

## Geometric Decoration Mosaics at Rihab: A Comparative Study

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**Abstract:** Rihab (North east Jordan) is one of the most important Jordanian sites that contain many Byzantine churches. Archeological studies indicate that the area of Rihab contains more than thirty-five churches, most of which are decorated with geometric decoration, indicating that it is an important center in the field of decorative arts. The Church of Saint Mary was chosen as it provides an important example in the study of decorative geometrical ornaments although most of the animal or human forms were affected by the movement of iconoclasm. This study aims to describe and analyze the geometrical mosaic pavements used in the floors of the Church of Saint Mary at Rihab, and also to compare them with the pavements found elsewhere dating to relatively the same period. In particular, we are interested in pavements dating to the Roman and Byzantine periods, where both local and external influences are known.

**Keywords:** Byzantine, church, geometric decoration, Jordan, Mosaic, Rehab, Saint Mary.

The Church of Saint Mary (fig. 1) is located between two main Archaeological cities, ca. 12 km. west of Mafrq city and 20 km. east of Jerash (*Gerasa*) city. It oversees a plain with sandy soil. It is about 915 m. above sea level (Piccirillo 1997: 310, Pl. 624).

Many travelers (viz. G. Schumacher, W.F. Albright, A. Alt, N. Glueck; and S. Mittmann) visited Rihab and described the site, (Schumacher

1900: 65-77; Glueck 1951: 81; Lux 1966: 582-583; 1967: 34-41; Mittmann 1967: 42-45; 1970: 120-212), and in 1936/42 excavation of the earliest churches by G. L. Harding (Avi-Yonah 1948: 68-72). However, the excavation of the Church of Saint Mary was started in 1979 by the Department of Antiquities of Jordan excavation team and Michele Piccirillo (Piccirillo 1980 317-350). The main results of the Archaeological activities in Rihab and the



Fig. 1: Church of Saint Mary.

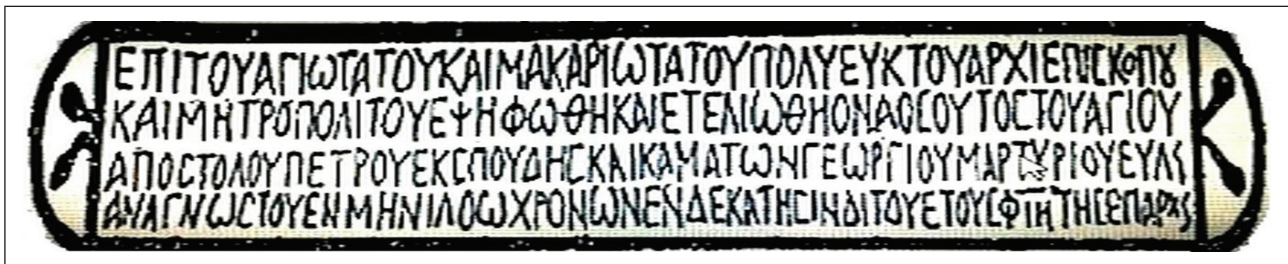


Fig. 2: The Church of Saint Mary – nave, Greek Inscription.

Church of Saint Mary area were the discovery of remains belonging to Late Bronze age, Iron age, Roman, Byzantine and Islamic periods. There are two Greek inscriptions spreading on the floor of the church; the text appearing in one of them dates the church to AD 582/83, (fig. 2), (Piccirillo 1981: 64; 1997: 310-311; Sala 2006: 240).

The plan of the Church of Saint Mary at Rihab (figs. 1, 3), is that of a typical basilica (21×14 m), complete with an apse, chancel, nave, and side aisles and rooms. All parts of the church were covered with mosaic pavements. However, some mosaic of the church is destroyed such as the nave, chancel screen and side rooms except the areas with geometrical patterns that remain (Piccirillo 1997: 310, Pl. 622).

### The nave Mosaics

The nave, 8.70 m long and 2.80 wide, is framed on each side by four column bases. The mosaic in the center is enclosed by a double border. The outer border extending around all four sides consists of a serrated saw-tooth pattern (Fig. 4). The colors are red and dark red on a white background. Many parallels are found in Byzantine churches in Jordan (Nassar 2015: 427): for example, the outer border of the inscription in the Ya'amun Church (Nassar and Turshan 2011: 44, fig. 2); Church II at Yasileh (Al-Muheisen and Nassar 2012: 676); and The Great Church at Khirbat Mar Elyas (Nassar and Sabbagh 2016: 533). Also, we find one example

