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Rough Cilicia Archaeological Survey Project: Report of the 2004 Season

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Acknowledgements

The RCSP Survey team conducted its research activities from July 19 to August 23, 2004. This season the survey consisted of four separate components or "teams." The Pedestrian Survey, directed by Nick Rauh included Prof. Matthew Dillon of LMU, Mette Korsholm of the David Collection of Ottoman Art in Copenhagen DK, Art Krispin of Long Beach CA, Ben Koziol, Matt Douglass, and Anna Drozda of the U. of Nebraska at Lincoln, Elizabeth Rauh of Lafayette, IN, Frank Smith of UNC-Chapel Hill, and Chase Brazel of Purdue University.¹

The Architectural Survey team was directed by Prof. Rhys Townsend of Clark University with Eddie Connor of Worcester MA assisting as surveyor. Dillon, Korsholm, Drozda, Brazel, Smith, Douglass, and Rauh also assisted with the work of architectural mapping.

As in last season, the geoarchaeological team was directed by Prof. Martin Doyle of UNC-Chapel Hill. Doyle was assisted by Josh Brown and Frank Smith of UNC, Matt Douglass, and Elizabeth Rauh.

This season the project was pleased to welcome a new survey component, the maritime survey directed by Prof. Cheryl Ward of Florida State University. Ward was assisted by archaeologist Josten Gundersen of the Norwegian University of Technology and Science, Burak Arcan, Rachel Horlings, and Meredith Marten of Florida State University. Ward was assisted throughout by Gülnaz Savran, an underwater archaeologist based at the T.C. Kültür ve Tabiat Varlıklarını Korumu Kurulu Müdürlüğü in Muğla. Savran monitored the work of the survey as our Service Representative. The maritime survey team worked in collaboration with a Turkish team organized by Hakan Öviz of Akdeniz University in Antalya. Öviz's team included Engin Uçar, Sevgi Öncü, Arzu Göztaş, Uğur Sertataş, Emre Etikan, and Özlem Yeniay.

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The article was lightly edited in order to accommodate the different presentation format. Typos and minor character encoding issues were corrected.

In addition, the survey continued to break ground with paleobotanical research. Pollen, macrobotanical, charcoal, wood, and lignen samples were collected both by the geological and the maritime surveys and delivered to the labs of Dr. Hülya Caner, Istanbul University, Dr. Tim Filley at Purdue University, and Dr. Robert Blanchette of the University of Minnesota.

This season, the PI also obtained permission to invite Dr. Ünal Akkemik of the Department of Forest Botany at Istanbul University, to conduct dendrochronological research in the Gurcam Karatepe highlands at the crest of the Hasdere and Kaledran canyons. Dr. Akkemik, assisted by Yusuf Akşahin, chief engineer of the Gazipaşa Headquarters of the T.C. Orman Bakanlığı (Forestry Ministry), Savran, and Rauh, obtained tree ring samples from what are unquestionably the largest surviving cedar and juniper trees in the area. His preliminary results are presented below.

The work of the 2004 RCSP was made possible by grants from the National Science Foundation and the National Geographic Society. The team is profoundly indebted to Gülnaz Savran, our Service Representative, for single handedly accommodating and devising solutions to the undeniably ambitious and multifaceted agenda of this year's survey. In addition, the PI and the team members wish to thank Konrad Gerats of Gazipaşa and Lutfi Baysal for facilitating the logistical needs of the survey and furnishing us with such pleasant accommodations. Automobiles rented from *Space Rent a Car* in Alanya, facilitated our travel throughout the rugged mountain roads of this region. Yusuf Akşahin of the Forestry Ministry, our old friend Yusuf Erdoğan of Goçuk Köyü, and Ali Ateş of Lale Köyü offered crucial assistance as guides in the rugged back country of Gurcam Karatepe, directing the pedestrian team to four previously uninvestigated monumental sites.

We need as well to express our heartfelt gratitude to Ismail Gültekin, the Governor of the Gazipaşa District of the Antalya province, Cemburak Özgenç, the Mayor of Gazipaşa, Dr. Ismail Karamut, the Director of the Alanya Archaeological Museum, for their generosity and support of the work of this season. Rauh wishes also to thank Hulusu Kaya, the governor of the Anamur District, İçel Province, Ramazan Peker, the Director of the Anamur Archaeological Museum, and Hasan Bey, the mayor of Kaledran Village for facilitating the team's first opportunity to conduct our research in the Kaledran Canyon. The Kaledran, or ancient Charadros River, forms the boundary not only between these two districts but between the provinces of Antalya and İçel (Mersin) as well. Bureaucratic difficulties which were easily imaginable and all but anticipated were largely obviated through the good will and kindly efforts of these neighboring authorities. The PI cannot remember a time, in fact, when the team has worked more closely, received as much cooperation, or was greeted with such warm hospitality as it encountered during the 2004 season.

The priorities this season were to complete the envisioned maritime, geoarchaeological, and architectural surveys that had been organized for this particular grant cycle. Owing to the complexity of the 2004 season's program, the various team components worked within a staggered schedule: the maritime and geoarchaeological surveys went first (July 19-July 29), followed by the architectural

survey (Aug. 5-14). The pedestrian survey basically worked to accommodate the needs of the other teams by working in and around them. Despite these limitations, the pedestrian team managed to conduct several days of 'prospective' survey in the Kaledran Canyon (see figure 1). The results of each of the team's efforts will be presented below in the sequence in which they occurred, maritime, geoarchaeological, architectural, and pedestrian.



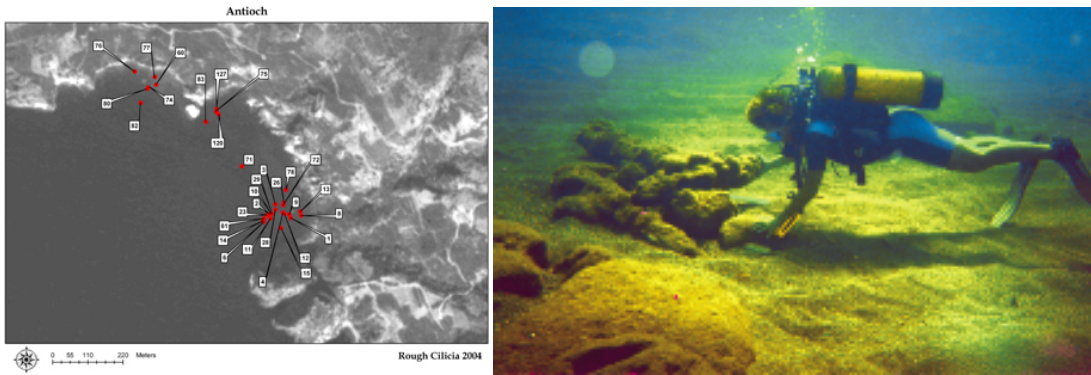
Figure 1: Work areas of the RCSP 2004 season

Rough Cilicia Maritime Survey

Cheryl Ward (Florida State U.), Director

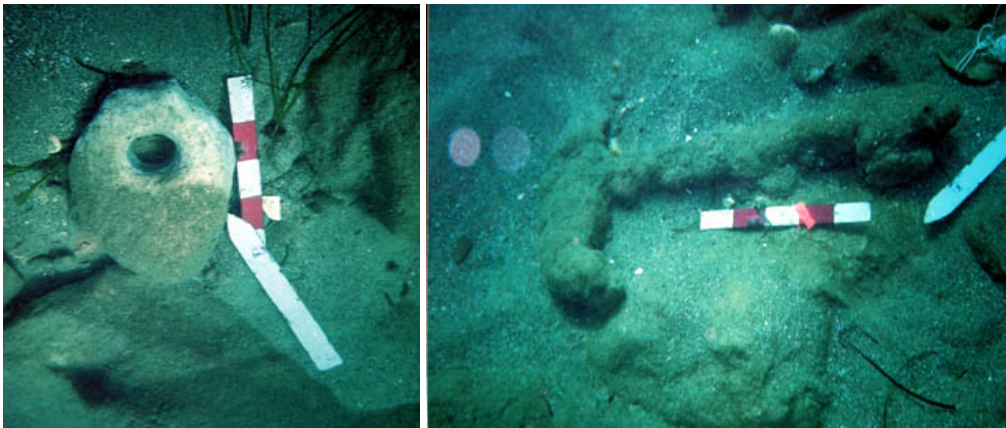
The 2004 season of the Rough Cilicia Maritime Archaeological Project (RCMAP) took place between 14 and 28 July, along the southeastern coast of the Bay of Antalya between Iotape and Kalidran Burnu. The survey relied on sidescan sonar and visual survey by diving and snorkeling archaeologists to locate archaeological material. The team made 127 dives to depths of up to 25 m from the diving boat DERIN 2. GPS measurements of artifact location were used to create GIS maps. Representative, endangered, and diagnostic artifacts were recovered from several sites and received initial conservation treatment of desalination in fresh water and mechanical cleaning before being curated by the Alanya Museum. All artifacts have been recorded with digital and print photographs in addition to standard archaeological description for study in the coming year. Primary accomplishments included locating the ancient harbor of Antiochia ad Cragum and documenting anchorages at Iotape, Halılımanı, Cıpcıklıkaya, Kalın Burnu. Additional snorkel surveys were carried out at other locations and sidescan sonar survey was conducted between the Bıçkıcı Çay and Kalın Burnu.

Antiochia ad Cragum



Figures 2-3: GIS map of 2004 season underwater finds in the harbor of Antiochia ad Cragum (left); Chery Ward processing the iron anchor found at Antioch (right)

The harbor at Antiochia ad Cragum is located northwest of the kale and modern village of Güney (see figure 2). More than 30 stone weights and anchors (see figures 3-5), three lead stocks from wooden anchors, and nearly 20 iron anchors (see figure 5) representing the early Roman through Ottoman periods (c. 17th century) are represented. It is not possible to date the stone weights and anchors at present, but further research may assist in their analysis. Many of them are small and likely to represent local fishing activities over a long period of time.



Figures 4-5: Stone weight recorded in the harbor of Antiochia ad Cragum (left); Iron anchor recorded in the same harbor (right)

One of the wooden anchors was represented by both a lead stock and a collar for the anchor's arms (see figure 6). This anchor's lead parts (AC 007 and AC 009) were positioned as the anchor had originally been lost. AC 010 also was recovered from Antioch's harbor, while a third stock could not be separated from the rock to which it had become concreted. This type of anchor is approximately 2,000 years old. The iron anchors date from the late Roman through Ottoman periods, with many falling in the 7th-10th centuries AD.



Figures 6-8: Stock to a wooden anchor found in the harbor of Antiochia ad Cragum (left); AC003, upper portion of a Lamboglia 2 amphora found in the harbor (middle); AC004, upper portion of a whiteware Zemer 41 pinched handle amphora (right); both amphoras were found lined with resin

In addition to documenting anchors through photography and measurements, we also examined representative ceramic sherds found on the surface of the sea bottom. Most notable of these are the upper parts of two amphoras heavily coated with resin on the interior, a practice common when wine was shipped in the jars. Amphora necks AC 003 (a Lamboglia 2 amphora from Italy) and AC 004 (a Zemer 41 pinched handled amphora) were recovered because of their relatively good preservation and the presence of resin (see figures 7 and 8). Additional sherds were recovered and stored with the rest of the project ceramic samples.

The most spectacular find of the season was made in the harbor at Antioch. Photographer Öñiz discovered a small bronze socket decorated with the form of a winged horse (AC 001) (see figure 9).



