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HIGHWAY 3: MOLLUSKS FROM BYZANTINE–EARLY ISLAMIC CONTEXTS

INBAR KTALAV¹

This report discusses 24 bivalve remains retrieved from various fills. Most of the assemblage (twenty specimens) is comprised of the Nilotic bivalve *Chambardia rubens*, followed by two valves of the Mediterranean bivalve *Mytilus galloprovincialis*, one local freshwater bivalve *Unio mancus* and one Scaphopoda *Antalis inaequicostata*. The malacological evidence implies geographical connections with both the Mediterranean coast and the Nile region during the Byzantine–Early Islamic period. Most of the assemblage consists of nacreous shells, which may have been used in the inlay industry or as food items.

Keywords: shells, mollusks, Byzantine period, Early Islamic period, Chambardia rubens, nacre, inlay

INTRODUCTION

This report discusses 24 bivalve remains from the Highway 3 excavations (see Eisenberg-Degen, this volume).² The aim of the article is to shed light on the role of these mollusks in the lives of the site's residents during the Byzantine–Early Islamic period.

METHODS

The shells were retrieved from manually excavated sediments and from the sieving of sediments from selected loci through a 0.5×0.5 cm mesh. Shell remains were identified to species level when possible. The remains were quantified by the Number of Identifiable Specimens (NISP) and classified according to the World Register of Marine Species.³ A

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³ For the World Register of Marine Species (WoRMS), see <https://www.marinespecies.org> (accessed July 28, 2025).

specimen termed ‘broken’ refers to a valve of which more than half is preserved, a ‘fragment’ refers to a valve of which less than half is preserved and the term ‘worn’ refers to a valve collected dead on the beach. The contexts and periods were assigned by the excavator.

RESULTS

The 24 shells found in the excavation were retrieved from various fills, indicating that they were not found *in situ* but rather in secondary or tertiary contexts, making it difficult to ascribe a clearly defined use to them. Most of the assemblage (twenty specimens) is comprised of the Nilotic bivalve *Chambardia rubens* (Lamarck 1819), followed by two valves of the Mediterranean bivalve *Mytilus galloprovincialis* (Lamarck 1819), one local freshwater bivalve *Unio mancus* (Lamarck 1819) and one Scaphopoda *Antalis inaequicostata* (Dautzenberg 1891). The malacological finds are presented according to loci in Table 1.

DISCUSSION

The excavation site is located about 11 km from the Mediterranean coast and at least 270 km from the Nile (aerial distance). Therefore, the presence of the shells at the site is not accidental and implies connections with both the Mediterranean coast and the Nile region. Two Mediterranean species are represented in the assemblage: *Antalis inaequicostata* and *Mytilus galloprovincialis*, both of which were found broken and were collected as empty shells from the seashore. The occurrence of *Antalis inaequicostata*, commonly known as ‘Dentalium’, is somewhat enigmatic, as this species is usually found in prehistoric assemblages, mainly from the Natufian period (Kurzawska, Bar-Yosef and Mienis 2013). The other species, *Mytilus galloprovincialis*, is edible. However, as it is worn and was collected as an empty shell from the beach, this form of use can be ruled out. Another quality of this species is its nacreous inner shell. The two freshwater species in the studied assemblage, *Unio mancus* and *Chambardia rubens*, also have nacreous inner shells, suggesting that they may have been used as inlay material. The local freshwater species *Unio mancus* is distributed from northeastern Spain throughout the European part of the Mediterranean basin, northeast Africa and the Middle East, but it is extinct in Israel today (Milstein, Mienis and Rittner 2012; Lopes-Lima and Seddon 2014). This species prefers standing water habitats with sandy substrates and is often found between tree roots. It has been recorded in freshwater rivers, lakes and water channels, and it requires clean water, as it does not tolerate significant pollution (Lopes-Lima and Seddon 2014). During the Byzantine–Early Islamic period, it was probably brought to the site from the Soreq river.