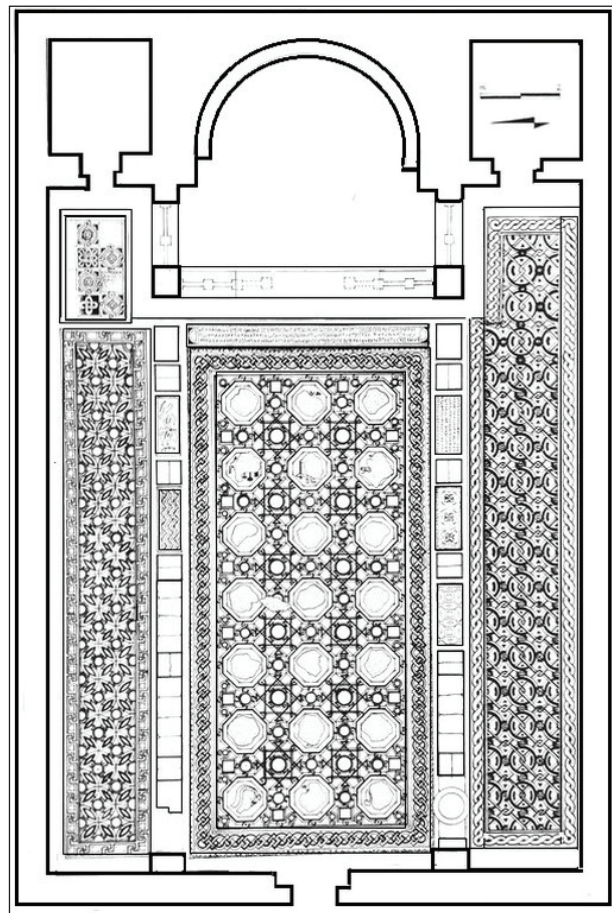


Fig. 3: Plan of the Church of Saint Mary.

from the Church of the Virgin Mary dating to 8th century AD (Piccirillo 1997: 64, Pl. 2).

The inner border of the nave consists of a row of tangent poised shaded squares interlaced with two interlaced undulating shaded bands (fig. 5). The colors are light red and black, on a white background. The pattern is rare in the region and elsewhere. We find two examples that are similar to those found in the Church of



Fig. 4: Nave mosaic: Saw-tooth pattern.



Fig. 5: Nave mosaic: Interlaced undulating shaded bands.

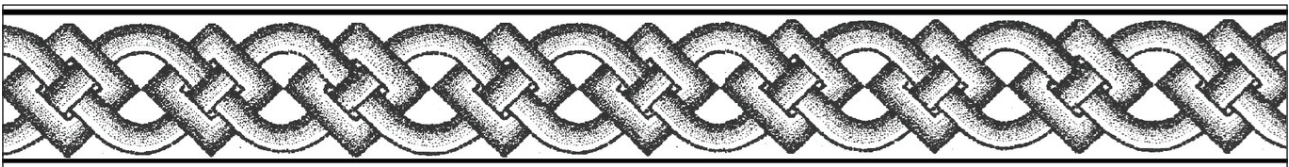


Fig. 6: Khan Khalde /Lebanon: Upper Church.

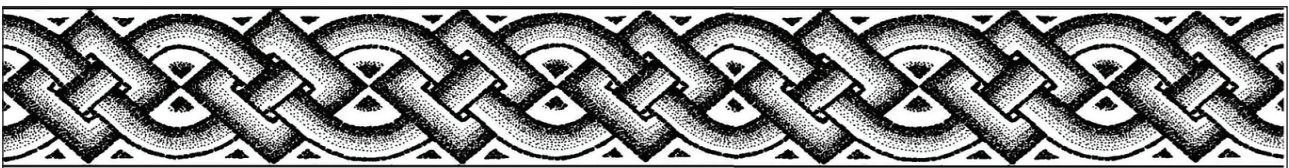


Fig. 7: Gerasa: Church of Procopius.

Saint Mary at Rihab. The first one is on the floor of the south aisle of the Church of Procopius at Gerasa, dating to AD 526 (fig. 6) (Kraeling 1938; Piccirillo 1997: 292, Pl. 560; Nassar n.d. fig. 2: 55). The second example, is on the floor of the Upper Church at Khan Khalde (in Lebanon) dating to AD 506 (fig. 7) (Chehab 1957-1959: 1-196, Pl. LXXV).

### Composite pattern

The central field of the nave has twenty-one octagons joining squares and circles in looped motifs (figs. 8, 9) (Piccirillo 1997: 310, Pl. 623; Nassar n.d.2: 57). It seems that in the ten octagons there were figurative motifs which have been removed by iconoclasts; their colors are red and dark red on a white background.