Figures 9-10: Bronze ship's ornament molded in the form of a winged horse or "Pegasus" (AC001), found in the harbor at Antiochia ad Cragum (left); View of Çipçıklıkaya Island and Kalın Burnu from the lower castle at Antiochia ad Cragum (right)

The horse and socket are 22.2 cm long and originally were attached to a rectangular wooden timber that probably protruded from the side of a ship much as bronze ornaments from the ship at Mahdia have been shown to have been used. The style is

representative of Late Hellenistic or very early Roman art but further work will be required before dating is possible.

Another small concretion of bronze and lead objects was located near the stairs at the base of the Kale Burnu. It includes nails of several sizes, a broken handle, a hexagonal shaft that may be a tool, and small tacks, some of which are still in the lead sheathing fragments preserved within the concretion. It is likely to be of 2nd-1st century BC date and the remains of a shipping accident. After that date, iron nails are more commonly used.

Halil Limanı

After an initial snorkel survey of this site, the archaeological team documented the stone weights and iron anchors in this anchorage, still used by local fishers. Most unusual here is a complete early Roman anchor concreted to the base of a burun on the west side of the harbor.

Iotape

Hakan Öñiz had previously visited Iotape in 2001, 2002, and 2003, conducting a salvage operation to remove 12 stone weights and anchors and lead anchor parts. Our visit there included both snorkel survey and diving to further document broken column pieces in the water, stone weights and anchors, and an unusual underwater formation that may be the remains of an ancient harbor feature. Currently 6 m beneath the sea, it stands about 3.5 m above the seabed. Broken ceramics and large cobbles are abundant in what seems to be a concrete construction. Further analysis and examination of this 65-meter-long extension into the sea is required.

Çıpçıklıkaya and Kalın Burnu

Just south of Antioch ad Cragum and within easy view of it is a small island named Çıpçıklıkaya. Although a strong current runs between it and the mainland, it has clearly been an anchorage for thousands of years as in only two dives, we located a number of iron anchors from the 6th to 17th centuries AD and the lead core from a 5th-4th c. BC wooden anchor stock in addition to a late Byzantine or Selcuk amphora, 13th c. AD Byzantine amphora handles and necks, and many other sherds. Kalın Burnu, about 1 km further southeast, provided anchorage for small boats as shown by the iron anchor (middle Byzantine) and stone anchors there.

Snorkel surveys

Additional snorkel surveys between Korudağı and just south of Kesik Burnu produced disappointing results. This area is extremely sandy and there is a high-energy current generating severe coastal erosion. We had hoped to locate the harbors of Nephelion and Kestros but were unsuccessful. It may be that a sub-bottom profiler would assist in this task or that sidescan sonar images, when processed, will provide additional information.

Deforestation Research

Geoarchaeological Survey of the 2004 Season

Martin Doyle (UNC-Chapel Hill), Director

Geomorphological Trenches Excavated in the Biçkici River Basin

Pursuing the analysis of the Biçkici River basin begun by Doyle and Filley in 2003, the geoarchaeological survey team conducted trench excavations at selected ancient river terraces in the lower Biçkici basin. The services of backhoe driver, Ali Arslan of Gazipaşa, were obtained to excavate a series of four trenches approximately 2 m wide, 6-8 m long, and 4 m deep. Moving to the Kaledran River basin, Arslan opened four more trenches on narrower river terraces there as well. In the Biçkici River three of the four trenches (A, C, and D) excavated offered adequate geological stratigraphy to warrant sampling; trench B was dominated by unconsolidated sands and gravel, and deemed unsafe for further working and unlikely to have preserved organic matter. In addition to the removal of carbon, ash, and tree residue samples observed in the trench scarps, small blocks of sediment were removed from the scarp every 20 cm. from the base of the trench. Half of these blocks were delivered to Hulya Caner, project palynologist at Istanbul University, and half were shipped to the USA for macrobotanical analysis at the labs at the Paleo Research Labs (Golden, Colorado), of Dr. Linda Scott Cummings.

The profile of the Biçkici River has been described in the report of the 2003 Season. In addition to this longitudinal profile, we used a combination of GPS and auto-level techniques to survey entire cross-valley profiles (see figures 11-12). These cross-valley profiles indicated 3 substantial alluvial terraces, initially observed and qualitatively described by Ozaner in earlier field work (2002 field season). These three terraces were best defined in the lower Biçkici, just as the valley opened up into the alluvial plain. We expected this area to be the dominant depositional area in the basin. Further, these alluvial terraces had consistent cross-valley elevations, indicating that they were coherent alluvial deposits. Based on geomorphic mapping, we designated the lower terrace as the “active” terrace because it contained much evidence of recent fluvial reworking, and its sediment size was almost identical to the sediment size and distribution of the current channel substrate. The highest terrace contained bedrock outcrops in the valley scarps, likely Pleistocene in age. There was no evidence of recent deposition on these upper terraces. The middle terrace was identified as most-likely an alluvial deposit within the past few millennia, and some scarps of this terrace indicated coherent stratigraphy within this deposit. We targeted our further activities on this terrace sequence, particularly within the widening portion of the valley where deposition would have been at a maximum, and would have happened earliest.

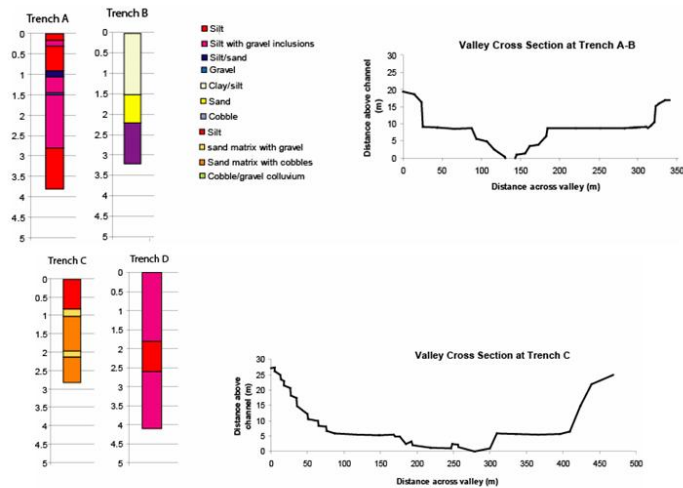


Figure 11-12: Cross-valley profile analyses of the lower Biçkici river basin (left); view of the river terrace from the heights above Trench A (right)

Trenches A and B (see figures 13-14) were cut at opposite north and south ends of a broad, distinctly visible river terrace of this middle terrace approximately 2.7 km inland from the mouth of the river (see above, figure 12). The terrace sits approximately 10 m below the level of the surrounding coastal plain (i.e., the upper terrace) and 4-5 m above the current level of the river itself. The terrace is distinctly visible as a broad alluvial fan, some 300 m across, cleared of trees or brush and used today for grain production.



Figures 13-14: Satellite view of the ancient river terrace in the Biçkici river plain and the locations of Trenches A & B (left); Ali Arslan's backhoe excavating Trench A (right)

Trench A yielded some 9 samples of preserved carbon and ash remains in the scarp (see figure 15). Trench A also contained an intriguing stratigraphy: the uppermost meter was a modeled soil, which was underlain by 1.5 m of oxidized clay and silt. Beneath this silt layer was a distinct coarse gravel layer approximate 10 cm thick, which was in turn underlain by oxidized clay and silt. Further, a small pot sherd was found beneath this gravel lense. Trench B at the northern end of the terrace exhibited

numerous layers of large cobbles and minimal layers of alluvial silt and was therefore abandoned (see figure 16).



Figures 15-16: Matt Douglass, Ben Koziol, and Josh Brown extracting pollen samples in Trench A (left); View of Trench B (right)

Trenches C and D were excavated on narrower river terraces some some 1.7 and 2 km up river respectively from Trenches A and B. Each trench yielded multiple carbon samples many of which were well preserved, and considered of good enough quality to pursue dating; Trench C yielded at least 5 "good" samples; whereas, Trench D yielded 11 "good" samples. Stratigraphy in Trenches C and D allowed some evidence of alternative depositional sequences, but the patterns were not as well-defined as in Trench A (see figures 17 and 18).



Figures 17-18: View of the stratigraphy revealed in Trench C in the Biçkici river basin (left); Martin Doyle, Matt Douglass, and Josh Brown at work in Trench D (right)

Geomorphological Trenches Excavated in the Kaledran River Basin

Moving to the Kaledran River basin, Trench G was excavated in a relatively wide river terrace on the south side of the river, 1.7 km from the shore (see figures 19-20).

Trench H was excavated on slightly higher terrain on the north side of the river 1 km from the shore (see figure 21). Trenches E and F were excavated approximately 3.7 km inland on another alluvial river terrace (see figure 22).



Figures 19-20: View of the Kaledran river basin from the north (left); Excavation of Trench G underway at Kaledran (right)



Figures 21-22: View of location of Trench H in the Kaledran river basin (left); View of excavated Trench F (right)

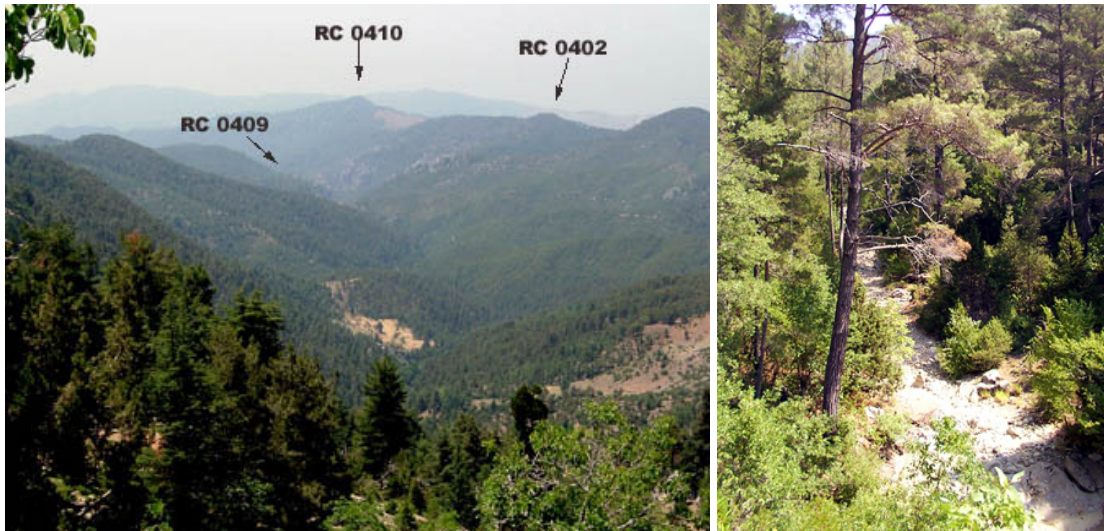
Unlike the Biçkici, the Kaledran canyon is extremely narrow and closed in tightly by very sharply ascending mountains on all side (see figure 23). Because of this constricted and very narrow valley, we suspect high stream powers throughout the valley, and thus limited opportunity for sediment storage within the floodplains, and a high likelihood that sediment will be transported through the valley and deposited in the sea. The river basin is relatively narrow, perhaps 500 m wide at its widest extent. In its current bed the river is probably no more than 15 m across. It rises gradually

inland for some eight kilometers before encountering steep, "cataract"-like gorges, where it has cut through the limestone bed rock in steep defiles (see figure 24).



