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**ROUGH CILICIA ARCHAEOLOGICAL SURVEY PROJECT:
REPORT OF THE 2001 SEASON**

Nicholas K. Rauh

Figure 1: RCSP 2001 Survey Team, Front Row: Kelli Bacon, Eddie Connor, Eric Wade, Sarah Wood, Mette Korsholm, Melissa Kruse, Matt Dillon; Back Row: Betül Şahin, Rhys Townsend, Megan Young, Alicia Coles, Max Black, Damian Miller, Matt Evans, LuAnn Wandsnider, Michael Hoff, Jason DeBlock

During July and August 2001, Project directors Nicholas Rauh and LuAnn Wandsnider conducted the sixth consecutive field season of the Rough Cilicia Archaeological Survey. Activities during the seven-week season included systematic pedestrian and architectural surveys in the Hasdere Canyon (Adanda) and geoarchaeological research in Gazipasha. Joining the team this year were 10 PhD researchers and 15 student participants. The field-walking team consisted of Wandsnider, Rauh, Dr. Mette Korsholm (Davids Sammling Museum in Copenhagen), Prof. Matthew Dillon (Loyola Marymount University), Jason DeBlock (MA, Bilkent University), Max Black (Bilkent University), Kim Leaman (Bilkent University), Eric Wade (Loyola Marymount University), Melissa Kruse (University of Nebraska at Lincoln), Art Krispin (TRW, Long Beach CA), Damian Miller (Purdue University), Megan Young (University of Nebraska at Lincoln), and Alicia Coles (University of Nebraska at Lincoln). Directed by Professors Rhys Townsend (Clark University) and

Michael Hoff (University of Nebraska at Lincoln), the architectural survey team consisted of Edward Connor (Clark University), Sarah Wood (Purdue University), Matthew Evans (Purdue University), and Kelli Bacon (University of Nebraska at Lincoln). Ceramic research at the pottery lab was conducted by Rauh, Professor Richard Rothaus (St. Cloud State University), Paige Rothaus, Dr. John Lund (Danish National Museum at Copenhagen), Professor Tamar Hodos (Briston University), Betül Sahin and Kim Leaman (ceramic illustrators). Geoarchaeological research was conducted by Wandsnider and Dr. F. Sancar Ozaner (TÜBITAK), with assistance from Black, DeBlock, and Leaman. Archival research of Ottoman records for Gazipasha was conducted by Nursel Uçkan (see separate report). To conduct this research the team obtained legal authorization from the Turkish General Directorate for Monuments and Museums, Ministry of Culture, in Ankara. Project fieldwork was supervised by government representatives Mehmet Şener (Mersin Museum) and Unal Demirer (Antalya Museum). Locally, the team was assisted by Dr. Ismail Karamut, Director of the Alanya Museum, and his staff archaeologists, Gulcan Kuçukkaraaslan, Seher Türkmen, and Berin Taymaz. Fieldwork was funded by grants from the U.S. National Science Foundation, Purdue University, University of Nebraska at Lincoln, Clark University, and Loyola Marymount University. The project received support as well from Farmworks Inc., Sokkia Instruments of Indianapolis IN, Space Imaging Inc., INTA of Ankara Turkey, and Mr. Thomas Lewis. To all these people and institutions, we wish to express our heartfelt gratitude.

2001 PEDESTRIAN SURVEY

Nicholas Rauh
LuAnn Wandsnider

Figure 2: View of the Adanda Canyon

Figures 3-4: DEM of RCSP survey regions 1996-2001; close-up view of the sites in the Adanda Canyon

A. Procedures

During the 2001 field survey the pedestrian team sampled survey units in different taphostratigraphic strata throughout the Adanda Canyon (see figures 2-4). The field director established land parcels the size of fields and smaller areas, approximately 50 X 50 m., as units for analysis. Within each unit, the team walked transects about 5 m. apart and flagged artifacts along a 1 m. wide transect. All temporally diagnostic sherds, including rim, base, and handle sherds, were recorded, described and mapped using handheld GPS (yielding a spatial resolution of 20 m). In addition, Rauh conducted an unsystematic walk through each unit to locate other temporally significant sherds. Description included information regarding chronotypology, form, size, temper, interior and exterior decoration, and rim and base radius estimates. Team members photographed all sherds designated as potentially significant; other sherds recognized as particularly significant were bagged and tagged and brought to the field laboratory.

