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Centro Regionale  
per la Progettazione  
e il Restauro



INTERNATIONAL  
COMMITTEE  
FOR THE CONSERVATION  
OF MOSAICS

# 10<sup>a</sup> CONFERENZA DEL COMITATO INTERNAZIONALE PER LA CONSERVAZIONE DEI MOSAICI (ICCM)

## THE 10<sup>TH</sup> CONFERENCE OF THE INTERNATIONAL COMMITTEE FOR THE CONSERVATION OF MOSAICS (ICCM)

LA CONSERVAZIONE: UNO STRUMENTO DI CONOSCENZA  
CONSERVATION: AN ACT OF DISCOVERY



PALERMO, 20•26 OCTOBER 2008

A cura di

**D. MICHAELIDES**

(con la collaborazione di A.-M. Guimier-Sorbets e R. Nardi)



Centro Regionale per la Progettazione ed il Restauro  
e per le Scienze Naturali ed Applicate ai Beni Culturali  
Palermo

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OMAGGIO

- Pag. 696 L'ambiente della *cenatio* della Villa Romana di Faragola: acquisizioni e scelte conservative  
*M.C. Laurenti, A. Altieri, C. Cacace, E. Giani, E. Huber, P. Santopadre, A. Martinelli*
- Pag. 705 Metal-leaf glass tesserae: the launch of a new research on Greek byzantine monuments  
*P. Loukopoulou, A. Moropoulou*
- Pag. 709 Alcune ipotesi sulle tecniche costruttive dei *sectilia* parietali  
*A. Lugari*
- Pag. 714 "Charts" analitico-grafiche degli apparati musivi della Villa Romana del Casale Piazza Armerina (En), schedatura propedeutica per il progetto d'intervento  
*P. Lupo*
- Pag. 721 Valutazione dell'efficacia dei biocidi nel sito archeologico della Villa Imperiale del Casale di Piazza Armerina  
*G. Miceli, I. Milazzo, L. Vinci*
- Pag. 726 The conservation of a unique *opus sectile* mosaic panel composed of glass *crustae* from Caesarea Maritima, Israel  
*J. Neguer*
- Pag. 734 Gli studi delle lesene in mosaico rotato del Duomo di Monreale: modelli figurativi e proprietà geometriche  
*G. Oddo, M. C. Cigna*
- Pag. 742 Advanced mosaic training and restoration practices in Damascus, Syria - from January 6 to July 7, 2008  
*P. Racagni, P. Perpignani*
- Pag. 748 Hippos (Sussita) churches reveal their mosaic floors  
*E. Radziejowska-Parandowska, J. Burdajewicz*
- Pag. 757 Bioerosione di pavimentazioni musive sommerse  
*S. Ricci, G. F. Priori, M. Bartolini*
- Pag. 769 Study of materials and technology of the preparatory layers of ancient floor mosaics  
*V. Starinieri, I. Papayianni, M. Stefanidou*
- Pag. 776 De la découverte à la présentation, le traitement des mosaïques de fouilles de sauvetage urbain : le cas d'Alexandrie  
*H. Teufik, A.-M. Guimier-Sorbets*
- Pag. 784 Conservation and restoration treatments in the Four Rivers of Paradise Baptistery, early Christian Basilica, Plaoshnik, Ohrid  
*N. Upevche*



## **HIPPOS (SUSSITA) CHURCHES REVEAL THEIR MOSAIC FLOORS**

Ewa RADZIEJOWSKA-PARANDOWSKA, *National Museum in Warsaw, Poland*

Julia BURDAJEWICZ, *Faculty of Art Conservation and Restoration, Academy of Fine Arts in Warsaw\*, Poland*

Hippos (Sussita) of the Decapolis is located on the east shore of the Sea of Galilee. Founded as a Greek settlement, it developed as a city in Roman imperial times. During the Byzantine period, Sussita reached the peak of its growth and served as a seat of a bishop, and eight churches have been tentatively identified in the area so far. Its history, over eleven centuries long, suddenly ended in AD 749 due to an earthquake that sealed the city under layers of stones.

Excluding a short rescue excavation conducted by Claire Epstein in the 1950s, and research on the aqueduct by an Israeli-German team in the 1990s, the site remained untouched until 2000 when an international project of uncovering the city was initiated. Every summer since then, an Israeli-Polish-American team, representing the University of Haifa, the Polish Academy of Sciences (jointly with the National Museum in Warsaw and the University of Warsaw) and Concordia University in St. Paul, Minnesota, has been conducting archaeological excavations at the site. Professional conservators, Ms Ewa Radziejowska-Parandowska (National Museum in Warsaw) and her assistant Ms Julia Burdajewicz (Faculty of Art Conservation and Restoration, Academy of Fine Arts in Warsaw) assist the team of archaeologists. They are responsible for conducting and supervising conservation that makes the exploration secure and protects the structures and portable items discovered. The period for conducting conservation is limited to the excavation season, which lasts just four weeks each year. After that, the site remains unguarded so various means of protecting it have to be prepared in advance.