Figures 23-24: View of the Taurus peaks at the head of the Kaledran Canyon (left); View of the deep cataract-like gorges that separate the upper basin from the lower watershed of the Kaledran River (right)

The western Kaledran tributary, referred to by one of our sources as the “Karasin Çay,” ascends to the enclosed canyon at Gurcam Karatepe Mountain. The river is confronted about half way along its course (circa 12 km) by a series of rugged precipices that the team refers to as the “cataract” (see figure 25). RC 0409, Frengöz Kale sits on a cliff face directly above the river at this point. Above the cataract the team found the river completely dry, probably as a result of irrigation, and narrow, the bed being no more than 10 m wide at that point and resembling a footpath (see figure 26). The main course of the Kaledran River is larger and actively flowing with cold rushing water. It passes through a massive rock-cut gorge to the narrow river coastal plain below. Above the gorge the highland watershed fans out into a broad table like basin (approximately 10-15 km across) resembling the Biçkici watershed, only wider. Like the Biçkici (circa 8 km across) the Kaledran highland rises to the crest of the Tauros Mountains. RC 0405 Hisar sits on an outcrop high above this highland terrace.



Figures 25-26: View (looking south) of the upper reaches of the Karasın river basin with indicated locations for sites investigated in 2004 (left); View of the dry river bed in the upper reaches of the Karasın basin (left)

Although depositional areas were not as evident or prominent in the Kaledran, we did find several areas that were potential sites of sediment storage which could provide insight into past land-use changes. Trenches E and F were excavated approximately 3.7 km inland on another alluvial river terrace, which was not as broad as those on the Biçkici, but were distinct from the active channel. We are uncertain of the age of these terraces, however, as local farmers indicated that the river was active in migrating across them. Nevertheless, these terraces were obvious depositional sequences, with fine sediment storage and thus potential storage areas for organic matter. Trench E was dominated by large colluvial material, thus indicating dominance of hillslope erosion. However, there were layers of fluvial-derived sediment (well-sorted, silts and sands) located 2.7-3 m below the surface. Our initial interpretation is that this region was dominated by hillslope sedimentation, with occasional waves of fine sediment during large, rare floods. The timing of these events was not readily apparent.

Trench F had greater fine sediment accumulations, and thus some sequence of fining and coarsening (see figure 22 above). Like trench E, there was a dominance of poorly-sorted gravel and cobble, with lenses of fine sediment interspersed. Unlike the Biçkici trenches, these trenches indicate dominance of high energy and thus coarse sediment deposits with very little fine sediment being deposited within the valley.

Trench G was excavated in a relatively wide river terrace on the south side of the river, 1.7 km from the shore. Trench H was excavated on slightly higher terrain on the north side of the river 1 km from the shore. Trench G had a 0.5 m deposit of fine sediment, underlain by recent large, poorly-sorted gravels and cobbles. In contrast, Trench H had a well observed stratigraphy of alternating fine sediment and well-rounded medium gravels. These gravels are likely fluvially derived (because of well roundedness and being well-sorted). We interpret Trench H as indicating alternating sequences of aggradation and sediment removal within this lower reach of the valley.

There were several well-preserved carbon samples within this trench to allow dating of the depositional events.

Preliminary Interpretations

Both river valleys indicate periods of drastic changes in sediment delivery to the lower reaches. Such changes are most often instigated by substantial shifts in the sediment transport capacity of the main channel, either via degradation or aggradation of the main stem. In the Biçkici, we hypothesize that the gravel lense, under- and overlain by fine silts and clays, represents a period of intense bed-level aggradation within the channel main stem, which would have allowed bed-material deposition on the channel floodplain (i.e., current middle Terrace). We have many high quality carbon samples from above and below this lense, and so dating this should be possible and is our current plan.

The Kaledran does not provide so easily a current interpretation, and so we are more dependent upon the continued palynological analysis and the carbon dating to provide insight into the stratigraphic sequences. The high energy of the system, due to the steep gradient and the confined valley walls, likely transported most fine sediment through the valley and into the sea, allowing only sporadic deposition in small areas, particularly valley confluences. However, because of the steepness of the valley, and the proximity of the harbor from the high elevations, this region remains of particular interest to the overall project.

Pollen Studies

Dr. Hülya Caner (Institute of Marine Sciences and Management, University of Istanbul)

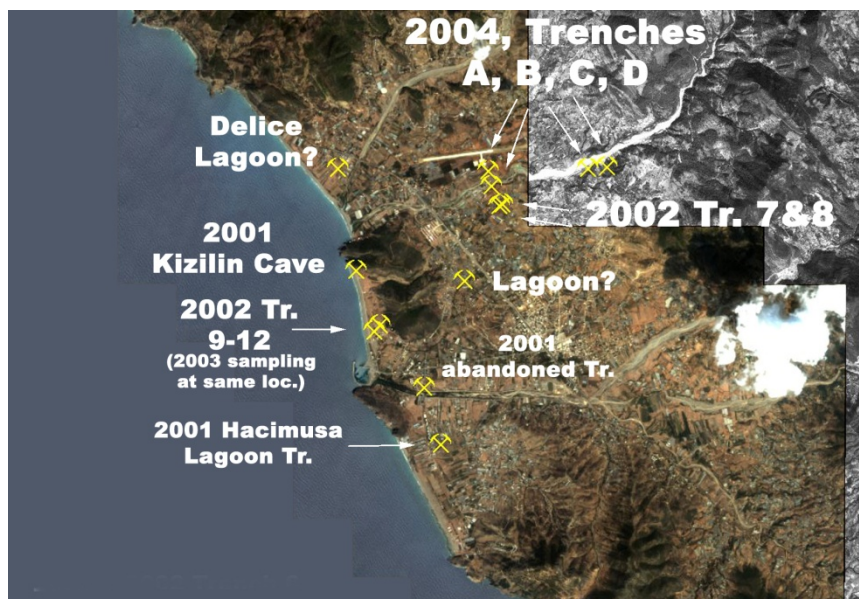


Figure 27: Pollen trenches excavated in the Gazipasha river basin, 2001-2004

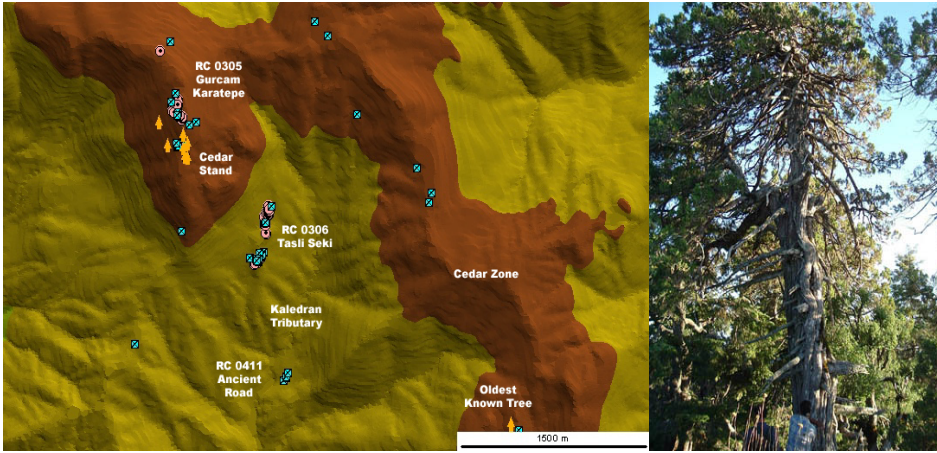
In Fall 2004 Dr. Caner produced a preliminary study of the pollen samples obtained from the geoarchaeological trenches excavated in the the lagÜnal areas of the Hacimusa, Biçkici ,and Delice Rivers in 2001-2002 (see figure 27). In her paper she identifies two different vegetation types in the study region; Eu-Mediterranean vegetation containing xsrophytic shrubs and evergreen vegetation (pine, oak, Erica and Artemisia), and Oro-Mediterranean vegetation containing mixed deciduous and coniferous forests (pine, oak, juniper, and cedar). In the uppermost forest zone (1200-2000 m) coniferous forests of *pinus nigra*, *cedrus libani*, *abies cilicica* and *juniperus excelsa* occur as nearly pure stands as well as mixed forests. As these high altitude forests degenerate, a mixed juniper and oak shrub vegetation tends to colonize the terrain in their place.

Her results indicate that the distribution of pollen grains in the Biçkici and Delice Rivers differs from that in the Hacimusa. Arboreal pollens are represented by high concentrations of juniper and pine in the Hacimusa samples; whereas, *Juglans* (Black Walnut) reaches the highest values in the Biçkici and Delice Rivers. Since *Juglans* is extensively cultivated in this region, it serves an anthropogenic indicator of the effect of human forces on the paleo-environment. She concludes that the surface samples obtained from the survey region indicate a pattern of degraded vegetations -- indicators of the effect of serious grazing experience on the one hand and the human impact on natural high altitude forests and their replacement by secondary shrub colonizers on the other.

Dendrochronological Survey

Dr. Ünal Akkemik (Department of Forest Botany, University of Istanbul)

On August 17, Dr. Ünal Akkemik of Istanbul University visited the survey to obtain tree ring samples from the "ancient" stand of cedar trees the team identified on Gurcam Karatepe Mount in 2003 (see figures 25-26). His visit was expedited by Yusuf Akşahin, chief engineer of the Gazipaşa headquarters of the Turkish Forestry Service, and, as it turns out, a former school colleague of Akkemik (see figures 27-28) Having worked in the Gazipaşa district for many years, and the official personally responsible for the fire brigades that monitor the highland forests, Akşahin proved an authoritative guide to our effort to locate the oldest trees in the vicinity. With his help Akkemik was able to obtain tree ring samples from what are unquestionably nine of the largest trees that stand in the cedar zone of Gurcam Karatepe Mountain. After careful counting and measuring all the pieces in the cores, and after dating on the regional chronology constituted by Touchan et al (2003), Akkemik was able to obtain exact dates for the trees.



Figures 26-27: DEM map of Ünal Akkemik's Tree Ring Survey at Gurcam Karatepe (left); JUSP09, a 484-year-old juniper tree at Gurcam Karatepe (right)



Figures 28-29: View of tree-ring core extracted at Gurcam Karatepe (left); Yusuf Akşahin and Ünal Akkemik extract a tree-ring sample from a large cedar tree at Gurcam Karatepe (right)

Of the nine trees sampled, seven were cedars, one was pine, and one was juniper. The last mentioned proved to be the oldest (484 years). One of the cedars one (no. 5) dated 423 years old, but the mean lifespan of the seven cedars was 280.7 years old. (See table 1).

TABLE I: Dated Tree-Ring Samples from Gurcam Karatepe Mt., 2004

SAMPLE	ID_NO	TREE TYPE	RING DATES	LIFESPAN	CIRC.
1	CELIO1	CEDAR	1724-2004	280 YRS	
2	CELIO2	CEDAR	1886-2004	118 YRS	2.90
3	CELIO3	CEDAR	1649-2004	355 YRS	3.45

4	CELI04	CEDAR	1804-2004	200 YRS	3.70
5	CELI05	CEDAR	1581-2004	423 YRS	4.90
6	CELI06	CEDAR	1674-2004	330 YRS	3.55
7	CELI07	CEDAR	1745-2004	259 YRS	3.65
8	PINI08	PINE	1634-2004	370 YRS	3.15
9	JUSP09	JUNIPER	1520-2004	484 YRS	2.45

The team related its 2003-season find of a Roman-era “lumbering camp” on Gurcam Karatepe Mt. (RC 0305) to noted dendrochronologist at Cornell U., Peter Kuniholm. At Rauh’s invitation Kuniholm visited the survey briefly in 2004 to investigate the site for himself. In February 2005 Peter Kuniholm forwarded the results of his on-going dendrochronological research in the Gazipaşa District. For *Pinus nigra* his samples indicate a 557 year chronology (1444-2003 AD) based on 23 trees; for *Juniperus sp.* his samples indicate a 276 year chronology (1728-2003 AD) based on 12 trees; for *Abies cilicica* a 207 year chronology (1797-2003) based on 7 trees; and for *Cedrus libani* a 581 year chronology (1423-2003) based on 23 trees. A pattern of early modern forest regeneration, based on samples obtained from more than 70 ancient trees appears to be emerging for the region. Akkemik concludes, preliminarily, that the scarcity of old trees in this forest demonstrates the effect of human impact in this region over a sustained period of time. Left undisturbed, cedar trees can expect to have a lifespan of 1000 years, not to mention, a stochastic pattern of regeneration. However, recent studies indicate that cedar forests, once eroded, are very slow to regenerate (Boydak 2003).

