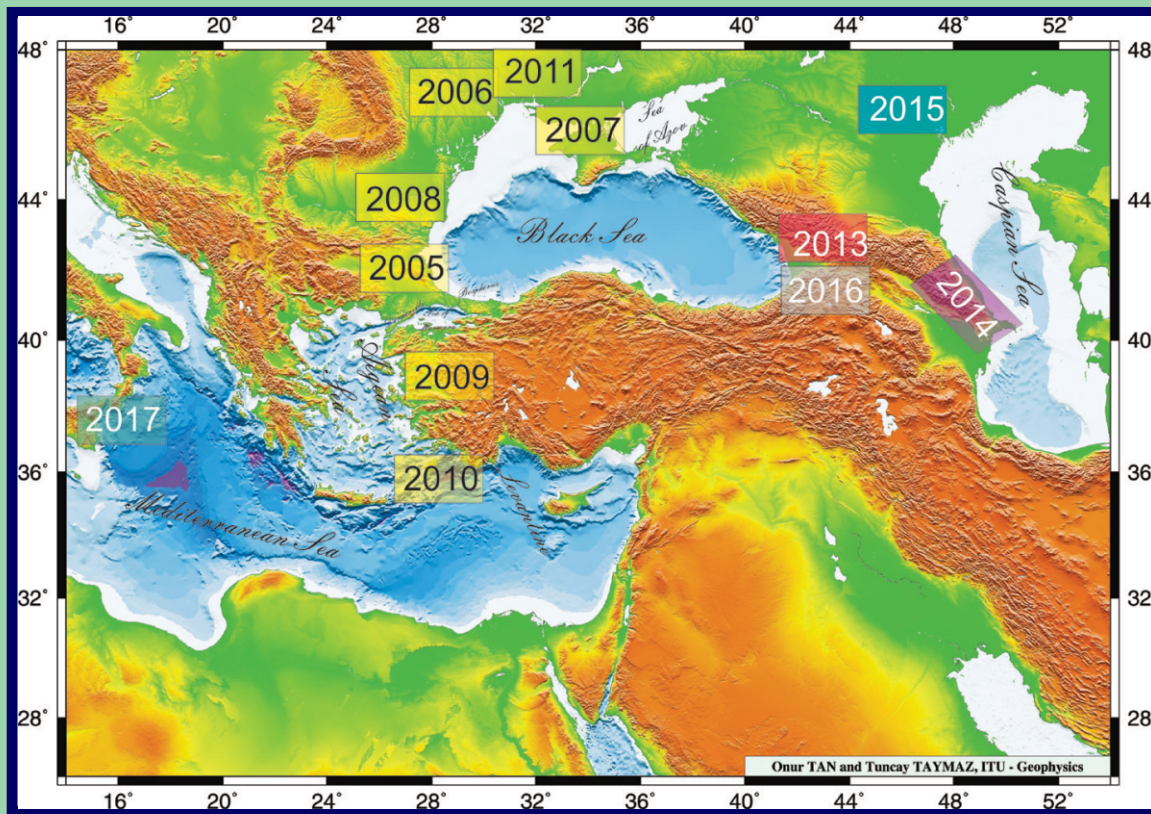




Istanbul University-Cerrahpaşa Department of Geology Faculty of Engineering Turkey October 14-21, 2018

INTERNATIONAL GEOSCIENCE PROGRAMME



FIELD TRIP GUIDE

IGCP 610 “From the Caspian to Mediterranean:
Environmental Change and Human Response during the
Quaternary” (2013 - 2018)

INQUA IFG POCAS “Ponto-Caspian Stratigraphy and
Geochronology” (2017-2020)



Joint Plenary Conference and Field Trip of IGCP 610 and INQUA IFG POCAS October 14-21, 2019, Antalya, Turkey

FIELD TRIP GUIDE

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Istanbul University-Cerrahpaşa

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FIELD TRIP GUIDE

**JOINT CONFERENCE AND FIELD TRIP
IGCP 610 Sixth Plenary Meeting**

**“From the Caspian to Mediterranean:
Environmental Change and Human
Response during the Quaternary”
(2013 - 2017)**

<http://www.avalon-institute.org/IGCP610>

**INQUA IFG POCAS Second Plenary
Meeting**

**“Ponto-Caspian Stratigraphy and
Geochronology”
(2017-2020)**

Istanbul ◆ Doküman Evi, Avcılar ◆ 2018

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The Field Trips are focused on observation of geological characteristics of Quaternary and Pliocene stratotypes as well as key archaeological and paleontological sites. All of them are easily accessible for further study and cooperative investigations in various laboratories around the world (Fig. 1).



Fig 1. Locations where visits will be carried out during the IGCP610-INQUA POCAS-2018 in Antalya-Turkey.

17 October 2018: Field Trip 1. The Upper Miocene-Pliocene deposits of the Aksu (Antalya) Basin

The Aksu Basin is a foreland basin formed in front of the contractional movement of the Lycian Nappes (Fig. 2). This basin affected by the tectonic activity of the African-Eurasian setting in which the African Plate pushes northward against the Anatolian-Eurasian Plate. It causes the big scale sea level fluctuations from the Middle Miocene to Recent.

The aim of this stop is to show the units and geological evolution of the Aksu Basin in this tectonically active region. Stratigraphy of the Aksu Basin which is represented with the Middle Miocene and younger clastic rocks and carbonates overlie unconformably the Bey Dağları Platform Carbonates, Antalya Nappes, Lycian Nappes and Alanya Metamorphic Massif. Up to the Pliocene the basin was represented by fan-deltaic shallow marine deposits and later by terrestrial deposits.

Aksu Basin and surrounding regions were largely deformed by the subduction along African-Eurasian plate boundary and westward movement of the Anatolian block. This tectonic is manifested by two compressional and two extensional regimes based on the results obtained from kinematic analyses. The movement of Lycian Nappes created a NW–SE contractional regime that lasted in Langhian. In this period, the Karpuzçay Formation and fan deltaic Karadağ conglomerates were deposited in shallow marine conditions. The contractional regime was followed by NW–SE extension which was related to the activity of subduction zone (Figs. 3, 4). This extension separated the Karadağ conglomerates from the Bey Dağları Platform Carbonates and fan deltaic Kargı conglomerates are deposited within this depression. Additionally, the fan deltaic Kapıkaya, Kozan and Bucak conglomerates were also accumulated in the same time period (Figs. 5, 6). At the end of this extension period, the environmental conditions changed from shallow marine to terrestrial because of the big scale sea level fluctuations called the Messinian crisis, which affected the whole Mediterranean region. The NW–SE extension regime is followed by NE–SW contractional regime (Aksu Phase). Sea level raise took place in the southern part of the basin and the reefal Gebiz limestones and the Yenimahalle Formation were deposited in this shallow marine conditions (Fig. 7). The northern part of the basin were preserved as terrestrial and the Alakilise Formation deposited. The neotectonic period begun in Late Pliocene and characterised by NE–SW extension. In this period terrestrial conditions took place in the whole basin. After the Pliocene regression, terrestrial processes dominated the entire basin. In this period, widespread lacustrine travertines are deposited in the different areas of the basin (Fig. 8).

