzi 2012, 715, no. 1.



**Fig. 184** Cennetpinari district: fragmentary marble stele, broken into two parts, dedicated by the Molmeizeis.

of the *chora*. The stelae of the latter type were commissioned by villages or religious associations, such as the Molmeizeis, mentioned in at least one text of the 1<sup>st</sup> century AD (fig. 184)<sup>402</sup>. An inscription from the same period, unfortunately fragmentary, honours a personage (plausibly also a *paraphylax*) for his generosity, which was manifested with a votive offering to Apollo Archegetes with a value of 100 oxen<sup>403</sup>. The text also mentions the inhabitants of a nearby village (perhaps the one that controlled the territory that hosted the sacred area of the Karios, unfortunately not identifiable), who may have either contributed to the donation or received some benefit from the personage being honoured. Lastly, the inscription mentions the inhabitants of the area surrounding Somaklı Tepe, who participated in the rite, which probably took place in the sanctuary of Apollo in Hierapolis. This text thus

<sup>402</sup> Miranda De Martino, Ritti, Scardozi 2012, 718-719, no. 8.

<sup>403</sup> Miranda De Martino, Ritti, Scardozi 2012, 721-722, no. 10; Kerschbaum 2014, 21-22.

further highlights the close link between the sacred area of Somaklı Tepe and the urban sanctuary, which also emerges from the role of the personages honoured in the inscriptions, who, as we have seen, held the office of *strategos* or were the direct expression of the authority of Hierapolis in the territory.

### The Motaleis and “Motala”

Another important sacred area on the plateau of Uzunpınar was found in 2006 on the flat summit of the hill named Yüksektepe, situated almost 2 km south-east of the modern town of Dağmarmara and 21 km north-east of Hierapolis (see above fig. 146), on the western side of the valley of the Değirmen Dere, which delimits the plateau to the east, separating it from the plateau of Çal. The hill was the site of an ancient village that occupied an area of about 10 hectares and was perhaps called “Motala” (o “Motaleia”). The settlement has yielded archaeological evidence that indicates it was active in at least the Roman-imperial and proto-Byzantine periods<sup>404</sup>. In 1883, Ramsay proposed to identify this settlement, seat of the *demos* of the Motaleis, known from the epigraphical documentation, with Mossyna<sup>405</sup>, which in contrast today is agreed to have been located near Sazak, about 8 km further east. The Motaleis were probably the inhabitants of a district in the territory of Hierapolis called Motalis, mentioned in an inscription of the 2<sup>nd</sup> or 3<sup>rd</sup> century AD carved on the travertine sarcophagus of a personage buried in the North Necropolis of Hierapolis itself<sup>406</sup>.

The hill of Yüksektepe is situated near important ancient roads (today partly replicated by mule tracks and rural lanes), which ran north-south along the valley of the Değirmen Dere and more importantly east-west linking the two plateaus of Uzunpınar and Çal. As mentioned above, it hosted an important sacred area on the eastern edge of the settlement (fig. 185, A), which was in use from at least the 2<sup>nd</sup> to the 4<sup>th</sup> centuries AD and is today characterised by marble structures disturbed by

<sup>404</sup> Castrianni, Scardozi 2012, 98-99; Miranda De Martino, Ritti, Scardozi 2012, 691-693; Scardozi 2014, 100; Scardozi 2019a, 147-149.

<sup>405</sup> Ramsay 1883, 377-379.

<sup>406</sup> Ramsay 1895, 116, no. 21; Judeich 1898, no. 344; Robert 1983a, 45-47, 55; Robert 1983b, 511-515; Miranda De Martino, Ritti, Scardozi 2012, 690; Ritti 2017, 282, note 42.



**Fig. 185** QuickBird-2 satellite image acquired in 2007 highlighting the extension of the ancient village of “Motala” on the hill called Yüксеktepe.

tillage<sup>407</sup>. This area is believed to have been the source of various inscribed marble stelae, generally bearing representations on a number of registers, discovered at the end of the 19<sup>th</sup> century and in the course of the 20<sup>th</sup> century (fig. 186)<sup>408</sup>. Two were found in Dağmarmara, where they were taken from Yüксеktepe, one or perhaps two are regarded generically as being from Uzunpinar<sup>409</sup>, while another two possible artefacts with the same characteristics, unfortunately fragmentary, were

<sup>407</sup> Miranda De Martino, Ritti, Scardozzi 2012, 692-693.

<sup>408</sup> Ramsay 1883, 377-379, no. 2; Ramsay 1895, 122-124 and 144-145, no. 32; Ramsay 1928, 273-275; Ramsay 1930, 280-281, no. 1; Robert 1983a, 45-59; Ritti 2002a, 57-63, nos. 1 and 4; Ritti, Miranda, Guizzi 2008, 120-124, nos. 43-44; Miranda De Martino, Ritti, Scardozzi 2012, 694-699; Scardozzi 2013a, 73-76.

<sup>409</sup> On the second possible stela from Uzunpinar, documented by Ballance in 1953, see Ritti, Scardozzi forthcoming.



**Fig. 186** Stelae depicting the gods of the Motaleis from Dağmarmara (A-B) and Uzunpınar (C-D) (B: after Ramsay 1928, fig. 7; C: after Ritti, Guizzi, Miranda 2008, no. 44; D: after M.H. Ballance’s notebook of 1953).

documented in Thiounta, but may also come from the same sacred area<sup>410</sup>. The stelae, dated to the 2<sup>nd</sup> or 3<sup>rd</sup> century AD, were offered by the *demos* of the Motaleis

<sup>410</sup> On the latter two fragmentary stelae from Thiounta see above pp. 190-191 and Malay 1994, 179-180, no. 15; Ritti 2002a, 52; Ritti, Miranda, Guizzi 2008, 124, no. 45; Scardozi 2013a, 73-76; Ritti, Scardozi forthcoming.

and by confraternities of worshippers (such as the Arzimneis, mentioned in one of the epigraphs<sup>411</sup>) to commemorate the celebration of rites and feasts in honour of the divinities that the Motaleis venerated. It can thus be hypothesised that inside the sacred area, in addition to a possible cult building (to which the architectural materials discovered in the area, including a large marble architrave bearing a dedication to the gods of the Motaleis, probably belonged<sup>412</sup>) and altars for sacrifices, there were also structures for hosting guests that were used for ceremonies that brought together groups of worshippers for banquets and symposia.

In all cases the tympanum of the stelae contains Zeus, wearing the long-haired woollen garment with his cloak on his shoulder. As in Thiounta, this is probably the indigenous divinity Bozios, assimilated to the Greek god. In the register immediately below is Artemis, who in some cases appears as the hunter goddess and in others in the guise of Ephesia: the god Men and another god with a double-bitted axe, both on horseback, converge towards her. The second god is perhaps Apollo Karios, whose own sacred area lies about 13 km to the south<sup>413</sup>, or Apollo Helios Lairbenós, whose sanctuary is situated about 14 km to the north-east<sup>414</sup>. Represented in the registers below are the members of the confraternities that commissioned the stelae. Moreover, the god Men appears on horseback in a stele from Hierapolis, again dedicated to the gods of the Motaleis, but without representations on various registers (fig. 187)<sup>415</sup>.

Discovered in the same village on the hill of Yüксеktepe was a white marble slab with no epigraph, on which is a relief of a row of five standing male figures, each with a bundle of sticks resting on the shoulder and a large curved rod in the right hand. It has been proposed that the figures are *diogmitai*, a body of gendarmes under the command of the *paraphylakes*<sup>416</sup>. The slab was perhaps part of a dedication in honour of a *paraphylax*.

<sup>411</sup> Miranda De Martino, Ritti, Scardozzi 2012, 694-695, no. 1.

<sup>412</sup> Miranda De Martino, Ritti, Scardozzi 2012, 698, no. 7.

<sup>413</sup> See above pp. 206-212.

<sup>414</sup> See below pp. 265-275.

<sup>415</sup> Robert 1983a, 45, note 17; Robert 1983b, 511-515; Lane 1986.

<sup>416</sup> Miranda De Martino, Ritti, Scardozzi 2012, 698-699, no. 8; Ritti 2017, 74.

**Fig. 187** Stele dedicated to the gods of the Motaleis depicting the god Men on horseback (after Robert 1983b, fig. 1).



**Fig. 188** Yüksektepe: fragmentary frieze-architrave composed of a two-band architrave surmounted by a twisted ribbon motif and with a soffit decorated with a racemes motif, and a frieze chiselled in the upper part and consisting of a row of palmettes in the lower part.



In addition, near the north-western edge of the settlement (fig. 185, B) was another marble building, of which some architectural elements (fig. 188), brought to light by agricultural work, are conserved<sup>417</sup>. Dated to the 2<sup>nd</sup> or 3<sup>rd</sup> century AD, it is also believed to have had a sacred function (also from the area is a fragmentary cornice with the word *témenos*)<sup>418</sup>. The building was refurbished at the beginning

<sup>417</sup> Miranda De Martino, Ritti, Scardozzi 2012, 691-692.

<sup>418</sup> Miranda De Martino, Ritti, Scardozzi 2012, 697, no. 5.



**Fig. 189** Yüksektepe: architrave bearing a dedication to Diocletian and the *divus* Maximian.

of the 4<sup>th</sup> century AD, when Aebutius Phlakkos Apphianos, *bouleutes* of Hierapolis, had a dedication to Diocletian and the *divus* Maximian carved on an architrave (fig. 189). Dated to 313 AD<sup>419</sup>, it was linked to a revival of the pagan cults promoted in the Eastern Provinces of the Empire by Diocletian, Galerius and Maximinus Daia<sup>420</sup>.

Lastly, from the same site is an inscription carved on a fragmentary travertine slab incorporated in a rural building near the western edge of the upland (fig. 185, C). Dated to the 2<sup>nd</sup> or 3<sup>rd</sup> century AD, it contains laws, plausibly issued by Hierapolis, designed to defend the vineyards from damage caused by herds of grazing sheep and cattle<sup>421</sup>.

## Minor settlements and farms

In addition to Thiounta and the other two large ancient villages in the Boyallı district and on the hill of Gavurdamarkası Tepe<sup>422</sup>, minor settlements and farms were identified on the plateau of Uzunpınar. Mostly active in the Roman-imperial and Byzantine periods, in some cases they date back to the Hellenistic epoch<sup>423</sup>.

The ancient settlements are less numerous in the southern part of the plateau, which is higher than the northern sector and is characterised by frequently

<sup>419</sup> Miranda De Martino, Ritti, Scardozi 2012, 699-703, no. 9; Miranda De Martino 2014; Ritti 2017, 577-579.

<sup>420</sup> Filippini 2018, 250.

<sup>421</sup> Scardozi 2014, 100; Ritti, Scardozi forthcoming. On two other epigraphs with similar content, found in Fadılöreni, approx. 4 km north-west, and in Develer, on the Çal plateau, approx. 9.5 km further north-east, see above p. 196 and below p. 260.

<sup>422</sup> On the ancient villages in the Boyallı district and on the Gavurdamarkası Tepe see above pp. 179-205.

<sup>423</sup> Scardozi 2019a, 120, 123-124, 128-130, 133-134, 147.



**Fig. 190**  
Kurtluca: counterweight  
of a press (type 1a).

outcropping bedrock. Even today, this area is less densely populated than the areas further north, with a greater presence of forested areas, which have always been an important natural resource of this territory together with pastures and arable land. In the southern part of the plateau, the modern towns of Güzelpınar and Kurtluca do not seem to have been built over ancient settlements, but some archaeological materials taken from their surrounding areas, where small rural settlements are documented, have been brought to them. Among the materials present in Kurtluca are two counterweights of type 1a (fig. 190), which, considering the average elevation of this area, above 1000 metres, and the presence of old structures for the production of *pekmez*, probably belong to grape presses. A small rural settlement of the Roman-imperial period, interpretable as a farm, was documented about 300 m further east, on the south-east side of Gerenlik Tepe (fig. 191, no. 142): numerous bricks, tiles and ceramic fragments were discovered on the ground, while several limestone blocks, including a threshold and a type 2 press counterweight, are piled up on the edges of the fields. About 3 km south-west of Kurtluca, in the Eğrilce district (fig. 191, no. 140), on a small hill in an area rich in springs, a broader settlement was identified, with fired clay materials (tiles, bricks, ceramics and *dolia*) scattered over an area of about one hectare. The finds make it possible to date the

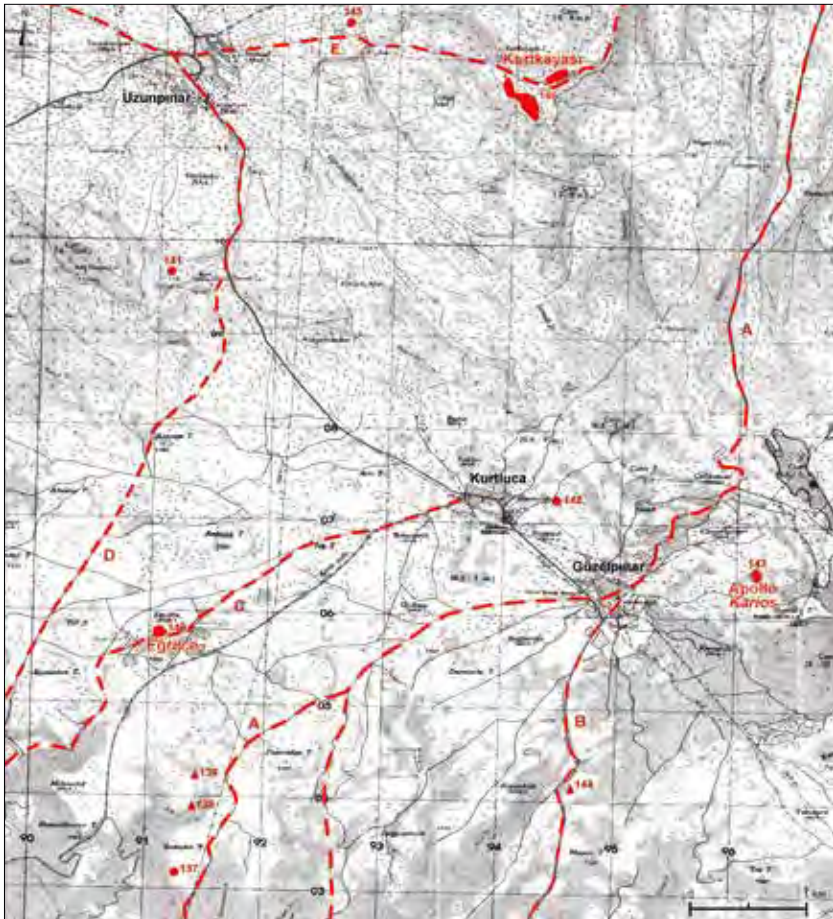


Fig. 191 Archaeological map of the southern sector of the Uzunpinar plateau (for the legend see fig. 26).

settlement to the Roman-imperial and Byzantine periods. Nearby there are also pit graves lined with limestone slabs.

In the central part of the plateau some small rural settlements interpretable as farms were identified, along with several other ancient settlements of varying size. The modern village of Uzunpinar does not seem to have been built over an ancient settlement, but there are materials taken from the surrounding countryside, especially blocks and architectural materials made of limestone and, less

**Fig. 192** Fragmentary stele in limestone reused in the village of Uzunpinar: the lower part of two columns that supported a pediment (not preserved) is visible.



**Fig. 193** Uzunpinar: marble slab of the Byzantine period reused in the village.



frequently, marble (figs. 192-193). These include two press counterweights of type 1a and a marble basin bearing a votive dedication of the 1<sup>st</sup> or 2<sup>nd</sup> century AD, partially erased, to which an invocation to Jesus Christ was added in the

Byzantine period (fig. 194)<sup>424</sup>. In addition, also from Uzunpınar are at least one fragmentary stele dedicated to the divinities of the Motaleis<sup>425</sup>, whose sacred area was located almost 8 km to the north-east<sup>426</sup>, and a marble fragment of a columnar sarcophagus<sup>427</sup>, perhaps from the ancient village of Gavurdamarkası Tepe, 3.5 km to the north-west<sup>428</sup>.

The area immediately surrounding Uzunpınar has a number of rural settlements, including one, whose size is hard to determine, on a hill less than a kilometre east of the modern village (fig. 191, no. 145), which yielded another press counterweight of type 1a. In addition, numerous parallelepiped limestone blocks from this site were reused in a large drinking fountain on the southern slopes of the hill. Another rural settlement of a certain size, interpretable as a medium-to-large farm in use from at least the Hellenistic to the early proto-Byzantine periods, is superimposed on the northern and eastern parts of the Bronze Age settlement in the Can Pınar district, about 2 km south of Uzunpınar<sup>429</sup> (fig. 191, no. 141). From this site come a large number of parallelepiped travertine blocks piled up on the edges of the fields, as well as numerous fragments of ceramics and tiles found scattered over the terrain, together with a few fragments of terracotta pipes, bricks, *dolia*, small marble slabs and polychromatic plaster.

