



SIDON BRITISH MUSEUM EXCAVATIONS (College site): SHELLS IDENTIFICATION

ARCHAEOLOGY & HISTORY IN THE
LEBANON ISSUE TWENTY NINE:
SPRING 2009, PP. 16-22.

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Introduction

The shells collected from 1998 to 2005 in the Sidon British Museum excavations known as College site, may be divided in two parts, namely 1) Intact, or nearly intact specimens and 2) shell fragments more or less recognizable.

Most of the specimens of marine origin could be identified to species level, some of them to genus or family level. The terrestrial gastropods belong mainly to the *Helicidae* family, and more precisely to the *Helix*, *Helicogena* or *Theba* genera. However, the identification to species or even genus level depends for a great part on coloration characteristics which are not always well retained. This is why except for some well characterized genera (*Oxychilus*, *Vitrina*, etc..) all the terrestrial gastropods belonging to the *Helicidae* family were mentioned under this denomination.

A special note should be made about the *Muricidae*. Mediterranean species of this family which are well-known as producers of purple stain are commonly referred to as belonging to genus *Murex*. However, modern taxonomy considers that Mediterranean species do not belong to this genus. We have therefore followed the 1987 FAO nomenclature (ex: *Phyllonotus trunculus* (= *Murex trunculus*); *Bolinus brandaris* (= *Murex brandaris*)). (Nota: Quite recently, *Phyllonotus trunculus* has become *Hexaplex trunculus*).

A total of 3079 intact or nearly intact shells were identified out of the 365 contexts of Early, Middle and Late Bronze Age. Of these, 2424 to species or genus level, and 655 to family level (among which 607 belong to the *Helicidae*). Only these specimens were counted and used for statistical purposes. We considered that it was irrelevant to count the numerous shell fragments for the simple reason that more than one fragment could belong to the same individual, introducing thus a bias in any further interpretation. As the excavation is ongoing, only 365 contexts could at this stage be clearly and unequivocally assigned to Early, Middle or Late Bronze Age, and were displayed in Table 3 in an attempt to relate any differences in number and type of shells to these periods.

Another bias ought to be mentioned and deserves a special treatment. In the Early Bronze Age III B a building of at least eight rooms was excavated under which storerooms were found (with burned barley, see p. 12). In this building, the full dimension of room 3 (square 37, context 2121, & p. 12 in this issue) is not known as it continued beyond the limit of the

Stone pavement in
room 3, context 2121.

Area enclosed by
three stones in which
515 *Nassarius gibbo-*
sulus were placed.

excavation. It was investigated to a dimension of 4.40 m in length and 3.70 m in width. Two rectangular and square post pads were found on the floor of the room measuring roughly 49 cm x 40 cm x 9 cm and 42 cm x 29 cm x 9 cm. In the north-east part of the room a smooth stone pavement measuring between 2.00 and 2.42 m long and 1.15 m to 1.61 m wide was constructed of small irregular undressed stones. Immediately at the south-west end of the pavement located in the centre of the room was a remarkable feature. An area measuring 42 x 26 cm and devoid of stones was covered with 519 shells, 515 belonging to the species *Nassarius gibbosulus*. These were carefully placed together side by side with a few bones in an area enclosed by three stones laid on their side. Considering that the total number of shells belonging to this species in the 133 other Early Bronze Age contexts is only 26, we may suppose that this peculiar feature corresponds to some sort of cultic activity. In the following tables, this particularity is outlined.



Table 1. List of species grouped by families

BIVALVES

Anomiidae
Anomia ephippium (Linnaeus, 1758)
Cardiidae
Cerastoderma glaucum (Bruguière, 1789)
Donacidae
Donax sp.
Glycymerididae
Glycymeris bimaculata (Poli, 1795)
Glycymeris violacescens (Lamarck, 1819)
Spondylidae
Spondylus gaederopus (Linnaeus, 1758)

