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PROJECT FOR THE ROCK PAINTINGS IN CAPPADOCIA,
THE CHURCH OF THE FORTY
MARTYRS AT ŞAHİNEFENDİ

Maria ANDALORO

PROJECT FOR THE ROCK PAINTINGS IN CAPPADOCIA. THE CHURCH OF THE FORTY MARTYRS AT ŞAHİNEFENDİ

Maria ANDALORO*

The Tuscia University research mission “*Rock paintings in Cappadocia. For a project of knowledge, conservation and exploitation of the church of the Forty Martyrs at Şahinefendi and its territory*” took place between 27 August and 28 September 2007. This research mission is part of a bigger project called “*For a data bank of wall paintings and mosaics of Asia Minor (4th-15th centuries): images, materials, techniques of execution (1996-2010)*”, and follows the first phase conducted in Turkey on the island of Küçük Tavşan and on many other sites, like Mount Latmos, Manastır Dağ, Iasos, Kara Ada, Kisebükü, in the territory of the Gulf of Mandalya¹.

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The members of the research team that contributed to the 2007 campaign are: Prof. Dr. Maria Andalaro, Prof. Giuliano Bellezza, Prof. Marco Carpiceci, Prof. Ulderico Santamaria, Livia Alberti, Gaetano Alfano, Chiara Bordino, Silvia Borghini, Cristina Caldi, Rodolfo Fiorenza, Antonello Gamba, Paola Pogliani, Giuseppe Romagnoli, Daniela Sgherri, Giuliana Solimine, Domenico Ventura.

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- 1 See M. Andalaro, Küçük Tavşan Adası 1996 the Wall-Paintings: Chronological Sequence, Technique and Materials in *The XV International Symposium of Excavations, Survey and Archaeometry*, (Ankara, 26-30 May 1997) Ankara 1998, pp. 183-200; Eadem, Küçük Tavşan Adası: 1997 Report in *The XVI International Symposium of Excavations, Survey and Archaeometry* (Tarsus, 25-29 May 1998), Ankara 1999, pp. 183-201; Eadem, Küçük Tavşan Adası: 1998 Report in *The XVII International Symposium of Excavations, Survey and Archaeometry* (Ankara, 24-28 May 1999), Ankara 2000, pp. 109-122; Eadem, Küçük Tavşan Adası: 1999 Report in *The XVIII International Symposium of Excavations, Survey and Archaeometry* (Ankara, 22-26 May 2000), Ankara 2001, pp. 87-102; Eadem, Küçük Tavşan Adası Fifth Campaign Balance and Perspectives in *The XIX International Symposium of Excavations, Survey and Archaeometry* (Ankara, 8 May-1 June 2001), Ankara 2002, pp. 125-136; Eadem, Küçük Tavşan Adası: 2001 Report in *The XX International Symposium of Excavations, Survey and Archaeometry* (Ankara, 27-31 May 2002), Ankara 2003, pp. 153-168; Eadem, Küçük Tavşan Adası: 2002 Report in *The XXI International Symposium of Excavations, Survey and Archaeometry* (Ankara, 26-31 May 2003), Ankara 2004, pp. 211-224; Eadem, *Le pitture della chiesa di Küçük Tavşan Adası in Asia minore*, in *Le vie del Medioevo* a cura di A. Quintavalle (Atti del Convegno Internazionale di Studi, Parma, 28 maggio-1 ottobre 1998), Milano 2000, pp. 73-87; Eadem, Küçük Tavşan Adası: 2003 Report in *The XXII International Symposium of Excavations, Survey and Archaeometry*, Ankara 2006, pp. 41-44; Eadem, Küçük Tavşan Adası: 2004 Report in *The XXIII International Symposium of Excavations, Survey and Archaeometry* (Antalya, 30 May-3 June 2005), Ankara 2006, pp. 44-56; Eadem, Küçük Tavşan Adası: Final Report 1996-2005, (Çanakkale, 24 May-2 June 2006) Ankara 2007, pp. 1-14.

The general purpose of the project is to set up a data base, which we have called "Egeria", that will bring together the results from an integrated scheme of analyses and documentation with the aim of improving our knowledge of the extraordinary cultural and historical heritage of medieval pictorial art in Asia Minor, and, at the same time, establish a basis that will enable us to better handle the problems linked to its conservation.