Among the ancient settlements near Uzunpınar is one on the southern slopes of Kurtkayası Tepe, about 2 km east of the modern village (fig. 195, no. 146), beside a road from the west that continued eastwards towards the valley of the Akdere seasonal stream<sup>430</sup>, which here marks the boundary between the plateau of Uzunpınar and that of Çal. The settlement is spread across two sides of a valley oriented east-west through which flows a seasonal stream called Enbiya Dere. The

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<sup>424</sup> Ritti, Scardozi forthcoming.

<sup>425</sup> Robert 1983a, 55-59; Ritti 2002a, 61-63, no. 4; Ritti, Guizzi, Miranda 2008, 122-124, no. 44; Miranda De Martino, Ritti, Scardozi 2012, 695-696, no. 3.

<sup>426</sup> On the sacred area of Motaleis see above pp. 212-217.

<sup>427</sup> Ritti, Miranda, Guizzi 2008, 296, no. 198.

<sup>428</sup> On this village see above pp. 201-205.

<sup>429</sup> On this settlement see above pp. 47-51.

<sup>430</sup> On the ancient roads of the Uzunpınar plateau see below pp. 240-243.



**Fig. 194**  
 Uzunpinar: marble basin bearing a votive dedication of the 1<sup>st</sup> or 2<sup>nd</sup> cent. AD, partially erased in the Byzantine period when an invocation to Jesus Christ was added.

main accesses to the valley were from the east and west along roads that still exist today in the form of rural lanes. The ancient materials are scattered over a total area of about 7.5 hectares, on the terraces north and south of the water course, sheltered from the northerly winds. Specifically, in addition to abundant small building stones, the discoveries include fired clay fragments (tiles and bricks) and ceramics, among which are *dolia*, dated to the Roman-imperial and Byzantine

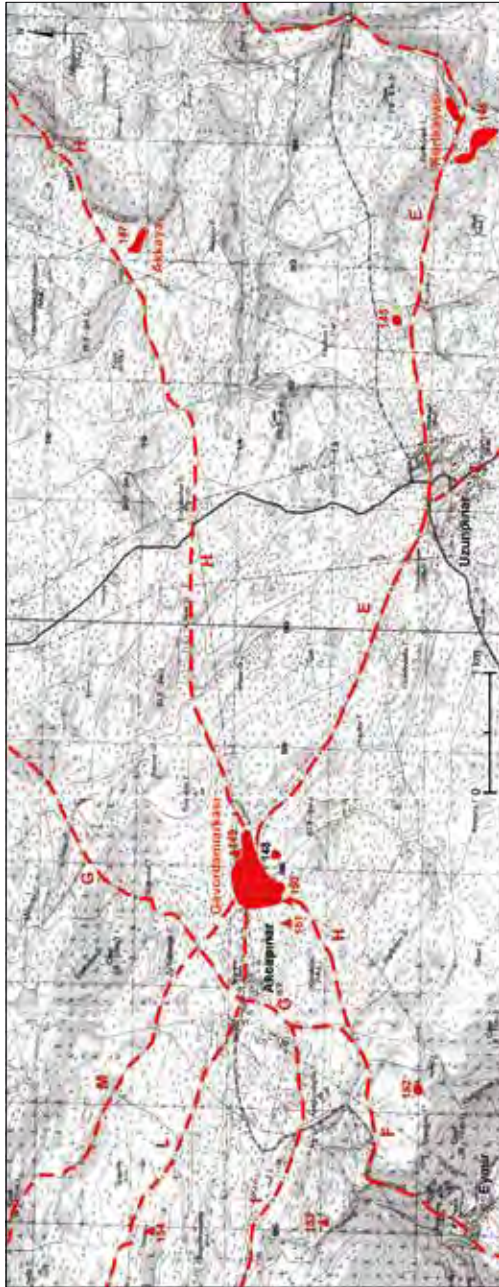


Fig. 195 Archaeological map of the central sector of the Uzunpinar plateau (for the legend see fig. 26).

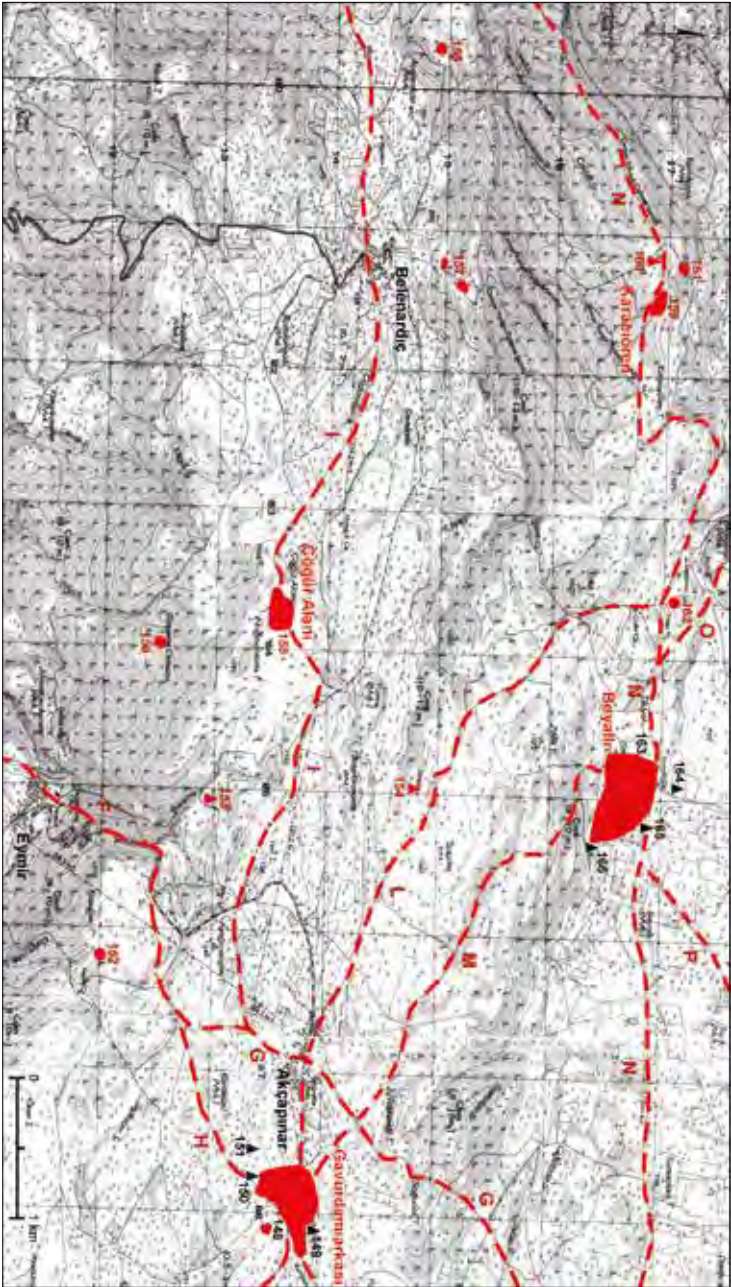


Fig. 196 Archaeological map of the central-western sector of the Uzupınar plateau (for the legend see fig. 26).

periods. There are also numerous parallelepiped limestone blocks, piled up on the edges of the fields and reused in modern rural buildings, including a threshold and at least four press counterweights, of which three are of type 1 and one of type 2. In some places there are semi-outcropping structures built to a quadrangular plan with parallelepiped blocks, while some “capuchin tombs” were discovered on the settlement’s western edge.

Another interesting settlement, with fired clay materials dated to the Roman-imperial and Byzantine periods, is found in the Akkaya district, about 3 km north-east of Uzunpinar, in a small valley descending towards the east, near the eastern edge of the plateau (fig. 195, no. 147). It was located beside a road arriving from the south-west which descended into the valley of the Akdere and then continued towards the plateau of Çal. The materials (tiles, bricks, fine and achromatic coarse ware) are scattered over an area of about three hectares, only partly subject to cultivation. Indeed, in many places (on the western and especially the eastern ends of the area where archaeological materials are present) there are concentrations of bushes growing in the vicinity of outcropping structures made of limestone blocks. There are also large *dolia* buried in the ground and fragments of them are scattered on the surface, above all in the south-east sector of the settlement, where a press counterweight of type 1a was also discovered. Nearby are some “capuchin tombs”, damaged by ploughing.



**Fig. 197** Site located west of the Karacıören Tepe: masonry structures related to an ancient settlement damaged by unauthorised excavations.



**Fig. 198** Site located west of the Karacıören Tepe: funerary chamber of a tumulus.

In the central-western sector of the plateau are two rural settlements, one 2 km to the south/south-west and one 3 km to the south-west of Akçapınar, both beside roads which descended from the plateau towards the Lykos valley. In the former (fig. 196, no. 152), unauthorised excavations have brought to light structures built with parallelepiped limestone blocks and fragments of Roman-imperial tiles, *dolia* and ceramics. In the latter settlement (fig. 196, no. 156), the construction of a road and agricultural work have brought to light fragments of Roman-imperial and proto-Byzantine tiles, *dolia* and ceramics, as well as various limestone blocks and two press counterweights of types 1a and 2a. However, the most important ancient settlement in this area is found about 2 km east of Belenardıç, in the Çöğür Alanı district (fig. 195, no. 155). It covers an area of almost 5 hectares, today partly cultivated and partly wooded, where various walled structures built with limestone blocks have been partially brought to light by unauthorised excavations. These have highlighted a concentration of *dolia* in the north-eastern part of the settlement, together with a number of stone elements belonging to presses (two or three possible *arbores* and three counterweights of types 2a, 3b and 6) in the south-eastern part. Discovered in the rest of the area were numerous fragments of tiles and bricks, as well as ceramics dated to the Roman-imperial and Byzantine periods. There are also numerous blocks piled up along the edges of the fields.

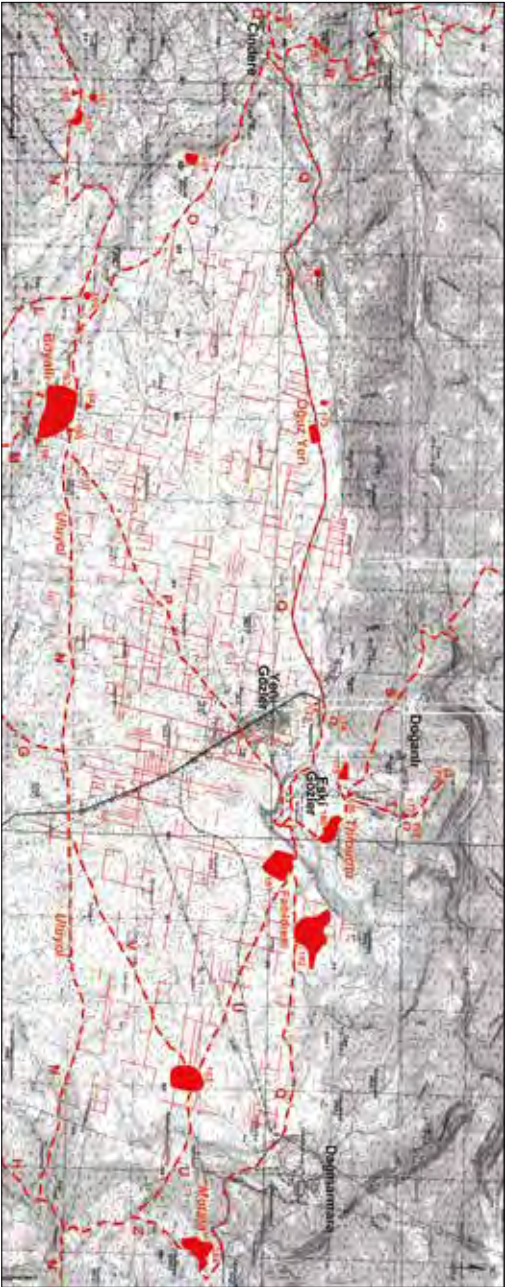
The modern village of Belenardıç itself does not seem to have been built over an ancient settlement, but a number of limestone blocks, architectural elements and archaeological artefacts, including two press counterweights of type 1a, have been gathered from the surrounding area<sup>431</sup>. A small rural settlement was identified about 1.5 km north-west of the village (fig. 196, no. 158), where parallelepiped limestone blocks and fragments of tiles were discovered, and a small ancient settlement is found on the northern outskirts of the modern village (fig. 196, no. 157), where, in an area of just over a hectare, part of which is wooded, there are the remains of structures built with limestone blocks, as well as fragments of tiles, *dolia* and ceramics from the Roman-imperial and Byzantine periods. Also probably from this area are three roughly hewn limestone stelae bearing Byzantine funerary inscriptions<sup>432</sup>.

Another ancient settlement is found about 2 km north of Belenardıç, on the eastern side of the hill of Karacıören Tepe, on the north-western edge of the plateau (fig. 196, no. 159), beside an ancient road, today partly replicated by rural lanes, that led down to the valley of the Maeander. Here, in an area of about 2 hectares, today covered by a wood, are the ruins of various buildings built with parallelepiped limestone blocks, partly affected by unauthorised excavations (fig. 197). The fired clay materials visible on the disturbed ground include tiles and ceramics of the Late-Hellenistic and Roman-imperial periods. Of great interest is the presence in a flat area about 230 m further west (fig. 196, no. 160) of the remains, partly disturbed by unauthorised excavations, of a tumulus with a funerary chamber built to a rectangular plan (2.55 m x 2.10 m) with a south-facing entrance, built with carefully laid limestone blocks and covered by a barrel vault, now in a state of collapse (fig. 198). There are no visible traces of any *crepidoma*<sup>433</sup>. The remains of two other possible tumuli, heavily disturbed by unauthorised excavations and largely now filled in with earth, are found 30 m further north and 150 m further west, while pit graves are found in the surrounding terrain. In addition, a small rural settlement is found about 300 m to the north-west of this settlement (fig. 196, no. 161).

<sup>431</sup> A short note on the ancient settlements close to Belenardıç can be found in Scardozzi 2014, 97.

<sup>432</sup> On these stelae see Ritti, Scardozzi forthcoming.

<sup>433</sup> On the necropolis of this village see Scardozzi 2012a, 138; Scardozzi 2016a, 29; Scardozzi 2016b, 595.



**Fig. 199** Archaeological map of the northern sector of the Uzunpinar plateau (for the legend see fig. 26): the remains of an ancient system of land division are shown in pink.

Moving on to the northern sector of the plateau, the remains of a rural settlement were found on a modest hill about 1 km west of the ancient village of Boyallı (fig. 199, no. 162). Two press counterweights of types 3a and 3b were found (fig. 200), together with scattered fired clay materials and ceramics dated to the Roman-imperial and proto-Byzantine periods. The site lies near the crossroads of two important ancient roads: one, today largely replicated by a rural lane (called *Uluçol* in Turkish, meaning “large road”), led west from Boyallı towards the settlement of Karacıören Tepe and the valley of the Maeander, while to the east it ran right across the plateau; the other led from Gavurdamiarkası Tepe towards the modern village of Cindere on the north-western edge of the plateau. The latter does not seem to have been built over an ancient settlement, but materials from the surrounding area have been brought there, including the inscribed slab with the regulations governing the *paraphylakes* that was originally discovered in Boyallı<sup>434</sup>. Cindere occupies a strategic position in terms of the connections between the plateau of Uzunpinar and the valley of the Maeander, both to the west and the north, which today are partly replicated by rural lanes (fig. 199, nos. 168-169). Conserved beside these routes are the remains of two chamber tombs, plausibly associated with small settlements which have not however been identified.



**Fig. 200**  
Site located west of the Boyallı district: counterweight of a press (type 3b).

<sup>434</sup> See above pp. 199-201.



