

# THE ARCHAEO+MALACOLOGY GROUP NEWSLETTER

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Coordinator: Janet Ridout-Sharpe, BSc ARCS  
66 Radnor Road, Wallingford, Oxfordshire OX10 0PH, UK  
Email: [j.ridout-sharpe@cabi.org](mailto:j.ridout-sharpe@cabi.org)

### Editorial

Welcome to the thirteenth issue of the AMG Newsletter, which includes a fascinating study by Ezequiel Pinto-Guillaume of the snails found in the garden of Livia Drusilla (58 BC-AD 29), the wife of the Roman emperor Augustus, which demonstrates another facet of archaeomalacology: the ability to reconstruct aspects of the gardens of historical figures. In addition, Henk Mienis has produced a varied selection of short papers on shells from archaeological sites in Jordan and Israel, including the rediscovery of some molluscan material excavated at the key site of Teleilat Ghassul, the type locality of the Ghassulian Culture, in 1929-1938.

This issue also contains more notes on *Nassarius* shell beads from the Upper Palaeolithic, abstracts of some recent publications, and notice of an exciting new *Spondylus* blogsite created by Fotis Ifantidis. As usual I would like to thank all contributors to the Newsletter, and encourage you to send me further items for the next issue: short articles, reports of work in progress, conference reports, queries, news, abstracts and book reviews...

**Please note that my previous email address will no longer be available after the end of June, and I would ask that all contributions and comments are sent to me at [j.ridout-sharpe@cabi.org](mailto:j.ridout-sharpe@cabi.org) until further notice.**

My thanks as always are due to Kath Szabo of the ICAZ Archaeomalacology Working Group and to Aydin Örstan for posting this newsletter on their websites at <http://triton.anu.edu.au/> and <http://home.earthlink.net/~aydinslibrary/AMGnews.htm>, respectively. By the time you read this, Kath will have rebuilt, or will be about to rebuild, the ICAZ archaeomalacology site – do take a look at it. The next AMG Newsletter should appear at the end of the year. (JRS)

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### Molluscs from the Villa of Livia revisited

Ezequiel M. Pinto-Guillaume  
Istituto Svedese di Studi Classici a Roma, Via Omero 14, 00197 Roma, Italy  
Email: [pinto.guillaume@gmail.com](mailto:pinto.guillaume@gmail.com)

Between 1996 and 1999, a team from Uppsala University, Sweden and the Swedish Institute at Rome investigated what has been identified as garden areas at the archaeological site of the countryside residence of Empress Livia Drusilla, wife of Augustus. The imperial villa is located in the suburb of Prima Porta, about 12 kilometers north of Rome. During these investigations a noteworthy quantity of molluscan remains was collected. These notes aim to summarise and deepen the interpretation of the significance of this material as well as to touch on two further aspects which were left out in my earlier analysis of this collection. (All the molluscs yielded by the Swedish investigations of the gardens of the Villa of Livia have been treated in detail in a previous article, see Pinto-Guillaume, 2002.)

The Swedish investigations of the garden areas at the site of the Villa of Livia in Prima Porta produced a large number of molluscan remains. The excavations yielded a total of 1904 land snails, one freshwater valve and 38 marine shells. Table 1 summarises the mollusc species present and their distribution throughout the garden areas.

Table 1: Summary of ancient mollusc remains showing Relative Number of Individuals (RNI)

Species	Small Garden	Regio I	Regio II	Regio III				Regio V	Regio VI	RNI
				HG	CH	PO	RH			
Terrestrial Gastropods										
<i>Campylaea planospira</i>	--	--	--	49	642	27	29	--	--	747
<i>Oxychilus</i> sp.	--	52	--	60	233	103	--	--	132	580
<i>Cepaea nemoralis</i>	--	2	1	22	76	62	27	--	2	192
<i>Pomatias elegans</i>	3	--	--	40	3	65	3	1	--	115
<i>Rumina decollata</i>	1	--	--	6	3	82	2	--	1	95
<i>Helix aspersa</i>	--	1	--	6	60	7	1	1	--	76
<i>Aegopinella pura</i>	--	--	--	6	11	9	--	--	15	41
<i>Cernuella virgata</i>	--	--	--	--	28	--	4	--	--	32
<i>Helix aperta</i>	--	--	2	--	--	--	--	1	10	13
<i>Chondrula tridens</i>	--	--	--	--	4	1	--	--	6	11
<i>Cochlicella barbara</i>	--	--	--	2	--	--	--	--	--	2
Fresh-water Bivalves										
<i>Unio elongatus</i>	--	--	--	1	--	--	--	--	--	1
Total Terrestrial and Fresh-Water Shells	4	55	3	192	1060	356	66	3	166	1905
Marine Gastropods										
<i>Bolinus brandaris</i>	--	3	--	6	4	--	4	--	--	17
<i>Pisania striata</i>	--	--	--	--	1	--	--	--	--	1
Marine Bivalves										
<i>Spondylus gaederopus</i>	--	--	--	1	2	2	1	--	--	6
<i>Glycymeris glycymeris</i>	1	1	--	1	2	--	--	--	--	5
<i>Ostrea edulis</i>	--	1	--	2	1	1	--	--	--	5
<i>Cerastoderma edule</i>	--	--	--	--	--	1	--	--	--	1
<i>Donax trunculus</i>	--	--	--	1	1	--	--	--	--	2
<i>Venus verrucosa</i>	--	--	--	--	--	1	--	--	--	1
Total Marine Shells	1	5	0	11	11	5	5	0	0	38