The second phase of the main project (2006-2010)² involved the church of the Forty Martyrs at Şahinefendi³ and a group of pictorial decorations in the region of Ürgüp, Cappadocia, at the sites indicated on the map (Fig. 1).

The principal aim of the 2007 campaign was to make a study and analysis of the pictorial complex of the church of the Forty Martyrs at Şahinefendi, in order to draw up the restoration project that is to be implemented and which will be presented synthetically in the Second Path. At the same time, the paintings of a group of churches in the region of Nevşehir were analyzed.

The success of the main project and of the 2007 campaign was made possible due to the helpfulness of the General Direction of Monuments and Museums of the Turkish Republic.

For the 2007 survey, in particular, we are greatly indebted to the deputy of the Cultural Ministry, Nilüfer Güllü of the Archeological Museum of İzmir, who has always shown great interest in our research (Fig. 2). I should further like to thank Halis Yenipinar, director of the Museum of Nevşehir, and Murat Gülyaz, archaeologist at the same museum, for having supported and facilitated our activities in the territory. Angela Tangianu, director of the Italian Institute of Culture in Ankara, always is beside us in the making of our projects and works in Cappadocia.

The research and activities of the 2007 campaign attained the following results:

at Şahinefendi:

- geomorphological and topographical analysis of the territory;
- 3D relief and model of the church and annexed spaces;

2 For the 2006 campaign see M. Andaloro, *Rock Paintings of Cappadocia: Images, Materials and State of Preservation in The XXV International Symposium of Excavations, Survey and Archaeometry* (Kocaeli, 28 May-1 June 2007), Ankara 2008, pp. 163-178.

3 G. de Jerphanion, *Une nouvelle province de l'art byzantin. Les églises rpestres de Cappadoce*, II, Paris 1932, pp. 156-174; M. Restle, *Byzantine Wall-painting in Asia Minor*, I, Greenwich 1967, pp. 64-65, pp. 158-160; C. Jolivet-Lévy, *Les églises byzantines de Cappadoce: le programme iconographique de l'abside et de ses abords*, Paris 1991, pp. 205-207; C. Jolivet-Lévy, *La Cappadoce médiévale. Images et spiritualité*, St. Léger Vauban 2001 (ed.it. *L'arte della Cappadocia*, Milano 2001), pp. 44-45, p. 85, pp. 127-128, p. 142, pp. 194-195, p. 200, p. 274, pp. 338-339, pp. 341-342, p. 347; N. Thierry, *La Cappadoce de l'antiquité au moyen âge*, Turnhout 2002, p. 110, p. 215, p. 216, f. 49b.

- documentation of the state of conservation of the pictorial decoration;
- sampling of materials, technique of execution and forms of deterioration;

at the other sites:

- analyses of the pictorial decoration;
- photographic documentation.

FIRST PATH

a) *The Church Of The Forty Martyrs At Şahinefendi*

b) *The Other Sites*

a) THE CHURCH OF THE FORTY MARTYRS AT ŞAHİNEFENDİ

The church of the Forty Martyrs is situated on the road between Ürgüp and Soğanlı, in a zone where the rocky landscape is characterized prevalently by the typology of *cones*, which together with *pinnacles* and *waves*, are the most widespread forms of erosion in Cappadocia. For the purposes of our project, an in-depth knowledge of the geomorphological structure of the site will be a crucial element in planning the conservation projects of the individual rocky complexes.

Topographical research that was systematically conducted in the area surrounding the church has singled out the presence of a large rocky settlement in the conical tufaceous formations situated along the southern slopes of the *Orta Tepe*, a high ground between the villages of Şahinefendi and Taşkınpaşa (Fig. 3).

The settlement is composed of at least one hundred grottoes, dug out in different epochs and used for multiple functions that remained in use well into the modern era. Some of the cones were dug out in the Byzantine period as demonstrated by the presence, for example, of two funerary chapels and some arcosolium-type tombs.

The topographical research has shed light on the composition of the entire settlement, of which up to now two monastic units have been singled out: the complex known as *Altı Parmak Kilisesi* (Fig. 4), which the church of the Forty Martyrs is part of, and a second more northerly one called *Beş Parmak Kilisesi* (Fig. 5).

