The Ship Depicted in a Mosaic from Migdal, ISRAEL*

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Iconography of ships in mosaics comprises two fields: ancient ships and shipping, along with mosaic art and techniques. This theme is very complex and however it has been paid insufficient attention in the past. Due to this durable art form, the ships depicted in mosaics may be referred as actual images of vessels concurrent to the period when such surfaces were made. The research started with my MA dissertation (1999, unpublished), which encompassed the eastern Mediterranean, Israel and Jordan. Throughout my PhD dissertation (2003, unpublished), this theme dealt with the entire Mediterranean world. It relates to shipbuilding materials, types of ships, sailing environments, as well with the propulsion and steering rig. The following paper describes one of the earliest mosaics with ship depiction that was found in Israel, at Migdal, located on the western shore of the Sea of Galilee (in Hebrew: Yam Kinneret) (fig. 1). Although some reddish-brown tesserae were used for some distinct parts in the objects depicted in the mosaic, it follows the black-and-white technique (rare example in the eastern Mediterranean). The mosaic reflects tight art connections with the early Roman Empire of the 1st centuries BCE – CE. The Migdal mosaic is no longer found at it original location. Today it is mounted into a metal frame and placed among other artifacts in the courtyard of the “Church of the Multiple Loaves and Fish”, at Capernaum (Tabgha).


Location of Migdal

Migdal (Israel map ref. 1988.2488), is situated on the western coast of the Sea of Galilee, about 5-km north of Tiberias (fig. 1). The town was established in the Hellenistic period (300 BCE), and was known as Migdal Nunaya/Nunia (in Aramaic) – “Tower of Fish”1. The town is also known as Magdala (in the Christian world), as being the hometown of Mary Magdalena2. According to the writings of Josephus, Migdal/Taricheae had many ships, shipyard workers and wood supply.3 He also wrote that Taricheae had a population of forty thousand inhabitants.4 Josephus gives a detailed account on the nautical activities at Migdal and on the Sea of Galilee, during the time when he was

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* This paper is an extension and updated data of the Migdal mosaic chapter from the writer’s MA dissertation, 1999, unpublished. I would like to dedicate this paper to the memory to Prof. Michele Piccirillo, my advisor for both MA and PhD Dissertations, a close and a very good friend, who just passed away before his time, 26.10.2008, and left all of us with an enormous sorrow and emptiness.

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1 Raban, 1988, p. 323.

2 he Synoptic Gospels describes Mary of Magdala as one of the women from the Galilee who gave financial help and domestic service to Jesus and his disciples. The Fourth Gospel gives Mary of Magdala the pride of being the first witness of the resurrection and the risen Christ; Cornay and Brownrigg, 1980, pp. 299-301. Luke: 8.2, informs that a certain women which had been healed by evil spirits was called Mary Magdalen.

3 Nun, 1992, p. 34.

4 Josephus, Wars, II.21.4.
appointed as military governor. He also mentions that many Jews from Tiberias sought refuge at Migdal/Taricheae at the outbreak of the Jewish Revolt in 67 CE. During the Revolt, the combat that took place on the Sea of Galilee (Kinnerer) and its shores was a very cruel one. The Romans attacked Migdal and massacred a large part of its population. Though that many Jews sought to escape by boats were caught by the Romans and slaughtered.

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5 Life 12; 18; 32; 59; 73; Wars II.21.4; III.10.1; III.10.9.
6 In order to show his authority, Josephus sailed in 230 bots from Migdal to Tiberias as an act against opposition of the inhabitants; Wars, II.21.8.
7 Wars, III.10.9.
Archaeological Context of the Mosaic

Taricheae or Migdal Nunia (the ancient name of Migdal) attests for its maritime character. Strabo mentions that “...at the place called Taricheae the lake supplies excellent fish for pickling”. During the survey carried out in 1970, by Prof. Avner Raban, from the Institute of Maritime Studies, University of Haifa, remains of a harbor were found in the vicinity of the courtyard belonging to the Franciscan church (fig. 2). The harbor basin was formed within the natural bay that was enclosed by a breakwater to the north-east; its area extended for one hundred acre. A wharf built with basalt stones, ran parallel to the shore at a length of 1.100 m. At its eastern end protruded a mooring stone where the mooring lines of ships were tight in antiquity. Vessels of medium size could be moored along the quay.