Key: HG = hanging garden, CH = channels, PO = garden terrace portico, RH = refuse heap.

These molluscs have been identified and interpreted in an article (Pinto-Guillaume, 2002) in which I also stress the possibility of reconstructing the ecological niches of the land snails and the possibility of recreating a hypothetical ‘image’ of the ancient gardens. In sum, the investigation of the molluscs found in the gardens of the Villa of Livia suggests that we are in the presence of a set of clearly differentiated garden areas. Each one has its own particular characteristics: 1 - a small peristyle garden, located in the *pars urbana* of the imperial villa; 2 - a kitchen garden area in the northeastern corner of the complex; 3 - an open grass area in the middle of the terraced garden, the *hortus magnus*; 4 – a small shrub-planted area in a hanging garden setup; and 5 – an open canopy woodland surrounding the imperial villa.

These hypothetical reconstructions help us to envisage the overall character of the site as an impressive and ostentatious complex surrounded by woodland, with its own clearly defined green areas of private gardens. I will now consider two particular cases that have to do with the land snail species present at the site. The first is a woodland species, very numerous nowadays, that curiously turned up concentrated among Roman kitchen waste. The second is to take a closer look at the relationship between the pest garden snails and their predator, another land snail.

### 1. The Flat-Spined Arianta (*Campylaea planospira*) and a Roman kitchen waste area

Taking into consideration that this particular species appears in high numbers and concentration within the rear channel of the hanging garden area of the Villa of Livia, I have taken a closer

look into the characteristics and distribution of the shell remains (Table 2). In a taphonomic study of this species, i.e. what happened to the shells from the moment of death until the shells were found, and considering its frequency in all of the excavated areas, Dr Ana Porrás of the Universidad de Sevilla was able to make the following observations in February 2002 when considering my quantifications for each area in question: 1- the degree of fragmentation is very high, close to two-thirds of the total; 2 - the percentage of young specimens is very low. We consider that this is the normal situation in a stable environment. Further, in the case of an archaeological site, this situation would be equivalent to that of abandonment.

Table 2: Frequency and characteristics of *C. planospira* within the garden areas of Regio III

Excavated area	adults	young	whole	fragments	total RNI
hanging garden	41 (84%)	8 (16%)	9 (18%)	40 (82%)	49
the channels	583 (91%)	59 (9%)	209 (33%)	433 (67%)	642
refuse heap	25 (93%)	2 (7%)	11 (41%)	16 (59%)	27
garden portico	29 (100%)	--	12 (41%)	17 (59%)	29
Total	678 (91%)	69 (9%)	241 (32%)	506 (68%)	747 (100%)

The *C. planospira* lived in a stable environment, which in this case consisted of the filling of the rear channel of the hanging garden. This deposit has been interpreted as a filling which originated in a kitchen dump (Pinto-Guillaume, 2002: 52.). The ceramic material found in this deposit has been preliminarily dated to the Julio-Claudian and Flavian periods ranging between AD 50 and 75 (Klynne and Liljenstolpe, 2000: 230.). So we are able to say that *C. planospira*, which is in fact a woodland species, was probably common in the woodland areas which surrounded the imperial villa (Pinto-Guillaume, 2002: 56.). This species was likely to have been attracted by the great quantities of decomposing organic material present in this kitchen refuse area (it would also be relevant to consider which types of decomposing organic material *C. planospira* prefers and if there are any traces of these left in the ancient filling of the canal) and chose to concentrate there. The *C. planospira* then lived in this kitchen dump, until the waste material was moved and used as a filling in the canals sometime during the Flavian period. This is in fact the last period of building activity witnessed in the gardens of the villa (Klynne and Liljenstolpe, 2000: 231).

## 2. Interaction between the Decollate Snail (*Rumina decollata*) and pest snails

*Rumina decollata* is, in particular, a predatory species which feeds on the young of other snail species, especially on those which are harmful to gardens (Table 3).