The architectonic study of the church and the annexed areas can now

avail itself of a 3D digital model, created by means of groups of point clouds with a laser scanner. The use of a high definition instrument like the modern laser scanner has made it possible to survey the complicated and irregular architectonic structure of the building, something that was impossible to do with traditional systems (Fig. 6).

Herewith follow the results of the research and investigations relative to the pictorial decoration of the church of the Forty Martyrs.

The paintings have been analyzed both from a historic-artistic point of view and, in a special manner, from those aspects that concern the state of conservation.

With regard to the first point of view, a survey of the about forty painted inscriptions in particular has been carried out, the aim being to verify their content and compare them with the transcriptions made by Guillaume de Jerphanion, who, in 1911, discovered and documented the church and the paintings at Şahinefendi with maps, graphics and photographs⁴. The survey documents the substantial correspondence between the *corpus* of the existing inscriptions and Jerphanion's transcriptions, and therefore attests to the fact that there have been no significant losses of the painted plaster in the last hundred years.

As to the second point of view, a scaffold provided by the Museum of Nevşehir has made it possible to study in depth the state of conservation of the support, the preparatory layers and the pictorial surface by means of a meticulous direct observation.

As is evident, there are numerous factors of deterioration of the pictorial surface that affect an interpretation of the paintings, preventing an appreciation of their quality, vivacity and, in some cases, their iconographic structure.

The painting is entirely covered by a layer of lampblack caused by the lighting of fires inside the church (Fig. 7).

Further, it is affected by:

- lacunae of small and medium size produced by vandalistic acts of an iconoclastic matrix and by more general acts of vandalism such as the launching of stones, blunt objects and various instruments (Fig. 8);

- graffiti, writings, scratches and abrasions that cover the more easily reached areas (Fig. 9);

- falling and detached pieces of colour, above all in correspondence to the applications of green colour;

- phenomena of de-cohesion of the finishing touches, in particular those in

4 G. de Jerphanion, *Une nouvelle province*, II, pp. 156-174.

red and black.

The plaster instead adheres well to the rocky support. The few phenomena of disintegration and detachment are localized in correspondence to the structural lesions and the more violently hurled rocks.

The rocky support displays the characteristic phenomena of deterioration of compact rock of volcanic origin that constitutes the cone into which the church was dug, as well as phenomena of flaking and disintegration inside and outside the building.

In line with the most advanced methodologies for surveying the state of conservation of mural paintings, all the data collected regarding the pictorial complex of the church of the Forty Martyrs have been mapped on a photographic base and registered on computerized thematic tables of the AutoCAD programme (Fig. 10).

The analytic-scientific plan has made 27 samples of different typologies of materials (pigments and mortars) and various types of deterioration (encrustations, superficial deposits, chromatic alterations), with a double finality:

- to acquire indispensable data and information for drawing up the restoration project of the paintings and implementing it;

- to increase the data bank of the constituent materials of mural paintings that was set up during the missions in Turkey starting in 1997 and to integrate the investigations carried out in Cappadocia during the 2006 campaign.

The results of the analytic-scientific plan were the subject of a specific report in the archaeometry section of the Symposium by Prof. Ulderico Santamaria, director of the Diagnostic Laboratory for Conservation and Restoration of the University of the Tuscia.

b) THE OTHER SITES

During the 2007 campaign, along with the church of the Forty Martyrs

5 N. Thierry, M. Thierry, *Eglise de Kizil Tchoukour, chapelle iconoclaste, chapelle de Joachim et Anne*, in "Monuments et Mémoires publiés par l'Académie des Inscriptions et Belles-Lettres", 50, 1958, pp. 105-146; M. Restle, *Byzantine Wall-painting*, I, pp. 25-26, pp. 144-145; A. Wharton Epstein, *The iconoclast churches of Cappadocia*, in *Iconoclasm. IX Symposium of Byzantine Studies*, Birmingham 1975 (1977), pp. 108-110; C. Jolivet-Lévy, *Les églises byzantines*, pp. 47-50; Nicole Thierry, *L'iconographie cappadocienne de l'affront fait à Anne*, in "Apocrypha", 7, 1996, pp. 261-272; C. Jolivet-Lévy, *La Cappadoce médiévale*, p. 56, p. 160, p. 305, p. 306; N. Thierry, *La Cappadoce de l'antiquité*, pp. 122-123; f. 14.

of Şahinefendi, the pictorial complexes of the church of Saints Joachim and Anne at Kızıl Çukur⁵ and nine other churches located in the region south of Ürgüp were examined: Cambazlı Kilise⁶ and the church on the Ali Reis road⁷ (Ortahisar), Hagios Basilios⁸ and the church of Saints Apostles⁹ (Mustafapaşa), Maziköy Kilisesi (Mazi)¹⁰, Elias Kilisesi (İltaş)¹¹, Ayvalı Kilisesi¹² (Ayvalı), Hagios Stephanos¹³ and Arcangelos¹⁴ (Cemil) (Fig. 1).