With the help of GIS coordinator, Larry Theller (Purdue University), mapping techniques advanced considerably during the 2001 season. During the winter of 2000, Theller, Rauh, and Wandsnider brought together satellite images, terrain maps, and surveyed location data to construct a geographic information system (GIS) for the entire survey area. A grant of software, the Farmworks Site Mate Scouting program, from Farmworks Inc., and purchases of 4 pocket PC computers enabled team members to assign spatial locations and descriptive attributes to artifactual and featural remains as these were encountered in the field (see figure 5). This enabled the team to export collected data as shapefiles that were quickly mapped in the GIS stored in the project PC at team headquarters.

Figures 5-6: Ipaq hand-held devise and GPS tracker damaged in the field (left); Pedestrian team members preparing to walk a survey unit (right)

To complete these procedures, the team engaged in two phases of field operation; an initial group of 5 to 7 participants systematically walked the transect and flagged remains, while a second group of 8 (working in pairs) utilized the hand-held electronic equipment to georeference and to encode in situ the materials thus encountered (see figures 6 and 7). Surveyors walked prepared fields with 5 m. transect intervals. All artifacts in transects 1-m wide were flagged, documented to a high level, and georeferenced using the hand-held electronic devices. Diagnostic and rim sherds were collected for further analysis in the laboratory. Once GPS coordinates were verified, artifact flags were pulled. Employing these methods, the team walked some 27 transects. These included multiple transects at all five urban sites in the area: Asar Tepe, Lamos, Goçuk Asarı (RC 0030), Tomak Asarı (RC 0019), and Govan Asarı (RC 0040), as well as numerous "off-site" areas of agricultural terrain in the canyon interior.

Figure 7-8: Pedestrian team members flagging items in a survey unit at Goçuk (left); team members processing flagged items at Asar Tepe

B. Preliminary Results of Ceramics Research 2000-2001, the Urban Sites.

At each urban site several hundred sherds were georeferenced and processed, furnishing a detailed record of sherd densities, locations, typologies, and chronology in the project GIS. Transects walked at the five urban sites are displayed below (see figures 9-13).

Figure 9: 2001 transect map of Goçuk Asarı (RC 0030)

Figure 10: 2001 transect map of Asar Tepe

Figure 11: 2001 transect map of Tomak Asari (RC 0019)

Figure 12: 2001 transect map of Govan Asari (RC 0040)

Figure 13: 2001 transect map of Lamos

The presentation of this data requires some explanation. Datable sherds are recorded according to their known typologies: these consist almost exclusively of imported fineware and amphora remains for which chronological information is available from published archaeological contexts from neighboring sites in the Mediterranean world. In some instances, chronologies of a few locally produced forms such as the Pinched-handle, Koan style, and Pamphylian amphoras, are known from published finds of similar forms, again, identified elsewhere in the Mediterranean. In the accompanying tables, ceramics remains from recognized typologies have been arranged according to the following categories:

- "Pre Roman" (for the Adanda Canyon, c. 4th-1st centuries BC)
- "Early Roman" (1-3rd centuries AD)
- "Late Roman" (4th-7th centuries AD)
- "Byzantine" (for this region, generally 9th-12th centuries AD).

Medieval Turkish ceramics encountered in rural terrain during the 2000 season have not been included in these urban totals and must await later assemblage of non-urban ceramics totals.