The excavations carried out at Migdal, from 1971 to 1977, and conducted by Dr. Virgilio Corbo from the Franciscan Institute, in Jerusalem, revealed the Town Square, some streets, various buildings and the water system (fig. 3). During the excavations carried out in 1977 at the villa, to the northeast of the “Water Tower” (Area C), the work mostly concentrated on the mosaic pavements. The mosaic floor of Room C6 (figs. 3, 4), the purpose of this paper, belonged to the original phase of the villa. The room led to a patio that in its center a plastered pool was built.

8 Strabo, Geo. XVI.2.45. Probably Strabo referred to Migdal fish industry, where was produced of oxygarum a very prized condiment for the Roman culinary. The main production center was in North Africa. The finished product was exported to Greece, Italy and Gaul; Avi-Yonah, 1976, p. 24.
9 Nun, p. 35.
10 Raban, 1988, p. 53, Pl. VII.5.
The Mosaic Floor in Room C6

Room C6 was virtually the most central part of the villa (fig. 3). It almost formed a square of 2.80 x 2.60 m, and its floor was entirely paved with mosaics. The southern wall of this room is adjacent to the Cardo. The mosaic mostly made with black-and-white tesserae and depicting the maritime scene was found underneath a later mosaic that had been removed in order to allow the excavators a better study of this pavement. The style of the mosaic work and the shreds found with this context indicates that the complex was built during the 1st century CE.  

The mosaic pavement consists of two parts:

1. A short Greek inscription found on the southern doorstep reads “KAI CY” (you too). It was made with black tesserae and set on white background. The length

12 Corbo, p. 237; Two such inscriptions found in villas at Antioch were dated to the 1st century CE.
13 This inscription was removed from its original location. It also was mounted into a metal frame and today it is found in the closed yard at Capernaum Church.
of the inscription is 33 cm, while the width is 7.5 cm. Such inscriptions had not
been found in Palestine before, but are mostly known from private houses in
Antioch. They are associated with invocations against the “evil-eye”.

2. The main part of the floor consists of a large mosaic rectangle (1.10 x 1.12 m),
which formed the pavement of this room (fig. 4). A double black frame borders
the maritime scene. The black stones are basaltic, originating in the area of the Kinneret, the
Galilee or the Golan Heights. The wide space between the black borders is made
of five rows of white tesserae, while the second border is made of two rows of
black stone cubes. The inner field comprising the figurative decorations measu-
res 0.78 x 0.81 m. The background is white and the objects depicted within this
field are made with black, while some details are made with brownish-red tes-
serae. The mosaic depicts a sailing ship, a ring with strigili and aryballos, two
grounding-mills?, one cantharus with two handles, and a partly preserved fish.

The Ship

The ship is depicted from its port side and occupies about 1/4 of the entire field. It
had been placed close to the lower left corner of the mosaic. The prow almost
touches the frame. The hull, mast and rigging lines are depicted with black tes-
serae, while the oars and the sail are depicted with brownish-red stones (fig. 5a).
The Migdal Ship has an elongated hull with a broad pointed stem and narro-
wing raised stern. This depiction may have resulted from the mosaicist’s lack of
nautical knowledge and therefore not understanding the shape of the hull, or he
intended to give some perspective view to the ship. What appears to be a pointed
stem probably indicates a pointed cutwater or ram, which in a proper depiction
should end at the water-level. The shape of the stern resembles the head of the
fish depicted to the right of the ship, below the stern (fig. 4). The gunwale is
almost horizontal, or it may indicate the top edge of the protective screen,
whereas the heads of the rowers project above (figs. 5a, b). The left-hand end
extends forward, and appears to be supported by an angled spar. This element
may indicate the sprit-bow, used to tight around the fore-lines of the sail. The
horizontal white strip that extends at about 2/3 of the ship’s length may represent
the wale above the water-level. It reinforced the outer hull and also protected
the ship when it was moored long-side (parallel) the quay or pier. In the middle
of the port stem is depicted a single brownish-red tesserae, probably indicating the
oculus. We assume that the same decoration was true on the starboard stem.
The stern is raised and ends in an inverted sternpost above the deck. At the point
where the stern curves is depicted a single brownish-red tesserae (fig. 5a). This
cube doesn’t have a specific function. The artist who produced the mosaic may
have inserted it by mistake, or the stone was assumed to indicate the ship’s trade
mark, or other decoration.