This complexes were examined with a double finality:

-to acquire an in-depth picture of the development of painting in the region;

-to take note of significant similarities with the paintings of the church of the Forty Martyrs.

- 6 N. Thierry, *Haut Moyen Age en Cappadoce. Les églises de la région de Çavuşin*, I, Paris 1983, p. 52 ; C. Jolivet-Lévy, *Les églises byzantines*, pp. 195-198 ; C. Jolivet-Lévy, *La Cappadoce médiévale*, p.127, p. 134, p. 142, p. 173, p. 217, p. 340.
- 7 C. Jolivet-Lévy, *Les églises byzantines*, pp. 198-199; C. Jolivet-Lévy, *La Cappadoce médiévale*, p. 147, p. 173, p. 174.
- 8 G. de Jerphanion, *Une nouvelle province*, II, pp.105-111; J. Lafontaine-Dosogne, Pour une problématique de la peinture d'églises byzantines à l'époque iconoclaste, in « *Dunbarton Oaks Paper* », 41, 1987, pp.329-330 ; C. Jolivet-Lévy, *Les églises byzantines*, pp. 184-186 ; C. Jolivet-Lévy, *La Cappadoce médiévale*, p. 39, p. 40, p. 56, p.160, p. 339; N. Thierry, *La Cappadoce de l'antiquité*, pp. 136-137 , f. 19.
- 9 N. Thierry, *Haut Moyen Age en Cappadoce*, I, p. 51, p. 54, p. 128, p. 132, p. 138, p. 141, p. 144, p. 151, pp. 170-171; C. Jolivet-Lévy, *Les églises byzantines*, pp. 179-182 ; C. Jolivet-Lévy, *La Cappadoce médiévale*, p. 45, p. 94, p. 142, p. 158, p. 159, p. 191, p. 201, p. 226, p. 258, p. 384, p. 386; N. Thierry, *La Cappadoce de l'antiquité*, p. 110 ; p. 144 ; p. 149.
- 10 C. Jolivet-Lévy, *Les églises byzantines*, pp. 177-178; N. Thierry, *Haut Moyen Age en Cappadoce*, II, Paris 1994, p. 250, p. 252, p. 369; C. Jolivet-Lévy, *La Cappadoce médiévale*, p. 138, p. 345; N. Thierry, *La Cappadoce de l'antiquité*, p. 46 , f. 1.
- 11 C. Jolivet-Lévy, *Le Canon 82 du Concile Quinisexte et l'image de l'Agneau: à propos d'une eglise inédite de Cappadoce*, in *Mélanges en l'honneur de Doula Mouriki*, DXAE, 4, 17, pp.45-52; C. Jolivet-Lévy, *Les églises byzantines*, pp. 67-169 ; Jolivet-Lévy, *La Cappadoce médiévale*, p. 128 ; p. 300; N. Thierry, *La Cappadoce de l'antiquité*, p. 149, 152.
- 12 C. Jolivet-Lévy, *Les églises byzantines*, pp. 151-154; Jolivet-Lévy, *La Cappadoce médiévale*, p. 45, p. 79, p. 83, p. 126, p. 137, p. 142, p. 143, p. 161.
- 13 G. de Jerphanion, *Une nouvelle province*, II, pp. 146-155; M. Restle, *Byzantine Wall-painting*, I, pp. 16-17, pp. 156-157; N. Thierry, *Haut Moyen Age en Cappadoce*, I, pp. 1-33; C. Jolivet-Lévy, *Les églises byzantines*, pp. 161-163 ; C. Jolivet-Lévy, *La Cappadoce médiévale*, p. 35, p. 335 ; N. Thierry, *La Cappadoce de l'antiquité*, pp. 119, 124-125, 126, 130, 131, 133, f.15.
- 14 G. de Jerphanion, *Une nouvelle province*, II, pp. 128-145 ; M. Restle, *Byzantine Wall-painting*, I, p. 155 ; L. Rodley, *Cave Monasteries of Byzantine Cappadocia*, Cambridge University press 1985, pp. 157-160; C. Jolivet-Lévy, *Les églises byzantines*, pp. 157-160 ; C. Jolivet-Lévy, *La Cappadoce médiévale*, p. 137, p. 139, p. 143, p. 147, p. 158, pp. 201-202, p. 255, p. 304, p. 339, p. 342 ; N. Thierry, *La Cappadoce de l'antiquité*, p. 98, p. 187, f. 15.