Numerous forms that could not be identified temporally (in part, because the survey lacks stratigraphically authenticated chronologies for locally produced coarse wares and cooking wares) are simply compiled in the charts as "Coarsewares" and "Cookwares." The first-mentioned category includes unidentified amphoras, locally

produced coarseware forms such as bowls, basins, pithoi, stamnoi, and loom weights. Invariably this appears in the tables as the largest of all categories. A similar category was compiled for all identified forms of cooking ware, including stewpots, casseroles, and frying pans. Finally, a category of "Uncertain" exists for all sherds that were flagged by the pedestrian team but were too badly damaged to permit any suitable identification. The tables exhibiting the ceramic data thus compiled for the five urban sites are linked to this report.

As the Ceramics Tables demonstrate, a small percentage of the processed sherds actually yielded temporal information. Moreover, the data of the last mentioned categories, Coarse wares and Cooking wares, could obviously be subdivided more effectively into equally significant components such as amphoras, pithoi, and loom weights. However, such a presentation would do little to enhance our understanding of the chronological record of human occupation at these five urban sites, which remains the primary objective of this preliminary presentation. More detailed and varied analyses will follow shortly.

As evidence of the accompanying tables demonstrates, *Pre-Roman* ceramic remains were identified at all five urban sites, with the earliest identified remains, and hence the earliest likely site, being the small fortified hilltop at Tomak Asarı. Asar Tepe, Lamos, and Govan also exhibit significant concentrations of Pre-Roman pottery. The Pre-Roman finds at Goçuk Asarı (RC 0030) alone remain suspect because they were so limited (9 sherds from a total 688 processed) and of uncertain characterization (several were quite fragmentary). Except for Tomak Asarı all sites exhibit significantly greater concentrations of *Early Roman* ceramic remains, indicating that the urban sites of the canyon stood at peak development in this period (1st-3rd centuries AD). All but Tomak again exhibit some evidence of *Late Roman* habitation as well. However, Late Roman ceramic remains were greatest at Lamos and Goçuk Asarı; they were minimally present at Asar Tepe and Govan Asarı (reflecting perhaps little more than evidence of "squatting" or occasional use of these sites by pastoralists). Again, Late Roman remains were altogether nonexistent at Tomak Asarı. As the charts make clear, very little in the way of *Byzantine* or later period sherds were identified in the survey area.

In all, the survey team processed some 1773 sherds during field operations at the five urban sites. Combined with the preliminary sherd sampling conducted during the coarse interval survey of the 2000 season, the RCSP pedestrian team has processed some 1916 sherds at the five identified urban sites of the Adanda Canyon (see figures 14-19).

Figures 14-15: Counts of processed sherds at Asar Tepe and Lamos

Figures 16-17: Counts of processed sherds at Goçuk ("Juliosebaste," RC 0030) and Tomak Asari (RC 0019)

Figures 18-19: Counts of processed sherds at Govan Asari (RC 0040) and total count for the 5 urban sites of the Adanda Canyon (Hasdere)

In addition, our careful attention to detail enabled Wandsnider to develop ceramic indices to address issues of use intensity, formational history, and function. Thus, ceramics were coded not only for chronologically sensitive elements, but also for thickness and temper (finewares are generally thin and finely tempered; storage vessels coarsely tempered and thick-walled; transport amphorae finely tempered and of varying thickness); and, sherd size, abrasion, and roundness (that is, to their relatively sensitivity to post-depositional transport and time in the plow zone).

When combined with the architectural mapping and interpretation by Hoff and Townsend, the team's two seasons of pottery work has enabled it to obtain an effective record of the surface remains of the Adanda Canyon. This includes effective data acquisition at all urban sites within the canyon as well as numerous "off-site" parcels of terrain offering high visibility (agricultural fields and firebreaks).

C. Other Research

Other, more experimental activities of the pedestrian team continued a pace. Wandsnider and Nebraska students continued to work with lichen counts on fallen rock and analysis of erosion patterns of sherds left exposed on the surface. Rauh and Matt Evans began recording measurements of limestone erosion to inscribed faces of in situ monuments (see figure 20). Rauh and Sarah Wood also compiled georeferenced data for olive and grape milling complexes in the survey zone (see Rauh et al. 2006; see figure 21).