MARINE GASTROPODS

Buccinidae
Buccinulum corneum (Linnaeus, 1758)
Cassidae
Phalium granulatum (von Born, 1778)
Phalium saburon (Bruguière, 1791)
Cerithiidae
Cerithium vulgatum (Bruguière, 1792)
Conidae
Conus mediterraneus (Hwass, 1792)
Cymatiidae
Charonia tritonis (Linnaeus, 1758)
Cypraeidae
Cypraea pyrum (Gmelin, 1791)
Mitridae
Pusia ebenus (Lamarck, 1811)
Muricidae
Bolinus brandaris (Linnaeus, 1758) (= *Murex Brandaris* L.)
Phyllonotus trunculus (Linnaeus, 1758) (= *Murex Trunculus* L.)
Thais haemastoma (Linnaeus, 1767)
Ocenebra erinacea (Linnaeus, 1758)
Nassariidae
Nassarius cuvieri (Payraudeau, 1826)
Nassarius gibbosulus (Linnaeus, 1758)
Naticidae
Neverita josephina (Risso, 1826)
Patellidae
Patella caerulea (Linnaeus, 1758)
Patella rustica (Linnaeus, 1758)
Tonnidae
Tonna galea (Linnaeus, 1758)
Trochidae
Calliostoma gualtierianum (Philippi, 1848)

Gibbula divaricata (Linnaeus, 1767)
Monodonta turbinata (von Born, 1780)

TERRESTRIAL GASTROPODS

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Clausiliidae
Cristataria sp.
Enidae
Jaminia septempunctata (Roth, 1839)
Helicidae
Oxychilus sp.
Vitrinidae
Vitrina libanica (Pallary, 1911)

Nota: A number of unclassified specimens belong to other families:

Architectonicidae (marine gastropod)
Arcidae (bivalve)
Columbellidae (marine gastropod)
Eratoidea (marine gastropod)
Helicidae (terrestrial gastropod)
Mactridae (bivalve)
Scaphandridae (marine gastropod)



Table 2. List of species by rank of abundance (without ctxt 2121)
Number % of total number

<i>Glycymeris violacescens</i> (Lamarck, 1819)	762	29.7
<i>Nassarius gibbosulus</i> (Linnaeus, 1758)	253	9.9
<i>Monodonta turbinata</i> (Born, 1780)	162	6.3
<i>Patella caerulea</i> (Linnaeus, 1758)	150	5.8
<i>Cypraea pyrum</i> (Gmelin, 1791)	108	4.2
<i>Conus mediterraneus</i> (Hwass, 1792)	68	2.6
<i>Patella rustica</i> (Linnaeus, 1758)	68	2.6
<i>Oxychilus</i> sp.	66	2.5
<i>Phyllonotus trunculus</i> (Linnaeus, 1758)	60	2.3
<i>Phalium granulatum</i> (von Born, 1778)	37	1.4
<i>Thais haemastoma</i> (Linnaeus, 1767)	32	1.3
<i>Bolinus brandaris</i> (Linnaeus, 1758)	30	1.2
<i>Buccinum corneum</i> (Linnaeus, 1758)	23	0.9
<i>Glycymeris bimaculata</i> (Poli, 1795)	20	0.8
<i>Cerastoderma glaucum</i> (Bruguière, 1789)	17	0.7
<i>Spondylus gaederopus</i> (Linnaeus, 1758)	8	
<i>Donax</i> sp.	6	
<i>Cristataria</i> sp.	5	
<i>Tonna galea</i> (Linnaeus, 1758)	6	
<i>Cerithium vulgatum</i> (Bruguière, 1792)	3	
<i>Nassarius cuvieri</i> (Payraudeau, 1826)	3	
<i>Neverita josephina</i> (Risso, 1826)	3	
<i>Phalium saburon</i> (Bruguière, 1791)	3	
<i>Anomia ephippium</i> (Linnaeus, 1758)	2	
<i>Gibbula divaricata</i> (Linnaeus, 1767)	2	
<i>Ocenebra erinacea</i> (Linnaeus, 1758)	2	
<i>Pusia ebenus</i> (Lamarck, 1811)	2	
<i>Calliostoma gualtierianum</i> (Philippi, 1848)	1	
<i>Charonia tritonis</i> (Linnaeus, 1758)	1	
<i>Jaminia septempunctata</i> (Roth, 1839)	1	
<i>Vitrina libanica</i> (Pallary, 1911)	1	
Sub-Total:	1905	

Number of specimens identified to family level only:

HELICIDAE	607	23.7
COLUMBELLIDAE	14	0.5
BUCCINIDAE	8	0.3
ERATOIDAE	6	
MURICIDAE	5	
MACTRIDAE	4	
MITRIDAE	3	
CARDIIDAE	2	
CERITHIDAE	2	
ARCIDAE	2	
ARCHITECTONICIDAE	1	
SCAPHANDRIDAE	1	
Sub-Total:	655	