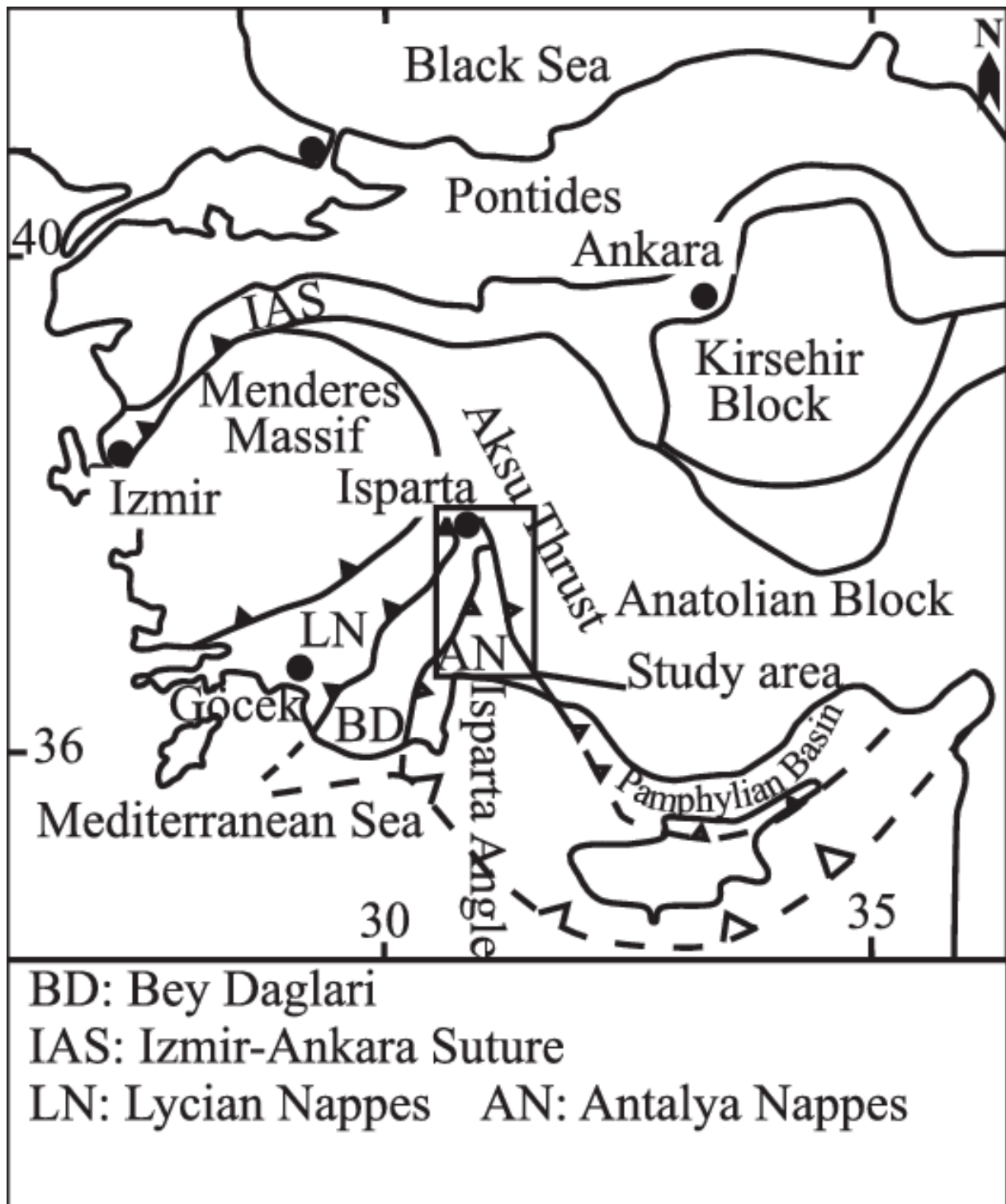


Fig. 2. Location for the Aksu Basin with respect to Gulf of Antalya (Poisson et al., 2011).

Yaş		Formasyon	Litoloji	Ortam	Açıklamalar
Tersiyer	Kuvaterner	Alüvyon		Akarsu	Pekişmemiş güncel sedimanlar
		Traverten		göl-akarsu-bataklık	Kılce zengin mikrokristalin karbonatlar
	Pliyosen				
	Geç Pliyosen	Alaklıse Formasyonu		akarsu-göl	Çakılları, bol fosilli silttaşları ve gölsel kireçtaşları
		Yenimahalle Formasyonu		sığ deniz	Marn-Silttaşı ardalanması
		Gebiz kireçtaşları		sığ deniz	Resifal şelf karbonatları
	Erken Pliyosen	Eskiköy Formasyonu		alüvyon yelpazesi-akarsu	Çakıtaşı-kumtaşı-marn ardalanması
		Aksu Formasyonu		yelpaze deltası	Karpuzçay Formasyonu ile yanal ve düşey geçişli çakılları
		Karpuzçay Formasyonu		sığ deniz yelpaze deltası (delta ilerisi)	Kumtaşı-çamurtaşı ardalanması ve yer yer çakıllı seviyeler
	Mes.				
Mesozoyik	Miyosen				
	Langiye-Tortoniyen				
Mesozoyik	Tanel Kayaçlar			-	Bey Dağları Karbonat Platformu Antalya Napları Likya Napları Alanya Metamorfik Masifi

Ölçeksiz

Fig. 4. Generalized stratigraphic section for the Aksu Basin (Üner, 2009).



Fig. 5. Thick-bedded conglomerate horizon of the Aksu Formation near Aşağıgökdere village. Photo facing North (Üner, 2009).



Fig. 6. Conglomerate-sandstone-mudstone intercalations of the Eskiköy Formation to the north of the Ortaköy village. Photo faces NE (Üner, 2008).