Table 3: Frequency and characteristics of *R. decollata* within the garden areas of the Villa of Livia

Excavated area	adults	young	whole	fragments	total RNI
the small garden	1 (100%)	--	1 (100%)	--	1
hanging garden	6 (100%)	--	5 (83%)	1 (17%)	6
the channels	3 (100%)	--	3 (100%)	--	3
garden portico	56 (68%)	26 (32%)	68 (83%)	14 (17%)	82
refuse heap	2 (100%)	--	--	2 (100%)	2
regio VI	1 (100%)	--	--	1 (100%)	1
Total	69 (73%)	26 (27%)	76 (80%)	19 (20%)	95 (100%)

We can see that the proportion of young individuals in this case is low. It is noteworthy that the degree of fragmentation is the same for the hanging garden and the garden portico of Livia's villa. The shell of *R. decollata* is very sturdy and resistant and this may serve to explain the high number of whole specimens.

I suggest that we now take a closer look at the distribution of the most frequent pest snails within the gardens, that is to say *Cepaea nemoralis*, and *Helix aspersa* [now *Cornu aspersum*] (Tables 4 and 5), species on which *R. decollata* could have fed.

Table 4: Frequency and characteristics of *C. nemoralis* within the garden areas of the Villa of Livia

Excavated area	adults	young	whole	fragments	total RNI
regio I	2 (100%)	--	1 (50%)	1 (50%)	2
regio II	1 (100%)	--	1 (100%)	--	1
hanging garden	19 (86%)	3 (14%)	2 (9%)	20 (91%)	22
the channels	68 (89%)	8 (11%)	22 (71%)	54 (29%)	76
garden portico	57 (92%)	5 (8%)	25 (40%)	37 (60%)	62
refuse heap	23 (85%)	4 (15%)	6 (22%)	21 (78%)	27
regio VI	2 (100%)	--	--	2 (100%)	2
Total	172 (90%)	20 (10%)	57 (30%)	135 (70%)	192 (100%)

Table 5: Frequency and characteristics of *H. aspersa* within the garden areas of the Villa of Livia

Excavated area	adults	young	whole	fragments	total RNI
regio I	1 (100%)	--	--	1 (100%)	1
hanging garden	6 (100%)	--	--	6 (100%)	6
the channels	56 (93%)	4 (7%)	9 (15%)	51 (85%)	60
garden portico	7 (100%)	--	2 (29%)	5 (71%)	7
refuse heap	--	1 (100%)	--	1 (100%)	1
regio V	--	1 (100%)	--	1 (100%)	1
Total	70 (92%)	6 (8%)	11 (14%)	65 (86%)	76 (100%)

It is remarkable that, in comparison with the predator, these data tell us that both pest snails, *C. nemoralis* and *H. aspersa*, show a normal situation resulting from a stable environment, while the predator snail *R. decollata* has a lower fragmentation. If we consider the frequency of both predator and pest snails in one specific area, such as the garden portico where the presence of *R. decollata* is high, this does not appear to have disturbed the pest snails as a great number of them lived long into adulthood. However, we must be very cautious in our observations; we lack important information about other food sources, for example slugs, for *R. decollata*. These terrestrial gastropods do not leave much evidence to prove their existence in the gardens of the Villa of Livia. Nevertheless, their probable existence may be assumed since many ancient sources point out their damaging qualities and thus acknowledge their presence in Roman gardens (cf. for example, Columella II. 10. 30; Pliny, *NH* XIX. 177).

## Conclusions

I would like to stress the importance of the study of molluscan remains found in the gardens of Roman villas. In this case we have been able to consider particular aspects of ancient Roman gardens shown by the presence of certain land snails. We have been able to observe stability in

the habitats of certain species. As we have seen, the Flat-Spired *Arianta* thrived in the kitchen waste of the Flavian period. Furthermore, the pest garden snails which once were thought to have been predated by Decollate Snails seem instead to have lived side by side with their possible predator species.

I would like to put forward the suggestion that, for a deeper study of garden areas at Roman villas in Central Italy, the study of the molluscan remains may provide new criteria and offer us new resources that can aid us in illuminating important and as yet unanswered questions about Roman civilisation.

### **Acknowledgement**

My gratitude is addressed to the Gunvor and Josef Anér Foundation, Stockholm, Sweden, for a grant that enabled me to carry out a deeper analysis of this organic material during January 2002 at the Villa of Livia in Prima Porta, Rome.