**Fig. 201** Site located south-east of the Fadıllöreni district: white marble column shaft.

Two small settlements of the Roman-imperial period were documented just south-east and east of Cindere. The former is 1.5 km away and is found near the western edge of the plateau (fig. 199, no. 167), where, in an area of about 2 hectares, fired clay and ceramic fragments were discovered, together with limestone blocks both scattered and reused in old rural buildings. An unauthorised excavation brought to light a structure built with parallelepiped blocks. The other settlement is found almost 2.5 km east of the modern village, on a terrace immediately to the north of the edge of the plateau (fig. 199, no. 171). Here, fragments of bricks, tiles, *dolia* and ceramics are scattered across an area of about 1 hectare, while numerous limestone blocks are piled up on the northern boundary of the terrain. The blocks are mostly the result of a recent operation to break up the soil for agriculture, which completely destroyed a number of semi-outcropping walled structures that were still visible in 2010. Also found in the area was a press counterweight (too fragmentary to determine the type), which judging from the high concentration in this area of old structures for making *pekmez*<sup>435</sup>, may have been used for grapes. In addition, a larger settlement, occupying an area of about 3 hectares, is found 1.5 km further east, along the modern road between Cindere and Gözler, on the northern edge of the Oğuz Yeri district (fig. 199, no. 172). The area was recently the object of earthworks and removal of stones for agricultural purposes, but in the sectors that were spared, the remains of structures built with parallelepiped blocks are conserved. In addition, numerous fired clay materials are scattered on the ground and piled up on

<sup>435</sup> On these structures see Scardozi 2010b, 293-294; Limoncelli, Scardozi 2016, fig. 6.

the edges of the fields, together with large heaps of stones. Specifically, there were two press counterweights of type 1a and fragments of tiles, *dolia* and ceramics dated to the Roman-imperial period.

Lastly, an important settlement, at least to judge from the area over which the remains are conserved (12 hectares) is found about 2 km south-west of the modern village of Dağmarmara (fig. 199, no. 183). It lies beside an ancient road that survives today in the form of rural lanes, which led in one direction to Thiounta and in the other towards the valley of the Değirmen Dere and the hill of Yüksektepe, the site of the ancient settlement of “Motala”, and from there to the plateau of Çal in the direction of Sazak-Mossyna<sup>436</sup>. The site, recently the object of large-scale agricultural earthworks, is characterised by the remains of structures built with parallelepiped limestone blocks, now mostly piled up on the edges of the fields. The stone materials include a fragmentary threshold and three press counterweights (types 1a, 2a, 2b), in addition to a possible *arbor* with a niche for the *prelum*. There are also numerous fired clay fragments (tiles, *dolia* and ceramics), piled up or scattered across the fields, dated to the late Hellenistic and Roman-imperial periods, and a fragmentary white marble slab. Near a rural building situated a few hundred metres further west, in which some parallelepiped limestone and marble blocks are reused, there is also a smooth white marble column shaft (35 cm in diameter, 2 m long; fig. 201).

## The necropolises and “isolated” tombs

On the plateau of Uzunpinar there are tombs and small necropolises which, on the basis of the available surface evidence, cannot reliably be attributed to any of the farmsteads or settlements identified in the course of the archaeological surveys.

About 2 km south of the ancient settlement in the Eğrilce district, near the southern edge of the plateau, there are a number of chamber tombs of uncertain chronology (see above fig. 191, no. 138), partly built with large limestone slabs and partly excavated in the outcropping bedrock (figs. 202-203). There is also an isolated tumulus of the Hellenistic period (fig. 191, no. 139), characterised by a square funerary chamber (2.40 m x 2.40 m) built with carefully squared limestone blocks,

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<sup>436</sup> On “Motala” and Mossyna see above pp. 212-217 and below pp. 249-254.

**Fig. 202** Southern edge of the Uzunpinar plateau: chamber tomb partly excavated in the outcropping bedrock.



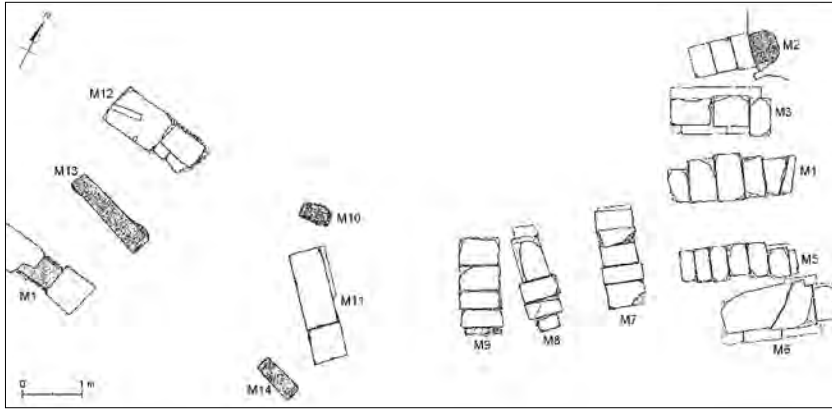
**Fig. 203** Southern edge of the Uzunpinar plateau: chamber tomb.



accessible from the south-east, without a *crepidoma*<sup>437</sup>. These funerary contexts are positioned beside an ancient road, partially replicated today by country lanes, which descended towards Hierapolis and the Lykos valley. They are about 700 m north of a small rural settlement<sup>438</sup>. It is thus probable that in this area there are other settlements of the same type that have not yet been identified.

<sup>437</sup> Scardozzi 2012a, 137; Scardozzi 2016a, 27-28; Scardozzi 2016b, 594.

<sup>438</sup> On the ancient roads of the Uzunpinar plateau see below pp. 240-243.



**Fig. 204** Necropolis to the south-west of Akçapınar: general plan (after Ok 2017, fig. 6).

Another funerary tumulus, also without a *crepidoma*, is situated about 3.2 km further east, almost 2 km south of Güzelpınar (fig. 191, no. 144). In 2015 it was the object of an excavation by archaeologists from the Museum of Hierapolis-Denizli<sup>439</sup>. The monument is located beside the modern road linking Güzelpınar and Irlıganlı, which largely replicates an ancient route that led down from the plateau to the plain of the Lykos. It is characterised by the presence of a quadrangular funerary chamber (about 2.90 m x 2.90 m), preceded by a vestibule, also square (about 1.95 m x 1.95 m), accessible from the north-east via a *dromos* 1.50 m long and 1.07 m wide. The rooms have walls built with parallelepiped limestone blocks (conserved to a maximum height of 1.15 m) and are paved in slabs of the same material. Discovered inside were the skeletons of at least 10-12 adults and one child, while the grave goods not looted in the course of unauthorised excavations included gold jewellery. As well as documenting the high social status of the family that owned the tumulus, the grave goods show that the tomb was used by successive generations from the 3<sup>rd</sup> century BC to the beginning of the 1<sup>st</sup> century AD. The tumulus, near which there were also a number of pit graves, was associated with a nearby settlement, for which however we have very few data.

<sup>439</sup> Çamoğlu Günaydın 2016.

**Fig. 205** Necropolis to the south-west of Akçapınar: general view (after Ok 2017, fig. 2).



**Fig. 206** Site located north of Cindere: chamber tomb.



In the central-western sector of the plateau of Uzunpınar, an ad hoc excavation conducted by archaeologists from the Museum of Hierapolis-Denizli in 2012 brought to light a necropolis of the Roman-imperial period about 2 km south-west of the modern village of Akçapınar (fig. 196, no. 153), which had been discovered during forest clearance in the area. It consists of 14 pit graves, excavated in the rock or in the terrain, lined with limestone blocks (figs. 204-205) and generally covered

with 2-6 limestone slabs<sup>440</sup>. The tombs, oriented north-west/south-east and east-west, vary in length from 1.22 m to 3.18 m, in width from 45 cm to 120 cm and in depth from 40 cm to 70 cm. Most of the grave goods discovered are dated to the period from the 1<sup>st</sup> to the 3<sup>rd</sup> centuries AD and in some cases the tombs have multiple burials. This small necropolis, like the one identified in the course of the archaeological surveys almost 2 km further north (fig. 196, no. 154), where agricultural operations uncovered at least 8 pit graves lined with limestone slabs, is assumed to have been linked to a rural settlement in the area that has not yet been identified.

Lastly, two more apparently isolated chamber tombs are found in the area of the modern village of Cindere, on the north-western edge of the plateau of Uzunpinar, also plausibly associated with small settlements that has not however been identified. In the absence of excavation data, it is not possible to establish their chronology, although they may hypothetically be dated to the Roman-imperial period<sup>441</sup>. The remains of one, built with large parallelepiped limestone blocks and today in a state of collapse, are found on a small terrace 350 m west of the village (fig. 199, no. 168), near the ancient road which led from Cindere down towards the valley of the Maeander and from there towards Tripolis in the south-west. The other tomb (fig. 206) is found about 450 m north of Cindere (fig. 199, no. 169), on a road that also descended towards the Maeander and from there led to the district of Güney, north of the river. It consists of a rectangular chamber (2.40 m x 1.60 m; 1.50 m high) accessible from the south-west, built with large parallelepiped limestone blocks. The roof, today collapsed, originally had slabs arranged to form a double-pitched roof resting on two triangular lunettes, still in situ on the short sides of the chamber.

## The regular division of agricultural land in the northern sector

In the northern sector of the plateau of Uzunpinar (fig. 207), examination of the data acquired by satellite and direct surveys on the ground have made it possible to

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<sup>440</sup> Karabay, Altıntaş 2014; Ok 2017.

<sup>441</sup> Scardozi 2016a, 34-35.

identify numerous traces of an ancient system for the regular division of agricultural land<sup>442</sup>. The data acquired by satellite consist of space photographs from the 1970s (fig. 208), which show the region before the recent transformations (including the building of Yeni Gözler after the earthquake of 1976 and some agricultural earth-works), and high-resolution satellite images acquired since 2005. The latter were used to map the surviving traces of the ancient boundaries, essentially consisting of rural tracks and above all dry-stone walls, built with stones removed from the fields, which often contain outcrops of calcareous bedrock.

The area affected by the division is flat, at an elevation of 920-930 metres, sloping gently downwards towards the north, measuring about 12 km east-west and 4 km north-south. This is the most fertile part of the plateau, intensely cultivated even today, delimited to the north by the edge of the plateau and to the south by a band of hills oriented roughly east-west at elevations of 1000 to 1100 metres. The division is based on a grid of rectangles whose short sides were rotated about 11 degrees to the north-east, perfectly matching the morphology of the terrain. The main boundaries running north-south, which are the best conserved, are about 330 m apart (equivalent to 11 *plethra*, calculated on the basis of the use in Hierapolis of a foot of about 30 cm), while the main east-west boundaries are about 240 m apart (equivalent to 8 *plethra*). By combing the traces visible in all the images available, it is possible to identify at least 30 grid lines oriented north-south and 16 east-west. The better conservation of the north-south boundaries is probably due to the fact that they follow the gentle slope of the terrain and serve to drain run-off waters towards the deep valley of the Maeander, which as we have seen delimits this area to the north.

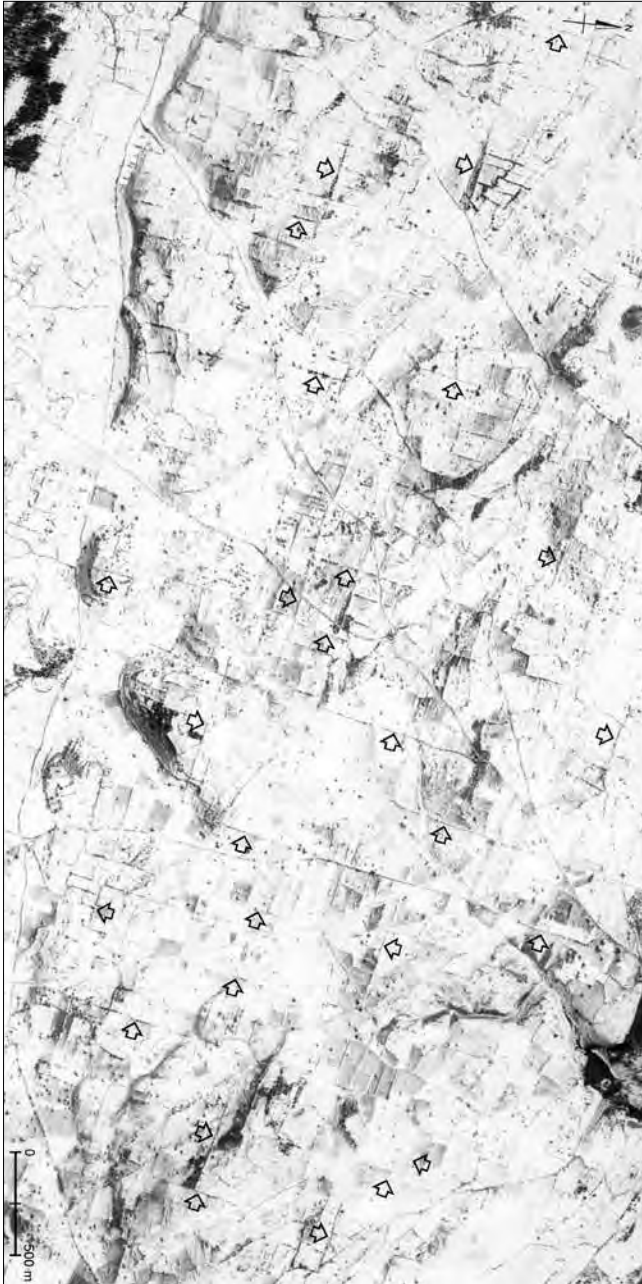
It is thus possible to reconstruct a grid composed of lots measuring 330 m x 240 m (11 x 8 *plethra*), although they may have been larger, i.e. 660 m x 480 m (22 x 16 *plethra*), with internal divisions. The smaller lots (330 m x 240 m) each have an area of 88 square *plethra*, i.e. 7.92 hectares, slightly larger than those of the territory of Magnesia on the Maeander, which measured 6.45 hectares (equivalent to 50 *schoinoi*, considering a foot of 32.8 cm in use in the city), based on an

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<sup>442</sup> Scardozi 2011, 120; Scardozi 2013b, 127-132; Scardozi 2019a, 130-132.



**Fig. 207** QuickBird-2 satellite image acquired in 2007 highlighting the remains of an ancient system of land division partially preserved in the northern sector of the Uzunpinar plateau.



**Fig. 208** Detail of a Corona KH-4A space photograph taken in 1968; the arrows point the remains of an ancient system of land division preserved in the northern sector of the Uzunpinar plateau. Today this area is partially occupied by the modern village of Yeni Gözler, built after the earthquake occurred in 1976.

inscription of the early 3<sup>rd</sup> century BC<sup>443</sup>. The larger lots on Uzunpinar (660 m x 480 m, equivalent to 352 *plethra*) are slightly larger than those resulting from the division adopted in the period from the mid 4<sup>th</sup> to the early 3<sup>rd</sup> century BC for the territory of Chersonesus Taurica, in Crimea, which was based on rectangles measuring 630 m x 420 m (300 square *plethra*)<sup>444</sup>, and the division identified in the territory of Apollonia in Pisidia (Uluborlu), also founded in the Hellenistic period, which was based on rectangles measuring 420 m x 660 m (308 square *plethra*)<sup>445</sup>. In contrast, the Uzunpinar lots are slightly smaller than those of the division reconstructed for the territory of Nicaea (Iznik), closely linked to the urban layout imposed by Lysimachus in 301 BC, which was based on rectangles measuring 540 m x 660 m (396 square *plethra*)<sup>446</sup>.

The agrarian division of the northern sector of the plateau of Uzunpinar indicates a rational and intensive exploitation of the land, but there are few elements with which to reconstruct its chronology. It is clear that it was perfectly integrated with the system of ancient settlements in the area, which acquired its basic structure in the course of the Hellenistic period. Indeed, the two large villages of Thiounta and Boyallı, together with the majority of the minor settlements, were arranged around the edges of the broad swath of territory subject to the division, thereby leaving it free for agriculture. Considering (i) the module adopted (which as we have seen has similarities in terms of units of measurement and dimension with those of other agrarian divisions of the late-Classical and Hellenistic periods in Chersonesus and also in Asia Minor, where however research into this theme is still in its infancy<sup>447</sup>) and (ii) the close relationship between some axes and the ancient settlements present in the area, distributed along the margins of the subdivided territory, the agrarian division of the plateau of Uzunpinar can hypothetically be dated to the Hellenistic period, corresponding to the settlements'

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<sup>443</sup> Thonemann 2011, 243-244.

<sup>444</sup> Chtcheglov 1992; Nikolaenko 1999, 2001a, 2001b; Carter 2006; Nikolaenko 2006.

<sup>445</sup> Scardozi 2013b, 137-138.

<sup>446</sup> Scardozi 2013b, 134; Scardozi 2014, 109-113.

<sup>447</sup> In this regard see Scardozi 2013b.

most ancient phases. Considering the large size of the area affected by the division (about 4,800 hectares), it can also be hypothesised that it was introduced by Hierapolis shortly after its foundation in the 3<sup>rd</sup> century BC, when it is believed to have extended its control to the plateau of Uzunpınar, imposing this system of agricultural exploitation.