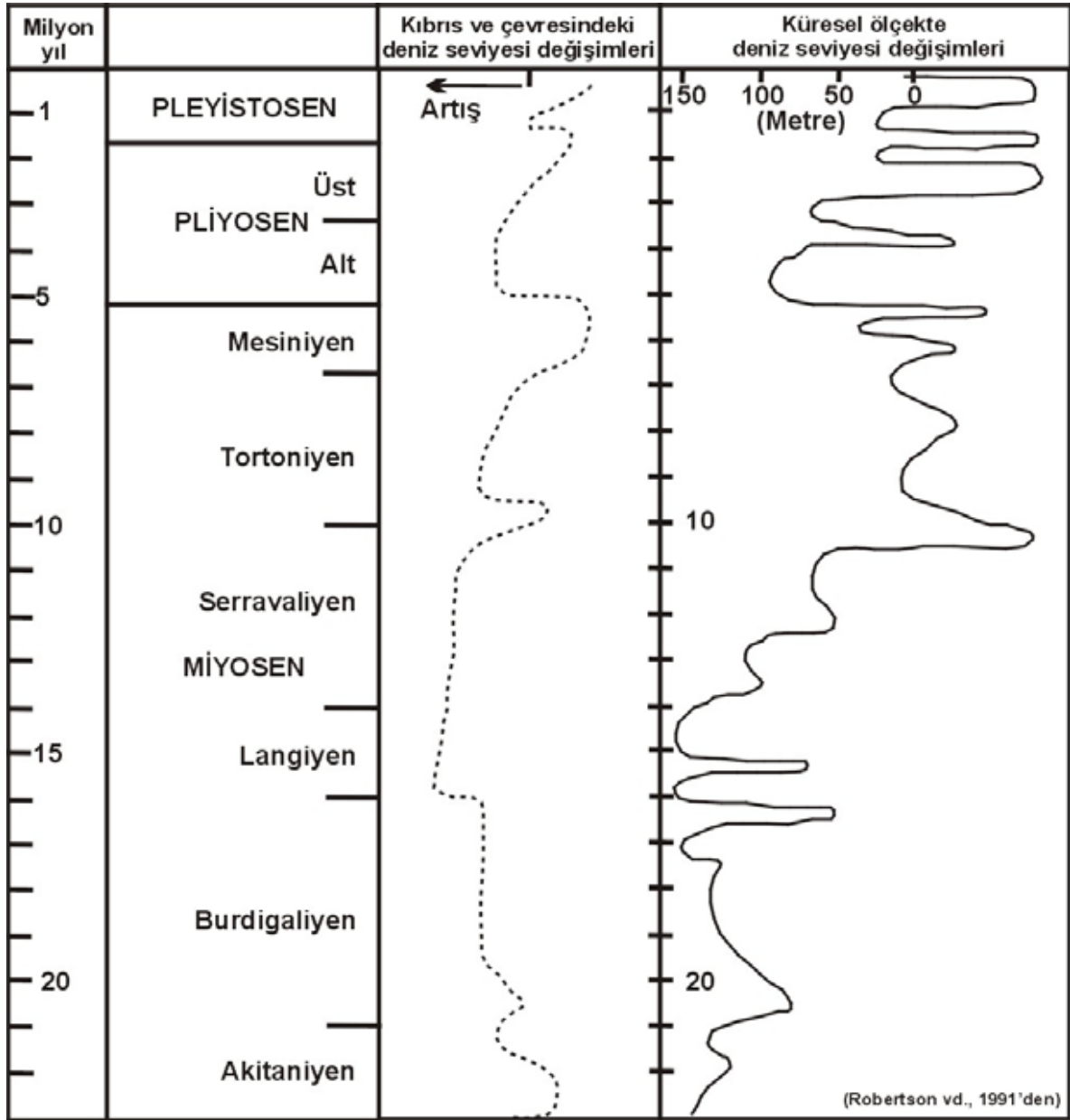


Fig. 7. Global and regional sea-level modifications from Miocene onward (Robertson et al., 1991).

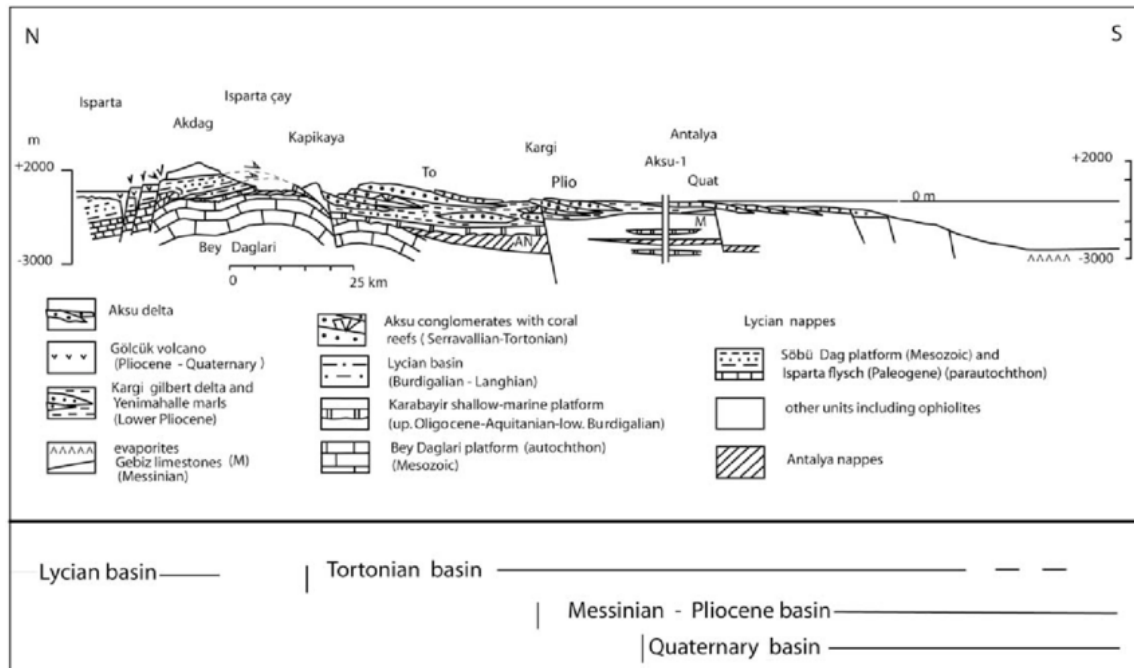


Fig. 8. N-S longitudinal cross section through the Isparta angle, from the Lycian nappes and the Bey Dağları to the north, to the Antalya gulf to the south. This section illustrates the main steps of the formation of the Aksu basin, from N to S: 1-faulting of the Karabayir platform (Latest Oligocene-Aquitania) and creation of the Serravallian-Tortonian basin south of the Kapıkaya faults. The conglomerates covered the faults; 2-Kargi fault and creation of the Messinian and Pliocene basins; 3-Antalya faults and creation of the Quaternary-Present basin. In this basin Messinian evaporites have been tentatively detected on seismic profiles. Each step corresponds to a southwards migration of the basin and a concomitant uplift of the continent. If we take the Karabayir platform as a guide it reaches +1500 m to the north and -2800 m near Antalya to the south. This gives an idea of the tilting since the Early Miocene.

While time permitting, a visit can be arranged to Kocain Cave and tufa sediments in Killik section of Döşemealtı Area. Tufa sediments are related to the sea-level changes during Quaternary.

18 October, 2018: Field Trip 2.

Stop 2A: The ancient Roman site SAGALOSSOS (Burdur Province), Geoarchaeological history

The archaeological site of Sagalassos is located in southwest Turkey, near the present town of Ağlasun (Burdur province); roughly 110 km to the north of the well-known port and holiday resort of Antalya. The ancient city was founded on the south facing slopes of the Taurus mountain range and was the metropolis of the Roman province of Pisidia. Next to its mountainous landscape, a series of lakes form another typical feature of the regional geography. Today this region is known as the Lake District (Figs. 9, 10).