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## **Note on the rediscovery of the shells from Teleilat Ghassul, Jordan, studied by Avnimelech (1937) and Petrbock (1946)**

**Henk K. Mienis**

Mollusc Collection, National Natural History Collections, Berman Building,  
Hebrew University of Jerusalem, IL-91904 Jerusalem, Israel and  
Mollusc Collection, National Collections of Natural History, Department of Zoology,  
Tel Aviv University, IL-69978 Tel Aviv, Israel  
Email: [mienis@netzer.org.il](mailto:mienis@netzer.org.il)

### **Introduction**

Teleilat Ghassoul is a very important prehistoric site in Jordan. It is the type-locality of the Ghassulian culture, an archaeological stage in the Middle Chalcolithic period in southern Palestine. The first scientific excavation of Teleilat Ghassoul was carried out by Jesuits between 1929 and 1938. The preliminary results of these investigations have been published by Mallon, Koeppel and Neuville (1934, 1940). The major part of the excavated material is still stored in the collection of the Pontifical Biblical Institute in Jerusalem.

Among the people who were involved in that excavation was René Neuville, the prehistorian and later on the French consul in Jerusalem. Neuville collected some molluscs at the site for his own collection, which were discussed by Avnimelech (1937) and the freshwater molluscs among them were listed by Petrbock (1946).

However, most of the shell material remained unstudied in the Pontifical Biblical Institute until John Robert Lee (1973) included it in his Ph.D. thesis, which was submitted to the Senate of the Hebrew University in Jerusalem. The material of René Neuville was not included, because its whereabouts was unknown to Lee.

During a search for some fossil samples in the former collection of the late Prof. Moshe Avnimelech, stored in the Palaeontological Collection of the Department of Geology of the Hebrew University of Jerusalem, I stumbled upon a small box, which contained the original material collected by Neuville in Teleilat Ghassoul, except for the *Corbicula fluminalis* mentioned by Petrbock (1946), but not by Avnimelech (1937). A study of that material revealed

that the *Donax* species reported by Avnimelech as *vittatus* (da Costa, 1778), an Eastern Atlantic species, belonged in fact to *Donax trunculus* Linnaeus, 1758, a Mediterranean species commonly encountered along the coasts in the Levant.

For the sake of completeness a summary is given here of the material from Teleilat Ghassoul present in the collection of R. Neuville, now in the Avnimelech collection (HUJ Palaeontological Collection). That material was dated by Neuville as belonging to the 'Bronze inferieur' and 'Bronze I', but Lee (1973) placed these finds in his Level IV of the Chalcolithic period.

### **The Material**

The material consists of 14 specimens belonging to six taxa and one special form:

#### ***Melanoidea tuberculata* (Müller, 1774)**

-*Melania tuberculata*: Avnimelech, 1937: 87.

-*Melanoidea tuberculata*: Petrbock, 1946: 45.

Four specimens.

Remarks: Springs and streams in the Jordan Valley and the Jordan River may have been the source for this species.

#### ***Melanoidea tuberculata* var. *judaica* (Roth, 1855)**

-*Melania tuberculata* var. *judaica*: Avnimelech, 1937: 87.

-*Melanoidea tuberculata* var. *judaica*: Petrbock, 1946: 45.

The single specimen has a height of 42.3 and a width of 13.2 mm.

Remarks: This peculiar large form with straight sides was described by Roth (1855: 37, pl. 2, figs. 1-3) as *Melania judaica* in a stream near the shore of the Dead Sea: "in rivulo prope littus maris mortui". In the HUJ-collection are several specimens collected alive by the late Prof. Heinz Steinitz near 'Ein Fashkha ('Enot Zuqim). Israel, in September 1967 (HUJ 312/1 and 20507/1). In spite of several efforts, this particular form has never been collected again in the Nature Reserve of 'Enot Zuqim or elsewhere in the Dead Sea basin, either in Israel or Jordan.

#### ***Melanopsis buccinoidea* (Olivier, 1801)**

-*Melanopsis laevigata*: Avnimelech, 1937: 87.

-*Melanopsis laevigata*: Petrbock, 1946: 47.

Five specimens are in the collection. Two shells are burnt; three shells have damaged apertures, probably caused by the freshwater crab *Potamon potamios*.

Remarks: It is a common species in the streams and springs in the Jordan Valley, but it does not occur in the Jordan River.

#### ***Glycymeris insubrica* (Brocchi, 1814)**

-*Pectunculus* (*Glycymeris*) [sic] *violacescens*: Avnimelech, 1937: 86.

The material consists of one right valve with a small hole (natural?) in its umbo.

Remarks: This is the most common bivalve on the beach of the Mediterranean coast.

#### ***Unio terminalis terminalis* Bourguignat, 1852**

-*Unio* (*Limnium*) spec.: Avnimelech, 1937: 87.

-*Limnium terminalis*: Petrbock, 1946: 52.

-*Unio* species: Petrbock, 1946: 52.

Only one left valve is present.

Remarks: The Jordan River was the most likely source for this species.

***Donax trunculus* Linnaeus, 1758**

-*Donax vittatur* [sic]: Avnimelech, 1937: 85.