The project includes the exploration of the public and sacred buildings and the defensive structures of the city. Among several churches known to have existed in Byzantine-period Hippos, three had been uncovered: the so-called North-West Church, the North-East Church and the South-West Church (the exploration of which is not yet complete) (Fig. 1). They all appear to have been constructed during the 6<sup>th</sup> century and they are decorated with mosaic floors. Although similar in age and technique of execution, the mosaic floors vary in their state of preservation and represent a range of conservation problems that have to be solved during each excavation season.

### PROTECTING MOSAICS *IN SITU*

As each time the conservation is limited to the area excavated during the four weeks of fieldwork, its main principle is to ensure an *in situ* protection through temporary conservation treatment (Fig. 2). Depending on the state of preservation, it is necessary to prepare a precise and individual plan of all the necessary treatments, and smoothly apply them to the mosaics. Preliminary activities include the unearthing and cleaning of the mosaic's surface in order to make it legible for documentation and for evaluating the degree of deterioration. Then all the fragments are reinforced by applying mortar bands to the edges, filling big lacunae with lime-based mortar and reconstructions of minor gaps with loose tesserae collected during the exploration. Finally, the strengthened mosaic pavement is re-buried (see below). All these activities are accompanied by a full descriptive and photographic documentation.

### TRANSFERRING FRAGMENTS OF MOSAIC PAVEMENTS

Despite the general principle of protecting the mosaics *in situ*, and the short working period, which prevents the conservators from conducting complicated and time-consuming treatments, in three cases so far a decision had to be taken to lift the mosaics. One of these occurred in the North-East Church compound, where a section of the nave with two layers of mosaic floors was found. Preserved patches of the upper mosaic were documented *in situ* and then lifted in order to allow the stabilisation of the lower mosaic. A similar action was taken with regard to the remains of a mosaic that had collapsed on the ground floor from one of the rooms of the upper floor. It broke into pieces, which were large enough to be faced and then lifted.

The reasons for lifting a mosaic in the South-West Church were different. The relatively bad state of preservation of the mosaic floor of the southern aisle encouraged conservators to lift it in order to allow archaeologists to make a trial trench under the floor (Fig. 3). While a lifted section of the seriously damaged mosaic (c. 1 x 2 m) was undergoing treatment in the field laboratory, earlier floors and deposits were examined by the exploration team in order to determine the history of the building. After the archaeological investigation was completed, a new bedding was prepared according to the technique used for the original floor, and the mosaic was relayed in its initial position (Fig. 4).

### COORDINATING ARCHAEOLOGY AND CONSERVATION ACTIVITIES

The proper combining of archaeology and conservation within one site turns out to be a crucial issue, and not only in the above-mentioned case of the trial pit opened in the South-West Church. Emergency conservation work follows

the exploration of new areas within the entire architectural context. Therefore, special attention and an ability for the accurate planning is constantly required, in order to avoid technical and organisational conflicts with the progress of the archaeological investigation.

Frequently, the conservation treatment results in discoveries, which are important from the archaeological point of view. A simple process of removing a thick layer of dirt covering the surface of a mosaic usually reveals details of the colours and patterns of the pavement. This, of course, contributes significantly to the archaeological interpretation (Fig. 5).

#### TRAINING OF THE RESTORATION TEAM

Most of the excavators are inexperienced volunteers. Every season, the professional conservators provide the basic practical training for all those directly involved in the protection and maintenance of the mosaics (Fig. 6). The conservation programme, as well as the choice of materials and tools, is based on locally available supplies.

#### DOCUMENTATION AS AN ACT OF DISCOVERY

Hand-drawn plans, photographic and descriptive documentation of the condition of the mosaics and of the treatments applied are carefully prepared. Based on these and computer graphic programmes, a digital reconstruction of the full extent of the mosaics can be prepared, as in the case of the mosaic decorating the nave of the North-West Church.