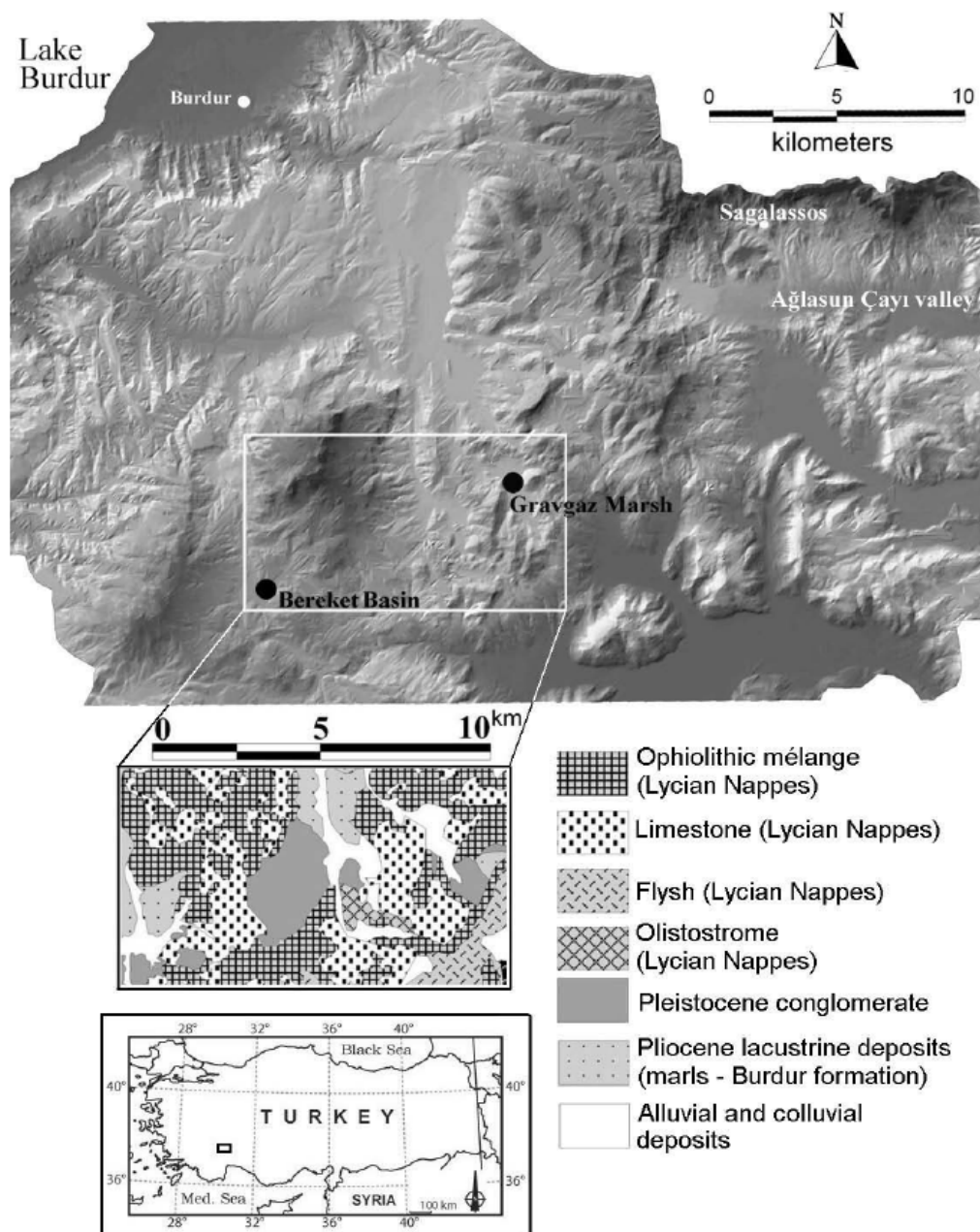


Fig. 9. A DEM and geological map of the main part of the territory of Sagalassos.



Fig. 10. A view of the Sagalassos fountain site and its vicinity.

The first traces of hunter/gatherers in the territory of Sagalassos date back to some 12 000 years BP. During the eighth millennium BC, farmers settled along the shores of Lake Burdur. During the Bronze Age, territorial "chiefdoms" developed in the region, whereas Sagalassos itself was most probably not yet occupied. This may have changed by the 14th century BC, when the mountain site of Salawassa was mentioned in the Hittite documents, possibly to be identified with the later Sagalassos. Under Phrygian and Lydian domination the site gradually developed into an urban centre. During the Persian period, Pisidia became known for its warlike and rebellious factions; a reputation to which the region certainly lived up in 332 BC, when Alexander the Great experienced fierce resistance at Sagalassos while conquering the region as part of his conquest of the Persian kingdom.

Pisidia changed hands many times among the successors of Alexander, being incorporated into the kingdom Antigonos Monophthalmos (321-301 BC), perhaps regaining its autonomy under Lysimachos of Thrace (301-281 BC), and then being conquered again by the Seleucids of Syria (281-189 BC) and later given to Attalids of Pergamon (189-133 BC). The use of Greek, the development of Municipal institutions and material culture of Greek origin seem to testify to fairly quick Hellenisation, but the recent discovery at Tepe Düzen of an indigenous city, with a possible Hellenistic date makes clear that Hellenisation must have been a complex process. After the Attalids bequeathed their kingdom to Rome, Pisidia at first became part of the newly created Roman province of Asia, then, around 100 BC of the coastal province of Cilicia and once more of Asia around the middle of that century.

Sagalassos and its territory turned into dependable and very prospering Roman partners. In fact, the control of an extremely fertile territory with a surplus production of grain and olives, as well as the presence of excellent clay beds allowing an industrial production of high quality table ware ("Sagalassos red slip ware"), made the export of local products possible. Rapidly, under Roman Imperial rule, Sagalassos became the metropolis of Pisidia. Trouble only started around 400 AD, when the town had to fortify its civic centre against, among others, rebellious Isaurian tribes. Sagalassos seems to have remained rather prosperous even under these conditions. After the earthquake around 500 AD, it was restored with a great sense of monumentality.

As a result of recurring epidemics after the middle of the 6th century and related general decline of the economic system in Asia Minor, the city started to lose population. Large parts of the town were abandoned and the urban life was replaced by a more rural way of living.

In the 7th century AD, the situation had further aggravated due to continuous Arab raids and new epidemics when the city was struck once more with a heavy earthquake, most probably around 590 AD. Despite this disaster, recent research has proven that the city remained occupied until the 13th century in the form of isolated and well-defended hamlets, located on some promontories which maintained the name of the former ancient city. One of these hamlets found on the Alexander's Hill of Sagalassos was destroyed in mid 13th century, by which time Seljuk's had already build a bath and a caravanserai in the village in the valley (Ağlasun).

The abandoned ancient city was then rapidly covered under vegetation and erosion layers. As a result of its remote location, Sagalassos was not really looted in later periods and remained to be one of the best preserved ancient cities in the Mediterranean.