It seems that this motif is rare in the region and elsewhere. We find only one example similar to those found in the Church of Saint Mary on the floor of the nave of the First Church at Khirbet al-Bediye, dating to AD 640 (fig. 10) (Nassar and al-Muheisen 2013: 591, figs. 4, 10). Here, the panel consists of a ten octagons, while in the case of the Church of Saint Mary it consists of twenty one octagons. Also, the patterns there are less intertwined than at Rihab.

### Northern intercolumniation mosaics

The northern intercolumniation contains five panels. Three of them are empty while the others are decorated with deference motifs. It seems that the remains of the second panel are decorated by plants and figurative motifs which have been removed by iconoclasts, while the



Fig. 8: Saint Mary: Nave mosaic

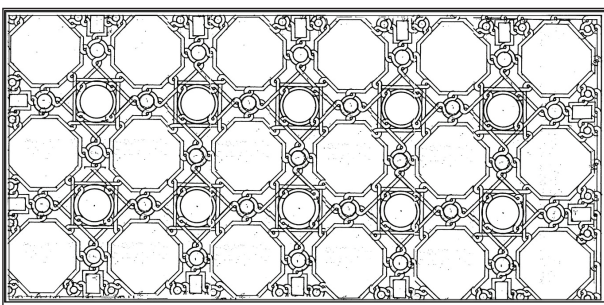


Fig. 9: Nave: Composite pattern.

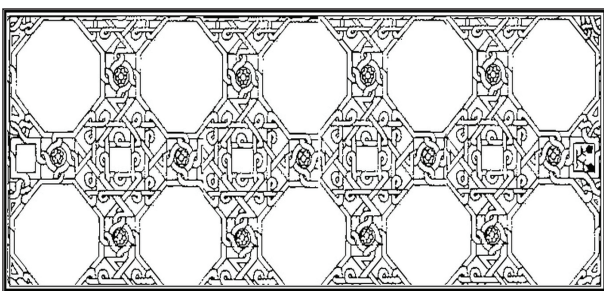


Fig. 10: Khirbet al-Bediye, First Church.

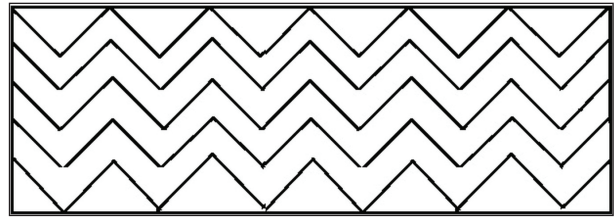


Fig. 11: Northern intercolumniation-third panel: Zigzag motif.

third panel is decorated with a zigzag motif of rainbow style (fig. 11).

The zigzag motif can be found at other sites in Jordan, such as the nave of the lower church at Massuh near Hesban which dates to 5th century (Piccirillo 1983: 335–346; 1997: 254, pl. 446), and in the nave of the Second Church at Yasileh which dates to AD 528 (al-Muheisen and Nassar 2012: 661, 670, fig. 11). Here, the motif of the rainbow style exhibits both multiplicity and harmony among colours. The colours in this square are dark red, beige, bluish brown, black, and white, and each instance adds a colour through which the impression of a shadow could be conveyed. Thus, the bluish grey has black shading; the brown has pale red, and so on. Also, we find other examples similar to those found at Rihab on the floor of the Mosaic of Achilles at Madaba, dating to the Byzantine period (Piccirillo 1997: 76, Pl. 43).

There are many examples at Antioch in the Roman and Byzantine periods, for example, in the House of Menander at Daphne, which dates to 250–275 (Ling 1998: 58, fig. 40). The pattern is also known from North Africa, for example, the border of the hunt and amphitheatre scenes at Cuicul (Kitzinger 1965: 346, fig. 8; Ling 1998: 87).

#### Northern aisle mosaics

The northern aisle contains two main rectangular panels. Each one features different motifs. The colours of this mosaic are red and dark red on a white background.

**The mosaic of the northeast panel (first panel)**

The north panel (fig. 12) is a composite of twelve squares that came a three rows. Five of them are empty whereas the others show a variety of design styles, including geometrical decoration such as looped pattern, zigzag, and curvilinear square interloped design.