Two left valves were preserved; they are both damaged posteriorly.

Remarks: Avnimelech (1937: 85) recorded this species as *Donax vittatus* (Da Costa, 1778). That species is, however, restricted in its distribution to the East Atlantic and has never been recorded from the Eastern Mediterranean.

***Corbicula fluminalis* (Müller, 1774)**

-*Corbicula fluminalis*: Petrbock, 1946: 53.

This species was not among the recovered material.

Remarks: The Jordan River was the most likely source for this species.

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**The Molluscs from Yehud, Israel**

**Henk K. Mienis**

Mollusc Collection, National Natural History Collections, Berman Building,  
Hebrew University of Jerusalem, IL-91904 Jerusalem, Israel and  
Mollusc Collection, National Collections of Natural History, Department of Zoology,  
Tel Aviv University, IL-69978 Tel Aviv, Israel  
Email: [mienis@netzer.org.il](mailto:mienis@netzer.org.il)

An emergency excavation of the bypass road in Yehud, Israel, carried out by Dr Edwin van den Brink (Israel Antiquities Authority, IAA), yielded some archaeozoological finds, of which the molluscs among them are dealt with in this short note.

**The archaeomalacological finds**

Fourteen remains of molluscs were preserved for further study during the short excavation. They were most probably collected by hand since all are of medium size. Only two species were represented:

**GASTROPODA**

Family Muricidae

1. *Hexaplex trunculus* (Linnaeus, 1758)

L. 104; Ar. A; Sq. X14; B. 594; Str. II: large fragment of the internal columella;

L. 107; Ar. A; Sq. V13; B. 521; Str. I: one slightly damaged shell.

**BIVALVIA**

Family Glycymerididae

2. *Glycymeris insubrica* (Brocchi, 1814)

- L. 101; Ar. A; Sq. X16; B. 503; Str. I: one damaged valve with hole in umbo;  
 L. 120; Ar. A; Sq. V13; B. 506; Str. IV/V: one complete valve;  
 L. 126; Ar. C; Sq. E15/16; B. 621; Str. III: one fragment of ventral margin;  
 L. 126; Ar. C; Sq. E15/16; B. 669; Str. III: one fragment;  
 L. 128; Ar. C; Sq. E15/16; B. 678; Str. III: one valve with hole in umbo;  
 L. 128; Ar. C; Sq. E15/16; B. 683; Str. III: one large fragment of ventral margin;  
 L. 128; Ar. C; Sq. E15/16; B. 693; Str. III: one valve with hole in umbo;  
 L. 134; Ar. C; Sq. E15/16; B. 711; Str. V: one valve with hole in umbo and  
 two fragments of the ventral margin (belonging to different shells);  
 L. 135; Ar. C; Sq. E15/16; B. 719; Str. V: two damaged valves both with a hole  
 in the umbo.

L = Locus; Ar = Area; Sq = Square; B = Basket; Str = Stratum.

**Discussion and Conclusion**

The archaeomalacological items recovered during this excavation belonged to two species only: *Hexaplex trunculus* (2 items) and *Glycymeris insubrica* (12 items). Both had their origin in the Mediterranean Sea, situated some 13 km west of the site.

*Hexaplex trunculus* is the well known Banded Purple-dye snail, exploited intensively during historic times along the Levant coasts for the production of the precious purple dye. There are no clues to account for the presence at the site of the two items representing this snail: one almost complete specimen and one internal fragment.

*Glycymeris insubrica* or Oblique Bittersweet is a common bivalve species, of which innumerable loose valves may be found on the beaches of the Levant. From prehistoric times it has been used intensively for the preparation of shell pendants by piercing the umbo. The umbo was still present only in seven out of the twelve items belonging to this species. Six showed a man-made hole in the umbonal region and served therefore most probably as pendants.

The archaeomalacological finds were scattered over the five strata recognised at the site as follows:

Stratum		<i>Hexaplex trunculus</i>	<i>Glycymeris insubrica</i>
I	Late Byzantine	1	1
II	Persian	1	-
III	Iron II/Persian	-	5
IV	Middle Bronze IIA	-	-
IV/V	Middle Bronze II/IIA	-	1
V	Middle Bronze II	-	5

*Hexaplex trunculus* seems to be confined to the later periods (Persian-Byzantine), however, due to the relatively few shells recovered at the site this conclusion may be distorted strongly by collecting bias. On the other hand, *Glycymeris insubrica* was encountered more often in the Middle Bronze II and Iron II layers.

The complete absence of any remains of land- and freshwater molluscs is frustrating. They might have given us some valuable information concerning the environmental conditions at the site during a time span covering some 2300 years. This is especially true for the floodplain and swamp deposits encountered at some of the loci.