Only about 20% of the mosaic floor of the nave, and 30% of that of the presbytery survived the earthquake. The decoration of the nave, probably pertaining to the second phase of the church (second half of the 6<sup>th</sup> century), was composed of simple geometrical and floral patterns. Despite the scanty remains, it is certain that the area located in the middle of the nave was decorated with a pattern distinctly different from the rest. Small patches of the central pattern, displaying a two-strand guilloche, and fragments of circles and of a frame were found at c. 3.30 m to the east of the main entrance to the church, on the axis of the nave. Located nearby, there were scanty remains of another motif. All these elements gave us the presumed image of a central panel with a medallion in the middle, a type of composition quite common in the decoration of mosaic floors in a good number of Byzantine buildings.

Very gentle sweeping of the nave revealed some areas where some mortar bedding had survived. This was in a very bad condition, tending to break and crumble, its area not exceeding 15% of the whole surface of the nave. However, it was precisely this bedding that provided some of the most important information, since it was still carrying some distinct imprints of the



lost tesserae. The examination of these imprints allowed us to retrace both the extent of the panel and the general design of its pattern. After defining the corners of the roughly square panel by analysing the tesserae imprints in the bedding, it became clear that its dimensions were 3.14 x 3.05 m. The medallion, inscribed in the panel, was composed of an interwoven two-strand guilloche and a torus cable. This interlace must have created eight smaller circles and, most likely, a large circle in the centre of the medallion. Unfortunately, the motifs filling the corners and the circles of the central composition in the North-West Church will remain unknown. Taking into consideration the general stylistic trends of the floor decoration, it is most likely that geometrical or simple vegetal motives were used there too. A commemorative inscription may have been inserted in the central field of the medallion – but, unfortunately, nothing survives.

A general plan of the mosaic floor and the patches of the mortar bedding were drawn in order to illustrate the fragmentary state of its preservation. Then the plan was digitised and worked out in a computer graphic programme. This, together with information gathered on the site allowed us to create a digital reconstruction of the decorative pattern. A number of questions concerning the pavements of the North-West Church still remain unanswered; however, the cleaning and examining of the mosaic and the remains of its bedding, supplemented with digital mapping, gave us some new ideas about the composition of its mosaic decoration (Fig. 7).

#### TEMPORARY AND LONG-TERM MAINTENANCE

All the mosaics explored at the site of Hippos are being seasonally uncovered in order to check their condition and, if necessary, to resume the conservation treatment. At the end of every season, the mosaic floors are covered with geotextile and a thick layer of clean sand (Fig. 8). Even though this action is carried out with great care and precision, the reburial of excavated structures is only a temporary solution.

As mentioned above, the excavation period lasts for only four weeks each summer; and during the rest of the year the site of Sussita is not permanently guarded. Even though the mountain of Sussita and the surrounding area have already been included into the network of the National Parks of Israel, the site is not officially open to the public. Yet many visitors keep strolling around the area, admiring the ancient structures. Frequently, they uncover parts of the reburied mosaics and then leave them exposed to the elements of nature. Considering the great popularity of Sussita among the inhabitants of Galilee, as well as foreign tourists, it would be a reasonable step to adapt the site as a tourist attraction. As far as the mosaics are concerned, if such a decision were taken, it would certainly be necessary to design and introduce a proper drainage system, suitable roofing and a permanent condition control.

## CONCLUSIONS

The character of the conservation work conducted at the site of Byzantine Hippos (Sussita) is closely related to the fact that its duration is just the four weeks of the excavation season. This determines the character and range of activities, the direction of the decisions and the number of people involved in assisting the conservation professionals. Even though the conservation programme is limited to first-aid treatments, the results of the work of nine seasons seem to be satisfactory. The authors hope that the site of Sussita will soon receive proper assistance that will introduce a long-term project for the permanent exhibition of this archaeological treasure.