**Looped pattern mosaic**

The looped motif design is located in the first and second rows of the northeast panel (fig. 13, a, b) (Nassar n.d. figs. 2.4.2, 12). Here, we find two similar looped motif design, but the decoration within the two circles is somewhat different. In the case of first row, we find that the center of the looped motif (13a) contains two squares and circles, whereas in the case of the second row, we find that the center of the looped motif (fig.13b) contains two circles that make it shaped like a star. It seems that the colors of all the mosaics in the floor of the church are the same (red, and dark red on a white background). In general, the looped pattern motif is widespread during the Byzantine period and there are many parallels in the region, and in other locations (Nassar and Turshan 2011: fig. 17; Nassar and al- Muheisen 2013: fig.9; al-Muheisen and Nassar 2014: fig. 14; Nassar and Sabagh 2016: fig. 23). Also, we find another example from the Church of the Salayta Family at Madaba, dating to the Byzantine period (Piccirillo 1997: 132, Pl. 158). Another example from Madaba is on the floor of the Church of the Virgin Mary (Piccirillo 1997: 64: Pl. 2).

**Solomon’s knot with loops motif**

The pattern is located in the Second Square of the central row of the north east panel (fig. 14). Here, the design consists of Solomon’s knot with loops and interloped in red, and dark red on a white background (Nassar n.d. fig.

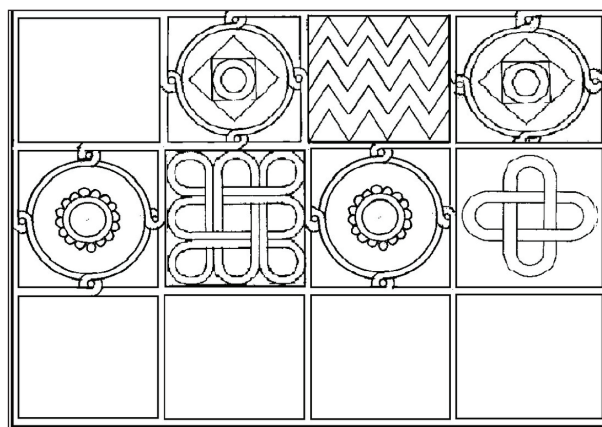
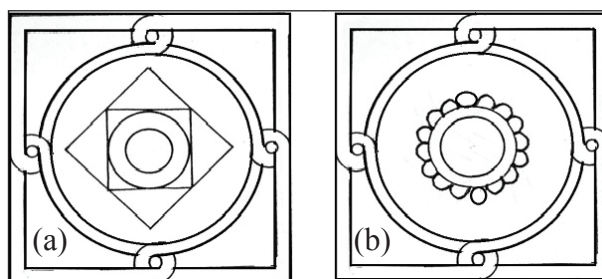


Fig. 12: Northern aisle mosaic: First panel.



Figs. 13a, b: Northern aisle mosaic- first panel: Looped motif

15.6.5).

Similar schemes are known in other locations in Jordan. There are two similar examples at Gerasa (fig. 15). The first of these is on the floor of the Procopius Church at Gerasa dating to AD 526 (Kraeling 1938; Piccirillo 1997: 292, Pl. 560; Nassar n.d. fig. 15.6.5), while, the second example with the same design has been found on the floor of the Church of the Apostles, dating to AD 464 (Kraeling 1938; 65 (Piccirillo 1997: 285, Pl. 534). Another example in the nave of the Yasileh Church dates back to the middle of the 5th or the beginning of the 6th century AD (Nassar and al- Muheisen 2010: 182, 194, fig. 12). Here, the pattern consists of five squares composed as a cross, and each of them contains a Solomon’s knot.

**Simple Solomon’s knot motif**

The Solomon’s knot located in the fourth

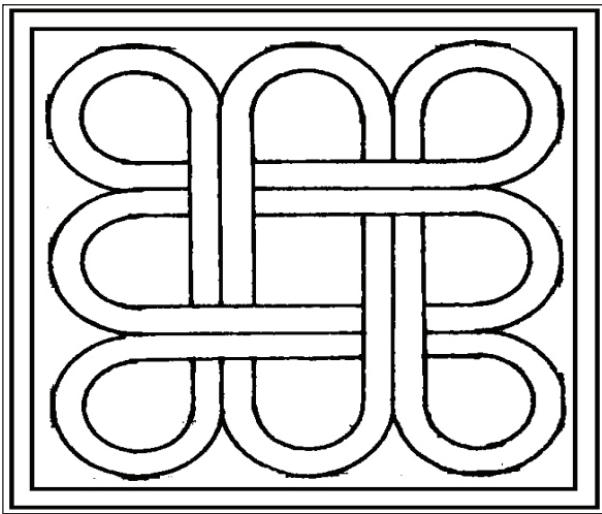


Fig. 14: Rihab, North aisle.