The site of Sagalassos remains almost completely preserved, with the monumental structures, where in some cases almost all the original building stones can be recovered. It is an exceptional and unique case to find a middle sized, but highly flourished town in such a well preserved state. An interdisciplinary archaeological research conducted on the site for the last nineteen years has documented all layers and kinds of occupation, delivering a coherent set of archaeological and environmental results that contribute to the history of the region. All these remains document at least a thousand years of continuous occupation (3rd century BC-13th century AD).

The urban planning of the ancient city is remarkable considering the difficult terrain situation upon which the settlement was founded. These terrain conditions were adapted and used as an advantage to lay out a coherent and impressive monumental centre, technically sound in engineering terms and as regularly planned as possible. Natural terraces on the mountain slopes were used for the construction of large scale monuments and when necessary, for instance at the complex of Roman Baths, the hill-tops were enlarged by means of multiple subterranean vaulted chambers to create larger floor surfaces.

To create the Colonnaded Street as a monumental rectilinear backbone of the urban plan natural depressions in the landscape were filled up. In order to achieve a large terrace within the city, such as a public square, sometimes it was necessary to excavate a slope. In such cases, the retaining wall against the hill was not left as a plain terrace wall but was instead often adorned with magnificently elaborate monumental fountains, in compliance with the principles of Roman urbanism. The natural flood risks were taken into account in urban planning as well. It was proven by geomorphological studies that the large open areas such as Agora's were carefully situated within the urban fabric to collect and drain the natural floods flushing down the mountains, hence protecting the buildings from damage.

Moreover, excavations showed that also the architectural form and placement of buildings took into account the local hydrological conditions. A full-fledged subterranean drainage system assisted in managing the effects of the hardening of surfaces resulting from the urban development of the town.

The use of natural water resources was also carefully planned. In fact only few towns in the region show such an abundant water display in Roman times as Sagalassos. Water was collected, distributed, displayed and recycled within a complex network which is being further documented and studied at the moment.

Recycling of natural resources could also be followed in the use of wood, where Sagalassians must have established and followed a forest recovery regime, to be able to sustain the pottery production and other industry their economy was dependent upon. Considering the fact that the site is barren today, this information bares further importance for today's and future generations.

At the monumental scale, it should be stressed that architectural decoration was of top quality in the city. Some monuments such as the Northwest Heroon are especially important examples of architectural decoration as they testify to the Romanization of the region bearing important West Roman influences in style.

The high altitude, at which the site is located, has made Sagalassos a unique example of a well preserved provincial town of the Roman Imperial period. In the case of ashlar monuments up to 90 % of the original building elements can be recovered during excavations and this provides unique possibilities to represent a classical city to the public.

Not only building blocks but entire statues, some at colossal scale, have been recovered during recent archaeological excavations, in very good state of preservation. Besides the ones found in the two most important monumental fountains of the city, the piered hall of the large Roman Baths complex has delivered a set of colossal imperial statuary in the last couple of years. These include, the best preserved head, leg and feet of Emperor Hadrian uncovered until now, executed in highest workmanship and the head and the legs of Emperor Marcus Aurelius. Only the southern half of the monumental hall has been unearthed until today. More statues of the Imperial family are expected to be found preserved in the central and northern part of the space. This statuary of unique artistic quality not only testifies to the importance, the wealth and the power of the city in antiquity but also provides answers to macro questions concerning the Roman political system, the governing of a provincial town, the mechanisms of art as a craftsmanship etc, which are being widely studied by the archaeological research project.

The current excavations in the monumental centre uncover essentially an early to late Byzantine town. Sagalassos is now almost the only excavation area, where, all evidence from the transition from late antiquity to the early Byzantine period has been kept. Besides, the newly discovered settlement at Tepe Duzen to the southwest of the monumental centre, has a complete different nature of archaeological remains and seems to bare undisturbed evidence for Hellenistic and earlier periods of Pisidian culture.

With its at least thousand years of continuous pottery production, Sagalassos has become the longest non-stop producing potters' centre of classical antiquity. The geophysical mapping of this site during 2004 season has identified already over 50 kilns and workshops documented a thousand years of pottery production, first serving a regional market, but eventually becoming a real "industry" for export throughout the Eastern Mediterranean. Sagalassos is one of the five major production centres of eastern sigillata (Roman pottery), but the only one which is localized and can still be studied. The exceptional importance of local craft industries at Sagalassos should also be stressed, with a very original range of products attesting to human creativity. Extensive research conducted on different aspects of craft production helped initiate a debate on the so far not so much acknowledged role of artisanal activities to the economy of a town or region.

The site is being excavated, surveyed and widely published since 1990 by an international and interdisciplinary team of scientists. Research not only focuses on excavations but involves paleo-environmental, bio-archaeological and anthropological studies. Site conservation applications are run parallel to the excavations since the beginning of the excavations. This extensive research has

yielded reliable scientific results that produced further added value to the heritage in question, as more could be interpreted out of the preserved data.

Except perhaps for Pompeii and the other sites in Bay of Naples destroyed by the Vesuvius eruption, there are no other similarly well preserved middle sized ancient cities. The difference with Pompeii and other sites, however, is the fact that Sagalassos does not present a city frozen at a specific moment in its occupation history, but that it offers all remains for at least thousand years of occupation.

There were only five major production centres of Eastern Sigilata in the Mediterranean, only two of which have been localized: Sagalassos and Pergamon. However, the workshop area in Pergamon, Kestel Valley has been completely flooded as the result of the construction of a dam. Therefore, Sagalassos, for the moment is the only pottery production centre, active throughout at least a thousand years, in which still can be researched in a completely preserved and pristine state.

All of these make Sagalassos as a unique place in terms of the quality and quantity of buildings, artefacts and all other material remains. In addition, the site has also become a real training ground for dozens of Turkish and foreign scholars in various disciplines, and the site is now considered to be a model project for classical archaeology of the 21st century.

The ancient city of Sagalassos, situated c. 10 km south of Isparta (SW Turkey), is located on the southeastern outskirts of an area affected by a number of large earthquakes ($M_s > 6.0$) in the last century, and where a number of seismogenic faults are identified. Archaeological relics at Sagalassos show ample evidence that the city experienced severe earthquake damage early in the sixth century AD and in the middle of the seventh century AD. This last seismic catastrophe even seems to have caused the abandonment of the city. It is postulated that the city was situated in the macroseismic epicentre, although the causative fault has not yet been identified. Based on satellite imagery, and both geological and geomorphological field evidence in the region of Sagalassos, NE–SW-trending and ENE–WSW-trending tectonic lines are considered as candidates for the seismogenic faults that caused the devastating earthquakes.

Stop 2B. Quaternary Travertine exposures of Antalya Basin, Karain Cave

Karain Cave (tr. Karain Mağarası) is one of those places of great historical importance. This cave, located 35 km north-west of Antalya, near the village of Yağca, was inhabited by the ancestors of the modern man continuously for at least 25,000 years and is the largest of Turkish cave where the traces of prehistoric human activities have been found.