The Turkish Forestry Service recently established effective legislation to conserve native cedar forests. It determined that by lengthening the cutting rotation period to 120-140 years on good sites and 160-180 years on poor sites (based on a target 50-60 cm mean stand dbb at rotation), a minimum standard for regenerating cedar forests in the Tauros Mts. was attainable. These standards are, of course, based on forest regeneration under highly controlled circumstances, including systematic artificial seeding and enforced protection against the deleterious effects of grazing. Under natural conditions eroded forests exposed to constant grazing take considerably longer to regenerate. On the face of things, based on a relatively limited, if authoritative sample, it would appear that the cedar forest on Gurcam Karatepe was completely deforested before c. 1500 AD. It seems clear, in any event, that the removal of the cedar forest on Gurcam Karatepe Mt. was not a recent event.

Pedestrian Survey

Nicholas Rauh, Director

Pedestrian Survey Procedures in 2004

As noted above, the pedestrian survey yielded priority this season to the needs of the other components of the survey. In the Biçkici basin the pedestrian team attempted to survey as much terrain as possible in the vicinity of the geoarchaeological trenches, “to fill in space,” as the procedure came to be known. Given that the area being excavated had never previously been investigated, the team employed a combination of both coarse and close interval survey methods to obtain minimal but significant results. In the Kaledran Canyon the proximity of the ancient site at Charadros immediately presented itself as a priority for the pedestrian team, once the geoarchaeological trench works were safely under way (see figures 28 and 29).



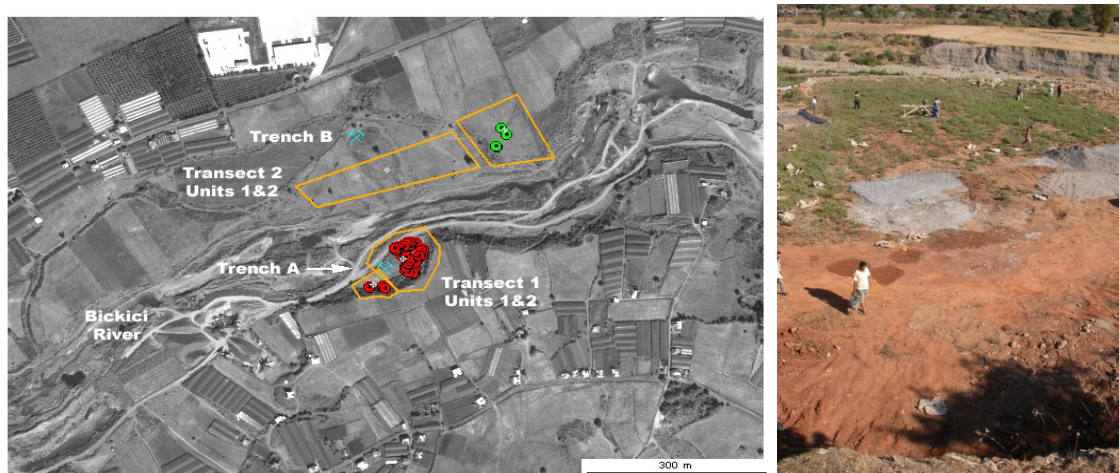
Figures 30-31: View of the acropolis of ancient Charadros (tall peak in the mid-ground; RC 0401, left); DEM map of the pedestrian survey work in the Kaledran Canyon (right)

The pedestrian team explored Charadros (RC 0401) using both coarse and close interval procedures to obtain substantial diachronical ceramic data for that settlement. After completing this preliminary survey, a limited period of time presented itself for investigating the rugged back country of the canyon while accommodating the other components of the survey. The vast scale and difficulty posed by the terrain required that the pedestrian team obtain useful intelligence for the region, and ultimately local guides in order to locate the most significant sites in the canyons.

Rauh and Savran devoted considerable time, essentially three days, to interviewing local inhabitants to learn the location of major architectural sites in the region. Guided by these people as well as by members of the Turkish Forestry Service, the team was able to visit briefly four of these sites. Independently, pedestrian team members

spread out on various ridge tops to conduct coarse interval surveys, essentially “filling in space,” while the project director continued with intelligence gathering. In this manner three additional loci of ancient habitation were identified (RC 0402, 0403, and 0404). Since travel to these various sites invariably required 2-3 hours one-way by automobile, sometimes on unpaved roads so rough that they required the use of 4-wheel drive vehicles, the purpose of each visit invariably was reduced to recording as quickly as possible a limited set of data for each site. This method, referred to by Rauh as “prospective survey,” was utilized at RC 0309 Ilica kale in the Biçkici highland during the end of the 2003 season. In this manner part of the team rapidly georeferenced, measured, sketched, and photographed architectural features, while another part proceeded through the site conducting a somewhat random grab sample of sherds. No systematic flagging of sherds was conducted at any of these upland sites. The director feels that the team came away with very preliminary data for each site, including a diachronic, albeit random sample of the ceramic remains. As in 2003 a large number of sites were identified and investigated in this manner. However, Rauh and Savran were given the names and approximate locations of at least five additional sites in the Kaledran Canyon that time limitations prevented them from investigating. The PI presents the results of the pedestrian survey of 2004 in the order in which the sites were encountered in the field.

Biçkici River Transect 1 (Geo Trench A; 7-20-04); UTM 473514 E; 4016844 N; Alt. 18 m



Figures 32-33: Satellite view of RCASP 2004 Transects 1 and 2 in the Biçkici river basin (left); View of Transect 1 near the site of Trench A (right)

The pedestrian survey began at an area on the Biçkici River in the vicinity of geomorphological trenches A and B (see figures 32-33). Trenches were excavated at an ancient river terrace approximately 300 m across. The table land of surrounding coastal plain drops sharply some 10 m. to the level of the ancient river terrace. This, in turn, is sharply bisected by the active river bed, dropping another 4-5 m to what is basically the sea-level base line of the river. The terrace fans out toward the sea to form a broad alluvial delta, distinctly visible to the eye. Today both sides of the terrace

are cultivated for hay and grain. The team found the terrace portion on the south side of the river currently under development as a rock quarry. Amid the wooden frames for concrete pylons the team encountered a dense sherd scatter of extremely worn ceramic remains. No structural remains were visible. The team conducted "close interval survey" of Transect 1 (see figure 32) using some 5 walkers some 5-10 m apart to walk an area approximately 150 m long by 60 m wide. The team flagged and processed approximately 60 sherds in two units (Units 1 & 2, separated by a low agricultural hedge row). The pottery was very worn, but revealed 2-3 pieces of possible Roman fineware. Some 8 sherds were collected for further analysis. This was all in the immediate vicinity of Trench A. The site would appear to have served as a temporary camp immediately beside the river.

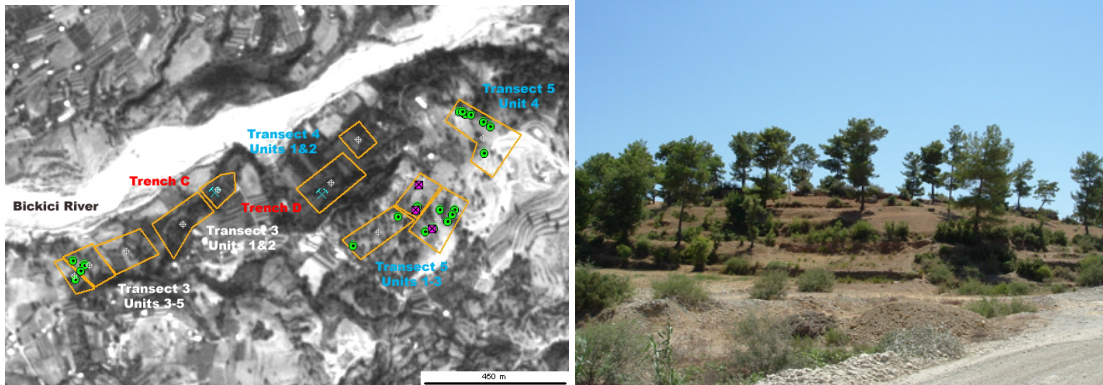
Biçkici River Transect 2 (Geo Trench B; 7-20-04)



Figures 34-35: Satellite view of RCASP 2004 Transects 1 and 2 in the Biçkici river basin (left); View of Transect 2 near the site of Trench B (right)

Biçkici River Transect 2, Unit 1 is situated immediately across the river (north bank) close by the scarp separating the ancient river terrace from the coastal plain above (see figures 34-35). Trench B was abandoned due to inadequate stratigraphy. Transect 2; Unit 1, walked immediately beside the trench on the terrace, yielded no remains. To cover the length of the terrace (some 300 m) the team of six walkers extended the line to a coarse interval of 20-25 m. The team then climbed up to the coastal plain immediately overlooking the river terrace to walk cultivated fields along the scarp (Unit 2), using the same coarse interval. A limited sherd scatter of some 8 sherds was identified in these fields. One black slipped body sherd was collected.

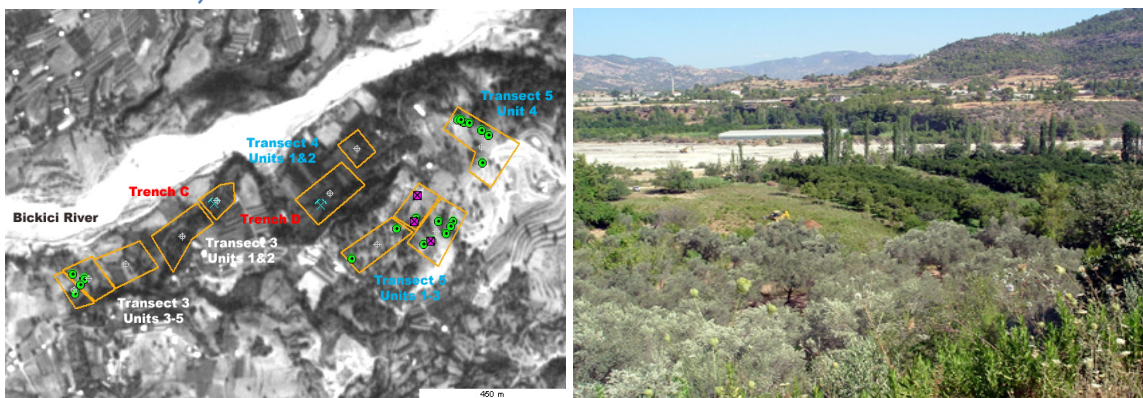
**Transect 3 (Geo Trench C; 7-21-04); UTM 437562 E; 4017014 N;
Alt. 23 m**



Figures 36-37: Satellite view of RCASP 2004 Transects 3-5 in the Bickici river basin (left); View Transect 3, Unit 4, a low rock outcrop above the road (right)

The pedestrian team walked fields in vicinity of Trench C in an orchard at lower river terrace level below the coastal plain on south bank of the river (see figure 36). Trench C was excavated in an orchard and field area. Coarse interval survey (circa 15 m apart) conducted by five walkers in medium visibility of ploughed earth and hay residue. Units 2 and 3 were similar cleared fields in the basin. For Unit 4 the team climbed to a low rock outcrop above the road where some 4-6 sherds were encountered amid pine trees and cobbled stone fragments. Apart from the cobbled blocks, no building remains were visible. At Unit 5 the team started at a high point on a cleared field above the river, and walked the descending slope toward a rock quarry at the side of the river below (see figure 37). A very minimal sherd scatter was identified. One sherd was collected.