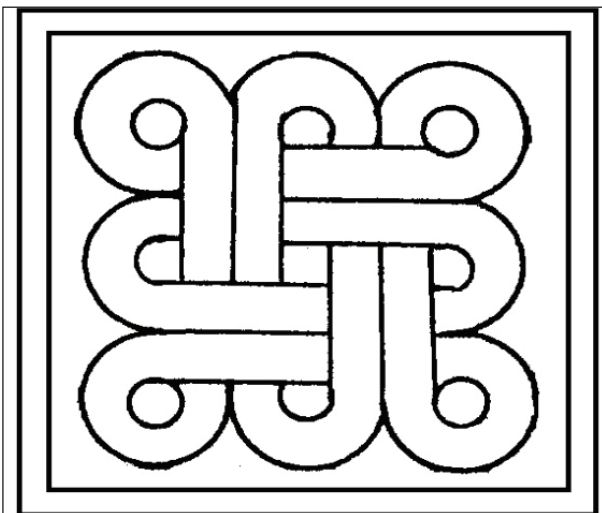


Fig. 15: Gerasa.

square of the central row of the northeast panel (fig. 16) (Nassar n.d. 5.13.1) is in the centre of the square. The colours of this motif are red, and dark red on a white background. The design is found in several sites in Jordan dating from Byzantine period such as the one in the north aisle of the Mar Elyas Church (fig. 17) (Nassar and Sabagh 2016: 545, fig. 27; Nassar n.d. 5.13. 2). Here, the motif came in a three-Solomon knot, and the colours are red on a white background. On the floor of the north aisle of the Ya'amun church (Nassar and Turshan 2011: 57, 58, figs. 19, 20; Turshan and Nassar 2011: 341, fig. 2; Nassar and Turshan 2012: 210, fig.

1), the knot is within the squares. The colours are red, blue, and dark blue, against a white background. One example from Madaba is on the floor of the Church of the Virgin Mary, dating to the 8th century AD (Piccirillo 1997 :64, Pl. 2).

There are parallels in the West Bank and Syria. In the West Bank are in the nave of the Church of the Nativity in Bethlehem (Richmond 1936: 75–81, figs. 1, 6; 1937) 67–72; Bagatti 1971: fig. 49; Madden 2012: fig. 27), and in the south aisle of the First Church at Bethany (late 4th century) (Saller 1957. 22 a; Madden 2012: 182–183, fig. 24). In Syria, there are the Cathedral of Apamea (third quarter of the fourth century) (Balty 1995: 265–266; Dunbabin 1999: 169, fig. 175; Madden 2012: 170–173, fig. 16, and Bath E in Antioch (Constantinian) (Levi 1947: 260–277, fig. 157; Madden 2012: 175, fig. 19). The motif is considerably older. It was already in use in the Roman period, and it was a common design throughout the Byzantine period (Villa at Halstock) (Ling 1998: 69, fig. 48).

### The mosaic of North West panel (second panel) pattern

The motif of the panel (fig. 3) is enclosed by swastika motif border while the field of the panel is decorated by overlapping circles.

### Swastika Meander motif

The motif of the pattern consists of spaced single turned swastikas with a square in each space (fig. 18). The colours of this motif are red, and dark red on a white background. The same swastika meander pattern is found at other Jordanian sites dating to the Byzantine period, for example in the south aisle of the Upper Church at Massuh- Hesban, (Piccirillo 1983: 335-346; 1997: 252, Pl. 435, 437). Also, we find another example resembled in the nave of

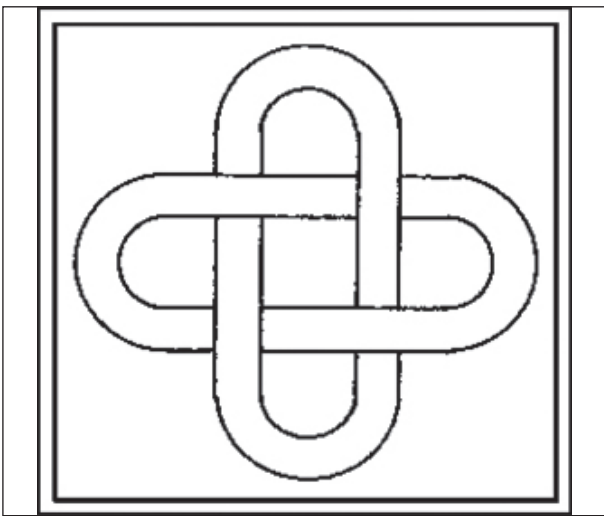


Fig. 16: Rihab Church.