Figures 20-21: Matt Evans measuring limestone erosion patterns on inscribed tomb facade at Selinus (left); Sarah Wood mapping press remains at Asar Tepe (right)

ARCHITECTURAL SURVEY

Rhys Townsend
Michael Hoff

The topographical and architectural mapping group was active in the field from July 25 to August 15, 2001. During this time our group was successful in mapping the topography and architecture of three large sites: Goçuk Asarı (RC 0030), Asar Tepe, and Govan Asarı (RC 0040). The activities of the group's operations and highlights from each site are detailed below. We would like to take this opportunity to thank our surveyor, Mr. Edward Connor, without whose energy and expertise we could not have completed the three sites in the short time period. Also, we acknowledge with gratitude the participation of several students who worked extremely hard under such adverse conditions to aid us in our research: Kelli Bacon, Maxwell Black, Alicia Coles, Matthew Evans, Eric Wade, and Sarah Wood (see figures 22-25).

Figures 22-23: Michael Hoff (left) and Rhys Townsend (right) working at Asar Tepe

Figures 24-25: Art Krispin, Matt Evans, Max Black, Eddie Connor, and Eric Wade prepare to cut a trail into Asar Tepe (left); Eddie Connor at Goçuk Asarı (right)

Figure 26: View of Goçuk Asari from the northeast

Figures 27-28: View of Goçuk Asari from northeast (left); plan of remains by Townsend and Hoff (right)

Goçuk Asari (RC 0030, a.k.a. Juliosebaste)

The first site we mapped was a hilltop location situated near the village of Göçuk, along an extended ridgeline running parallel to the coast; approximately 5 km inland (see figures 26-28). The architecture of this site is not well preserved. A local informant had mentioned that a small Greek community occupied the hill in the early 20th century AD. Perhaps this late occupation has disturbed much of the ancient remains. Surprisingly, however, we observed little if any trace of this modern occupation. Most of the ancient architectural remains appear to be confined to the eastern and southern slopes of the hill. One building that survives in a more complete state than others on the site is a bath building whose general layout resembles other examples in the region documented by our team. The bath consists of three rooms, all of which are oriented north-south, with two chambers apsidal. In addition to the general form of the building suggesting a bath, there are fragments of *suspensurae* strewn around the building as proof positive of its identification (see figures 29-30).

Figures 29-30: abscidal room to bath at Goçuk Asarı (left); fragmens of suspensurae at the bath (right)

Another building whose remains were intensively studied was a rock-cut tomb located on the western side of the site. This tomb consists of a single chamber with a false door and clipeata reliefs (see figures 31-32).

Figures 31-32: Façade of rock-cut tomb at Goçuk Asarı (right); setting for removable lid on rock cut tomb (right)

At the eastern end of the site there is preserved a large terrace wall composed of large, mortared stones; the wall survives to a height of over 2.5 meters. This wall can be traced over a distance of 14 meters, against which, immediately to its east, may be discerned a small rectangular court or entranceway. In antiquity, this rectangular court was a level platform, although it is now filled with debris. Further to the east, and slightly down slope, are the remains of some foundation walls of what once was 25 years ago, according to the local informant, a sizeable structure of which little trace remains today. To the south of this terraced structure, along the high ridge, is located a large rectangular structure, roughly 10 meters in length. The structure is poorly preserved; one course of wall remains along the S face. This course is composed of large ashlar masonry indicating a building of some importance. Fragments of several column drums were noticed close to the S face of this building, suggesting that this structure may have served as a covered portico. Within this structure, close to the

north edge, is located the statue base with the Juliosebaste inscription noticed and described last year (see figures 33-34).

Figures 33-34: Remains of rectangular structure at Goçuk Asarı (left); Statue base dedicated to “Rosin, son of Plous” by the “Demos of Juliosebaste” (right)

We tried to define the limits of the architecture by mapping all the exposed walls. In all, we mapped more than 30 separate structures, most likely houses and industrial/commercial buildings. With the exception of the bath, there is little if any major structures preserved at or above ground level at Goçuk to warrant classification of the site as an urban center. Yet the disturbances to the site in later times, plus what lies below the surface, could mask a different characterization.