## The road network

On the plateau of Uzunpınar no stretches of ancient roads were discovered, but it is however possible to reconstruct the main routes by examining the location of the villages and rural settlements and referring to historic maps, in the light of the good conservation in this region of roads from the Ottoman period. Indeed, many of the latter, which survive in the current landscape as highways and above all rural lanes, may well replicate more ancient routes. In addition, a key element for determining the road links between the plateau, the area of Güney and the territory of Blaundos, located just north of the valley of the Maeander, is the ancient bridge that until a few years ago was still in use north of Cindere, which today is submerged by the lake that formed after the building of a dam further downstream.

In the southern sector of the plateau, various roads descended towards the Lykos valley<sup>448</sup>. One of the most important passed near the hill of Somaklı Tepe (see above fig. 191, A), site of a rural settlement (fig. 191, no. 137) north of which, a short distance from the road, are two funerary areas with chamber tombs and a tumulus (fig. 191, nos. 139-138)<sup>449</sup>. The road then continued through the area of Güzelpınar towards the plateau of Çal, constituting the main link between Hierapolis and this area. Not far from this road stood the sacred area dedicated to Apollo Karios, located on the north-western slope of Somaklı Tepe (fig. 191, no. 143). Near Güzelpınar this road was joined by another from the Lykos valley, roughly corresponding to the modern road to Irlıganlı (fig. 191, B), near which is another funerary tumulus (fig. 191, no. 144). It should be pointed out that the road from Irlıganlı which heads

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<sup>448</sup> On the ancient routes between the Lykos valley and the Uzunpınar plateau see above pp. 119-121.

<sup>449</sup> On these tombs, the other funerary areas and the rural settlements mentioned in this paragraph see above pp. 217-235.

towards the plateau of Çal via Güzelpınar, Sakızlılar and Peynirci is also shown in the geological map drawn by Philippson (see above fig. 7, no. 2), who travelled along it in the early 20<sup>th</sup> century as part of his journey from “Demirdji” (the current Çal) to Hierapolis<sup>450</sup>. In addition, another two roads from the Lykos valley reached the plateau further west: one (fig. 191, C) crossed the area of the ancient settlement of Eğrilce (fig. 191, no. 140), while the other (fig. 191, D) ran further west and led towards the area of Uzunpınar<sup>451</sup>.

There are no data with which to reconstruct the roads that are believed to have existed between the south-eastern and central parts of the plateau: it can only be proposed that they corresponded roughly to the modern road between Kurtluca and Uzunpınar or the modern rural lanes running slightly further east. The area occupied by the latter village is believed to have been crossed by a road from the ancient village on the hill of Gavurdamarkası Tepe<sup>452</sup> (see above fig. 195, no. 148), partly replicated by the modern road linking Akçapınar and Uzunpınar (fig. 195, E). From here it is believed to have continued eastwards, its route today replicated by various rural lanes. After passing by a rural settlement (fig. 195, no. 145) and crossing the valley of the Enbiya Dere, where the settlement on the hill of Kurtkayası Tepe stands (fig. 195, no. 146), it then reached the valley of the seasonal stream Akdere, which here marks the boundary between the plateau of Uzunpınar and that of Çal.

The main roads in the central sector of the plateau are all connected to the village of Gavurdamarkası Tepe, which constituted a major junction, occupying a key position with views over a broad swath of territory. The most important is definitely the road that rose from the Lykos valley (Ramsay’s “horse road”)<sup>453</sup>, which passed close to Eymir (fig. 195, F). Once it had reached the plateau, it split into two branches, both replicated by modern country lanes: one (fig. 195, G) led to the north-east, passing just west of Gavurdamarkası Tepe and joining the main road in the northern

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<sup>450</sup> Philippson 1914, pl. out of text. On the sacred area of Apollo Karios see above pp. 206-212.

<sup>451</sup> On the ancient settlement of Eğrilce and the others mentioned in this paragraph see pp. 217-231.

<sup>452</sup> On the ancient village of the Gavurdamarkası Tepe see above pp. 201-205.

<sup>453</sup> See above pp. 47, 113 and 160.

sector of the plateau (the so-called *Ulu yol*, “large road” in Turkish, see below). The other branch (fig. 195, H) led east, running south of the village and continuing towards the valley of the Akdere and the plateau of Çal, which it reached after passing close to the ancient settlement of Akkaya (fig. 195, no. 147) and rejoining the *Ulu yol*. From Gavurdamıarkası Tepe another three roads, also mostly replicated today by country lanes, headed west and north-west: one (see above fig. 196, I) led to the ancient settlement of Çöğür Alanı (fig. 196, no. 155) before continuing westwards through the area of the modern village of Belenardıç and then descending to the valley of the Maeander and the territory of Tripolis; the second (fig. 196, L) joined the above-mentioned *Ulu yol*, passing close to a funerary area (fig. 196, no. 154); the third (fig. 196, M) linked the hill of Gavurdamıarkası Tepe with the ancient village di Boyallı (fig. 196, no. 163), the main settlement in the north-western sector of the plateau and also an important junction<sup>454</sup>.

Boyallı was located on the above-mentioned *Ulu yol*, today replicated by a rural lane (see above fig. 199, N), also shown on Philippson’s geological map (see above fig. 7, no. 3) as the plateau’s main east-west road: to the west it led to the ancient settlement on the hill of Karacıören Tepe (fig. 199, no. 159) before descending to the valley of the Maeander and entering the territory of Tripolis, while to the east it led to the plateau of Çal. From Boyallı it was possible to reach Thiounta directly (fig. 199, nos. 175 and 180)<sup>455</sup> via a road heading north-east (fig. 199, P) and the area of Cindere via a road (fig. 199, O) heading north-west, both today replicated by country lanes. In addition, it should be pointed out that a short distance from the latter was a farmstead and a settlement (fig. 199, nos. 162 and 167). From Cindere it was possible to descend towards the Maeander heading both west (fig. 199, Q) towards the territory of Tripolis and north (fig. 199, R) towards the territory of Blaundos, via routes replicated today by two mule tracks, along which two funerary areas were identified (fig. 199, nos. 168-169). One of these routes corresponds to the one travelled in the 19<sup>th</sup> century by Arundell, who, after reaching Tripolis, followed a stretch of the Maeander and then went up to the plateau,

<sup>454</sup> On the ancient village of Boyallı see above pp. 196-201.

<sup>455</sup> On Thiounta see above pp. 179-196.

passing “Chindery” (today Cindere) and continuing eastwards to “Cuslar”, today Eski Gözler<sup>456</sup>. The other route descended to the river by means of a series of bends due to the considerable difference in elevation. It then crossed the water course by means of the above-mentioned bridge of Cindere (fig. 199, no. 170) and continued towards Güney.

From Cindere, another important route headed east, linking this village to Eski Gözler-Thiounta and Dağmarmara. This road partly survives today in the modern road network, although it is no more than a rural track in some places (fig. 199, Q). It ran along the northern edge of the plateau, crossing a small ancient settlement (fig. 199, no. 172) and passing close to two of the main marble quarries in this area (fig. 199, nos. 173-174), as well as the two large inhabited areas of Fadılöreni (fig. 199, nos. 181-182), closely connected to Thiounta. From here, it proceeded east/south-east and descended to the valley of the Değirmen Dere, reaching the hill of Yüksektepe, site of the ancient settlement of “Motala” (fig. 199, no. 184), which was directly connected to the *Ulu yol* and thus the plateau of Çal to the east. Lastly, a series of other roads, today reduced to mule tracks and rural lanes, linked Thiounta to the surrounding areas, including (i) the most northerly marble quarries (fig. 199, nos. 178-179) via a road running along a ridge, beside which were two funerary areas (fig. 199, nos. 176-177); (ii) the Maeander, via a rather challenging road that descended in a north-westerly direction and today crosses the river by means of a modern foot bridge and rises again towards the north; (iii) the large ancient settlement situated to the south-east (fig. 199, no. 183) via a road (fig. 199, U) that branched off from the above-mentioned Fadılöreni road and crossed another road near the same settlement, today reduced to a track, which came from the south-west (fig. 199, V), having branched off from the *Ulu yol*.

## The bridge of Cindere

The bridge across the Maeander was located just over 1 km north of the village of Cindere (see above fig. 199, no. 170), on a road that descended from the north-western edge of the plateau of Uzunpinar in a northerly direction and then

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<sup>456</sup> Arundell 1828, 199-224.



**Fig. 209** The ancient bridge along the Maeander north of Cindere in a photo taken in 1953 by M.H. Ballance (view from the east).



**Fig. 210** The ancient bridge along the Maeander north of Cindere in a photo taken in 2007 (view from the east). A dam under construction is visible in the background.



**Fig. 211** The ancient bridge along the Maeander north of Cindere: detail of the original structure still preserved in a photo taken in 2007 (view from the east).

continued to Güney and Blaundos. It was submerged in 2010 following the construction of a dam further downriver, but its original structure is documented by a photograph taken by M.H. Ballance in 1953 (fig. 209)<sup>457</sup>. It was about 70 m long and had seven arches, of which four central ones were longer and three (one at the southern end and two at the northern end) were shorter (fig. 210). An inspection in 2007 found that only the smaller arches and the southernmost of the larger arches (10 m wide and 7.50 m above the level of the water) were conserved. The rest had clearly collapsed as a result of exceptionally strong flows in the river, and had been replaced by a precarious reinforced concrete structure which partly rested on one of the original arches that had collapsed (fig. 211). Still in place in the southern part was a stretch of the eastern parapet, built with slabs of travertine, 2.60 m long, 60 cm high and 25 cm thick. The external faces of the arches were built with large travertine voussoirs, while the rest of the masonry was made of stones bound with mortar. The piers had cutwaters on the eastern, i.e. the upriver side. The bridge appears to have undergone refurbishment, for example the expansion of the piers and the cutwaters (fig. 212), which probably served to make the construction more

<sup>457</sup> Scardozi 2019a, 133-134.

**Fig. 212**

The ancient bridge along the Maeander north of Cindere: detail of the northern pier of the preserved arch (photo taken in 2007). The ancient quadrangular base of the pier, 3.70 m wide and 3.25 m long, with a protruding triangular rostrum 1.70 m long (bordered in yellow), has been enlarged towards the north by 1.10 m and the rostrum extended by up to 2.50 m.



solid. It may be hypothesised that the original structure was of the Roman-imperial period, with subsequent medieval and modern restorations due to the bridge's long continuity of use.

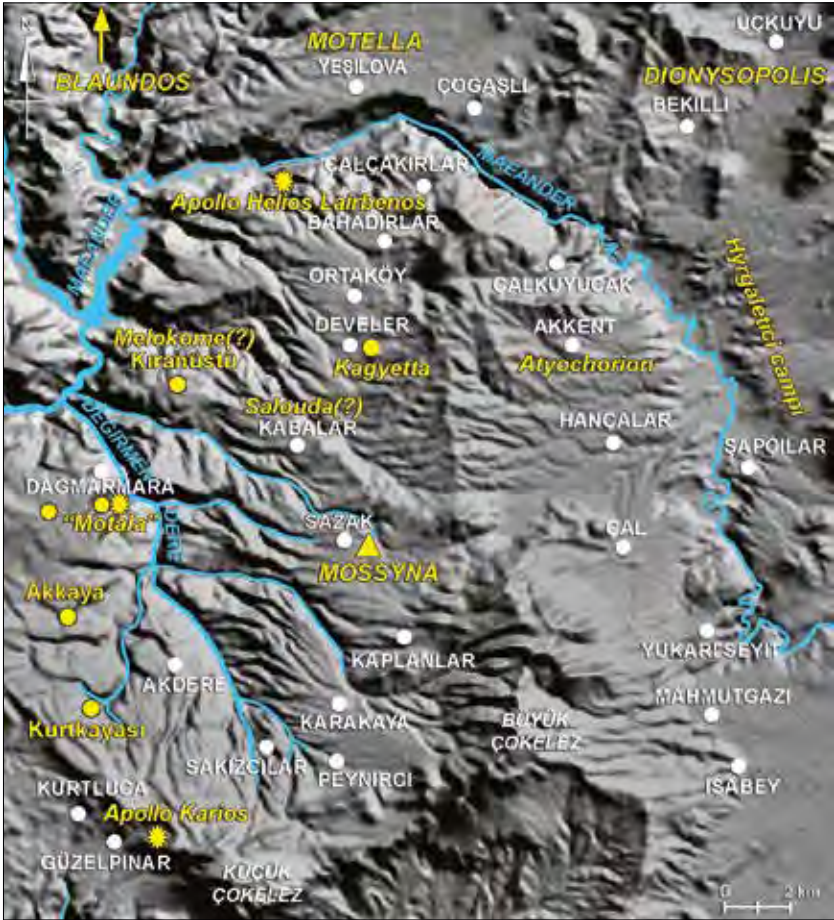
## THE PLATEAU OF ÇAL

On the plateau of Çal (fig. 213), the research concentrated on the north-western sector, believed to have fallen within the territory of Hierapolis at least in the mid imperial period<sup>458</sup>. Here, targeted surveys were conducted in the main archaeological areas, either known from previous research or reported by the local population. Much of the area investigated lies within the territories of the modern villages of Sazak, Kabalar, Develer, Ortaköy and Bahadırlar, while more limited inspections were conducted in the territories of Sakızcılar, Peynirci, Karakaya and Kaplanlar. The area in question is delimited to the north by the course of the Maeander and to the east by a chain of hills oriented north-south that separate the western part of the plateau from its eastern part, where the ancient village of Atyochorion was identified near Akkent.

The main ancient settlement on the plateau of Çal is definitely Mossyna, near Sazak, which in terms of surface area and the volume of remains should be considered a fully-fledged city, confirmed by the fact that in the proto-Byzantine period it was also the seat of a diocese. From the Roman-imperial epigraphical documentation we know the names of some villages that are believed to have been present in the area, i.e. Salouda, Melokome and Kagyetta, which were identified near the modern towns of Kabalar and Develer. Lastly, the north-western edge of this territory was characterised by the presence of the important sanctuary of Apollo Helios Lairbenós, which stood on an isolated hilltop looking on to the Maeander. The sanctuary enjoyed considerable prestige, being frequented by worshippers from all over south-western Phrygia and even from towns beyond its borders.

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<sup>458</sup> See above pp. 28-30.



**Fig. 213** Digital elevation model of the Cal plateau and the neighbouring eastern sector of the Uzunpinar plateau: ancient cities (triangles), main villages and settlements (points), and sacred areas (asterisks) are in yellow; ancient names are in italics.

## The city of Mossyna

The remains of the ancient city of Mossyna are situated on the hill of Ören Tepe, about 1 km east/south-east of the modern village of Sazak (figs. 213-214)<sup>459</sup>. Ramsay had first suggested it was located on the hill of Yüksektepe<sup>460</sup>, about 7 km further west<sup>461</sup>, and then on the hill of Gavurdamarkası Tepe<sup>462</sup>, on the plateau of Uzunpınar<sup>463</sup>, while its location near Sazak, confirmed by the recent research, was first proposed by Robert<sup>464</sup>.



**Fig. 214** QuickBird-2 satellite image acquired in 2005: the area of the ancient city of Mossyna is highlighted and the points indicate the sites where ancient architectural elements and inscriptions are reused inside the village of Sazak.

<sup>459</sup> Scardozzi 2019a, 149-151.

<sup>460</sup> Ramsay 1883, 377-380.

<sup>461</sup> On the ancient settlement on the Yüksektepe see above pp. 212-217.

<sup>462</sup> Ramsay 1887, 350; Ramsay 1895, 122-124.

<sup>463</sup> On the ancient settlement on the Gavurdamarkası Tepe see above pp. 201-205.

<sup>464</sup> Robert 1962, 134, 136; Robert 1983, 53-54. See also Ritti 2002a, 43, 47, note 26.

The settlement on Ören Tepe was identified for the first time in 1930 by W.H. Buckler and W.M. Calder, who however declared it to be Dionysopolis<sup>465</sup>, subsequently identified to the north-east, beyond the Maeander<sup>466</sup>. The site consists of a narrow upland oriented north-south, delimited to the east and west by deep ravines carved by seasonal water courses that flow into the Gök Dere, a tributary of the Maeander, on the north side of the mountain. In contrast,

there is no natural boundary at the southern end<sup>467</sup>. On the surface of the cultivated fields, scattered across an area of 54 hectares, is a large quantity of fragments of tiles, bricks and pottery and pieces of stone, often piled up along the edges of the fields. The materials are dated to a period from at least the Roman-imperial to the Byzantine periods. There are also semi-outcropping masonry structures, but the area has mostly been stripped of its building materials, from which practically the whole of the old sector of the village of Sazak is constructed. The ancient artefacts still present include two limestone counterweights, one cylindrical (type 1b) and



Fig. 215 *Dolium* reused in a building of Sazak.