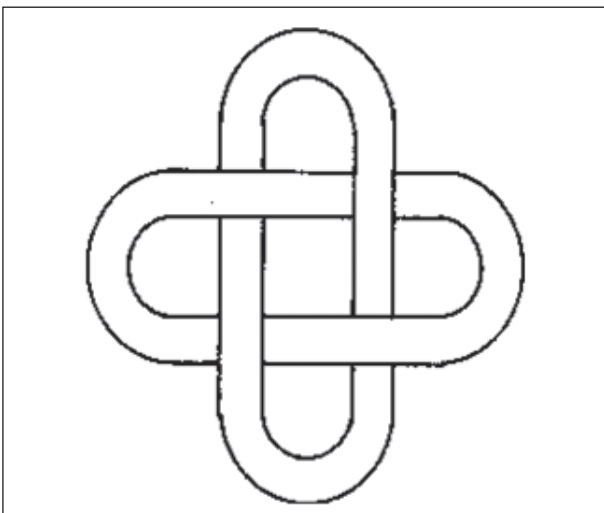


Fig. 17: Mar Elyas Church.

the Chapel of Elyas, Maria and Soreg at Gerasa (Saller and Bagatti 1949: 269-289; Piccirillo 1997: 296, Pl. 571). One example from the Chapel is the Martyr Theodore at Madaba (Piccirillo 1997: Pl. 109).

Significantly, this motif is a good deal older as it was already in use during the Greek and Hellenistic periods and was a common design throughout the Roman period. There are many examples from the classical period in the House of Mosaics in Eretria that dates back to the mid-fourth century BC (Ling 1998: 21, Fig. 11), and in the House of the Rape of Helen at Pella (Welch

1992:63, 267, fig. 106). We also find another example from the Asia Minor Aphrodisias in Caria, in the floor of Priest's House that dates to the 5th century AD (Erim 1966: 59-67; 1967: 233-243; 1974: 37-52; Campbell 1991: 25, 26, fig. 38c, Pl. 92). Another example that dates to Severan period is from Bulgaria, in Pautalia (Valeva 1995: 251, 255, fig. 6).

### Intersecting-circles motif

The second panel of the northern aisle (fig. 19) is decorated with an intersecting-circles design. It consists of polychrome grid-pattern of tangent circles and recumbent spindles formed by interloped a symmetrically shaded bands forming crosses (Nassar n.d. fig. 2.7.6). The colours of this mosaic are red and dark red on a white background.

The same design of the pattern was widespread in Jordan during the Byzantine period. One example is also from the Rihab site, in north aisle of the Church of Saint Paul, which dates to 595 A.D (Avi-Yonah 1947-8: 68-72; Piccirillo 1980:317-350; 1997: 312, Pls. 627-8). We find other example similar those found at Rihab is in the floor of the Church of the Procopius Church at Gerasa (fig. 20), dating to 526 A.D (Kraeling 1938; Piccirillo 1997, 292,293, Pl. 560; Nassar n. d, fig. 2.7.7).

Furthermore, this type of decoration can also be found at other sites in Jordan, for example, in the northern intercolumniation of Saint George at Khirbat Al- Samra, which



Fig. 18: Northern aisle –second panel: Swastika Meander motif

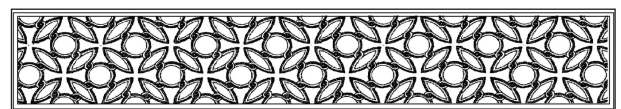


Fig. 19: Rihab, Northern aisle- second panel: Intersecting circles

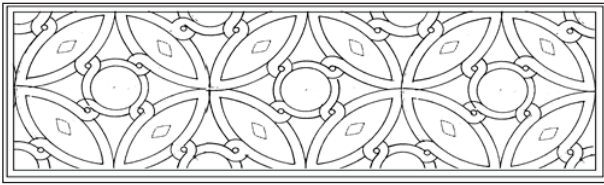


Fig. 20: Gerasa, Procopius Church, Northern intercolumniation.

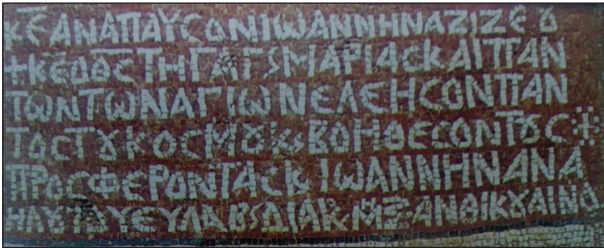


Fig. 21: Southern intercolumniation: Greek Inscription.