Chambardia rubens is a widespread species, with a geographical distribution from the Nile basin to western Africa. It has a wide range of habitats—including large river channels, canals, delta channels within lakes, lakes and remnant channels on floodplains—and lives

Table 1. Malacological Finds, arranged by Locus Numbers

No.	Locus	Basket	Area	Context	Species	Preservation
1	1000	10023	E [Sq C165; not on plan]	Accumulation	<i>Chambardia rubens</i>	Broken
2	1006	10036	E2 [Plan 5]	With coins and bones	<i>Chambardia rubens</i>	Broken
3	1006	10211	E2 [Plan 5]	Refuse pit	<i>Chambardia rubens</i>	Broken
4	1013	10112	E2 [Plan 5]	Below wall foundation	<i>Chambardia rubens</i>	Broken
5	4036	40149	D [Sq C147; not on plan]	Fill below floor	<i>Antalis inaequicostata</i>	Broken
6	4040	40240	D [Plan 4]	Fill in pool	<i>Chambardia rubens</i>	Fragment
7	5020	50083	E [Sq C168; not on plan]	Floor foundation	<i>Chambardia rubens</i>	Broken
8	5030	50102	E [Sq C168; not on plan]	Floor foundation	<i>Mytilus galloprovincialis</i>	Broken
9	5034	50434	E [Plan 7]	Accumulation above floor	<i>Chambardia rubens</i>	Broken
10	5058	50296	E [Plan 8]	Fill in pool	<i>Chambardia rubens</i>	Broken
11	5058	50319	E [Plan 8]	Fill in pool	<i>Unio mancus</i>	Complete
12	5058	50435	E [Plan 8]	Fill in pool	<i>Chambardia rubens</i>	Broken
13	5062	50238	E [Sq C174; not on plan]	Cleaning of baulk	<i>Chambardia rubens</i>	Broken
14	5077	50349	E [Plan 8]	Fill in pool	<i>Chambardia rubens</i>	Broken
15	5083	50397	E [Plan 8]	Fill in pool	<i>Chambardia rubens</i>	Fragment
16	5084	50436	E [Plan 8]	Channel	<i>Chambardia rubens</i>	Broken
17	5090	50328	E [Sq C175; not on plan]	Accumulation	<i>Chambardia rubens</i>	Broken
18	5096	50404	E [Sq C175; not on plan]	Fill in pool	<i>Chambardia rubens</i>	Broken
19	5096	50404	E [Sq C175; not on plan]	Fill in pool	<i>Chambardia rubens</i>	Broken
20	5097	50394	E [Plan 7]	Mixed	<i>Chambardia rubens</i>	Broken
21	5100	50437	E [Sq C175; not on plan]	Fill in pool	<i>Chambardia rubens</i>	Broken
22	5100	50437	E [Sq C175; not on plan]	Fill in pool	<i>Chambardia rubens</i>	Broken
23	5100	50437	E [Sq C175; not on plan]	Fill in pool	<i>Chambardia rubens</i>	Fragment
24	7508	75029	J2 [Sq Y16; not on plan]	Accumulation above floor	<i>Mytilus galloprovincialis</i>	Broken

in bottom sediments of mud, silt and sand. The species requires a fish host as part of its life cycle. However, the specific fish species used as a host is unknown (Seddon, Van Damme and Lange 2016). The shell is solid and ovate, with a pink mother-of-pearl interior that turns white when exposed to sunlight (Pain and Woodward 1962:75; Mandahl-Barth 1988:73).

Both the Nilotic bivalve of *Chambardia rubens* and the local freshwater bivalve *Unio mancus* are known as mother-of-pearl shells. The use of mother-of-pearl shells—especially *Chambardia rubens*—in the Levant, both as ornaments and as unmodified valves, dates back to the Chalcolithic period (Bar-Yosef Mayer 1995; 2002a; 2013:365; Mienis 2005; 2007a; 2007b). During the Early Bronze Age, *Chambardia rubens* were found in Egypt as grave goods, where they served as symbolic food for the dead or as containers for cosmetic powders (Rizkana and Seeher 1990:27; Bar-Yosef Mayer 2007). *Chambardia rubens*

(Lamarck 1819) is also an edible species, and its discovery inside a small jug from an underwater excavation near 'Atlit suggests it may have been brought to the Levant as food item during EB I (Sharvit et al. 2002). However, complete, broken and fragmented valves of *Chambardia rubens* were found at numerous sites in Israel from almost all periods, often without modification or a clear context, making it difficult to determine how they were used. In much later periods, such as the nineteenth century CE, mother-of-pearl—although from a different species (*Pinctada margaritifera*)—was used as inlay in the religious souvenir industry (Ktalav 2015). It is hoped that future excavations will shed light on how and why *Chambardia rubens* was so dominant in the malacological finds during so many periods.

SUMMARY

The malacological evidence from the Highway 3 excavations implies geographical connections with both the Mediterranean coast and the Nile region during the Byzantine–Early Islamic period. Most of the assemblage consists of nacreous shells, which may have been used in the inlay industry or as food items. However, the contexts in which the shells were found—namely, fills—do not assist in determining their specific use at the site.