14 Corbo, p. 237.
15 The writer took the measurements of the mosaic in May 1996, at Capernaum. Prof. Michele
Piccirillo from the Franciscan Institute in Jerusalem granted me the permit to take the measurements
of the displayed mosaic in the fenced yard of the church.
16 For a detailed description of the patterns depicted in the mosaic: Corbo, 1978, p. 237-8; Raban,
17 Overall length of the ship 32 cm; height at amidships 9 cm; mast height (from the tip of the
masthead to the gunwale) 26 cm; length of the yard 27 cm; length of row-oars 15 - 17 cm; steering
oar (with the blade) 20 cm; Friedman, 1999, Table 2.1.1. p. 12.
18 Vessels of the Greco – Roman periods are depicted with pointed cutwater or ram; Basch, 1987, figs.
The ship is depicted with both means of propulsion: sailing rig and row-oars (figs. 5a, b). The mast is represented by a vertical spar made with one row of black tesserae. It is stepped 1/3 fore amidships and secured by the forestay, which extends between the joint of the yard with the masthead and the fore tip of the sprit-bow. The yard (depicted with one row of black tesserae) is set perpendicular to the masthead. The furled sail beneath the yard is depicted with one strip of brownish-red tesserae; it is slightly shorter than the yard. The vertical hanging line attached to the tip of the right-yardarm indicates the right-hand brace. It worked the yard and sail to be adjusted to the optimal wind direction (figs. 5a, b). The row-oars indicated by two shafts (depicted with brownish-red tesserae) are mounted on the port gunwale with backward slanting. The missing blades probably are submerged in the water. The steering oar is depicted with a short rectangular blade with rounded shoulders. The same oars arrangement was true on the starboard side. We may suggest that the mosaicist intended to distinguish the row-oars from the steering-oars and therefore he depicted the blade on the aft oar. Four protrusions above the gunwale are the heads of the rowers seated on lower thwarts, or behind the protection screen set above the gunwale (figs. 5a, b). The crew also comprised the helmsman and the captain. The helmsman may have been seated beneath the arching sternpost to work the steering oars. The coloring of the sail and the oars were made intentionally, thus to distinguish these elements from other gear of the ship. The hull does not show any flotation or draft line, nor is a water-line indicated. We may assume that the ship leaves the harbor, whereas the oarsmen rowed the ship to open waters and only then the sail was unfurled and adjusted to the optimal winds, thus to set the sailing course. The ship may symbolize a patrolling vessel along the shores of the Sea of Galilee or a merchantman.

Discussion

Although, the ship in the Migdal mosaic is depicted schematically it provides us with valuable information that may help us to associate it to a specific type. Fishing vessels depicted in mosaic floors were quite a common subject in the sea or lakeside villas of the Roman Empire during the 1st - 4th centuries CE.19 Most of these sites were located in North African provinces, and Italy. The Migdal mosaic decoration may be a symbolic depiction of scenes or activities specific on the Kinneret seaside. The ship appears to be shown in a 3/4 view and not in a full side view as the picture may suggest. The highly raised and narrowing stern indicates an attempt of foreshortening (figs. 5a, b), thus emphasizing a perspective view of the ship. Inner-volute sternposts appeared in ship iconography since the 7th century BCE.20 This feature became a distinct element on merchant vessels from the 1st – 4th centuries CE.21 It also appeared on some warships.22 The inverted volute-like sternpost of the Migdal ship indicates a preserved tradition of this element that became a distinct feature of the Roman merchantmen.

The pointed stem of the Migdal Ship (figs. 5a, b) probably resulted from the mosaicist’s misinterpretation, lacking nautical knowledge and therefore not understanding properly the ship’s hull. Pointed ram appeared for the first time on Phoenician ships since the 9th – 8th century BCE, as evidenced by the vessels