## Acknowledgement

I would like to thank my colleagues Dr Edwin C.M van den Brink (Israel Antiquities Authority) and Dr Liora Kolska Horwitz (Jerusalem) for entrusting me with the discussed material.

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## A cassid lip from a 9th century BC cultic repository pit in Yavneh, Israel

Henk K. Mienis

Mollusc Collection, National Natural History Collections, Berman Building,  
Hebrew University of Jerusalem, IL-91904 Jerusalem, Israel and  
Mollusc Collection, National Collections of Natural History, Department of Zoology,  
Tel Aviv University, IL-69978 Tel Aviv, Israel  
E-mail: [mienis@netzer.org.il](mailto:mienis@netzer.org.il)

The salvage excavation carried out by R. Kletter on a small hill next to the large Tell of Yavneh produced only a single archaeomalacological item, which was preserved for further study. It consisted of a shell fragment with a maximum length of 33.6 mm found at Locus 15, Basket 7361 on 17 November 2002. The interior carried six parallel, slightly bent, dent-like ridges and a seventh one which made an angle of about 45 degrees, while the exterior showed a well developed ridge and 6-7 indications of spiral ridges. These shell characters fit exactly the description of the lower part of the heavily reinforced lip of the aperture of the Mediterranean Bonnet *Semicassis granulatum undulatum* (Gmelin, 1791), Fam. Cassidae. The complete shell, which served as the source of this archaeomalacological item, should have reached a height of approximately 8 cm according to the size of the fragment.

*Semicassis granulatum undulatum* is a medium sized gastropod commonly encountered in the Mediterranean Sea (Abbott, 1968). This holds true also for the situation in Israel where it is often washed ashore in numbers, especially after stormy spells (Barash and Danin, 1992; Mienis, personal observations). The archaeological site in Yavneh is situated in the southern coastal plain at a distance of only some 7 km from the Mediterranean coast.

The fragment of *Semicassis granulatum undulatum* found in Yavneh falls within the category of so-called 'cassid lips' (Reese, 1989). This is a somewhat mysterious item made of the very thick lip of either *S. granulatum undulatum* or another, rather similar Mediterranean species: the Saburon Bonnet *Semicassis saburon* (Bruguière, 1792). Such cassid lips are often found at archaeological sites ranging in age from the Upper Paleolithic in the Western Mediterranean (Dance, 1975) and Early Kebaran in the Eastern Mediterranean (van Regteren Altena, 1962) to at least the first Century AD in Cyprus (Reese, 1987).

At least six types of cassid lips can be discerned (Reese, 1989):

- roughly cut lips;
- ground down or polished lips;
- lips without a man-made hole;
- lips with a man-made hole at one end;
- lips with a man-made hole at both ends;
- lips with a carved animal head at one end.

The one found in Yavneh belongs to the first category: it had been cut from the complete shell, but did not undergo any further manipulation. Yet it was found among the numerous remains of religious items buried in the excavated pit, which functioned most probably as a *Genizah* or cultic repository in the period that the Philistines ruled in Yavneh, i.e. in the Iron Age during approximately the 9th century BC (Kletter, Ziffer and Zwickel, 2007). This might be an indication that this cassid lip, even in its rough unfinished form, was highly appreciated for religious purposes as already noted by Reese (1989).

## Acknowledgements

I would like to thank Dr Raz Kletter (Israel Antiquities Authority) and Dr Liora Kolska Horwitz (Jerusalem) for allowing me to study the archaeomalacological item from Yavneh.

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## *Nassarius* shell beads in the Middle Palaeolithic

Daniella Bar-Yosef has kindly pointed out that the study of the 82,000-year-old *Nassarius* shell beads from Grotte des Pigeons, Taforalt, Morocco, was not the work of Nick Barton alone, as was inadvertently implied in the previous newsletter (*Archaeo+Malacology Group Newsletter*, No.12 (December 2007): 7-8), but the work of an international team. [My apologies – JRS.] Nick Barton published a summary of this study, but the citation for the original work is:

**Bouzouggar, A., Barton, N., Vanhaeren, M., d'Errico, F., Collcutt, S., Higham, T., Hodge, E., Parfitt, S., Rhodes, E., Schwenninger, J.-L., Stringer, C., Turner, E., Ward, S., Moutmir, A. and Stambouli, A., 2007.** 82,000-year-old shell beads from North Africa and implications for the origins of modern human behaviour. *Proceedings of the National Academy of Sciences of the United States of America*, 104 (24): 9964-9969.