With regard to the first objective, the resulting picture is chronologically rich in evidence, ranging from the more ancient paintings of aniconic character in the church of Saint Basil (Fig. 11) to the pictorial cycles of the 13th century, and well-articulated regarding historic-artistic problems.

As for the second objective, significant similarities have been noted in particular between the paintings of Şahinefendi and those of Cambazlı Kilise and the church on the Ali Reis road, both at Ortahisar (Fig. 12).

In the methodological system focalized in the course of the project "*For a data bank of wall paintings and mosaics of Asia Minor (4th-15th centuries): images, materials, techniques of execution (1996-2010)*", an essential instrument for the interpretation of the various levels of the paintings was photography. In addition to its customary documentary function, employed extensively and systematically during the different campaigns, its two other roles are to be emphasized:

- photography as a guide for understanding the relationship between wall paintings and the architectural context;

- photography as a guide for the restitution of a series of characteristics that are iconographic, executive and pertinent to stylistic modalities, using photos that proceed from the general to the particular so as to render explicit the constituent structures of painting.

SECOND PATH: CONSERVATION PLANNING PROJECTS OF THE CHURCH OF THE FORTY MARTYRS IN ŞAHİNEFENDİ

The data collected on the basis of the diagnostic plan and the documentation regarding the state of conservation have become the foundation of the restoration project for the wall paintings of the church of the Forty Martyrs.

In this path, a fundamental role has been the carried out by the execution of 9 cleaning tests. The tests were made with the approval of the Nevşehir Kültür ve Tabiat Varlıklarını Koruma Kurulu Bölge Müdürlüğü müdürü, and under the supervision of Fazıl Açıkgöz, director and restorer of the Archaeological Museum of Niğde. It is pleasurable to recall the atmosphere of authentic collaboration and participation that characterized that moment of the mission. Our sincere thanks to the members of the commission and to Fazıl Açıkgöz.

It was decided to use different materials and methodologies for each test; these were chosen in consideration of the diverse states of conservation of the pictorial surface and of the tenacity of the layers to be removed. The basic objective was to single out a level of cleaning that would eliminate the deposits altering the chromatic values of the paintings; yet at the same time guarantee their integrity.

The best results were obtained with water (tests 4 and 5) and with weak basic solutions of ammonium salts (tests 2B, 3A, 6 and 7). The intervention of Prof. Ulderico Santamaria is again to be referred to for a detailed report of the procedures and materials employed, and in particular to the experimentation of laser technology for the removal of the carbonous substances deposited on the wall paintings and on the rocky support (Fig. 13).

The data collected and the cleaning tests employed showed that there was a very good possibility of recovering the paintings, even when the technique of execution was characterized by broad prevalently *secco* applications probably on lime plaster (Fig. 14).

The restoration project foresees a duration of work of four years (2008-2011), and -together with the cleaning of the entire painted surface (around 72 m²) and the consolidation of the preparatory layers and the pictorial surface- a complex and delicate phase of integration for the aesthetic presentation of the paintings. Along with the work on the paintings, there will be interventions of cleaning, consolidation and re-integration of the stone surfaces of the interior and the exterior of the rocky cone. The project elaborated during the course of the 2007 campaign was presented to the General Direction of Monuments and Museums last autumn.

In conclusion, I am pleased to inform that the course of the mission of research and conservation in Cappadocia will be periodically accompanied by initiatives destined to communicate the experience and results of the mission at a variety of levels.