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19 Dunbabin, 1978, figs. 16, 119, 123, 125, 150, 154; Aurigemma, 1960; Pls. 67, 69, 87, 89, 94, 95, 110.
20 Ivory fragment from Chiusi, end of the 7th century BCE; Basch, 1987, fig. 871.
21 Basch, figs. 919, 921, 1081, 1089; Casson, 1971, fig. 177.
22 Basch, figs. 971-B, 973-A.
depicted on the wall-reliefs from Khorsabad,23 or on Greek ships dated to the Geometric period24. The Hellenistic and Roman ships were fitted with two or three pronged ram. A single pointed ram on Roman warships makes its appearance shortly after the middle of the 1st century CE.25 An earlier example of pointed broad stem similar to the Migdal ship is evidenced by a sailing ship (associated with the story of Odysseus), depicted on an amphora dated to c.330 BCE (fig. 7)26. On the port stem of the Odysseus ship is depicted an oculus with eye-lashes. The brownish-red tesserae placed on the port stem of Migdal Ship, also indicates an oculus (figs. 5 a, b). Odysseus’ ship has a crew of four rowers, one helmsman and Odysseus tight to the mast. On the port hull are mounted two row-oars. Besides the time-span difference (370 – 400 years) between the Odysseus and Migdal ships, we may presume that such type of ships continued to be built in the eastern Mediterranean at least till the end of the 1st century CE. Evidently, ideas may be transferred from place to place, not only by passengers and crews, but also by the vessels themselves27. Boatbuilding and their handling were seen and copied everywhere since these vessels reached places through trade and/or sea combats.28 Similarities of ship types and decorations strongly indicate that such influences could be seen on ships sailing in the Mediterranean in antiquity.29 The closest parallel to the entire appearance of the Migdal Ship is evidenced by a ship graffito from Delos, at Maison aux Stucs (fig. 8), dated to the 1st century BCE. The sprit-bow of the Delos ship is supported by the raised stempost (at one end) and by two short spars, set on the bow (at the other end). The forestay is tight to the aft part of sprit–bow (fig. 8). The forestay of the Migdal Ship is tight to the fore part of the sprit-bow (figs. 5 a, b). The Delos ship is depicted with partly open square sail that is in raising or lowering process, as deduced from the lowered right-yardarm on the stern. Close to the edge of the right-yardarm are depicted four brails that worked the bunt. The brace is attached to the tip of the yardarm (it worked the yard and the sail to be adjusted to the optimal wind direction). The angled left-hand line, stretching between the left-yardarm and the aft end of the sprit-bow, may indicate the left brace or the leech of the lowered

23 Casson, figs. 76, 78.
24 Casson, figs. 30, 62, 64-66, 68, 72-74.
25 Casson, p. 146 and n. 22.
26 When using comparable evidence in any art form, we have to relate to examples that come from earlier periods than the subject in discussion and not later; e.g. the Migdal mosaic dates to the 1st century CE, and therefore we can’t make comparison to later mosaics with similar scenes and dated to the 2nd – 4th centuries CE.
27 Lucian, The Ship 1-4; Athenaeus, v.204-209.
28 Friedman, 2006, p. 141.
29 Friedman, 2006, p. 141.
The main propulsion of the Delos ship is provided by twenty-eight row-oars (fourteen oars are mounted on each side of the hull). The blades are missing, or probably are submerged in the water. We may conclude that the crew comprised twenty-eight rowers, one helmsman and the captain. The Delos ship misses its steering-oar (fig. 8) or it is not as distinct as in the Migdal Ship (figs. 5 a, b). The crew of the Migdal Ship is suggested symbolically by the four protruding heads above the gunwale. We may assume that the Migdal ship may have had a larger crew, comprising at least twenty-eight rowers, the helmsman and the captain, similar to the Delos ship (a total of thirty crew men). The slanting shafts of the row-oars may indicate that the rowers in the Migdal ship are facing the stern, and their backs are turned to the stem. Apparently, this depiction shows that each rower works one oar in one/sit/pull technique. The helmsman seating beneath the inverted volute sternpost and facing the stem worked the steering oar (figs. 5 a, b); he also may have supervised and instructed the rowers, thus serving also as keleutes. The ship probably leaves the harbor and therefore the crew rowed the ship while the sail is still furled. When the ship reached open waters only then the sail was opened and adjusted to the proper wind direction. Both Migdal (figs. 5 a, b) and the Odysseus ships (fig. 7), indicate small to medium size vessels (5 – 120 tons, load capacity), mainly propelled by a square sail, whereas the row-oars appear to be auxiliary equipment used only when the winds failed or entering/leaving harbors. The Delos ship appears to represent a small size warship, probably a type of liburna, patrolling along the eastern Mediterranean shores, or transporting supplies and warriors for the navy. The sail was used when the vessel had not been engaged in sea combat or in faster movement. We may assume that the Migdal Ship had dual function, being an auxiliary in the navy stationed along the shores on the Sea of Galilee, or trading goods on the Sea of Galilee, or engaged in fishing. The writer may suggest that the Migdal Ship probably represents a more specific class known as myoparone. In ancient literature is mentioned that such vessels were fighting ships of no size and were used throughout the Mediterranean in the 1st century BCE. One of the earliest pictographic evidence of a myoparo type appears in the Althiburus mosaic, Tunisia and dated to the 3rd century CE. From the writings of Josephus, we may conclude that Migdal myoparo type may have been engaged in the Jewish Revolt sea combat in 67 – 70 CE.