Karain Cave, also known as Black Cave, is situated on the slopes of Sam Dağı mountain, on the altitude of 390 meters above sea level. The entrance to the cave is located about 100 meters above the travertine plain that, most probably, was the lake during the Pleistocene period. The cave itself consists of three main, spacious chambers, separated by the walls of calcite, and connected by narrow and winding corridors. The interior chambers are decorated with stalactites and stalagmites (Fig. 12).



Fig. 9. A view from the Karain Cave.

The oldest traces of human occupation that have been discovered in Karain Cave go back to the early Paleolithic i.e. 200,000 years ago. The fragment of *Homo neanderthalensis* skull found in the cave has been dated to this period. Researchers were able to confirm the continuity of human presence in the cave for a period of more than 25,000 years, from the Mesolithic, through the Neolithic and the Chalcolithic, to the Bronze Age. In the Iron Age, and more precisely, in the time of Greek colonization of Asia Minor, the cave was probably used as a religious shrine, as evidenced by the decorations carved into the rock in front of the cave entrance .

Inside the cave, flint blades, scrapers and arrowheads from the Paleolithic and the Neolithic periods were discovered. Some of them were made in the Paleolithic-invented Levallois technique, a distinctive type of stone knapping, involving the striking of flakes from a prepared core to create a shape intended by the manufacturer. In the subsequent layers some figurines made of stone and bone sculptures have been found. The findings from the Neolithic period demonstrate the connections with the nearby Hacilar cultural site, a well-known Neolithic archaeological location in Turkey. The attention of researchers was especially drawn to the carving of a human face, stylistically similar to the products of the Natufian culture which flourished in the Palestine area in the Mesolithic period. This discovery may indicate the commercial relationship between the population of southern Asia Minor and Palestine.

Many human bones, belonging both the *Homo neanderthalensis* and *Homo sapiens*, have been found in Karain Cave. Additionally, a lot of animal bones have been identified, including the skeleton fragments of the cave bear, the elephant, the rhinoceros and the hippopotamus. The bones of the last of these species, together with the shells of invertebrates, seem to confirm the theory that the plain extending in front of the cave used to be inundated by a lake. The rich

findings from Karain Cave have provided extremely valuable information on the flora, fauna and climate that prevailed in the area in the prehistoric period.

Research in Karain Cave was initiated by İsmail Kılıç Kökten from Ankara University (in Turkish Ankara Üniversitesi). The first round of work under his direction lasted from 1946 to 1958. During the second round of research, from 1967 to 1973, he was accompanied by Professor Işın Yalçinkaya who specializes in prehistory. The latest studies conducted in Karain Cave, this time led by Yalçinkaya, took place from 1985 to 2008, and were conducted in cooperation with the University of Liège in Belgium.

At the entrance to the cave you can see the traces of archaeological works that have recently been conducted here. Attentive hikers can easily notice that the ground outside the cave is still littered with fragments of rock which are the by-product of stone tool production. However, be aware that the collection of such memorabilia is strictly forbidden and severely punished by Turkish authorities. Before entering the cave, on the slope of a mountain, you can see the various niches and Greek inscriptions. They are the remains of the religious sanctuary from the colonization period.

The advantages of this cave dwelling were numerous: first of all temperature in the cave is subject to less variation than on the outside, providing a pleasant cool air in summer and the protection from the elements in winter. The plain extending at the foot of the mountain is a fertile and now arable land, which in ancient times was an excellent food source for hunters and gatherers, and later for the first farmers. Even today it is clearly visible that this is an area intensively used for agriculture. Moreover, as the cave is located on a steep slope, it has provided excellent protection against attacks of enemies - the attackers were clearly visible for the inhabitants of the cave, and the defenders could easily drop rocks on the attackers forced to climb uphill.

Many of the objects found in the cave are now exhibited in the Archaeological Museum in Antalya and visiting this museum after the trip to Karain Cave is highly recommended. A rich collection of findings from Karain Cave can also be seen in the Museum of Anatolian Civilizations in Ankara. Some small objects, mostly animal bones and teeth, are displayed in a tiny museum is located near the entrance to the cave.

From the ticket booth, located next to the parking lot, a steep and rocky path about 450 m leads to the entrance of the cave. It is necessary to hike up the mountain and the path is not shaded by trees, so bring sunscreen, bottled water and hiking boots.

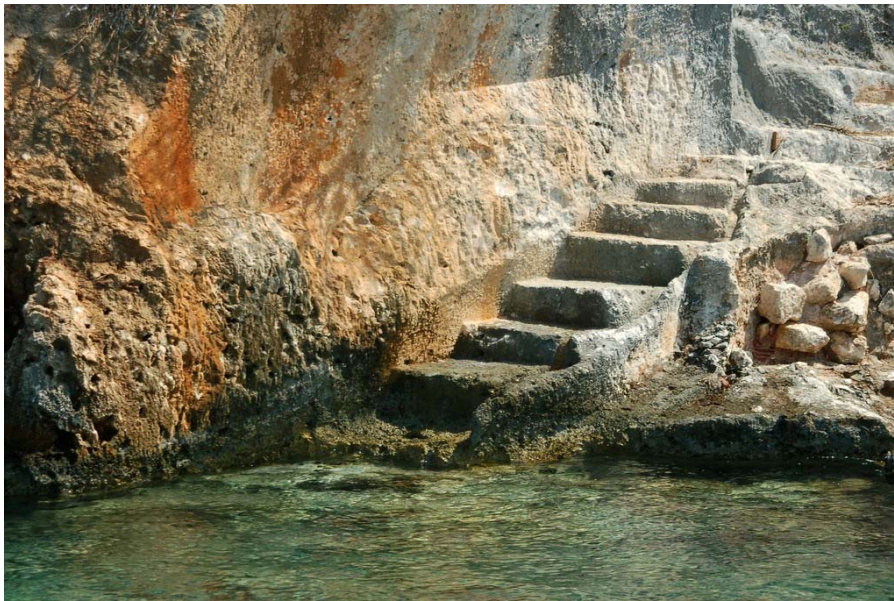
There is a lighting system installed in the cave, but it good to have your own flashlight. The floor of the cave is wet and slippery, so please walk carefully. The narrow passages between the chambers of the cave are not suitable for people who suffer from claustrophobia.

19 October, 2018: Field Trip 3. The sunken Roman cities of Simena&Teimussa, Kekova Bay (Antalya Province)

Kekova is a large region on Turkey's Mediterranean coastline that includes the island of the same name as well as the Kaleköy (Simena) and Üçağız villages. Kekova is not only known for its gorgeous turquoise sea, but also for its ancient and mysterious sunken city. It is now completely underwater with only a few remnants on land to speak of its existence. Italians were aware of Kekova's worth before they eventually lost it to the Turks after the 1932 Convention between Italy and Turkey. It sites on a stretch of coastline that is famous for the Lycian way trek, a 560

kilometers route that encompasses famous ruins from the Lycian era. Historians say that throughout history, Kekova has been called by many names including Caravola, Dolichiste and Kakava.