Asar Tepe

Figure 35: View of Asar Tepe from the east

Figure 36: Plan of Asar Tepe by Townsend and Hoff

The hill-top site of Asar Tepe is the second of the three sites mapped by the architectural team. This site is located upon the same ridge line as Göçuk although further towards the northwest. Its position is marked on the ridge by a prominent knob-like projection that serves as the acropolis for the community (see figure 35). The architecture of this site extends from the top of the acropolis to the southern and eastern slopes (see figure 36). The eastern slope is less steep than the others and it is here on this side that much of the public architecture was located, including large ashlar constructed structures, previously identified as temples but which may be in fact monumental tombs, referred to in local inscriptions as *heroia*. At the highest point of the akropolis is a structure previously and correctly noted as a *bouleuterion* by Bean and Mitford (1965: 33). The foundations of the buildings and the numerous blocks have afforded some understanding of the general plan of the acropolis. The bouleuterion is rectangular in shape whose opening faces in a northerly direction. Seating was arranged on the east, west, and south sides. Column drums found on the north side indicate a columnar entryway along this facade, as well as the seat of honor found midway along the interior south side indicating a mid-point emplacement with view through the doorway (see figures 37-41).

Figures 37-38: South side seating in the bouleuterion at Asar Tepe; Seat of honor in the bouleuterion

Figures 39-40: Lion's head motif in the cornice blocks of the bouleuterion at Asar Tepe; fluted column fragment from the bouleuterion

Figure 41: 3-D reconstruction of the bouleuterion at Asar Tepe by Michael Hoff

West of the bouleuterion are the foundations for possibly a small temple facing north. This structure is two-chambered whose antae extend to the same line as the north facade of the bouleuterion. Because of the extension of the antae, this temple appears to have been distyle in antis. Additional remains to the north suggest that directly in front of these two buildings lay an open area or court which was itself bounded on the north by a portico. Another major building worthy of note is a bath. Located upon a flat ridge extending north from the acropolis, this structure consists of three long, adjoining chambers of equal length. The dimensions of the structure are 16.28 m by 9.28m. The central and western chambers are outfitted with apses oriented with a southern exposure; the eastern chamber is provided with a doorway on the S instead of an apse. Another chamber is located W of the western chamber, although this room has no visible signs of communication with the W chamber; it may have therefore functioned as the *prae-furnium*. Associated with the bath is a large underground and presumably vaulted cistern located nearby the bath to the southwest (see figures 42-43).

Figures 42-43: Apsed chambers of the bath at Asar Tepe

In addition to the major public architecture, the architectural team succeeded in mapping approximately 75% of the domestic and industrial/commercial structures of the site. These structures are located along the less steep slopes of the south and southeastern sides of the hill. It is clear that not all of these structures would have served as domestic units, as in two documented cases, press stones were found within these buildings, one of which was in situ (see figures 44-45). Based on the preserved remains, Asar Tepe appears to be one of the more densely populated sites within the study region.

Figures 44-45: In-situ olive press basin at Asar Tepe (left); olive crushing wheel at Asar Tepe (right)

Govan Asarı (RC 0040)

Figures 46-47: View of Govan Asarı (RC 0040) from the northwest (left); Plan of remains at Govan Asarı by Townsend and Hoff

The third and last inhabited site the architecture team mapped is located on a hill locally named Govan Asarı. Located southeast of Lamos, the hill belongs to the same ridgeline as Lamos yet is much lower in elevation. The hill is protected on all sides by steep slopes and cliffs save the SE where the slope is much gentler (see figure 46). It may be assumed that access to the site came from this direction. The architecture at this site may be characterized as scanty and unsubstantial with no recognizable forms of public buildings (see figure 47). We observed simple, probably domestic structures occupying the slopes of the hill, particularly along the north confines of the slope as well as the akropolis. Approximately 20 structures in all were noted at this site. One notable feature was a round vaulted cistern, preserved only to the height of the beginning of the vault's spring.