**Transects 4 and 5 (Geo Trench D; 7-21-04); UTM 439732 E;
4017089 N; Alt. 73 m**



Figures 38-39: GIS map of RCASP 2004 Transects 4 and 5, near Trenches C and D (left); Backhoe excavating Trench D in dense citrus orchard on the Bickici R. (right)

Trench D was excavated approximately 300 m. up river from Trench C on the south bank of a very broad terrace of the river (extending from end to end approximately 450 m across the river). The setting consists of a dense citrus orchard on a low terrace surrounded by the scarp of the rising table land of the middle Biçkici basin (see figure 38-39). The hills above the terrace rise to 100m or more in altitude. The trench was cut in a field of deep grass surrounded by citrus orchards. Transect 4 was walked in the terrace itself in course interval manner. The trees and tall grass offered low visibility and no remains were encountered. The pedestrian team then climbed the scarp to walk a series of rolling fields directly above the trenching work area on the river terrace. Transect 5 Unit 1 revealed a minimal sherd scatter. Unit 2 revealed a ruined early modern house and well (see figures 40-41).



Figures 40-41: A ruined early modern house and well in Transect 5, Unit 2

The local farmer accompanying the team reported that the house was approximately 80 to 100 years old. A minimal sherd scatter was recorded and a neighboring olive grove georeferenced. Unit 3 covered the southern rising portion of the same expanse of field and orchard, walking in the opposite (easterly) direction, ending at a hillock with a standing copse of pine trees. The team observed that the lower trunks of several of the pine trees were scored by hand in a downward chevron pattern for purposes of collecting pine pitch. A pronounced scatter of modern pitch collection jars, called "katrans," was encountered amid the trees (see figures 42-43). The farmer informed the team that these broken forms were modern and were still in use. The team had previously encountered these forms in the Hasdere Canyon and had presumed them to be ancient. Transect 5 Unit 4 was walked from the adjoining hill crest northward to the edge of the scarp directly above the river terrace. A minimal sherd scatter was encountered, particularly at the base of a rubble pile of hand cut block which our farmer, Mustafa, insisted was an ancient tomb. The finds were largely coarseware; and the general situation indicates that the tomb had been looted earlier. One sherd was collected.



Figures 42-43: Lower trunks of several of the pine trees scored by hand in a downward chevron pattern (left); Remains of modern pitch collecting jars or “kaltranlar” (right)

RC0401, Charadros (7-25-04); UTM 461313 E; 3995990 N; Alt. 204 m

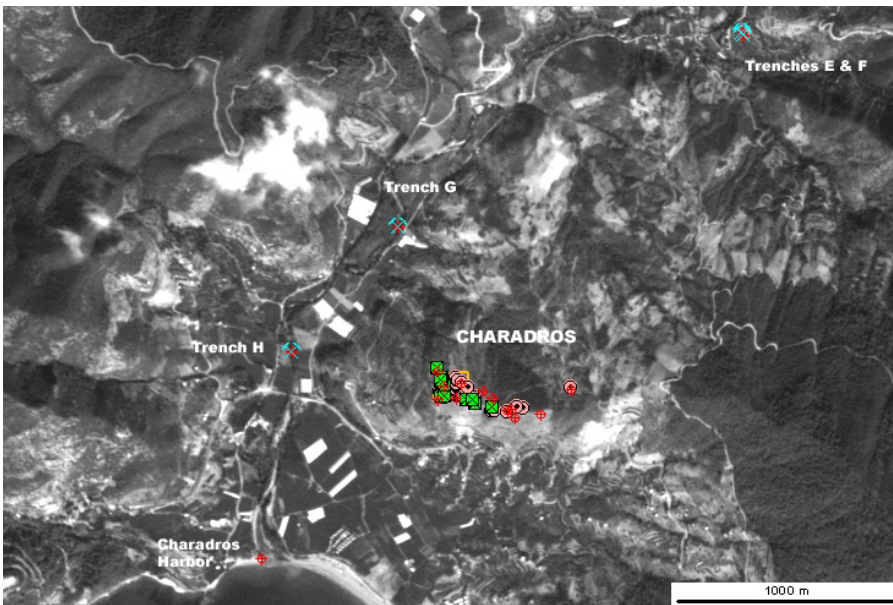


Figure 44: RCSP 2004 survey map of field work conducted at Charadros (RC 0401)

Having obtained permission from provincial authorities of the Anamur district, İçel province, the team relocated its operations on July 25 to the Kaledran River valley where Trenches E, F, G, and H were excavated. As this work proceeded, the pedestrian team focused its attention on ceramic survey at the acropolis of the ancient site of Charadros which overlooks the valley (see figure 44 above). The site is situated on a low spur (200m in altitude) of a ridge on the south side of the river, close by the sea. Below the site, on the north side of the river, lie the visible remains of the ancient harbor of Charadros, including what appears to be a man-made mole, possibly the

entrance to the ancient harbor. The canyon itself is extremely narrow and closed in tightly by steeply ascending mountains on all side (see figures 45 and 46).



Figures 45-46: View of the ancient harbor of Charadros (left); View of the man-made mole at the harbor of Charadros (right)

The acropolis of Charadros survives as a chimney-peak outcrop standing directly above the river at its mouth. The acropolis revealed a welter of wall scraps, some of them large, but much obscured by thick scrub (see figures 47-48). Apart from the remains of what appears to be a late Roman tomb sitting isolated on the ridge above the site, no distinct buildings were detectable. Local inhabitants informed the director that years ago a statue of a pig was found in the remains of the acropolis.



Figures 47-48 View of the acropolis of Charadros (RC 0401, left); remains of a wall at the acropolis of Charadros (right)

Despite the limited architectural features of the site, very dense concentrations of high quality ceramic remains blanketed the hillside. They are particularly visible on the dirt road leading up to the site and on the terrace fields on its back (southeastern) side. The team spent one day recording architectural and ceramic remains at the acropolis peak, using standard flag and georeferencing procedures. The team returned two more days to conduct close interval pedestrian survey of the terraced field area of the site. In all, two transects and four units of the acropolis were walked using close interval survey methods, and approximately 220 diagnostic sherds were processed

and recorded. Twelve bags containing 95 sherds were collected and stored for further analysis.

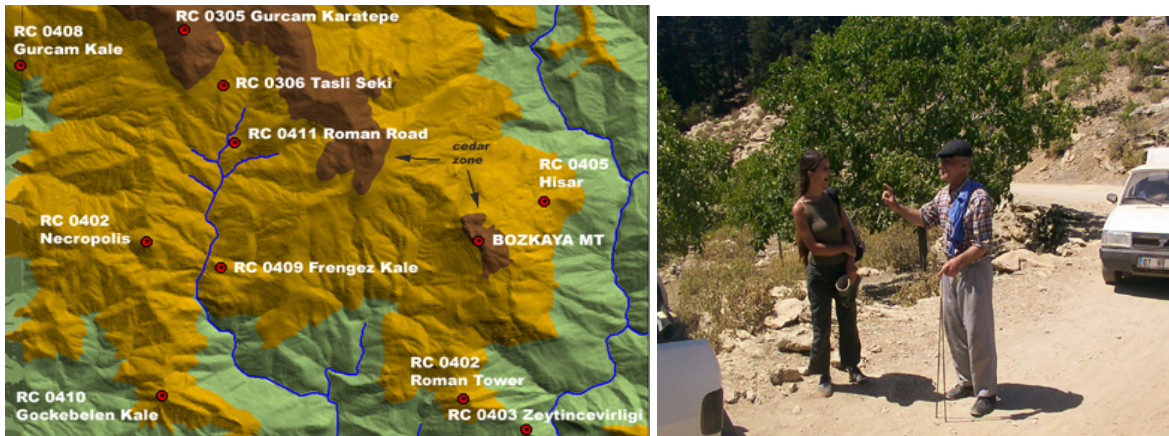
The ceramic remains of the site indicate a long diachronic pattern of settlement: likely Phoenician amphora rims and a black-slipped krater fragment (see figures 49-50) point to a Classical (pre-Hellenistic) settlement on the acropolis. Abundant Roman fineware and amphora remains point to the 1-3rd centuries AD as the highpoint of the site's existence. One interesting observation is the high percentage of ESA fineware (see figure 51) from Syria as opposed the usual prevalence of CS fineware from Cyprus in the survey area.



Figures 49-51: Iron Age Phoenician amphora rim (left); Classical crater rim (middle); and ESA “Megarian bowl” body sherd (right), all from Charadros (RC 0401)

This suggests that the Charadros valley marks a border region for the commercial distribution of these competing finewares. Even though the team processed a sufficient number of sherds at this site to establish rough chronological estimates, it is important to note that ceramic remains descended a considerable distance below the terrace fields in question and that significantly more data is obtainable.

RC0402, Roman Necropolis (8-06-04); UTM 456553 E; 4004142 N; Alt. 1147 m



Figures 52-53: DEM map of the 2004 pedestrian survey work in the Kaledran highlands (left); Yusuf Erdoğan shares a point with Özlem Yeniay (right)

On 8-06-04 the pedestrian team, having obtained some directions from our friend Yusuf Erdoğan, attempted to locate a 'kale' that Erdoğan called to our attention from the fire road atop Gurcam Karatepe ridge in the upper watershed of the western or "Karasin" tributary of the Kaledran River. Erdoğan pointed to a distant rock outcrop at a lower point in the canyon (see figure 54). In an attempt to locate this site, one portion of the walking team led by Ben Koziol walked the ridge line of the northern slope of the canyon, while another team led by Rauh descended to the area of the outcrops above the river bed. While walking the ridge crest, Koziol's team encountered a Roman era necropolis of vaulted tombs exhibiting stone and mortar construction (RC 0402, see figure 55).



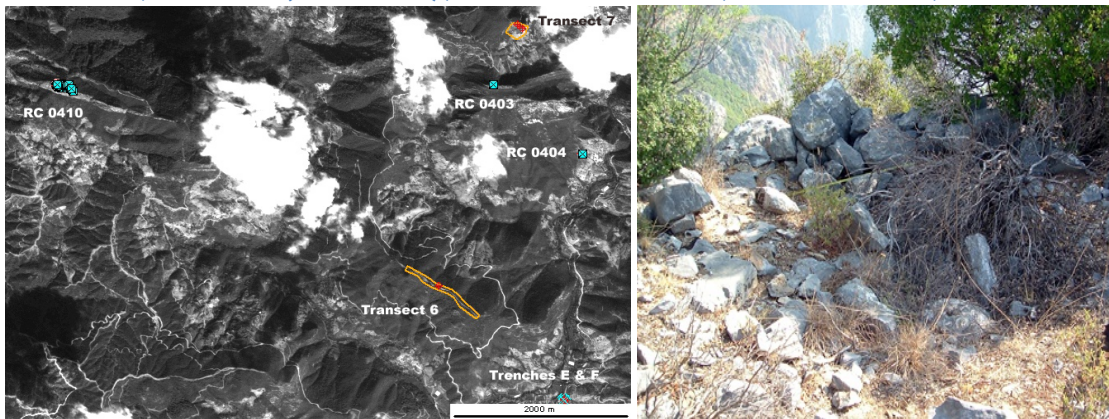
Figures 54-55: Labeled view of sites investigated by the pedestrian team in the upper Karasin Canyon in 2004 (left); Vaulted Roman tomb at site RC 0402 (right)

On a later drive by the site, Erdoğan informed the team that caves bearing ancient remains existed along the cliff face on the east side of this promontory. There was insufficient time to confirm this. Walking in the forest below the necropolis at RC 0402, the team did encounter the remains of a pre-modern road sustained by stone-block terrace walls. Locals informed us that these roads predate motor vehicular traffic. They do not appear to be ancient, however. Eventually, the team arrived at the precipice of the cataracts of the canyon, where the level of the river bed falls precipitously 100 m or more to a lower course (see figure 56). The team encountered some 4 coarse ceramic sherds at this location (see figure 57). The forest was so dense, however, that the team failed to see the massive remains of the Late Roman fortress, Frengöz Kale (RC 0409, see below) standing directly across from their location, in essence, directly opposite (but lower in altitude from) the necropolis remains of RC 0402.