Table 3. Number of species in each Bronze Age period

	134 Ctxt		134 Ctxt		97 Ctxt	
	Early		Middle		Late	
	B	R	O	N	Z	E
<i>Anomia ephippium</i> (Linnaeus, 1758)		1		0		1
<i>Bolinus brandaris</i> (Linnaeus, 1758)		0		0		9
<i>Buccinulum corneum</i> (Linnaeus, 1758)		0		1		16
<i>Calliostoma gualtierianum</i> (Philippi, 1848)		1		0		0
<i>Cerastoderma glaucum</i> (Bruguière, 1789)		8		4		6
<i>Cerithium vulgatum</i> (Bruguière, 1792)		0		2		0
<i>Charonia tritonis</i> (Linnaeus, 1758)		1		0		0
<i>Conus mediterraneus</i> (Hwass, 1792)		6		36		14
<i>Cristataria</i> sp.		0		0		0
<i>Cypraea pyrum</i> (Gmelin, 1791)		7		67		23
<i>Donax</i> sp.		0		2		3
<i>Gibbula divaricata</i> (Linnaeus, 1767)		2		0		0
<i>Glycymeris bimaculata</i> (Poli, 1795)		8		0		5
<i>Glycymeris violacescens</i> (Lamarck, 1819)		160		190		157
<i>Jaminia septempunctata</i> (Roth, 1839)		0		0		0
<i>Monodonta turbinata</i> (Born, 1780)		115		22		13
<i>Nassarius cuvieri</i> (Payraudeau, 1826)		0		3		0
<i>Nassarius gibbosulus</i> (Linnaeus, 1758)		26+515		151		41
<i>Neverita josephina</i> (Risso, 1826)		2		1		0
<i>Ocenebra erinacea</i> (Linnaeus, 1758)		0		0		1
<i>Oxychilus</i> sp.		1		47		11
<i>Patella caerulea</i> (Linnaeus, 1758)		25		73		24
<i>Patella rustica</i> (Linnaeus, 1758)		29		37		5
<i>Phalium granulatum</i> (von Born, 1778)		15		14		3
<i>Phalium saburon</i> (Bruguière, 1791)		1		2		0
<i>Phyllonotus trunculus</i> (Linnaeus, 1758)		11		6		18
<i>Pusia ebenus</i> (Lamarck, 1811)		0		1		0
<i>Spondylus gaederopus</i> (Linnaeus, 1758)		2		2		2
<i>Thais haemastoma</i> (Linnaeus, 1767)		5		7		12
<i>Tonna galea</i> (Linnaeus, 1758)		4		1		1
<i>Vitrina libanica</i> (Pallary, 1911)		1		0		0
Sub-total		431+515		669		365

HELICIDAE	355	89	61
MURICIDAE	2	3	0
ARCIDAE	1	0	0
MACTRIDAE	1	2	0
ERATOIDAE	0	6	0
COLUMBELLIDAE	0	12	2
MITRIDAE	0	2	2
CERITHIDAE	0	0	1
SCAPHANDRIDAE	0	1	0
ARCHITECTONICIDAE	0	1	0
BUCCINIDAE	3	2	1
CARDIIDAE	0	0	1
Sub-total :	362	118	68
Total :	793+515	787	433

Discussion

According to Tables 2 & 3, the most abundant marine gastropod species collected during the whole of the Bronze Age period are *Glycymeris violacescens*, *Nassarius gibbosulus*, *Monodonta turbinata* and *Patella caerulea*. Apart from *Nassarius gibbosulus*, all three other shells are edible species that may have been specifically and preferentially collected for nutritional purposes. Among the terrestrial gastropods, the *Helicidae* have obviously been preferentially chosen for the same purpose.

A special mention ought to be made concerning the *Nassarius gibbosulus*. This relatively small species (1-2 cm) is not considered to be edible and is not moreover a shell that is commonly and easily found. However it holds the second place by rank of abundance (Table 2) if context 2121 is put aside, and the first place if we include this context in the total ($253 + 515 = 768$). The fact that only 26 specimens were found in 133 Early Bronze Age contexts, and 515 in context 2121 (see description above), may lead us to the conclusion that a peculiar cultic activity was linked to this particular shell. The numbers of *Nassarius gibbosulus* that were found in the Middle (151 in 134 cxts) and Late Bronze Ages (41 in 97 cxts) (Table 3) are not significant for any other conclusion than random collecting.