<sup>465</sup> Buckler, Calder, Guthrie 1933, xiv.

<sup>466</sup> See above p. 28.

<sup>467</sup> Scardozi 2011, 127-128; Castrianni, Scardozi 2010; Castrianni, Scardozi 2012, 95-104; Ritzi, Scardozi, Nocita 2016, 827-835.



**Fig. 216** Architectural elements in marble and travertine reused in Sazak: A, Ionic capital; B, Corinthian capital; C, cornice; D, window pillar.

the other parallelepiped (type 3b), probably associated with grape presses<sup>468</sup> given the widespread cultivation of vines today in the north-western sector of the plateau of Çal, where in contrast there are very few olive groves<sup>469</sup>.

The necropolises of Mossyna, containing chamber tombs and sarcophagi, are located on the slopes surrounding the upland on which lie the remains of the city. Some materials from these funerary areas were gathered and reused in the buildings of Sazak, together with some *dolia* (fig. 215) and many archaeological artefacts and architectural elements in marble and travertine (blocks, columns, bases, capitals, pillars, cornices, sarcophagus chests, etc.) from Ören Tepe, dated to the Roman-imperial and Byzantine periods (figs. 216-217). Among these is a marble base with an inscription of the 2<sup>nd</sup> century AD that mentions Zeus Mossyneus and a *demos*, clearly

<sup>468</sup> Ritti, Scardozzi, Nocita 2016, 828-829.

<sup>469</sup> In this regard see above pp. 176-177.

that of Mossyna<sup>470</sup> (fig. 218). The base, which also served as an altar, supported the statue of the god, which was dedicated at his own expense by the hereditary priest of the cult, G. Nonius Diophantos, a Roman citizen, with contributions from other worshippers who are listed in the inscription. The inscribed artefact, read by Ramsay in 1883 and 1887 in the village mosque<sup>471</sup>, is today in the main square (fig. 214, A) next to the monument to Kemal Atatürk<sup>472</sup>,



**Fig. 217** Sazak: marble stele without inscription bearing a crown in relief.

which incorporates various architectural elements (fig. 219), including a marble slab of the Byzantine epoch, decorated with a relief of two Greek crosses with flared ends, inscribed inside two circles (fig. 220, A). Another slab from the same period, again in marble and decorated with a Latin cross in relief, also with flared ends (fig. 220, B), is kept in a dwelling in the village<sup>473</sup>. Also dated to the Byzantine phase of Mossyna is an inscribed column, perhaps from a church dedicated to the Archangel Michael and now incorporated in the village mosque in Kabalar, about 3 km further north<sup>474</sup>.

Among the other inscribed materials present in Sazak<sup>475</sup>, worthy of mention are a dedication to Augustus reused in a house in the village and some epigraphs probably from the sanctuary of Apollo Helios Lairbenós, situated about 14 km north-west

<sup>470</sup> See also Robert 1983a, 54.

<sup>471</sup> Ramsay 1883, 385-386, no. 8; Ramsay 1887, 350; Ramsay 1889, 229, note 2; Ramsay 1895, 146, no. 33; Ramsay 1930, 281-282.

<sup>472</sup> Ritti, Scardozzi, Nocita 2016, 831-833.

<sup>473</sup> Both crosses have parallels with those that appear in the sculptural decoration of the St. Philip's Church in Hierapolis (cf. Pedone 2018, 218, fig. 3).

<sup>474</sup> See below p. 256.

<sup>475</sup> On these materials see Buckler, Calder, Guthrie 1933, 103, 109, 115, nos. 278, 291, 292, 308; Robert 1983a, 55; Ritti, Şimşek, Yıldız 2000, 23-25, nos. K9-K13; Ritti, Scardozzi, Nocita 2016, 833-835.



**Fig. 218** Sazak: marble altar bearing a dedication to Zeus Mossyneus.

perhaps incorporated in the territory of Hierapolis, probably in the mid 3<sup>rd</sup> century AD, when the latter city seems to have extended its control over this part of the plateau of Çal and the sanctuary of Apollo Helios Lairbenós<sup>479</sup>. By the mid 5<sup>th</sup> century AD, Mossyna had become the seat of a diocese: its bishops are attested at the Councils of 451, 787, 869-870 and 879-880<sup>480</sup>. Initially it was a suffragan bishopric of the *metropolis* of Laodikeia, while in around 530, as Hierokles attests in the *Synékdemos*<sup>481</sup>, which lists the administrative subdivisions of the Byzantine Empire, the city was

of the village<sup>476</sup>. In this sacred area, among those who dedicated a statue to the god is a citizen of Hierapolis that lived in Mossyna<sup>477</sup>. In addition, the community of the Mossyneis is mentioned in a dedication to Zeus Bennios discovered in a village in the Appia region (now Pınarcık), about 120 km to the north-east<sup>478</sup>.

In the early centuries of the imperial period, Mossyna may have administered an autonomous district that was per-

<sup>476</sup> On the sanctuary see below pp. 265-275.

<sup>477</sup> Akıncı Öztürk, Tanrıver 2008, 94-96, no. 4.

<sup>478</sup> Drew-Bear 1976, 254-255, no. 11.

<sup>479</sup> Robert 1962, 137-138, 140-142, 362; Ritti, Şimşek, Yıldız 2000, 4, 54-55; Scardozzi 2011, 133.

<sup>480</sup> Ramsay 1883, 371-374; Ramsay 1895, 121; Belke, Mersich 1990, 343.

<sup>481</sup> Hierokles, *Synékdemos*, 655, 3, where Mossyna is mentioned after Hierapolis and before Dionysopolis.



**Fig. 219** Sazak: marble architectural elements reused in the monument of Kemal Atatürk.



**Fig. 220** Sazak: marble slabs of the Byzantine period decorated in relief bearing respectively (A) two Greek crosses, inscribed inside two circles and partially erased, and (B) a Latin cross inside a lunette.

included in the *Eparchia* of Hierapolis, where it stayed until the 12<sup>th</sup> century, when the *Notitiae Episcopatum* attested to the diocese of Mossyna's continued existence<sup>482</sup>.

<sup>482</sup> Mossyna is mentioned in the *Notitiae Episcopatum* I, II, III, IV, VII, IX, X, XIII (Darrouzès 1981).

## The villages of Salouda and Melokome

An epigraph read in 1887 by Ramsay in the modern village of Kabalar (situated about 25 km north-east of Hierapolis), probably discovered in the nearby countryside, mentions the ancient villages of Salouda and Melokome<sup>483</sup>, which thus may have

stood in the north-western sector of the plateau of Çal<sup>484</sup>. The epigraph is carved on a fragmentary stele on more than one register, of the type seen in Thiounta and associated with the Motaleis<sup>485</sup>, and is dedicated to Cybele by a confraternity (*phratra*) composed of figures from the two villages. In the relief at the top of the artefact the divinity is shown seated on the throne between two lions and is accompanied by Hermes (fig. 221). In 1883 in Kabalar, Ramsay read a dedication to Μητρί Σαλαουδινηή, also identified with Cybele<sup>486</sup>. The discovery thus further strengthens the

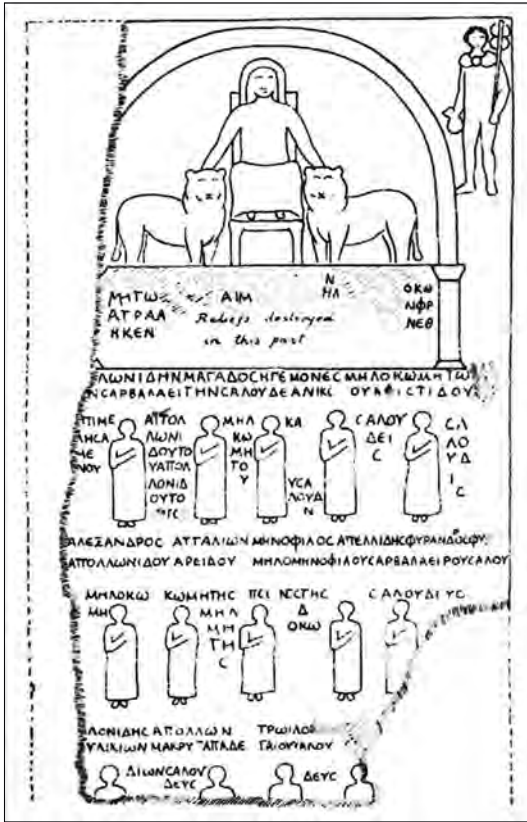


Fig. 221 Stele dedicated to Cybele from Kabalar (after Ramsay 1928, fig. 3).

<sup>483</sup> Hogarth 1887, 399; Ramsay 1895, 156, no. 64; Ramsay 1928, 199, fig. 3.

<sup>484</sup> Robert 1983a, 49, note 13; Ritti 2002a, 43; Scardozi 2013a, 79-80; Ritti, Scardozi, Nocita 2016, 836-837; Scardozi 2019a, 151.

<sup>485</sup> See above pp. 190-191 and 213-215.

<sup>486</sup> Ramsay 1895, 156-157, no. 65; cf. Ritti 2002a, 43.

hypothesis that the village of Salouda was located not far from the modern town. This does not seem to have been built over an ancient settlement, but gathered inside it are archaeological materials from the nearby fields, including a cylindrical limestone counterweight (type 1a or 1b), probably from a grape press, and a tile bearing a carved funerary inscription of the 5<sup>th</sup> or 6<sup>th</sup>



**Fig. 222** Kabalar, column with a Byzantine inscription inside a Greek cross: the text mentions a church dedicated to the Archangel Michael.

century AD<sup>487</sup>. In addition, reused in the mosque of Kabalar is a column believed to have come from Mossyna<sup>488</sup>, carved on which is a Byzantine inscription that mentions a church dedicated to the Archangel Michael (fig. 222)<sup>489</sup>.

The remains of a large settlement (about 6 hectares) in use during the Roman and Byzantine periods, mostly composed of tiles, bricks, pottery and stone fragments scattered across farmland and blocks piled up on the edges of the fields, were identified near the hill of Kiranüstü Tepe, about 4 km north-west of Kabalar (see above fig. 213)<sup>490</sup>. Although this site has yielded no epigraphical data, it may be hypothetically identified with either Salouda or Melokome, which are believed to have been situated close to each other, given that inhabitants of the two settlements belonged to the same religious confraternity.

<sup>487</sup> Ritti, Scardozzi, Nocita 2016, 836-837.

<sup>488</sup> See above p. 252.

<sup>489</sup> Buckler, Calder, Guthrie 1933, 115, no. 307; Robert 1962, 164; Robert 1983a, 54; Scardozzi 2011, 128; Ritti, Scardozzi, Nocita 2016, 837.

<sup>490</sup> Şimşek 2007a, 734-735; Scardozzi 2011, 128; Scardozzi 2014, 101; Ritti, Scardozzi, Nocita 2016, 835-836.

## The village of Kagyetta

On a modest hill on the eastern outskirts of the modern village of Develer (previously Develiler), situated about 29 km north-east of Hierapolis, the remains of a large settlement active in the Roman and Byzantine periods were discovered. Covering an area of about 12 hectares (fig. 223), it can be identified with the village of Kagyetta<sup>491</sup>. The *demos* of Kagyetta is recorded in two inscriptions read in Develer by Ramsay in 1883 and 1888<sup>492</sup>, one on a stele with a pediment, which had been reused in a house, and one on a parallelepiped limestone funerary altar (fig. 224), today in a flower bed



**Fig. 223** QuickBird-2 satellite image acquired in 2007 showing the area occupied by the remains of the ancient village of Kagyetta, close to Develer, and indicating: a partially rock-cut structure (A), the necropolis in the area of the modern cemetery (B) and the sites of the modern village where epigraphs and architectural materials including a funerary altar of 2<sup>nd</sup>-3<sup>rd</sup> cent. AD (C), a stele with a double-bitted axe (D) and another stele inserted in a fountain (E) are reused.

<sup>491</sup> Scardozzi 2011, 128-129; Scardozzi 2014, 101-102; Ritti, Scardozzi, Nocita 2016, 837-839; Scardozzi 2019a, 151-152. On the site see also Zgusta 1984, 209, § 401, and Şimşek 2007a, 735-736. On the presence of a mid-Byzantine settlement just over 1 km further north-east, on the Kale Tepe in the area of Ortaköy, see also Şimşek 2007a, 732-733.

<sup>492</sup> Ramsay 1895, 141, 155-156, nos. 62-63; Buckler, Calder, Guthrie 1933, 111, no. 296; 113, no. 301; Ritti 2002a, 55.



Fig. 224 Develer: funerary altar mentioning the *demos* of Kagyetta.

in the modern village (fig. 223, C). On the front of the latter is an arch-shaped niche inside which are reliefs of the deceased, Artemon Diomedes and his wife Chrysoptolis, while the inscription, dated to the 2<sup>nd</sup> or 3<sup>rd</sup> century AD, is carved on the right side<sup>493</sup>.

The area of the ancient settlement is littered with tiles, bricks, pottery and stone fragments, including a counterweight (type 2b or 5) of a grape press. In addition, unauthorised excavations have partially brought to light masonry structures and buried *pithoi*. South of the settlement, on the western slopes of Meşeme Tepe, in the area of the modern cemetery lies the main necropolis (fig. 223, B). On the south-western slopes of the hill on which the northern sector of the settlement stands (fig. 223, A) are the remains of a partially rock-cut structure built to a rectangular plan

<sup>493</sup> Ritti, Scardozzi, Nocita 2016, 839-840.



**Fig. 225** Develer: partially rock-cut structure with niches located in the area of the ancient village of Kagyetta.

(about 15 m by 5 m) along an east-west axis (fig. 225)<sup>494</sup>. The short western side and the long northern side, where a series of arched niches are excavated in the rock (about 110-120 cm high, 50-60 cm wide, 30 cm deep), are conserved. The structure, of uncertain chronology and function, is believed to have been accessed from the eastern side, today mostly destroyed. It has been proposed that it was a place of worship dedicated to Cybele<sup>495</sup>.

Several stone elements from the ancient settlement, above all limestone (mostly blocks and some thresholds), but also marble (capitals, cornices, reliefs), were reused in the buildings of Develer<sup>496</sup>. These include a small stele in white marble, without epigraphs, decorated with a relief of a double-bitted axe (fig. 226), incorporated in the external wall of the mosque (fig. 223, D) and plausibly linked to the cult of Apollo Helios Lairbenós, of whom the double-bitted axe is one of the main attributes and whose sanctuary is found just 7.5 km to the north-west<sup>497</sup>. In this regard, it should be

<sup>494</sup> Scardozzi 2013a, 80.

<sup>495</sup> Şimşek 2007a, 736-737; Kök 2011, 24.

<sup>496</sup> On another fragmentary inscription and an anepigraphic stele decorated in relief see also Buckler, Calder, Guthrie 1933, 108 and 115, nos. 288 and 306.

<sup>497</sup> On the sanctuary see below pp. 265-275.

remembered that in 1888 in Develer Ramsay saw a small relief with no epigraph but bearing a representation of a divinity on horseback with a double-bitted axe, clearly Lairbenós<sup>498</sup>. In addition, there is a fountain (fig. 223, E) in which various architectural elements of the Roman-imperial, Byzantine and Ottoman periods are reused. The pieces include a stele broken into two parts, which form the two sides of the modern structure (fig. 227). The stele has a pediment supported by two lesenes that



**Fig. 226** Develer: stele with pediment and a double-bitted axe in relief.

frame a recessed surface with a relief of a male figure (almost completely covered by the modern walls), flanked by two palm trees.

Lastly, from Develer comes an inscription, dated to the mid 3<sup>rd</sup> century AD, containing laws, plausibly issued in Hierapolis, designed to protect the vineyards from damage caused by grazing sheep<sup>499</sup>. The fragmentary text mentions the *paraphylakes* and Apollo Archegetes, probably as the beneficiary of a fine. This epigraph has a dual significance, since on one hand it attests to the widespread presence of viticulture in this area, as also shown by the discovery in Develer (as

<sup>498</sup> Ramsay 1889, 219; Ritti, Şimşek, Yıldız 2000, 11, no. D14.

<sup>499</sup> Hogarth 1887, 392, no. 21; Anderson 1897, 412, note 2; Ramsay 1930, 283-284; Buckler, Calder, Guthrie 1933, 111-112, no. 297; Ritti, Miranda, Guizzi 2008, 68-70, no. 15; Thonemann 2011, 193-195; Ritti, Scardozzi, Nocita 2016, 839.