Figures 56-57: View of the Karasim "cataracts" from RC 0402 (left); Coarseware sherd below RC 0402 (right)

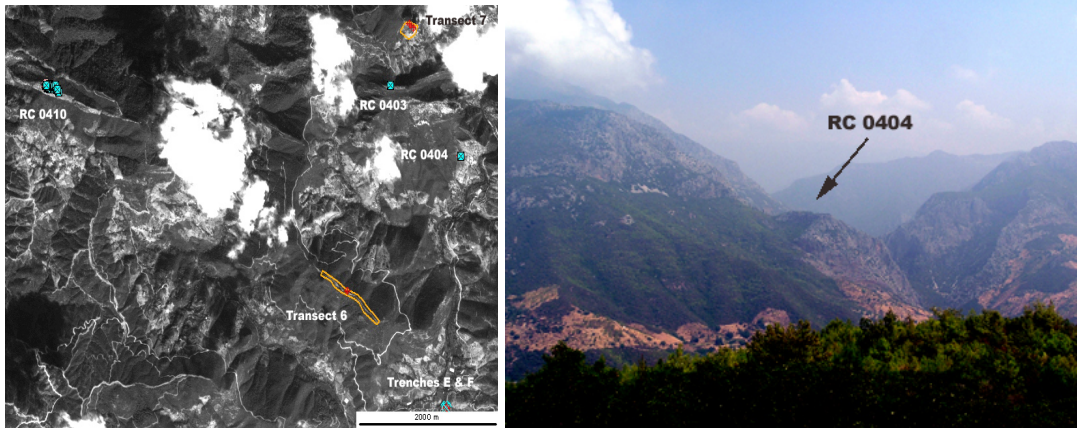
RC0403, Tower (8-08-04); UTM 461838 E; 4001361 N; Alt. 909 m



Figures 58-59: GIS map showing location of RC 0403 (left); Remains of an ancient, rectangular, stone-block construction at RC 0403 (right)

While ridge walking in the lower Kaledran canyon Koziol's team encountered the remains of an ancient, rectangular, stone-block construction (see figures 58-59). Minimal sherd scatter was detected, but no sherds were collected or processed.

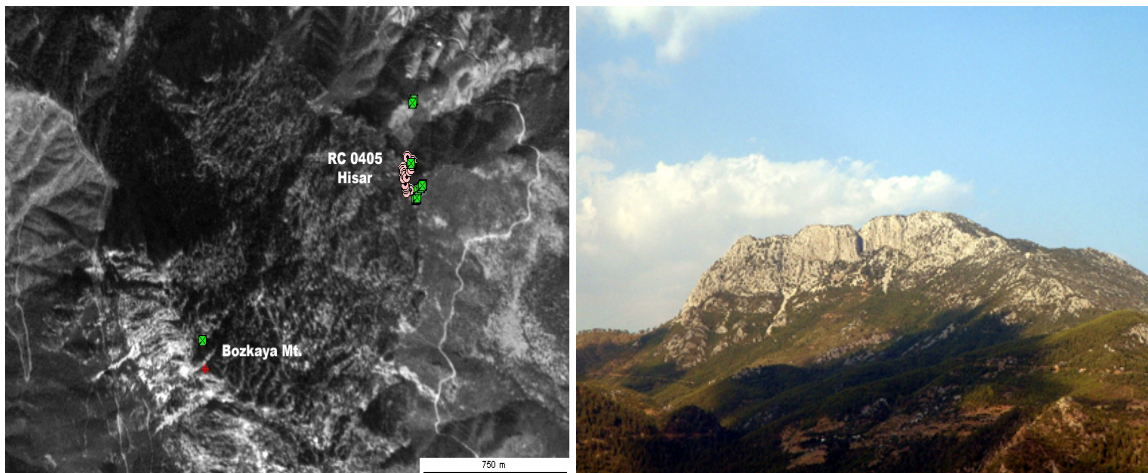
RC0404, Zeytin Cevliği (8-08-04); UTM 460872 E; 3999165N; Alt. 548 m



Figures 60-61: GIS map showing location of RC0404, Zeytin Cevliği (left); View of the bench where remains at RC 0404 were investigated (right)

Local inhabitants informed the team of the remains of a small site on a bench looming directly over the main tributary of the Kaledran River. Matt Douglass and Mette Korsholm ascended the steep terrain to find minimal remains, including a round stone block structure that probably functioned as a modern above-ground watering hole for animal herds (see figures 60-61). An orchard stands in the clearing. Nevertheless, some ancient pottery was detected, one sherd was collected and bagged.

Bozkaya Mountain (8-09-04); UTM 462257 E; 4004113 N; Alt. 1556 m



Figures 62-63: GIS map for Bozkaya Mountain (left); View of Bozkaya Mt. (right)

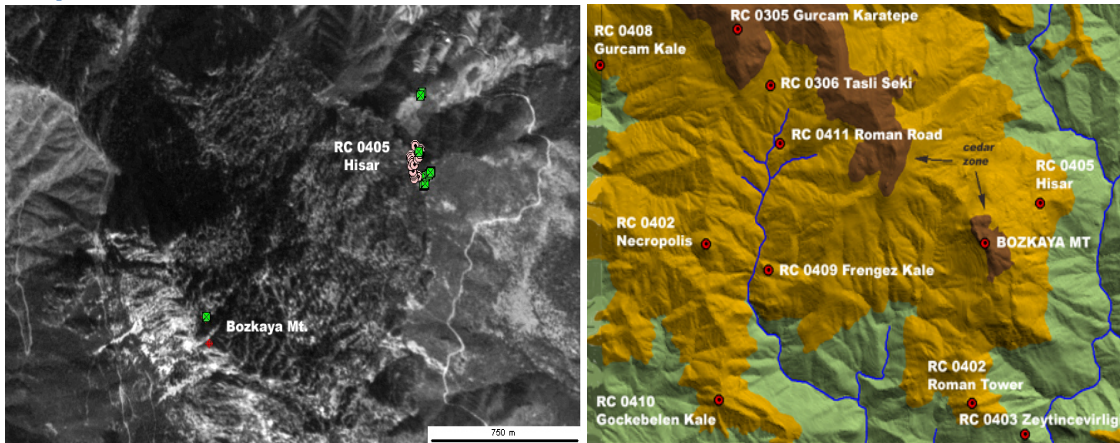
Guided by local landowner, Ali Ateş, the team ascended Bozkaya Mt., a centrally situated peak that separates the main tributary of the Kaledran River from the

western tributary (the Karasın) that leads to Gurcam Karatepe (see figures 62-63). Passing through a gap in the cliff the team was shown a small, stone-block-and-mortar constructed cistern with evidence of ceramic sherds and hydraulic cement. Approximately 300 m. further along (west) the knife's edge of the ridge the team was shown some meager scraps of ancient coarseware (see figures 64-65).



Figures 64-65: Small cistern on Bozkaya Mt. (left); Scraps of ancient coarseware on Bozkaya Mt. (right)

RC0405, Hisar Asarı (8-14-04); a.k.a., Elmabeleni Mevkii; Lale Köyü/Armut Mahalle; UTM 463365 E; 4004780 N; Alt. 989 m



Figures 66-67: GIS map of RC 0405, Hisar Asarı (left); DEM map of RC 2004 work sites in the upper Kaledran-Karasın river system (right)

Using a minibus to negotiate the rough mountain roads, the team was directed by Ali Ateş to a monumental site situated on a precipice overlooking the deep gorge of the main tributary of the Kaledran Canyon. The site is located on the south slope of Bozkaya Mt. on a ledge that is joined to the mountain by a narrow saddle (see figures 66-67).



Figures 68-69: View of bench were remains of Hisar Asarı (RC 0405) are located (left); Closer view of same setting (left)

On the site's south flank, the precipice falls sharply c. 100m to the road below. On its east and north sides it falls away more gradually in descending fields. A bench approaching the site from the road revealed building remains that Ateş identified as tombs as well as a small altar displaying a fine Isaurian style relief of a shrouded female, referred to by team member, Matthew Dillon, as the 'mater dolorosa' (see figures 68-70). A similar relief is on display in the Anamur Museum (see figure 71). Ateş informed the team that the remains of numerous other tombs survive along the lower flanks of the mountain.



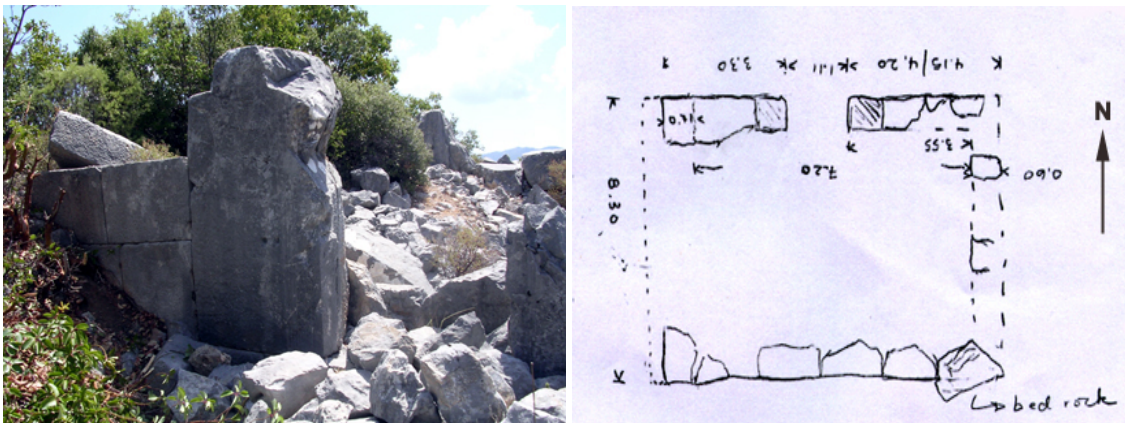
Figures 70-71: A small relief of a shrouded female figure, or 'mater dolorosa,' at RC 0405, Hisar Asarı (left); A similar relief on display in the Anamur Museum (right)

The site itself is heavily forested, but the team on ascending its flanks immediately encountered the remains of numerous house-like structures (see figures 72-73). At

the extreme SE corner of the site, situated on the edge of the cliff, stands a large rectangular stone block structure resembling a temple or a monumental tomb, approximately 8.3m x 9.3m (see figures 74-75). The isodomic masonry is finely cut with molded detail on the exterior and mortared rubble masonry on the interior. Some large ashlar blocks are employed at the corners in the usual fashion. One corner block was very large, nearly 3m long. Based on its remains the monumental structure consisted of a rectangular structure without porch or epistyle, exhibiting a narrow door on its north side. No inscriptions were seen at the site.



Figures 72-73: Remains of numerous house-like structures at RC 0405, Hisar Asari



Figures 74-75: View of doorway to monumental structure at RC 0405, Hisar Asari; Sketch plan of the monumental structure by Rhys Townsend (right)

Rauh is inclined to identify this structure with the "Temple of Zeus Androclas" mentioned in several Cilician inscriptions (Bean and Mitford 1970: 162, no. 168). Townsend, however, argues that it resembles in style various previously studied temple-tombs or "heroia" in the area. Supporting his conclusion is the presence of several smaller tomb-like remains along the cliff. In addition to mapping the large monument and tombs, the team conducted a "random" or "prospective" pottery inspection along the looter's path through the site. Some 34 sherds were processed, with 18 collected for further inspection at the lab. The pottery revealed Roman and Late Roman fineware remains.