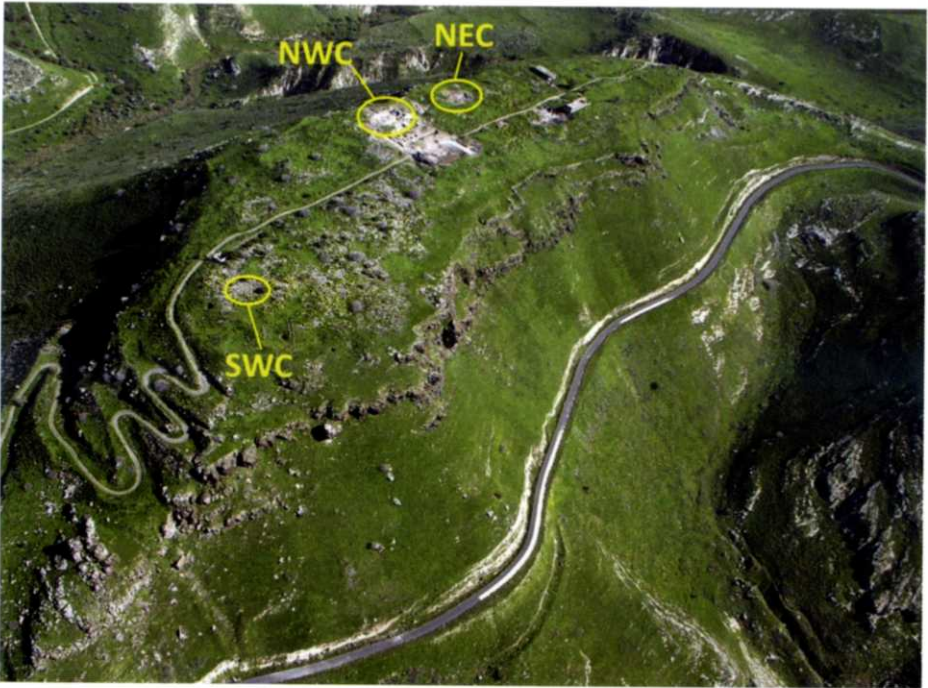


Fig. 1: The mountain of Sussita and the location of three of the city's churches: the so-called North-West Church, the North-East Church and the South-West Church.





Fig. 2: *In situ* conservation of a mosaic above a Christian burial, overlying an earlier Roman wall.



Fig. 3: The badly damaged part of the mosaic floor in South-West Church was lifted in order to be treated and to enable the exploration of earlier structures underneath.



Fig. 4: Once the earlier layers were investigated, a new bedding was prepared and the mosaic was relayed in its original position in the south aisle of the church.



Fig. 5: The removal of a thick layer of dirt from the surface revealed the colours and the decorative pattern of the mosaic.



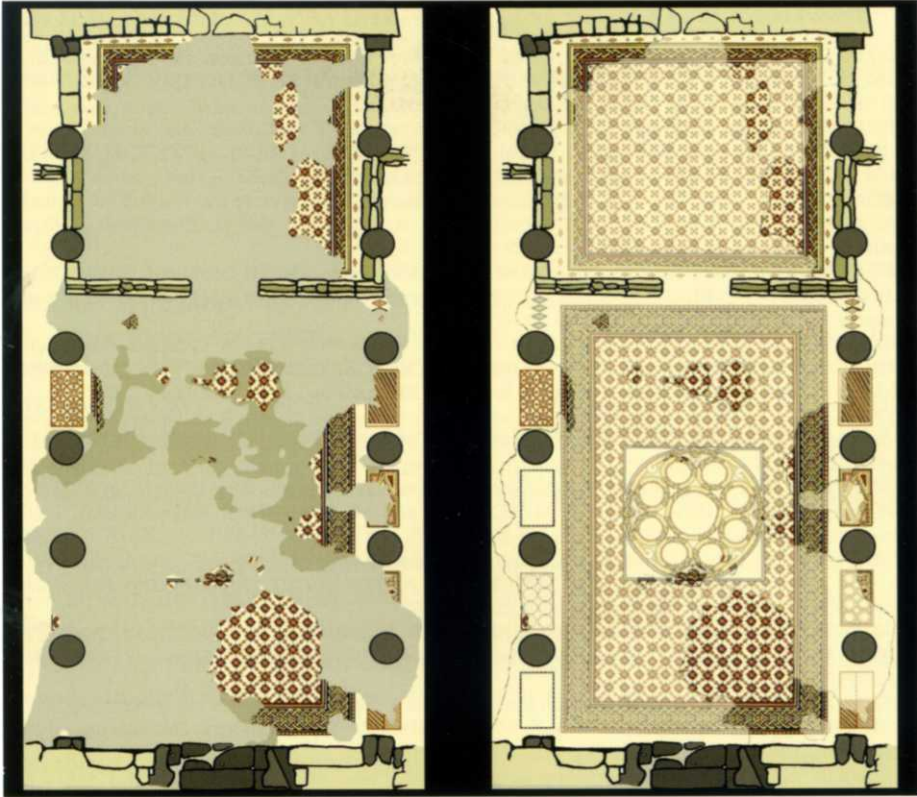


Fig. 7: Left: A plan recording the remains of the mosaic in the nave of the North-West Church worked out in a computer graphic program; and right: the digital reconstruction of the entire mosaic decoration (Julia Burdajewicz).



Fig. 6: A volunteer learning how to prepare hand-drawn plans of the mosaic fragments preserved in the North-East Church.



Fig. 8: At the end of each season the mosaics are covered with geotextile and a thick layer of clean sand. Due to the popularity of the site among locals and tourists this kind of protection very often proves insufficient since visitors often uncover the mosaics and then leave them exposed to the elements of nature.

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