Molluscs from the Magen Avraham Compound, Yafo (Jaffa)

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INTRODUCTION

This report presents 209 malacological remains from a salvage excavation in the Magen Avraham Compound, Yafo.¹ The shells were retrieved manually and identified to species level, following the systematic classification of the World Register of Marine Species (http://www.marinespecies.org). The stratigraphic designations used here are the ones determined by the excavators (see Arbel and Rauchberger, this volume). The assemblage includes mostly Mediterranean shells (n = 201); eight Indo-Pacific bivalves were also found (Table 1). While close to half of the specimens (n = 95) originate from mixed contexts, as many as 114 date to the following periods: Byzantine (n = 2; Stratum VI), Early Islamic (n = 6; Stratum V), Crusader (n = 1; Stratum IV) and Ottoman–British Mandate (n = 105; Strata III–I).

The Finds

Oysters

Seven fragments of *Pinctada margaritifera* (Linnaeus 1758), a large bivalve, were found. One of these fragments, retrieved from L600, was identified as the Indo-Pacific Ocean blacklip variants based on its dark outer shell; fragments likely belonged to the same variant, although this could not be determined as the outer shell was not preserved. Five of the seven *Pinctada* fragments were found in mixed-period loci: four in loci of the Byzantine– Early Islamic period (L512, L682, L830, L833) and one, in a locus of the Ottoman–British Mandate period (L300); another specimen was found in an Ottoman-period context (L542). Five of the seven *Pinctada* fragments were not modified, while the specimen from L600, dated to the Ottoman–British Mandate period, has two circular perforations, each 1.2 cm in diameter (length 3.2 cm, width 1.8 cm; Fig. 1:1). The perforations in this specimen were

I thank Yoav Arbel and Lior Rouchberger for inviting me to study the malacological material from the Magen Avraham Compound.

Period	Byzantine	Early Islamic	Medieval	Ottoman–British	Mixed
Origin and species				Mandate	Contexts
Mediterranean	2	6	1	102	91
Naria spurca ⁱ				1	1
Semicassis undulata ⁱⁱ	1				
Bolinus brandaris	1	4		1	3
Hexaplex trunculus		1	1	6	4
Stramonita haemastoma				3	1
Murex sp.				9	
Columbella rustica				1	
Conus ventricosus ⁱⁱⁱ				2	1
Glycymeris nummaria ^{iv}		1		78	77
Donax trunculus					4
Pinctada imbricate radiata ^v				1	
Red Sea/Indo-Pacific				3	4
Pinctada margaritifera				3	4
Total	2	6	1	105	95

Table 1. The Origin and Frequencies of the Marine Mollusc Species, Organized Chronologically

¹ Previously known as *Erosaria spurca* (Linnaeus, 1758; http://www.marinespecies.org).

ⁱⁱ Previously known as *Phalium granulatum* (Von Born, 1778; http://www.marinespecies.org).

ⁱⁱⁱ Previously known as *Conus mediterraneus* (Hwass in Bruguière, 1792; http://www.marinespecies.org).

^{iv} Previously known as *Glycymeris insubria* (Brocchi,1814; http://www.marinespecies.org).

^v Previously known as *Pinctada radiata* (Leach, 1814).



Fig. 1. A worked *Pinctada margaritifera* fragment (1); button made of *Pinctada margaritifera* (2); a worked *Semicassis undulata*—Cassid lip (3); and two cowrie shells (*Naria spurca*) from L801 (4) and L829 (5).

done by a hollow drill. Another fragment from L512 was worked as a button with two holes (diam. 1.8 cm; Fig. 1:2).

The two worked *Pinctada* fragments were originally used as raw material to produce buttons. Worked shell fragments and other waste from button production were imported to the Levant from European factories during the nineteenth century, and have been found in almost all late Ottoman-period contexts excavated in Yafo (Ktalav 2015). This waste material arrived at the port of Yafo and was transported to local workshops in Jerusalem and Bethlehem, to be used in the production of pilgrim souvenirs (Ktalav 2015). The manufacture of shell buttons resulted in large amounts of waste, as less than a fourth, or sometimes as little as a sixth, of the original shell valve was exploited to produce the button blanks, while the rest was discarded (Claassen 1994).

Another oyster shell belongs to the species *Pinctada imbricata radiata* (Leach 1814), which was originally a Red Sea bivalve that migrated through the Suez Canal into the Mediterranean after 1874—the Lessepsian migration (Zenetos et al. 2005; Galil 2007; Tzomos et al. 2012). The shell, dating to the Ottoman–British Mandate period, was found in L50, below the modern asphalt (see Arbel and Rauchberger, this volume). Considering the context of this shell, it most likely arrived at the site from the Mediterranean rather than the Red Sea.

Clam Shell

A valve of *Glycymeris nummaria* with traces of plaster was found in L519, an accumulation dated to the Byzantine–Early Islamic period. A large number of these shells (n = 78) was retrieved from L50 that also contained construction debris such as bricks and tiles, dated to the late Ottoman–British Mandate period. Seashells of this species were commonly used in construction in antiquity, mainly in sites near the Mediterranean shore.

Worked Gastropod Shell

One smoothed and polished fragment of *Semicassis undulata*, an item known as a Cassid lip, was found in L702 of the Byzantine-period industrial press in Area F (Fig. 1:3; see Arbel and Rauchberger, this volume). Such Cassid lips were made from the thick lip of the gastropod shell. They have often been found in archaeological sites in the eastern Mediterranean region, dating between the early Epipaleolithic period and the first millennium CE, typically in graves or sanctuary contexts (Reese 1989). Cassid lips appear to have been used as ornaments; in some cases, they were tied to strings by wrapping the string around the shell or forming a slit or a perforation in the shell for this purpose (Reese 1989).

Cowrie Shells

Two complete shells of *Naria spurca* were found: one in L801, an accumulation below the modern street dated to the Ottoman–British Mandate period (Fig. 1:4); and another, in L829, an accumulation in disturbed graves that were excavated into a layer of the Byzantine–Early Islamic period (Fig. 1:5; see Arbel and Rauchberger, this volume). The cowrie shells from

the Magen Avraham Compound may have been collected from the shore for their aesthetic value. Possibly, they were used as fertility amulets to ward off the evil eye, a common practice in different parts of the world, including the Mediterranean region (Safer and Gill 1982).

CONCLUSIONS

The malacological remains from the Byzantine to the British Mandate period in the Magen Avraham Compound mainly include Mediterranean Sea shells. This is to be expected given the location of the site near the Mediterranean shore. The worn state of most of the shells shows that they were likely collected from the shore. Two oyster specimens represent imported raw material for local craft manufacture, originating from the production waste of the European button industry; one worked gastropod shell may have been used as an ornament, possibly a strung bead.

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