RC0406 - Macar Köyü (8-12-04); UTM 440319 E; 4004254 N; Alt. 54 m



Figures 76-77: Satellite view of Transect 8, Units 1-5 walked at RC 0406, Öz Mevkii (Macar Köyü, left); View of banana tree terracing at RC 0406 (right)

As the architectural team completed the plan of Kestros, the pedestrian team returned to the area of ceramic remains identified in 2003 as the possible location of the harbor of Kestros, alluded to an inscription at the site (RC0307). Close interval survey of the densely cultivated terraces of banana trees in the cove revealed additional areas of ceramic remains, and at the extreme southwest promontory that forms the cove, architectural remains. As the team was leaving the site, it observed from a distance the remains of a large defensive "cross-wall" projecting from the southern end of the promontory (see figure 78). The cross wall appears to have been intended to defend an existing settlement on that point. Structural remains are visible but they have been heavily damaged by modern development of the site, including a small modern house and the extensive stone constructed terraces of the banana tree plantation.



Figures 78-79: View of possible fortification wall projecting from promontory at Öz Mevkii (RC 0406, left); Grindstone fragment at RC 0406, Öz Mevkii (left)

Various grindstones were visible amid the ceramic remains (see figure 79). High quality ceramic remains were encountered in units 3, 4 & 5 of the transect. Much like the finds in 2003 the ceramic remains were uniquely Late Roman in character, including various forms of CRS, ARS, and Phocaean ware, as well as numerous fragments of LR1 Yassi Adai amphora (see figures 80-81). The evidence points to a single era, LR site and may help to date several of the locally produced forms that were found in the same context, including the triangular rim stewpot recorded in the project's on line Ceramic Study Collection. All in all, some 39 sherds were processed, and 15 were collected for further analysis.



Figures 80-81: CRS form 8 rims at RC 0406, Öz Mevkii (left); Rim and neck fragment of LR 1 Yassi Ada type Late Roman amphora at RC 0406 (right)

**RC0407 – Alabaş Taşı, Muzkent Köyü, Coastal Ridge (8-13-04);
UTM 443844 E; 4004251 N; Alt. 54 m**

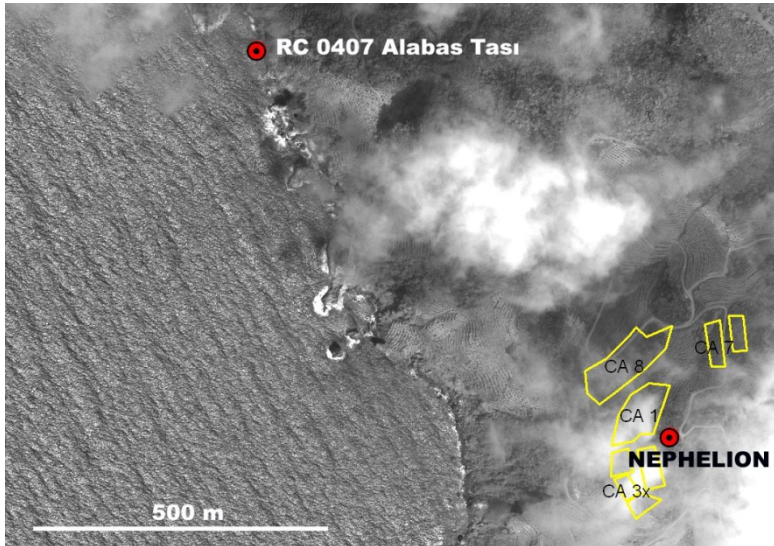


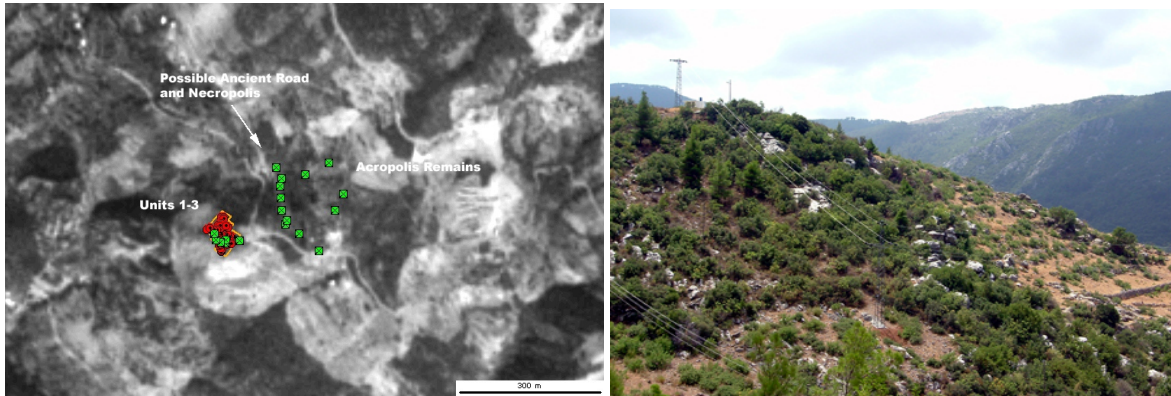
Figure 82: Satellite view of RC 0407, Alabaş Taşı and the 1997 Collection Areas at Nephelion

Sources indicate that Nephelion likewise possessed a harbor facility (see figure 82; Bean and Mitford 1970: 171; Karamut and Russell 1999). Pursuing the same strategy the team explored a remote cove c. 1.6 km north of Nephelion along the "coastal ridge" that was investigated in 1998. Following an agricultural road along very steep terrain the team came to a small promontory above the cove (labeled on local map as "Alabaş Taşı"; see figure 83). There they found limited ceramic remains and some scraps of apparently ancient walls (see figure 84). There was nothing substantial to indicate the presence of a harbor. Some 10 sherds were processed with four collected for further analysis.



Figures 83-84: View of promontory at RC 0407, Alabaş Taşı (left); Remains of possible ancient structure at RC 0407 (right)

RC0408 Gurcam Kale (08-17-04), a.k.a. Bilhos Kale; UTM 454144 E; 4007405 N; Alt. 704 m



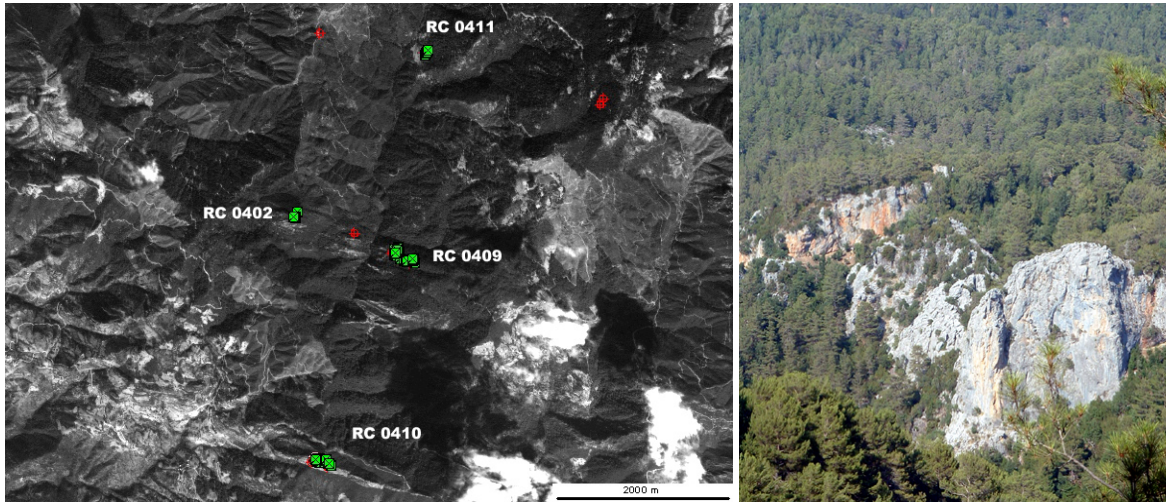
Figures 85-86: Satellite map of RC 0408, Gurcam Kale (left); View of necropolis area at RC 0408 (right)

Guided by Yusuf Erdoğan, the team located the remains of a small settlement situated on a bench approximately 150m below the ridge of Gurcam Karatepe in the Hasdere Canyon (see figures 85-86). Evidence of an ancient road and necropolis point to the existence of a route between Lamos, further west, and the sites identified in 2003 at the crest of the “Karasin” canyon (RC 0305 Gurcam Karatepe and RC 0306 Taşlı Seki). The team conducted close interval ceramic survey on the terraced fields below the road and recorded several scraps of ancient wall. The ceramic remains were predominantly Early and Late Roman. In a small gabled stone structure resembling a tomb a human skull fragment was found (see figures 87-88). [Carbon analysis of the skull fragment revealed a 5th century AD date.] Some 45 sherds were processed and 10 were collected for further analysis.



Figures 87-88: Small gabled stone structure resembling a tomb at RC 0408, Gurcam Kale (left); Skull fragment recovered in gabled structure at RC 0408 (right)

RC0409 Frengöz Kale (8-19-04); UTM 457710 E; 4003711 N; Alt. 895 m



Figures 89-90: Satellite view of RC0409, Frengöz Kale (left); View of the cliff-faced location of RC 0409 on the south slope of the Karasın river valley (right)

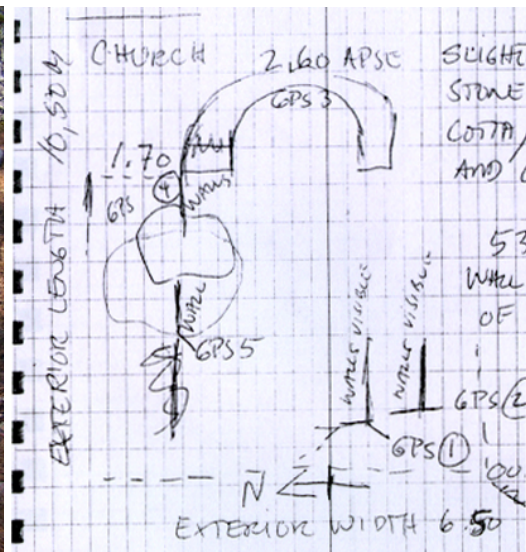
Guided by Yusuf Akşahin, chief engineer at the Gazipaşa headquarters of the Turkish Forestry Service, the team located the massive remains of a Late Roman/Byzantine fortress perched on a cliff face on the south slope of the cataracts in the western Kaledran or “Karasın” tributary (see figures 89-90). Hidden within a dense pine forest, the site revealed a fortified acropolis including one tower standing 6 m. tall, the remains of a cobbled road leading to a large rectangular "loading platform," a necropolis, and what appear to be the remains of a small church with an apse at its east end (see figures 91-96). Window slits in the castle tower and the construction technique of thick mortar and small stone blocks point to a late construction, probably Late Roman, since there was no evidence of ceramic tile in the construction. The pine needle ground cover prevented little more than a minimal analysis of ceramic remains, yielding no results. Some nine sherds were processed, none collected.