On the northern side of the island of Kekova, you'll come across the underwater ruins of Dolchiste, an ancient Lycian settlement, which was partly overtaken by the sea due to an earthquake that occurred during the 2nd century. Even though Dolchiste was rebuilt and regained new life during the Byzantine era, the threat of Arabs in the region caused its inhabitants to abandon their town (Fig. 11).



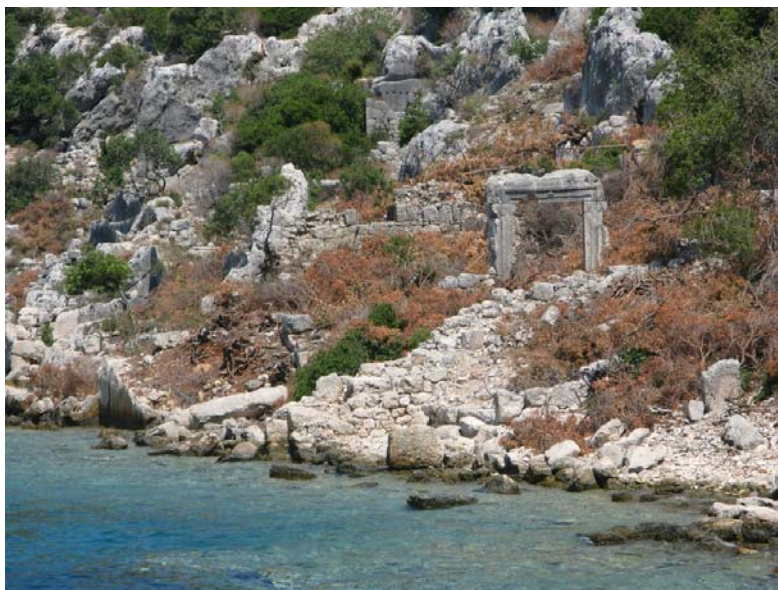
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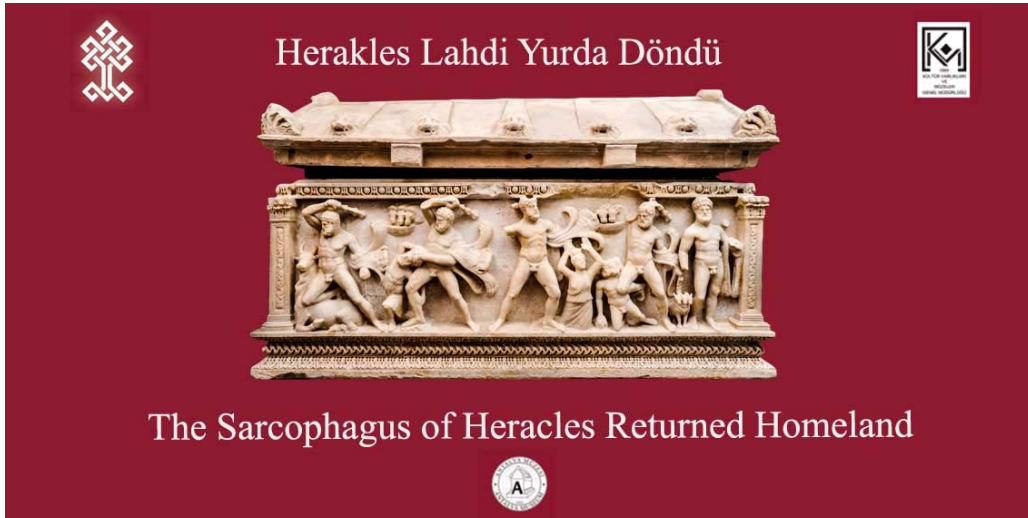


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Fig. 11 a, b, c, d, e. Views from the sunken city in Kaleköy (Simena).

20 October: Field Trip 4. Visit to Antalya Archeological Museum of, the old city and environs.

The province of Antalya, which includes a long coastal strip on the Mediterranean and fertile lands inland, is endowed with the richest natural and historic treasures of Turkey. This large province also includes the ancient regions of Lycia, Pamphylia, Cilicia and Psidia where uninterrupted history from the traces of the earliest man to the present can be found in Archeological sites. The invaluable concrete evidence attesting to the regions' history is displayed at the Antalya Museum which ranks third among Turkey's historical and archaeologic museum after the İstanbul and Ankara Museums (Fig. 12).



a



b

Fig. 12. Sarcophagi in the Sarcophagus Hall of the Antalya Archeological Museum.

The first museum in Antalya was founded in 1919, just after the First World War. The teacher Süleyman Fikri Erten, who saved many archaeological pieces from looting, decided to create for them an appropriate venue. Initially, the collections were exhibited at the Yivli (the Fluted) Minaret mosque, located in the historic Kaleiçi (old town) district. In 1972, a new building was constructed, on the western side of the city, and the mosque was transformed into the Ethnographic Museum.

Today, it covers area of 30.000 square meters with 13 exhibition galleries: The Children Section, Galleries of the Prehistory, Potteries, findings from the region excavations done by the museum and universities, Gods statues, mosaics, icons, statues of Perge Theatre, Sarcophagi, coins and jewellery ethnographical collections. The museum has also a garden and open-air galleries. On the exhibition, thousands years of continuous chronological and sometimes didactic findings of

Antalya from the first man to the present day, can be seen. Most of the artefacts in the collection have been obtained from the excavations in the region by Turkish, German, American, French, Austrian and English archaeologists and science commissions, and the ethnographical objects have been collected from the region by the experts of the museum. One of the latest additions of the museum is Hall Number four which was opened in 2004. Also known as the "Excavations Hall" where the sensational Phrygian (7th century BC) findings are displayed. These artifacts on central display come from the tumuli of the Elmalı-Bayındır villages excavated by the archeologist of the Antalya Museum between the years 1986-88.

Approximately 12000 archaeological pieces, all belonging to the region, are displayed mostly chronologically. In some places, the finds are exhibited according to subjects matter. Visiting the Antalya Museum is taking a trip into the history of Anatolia, a trip that takes one from the first flint stone tool of man to a recently woven carpet.

On the two walls of the entrance hall that comes before the main halls of the museum, there are ceramic panels. The panel on the right depicts the Yivli Mosque and typical white-washed Turkish homes as well as 19 century appearance of the inner part of the castle of Antalya. The panel on the left, however, displays a map of the ancient regions and ancient cities as well as the map of the present province. The uniqueness of this institution has also been recognized internationally. The plaque of the left of the main entrance is an award from the Council of Europe of the Year 1988 meeting in Delphi. In 1988, the Council of Europe awarded it with the Museum of the Year Award.

A small section of the museum displays the fossils and animal bones from different geological epochs. The most interesting specimens are: the shells of huge snails, the fossils of extinct cephalopods, foraminifera shells and anthozoans.

Pre-History Hall exhibits the finds from Paleolithic, Mesolithic, Chalcolithic, Neolithic and early Bronze Age. The displayed items are mostly bone and stone tools. Illustrative panels explain the production process of these tools. There is also an exhibition demonstrating the process of leather tanning.