The first of these initiatives entitled "Land of rocks and paintings. Cappadocia and the Mediterranean" took place at the University of the Tuscia at Viterbo from the 19th to the 21st of June and it included three different yet parallel sections (Fig. 15):

- the section of verbal communication;
- the section of visual communication by means of photographic exhibitions;
- the screening of the film 'Medea' directed by Pier Paolo Pasolini, of 1969, some parts of which were shot in Cappadocia.

The verbal section was articulated in three parts: general and particular reports and the presentation of the project.

The photographic exhibitions constituted the visual counterpoint of the project.

Three was the photographers: Rodolfo Fiorenza, Gaetano Alfano and Domenico Ventura. They are the same ones who have always accompanied our survey and study campaigns in Turkey. Two were the thematic units: the first, of a documentary character, reflected all the aspects of the mission's work; the other related Cappadocia, a land of rocks and paintings, as interpreted by

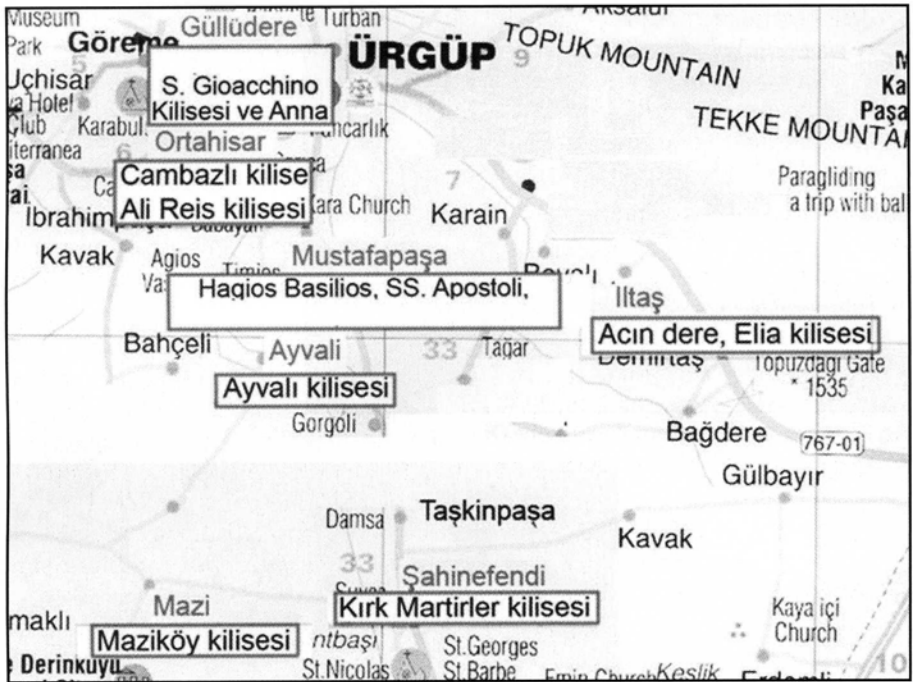


Fig. 1: Map of the other sites located in the region south of Ürgüp

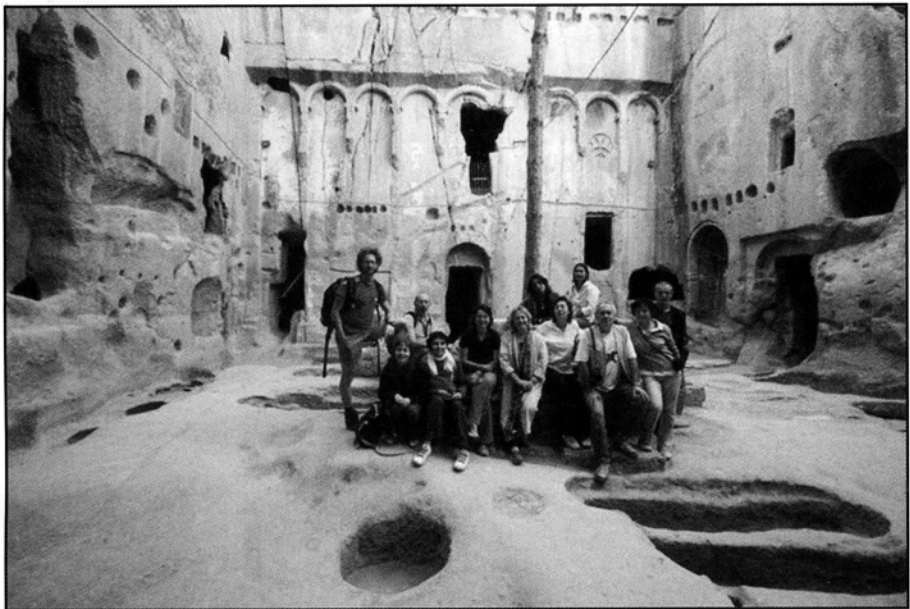


Fig. 2: 2007 Survey's team

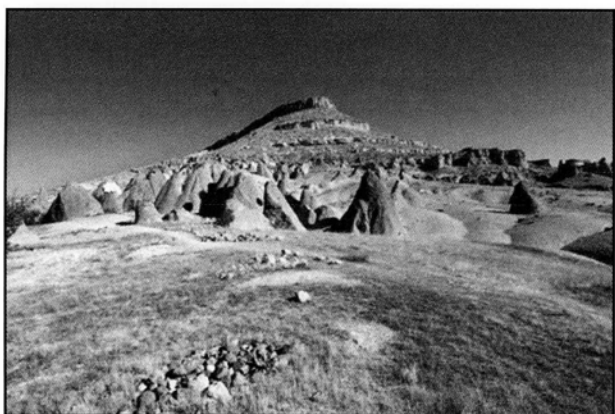


Fig. 3: Şahinefendi, southern slopes of the Orta Tepe

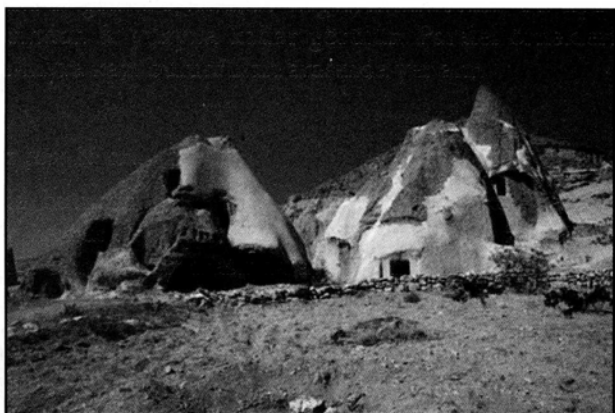


Fig. 4: Şahinefendi, church of the Forty Martyrs, external view

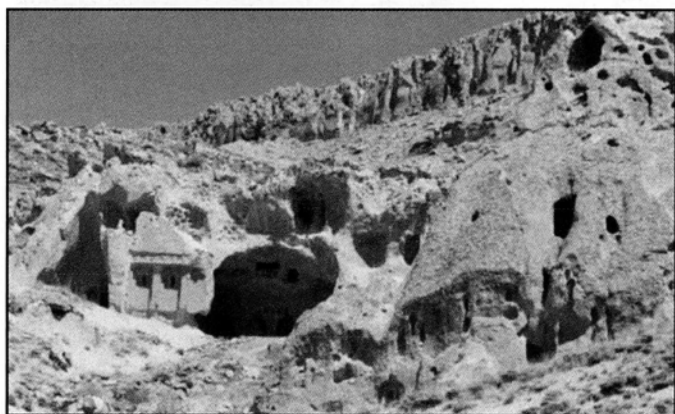


Fig. 5: Şahinefendi, Beş Parmak kilisesi, external view

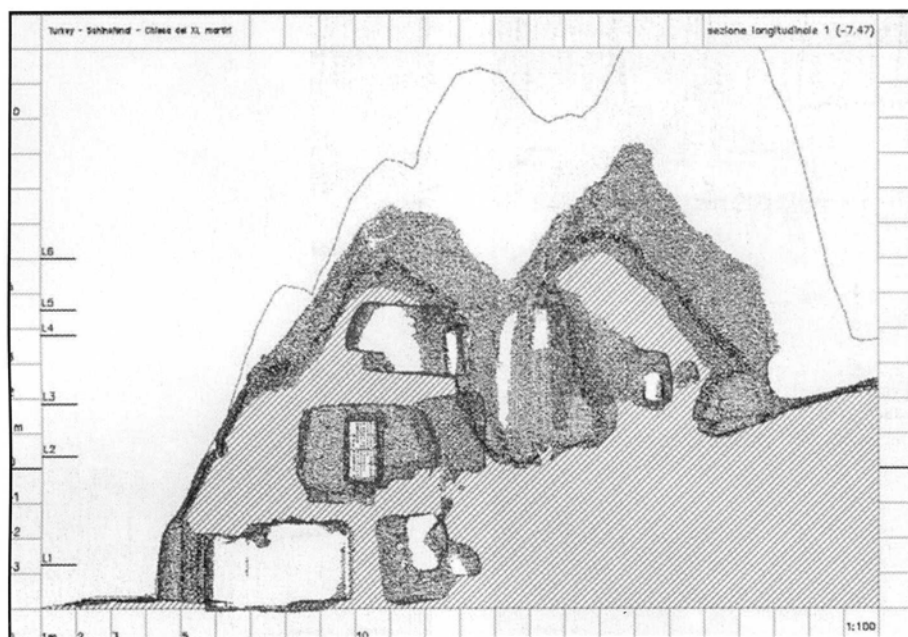


Fig. 6: Şahinefendi, church of the Forty Martyrs, 3D digital model