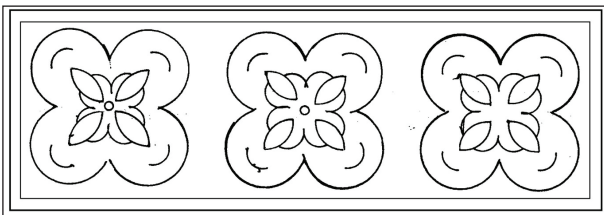


Fig. 22: Southern intercolumniation: Quadrilobes motif.

dates back to 637 AD (Humbert 1990: 467-474; Piccirillo 1997: 306, Pls. 600, 602). It seems that this decoration is rare in the Levant and others, and we can compare only one example from Lebanon, in Byblos Villa, which dates to the mid- or second half of the 6th century AD (Donceel-Voute 1995: 91, 93: fig. 6).

### The southern intercolumniations

There are five panels in the southern intercolumniation. Two panels (the first and fifth ones) are destroyed while the others are decorated with deference motifs. The second panel is a composite of a Greek inscription. The third panel is decorated by three a quadrilobe-motif, while the fourth penal is decorated with three overlapping octagons.

### Greek Inscription

The second panel is a composite of Greek inscription. The letters are in white on a dark red background. The inscription says: Lord give repose to John [son of Aziz]. Lord God of Saint Mary and all the saints have mercy on all the world, and aid the benefactors, John [son of Anael], the most illust of Xantst indiction (Piccirillo 1997: 311, pl. 625).

### Quadrilobes motif

The third panel (fig. 22) consists of quadrilobes that form squares with concave sides. The inner of each quadrilobe consists of small quadrilobes that came in a rosette shape (Nassar n.d. figs. 2.8.5). It seems that this motif is found only in the Church of Saint Mary.

### Overlapping octagons motif

The fourth panel of the Southern intercolumniation has a pattern of overlapping octagons (fig. 23). The three octagons are made up of hexagons with small squares in the centre (Nassar n.d. figs.7.3.2). The colours are dark red on a white background. This pattern is known in other Byzantine churches in Jordan, for example both aisles of the western church at Yasileh, which dates to mid of 5th and early 6th centuries AD (Nassar and al-Muheisen 2010: 184, fig. 4), are dark red, light red, and dark blue against a white background. Also, we find one example from Gerasa is on the floor of the south aisle of the church of Procopius at Gerasa, dated to 526 A.D (Piccirillo 1997: 293, fig. 560) and the northern room of the church of Ras ed-Deir, dating to 599/600 A.D (al-Muheisen and Nassar 2014: 87, 102, fig. 15).

This type of overlapping guilloche octagons is found elsewhere in the Near East in the Roman and Byzantine periods, for example in the floor of the Room 4 of Bath E at Antioch, which dates to 305 A.D (Campbell 1988: pl. 35),



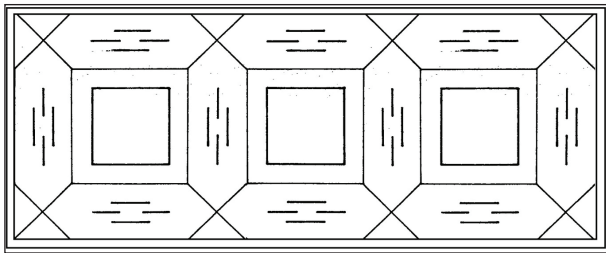


Fig. 23: Southern intercolumniation: overlapping octagons motif.



Fig. 24: Southern aisle: Two-stranded guilloche motif.

the centre of each octagon contains a reversed swastika. Also, in the north room of the Tetra pylon House at Aphrodisiacs in Caria, dating to 6th century AD (Erim 1966: 59-67; 1967: 233-243; 1974: 37-52; Campbell 1991: pl. 56), the hexagons are decorated with segments of two-stranded guilloches alternating in red and white; in the centres of the octagons are small red squares outlined with frames of alternating dark blue, white, and light blue.

### The southern aisle mosaics

The mosaic in the centre of the southern aisle consists of a composite design. It is enclosed by a border extending around all four sides, consisting of two stranded guilloches of dark red, light red, and white, with a dark grey background (fig. 24). This border pattern is widespread in mosaics of the Roman and Byzantine periods (Nasaar and al-Muheisen 2010: 194; Nasaar and Sabbagh 2016: 539).

### Interlaced squares and circles

The southern aisle is decorated with interlaced squares and circles design (fig. 25), filled with orthogonal pattern of squares in bichrome bands interloped angles, while we find the pattern of circles in asymmetrically shaded bands interloped tangentially forming

concave octagons. The colours are dark red and light red against a white background. This type of ornamentation was also found with the same design and colours in the southern aisle of the Church of Saint Peter also at Rihab (fig. 26), dated to 623 A.D (Avi-Yonah 1947-48: 68-72; Piccirillo 1980: 317-350; 1997: 312, 313, pl. 627; Nassar n.d. 2.5.2). A similar decoration can be found in the northern intercolumniation of the Procopius Church at Gerasa which dates to 526 A.D (Kraeling 1938; Piccirillo 1997: 292, 293, pl. 560; Nassar n.d. 2.5.1).