Figures 91-92: A tower standing 6 m tall at RC 0409, Frengöz Kale (left); view of window slits in the fortress at RC 0409 (right)

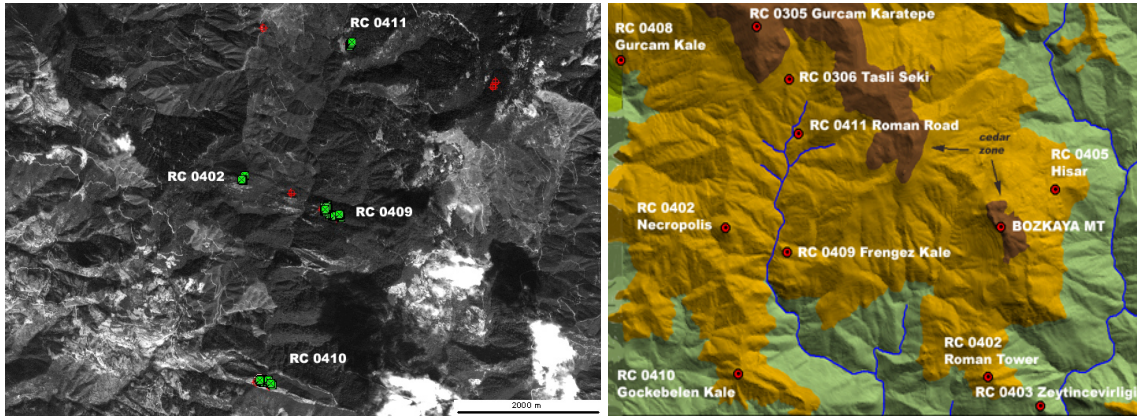


Figures 93-94: Remains of a large rectangular "loading platform" at RC 0409 (left); View of necropolis at RC 0409 (right)



Figures 95-96: Remains of apse to probable church at RC 0409, Frengöz Kale (left); Sketch plan of church by Mette Korsholm (right)

RC0410 Gökcebelen Kale (8-10-04) in the vicinity of "Hisar Köyü";
UTM 456818 E; 4001363 N; Alt. 969 m



Figures 97-98: Satellite and DEM views of Kaledran-Karasin survey area showing RC 0410 Gökcebelen Kale

Situated on the crest of an exposed rock peak in the lower canyon of the western or “Karasin” tributary of the Kaledran, the team, guided first by Yusuf Erdoğan and later by Yusuf Akşahin, located the remains of a sizable settlement called Gökcebelen Kale (RC 0410, see figures 97-99).

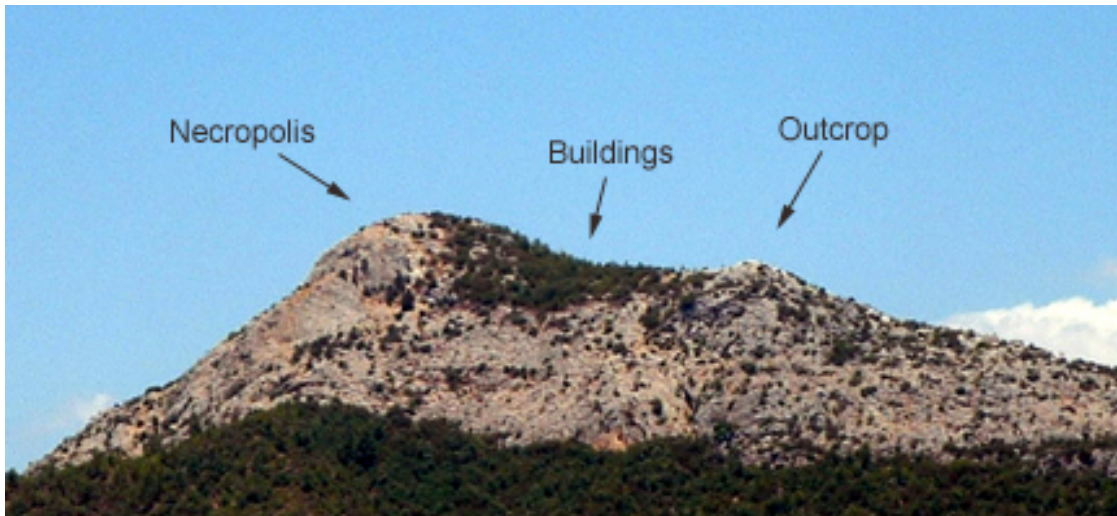


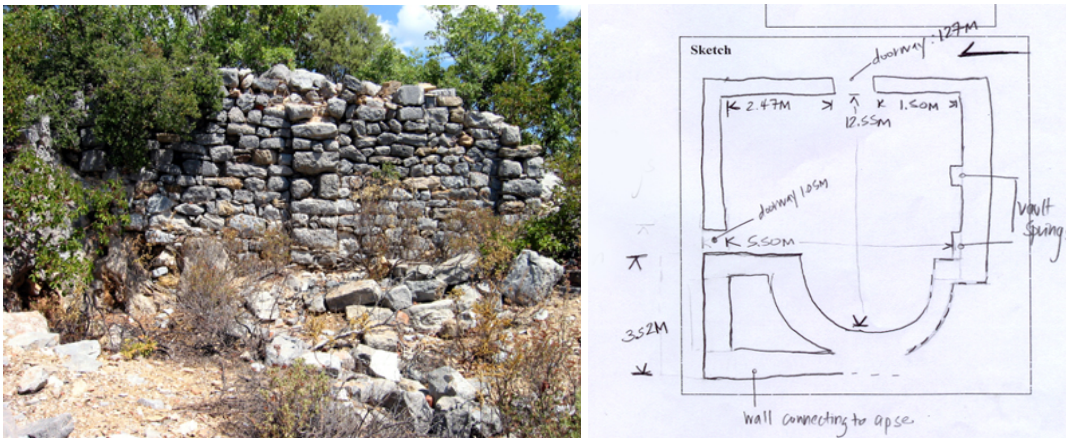
Figure 99: Labeled view of the mountain-top settlement of RC 0410 Gökcebelen Kale

From the crest of the peak the coastal ridge to the south and the promontories of both Alanya (Korakesion) and Charadros are distinctly visible, indicating a possible function of the site as a signal center. One group of team members measured and sketched tomb remains (see figure 100) and other structures on the crest, while another group conducted a random “prospective” ceramic survey. In the saddle between the peak and a lower outcrop to the southeast, the team identified several structural remains amid dense brush (see figure 101). These include one ruined, very obscured structure exhibiting two apse like features on one side, possibly a bath

structure, and at a distance, a very large stone structure resembling a small church or cistern (see figure 102). At the latter structure remains of springer joins for a vault (see figure 103) stand in situ on the surviving wall on one side. Approximately 50 sherds were processed, indicating Classical, Hellenistic, Roman, Late Roman, and Byzantine occupation (see figures 104-106). Some 19 sherds were collected. No inscribed blocks were seen.



Figures 100-101: Setting for a sarcophagus at RC 0410, Gökcebelen Kale (left); View of ruined structures arrayed on terraces at RC 0410 (right)

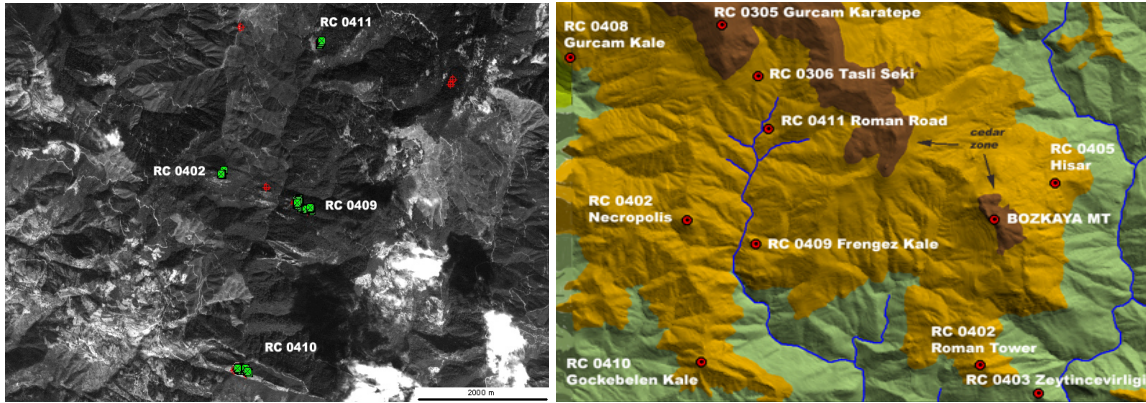


Figures 102-103: Remains of large structure with apse at RC 0410, Gökcebelen Kale (left); Sketch of apsed structure at RC 0410 by Anna Drozda (left)



Figures 104-106: Ceramic finds at RC 0410, Gökcebelen Kale, Rim of Hellenistic incurved rim bowl (left); Rim of imitation CRS form 8 bowl with bead motif (middle), rim of CRS form 11 basin (right)

RC0411 Remains of ancient road below Gurcam Karatepe Peak in Karasin river valley (08-19-04); UTM 458070 E; 4006019 N; Alt. 976 m



Figures 107-108: Satellite and DEM views of Kaledran-Karasin survey area showing RC 0411, “Roman Road”

While returning northward from RC 0409 along the inner ravine of the western or Karasin tributary (see figures 107-108) of the Kaledran canyon, the team encountered a short stretch, ca. 20 m. long, of an ancient road (see figure 109). Small stone cobbles and ceramic remains were visible on its flat surface as well as a short extent of terrace wall of similar construction (see figure 110). The remains were encountered directly beside the modern logging road. The direction of the route seemed to indicate the existence an ancient road linking RC 0409 Frengesz with the sites on Gurcam Karatepe (RC 0305 and 0306).



Figures 109-110: Remains of a possible ancient road (RC 0411) in the upper reaches of Karasin River (left); Remains of a terrace wall with sherd scatter beside the road at RC 0411 (right)

Project Publications

A number of project publications have appeared in 2003-2004.

L.A. Wandsnider 2004a.

Solving the Puzzle of the Archaeological Labyrinth: Time Perspectivism in Mediterranean Surface Archaeology, in Susan E. Alcock and John F. Cherry eds., *Side-by-Side Survey. Comparative Regional Studies in the Mediterranean World*. Oxbow Books, Oxford, 49-62.

L.A. Wandsnider 2004b.

Artifact, Landscape, and Temporality in Eastern Mediterranean Archaeological Landscape Studies, in E. Athanassopoulos and L. Wandsnider eds., *Mediterranean Archaeological Landscapes, Current Issues*. Philadelphia: U. Penn. Museum, 2004, 69-80.

H. Caner, N.K. Rauh and L.A. Wandsnider 2004.

The Palynological Analysis of Surface Samples from the Western Rough Cilicia, in *Proceedings of the International Symposium on Earth System Sciences, 2004, Istanbul Turkey*, Organized by Istanbul University, Institute of Marine Sciences and Management and Department of Geography, 2004, Kelebek and Grafika Grup, Istanbul, pp. 139-145.

N.K. Rauh 2004.

Pirated Knock-Offs. Cilician Imitations of Internationally Traded Amphoras, in J. Eiring and J. Lund, eds., *Transport Amphorae and Trade in the Eastern Mediterranean. Acts of the International Colloquium at the Danish Institute at Athens, Sept. 26-29, 2002*. Monographs of the Danish Institute at Athens, Volume 5, Danish Institute at Athens. pp. 329-226.

R. F. Townsend and M. Hoff, 2004.

Monumental Tomb Architecture in Western Rough Cilicia, *Jahreshefte des Österreichisches Archäologisches Instituts (JOAI)* 73: 251-280. doi: [10.1553/oekh73s251](https://doi.org/10.1553/oekh73s251).

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Touchan Ramzi, Garfin Gregg M., Meko David M., Funkhouser Gary, Erkan Nesat, Hughes Malcolm K., and Wallin Brian S. 2003. January 28. “Preliminary reconstructions of spring precipitation in southwestern Turkey from tree-ring width.” *International Journal of Climatology* 23 2 (January 28): 157–171. doi:[10.1002/joc.850](https://doi.org/10.1002/joc.850).