The main focus of this exhibition is on the objects from Karain cave, but there are also some finds from Öküzini and Seha Höyük. One of the most beautiful exhibits is a figure of a woman, found in Hacılar Höyük, Burdur Province. An extremely interesting feature of this exhibition is the reconstructed urn burial from Karataş-Semayük site near the town of Elmalı. On this site an early Bronze Age cemetery was found where people were buried in clay vessels placed underground.

Halls of Ceramics and Small Objects are dedicated to the presentation of small finds dating back to the period from 14th century BC to 15th century AD. The exhibits are ordered thematically and chronologically - there are special sections devoted to the Geometric (the 9th-7th centuries BC), Archaic and Classical (the 7th-5th centuries BC) periods as well as Roman and Byzantine eras (the 5th-15th centuries AD). The majority of space is taken by the ceramic finds, beautifully presented and well described. The panels explain the application of such vessels as crater, pyxis, kylix and skyphos. The second section of this exhibition is devoted to particular archaeological sites from Antalya region. They are illustrated by various finds - clay and glass vessels as well as bronze objects and gold jewelery. Moreover, the profiles of the best-renown researchers that devoted their lives to the studies of this region are presented, including Thomas Marksteiner,

Jürgen Borchhardt, Arif Müfid Mansel and Fahri Işık. They conducted their research in nearby archaeological sites of Myra, Limyra, Patara, Perge and Side.

Mosaic Hall is used to display ancient mosaics that were found in Lycia region, in Seleukeia and Xanthos. The walls are lined with the statues from various locations, including Hermes and Meleager from Perge and a woman from Rhodiapolis. The most stunning exhibit from this section is a three-headed statue of Hekate, the goddess of the underworld, excavated in Pisidian Antioch.

Heads and Portraits Hall is a separate room of the museum is devoted to the exhibition of marble heads well-known and anonymous men and women from the ancient world. These heads were collected in numerous archaeological sites, including Perge, Patara, Letoon and are dated from the 2nd to the 4th century AD.

Emperors and Gods Halls usually make the best impression on the visitors. They are exclusively devoted to the presentation of the statues from Perge excavations. Most of these statues date back to the 2nd century AD. In the center of Emperors Hall there are the statues of Three Graces and a dancing woman. Along the walls of this room splendidly preserved statues of Roman emperors are displayed, together with their wives and other important figures. Emperor Hadrian sternly observes the visitors and is easily recognized by his trimmed beard. Actually, there are three statues of this emperor in the hall - two of them present him in full armor and one is classically naked. The beard of Lucius Verus is even more impressive, but unfortunately not much has been preserved from his statue. Emperor Trajan is depicted in beautiful armor and, in contrast to Hadrian, clean-shaven. Septimius Severus was portrayed in a playful mood, quite surprising for an emperor known for his serious attitude to life. The imposing statue of a woman is actually dedicated to Plankia Magna who played a significant role in the development of Perge in the golden age of the city.

The Hall of Gods, as its name implies, is dedicated to the statues of ancient gods and goddesses. They were also made in Perge, in the 2nd century AD, but in majority are just the copies of older, Greek statues. Naked Apollo stares dispassionately into the distance, Artemis - the goddess of hunting - has lost her bow, Athena's breasts are covered with a buckler from leather scales, with the head of Medusa in its center. Beside the gods from the classical, Greco-Roman pantheon, such as Nemesis and Hygieia, there are also Egyptian gods on display. Serapis does not look especially happy, but this impression might be the result of the missing nose. He is accompanied by Isis, however the only trace of her baby Horus are his legs.

A separate Perge Theatre Hall is devoted to architectural elements and statues that once adorned the theater in Perge. Many of these statues demonstrate admirable dynamics: Heracles is flexing his muscles, Emperor Trajan is standing nonchalantly, the god of wine - Dionysus - is holding his head, probably sore from too much liquor, only Alexander the Great is standing proudly, like the statues from the Archaic period. The central part of the exhibition is a statue of a satyr Marsyas, and the walls of the exhibition hall are decorated with the reliefs depicting various scenes from mythology.

Sarcophagi in the Sarcophagus Hall room represent the three main groups of Anatolian sarcophagi. The first group is called Pamphylian is can be recognized by distinctive garlands and the figures of Nike and Eros. They were made in workshops in Perge, and then exported to all corners of the Roman Empire, including Rome.

The second group is called Sidemara or sarcophagi with columns. It is most common of the sarcophagi found in Asia Minor, and those that are in museum collections come from Pamphylia region. These sarcophagi are characterized by their decorations reminiscent of the temple with a colonnade. Between the columns, in the form of reliefs, the scenes from the life of the deceased are shown. The most interesting specimen of this kind of sarcophagi displayed in the museum, shows the Labours of Hercules. Another wonderful example is the sarcophagus of Domitias Julianus and his wife, made in the 2nd century AD.

The most unique sarcophagus in the collection of the museum is the one with medallions. This is only one of its kind preserved in its entirety, decorated with medallions supported by the carved figurines of the goddess Nike.

Additionally, there are sarcophagi for children and one, extremely rare, prepared especially for a dog. A separate part of the exhibition is devoted to the funeral customs of the ancient period. Some attention is also devoted to the exhibition of monumental tomb of the king of Lycia - Pericles - from Limyra, the 4th century BC.

The icons collected in the Icons Hall come from the region of Antalya and are dated to the period from the 18th to the 19th century. The collected icons are a valuable witness to the presence of the Greeks in the region of Antalya, which ended with the population exchange between Turkey and Greece in the 20s of the 20th century. These icons depict the scenes from the activity of Jesus, the Last Judgement, the Ascension of Mary and the life of John the Baptist.

Hall of Coins include the coins displayed in the museum from antiquity, the Middle Ages and the modern era. Particular attention of the visitors should be paid to the coin collections or treasures that had been buried for centuries and later discovered intact by archaeologists. A great example of this category is the treasure of Aspendos, which consists of 206 silver staters (Greek coins). These staters, found by archaeologists, were minted in Aspendos, and the latest of them is dated to 350 BC. It is believed that the owner hid his treasure after hearing the news of Alexander the Great approaching the city in 332 BC.

Ethnographic and Turkish - Islamic Period Works Halls, devoted to ethnographic topics represents a small part of museum collections. There are carpets, traditional costumes, weapons, tiles from the Seljuk and Ottoman periods, manuscripts, candlesticks, a large collection of wooden spoons, and even a horse-drawn vehicle. The most interesting elements of this exhibition are the recreated the interior of a typical household of Antalya from the 19th century and the nomadic tent.

21 October 2018: Departures from Antalya

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A topographic map of the Caucasus region, showing the Caucasus Mountains in shades of orange and red, and the Caspian Sea to the west in blue. The surrounding areas are in shades of green and yellow.

UNESCO - IUGS - IGCP 610

**“From the Caspian to Mediterranean: Environmental
Change and Human Response during the Quaternary”
(2013 - 2018)**

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INQUA IFG POCAS

**“Ponto-Caspian Stratigraphy and Geochronology”
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