### Conclusions

This study shows that Jordan is an important point of reference with respect to the study of the mosaic pavements made in the Byzantine period, especially those dating to the 6th and 7th centuries. An analysis of the above decorative elements shows a high level of skill with respect to their manufacture. This can be inferred from the level of refinement of the final products, which demonstrates a quality of technique as measured by its repetition, and the similarity across sites. This is the case with all of the geometrical mosaic pavements in this church.

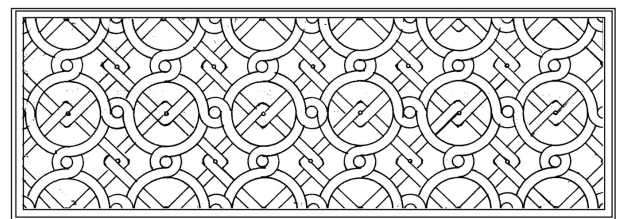


Fig. 25: Southern aisle: Interlaced squares and circles.

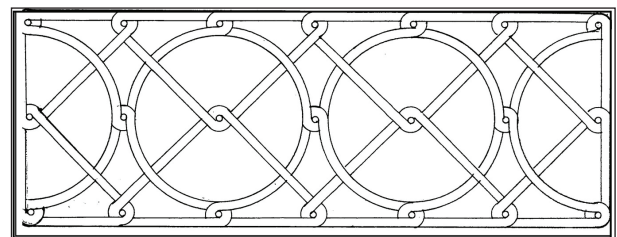


Fig. 26: The Procopius Church: Interlaced squares and circles.

A comparative study of the decorative elements increases our understanding of the relationship between Rihab and the other Byzantine sites. It also allows us to compare the artistic level of the artists at Rihab with those working at other sites. Similar elements have been found elsewhere in Jordan, as well as further afield in what was the Byzantine Empire. Of interest are the similarities between the decorative elements found at Rihab and those found at several other places in the eastern Mediterranean, from both the Roman and Byzantine periods.

Some designs make their first appearance in the mosaics at Rihab. One is the looped pattern mosaic (fig. 13) and Quadrilobes (fig. 22). Also, we find some more sophisticated ornaments, for instance: the intersecting circles design found in the area and in other areas, the Church of Procopius Procopius at Gerasa (fig. 20); the Church of Saint George at Khirbat al- Samrra; and

also, in Lebanon (Byblos Vill). Additionally, we find other motifs that are also more sophisticated, such as interlaced squares and circles (figs. 25, 26) found in the area such as the Church of Procopius Procopius at Gerasa (fig. 26).

Through this comparative study of the decorative units found in the Church of Saint Mary at Rihab and the Church of Procopius Procopius at Gerasa, it is possible to say that there are many units that are mutually exclusive, indicating that there is some kind of cooperation between these two schools in the field of art, and this cooperation has spread widely in most sites dating back to the Byzantine period.

The authors hope that these findings will further enhance the existing literature on this significant subject for scholars with interest in this area of research.

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**ملخص:** قرية رحاب تقع (شمال شرقي الأردن) في واحدة من أهم المواقع الأردنية، التي تضم العديد من الكنائس البيزنطية. وتشير الدراسات الأثرية إلى أن منطقة رحاب تحتوي على أكثر من خمسة وثلاثين كنيسة، معظمها مزينة بزخارف هندسية؛ ما يشير إلى أنها مركز مهم في مجال الفنون الزخرفية الفسيفسائية التي تحتوي تنوعاً زخرفياً هندسياً متميزاً. تم اختيار كنيسة القديسة مريم في الموقع؛ لأنها تقدم مثلاً مهماً في دراسة الزخارف الهندسية، على الرغم من أن معظم أشكال الحيوان أو الإنسان تأثرت بحركة تدمير الصور أو ما يسمى حركة الأيقونات. تهدف هذه الدراسة إلى وصف الأرضيات الفسيفسائية الهندسية المستخدمة في كنيسة القديسة مريم بموقع رحاب، وتحليلها، ومقارنتها بالأرضيات الموجودة في أماكن أخرى، تعود إلى الفترة نفسها على وجه الخصوص. الدراسة تهتم بالأرضيات الزخرفية بأشكال هندسية، وبخاصة التي يرجع تاريخها إلى الفترات الرومانية والبيزنطية، كما تنحى الدراسة إلى تأصيل التأثيرات المحلية والخارجية.

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