GEOLOGICAL SURVEY

F. Sancar Ozaner

A Geomorphological field survey was carried out in Gazipasa and its surroundings in the 2000 and 2001 summer seasons. The first year's field study lasted 10 days during the last part of August. During this time Ozaner studied the Hacimusa river and its tributaries and as well as Kizilin and Koru coastal plains at a reconnaissance level. Fieldwork in 2001 lasted between August 25 and September 8. Preliminary field observations conducted during the 2000 season identified deposits in five different locations for geophysical excavation. During the 2001 season, backhoe trenches were excavated to expose buried deposits 1) at an old lagoon deposit of the Hacimusa River and 2) at a sea cave near the Bickici River (see figures 48-49). Macrobotanical remains, microscopic charcoal, and pollen samples were stratigraphically extracted for analysis by Hulya Caner and by American laboratory facilities. The team also successfully negotiated with Turkish authorities to bring macrobotanical and petrological samples back to the US for analysis at appropriate laboratories.

Figures 48-49: Ozaner and Wandsnider direct backhoe operations in 2001 (left); locations of pollen trenches excavated in 2001 (right)

We devoted the first half of the field season in 2001 period to identifying and depicting the proper trench locations and, once excavated, studying trench sections. In all, five trenches were excavated. Geomorphological locations of the trenches were depicted by Ozaner according to detailed interpretation of aerial photos of the area taken in 1958 and 1972.

The locations of the trenches were as followings:

- Two trenches in the dried lagoon bottom of the Korudeniz Coastal Plain
- One trench on the ancient flood plain of the Hacimusa River (see figure xx)
- One trench in the valley bottom of the Hacimusa's tributary between Karadağ and Cebeli Tepe, about (1.5 km NE of the Hacimusa River mouth)
- One trench from deposits of Kizilin Cave which terminates the northern end of Gazipasa beach about 2 km north of the Hacimusa River mouth

Figure 50: Sancar Ozaner inspecting a terrace of the Hacimusa River

All trenches were excavated to an approximate depth of 4 meters except the Kizilin trench, where ancient beach gravel appeared at 3 meters depth. Since three of the trenches were rapidly inundated by leaching ground water, only two trenches yielded stratigraphical data, namely, one in the dried lagoon sediments near the Hacimusa River and the other in the Kizilin Cave. The sedimentological sections of these trenches were analyzed by Ozaner and Wandsnider. Systematic samples were obtained and forwarded to the laboratories of the General Directorate of Mineral Research and Exploration of Turkey (Geological Survey of Turkey) for purposes of lithological and depositional analysis. Data obtained through quick interpretation at the inundated trenches proved somewhat useful in determining the evolution of in filled valleys and dried lagunal areas in the Gazipasha watershed. In addition, Ozaner successfully prepared a geomorphological map at 1:25.000 scale from available 1:25.000 topographical maps.

A. Kizilin Cave Excavaton Trench

A trench through the cave deposits of the Kizilin Cave reached to 3 meters below surface, cutting silt, lime and charcoal stratas. It terminated at beach sand. Two charcoal levels in the section will furnish C-14 dating while samples taken in the silty zones will yield paleobotanical information. The cave at far northern side of Karadag (overlooking the mouth of Biçkici River) is still an active cave. Its karstic water is being pumped for drinking water to nearby neighborhoods. However, no cave development is occurring on the southern side of Karadag, because of the slate interbedded dolomitic limestones.

B. Koru Coastal Plain Excavation Trench

We successfully excavated a second backhoe trench to expose buried deposits at an ancient deposit of the Hacimusa River directly behind the Koru beach. Located about three kilometers southwest of Gazipasa between Kaletpe on the north and Selinti

Cape in the south, the Koru Beach and its adjacent coastal plain present themselves in the shape of an inverse triangle. The northwest trending beach is approximately 2275 m. in length while the breadth of the adjacent plain at its northern-most part reaches c.1250 m.