**Fig. 227** Develer: architectural elements reused in a fountain, including two large fragments of a stele.

well as in Kabalar and Sazak) of stone elements linked to grape presses<sup>500</sup>, while on the other it is the basis of the hypothesis that in the mid imperial period at least the north-western part of the plateau of Çal lay within the jurisdiction of Hierapolis<sup>501</sup>.

<sup>500</sup> Scardozzi 2014, 106-109.

<sup>501</sup> Ritti 2002a, 54; Scardozzi 2011, 130. See above p. 29.

## The village of Atyochorion

The ancient village of Atyochorion, recorded in the epigraphical sources of the Roman-imperial period, is believed to have stood in the north-eastern sector of the plateau of Çal (see above fig. 213), near the modern village of Akkent (once called Zeive), about 34 km north-east of Hierapolis. The site of the settlement, which hosted a political community with a citizens' council, a people's assembly and a *gerousía*, has not yet been precisely identified, nor is it known whether it lay in the territory of Hierapolis or in that of Dionysopolis, located about 10 km to the north-east, beyond the Maeander, between the modern village of Bekilli and Üçkuyu. In addition, later sources refer to the settlement as At yokome<sup>502</sup>.

Conserved in the Archaeological Museum of Hierapolis-Denizli is a marble base that is believed to have supported the statues of a certain Dyonisios, honoured by the *demos*, the *boulè* and the *gerousía* of the Atyochoreitai, and of his daughter Tatia, who commissioned the statue of her father in 169 AD and is described as a citizen of Dionysopolis<sup>503</sup>. The presence in the settlement of a sanctuary dedicated to the medical divinity Asclepius Sotér in the 2<sup>nd</sup> century AD is attested (i) by the sepulchral inscription of Menophilos of Atyochorion, a priest of the god for life, carved on a marble funerary altar discovered near the lower mosque of Akkent<sup>504</sup>, and (ii) by an honorary inscription, perhaps also of the 2<sup>nd</sup> century AD, carved on a marble statue base (fig. 228) discovered incorporated in a building in the same village. The latter text tells of how a benefactor, whose name has been lost, dedicated statues and an altar kept in a temple and donated vineyards, workshops and possibly slaves to the sanctuary so that the income could be used for the performance of ritual activities in honour of Asclepius and the other consecrated gods and for the maintenance of the sacred installations<sup>505</sup>.

<sup>502</sup> Robert 1962, 129-130; Zgusta 1984, 107, § 113; Belke, Mersich 1990, 196; Ritti 2002a, 41-43; Ritti, Miranda, Guizzi 2008, 16.

<sup>503</sup> Ritti 2002a, 66-69; Ritti, Miranda, Guizzi 2008, 146-148, no. 58.

<sup>504</sup> Ramsay 1883, 383-384, no. 6; Ramsay 1895, 146, no. 35; Buckler, Calder, Guthrie 1933, 113-114, no. 302bis. On a fragmentary marble stele of the 3<sup>rd</sup> century AD from Zeive/Akkent see also Buckler, Calder, Guthrie 1933, 113, no. 302.

<sup>505</sup> Riel, Akıncı Öztürk 2014.

**Fig. 228**

Akcent: inscription mentioning the dedication of statues, an altar and funds to a sanctuary of Asclepius and other unnamed gods (after Rici, Akıncı Öztürk 2014, 16).

In addition, an epigraph probably of the 2<sup>nd</sup> century AD, carved on a marble slab and seen by Ramsay in the village of Bahadınlar, records that another inhabitant of Atyochorion, named Apollonios, dedicated a portico to *Meter Latona* and Apollo Helios Lairbenós, in the name of his children<sup>506</sup>. The inscription plausibly comes from the sanctuary of Apollo Lairbenós, on the north-western edge of the plateau of Çal<sup>507</sup>, where another two inhabitants of Atyochorion are known to have made dedications in 223/4 and 215/6 AD<sup>508</sup>.

Lastly, a fragmentary inscription on a block of white marble (fig. 229), discovered in the district of Dikilitaş about 2.5 km north/north-east of Akcent, contains part of the decree of a *demos* (in which the *demos* of Atyochorion is recognised) concerning the erection, under the supervision of the *gerousía*, the council of the elders, of a stele bearing a list of donations and dedications in the sanctuary of Zeus Trossou<sup>509</sup>. The final part of the text, generically dated to the Roman-imperial period, records the donation to the *demos* by a certain Pl. Eukopos Philodo[...] of the sum of 150 denarii for sacrifices of bulls dedicated to Zeus (Trossou) and for the payment

<sup>506</sup> Ramsay 1883, 382-383, no. 5; Ramsay 1895, 146, no. 34; Ritti, Şimşek, Yıldız 2000, 8, no. D5.

<sup>507</sup> See below pp. 265-275.

<sup>508</sup> Akıncı Öztürk, Tanrıver 2008, 96-97, nos. 5-6.

<sup>509</sup> Akıncı Öztürk, Baysal, Rici 2015.

of the *tributum capitis* of the priests. The discovery was made on a hill near the west bank of the Maeander and the ancient road to Dionysopolis, which crossed the river via the so-called Zeive bridge a short distance away<sup>510</sup>. The hill was perhaps the location of the sanctuary itself, and plausibly lay within the territory controlled by the village. In addition, the discovery provides further confirmation of the widespread presence of the cult of Zeus Trossou in the upper Maeander valley<sup>511</sup>. Indeed, it is attested by an inscription from Bahadırlar<sup>512</sup> and probably by another from Çalkuyucak<sup>513</sup>, both villages situated in the northern



**Fig. 229** Dikilitaş district: inscription consisting of a decree of a demos (of Atyochorion?) stipulating that a stele with a list of donations/dedications will be erected in the sanctuary of Zeus Trossou (after Akıncı Öztürk, Baysal, *RicI* 2015, 192).

sector of the plateau of Çal, respectively 6.5 and 2.5 km to the west/north-west of the hill of Dikilitaş, as well as by an epigraph from Üçkuyu, situated immediately beyond the Maeander, about 10.5 km to the north-east of the same hill<sup>514</sup>.

<sup>510</sup> See below pp. 275 and 278.

<sup>511</sup> Akıncı Öztürk, Baysal, *RicI* 2015, 195.

<sup>512</sup> Buckler, Calder, Guthrie 1933, no. 268; Ritti, Şimşek, Yıldız 2000, 13, no. D20b.

<sup>513</sup> Buckler, Calder, Guthrie 1933, no. 266.

<sup>514</sup> Drew-Bear 1976, 261-262, no. 16.

## The sanctuary of Apollo Helios Lairbenós

The sanctuary of Apollo Helios Lairbenós was the main place of worship in the region north of Hierapolis and was located on a hill today called Asartepe, on the north-western edge of the plateau of Çal, about 3.5 km north-west of the modern village of Bahadırlar, almost 35 km north-east of Hierapolis (see above fig. 213). Asartepe has steep slopes and a narrow flat area on the summit of about 2.5 hectares (fig. 230), oriented roughly east-west overlooking the eastern bank of the Maeander, about 150 m below. Inside the sacred area, at the western end of the upland (figs. 231-232) and partially excavated by archaeologists from the Museum of Hierapolis-Denizli<sup>515</sup>, stood at least two buildings: a temple (fig. 233; 12 m x 27 m) and, almost 30 m further west, a structure of smaller dimensions (fig. 234; 6.30 m x 10.50 m) with a vaulted roof, variously interpreted as a hall for meetings or mystic rituals or another temple<sup>516</sup>. Just over a hundred metres further east are the remains of another structure 5 m wide and 25 m long, oriented east-west.

On the basis of two dedications datable to no later than 130 AD, the sacred area is believed to have been monumentalised in the late 1<sup>st</sup> or early 2<sup>nd</sup> century AD<sup>517</sup>. Specifically, an inscription carved on a stele now incorporated in the mosque of Bahadınlar containing the dedication to Apollo Lairbenós of ten tiles (clearly marble) and 12,000 denarii for the decoration in gold leaf of the coffered ceiling by a certain Dokimos, slave of Domitia Augusta, wife of Domitian<sup>518</sup>, makes it possible to date the construction of at least one of the buildings to 90 AD or in any case to the last decade of the 1<sup>st</sup> century AD. In this regard, it should be pointed out that researchers have recently found a stylistic affinity between modillions discovered in

<sup>515</sup> Akıncı, Yıldız 2007; Baysal 2007.

<sup>516</sup> On the sanctuary and its epigraphic documentation see Hogarth 1887; Ramsay 1889; Ramsay 1895, 133-134; Buckler, Calder, Guthrie 1933, xiv-xv and 96-110; Robert 1962, 127-149 and 356-363; Strobel 1980, 208-218; Miller 1985; Petzl 1994, 122-143; Riel 1995; Baysal 2000, 41; Ritti, Şimşek, Yıldız 2000; Dignas 2002, 237-243; Dignas 2003, 83-89; Ritti, Miranda, Guizzi 2008, 12-14 and 106-118, nos. 39-40; Akıncı Öztürk, Tanrıver 2008, 2009 and 2010; Şimşek 2009, 676-678; Baysal 2011, 49-55; Scardozi 2013a, 82-84; Kerschbaum 2014, 22-29; Ritti 2017, 106-107, 145-146; Scardozi 2019a, 152-154.

<sup>517</sup> Ritti, Şimşek, Yıldız 2000, 4.

<sup>518</sup> Buckler, Calder, Guthrie 1933, 110, no. 293; Miller 1985, 50; Ritti, Şimşek, Yıldız 2000, 7, 19, no. D1.



**Fig. 230** General view of the Asartepe from the south: the arrow points the area of the sanctuary of Apollo Helios Lairbenós.



**Fig. 231** Western sector of the summit of the Asartepe: general view from the east showing the remains of the sanctuary of Apollo Helios Lairbenós. The Maeander river is visible in the background.

the sanctuary and those of the so-called Stoa of the Springs, a portico in the central sector of Hierapolis that was also built during the reign of Domitian<sup>519</sup>. Examination of the architectural elements in the sanctuary also highlighted the close connection with Hierapolis, suggesting that the architect and the craftsmen active in the sanctuary were trained there<sup>520</sup>. To this dedication may be added another, in a

<sup>519</sup> Ditaranto, Ismaelli, Scardozzi forthcoming.

<sup>520</sup> Kelp 2015, 197, suggests verifying the connection between the workers engaged in the sanctuary of Apollo Helios Lairbenós and those in Hierapolis.

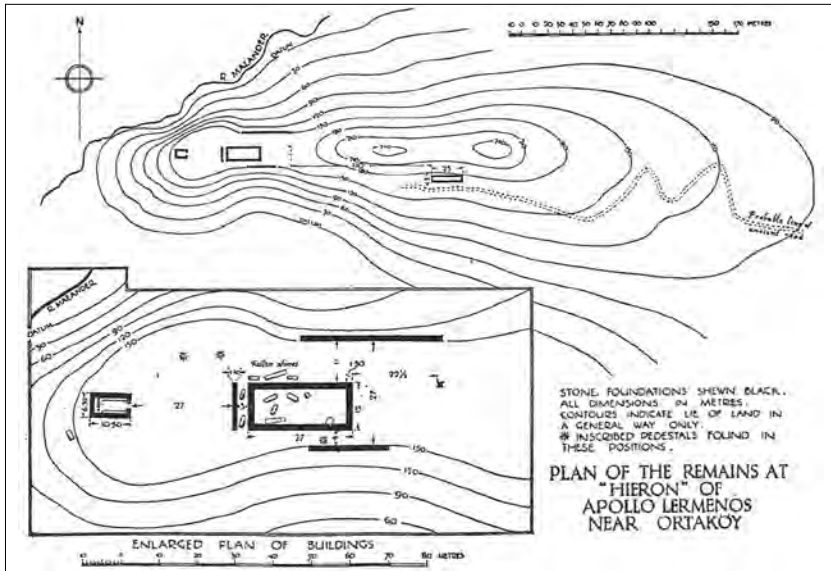


Fig. 232 Sanctuary of Apollo Helios Lairbenós: general plan (after Buckler, Calder, Guthrie 1933, fig. 22).



Fig. 233 Sanctuary of Apollo Helios Lairbenós: the remains of the easternmost building.

fragmentary state, on an entablature belonging to one of the buildings<sup>521</sup>, which perhaps refers to the empress Sabina, wife of Hadrian<sup>522</sup>.

<sup>521</sup> Ramsay 1930, 276-277.

<sup>522</sup> Ritti, Şimşek, Yıldız 2000, 7, no. D2.

Three further epigraphs were recently discovered that confirm the wave of construction affecting the sanctuary in the late 1<sup>st</sup> and early 2<sup>nd</sup> centuries AD. The first, datable precisely to this period, is carved on a fragment of marble architrave. Although only a small portion of the inscription is conserved, it records the dedication to the god of “tiles placed on the temple”, in addition to other undefined architectural elements<sup>523</sup>. The other two epigraphs, dated to the first decade of the 2<sup>nd</sup> century AD, document the construction of a building with a colonnade, with the individual intercolumniations commissioned by various dedicants at their own expense: the first of these texts, which gives the year as 108/109 AD and is carved on an architrave surmounted by a frieze with garlands, records that a certain Menandros of the village of Motellokepos (plausibly in the territory of Motella: see below) “built the intercolumniation from its foundations, together with the base, the torus, the column, the capital, the architrave bearing the frieze and the cornice”, dedicating them to Apollo Lairbenós as an *ex-vo-to*<sup>524</sup>. The other text, coeval and also carved on a frieze-architrave block with the same characteristics as the previous one, records that Phileteros and Meiletos, originally from Blaundos, dedicated to Apollo Lairbenós “the intercolumniation from its foundations, together with the base, the capital, the architrave, the frieze and the cornice”<sup>525</sup>. In addition, it should be remembered that the dedication to *Meter* Latona and Apollo Helios Lairbenós of a stoa by a certain Apollonios from the village of Atyochorion is also dated to the 2<sup>nd</sup> century AD<sup>526</sup>, although it is hard to be more precise (the text has been tentatively dated to the second half of the century, but it could be a few decades older).

In the area of the sanctuary, in addition to altars, bases and stelae, there are numerous architectural elements from buildings, including large fragments of the tympana of two pediments, one decorated with a central clipeus and the other with a large *kántharos* and a serpent with long coils (fig. 235). The epigraphical documents associated with the sanctuary (figs. 236-237), in which the date is often expressed with reference to the Sullan era, which began in September 85 BC, record the dedication

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<sup>523</sup> Akıncı Öztürk, *Tanrıver* 2010, 44, no. 2.

<sup>524</sup> Akıncı Öztürk, *Tanrıver* 2008, 105-106, no. 19.

<sup>525</sup> Akıncı Öztürk, *Tanrıver* 2010, 43-44, no. 1.

<sup>526</sup> Ritti, Şimşek, Yıldız 2000, 8, no. D5 (second half of the 2<sup>nd</sup> cent. AD?).



**Fig. 234** Sanctuary of Apollo Helios Lairbenós: the remains of the westernmost building.



**Fig. 235** Sanctuary of Apollo Helios Lairbenós: architectural marble elements, including the remains of a pediment with a serpent and a *kántharos* in relief.

of various statues (of Apollo Alexíkakos, armed with a bow and arrow driving away the pestilence, Apollo Lairbenós, the Nikai, Artemis Kynagòs and a deer)<sup>527</sup> and the

<sup>527</sup> Ritti, Şimşek, Yıldız 2000, 7-8, no. D3 (165 AD); 8, no. D4 (2<sup>nd</sup> cent. AD); 8-9, no. D6 (2<sup>nd</sup> cent. AD, before 124/125); Akıncı Öztürk, Tanrıver 2008, 100-101, no. 12. See also: Ritti, Şimşek, Yıldız 2000, 9, no. D10 (2<sup>nd</sup> cent. AD, before 183/184), mentioning the dedication of another statue and a silver patera; Akıncı Öztürk, Tanrıver 2008, 95-96, no. 4 (171/172 AD), mentioning the dedication of a statue to Lairbenós as a “listener” of the supplications of the worshippers; Akıncı Öztürk, Tanrıver 2010, 44-45, no. 3 (217/218 AD), mentioning the dedication of another statue of the same god.

presence of a village linked to the sacred area<sup>528</sup>. This village may have occupied the central-eastern part of the hill, where tiles, pottery and stone fragments are found, and may have had workshops of various kinds (including stonemasons) linked to the sanctuary<sup>529</sup>. The traces of burials found on the slopes below may also be connected to this village<sup>530</sup>.