Fig. 7: Şahinefendi, church of the Forty Martyrs, general view of the vault of the south nave



Fig. 8: Şahinefendi, church of the Forty Martyrs, lacunae



Fig. 9: Şahinefendi, church of the Forty Martyrs, graffiti



Fig. 10: Şahinefendi, church of the Forty Martyrs, mapping of the state of conservation with AutoCAD programme



Fig. 11: Mustafapaşa, church of Saint Basil, internal view



Fig.12: Şahinefendi, church of the Forty Martyrs, Arcangelos - Ortahisar, church on the Ali Reis road, Arcangelos

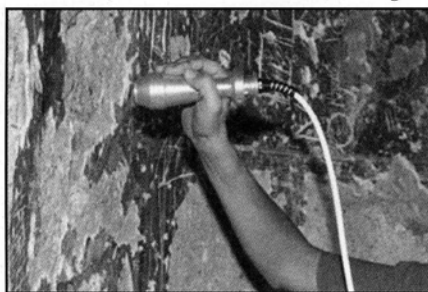


Fig. 13: Şahinefendi, church of the Forty Martyrs, execution of a cleaning test with laser technology

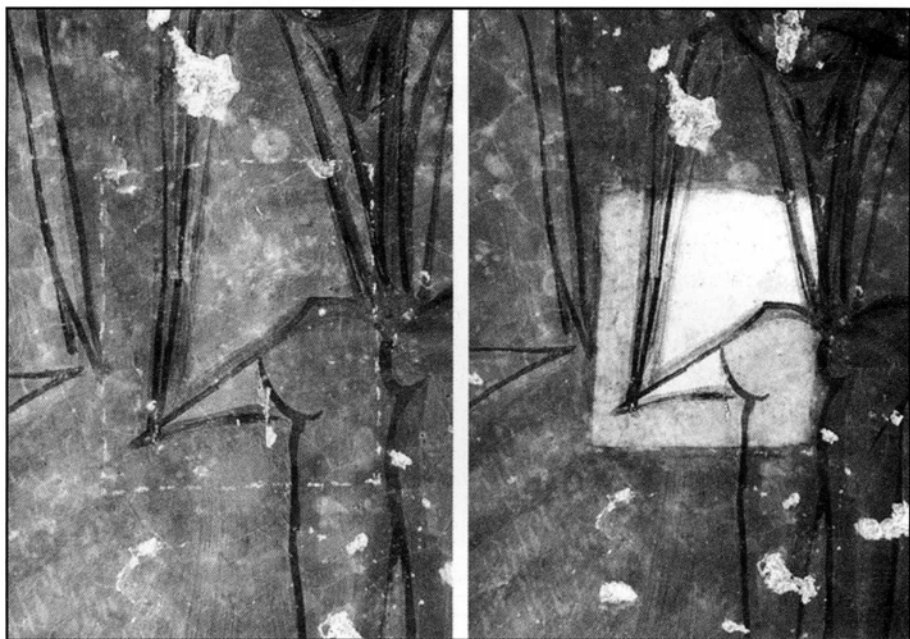


Fig. 14: Şahinefendi, church of the Forty Martyrs, cleaning test



Fig. 15: Poster of the conference "Land of rocks and paintings. Cappadocia and the Mediterranean"