Koru Coastal Plain exhibits different types of coastal features i e. beach, beachrock, coastal dune, dried lagunal basin, and paleo- coastal spit. About two thirds of the coastal zone in the southern section is characterized by fossilized beaches (beach rocks) while the rest third in the northern section reflects a typical low-coast profile with sandy beaches, dunes and dried lagunal basins. On the northern part, where the coastal line is linear, the length of sandy beach is about 60-65 m. In contrast, the coastal line has an undulating pattern along its southern extent.

Stereoscopic interpretation of aerial photographs taken in 1958 reveals the existence of paleo- dried-lagunal areas extending about 1 km. in NE direction. This part appears to consist of two dried lagunal areas separated by a paleo- coastal spit. In the aerial photo paleo- lagunal basins are reflected in gray tones because of the higher water content of the clay, while the coastal spit shows up in lighter tones like beach sand due to the high permeability of its sand and gravel. The size of the older lagunal area is approximately 530 m in NE-SW and 1750 m in SE-NW direction, while the smaller, later lagoon basin extends about 300 m in a NE-SW and about 775 m in a SE-NW direction. A vast beach-rock zone occupies at the SE of this unit. The southern section of Koru Coastal Plain is occupied by intensive beach rocks. Beach-rock outcrops consist of a series of stratas that represent a repeated process of strongly cemented gravel, sandy gravel and sand layers. The cementing agent is calcium carbonate derived from the evaporation of lime-rich groundwater. Beach rocks are generally formed at the groundwater level of the beaches. When the groundwater is evaporated, the silica and/or lime in the groundwater becomes crystallized in the spaces between sand particles to bind the loose grains together. When the upper layers of loose sand are removed through wind erosion, the cemented part of the beach appears in the coastal zone as beach rock.

C. Analysis of Fluvial Development in the Gazipasha Watershed

Figure 51: View of the Gazipasha river basin system

There are three large rivers in the Gazipasha watershed. From north to south these are the Delice Dere, the Biçkici Dere, and the Hacimusa Dere (see figure 51). Ozaner's analysis had focused thus far on the Biçkici and the three extensive tributaries of the Hacimusa Dere (from north to south the Çiğlik (Çörüş), the Adanda and Beyrebucak (Delice) Çayı). During 2000 and 2001 seasons Ozaner conducted reconnaissance throughout the extended valleys of above-mentioned rivers; however, he completed detailed field checks only along their downstream portions. Particular attention has been paid to the Hacimusa River and its tributaries, in part because of the position of the ancient site of Selinus at the mouth of this fluvial system, and in part because the survey team itself has focused its work in the drainage basin of one of its tributaries, the Adanda River.

D. The Adanda Çayı

Figures 52-53: DEM view of the Adanda river basin (left); View of the upper reaches of the Adanda Canyon

The Adanda River, one of the most important arm of Hacimusa has a total length of approximately 22 km (see figures 52-53). The Adanda originates in the mountains southeast of modern Gazipasha at crests 1050-1100 m. in altitude. The Adanda becomes the Hasdere when it passes Hasdere village. Approximately 5 km. further downstream it merges with Beyrebucak Dere (Delice Çay), while approximately 1 km south of Gazipasha (near Gazipasha-Anamur Highway), it merges with the Hacimusa proper. Along its 17 km. downward course to Hasdere village, this tributary transverses Biçkici and Çamlıca geological formations in a deep valley known as Adanda. In this part, the river runs in a very deep "V" shape valley, whose depth (from the tops of surrounding ridges) attains c. 600 m. near Adanda Village. Within this section the river exhibits in a few locations a narrow (max. 40m in with) lower terrace about 1.5 m above the river channel. It is best to avoid use of the term, "floodplain", to describe the Adanda River valley bottom because its channel is narrowly confined and lacks a braided pattern. In addition, the dense vegetation that exists along its valley implies rare flooding. Dense forest cover on the both side slopes increase permeability and consequently prevents slope wash. Within the 17 km. length of the river course there is one location (about 750 m southeast of the Adanda Village) where two tributaries of Adanda (Soya Dere from the east and another brook from the north) join together to form a developed alluvial fan about 25 m. above the river bed. Its fluvial deposits have been incised by the tributaries in the mean time and transferred to a terrace-like level at that height.

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