Lairbenós was an indigenous divinity admitted to the Greek pantheon and assimilated to Apollo, in this guise becoming part of the official cult of Hierapolis. The iconography associated with the god is known from votive reliefs (fig. 238), in which the god appears as a horseman with untied shoulder-length hair, wearing a chiton and chlamys and carrying a double-bitted axe, which is also represented in some architectural elements of the sanctuary (fig. 239). The assimilation of the god to *Helios* is also clearly indicated by the radiant crown, which for example appears on coins minted in Hierapolis during the reign of Elagabalus and Philip the Arab, where the head of the god is accompanied by the legend *ΑΙΙΡΒΗΝΟC* (fig. 240)<sup>531</sup>.



**Fig. 236** Marble base bearing a dedication of a statue to Lairbenós by Daisios of Hierapolis, residing in Mossyna (cf. Akıncı Öztürk, Tanrıver 2008, 95-96, no. 4), and a series of *katagraphai* including, immediately below the dedication, that of Au(relios) Glykon from Atyochorion (cf. Akıncı Öztürk, Tanrıver 2008, 96, no. 5).

<sup>528</sup> Petzl 1994, nos. 106, 109, 110, 112, 115, 116, 124.

<sup>529</sup> On the presence of an economy linked to the sanctuary see Akıncı Öztürk, Tanrıver 2008, 93, 98. See also Ritti, Şimşek, Yıldız 2000, 32-34, no. K43, mentioning the offering to the god of a workshop.

<sup>530</sup> On this village see Ritti, Şimşek, Yıldız 2000, 4.

<sup>531</sup> Ritti 2017, 106, 527, 551.



**Fig. 237** Sanctuary of Apollo Helios Lairbenós: marble base with the dedication of a statue to Apollo Alexikakos by *Papías* from Motella, dated to 165 AD (cf. Ritti, Şimşek, Yıldız 2000, 7-8, no. D3).

More than a hundred inscriptions of the Roman-imperial period (dated mostly to the 2<sup>nd</sup> and 3<sup>rd</sup> centuries AD) are associated with the sanctuary. They were discovered partly on the hill of Asartepe and partly in the nearby villages of Bahadırlar, Ortaköy, Develer, Akkent, Sazak, Çal and Selçukler (the last of which lies north of the Maeander), where they were plausibly transported from the sacred area. However, the possibility that in some cases they are associated with local forms of devotion to Lairbenós cannot be ruled out. In addition, there is also a text dated to the Hellenistic period (albeit fragmentary and the only one of its kind) showing that the sacred area was already in use at this time<sup>532</sup>. The inscriptions are mostly carved on bases and stelae

<sup>532</sup> Akıncı Öztürk, Tanriver 2009, 87, no. 1.

(generally in marble but also in limestone). They consist of dedications to the divinity, confessions of sins (which the worshippers were obliged to have carved on a stele that would then be displayed in the sanctuary) and consecrations, i.e. public declarations of the registration (*katagraphái*) of certain persons, such as the children or pupils of the consecrants, as *hierói* of the god<sup>533</sup>. The texts reveal the strong connection with the sun, and the confessions in particular attest to the punitive power of Lairbenós, although he does not seem to have played any oracular role. The god also had a female *pàredros*, *Meter* Latona, perhaps originally the Phrygian *Meter* Cybele<sup>534</sup>. In addition, some inscriptions show that Artemis was also venerated in the sanctuary, and statues were dedicated to her<sup>535</sup>.

On the basis of the epigraphical documentation, in the early imperial period the sanctuary seems to have been controlled by the nearby city of Motella, located near the modern village of Yeşilova, about 3.5 km to the north-east, just north of the Maeander. Subsequently, in the second half of the 3<sup>rd</sup> century AD, it probably



**Fig. 238** Marble stele from Ortaköy (now in the Museum of Hierapolis-Denizli) dedicated to Lairbenós in the 2<sup>nd</sup> or 3<sup>rd</sup> century AD from a certain *Artemidoros* (cf. Ritti, Şimşek, Yıldız 2000, 10-11, no. D13).

<sup>533</sup> For a detailed examination of the texts see Petzl 1994, 122-143; Riel 1995; Ritti, Şimşek, Yıldız 2000; Akıncı Öztürk, Tanrıver 2008, 2009 and 2010, with bibliography.

<sup>534</sup> Ritti 2017, 114.

<sup>535</sup> See for example Akıncı Öztürk, Tanrıver 2008, 100-101, no. 12; 102-103, no. 14 (172/173 AD).



**Fig. 239** Sanctuary of Apollo Helios Lairbenós: detail of a rampant moulding in which a double-bitted axe appears among the coffers motifs.

fell under the control of Hierapolis<sup>536</sup>. The numerous known inscriptions document the characteristics of the cult, attesting to the great prestige of the sanctuary and how it was frequented not only by the local population, but also by the inhabitants of settlements some distance away<sup>537</sup>. Most of the worshippers were from nearby Motella<sup>538</sup>, of which Lairbenós, was considered the “lord”, in the sense of a polyadic divinity<sup>539</sup>, and protector<sup>540</sup>, and from the village of Motellokepos (“vineyard

<sup>536</sup> Cf. Robert 1962, 137-138, 140-142, 362; Ritti, Şimşek, Yıldız 2000, 4 and 54-55; Ritti, Miranda, Guizzi 2008, 12-14; Ritti 2017, 35, 282-283.

<sup>537</sup> Ritti, Şimşek, Yıldız 2000, 51-55; Akıncı Öztürk, Tanrıver 2008, 91-92, 94-98, 100, 105-107; Akıncı Öztürk, Tanrıver 2009, 90-93, 95-96; Akıncı Öztürk, Tanrıver 2010, 43-45, 47-48.

<sup>538</sup> The inhabitants of Motella are mentioned in about thirty texts, dating between 118/119 and 255 AD: Petzl 1994, 128-131, 134-135, nos. 110 (3<sup>rd</sup> century AD), 111 (3<sup>rd</sup> cent. AD?), 114 (2<sup>nd</sup> or 3<sup>rd</sup> cent. AD); Ritti, Şimşek, Yıldız 2000, 7-8, no. D3 (165 AD); 9, no. D10 (2<sup>nd</sup> cent. AD, before 183/184); 13, no. D20 (118/119 AD); 21, no. K1 (178 AD); 22, no. K2 (225 AD); 22, no. K5 (124/125 AD); 23, no. K7 (209 AD); 24, no. K10 (226 AD); 24, no. K11 (232 AD); 28, no. K29 (183 AD); 28-29, no. K30 (230 AD); 29, no. K32 (188 AD); 29-30, no. K33 (194 AD); 31, no. K38 (221 AD); 31, no. K39 (140 AD); 32, no. K41 (255 AD?); 36, no. K45 (218 AD); 38-39, no. K48 (207 AD); 39-40, no. K49 (223/224); 41, no. K51 (223 AD); Akıncı Öztürk, Tanrıver 2008, 106, no. 20; 107, no. 23; Akıncı Öztürk, Tanrıver 2009, 92, no. 10 (235 AD); Akıncı Öztürk, Tanrıver 2010, 45-47, no. 5 (219/220 AD); 47, no. 6 (218/219 AD); 47-48, no. 7 (218/219 AD). The inhabitant of Motella mentioned in the last text originated from a not otherwise known village called Kibales, Kibalis or Kibalios.

<sup>539</sup> Ritti, Şimşek, Yıldız 2000, 36-38, no. K46 (237 AD); 40-41, no. K50 (3<sup>rd</sup> cent. AD).

<sup>540</sup> Ritti, Şimşek, Yıldız 2000, 41-42, no. K52 (257 AD).

**Fig. 240**

Coins minted in Hierapolis during the reign of Philip the Arab (244-249 AD) bearing the head of Apollo Helios Lairbenós on the front and Cybele-Hygieia on the throne on the reverse.



of Motella”), which it also probably controlled<sup>541</sup>. However, there were also numerous inhabitants of Hierapolis and its territory<sup>542</sup>. Among these, it is interesting that in the 2<sup>nd</sup> and the first half of the 3<sup>rd</sup> centuries AD some citizens of Hierapolis indicate their village of residence, thereby documenting the names of settlements which surely correspond to those discovered during the surveys for which the ancient name is not known. These include Mamakome and Masakome and probably Kroula/Kroulon<sup>543</sup>. In addition, in the second half of the 2<sup>nd</sup> century AD, another citizen of Hierapolis gives their residence as Mossyna<sup>544</sup>. Also documented are inhabitants of Atyochorion (a village near Akkent, about 10 km to the south-east)<sup>545</sup>, Dionysopolis (a city located between the modern villages of Bekilli and Üçkuyu,

<sup>541</sup> The village is mentioned in two inscriptions from the first half of the 2<sup>nd</sup> century AD: Ritti, Şimşek, Yıldız 2000, 10, no. D11 (2<sup>nd</sup> cent. AD, before 140/141); Akıncı Öztürk, Tanrıver 2008, 105-106, no. 19 (108/109 AD).

<sup>542</sup> Hierapolitans are mentioned in 13 texts of the 2<sup>nd</sup> and 3<sup>rd</sup> centuries AD: Petzl 1994, 139-140, no. 120; Ritti, Şimşek, Yıldız 2000, 8-10, D6 (2<sup>nd</sup> cent. AD, before 124/125); 22, K4 (2<sup>nd</sup> cent. AD); 22, no. K6 (3<sup>rd</sup> cent. AD); 24-25, no. K13 (3<sup>rd</sup> cent. AD); 28, K28 (229 AD); Akıncı Öztürk, Tanrıver 2008, 91-92, no. 1; 94-96, no. 4 (171/172 AD); 98, no. 8 (227/228 AD); Akıncı Öztürk, Tanrıver 2009, 91, no. 7 (238 AD); 92-93, no. 11 (237 AD); 95, no. 19; 96, no. 23.

<sup>543</sup> Ritti, Şimşek, Yıldız 2000, 8-10, 22, 28, nos. D6 (Kroula/on; 2<sup>nd</sup> cent. AD, before 124/125), K4 (Mamakome; 2<sup>nd</sup> cent. AD), and K28 (Masakome, 229 AD).

<sup>544</sup> Akıncı Öztürk, Tanrıver 2008, 94-96, no. 4 (171/172 AD).

<sup>545</sup> See above pp. 262-264. Three texts mention the inhabitants of the village of Atyochorion: Ritti, Şimşek, Yıldız 2000, 8, no. D5 (second half of the 2<sup>nd</sup> cent. AD); Akıncı Öztürk, Tanrıver 2008, 96, no. 5 (223/224 AD); 96-97, no. 6 (215/216 AD).

beyond the Maeander, about 12 km further east)<sup>546</sup>, Blaundos (situated about 17 km to the north-west)<sup>547</sup>, the plain of the Hyrgaleis (situated about 17 km to the south-east, again east of the Maeander, in the area of Şapçılar)<sup>548</sup>, Tripolis (about 35 km to the south-west)<sup>549</sup> and Laodikeia (about 44 km to the south-west), the home of a worshipper originally from Er(r)iza, in Caria<sup>550</sup>.

## The road network

As on the plateau of Uzunpınar, no stretches of ancient roads were discovered on the plateau of Çal. However, it is possible to reconstruct at least the general road network on the basis of the location of the ancient settlements and the data derived from historic maps, considering the high level of conservation of historic routes in this region. Indeed, many of them survive, in the form of both highways and country lanes. In addition, much can be deduced from the presence of two ancient bridges on the Maeander (the so-called bridges of Zeive and Hançalar), partly still in use.

The Zeive bridge (fig. 241, no. 1) was on the old road (now reduced to a track) running between Akkent (formerly Zeive), near which stood the ancient village of Atyochorion<sup>551</sup>, and Bekilli, just south of which was the hill of Asar Tepe, the site most reliably identifiable with Dionysopolis<sup>552</sup>, characterised by the extensive presence of fragments of bricks, tiles and pottery and stone materials and a Byzantine fortress on the summit (fig. 242). Numerous archaeological items from Asar Tepe can be found reused in Bekilli, including the famous inscription, carved on a marble

<sup>546</sup> See above p. 28. Three texts refer to worshippers from Dionysopolis: Ritti, Şimşek, Yıldız 2000, 8, no. D4 (2<sup>nd</sup> cent. AD); 14-15, no. D21 (2<sup>nd</sup> or 3<sup>rd</sup> centuries AD); Akıncı Öztürk, Tanrıver 2009, 90-91, no. 6 (229/230 AD).

<sup>547</sup> See above p. 25. The inhabitants of Blaundos are mentioned in three texts: Petzl 1994, no. 108 (1<sup>st</sup> or 2<sup>nd</sup> cent AD?); Ritti, Şimşek, Yıldız 2000, 21, no. K1 (178 AD); Akıncı Öztürk, Tanrıver 2010, 43-44, no. 1 (early 2<sup>nd</sup> cent. AD?).

<sup>548</sup> See above p. 28. A single attestation concerns the plain of the Hyrgaleis: Akıncı Öztürk, Tanrıver 2008, 100-101, no. 12.

<sup>549</sup> Two mentions: Ritti, Şimşek, Yıldız 2000, 9, no. D7 (3<sup>rd</sup> cent. AD); Akıncı Öztürk, Tanrıver 2009, 91, no. 8 (just before 233 AD).

<sup>550</sup> Ritti, Şimşek, Yıldız 2000, 34-36, no. K44 (3<sup>rd</sup> cent. AD).

<sup>551</sup> On Atyochorion see above pp. 262-264.

<sup>552</sup> The city is located near Bekilli or a little further north-east, near Uçkuyu (see above p. 28).

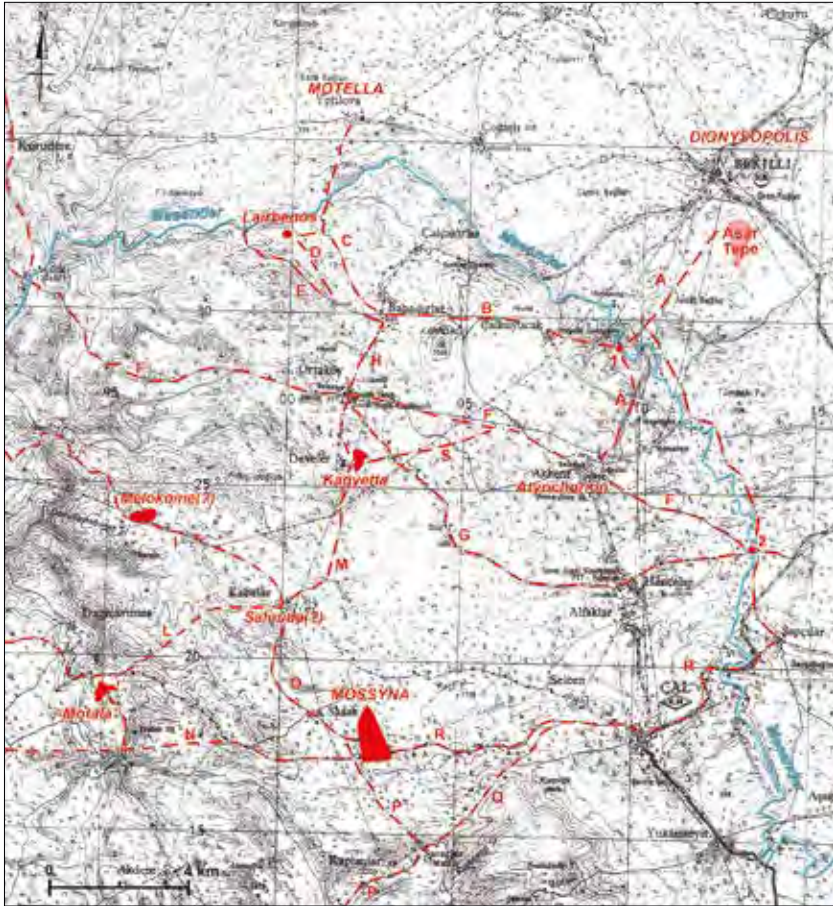


Fig. 241 Reconstructive hypothesis of the ancient road system on the Cal plateau.

statue base, discovered there in 1883 by Ramsay, which mentions the *demos* of Dionysopolis, those of Hierapolis and Blaundos and the league of the Hyrgaleis<sup>553</sup>. It should be remembered that according to Ramsay, the four communities were prompted to honour Q. Plautius Ouenoustos by the construction of a road from

<sup>553</sup> Ramsay 1883, 387-388, no. 10. On the inscription see above p. 28.