REFERENCES

- Bar-Yosef Mayer D.E. 1995. The Molluscs from Grar. In I. Gilead ed. *Grar: A Chalcolithic Site in the Northern Negev* (Beer-Sheva VII). Be'er Sheva. Pp. 453–462.
- Bar-Yosef Mayer D.E. 2002a. Egyptian-Canaanite Interaction during the Fourth and Third Millennia BCE: The Shell Connection. In E.C.M. van den Brink and T.E. Levy eds. *Egypt and the Levant: Interrelations from the 4th through the Early 3rd Millennium BCE*. London–New York. Pp. 129–135.
- Bar-Yosef Mayer D.E. 2007. Archaeomalacological Research in Israel: The Current State of Research. *IJES* 56:191–206.
- Bar-Yosef Mayer D.E. 2013. Shell Beads. In D. Shalem, Z. Gal and H. Smithline eds. *Peqi'in: A Late Chalcolithic Burial Site, Upper Galilee, Israel* (Land of Galilee 2). Zemaḥ. Pp. 365–369.
- Eisenberg-Degen D. This Volume. Highway 3: Architectural Remains from the Late Hellenistic, Late Roman–Early Islamic and Late Ottoman Periods.
- Ktalav I. 2015. Button Waste and Religious Souvenirs in the Holy Land, during the 19th and early 20th Centuries. *Quaternary International* 390:133–145. <https://doi.org/10.1016/j.quaint.2015.05.074>
- Kurzawska A., Bar-Yosef Mayer D.E. and Mienis H.K. 2013. Scaphopod Shells in the Natufian Culture. In O. Bar-Yosef and F.R. Valla eds. *Natufian Foragers in the Levant: Terminal Pleistocene Social Changes in Western Asia* (International Monographs in Prehistory; Archaeological Series 19). Ann Arbor. Pp. 611–621. <https://doi.org/10.2307/j.ctv8bt33h.40>

- Lopes-Lima M. and Seddon M.B. 2014. *Unio Mancus*. *The IUCN Red List of Threatened Species 2014*: e.T22737A42466471. <http://dx.doi.org/10.2305/IUCN.UK.2014-3.RLTS.T22737A42466471.en> (accessed July 28, 2025).
- Mandahl-Barth G. 1988. *Studies on African Freshwater Bivalves*. Charlottenlund.
- Mienis H.K. 2005. The Mollusc Remains. In E.C.M. van den Brink and R. Gophna eds. *Shoham (North): Late Chalcolithic Burial Caves in the Lod Valley, Israel* (IAA Reports 27). Jerusalem. Pp. 155–157. <https://doi.org/10.2307/j.ctt1fzhfj2.17>
- Mienis H.K. 2007a. Archaeomalacological Material from Tel Kitan, Israel. *Triton* 16:32–34.
- Mienis H.K. 2007b. Shells. In E.C.M. van den Brink. Tel Malot (East). *HA–ESI* 119 (Feb. 7). <https://doi.org/10.69704/jhaesi.116.2004.478>
- Milstein D., Mienis H.K. and Rittner O.A. 2012. *A Field Guide to the Molluscs of Inland Waters of the Land of Israel*. Jerusalem (Hebrew).
- Pain T. and Woodward F.R. 1962. The African Freshwater Bivalve *Aspatharia (Spathopsis) Rubens* (Lamarck), its Synonymy and Distribution. *Journal of Conchology* 25:73–78. <https://doi.org/10.5962/p.407382>
- Rizkana I. and Seeher J. 1990. *Maadi IV: The Predynastic Cemeteries of Maadi and Wadi Digla* (Archäologische Veröffentlichungen 81). Mainz am Rhein.
- Seddon M.B., Van Damme D. and Lange C. 2016. *Chambardia Rubens*. *The IUCN Red List of Threatened Species 2016*: e.T175135A84302718. <https://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T175135A84302718.en>.
- Sharvit J., Galili E., Rosen B. and Brink E.C.M. van den. 2002. Predynastic Maritime Traffic along the Carmel Coast of Israel: A Submerged Find from North ‘Atlit Bay. In E.C.M. van den Brink and E. Yannai eds. *In Quest of Ancient Settlements and Landscapes: Archaeological Studies in Honour of Ram Gophna*. Tel Aviv. Pp. 159–166.