With reference to the Middle Palaeolithic shell assemblage from Skhul, Israel, Daniella Bar-Yosef first drew attention to the antiquity of these shells in a paper published in 2005, in which she says: 'The earliest occurrence of shells in a prehistoric site in the Levant (and possibly in the world) are a few marine shells from the Middle Palaeolithic burial grounds at Skhul Cave at Mt Carmel (110 ka BP uncalibrated). These include *Cardium* sp., *Nassarius gibbosulus* and *Pecten jacobaeus* ... [The] shells appear in Middle Palaeolithic sites associated with modern humans ...' (p.177). The citation for this paper is:

**Bar-Yosef Mayer, D.E., 2005.** The exploitation of shells as beads in the Palaeolithic and Neolithic of the Levant. *Paléorient*, 31 (1): 176-185.

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## Abstracts of some recent publications

With thanks to Sofie Debruyne for sending the following abstract [more information about this study is available at <http://research.leidenuniv.nl/index.php3?c=413>]:

**Lammers-Keijsers, Y., 2008. *Tracing traces from present to past: a functional analysis of pre-Columbian shell and stone artefacts from Anse à la Gourde and Morel, Guadeloupe, FWI. Leiden, Leiden University Press. (Archaeological Studies Leiden University 15).***

ABSTRACT: This book is the result of PhD research on shell, flint and stone artefacts from two sites on Guadeloupe, i.e. Anse à la Gourde and Morel. Tools and ornaments of *Strombus* sp., *Oliva* sp., *Olivella* sp., *Conus* sp., *Cypraea* sp., *Cypraeassis testiculus*, *Cittarium pica*, *Charonia variegata*, *Pisania pusio*, *Cyphoma gibbosum*, *Chama sarda*, *Lima scabra*, *Tivela mactroides*, *Pteria* sp., *Anadara notabilis*, *Arcopagia fausta*, *Codakia orbicularis*, *Laevicardium* sp., *Lucina pectinata* and *Tellina radiata* were studied and interpreted by means of archaeological, ethnographical, ethnohistorical and experimental data. In order to compare the use of different raw materials, flint and stone tools were analysed as well. This study is of interest to Caribbean and non-Caribbean archaeomalacologists, since the wide range of experiments and the application of use-wear analysis on shell artefacts, a rather unexplored field in archaeomalacology, extend beyond geographical boundaries.

And thanks to Henk Mienis for the following papers:

**Ronen, A., Neber, A., Mienis, H.K., Horwitz, L.K., Frumkin, A., Boenigk, W. and Galili, E., 2008. Mousterian occupation on an OIS 5e shore near the Mount Carmel Caves, Israel. In: Sulgostowska, Z. and Tomaszewski, A.J. (eds), *Man-millennia-environment: studies in honour of Romuald Schild*. Warsaw, Institute of Archaeology and Ethnology, Polish Academy of Sciences. pp.197-205.**

ABSTRACT: Two of three natural caves (II and III) in a sandstone ridge at Atlit, only 5 km northwest of the Middle Palaeolithic cave sites of Tabun and Skhul, have yielded human cultural remains contained in loosely cemented coastal sediments IRSL-dated to between 144 and 133 ky. This indirect date and the elevation above sea level probably relate to the Last Interglacial high stand (OIS 5e/d). The cultural deposit in Cave II contained two hearths, numerous lithic artefacts, some badly preserved bones and a small fragment of ostrich eggshell; Cave III contained the remains of deer, gazelle, aurochs, tortoise, and four species of Mediterranean marine molluscs: *Glycymeris insubrica* (two valves and three fragments), *Acanthocardia tuberculata* (two fragments), *Cerastoderma glaucum* (one fragment) and *Donax trunculus* (two fragments). One of the *Glycymeris* valves has a neat round perforation in the umbo that appears to have been intentionally made, the other has an 'unfinished' perforation. It is stressed that the condition of these two specimens does not unequivocally demonstrate that the occupants of Atlit deliberately modified shells for personal adornment. However, comparison with the material from Tabun and Skhul led to the conclusion that Atlit was probably occupied by archaic modern humans, equipped with a Levantine Mousterian tool kit.

**Mienis, H.K., 2008. Molluscs from a Late Chalcolithic site at Sha'ar Efraim, Israel. *Triton*, No. 17 (March 2008): 19-20.**

ABSTRACT: Two of five caves at Sha'ar Efraim, used for burials during the Late Chalcolithic (late 4th millennium BC), yielded 12 *Conus flavidus* and one *Glycymeris insubrica* valve, and one *G. insubrica* valve, respectively. The apices and umbones of all the shells were perforated to make beads and pendants. While the common Mediterranean bivalve *G. insubrica* might be expected at this site, the presence of 12 Red Sea cone shells, all of the same species, was totally unexpected. The early whorls of the cone shells had been ground away to flatten the apex before the shells were perforated. The presence of these shells suggests trade links with people living in the far south.