**Fig. 242** The Asar Tepe south of Bekilli in a QuickBird-2 satellite image acquired in 2005: the arrow points the remains of the fortress at the top of the hill.

which they all benefited<sup>554</sup>. If this is the case, the road would have led from the area of Güney across the plateau of Çal and from there to the territories on the eastern side of the Maeander.

<sup>554</sup> Ramsay 1895, 142, no. 29.



**Fig. 243**

Çal plateau: the so-called Zeive bridge.

Ramsay argued that the site of Asar Tepe hosted a sanctuary belonging to the *koinón* of the Hyrgaleis, a community that occupied a flat area further south, while Buckler and Calder attributed the remains to the city of Pepuza<sup>555</sup>, which is actually located about 20 km further north, in the province of Uşak. Today, the so-called bridge of Zeive is bypassed by the modern bridge on the Akkent-Bekilli road about 500 m further east. Oriented north-south, it is 35 m long and 3.60 m wide (fig. 243), with three arches whose piers are protected by cutwaters (fig. 244), today poorly conserved, on the upriver side. It is dated to the Roman-imperial period<sup>556</sup>, but the masonry, composed of small stones bound with abundant mortar, seems rather to be from the Byzantine period, although it may be that a more ancient bridge was refurbished in this phase. The road that linked it to Akkent (fig. 241, A) is believed to have circled the hill of Dikilitaş on the east side, as does the modern road. From here is a stele belonging to a sanctuary of Zeus Trossou<sup>557</sup>. Another road is believed to have led towards the bridge from the area of Bahadırlar, partly corresponding to the modern road from this village to Çalkuyucak (fig. 241, B). Some rural tracks suggest that after crossing the bridge this road led north from Bahadırlar as far as Yeşilova (fig. 241, C), site of the ancient city of Motella<sup>558</sup>, or

<sup>555</sup> Buckler, Calder, Guthrie 1933, xvi, 118-120.

<sup>556</sup> *Denizli* 2014, 35.

<sup>557</sup> See above pp. 263-264.

<sup>558</sup> On Motella, located north of the Maeander river, see above pp. 29-30

north-west (fig. 241, D-E), towards the sanctuary of Apollo Helios Lairbenós and the valley of the Maeander<sup>559</sup>.

The second conserved bridge is located to the east of Hançalar (fig. 241, no. 2), near the modern road between this village and Süller, which today crosses the river by means of a new bridge. Oriented east-west with three arches, the ancient structure is 65 m long and 4.20 m wide including the parapet (fig. 245)<sup>560</sup>. The bridge had a humpback profile. The lateral arches are 6.75 m wide and 3.30 m high, while the central arch is 8 m wide and 4.10 m high. The two piers are 3.50 m wide and protected by cutwaters on the upriver side. The original structure, built with squared limestone blocks, may be of the Roman-imperial period. Two inscriptions inserted in the bridge record restorations in 1302 and 1934, which are both reflected in the masonry composed of small stones bound with mortar that characterises the highest parts of the structure. The bridge was on a road (fig. 241, F) that survives today in the form of a rural track which led from Akkent-Atyochorion towards the area of Şapçılar, corresponding to the above-mentioned plain of the Hyrgaleis. Towards the north-west the road continued towards Ortaköy and then crossed the Maeander by means of a bridge that is today submerged by a lake that formed following the construction of a dam downstream. After reaching the area of Güney, the road then continued in the direction of Kurudere and may have stretched as far as Blaundos (near Sülümenli)<sup>561</sup>. Of all the roads that can be reconstructed on the plateau of Çal, this seems most likely to correspond to the one built by Q. Plautius Ouenoustos to serve a number of communities, assuming that Ramsay's hypothesis of this figure being honoured precisely for the construction of a road is correct (see above).

Considering the reconstructed ancient road network on the plateau of Çal as a whole, what emerges most clearly is the role of Mossyna, near Sazak, which was a major crossroads<sup>562</sup>. Indeed, the settlement stood in the place where the road from Hierapolis, today replicated by the modern Güzelpınar-Peynirci-Kaplanlar-Saraçlar

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<sup>559</sup> On the sanctuary see above pp. 265-275.

<sup>560</sup> Şimşek 2007a, fig. 82; *Denizli* 2014, 30.

<sup>561</sup> On Blaundos see above p. 25.

<sup>562</sup> On Mossyna see above pp. 249-254.

**Fig. 244** Cal plateau, the so-called Zeive bridge: detail of a rostrum on the upriver side of a pier.



road, reached the plateau<sup>563</sup> (fig. 241, P). From Mossyna, roads led off towards the territories east of the Maeander (fig. 241, Q), the north-western sector of the plateau and the sanctuary of Apollo Helios Lairbenós, via the settlements of Kabalar-Salouda, Develer-Kagyetta, Ortaköy and Bahadırlar (fig. 241, O, M, H)<sup>564</sup>. To the west, a road linked Mossyna to the *Ulyol* (fig. 241, N), which crossed the northern sector of the plateau of Uzunpınar from east to west<sup>565</sup>. The road, today partly replicated by a rural lane and partly by the Çal-Dağmarmara road, then continued to the east (fig. 241, R) in the direction of the territory of the League of the Hyrgaleis beyond the Maeander.

Kabalar-Salouda was also an important junction. Indeed, the village was directly linked to Mossyna and “Motala”<sup>566</sup> (and thus to the plateau of Uzunpınar) by direct routes (fig. 241, O, I), today reduced to country lanes. The road to Kagyetta and the northern sector of the plateau probably followed the route of the modern Kabalar-Develer-Ortaköy-Bahadırlar road (fig. 241, M, H), while to the north-west another road, also today reduced to a rural track (fig. 241, I), led to the area of Güney, crossing

<sup>563</sup> On this road see above pp. 206 and 240.

<sup>564</sup> On the ancient villages of Salouda and Kagyetta see above pp. 255-261.

<sup>565</sup> On this road see above pp. 242-243.

<sup>566</sup> On this village and its important sacred area see above pp. 212-217.



**Fig. 245** Çal plateau: the so-called Hançalar bridge.

the Maeander by means of a bridge today submerged by a lake created by a dam. On the latter road was the ancient settlement on the hill of Kıranüstü Tepe, which can perhaps be identified with the village of Melokome recorded in the epigraphical documentation together with that of Salouda<sup>567</sup>. Lastly, various roads (fig. 241, G, H, M, S) linked the village of Kagyetta to nearby settlements, the rest of the plateau and the territories to the north and east of the Maeander.

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<sup>567</sup> In this regard see above pp. 255-256.



# GLOSSARY

<i>agora:</i>	city square, used as a meeting place or a market
<i>agoranomos:</i>	elected magistrate with the role of market inspector
<i>ara:</i>	in olive and grape presses, wooden or stone base on which the <i>fiscinae</i> (q.v.) were stacked up, with a circular or square groove on the upper surface into which the oil flowed before being drained off through spouts
<i>arbor:</i>	large stone pillar; in some cases it had a niche in which one end of the <i>prelum</i> (q.v.) of a press was seated
<i>balteus:</i>	in the theatre, wall dividing the <i>cavea</i> from the orchestra
<i>baphèis:</i>	association of dyers working with colours other than purple madder
<i>boulè:</i>	city council
<i>Bouleuterion:</i>	building in which the <i>boulè</i> assembled
<i>bouleutes:</i>	member of the <i>boulè</i>
<i>bracchia:</i>	sectors of the quarry
<i>calidarium:</i>	the hottest room in the baths
<i>caravanserai:</i>	on traditional transport routes, a building with a large central courtyard inside which caravans would spend the night before continuing their journey
<i>cavea:</i>	in the theatre, the area with seating for spectators, divided by the <i>diazoma</i> (horizontal corridor) into the <i>ima cavea</i> (lower section) and <i>summa cavea</i> (upper section)
<i>chamosorion:</i>	type of burial similar to a sarcophagus but with the chest still attached to the bedrock
<i>chiton:</i>	sleeveless tunic of light fabric
<i>chora:</i>	the territory of a city outside its walls, generally used for agricultural activities

<i>chlamys</i> :	type of woollen cloak worn over the tunic as part of either civil or military dress
<i>clipeus</i> :	in architecture, a round disc, in relief or sculpted all around, that recalls the hoplites' large circular shield
<i>columella</i> :	in olive crushers, vertical pin placed in the centre of the <i>cupa</i> and attached to the summit of the <i>milliarium</i>
<i>crepidoma</i> :	circular structure made of blocks that delimits the base of a funerary tumulus
<i>cupa</i> :	in olive crushers, a horizontal wooden beam connecting the grindstones
<i>demos</i> :	body of citizens joined in the people's assembly
<i>dexiosis</i> :	representation of two persons or divinities holding each other by the right hand
<i>diogmitai</i> :	body of gendarmes under the orders of the <i>paraphylakes</i>
<i>distyle</i> :	having two columns
<i>Dodekatheon</i> :	sanctuary dedicated to the twelve main gods of the Greek pantheon
<i>dolium</i> :	large terracotta container, generally spherical in shape
<i>dromos</i> :	corridor, generally giving access to a funerary chamber
<i>Eparchia</i> :	administrative unit of the Eastern Roman Empire, created by the Theodosian reforms (379-395)
<i>ergastés</i> :	merchant
<i>erioplutái</i> :	association of wool washers
<i>fuscinae</i> :	in presses, wicker disks containing the olive paste or crushed grapes
<i>fissure-ridge</i> :	ridges with a fissure running along the summit, rising to heights of a few metres to a few dozen metres above the surrounding terrain
<i>geison</i> :	the upper protruding part of an entablature, corresponding to the crown and the soffit of the cornice
<i>gerousía</i> :	association of elder citizens
<i>gnaphalístái</i> :	association of wool carders
<i>graben</i> :	in structural geology, tectonic trench, i.e. a long, narrow portion of the Earth's crust that has sunk between two parallel faults

<i>hetaireia:</i>	religious confraternity
<i>hieròi:</i>	persons consecrated to a divinity
<i>himation:</i>	male garment that covered one shoulder and could be worn on its own or on a tunic
<i>homónoia:</i>	alliances between cities, often celebrated by emissions of new coinage
hypocaust:	the heating system used in baths complexes; hot air from an oven ( <i>prae-furnium</i> ) circulated in the space beneath the paving, which rested on brick pillars ( <i>suspensurae</i> )
<i>kántbaros:</i>	bowl for drinking with two broad raised handles
<i>koinòn:</i>	association or league of communities, for example the Hyrgaleis
<i>kòme:</i>	village
<i>leonté:</i>	the skin of the Nemean lion, a trophy of the first labour of Hercules
<i>linotòi and linourgòi:</i>	associations of linen workers
<i>loci:</i>	rock faces in a quarry
<i>metropolis:</i>	title given to certain cities, which in the late imperial epoch was held by the most important
<i>milliarium:</i>	in the olive crushers, the vertical cylindrical element around which the grindstones rotated
monolithic:	carved from a single block of stone
<i>mortarium:</i>	circular bath, used for crushing olives
nymphaeum:	monumental fountain, with rich architectural decoration including statues and reliefs
<i>opus sectile:</i>	a form of paving, generally made of marble, consisting of slabs of varying shape and size
<i>orbes:</i>	the grindstones (hemispherical or cylindrical) used for crushing olives
<i>orbis:</i>	in presses, the flat board that pressed down on a stack of rush mats ( <i>fiscinae</i> )
<i>paraphylax:</i>	officials who travelled on horseback and were tasked with maintaining order in the territory administered by the city
<i>pàredros:</i>	“assistant” divinity associated with the cult of another divinity
<i>peilopòioi:</i>	association of wool fullers

<i>pekmez:</i>	drink based on boiled grape juice
<i>peristilium:</i>	colonnade around a courtyard
<i>phratra:</i>	religious brotherhood or confraternity
<i>phrouirion:</i>	fortress, generally not very large
<i>pithos:</i>	large terracotta container
<i>platèia:</i>	in the layout of ancient cities, the main street
<i>plethra:</i>	unit of length (sing. <i>plethron</i> ) corresponding to 100 Greek feet (about 30 metres); also used as a unit of area, a square <i>plethron</i> corresponding to 100 by 100 Greek feet (about 30 by 30 meters)
Ploutonion:	sanctuary dedicated to Pluto and Kore, identified with the entrance to the Underworld
<i>porphyrabàphoi:</i>	association of dyers using purple red derived from rose madder ( <i>rubia tinctorum</i> )
<i>praefurnium:</i>	in baths complexes, the oven which produced the hot air for heating the rooms, generally near the <i>calidarium</i> ; it sometimes also had one or more boilers for heating water
<i>prelum:</i>	in presses, wooden beam used as a lever with one extremity set in a niche and the other attached to a worm screw, in turn attached to a stone counterweight
proconsul:	governor of the senatorial province of Asia
<i>proscenium:</i>	in the theatre, the stage
<i>schoinoi:</i>	unit of length (sing. <i>schoinos</i> ), varying widely over the centuries, which in the 3 <sup>rd</sup> century BC in Magnesia on the Maeander was equivalent to 120 feet (32.8 cm); also used as a unit of area, a square <i>schoinos</i> corresponding to 120 by 120 feet
<i>sima:</i>	moulding at the top of the cornice (cymatium)
<i>sitones:</i>	functionary who drew on special public funds or his own resources to ensure the supply of grain to the market at reasonable prices
<i>specus:</i>	underground water channel, part of an aqueduct
<i>stipites:</i>	in presses, wooden slats that served to guide the movement of the <i>prelum</i>
<i>stoa:</i>	covered portico, with a colonnade along the façade and a wall at the back

<i>strategos:</i>	one of a college of magistrates which in some cities, including Hierapolis, formed the executive
<i>suculae:</i>	in presses, belts or ropes used to lower the <i>prelum</i> by means of a winch
<i>tell:</i>	hill
<i>témenos:</i>	perimeter wall of a sacred place
<i>torcularium:</i>	building where olives were crushed and pressed for oil
<i>trapetum:</i>	type of olive crusher, and by extension a building used for this purpose
<i>tributum capitis:</i>	the so-called <i>testaticum</i> or poll tax (also known as head tax or capitation), one of the main taxes in the Roman fiscal system, paid by all residents of the Empire in proportion to their income



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# GRAPHIC AND PHOTOGRAPHIC REFERENCES

The images are by the authors, unless otherwise indicated.

The photographs in figs. 73, 85, 135, 152, 238. 73, 85, 135, 152, 238, come from the archive of the Italian Archaeological Mission in Hierapolis.

The digital elevation model in figs. 1, 8, 10, 146, 213, is obtained from the data of the Shuttle Radar Topography Mission (processing by G. Di Giacomo). The contour lines of the map in figs. 9 and 108 are extracted from this model. The three-dimensional model in fig. 71 is obtained from the contour lines of the Hierapolis archaeological map published in *Atlante* 2015 (processing by M. Limoncelli).

The base maps in figs. 26, 27, 54, 80, 99, 191, 195, 196, 199, 241, are the topographic maps of the Republic of Turkey (*Harita Genel Müdürlüğü*: Uşak L22 c1-c2-d2-d3-d4, Denizli M22 a1-a2-a3-a4-b2), on a scale of 1:25,000 (the merged maps in fig. 80 are drawn in 1973 and based on aerial photographs taken in 1963 and 1972, while the updated maps of the 1990s are used for the other figures). The base map in fig. 241 is the topographic map of the Republic of Turkey (*Harita Genel Müdürlüğü*: Uşak L22), on a scale of 1:100,000 (drawn in 1981 and based on aerial photographs and surveys carried out between 1960 and 1972). The topographic map in fig. 121 is obtained from the restitution of a QuickBird-2 satellite ortho-image acquired in 2005.

The satellite images in figs. 14B, 43, 55, 87, 92, 111, 127, 136, 141, 149, 166, 171, 185, 214, 223, 242, are from Google Earth; those in figs. 14A, 17, 32, 118, are from the archive of the Italian Archaeological Mission in Hierapolis. The Corona space photos in figs. 70 and 208 were acquired from USGS (*United States Geological Survey*).

The three-dimensional reconstructions in figs. 104-105 were processed by M. Limoncelli.

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His publications include:

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He has also edited the following volumes:

*Atlante di Hierapolis di Frigia*, Hierapolis di Frigia II, Istanbul 2008 (with F. D'Andria and A. Spanò); *Nuovo Atlante di Hierapolis di Frigia. Cartografia archeologica della città e delle necropoli*, Hierapolis di Frigia VII, Istanbul 2015; *Ancient quarries and building sites in Asia Minor. Research on Hierapolis in Phrygia and other cities in south-western Anatolia: archaeology, archaeometry, conservation*, Bari 2016 (with T. Ismaelli).