The load capacity of Migdal Ship may be deduced from the results of anthropological studies on skeletons dated to Josephus’ period. These studies showed that the average weight of men was 62-67 kg; e.g. only the crew of fifteen men weighted about one ton. Such vessels when fully loaded with warriors (at least fifteen hoplites or epibatai) and their full gears had a draft of over five tons. An additional source of information for the size of the Migdal Ships may be related to the unique, yet, wooden Kinneret Boat that was excavated in 1986. It was

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30 McGrail and Farrell, 1979, Table 1, p. 157, fig. 6, p. 160.
31 Torr, 1964, p. 119; myoparone ships apparently were hybrids of long ships (warships) and rounded vessels (merchantman).
32 The mosaic floor with the Catalog of Ships, at Althiburus, Tunisia (a mountain site about 200 km, inland from the northern coast), belonged to a shipper’s association, or a bath-floor, or the villa of a very wealthy ship owner. The catalogue comprises twenty-seven vessels of different types and sizes, the majority are followed by Greek or Latin names; Gauckler, 1905, p. 132; Dumbabin, 1978, p. 128.
33 Zias, 1990, p. 125; Wachsmann, 1988, p. 32.
34 Wachsmann, 1988, pp.18-33; Steffy, 1990, pp. 29-47. The discovery of the boat was possible due to the “dry” periods of greatly reduces rainfall in the area (1985 – 1987). During this period the water level reeded drastically to -211m (bellow the Mediterranean sea-level). The preserved hull was 8.2 m long, a breath of 2.3 m, and 1.2 m deep at the stern. The boat was built in the Mediterranean “shell-first” tradition. C-14 analysis of wooden samples were dated to 40 BCE±80; Carni, 1990, p. 128.
a fishing boat, whereas the Migdal Ship may represent a small to medium size auxiliary vessel or warship (myoparo), patrolling along the shores of the Sea of Galilee, or a merchantman (navis oneraria) to transport cargo and/or passengers along Lake Kinneret shores. The vessel in the mosaic and the Kinneret Boat belong to the same period, the 1st centuries BCE - CE. We may conclude that the Migdal Ship was built in the “shell-first” Mediterranean tradition as augmented by the excavated Kinneret Boat.

The Migdal mosaic (2.8 x 2.6 m) indicates that it was made in the direct technique, at its original location. We may suggest that all the objects depicted in the same orientation, were made intentionally by the mosaicist, therefore referring to a stationary viewer (fig. 4). Each object may be viewed individually, but together they all create a whole picture. Depiction of strigili, aryballos, and cantharus, are bath-floor themes. The ship, two grounding-mills?, and the fish indicate themes of trade and commerce nature. This mosaic is an allusion to the occupation of the villa’s owner, or it hints to the function of the room as the office of a trader or shipper trading in the Sea of Galilee and in the eastern Mediterranean. The Greek inscription “kai su” on the doorstep was intended as an apotropae for the household and the business. The mosaic work indicates that the artist was a local artisan trained by a Roman expert craftsman, or probably he followed Roman traditions of mosaic making, or he had used patterns from circulating pattern books.

Conclusion

The archaeological context of the Migdal mosaic with the ship depiction was dated to the 1st century CE. The ship is a symbolic representation of a small to medium size vessel with dual function. It was propelled by wind on its voyages, while the oars were auxiliary gear use only when entering/leaving harbor or when the winds failed. The Migdal Ship may have been used as an auxiliary vessel in the navy stationed on the shores of the Sea of Galilee (patrolling or transporting of supplies and warriors). This ship also could be engaged in maritime trade on the Sea of Galilee or even fishing. It was built in the Mediterranean “shell-first” tradition as evidenced by the Kinneret Boat. We may suggest that the ship may represent a more specific type known as myoparo.

The mosaic technique apparently following the black-and-white style may suggest that the owner of the villa was familiar with this art, especially known in Italy (1st – 3rd centuries CE). The mosaic also may indicate that for economic reasons the villa’s owner used local available materials: black from basalt stones, originating in the area of the Kinneret, Galilee or the Golan Heights, while the white and the brownish-red were provided by the local limestone. The ship associated with the other objects in the mosaic (strigili, aryballos, cantharus), emphasis theme of bath-floors. Both grounding-mills?, the fish and the ship may symbolize the owner’s profession, who probably traded in fish, as it may be deduced from the ancient name of Migdal Nunia or Taricheae. Apparently the artist who made the mosaic had first-hand information from the vessels sailing on the Kinneret or he may have used a pattern book depicting vessels in the Mediterranean style. The state of the mosaic’s preservations indicates that the villa was abandoned before the iconoclasm (in the 8th century CE).

Although the Kinneret is a small body of water, it had an active maritime life, as indicated by the writings of Josephus, the ship depicted in the Migdal mosaic and the Kinneret Boat.
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