**Mienis, H.K., 2007. The local land and freshwater molluscs of the Final Natufian of Eynan. In: Les fouilles de Ain Mallaha (Eynan) de 2003 à 2005: quatrième rapport préliminaire. *Journal of the Israel Prehistoric Society*, 37: 315-319.**

ABSTRACT: This site yielded numerous examples of molluscan material, which was extremely fragmentary. In most cases the characteristic parts of shells used to determine the minimum number of individuals were absent. The original selection of 50 samples was therefore augmented to 580 by the addition of 530 randomly selected samples and the species were categorised according to their presence in <1% of samples (very rare), 1-2% of samples (rare), 3-59% of samples (common) and 60-100% of samples (abundant). All the shells and fragments could be identified to species level and 33 different taxa of land and freshwater molluscs are listed. Only two shells (out of approximately 27,260) appear to have been used as ornaments: *Theodoxus jordani* (a single complete shell bead) and *Unio terminalis* (a complete valve with a neatly perforated umbo). The land snails *Helix engaddensis* (extremely abundant) and *Levantina spiriplana caesareana* (a rock-dwelling species found out of context, common) appear to have been intensively exploited as food. The remaining species indicate a climate during the Final Natufian that was somewhat cooler than that of today. Of particular note was the large undescribed *Calaxis* sp. that has so far only been found among Middle Palaeolithic material from Amud Cave, the Natufian of Eynan and the Neolithic of Motza: no living specimens are known.

*Abstracts of papers published in the Archaeo+Malacology Group Newsletter may reach a wider audience than the original printed publications. Authors are invited to send paper copies by snail mail to JRS at 66 Radnor Road, Wallingford, OX10 0PH, UK, or to submit abstracts as Word documents or papers as pdf files to [j.ridout-sharpe@cabi.org](mailto:j.ridout-sharpe@cabi.org)*

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## **Spondylus blogsite**

Fotis Ifantidis has created a blog-based website to gather information, news and data on the archaeomalacology of both Old and New World *Spondylus* spp. The blogsite will eventually include details of relevant conferences and publications, excavations, museum displays, shell technology, and experimental and other studies. There are links to several other sites. Contributions to the site are invited, by email to [fotisif@gmail.com](mailto:fotisif@gmail.com).

The many and varied contents of this blogsite include information on a forthcoming book: ***Spondylus in prehistory: new data and approaches. Contributions to the archaeology of shell technologies***, edited by Fotis Ifantidis and Marianna Nikolaidou, to be published later this year as a British Archaeological Report (BAR) by J. and E. Hedges Ltd. This volume will be divided into four thematic sections:

**Section I – Spanning space and time in *Spondylus* studies:** presenting case studies from different geographical and chronological contexts in Europe and South America.

**Section II – Subsistence, technology and trade:** examining dietary and non-dietary uses of *Spondylus*, local production and imports, trade and exchange networks, and isotope and palaeobiological studies.

**Section III – Consumption: biographies, cultural lives, performance:** looking at adornment and other cultural uses of *Spondylus*, from procurement of raw material to manufacture, social and ritual use, repairs, circulation and disposal.

**Section IV – *Spondylus* as offering: symbol, status, identity:** discussing *Spondylus*-rich funerary contexts from Neolithic Europe and the Americas.

The core of this publication will consist of papers first presented at the *Spondylus* session at the 13th EAA Annual Meeting, held in Zadar, Croatia, on 18-23 September 2007. Abstracts of these papers are available on-line and may be accessed via a link (eaa zadar 2007 spondylus session) in the *Spondylus* blogsite.

This new blogsite is posted at <http://spondylus.wordpress.com>.

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## Conference news

### **Congress of the European Malacological Societies (CEMS), Azores, September 2008**

The 5th CEMS meeting will be held at the University of the Azores, Ponta Delgada, São Miguel, Azores, on 2-6 September 2008. This meeting is being organised by the Instituto Português de Malacologia (IPM) and the Marine Palaeobiogeography Working Group (MPB) and will be held jointly with the 2nd Atlantic Islands Neogene International Congress (AINIC). Themes will include biogeography, the role of collections and the conservation of freshwater molluscs. For more information, see <http://www.uac.pt/~cicia/5thcongr/index.html>.

### **National Malacology Congress, Adana, October 2008**

The 2nd National Malacology Congress will be held at the University of Çukurova in Adana, Turkey, from 8-10 October 2008. The congress will include papers on the taxonomy, ecology and evolution of marine, freshwater and terrestrial molluscs, and on aspects relating to their culture and processing; their importance in agriculture, and medical and veterinary science; and their relevance to **archaeological and geological research**. At the time of writing the congress programme has yet to be finalised but details will be available, in Turkish and in English, on the conference website at <http://kongreler.cu.edu.tr/malakoloji>.

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